



# Rotary manual with T9 controller

## Features:

- Designated U axis for Rotary.
- X, Y, Z, U axis can move at the same time.
- Once parameters are set correctly on the U-Axis on our LaserSoft, then you will be able to engrave on objects with different diameters.

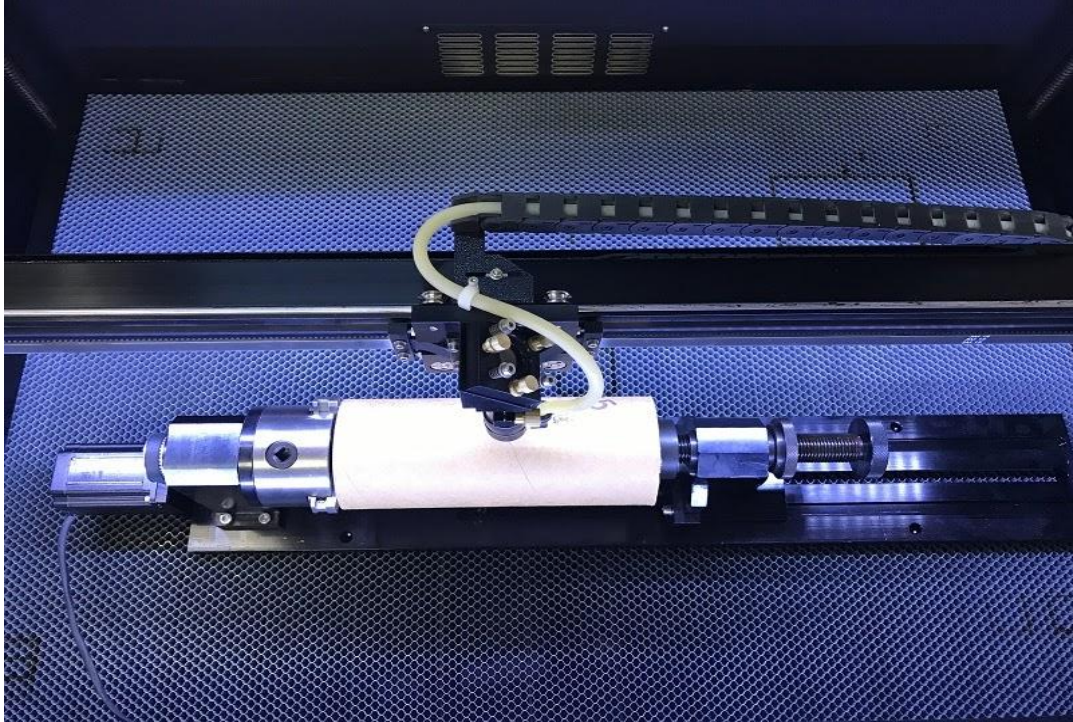
# 1.0 Enable U axis for Rotary.

- (a) Connect Rotary motor with U axis driver correctly
- (b) To enable rotary feature, follow the images and steps below for your T9 controller LCD Panel.
  - Press Menu button on the LCD Panel
  - Choose Z/U setting
  - Enable Rotary and hit Esc to exit . Press U+ and U- button, the rotary should move. If not, need to check the connection between rotary and the stepping driver.



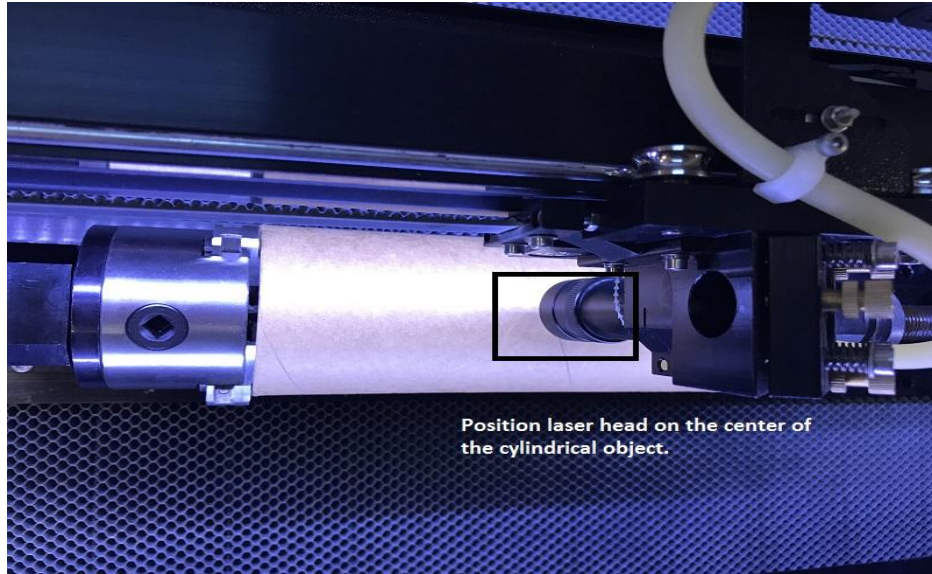
# 1.1 Setting up U axis parameter for Rotary

- (a) Place rotary on the engraving bed and make sure it's horizontally and vertically balance with the X and Y axis.



# 1.1 Setting up U axis parameter for Rotary

(b) Center the laser head on top of the cylindrical object.



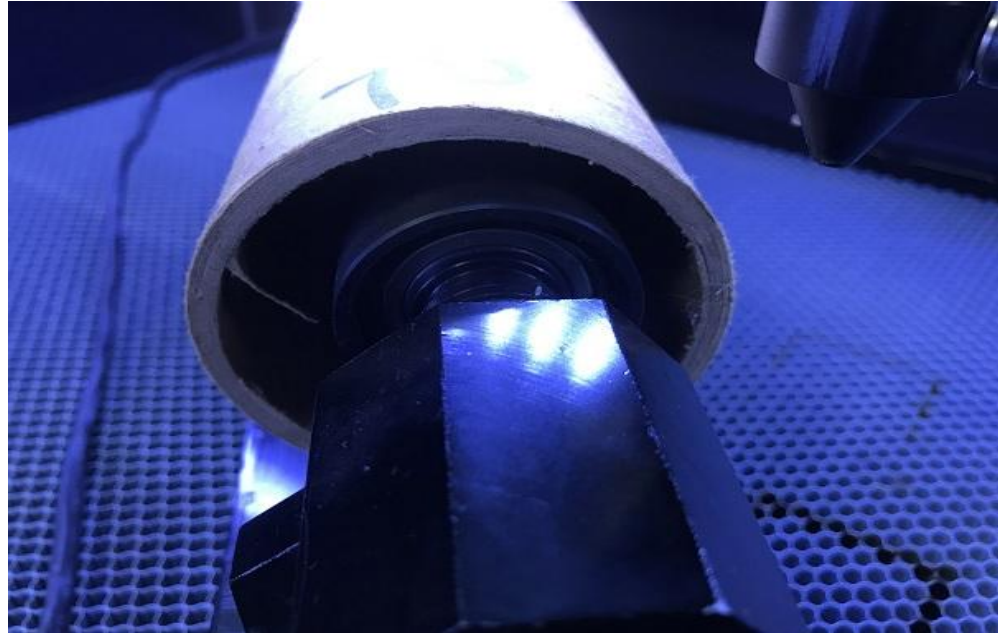
Tips: When installing the cylindrical object on the rotary, fasten it on the jaws. Be sure that both sides are secure in between the tapered cone and the jaws. Failure to keep the object balanced and secured on both ends on the rotary will result in uneven engraving.

# 1.1 Setting up U axis parameters for Rotary

(c) If the cylindrical object is hollow, the other end can't be reached by taper cone. It needs to be adjusted to the center as much as you can. Otherwise, you will see some engraving area is marked darker, some area is marked lighter on the cylindrical object.

(d) Adjust the Z table for the best focus.

The cylindrical object shown below is not balanced due to it being hollow and not having a closed end for the tapered cone.



## 1.2 Setting up U axis parameters for Rotary

- (a) Cut 50mm x 50mm square box
- (b) After the cut is done, use sticky note/paper to make the mark on both X and U direction. Measure the actual length of the cut in both X and U directions.



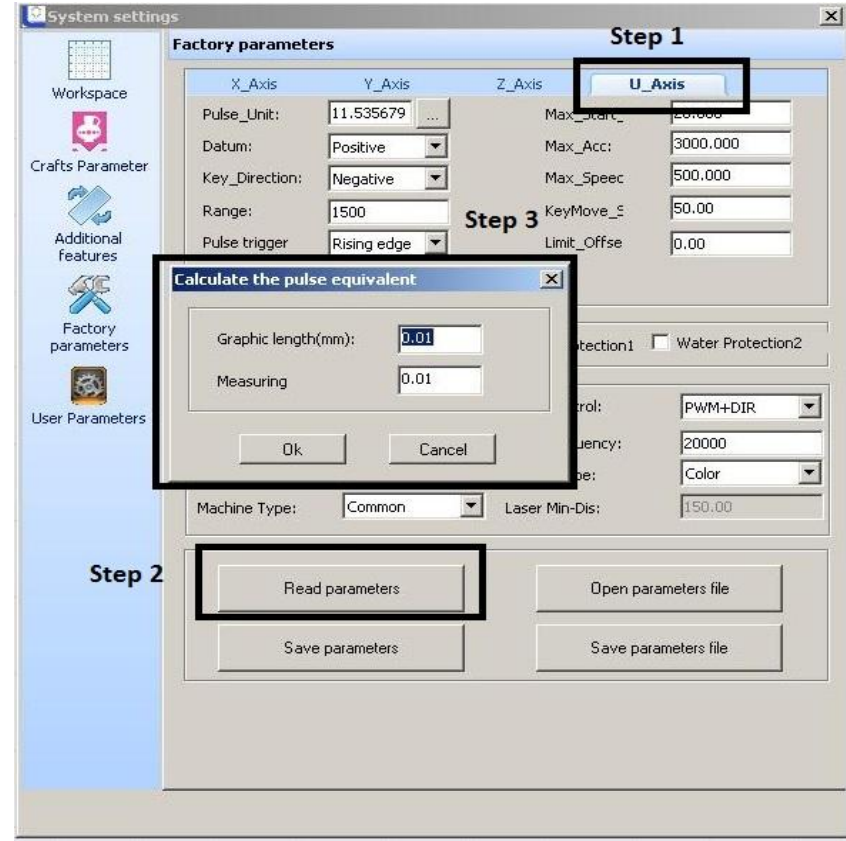
# 1.2 Setting up U axis parameters for Rotary

(c) Go to system setting on LaserSoft->Factory parameter-> click on “read parameters” at the bottom of the page.

(d) Input the measurement to the software for LaserSoft to calculate the right UM value for U axis.

(e) For best result, repeat steps A through D for best calibration.

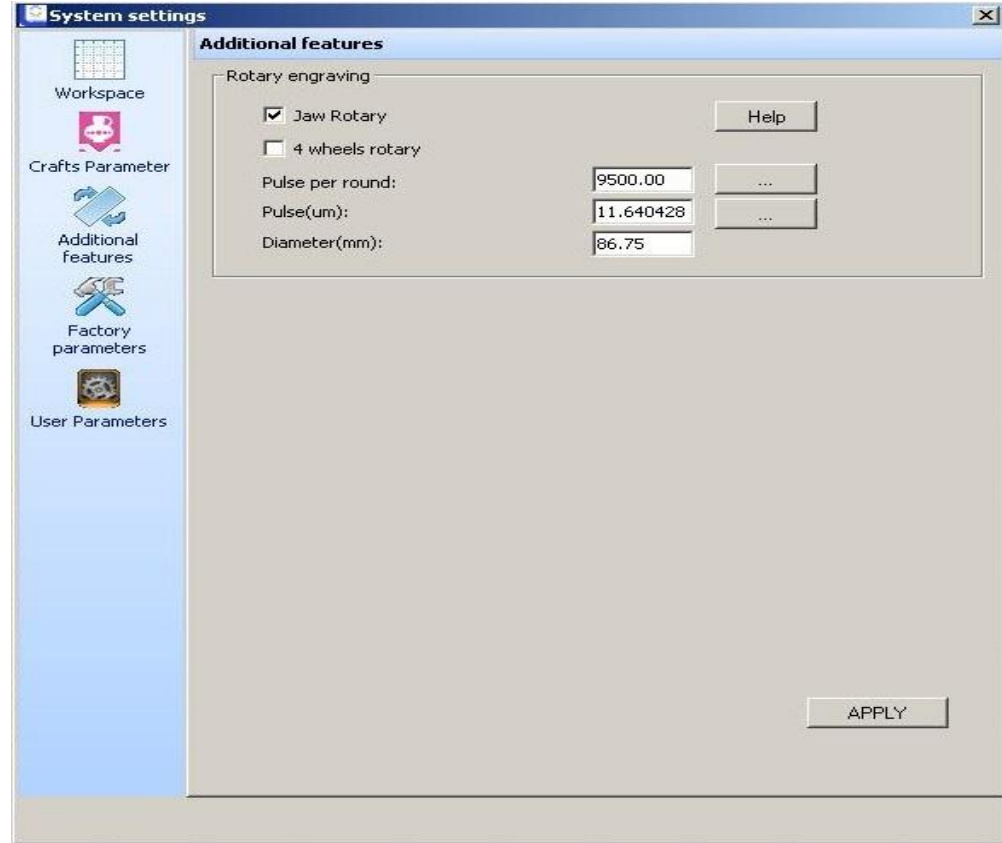
**TIPS:** We recommend to use 50mm diameter or larger cylindrical object for the test to calibrate the parameters.



# 1.3 Setting up Additional features for rotary.

Once U axis is calibrated correctly. You now can use the additional feature for the Rotary-Engrave on different diameter cylindrical objects by entering different diameters only. No need to calibrate UM value again for different diameter object.

(a) System setting-> Additional features



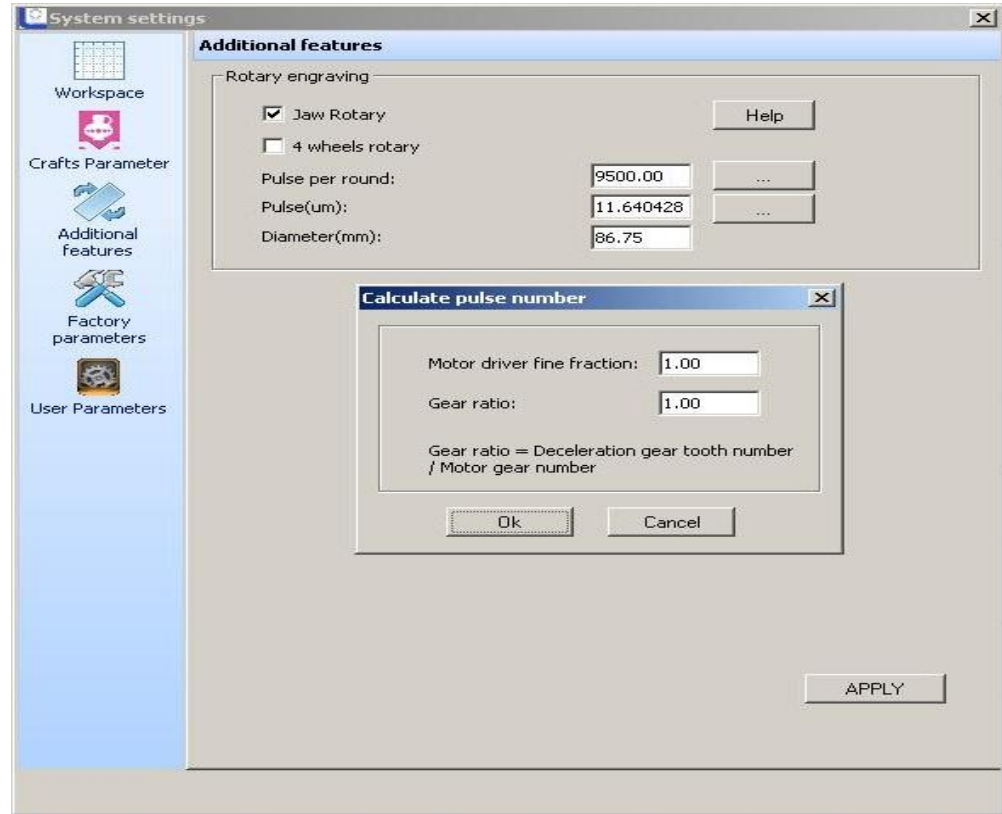


# 1.3 Setting up Additional features for rotary.

(b) Pulse per round parameters:

Motor driver fine fraction: the resolution on the stepping driver.

Gear ratio: tooth number of bigger gear / tooth number of the motor gear.

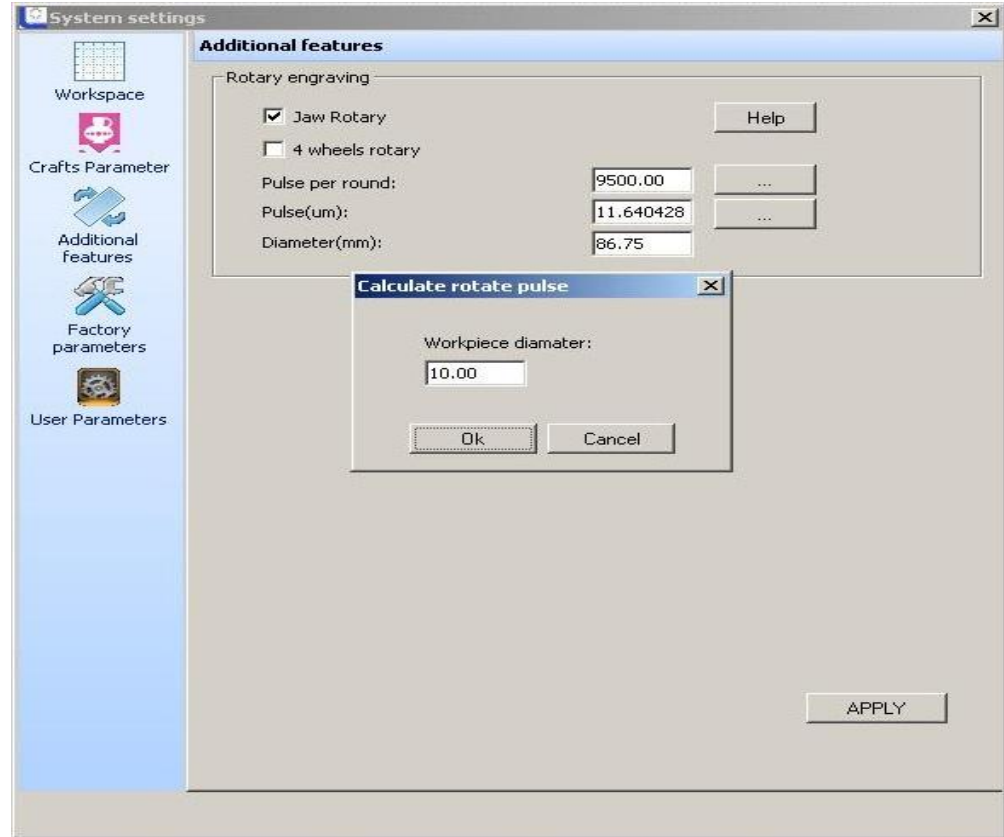


# 1.3 Setting up Additional features for rotary.

(c) Workpiece diameter: The diameter of the cylindrical object that you calibrated previously on the U axis

(d) Lastly, enter different diameter you want to engrave and hit "APPLY" at the bottom of the page.

(f) You will need to click "download" on Lasersoft Software again to apply the newly added parameters.



# Tips and comment

1. If Z table will not move up, please follow the step below.

(a) Press “menu” on the LCD Panel-> Z/U setting-> Z -axis Reset. (Screen shot shows on the right)

