

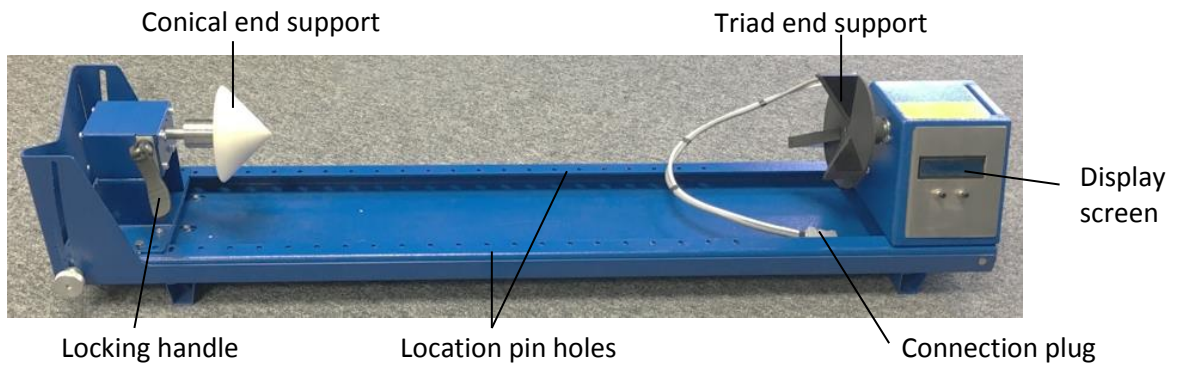
Rotary Instructions (CTR)

WARNING

**Ensure the laser machine is turned off before connecting the rotary attachment.
Failure to do this may result in damage to the laser machine and rotary attachment.**

A. IDENTIFICATION of the parts of the rotary attachment

Your rotary attachment has the following parts;



B. LOADING AND CONNECTION of the rotary attachment

To load the rotary into your machine and connect it, complete the following steps;

1. With your laser machine turned ON, move the Z axis (bed) down to allow room for the rotary attachment to be loaded into the laser machine.
To do this, press escape (ESC) on the laser machine control panel so that nothing is highlighted in the menu. Press the Z key to access the Z axis menu. Then press and hold the down button to move the laser bed down. The bed will need to be moved down to allow sufficient room for the rotary to sit on the bed without interfering with the laser machine's arm or nozzle, and so that the connection point in the back right hand side of the laser bed is revealed.
2. Place the rotary attachment on the laser machine bed bars.

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3. Turn the laser machine OFF.
4. Securely connect the connection plug on the rotary attachment into the corresponding connection point on the inside of the laser machine bed, in the back right corner.
5. Turn your laser machine ON. You are now ready to begin loading materials into the rotary attachment for laser processing.



C. LOADING MATERIALS AND PROCESSING JOBS with your rotary attachment

When you have correctly loaded the rotary into the laser bed and safely connected it, you are ready to begin loading materials into the rotary for laser processing. To do this, please use the following information as a guide.

NOTE: Please be aware that a wide range of items can be loaded into the rotary for processing, and you will need to use your own judgement on how best to correctly secure the items in place for safe processing. If you have any questions, please contact your supplier for advice before beginning the job.

1. Load the cylindrical item into the rotary attachment, placing the solid end against the triad support and the open end against the conical support. When loading, place the solid end against the black triad support, and hold it in place with one hand...



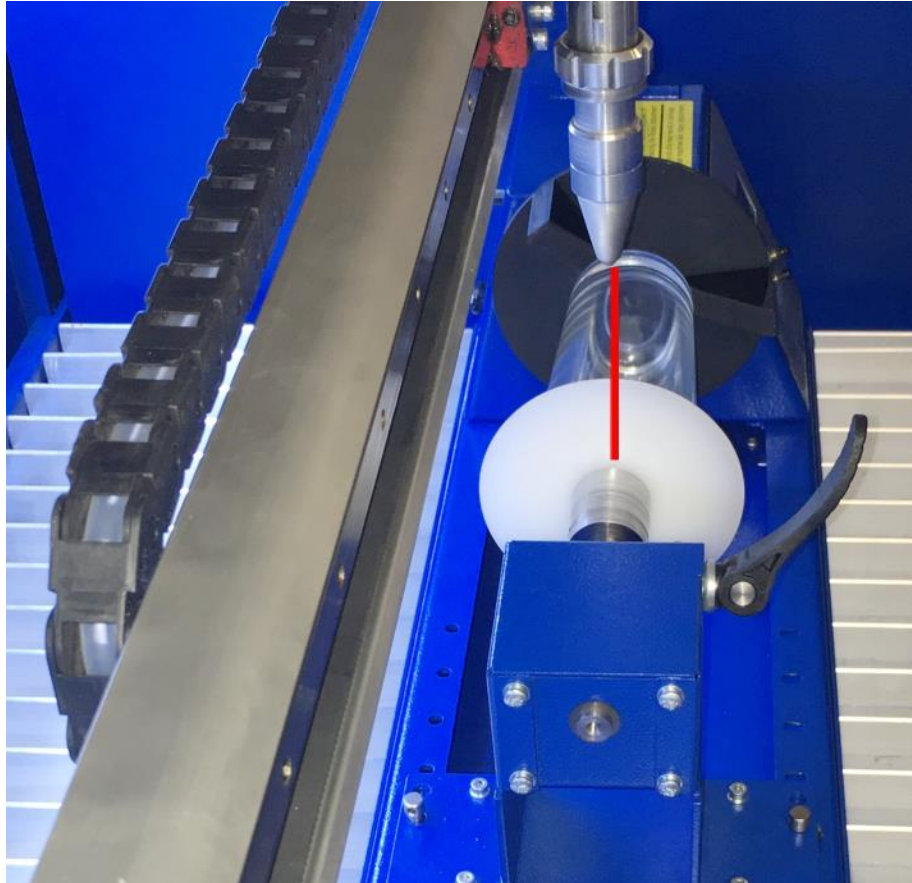
...while using the other hand to move the conical end towards the open end of the cylindrical item.



2. Once you are supporting the cylindrical item between the two ends, you can let go of the black triad end, and use that hand to place the location pins into the relevant holes in the base of the rotary attachment. The aim is to have a keep a little pressure applied to the cylindrical item to ensure it remains secured in place in the rotary attachment.

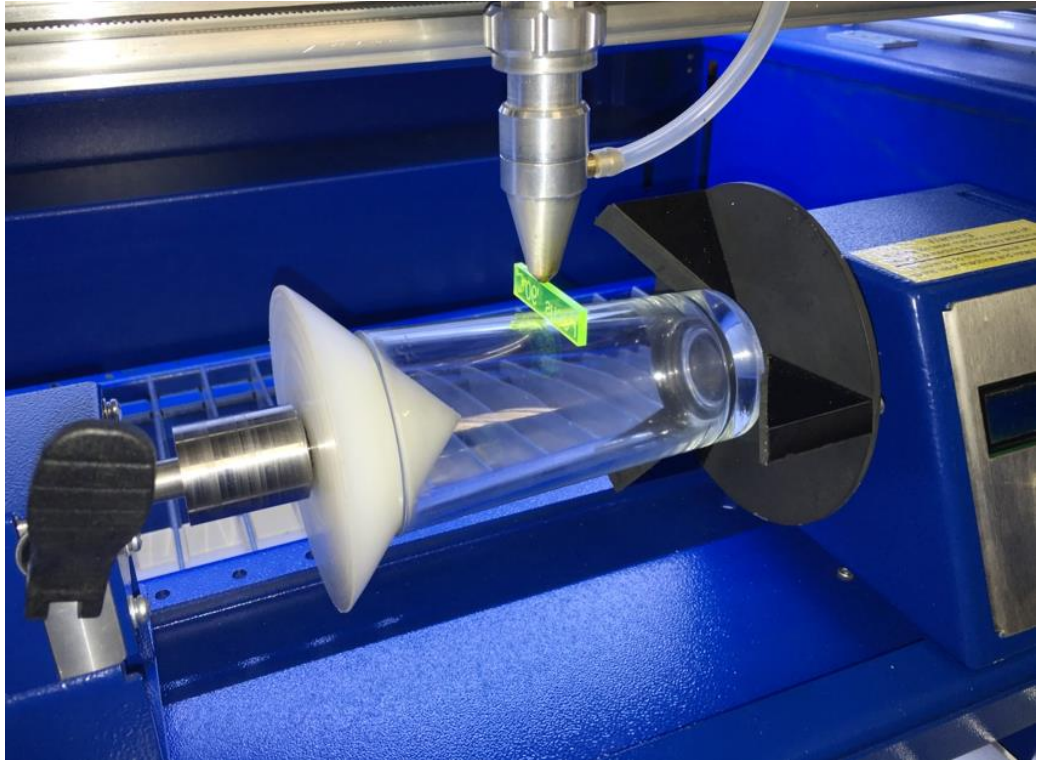


3. **IMPORTANT:** You need to check that the cylindrical item is located centrally in the rotary attachment, so that it does not “wobble” when it spins. Any variation in the distance of the laser head from the top of the item you are engraving will affect the laser quality.
4. Manually move the laser arm over the cylindrical item, so that the laser head is located centrally along the item.



NOTE: when the rotary attachment is connected to the laser machine, this disables the front-back movement of the laser machine, as this becomes the spinning rotary axis command. The laser will operate as usual in the left-right axis, to allow for the engraving.

5. Using your focus gauge, focus the laser head either:
 - a. The correct distance from the top of the item, if the area that is being engraved is perfectly level (in relation to the laser head), or
 - b. In the centre of the sloped edge of the item. This will generally give you the best overall engraving quality, as the focus will be correct in the middle, and slightly out of focus on the higher and lower sides of the item.**ALWAYS ENSURE that the laser head will NOT touch the item you are engraving when you are processing the file.**



6. Use the controls on the rotary attachment to set the maximum diameter of the part you are engraving.
This is set on the rotary control panel by the pressing up/down buttons accordingly, and the settings will be altered in 0.1mm increments.
You can hold either button down to increase/decrease the value in larger increments.
7. Rotate the graphics in the laser software according to the direction of the item you are processing, and which way you want to engrave on the item.
8. Download the file to the laser machine. See section D-3 for additional hints on lining up and checking your job.
9. Once the job has completed, remove the item from the rotary attachment using the revers of the above steps. **Turn the laser machine OFF before unplugging the rotary attachment**, to resume using your laser machine without the rotary attachment feature.
It is likely you will need to raise the Z axis (see the instructions above, in reverse) for jobs without the rotary attachment.



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D. TROUBLESHOOTING and HINTS / TIPS

1. Soft stop error message
If you get a Soft Stop error message on your laser machine, press and hold the up arrow on the laser machine control panel until the laser machine stops moving. You may need to reset the position of the rail in the machine by completing section C above.
2. Do not lock the black arm down on the rotary attachment. In 99% of applications you will not need this feature. CTR will advise if it is required for your application.
3. To easily check the positioning and size of your job, you can use tape (i.e. masking tape) to mark the start position of your job on the cylindrical item. Once you have downloaded the file to the laser machine, you can use the test option with the red dot turned on to check that the engraving will fit correctly on the item you are processing.