

How to select a lens for use in a GCC Laser Engaver.

GCC offers four different focal-length lenses, the 1.5", 2.0", 2.5", and 4.0" for different applications. The numbered descriptions signify the distance of where the passed-through beam light will converge. For example, when a beam of light passes through a 2.0" focus lens, the light beam will converge at a 2.0" distance, resulting in a concentration of energy at that spot.

The 1.5" lens is best when used for engraving of very fine details.

The 2.0" & 2.5" lenses are good for normal engraving and cutting of up-to 10mm thick acrylic.

The 4.0" lens is good for cutting thicknesses of 10mm and above acrylic.

The resulting spot sizes from the lenses are listed in the chart below.

 Lens	1.5"	2.0"	2.5"	4.0"
 Spot Size	0.0029" (0.073mm)	0.0039" (0.099mm)	0.0048" (0.121mm)	0.0078" (0.198mm)

Engraving effects achieved with the different lenses



To put a lens into the laser:

1. Identify the focal length of the lens – e.g. 1.5" 2.0" 2.5" 4.0"
2. Place lens correctly in keyed seat in carriage (remove/replace cover).
3. Initialize (power-on) machine normally.
4. Press **F4** on the **Empty File** screen.
5. Select **Machine Settings**
6. Select the option **Select Lens**
7. Select the lens focal length and press **F4** to save.
8. Go back to **Machine Settings**
9. Select **Adjust Autofocus** or **Tune Autofocus** option
10. Position Autofocus probe above object to be lasered and press **Autofocus**.
11. Manually measure the distance from the autofocused object to the bottom of the lens and make sure it matches (approximately) the focal length of the lens. You may need to temporarily remove the carriage lens cover to view the lens position.