

## Beginner Guide – How to focus your laser

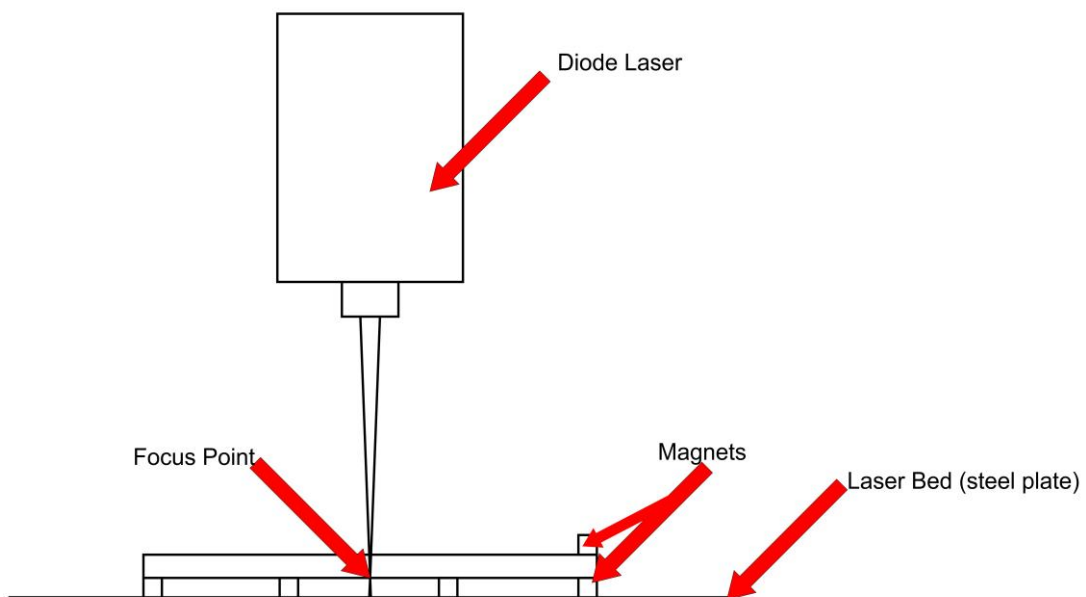
Most of the people asking how they should focus the laser. On which point or with which power.

At first, it really depends on which Lens you are using. I'm using a long focal length lens. Step ledbetter tested the differences and benefits between the lenses which are available for Endurance lasers but that will be in another Guide.

For focusing the laser I'm using a small piece of special coated aluminium (anodized will work too) and put it on my laser bed and at the height I want the laser focused.

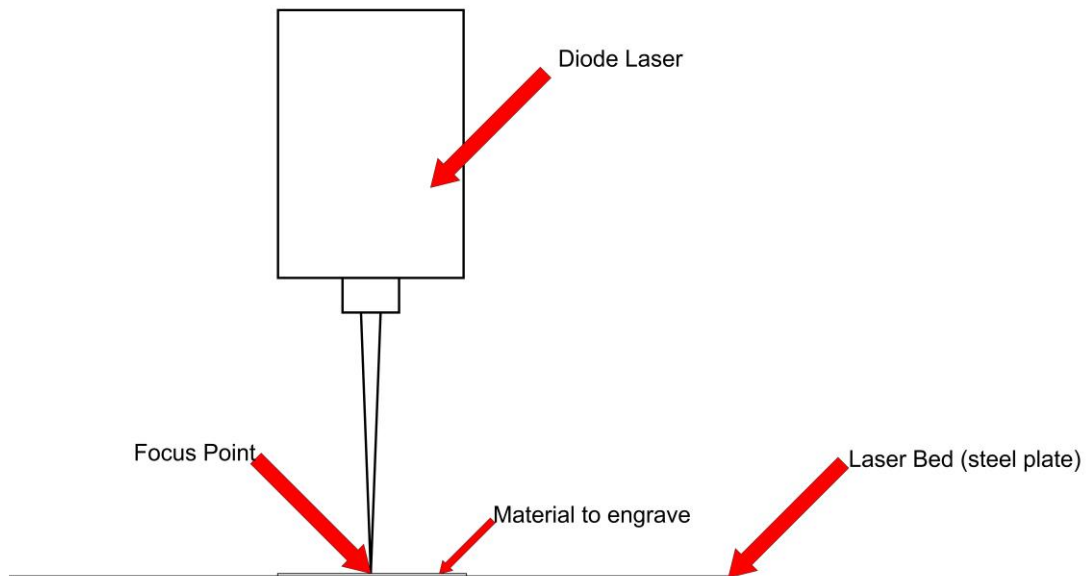
If you are using a long focal lens like me, you are getting a Focal point area of 3 to 4 mm from the focal point. That means if you focus in like 3mm high, you got a good focus at 5 to 7mm high or underneath the focus point.

That's why I'm focusing my laser for cutting 3mm Plywood like shown in the picture



As you can see (hopefully :D) I'm focusing the laser underneath the Wood. Also the images shows kind of my setup. I'm using magnets to get an air gap underneath the cutting material and also to fix the material and hold it in place. This gives me the best output and for 3mm Plywood I need around 4 to 5 passes. Depends on the wood itself. Also (not shown in the image) you will need an air assist nozzle which blows air directly on the cutting material to clean the path and to make it easier for the laser to cut and to get rid of the smoke.

**For engraving it should look like this**



For Engraving the focus point should be exactly on the surface of the engraving material. I know there are different techniques to engrave without a correct focus but these are more for advanced users.

You may watch my video ( <https://www.youtube.com/watch?v=wB8OpPAYk8E&> ). In the beginning I'm going through the whole process from focusing the laser, putting the wood on and fixing it to the cutting process and the finished process if something went wrong.

Feel Free to ask any questions in the group. Please don't PM me so everyone can be a part of the post and learn about solutions.

Cheers

Florian