A020 - CPU Initialization / Auto-Z and Rotary Calibration
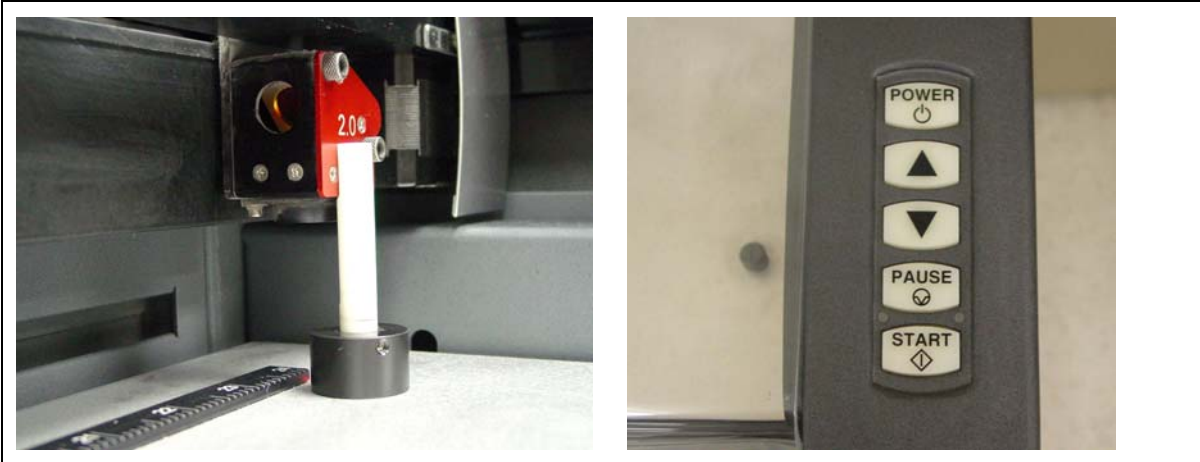
1. Power up your computer and the VersaLASER. Make sure that the Z-axis has homed (reset). If not, click the RESET Z button in the FOCUS tab of the VCP.

2. Using the UP and DOWN arrow buttons, either on the machine or in the VCP, bring the Z-axis table up. Using the appropriate Focus Tool for the lens installed (the standard is 2.0, other Focus Lens Kits are optional), focus directly on the surface of the table.
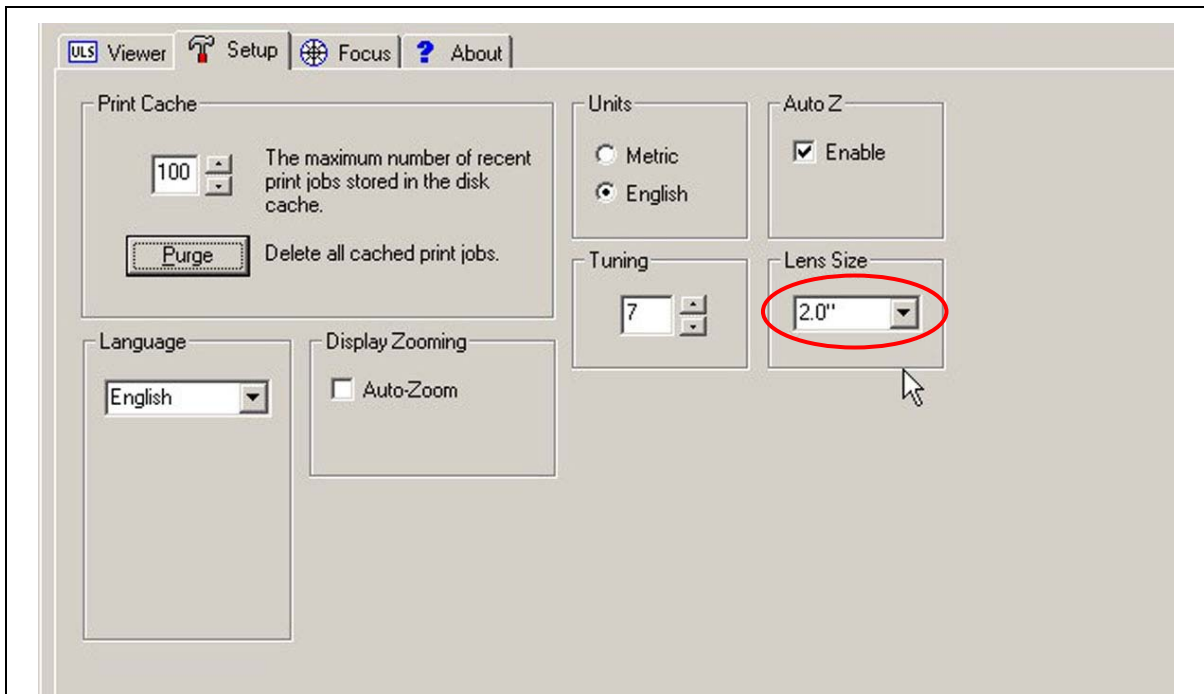
In the VCP, click the SETUP tab and choose 2.0 from the Lens Size dropdown list. Click the FOCUS tab once, and then click the SETUP tab once again.
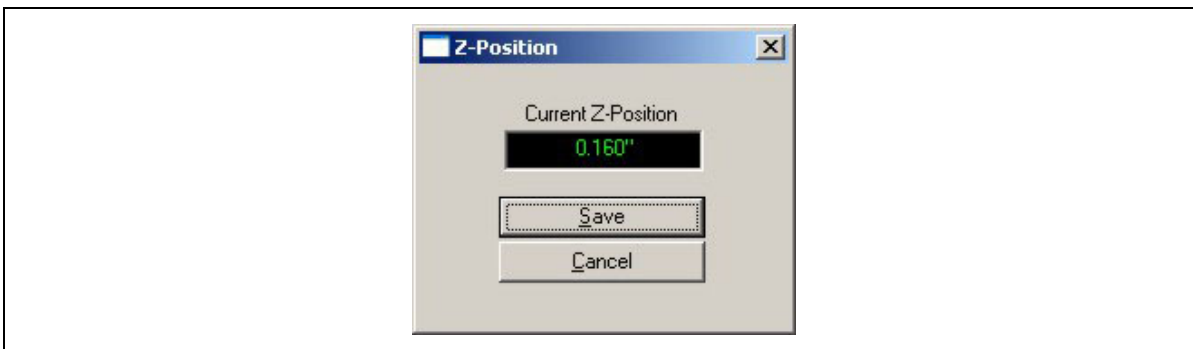
3. On your keyboard press and hold CTRL and then the F3 key. The Z POSITION pop-up box will appear. Click SAVE. This resets the Z position to "0.00".
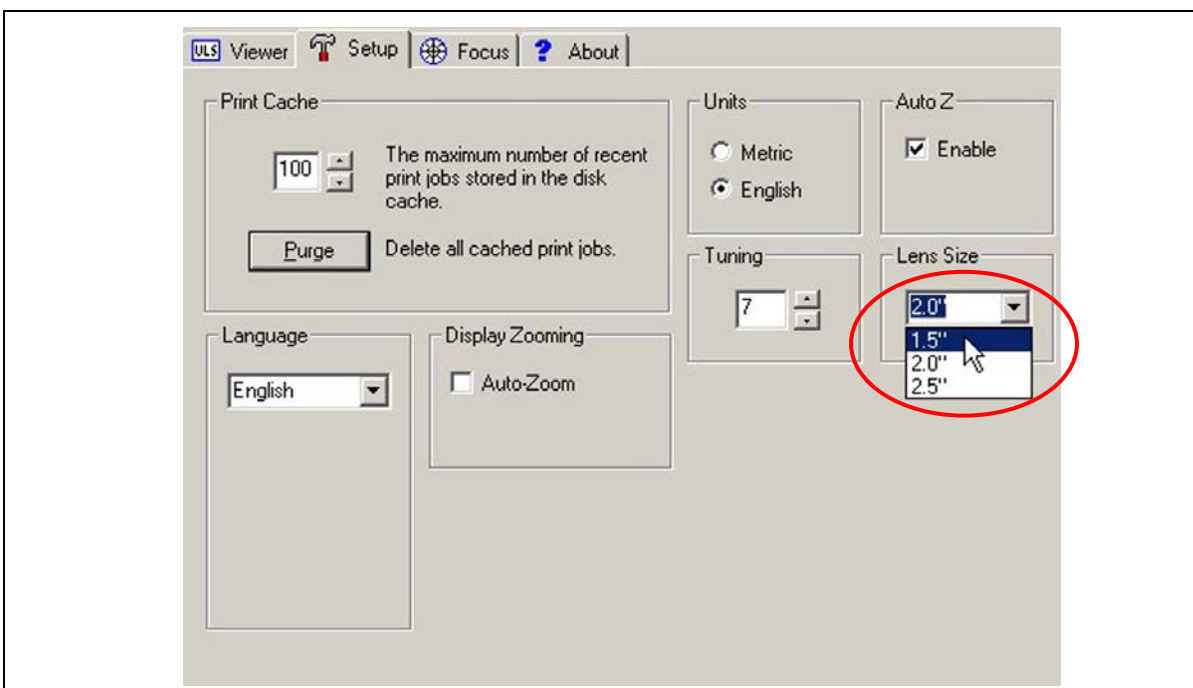
4. If you have purchased the 1.5 or 2.5 optional lens kits, proceed to step 6. If you do not have these other lenses, simply choose the 1.5 lens from the dropdown list, click the FOCUS tab, and then click the SETUP tab once again. On your keyboard press and hold CTRL then the F3 key. The Z POSITION pop-up box will appear. Click SAVE. This resets the 1.5 lens Z position to "0.00". Repeat this step for the 2.5 lens. We need to do this simply to set an arbitrary Z-axis value for the 1.5 and the 2.5 lenses, otherwise the software will not let you print. Also, just in case you chose the wrong lens from the dropdown list, the software will still adjust the table to the right focusing height.

5. If you have purchased the 1.5 Lens Kit, install it in place of the 2.0 and focus on the table using the 1.5 Focus Tool. Choose the 1.5 lens from the dropdown list in the SETUP tab, click the FOCUS tab once, and once again click the SETUP tab. On your keyboard press and hold CTRL then the F3 key. The Z POSITION pop-up box will appear once again. Click SAVE. This resets the Z position for the 1.5 lens to "0.00". Repeat this procedure if you also have the 2.5 Lens Kit.

6. You must now set the Y-axis Rotary Position even if you have not purchased the optional Rotary Fixture.
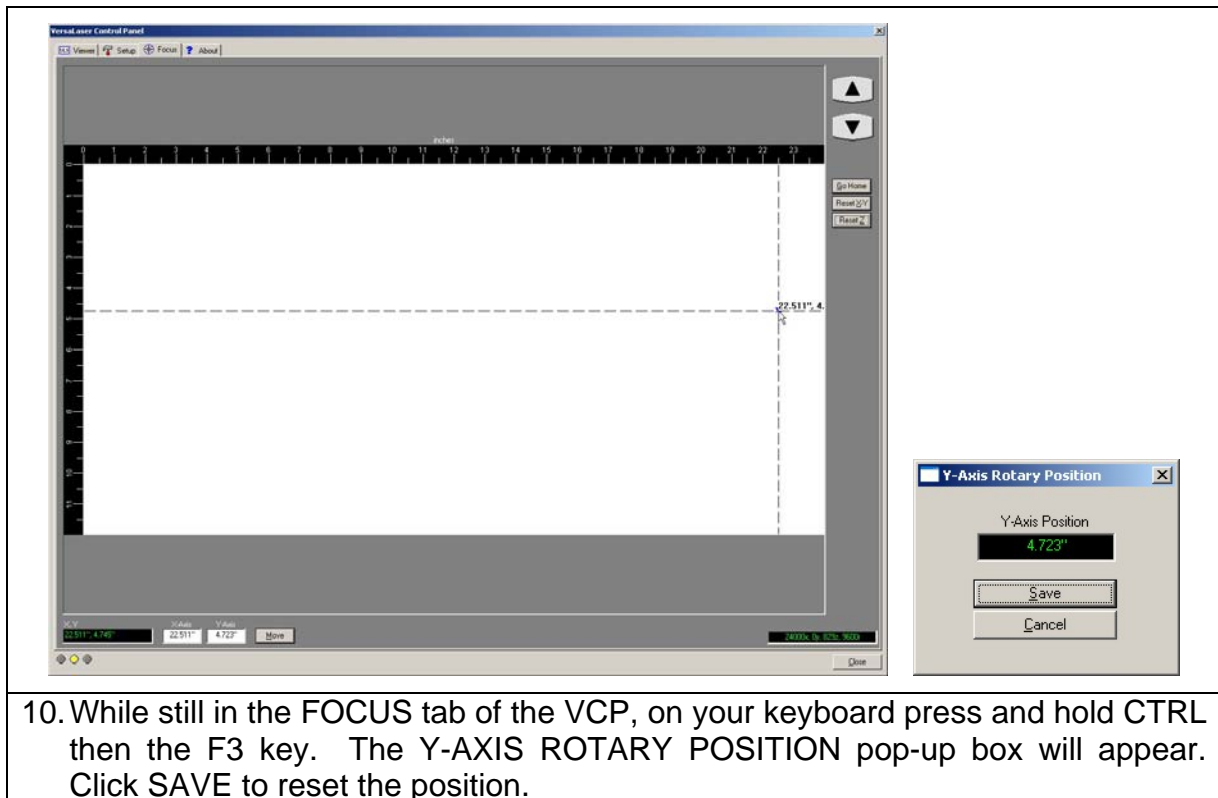
7. Lower the Z-axis table, halfway down. Loosen the two thumbscrews on the table and remove the table.	8. Locate the Rotary Fixture Alignment Pin. Then raise the Z-axis platform as high as it will go.

9. Using the crosshair or typing in the coordinates in the FOCUS tab of the VCP, position the red dot directly in the center of the Rotary Fixture Alignment Pin. Try to get is as close to the center of the pin as possible.

10. While still in the FOCUS tab of the VCP, on your keyboard press and hold CTRL then the F3 key. The Y-AXIS ROTARY POSITION pop-up box will appear. Click SAVE to reset the position.

11. CPU Initialization is now complete.

CPU calibration is necessary for two reasons: You must have a "0.00" reference point, for each lens, so that the machine properly adjusts the Z-axis to focus the laser beam accurately when selecting the different lenses. Also, it needs to know where the centerline of the Rotary Fixture is so that the x-axis arm will move out to the correct position (highest point of the cylinder) to engrave cylindrical objects.