

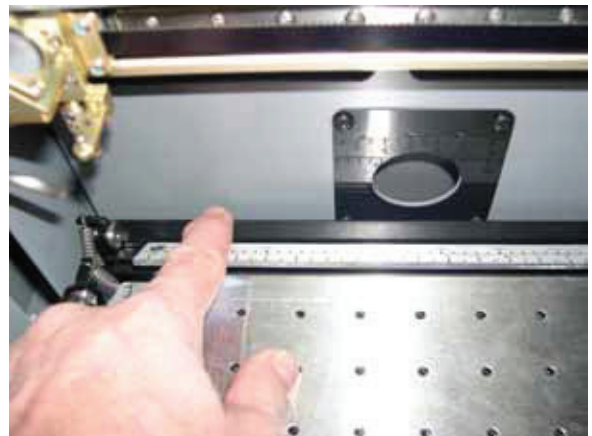
## Section 9: Standard & Optional Machine Features

### *Rotary Attachment*

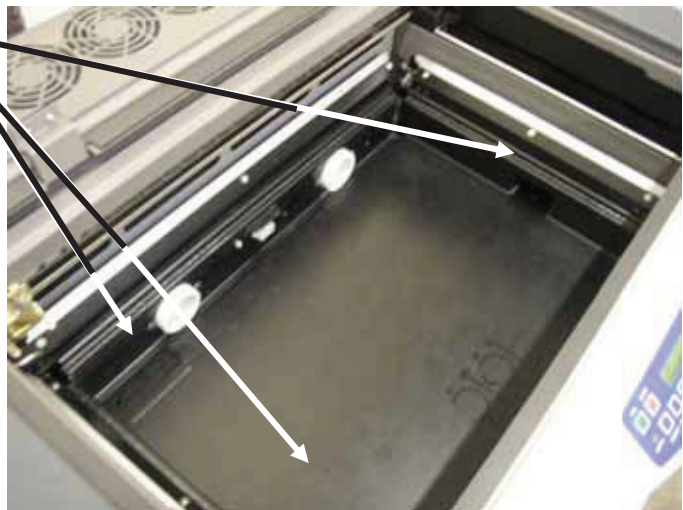
The optional Rotary Attachment allows you to mark, engrave or cut cylindrical objects. The Rotary Attachment works in both raster and vector modes. Follow the instructions below to install the Rotary Attachment.

#### *Installation*

1. Lower the engraving table to its lowest point.
2. **Turn off the power to the engraver.**
3. Flip the left, right, and top table guides into their “up” position.
4. Remove the task plate or the vector grid.
5. Remove the crumb tray.



Once the task plate, vector grid, and crumb tray are removed you will see three holes in the table tray that mate to the three pins in the bottom of the rotary attachment. Note that on the Mini 18 x 12 one hole is hidden in the cutout on the right side of the table.



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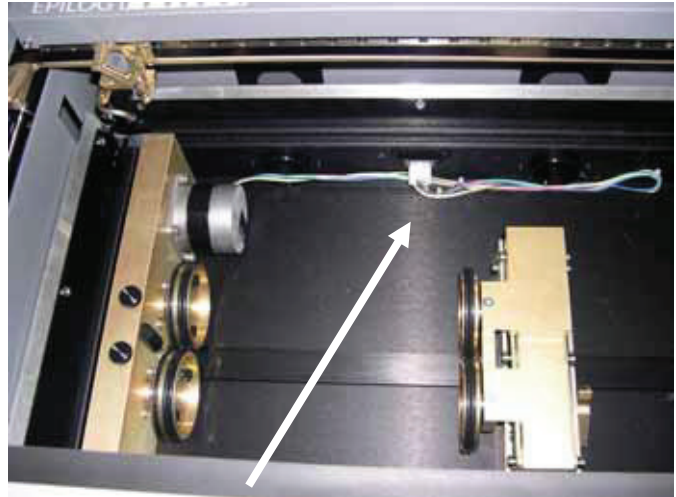
There is a motor on the rotary attachment with a plug on the end.

Make sure the table is lowered and the laser is turned off before plugging the Rotary Attachment into this white connector. It is a keyed connector and will only fit one way.

Plug the rotary into the white mating connector located at the rear, center of the Table pan.

The rotary attachment is now installed! Turn the power on.

The engraver knows that the rotary attachment is installed and changes its home position to a point directly above the center point of the drive wheels on the attachment.



Rotary Connector.

### *Rotary Artwork Setup*

The rotary attachment works in either raster or vector mode, and the setup is the same for both. The part to be engraved should rest between the two sets of wheels. The wheels on the left are the driving wheels, which spin the cylinder to be engraved. The wheels on the right are for support. They can be raised or lowered to get the work surface to be engraved level with the table. They can also be moved from left to right to adjust to the length of the part being engraved. The area being engraved must be level for the part to engrave correctly.

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Load your part with the smaller diameter on the right. Use the elevator to elevate your work so that it is horizontal. Insure the part is positioned so that the left end is close to, but not touching, the black bumper. Using the clamp to hold the glass in place is optional. Some odd shaped glasses rotate better if they are clamped to the drive wheels, but most glasses and other cylindrical objects do not require clamping.

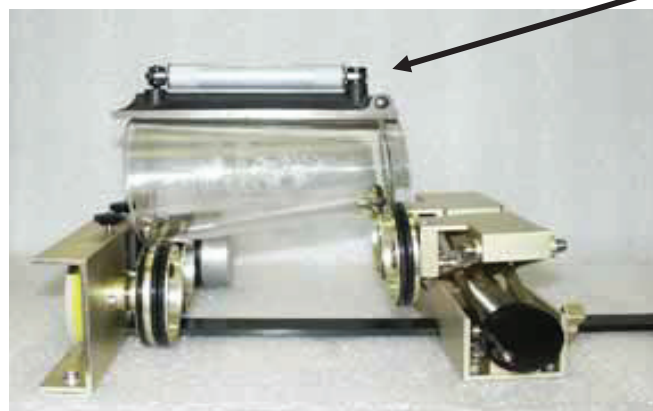


The glass in the photo below does not require the use of the clamp.



Use the elevator on the rotary attachment to raise the right side of the object being engraved so that its engraving surface is horizontal.

Some users like to use a level to insure the glass is horizontal. The level shown below is a little large! A small inexpensive level will work just fine. (Please keep in mind that the machine itself must be level for this to work).



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The photo below shows a typical setup for something other than a glass. The larger diameter is on the left side of the rotary attachment and the right side of the flashlight has been elevated so that it is resting horizontally.



Correct Setup

The photo below shows the same flashlight at a severe angle to horizontal. If the flashlight (or other cylindrical object) is not horizontal the laser beam will lose focus as the carriage head moves across the flashlight, causing the engraving quality on the right hand side to suffer dramatically.



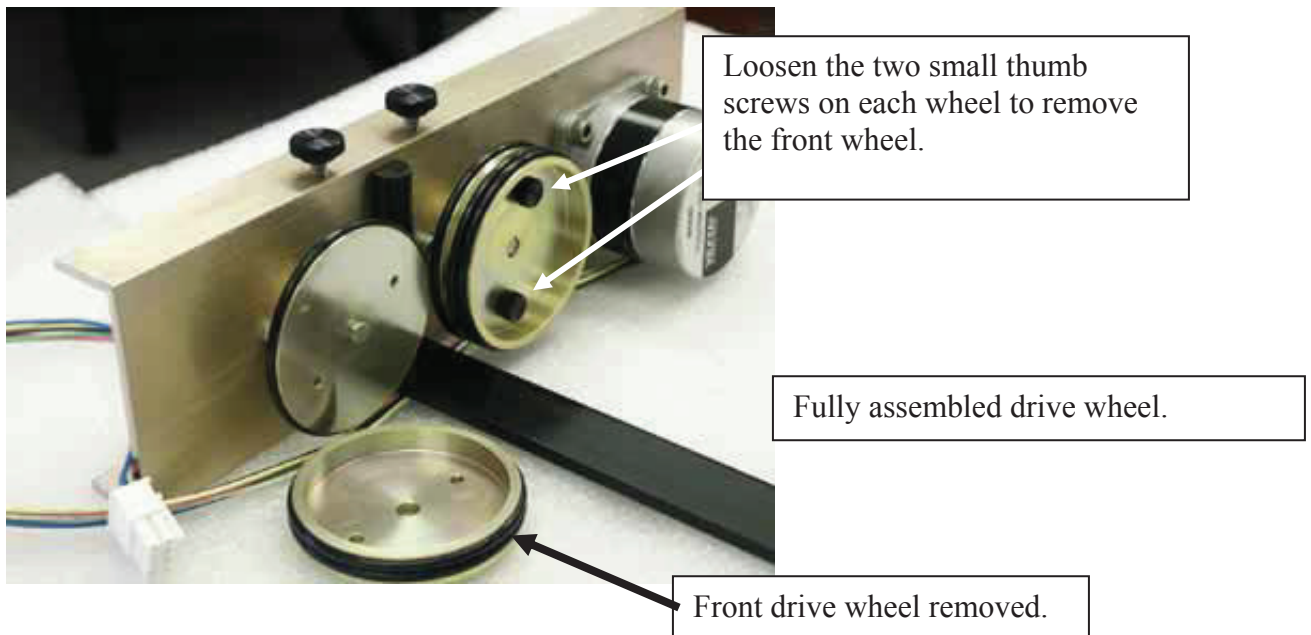
Incorrect Setup

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### Mugs with Handles

The drive wheels are each two piece assemblies with three o-rings when fully assembled. Removing the front part of the drive wheels enables the user to accommodate a wide variety of mugs with handles. Not all mugs with handles require the front drive wheels to be removed.



The photo below shows a mug with a handle properly positioned on the rotary attachment, with the removable portion of the drive wheel shown in the foreground.



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## Artwork Layout

Because the Rotary Attachment automatically compensates for the diameter of the glass, artwork setup is relatively easy. The most important thing to remember when working with the rotary is that your artwork needs to be rotated 90 degrees to the way it would normally be setup for flat work. There are several visual tools later in this procedure that will help make rotary setup easy.

Page size is not overly important, but the following descriptions will give you a good starting point. Many people set the page to roughly match the size of the piece to be engraved because this helps to visualize artwork placement.



**Note:** The artwork in the following examples does not fill up much of the Corel page that you are printing from. You can normally get by with using small pages for most artwork because the entire page is only necessary when you are lasering all the way around the cylinder (360 degrees) and/or if you are lasering from the top to the bottom of the cylinder.



For the width (x-direction) of your page, lay the glass flat and orient it as it will rest on the rotary attachment. For this glass, the width of the page will be six inches (152 mm).

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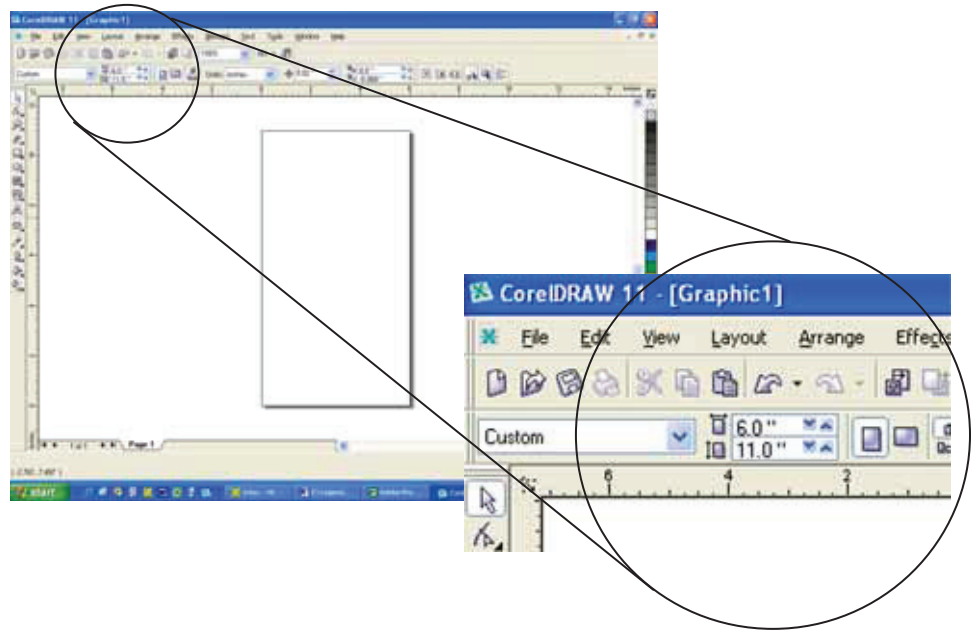
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For the height (y-direction) of your page, use a flexible tape and measure the circumference of the glass at its largest diameter.

For this glass, the height of your page will be 11 inches (279 mm).

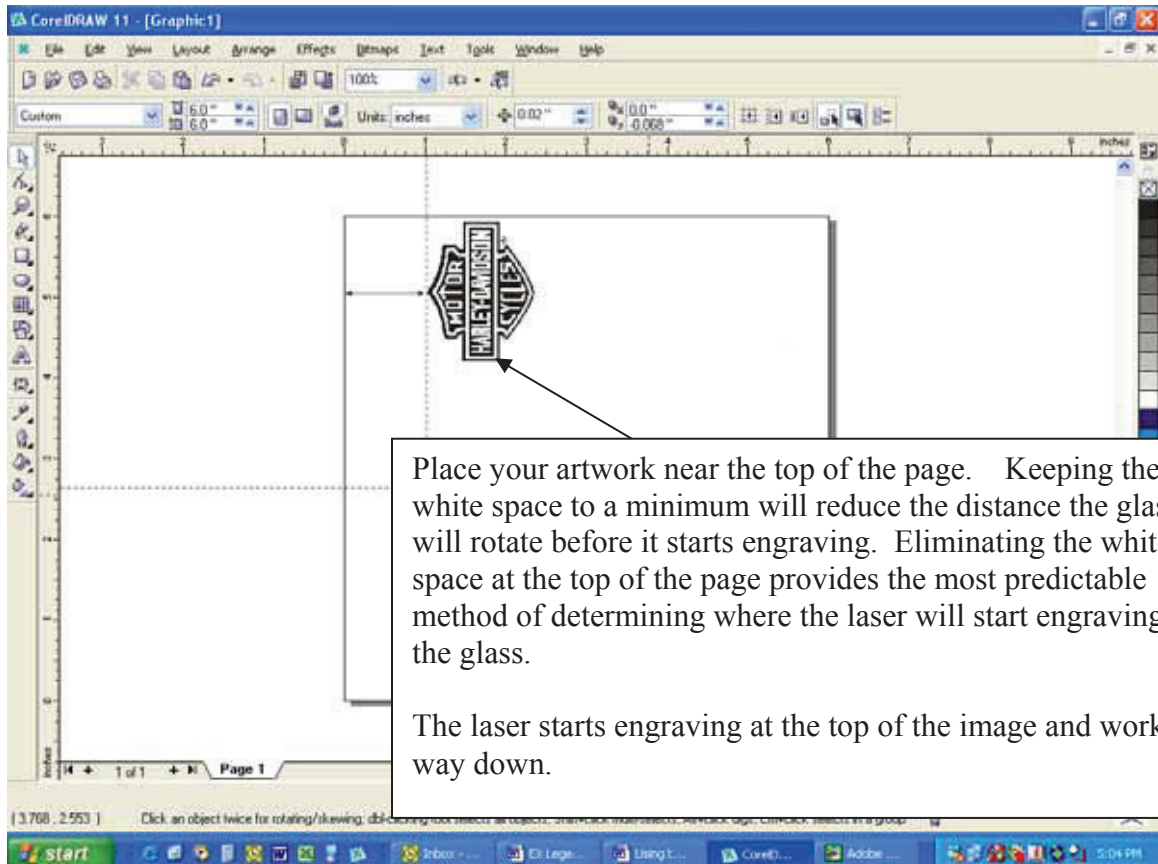


For the glass used in the prior picture, set up your page size to 6 x 11 inches (152 x 279 mm).



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Place your artwork close to the top edge of the page layout. When the job starts the engraving process, the first thing to happen is for the rotary attachment to rotate through any white space that is between the top of your page and the top of your artwork. Once it has rotated through the white space it will begin to laser your artwork.





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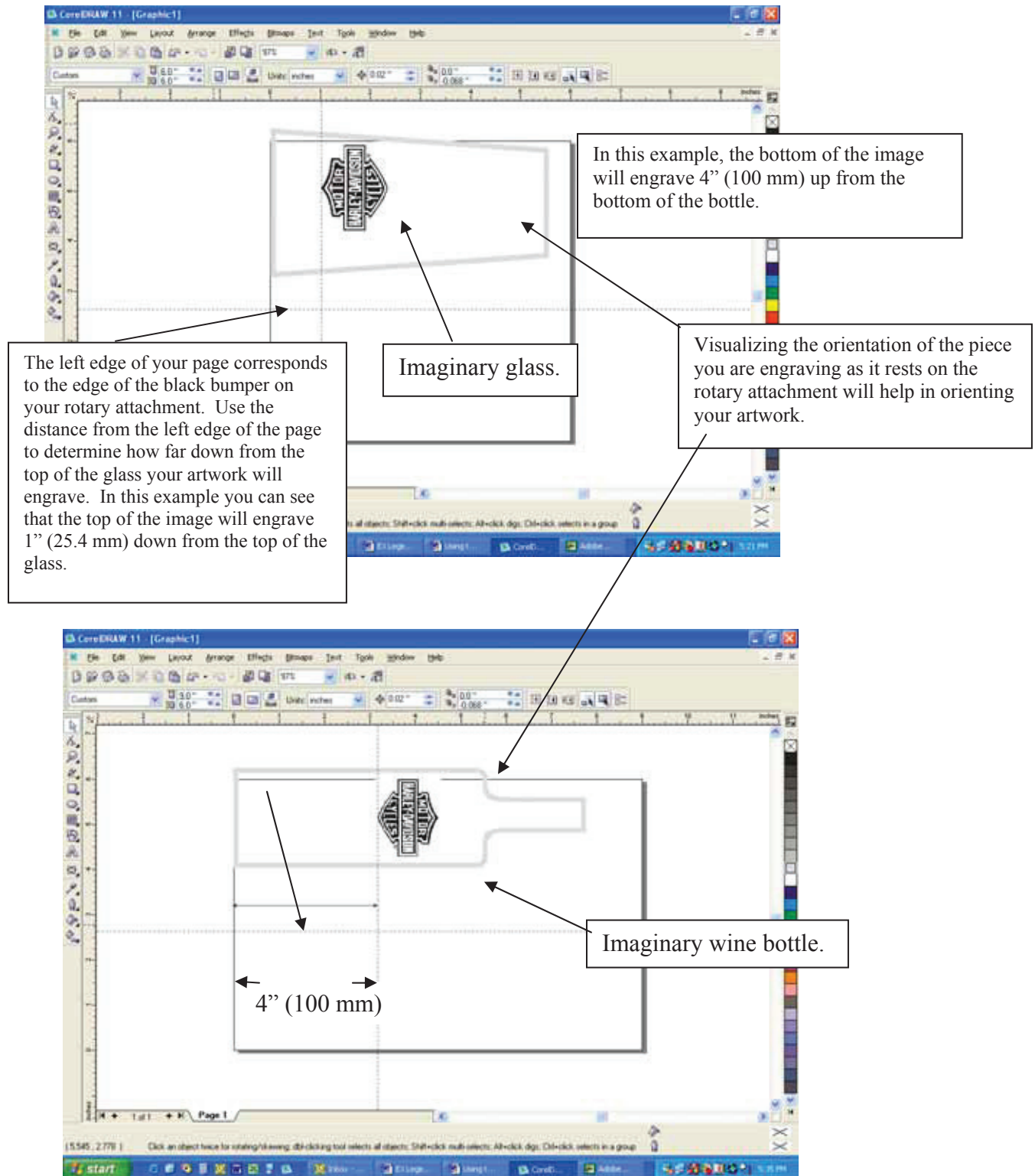
The edge of the black bumper on your rotary attachment corresponds to the left edge of your page in CorelDraw.



Set your glass on the rotary attachment so that it is close to this bumper, but not touching it. The glass may not be able to rotate freely if it is rubbing against the bumper

Because the “top” of a cylinder can be at either end of the rotary attachment, it is useful to visualize the orientation of the cylinder when it’s being engraved.

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If placement of your artwork is critical, many users place a couple layers of masking tape onto the area of the glass to be engraved and practice at high speed and low power to mark only the tape.

## *Focus with the Rotary*



*Note: in either the Auto Focus Mode or Manual Focus Mode, make sure the table is set to its lowest position before loading the Rotary Attachment into the machine.*

**Auto Focus** – The Auto Focus feature works with the rotary attachment. *Before using Auto Focus*, use the rotary attachment’s elevator to bring the top surface of the glass to horizontal. With your glass properly positioned on the rotary attachment, lower the table until the top surface of the glass is below the Auto Focus plunger, then, auto focus as normal.

**Manual focus** – With the glass or cylindrical object in place, attach the focus gauge to the lens assembly. Disable the axes by pressing the *X/Y Off* key, then the *Go* key. This allows you to move the carriage to any point on your cylinder. Press the *Up* or *Down* cursor keys on the keyboard to move the Rotary Attachment up or down until your cylinder just contacts the focus gauge. Your focus is now set to the proper height. After you have manually focused, press the *Reset* key to send the carriage back to the rotary Park position.

**Note.** If you manually focus an item, make sure you deselect Auto Focus in the Dashboard when printing.

## *Rotary Removal*

1. Open the door.
2. Turn off the power to the laser.
3. Depress the release tab on the rotary connector (back center of the table pen) and unplug the connector.
4. Remove the rotary attachment.
5. Replace the table supports.
6. Replace either the task plate or vector grid (which ever you want in your machine at the time).
7. Flip down the left, right, and top table guides into position.
8. Your Rotary has now been removed.