

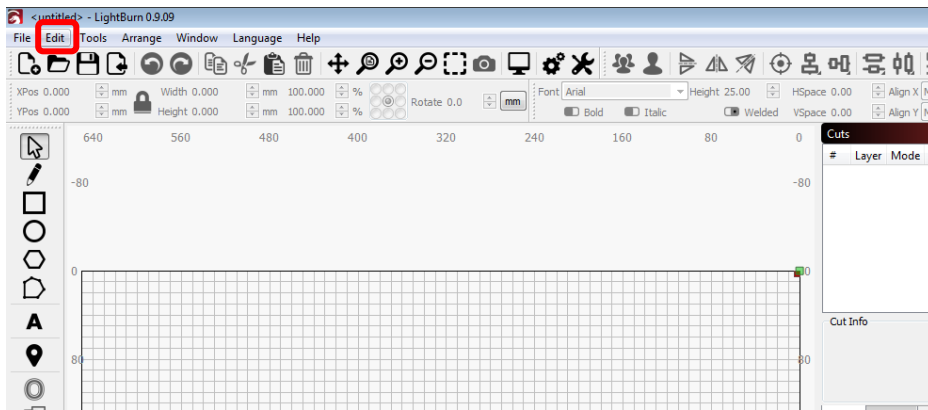
LIGHTBURN BACKLASH GUIDE: How to Improve Engraving Quality

Here are two photos showing examples of a poor quality backlash setting.

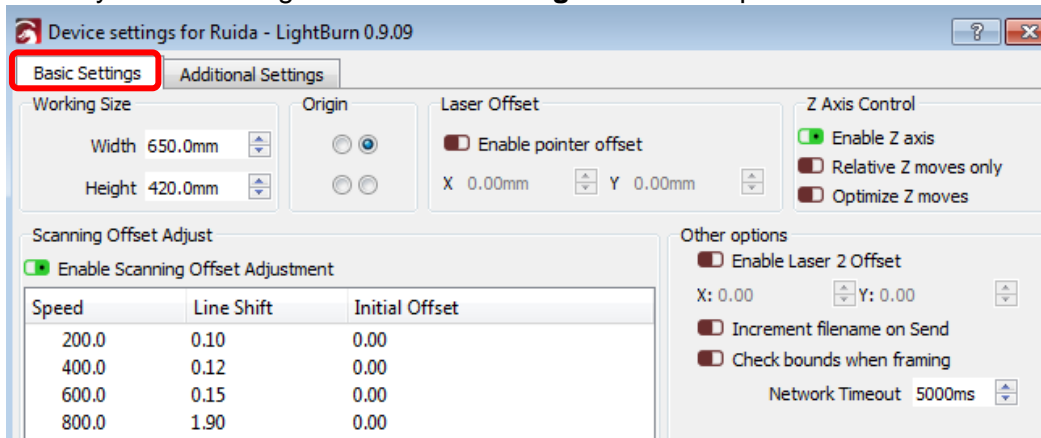



To resolve this, you must change the Backlash / Line Shift as follows.

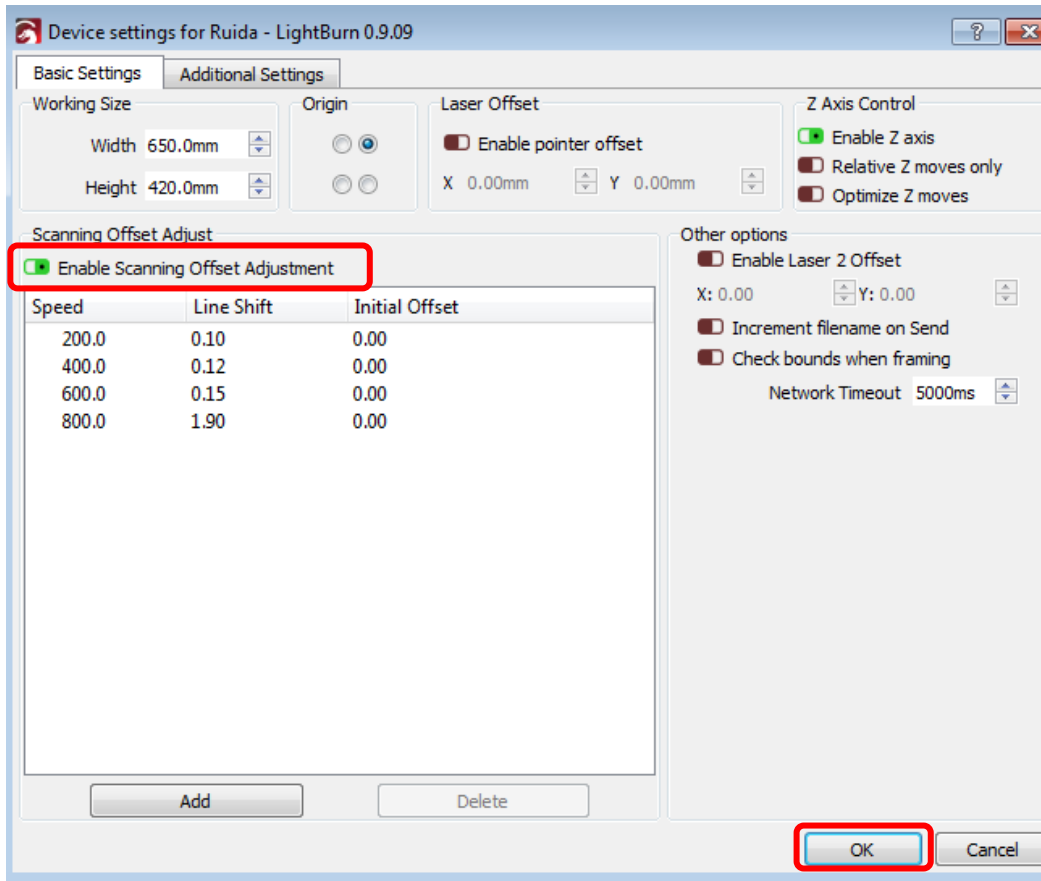
1. In the LightBurn software, in the top left of the screen click **Edit** to open the drop-down menu, and select **Device Settings**.



2. Make sure you are looking at the **Basic Settings** tab in the opened window.



3. To make the adjustments, you must first check the **'Scanning Offset Adjustment'** is **Enabled**. When enabled, the button will be green  as shown below.
4. Press **OK** to close this window.



IMPORTANT INFORMATION: The software/controller are auto calibrated, which means the only values you need to test and adjust are:

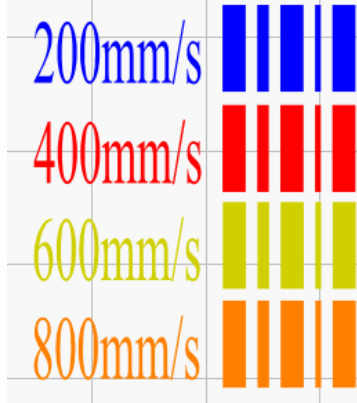
- 200mm/s
- 400mm/s
- 600mm/s
- 800mm/s

Speeds from 1mm/s to 1,000mm/s will be calibrated automatically.

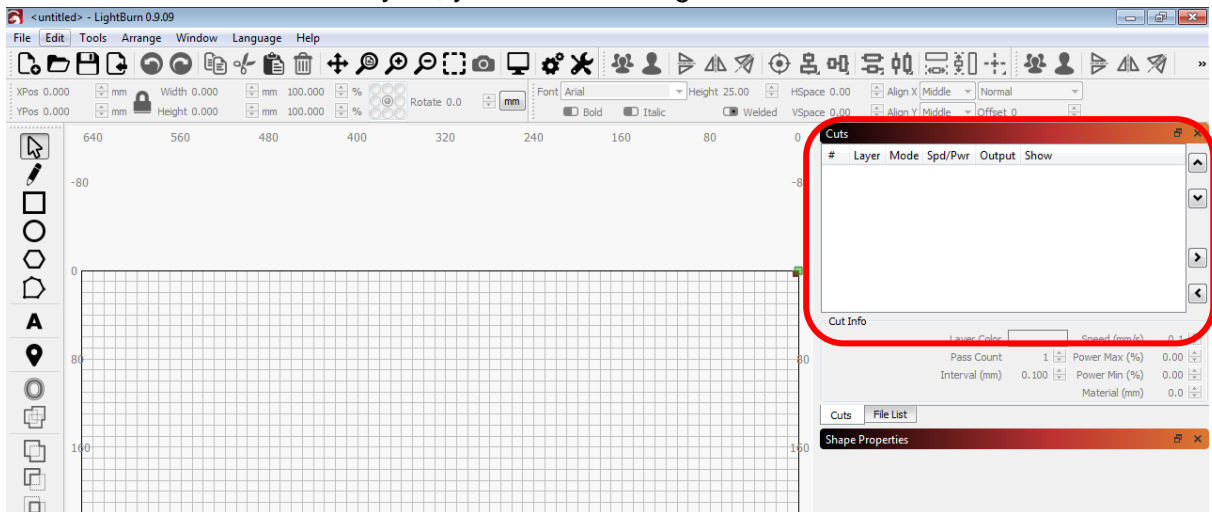
IMPORTANT: Your laser machine may have limitations for top engraving speeds, so please contact your machine supplier for confirmation of your machine specification if required.

To Do Test Calibration...

- In the LightBurn software, create a laser file as shown below or download the test DXF file from our website www.ctrlasers.co.uk and open this in the LightBurn software.

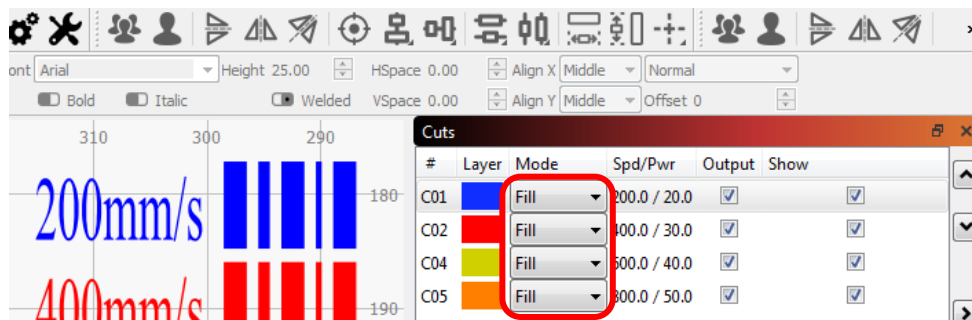


NB: in the default software layout, you will be looking at the **Cuts** section shown below.

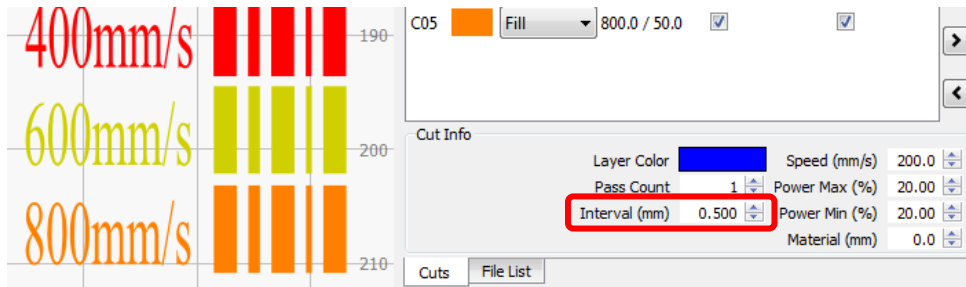


NB: please be aware that the above is the default software layout, and if this has been adjusted by yourselves, you will need to locate the relevant section and then continue with these instructions.

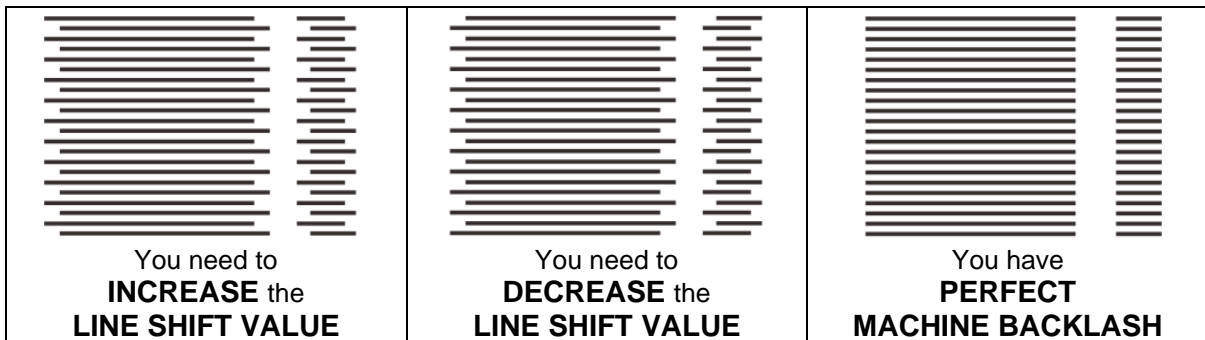
- Set all layers from 200mm/s to 800mm/s to **Fill** using the drop-down options.



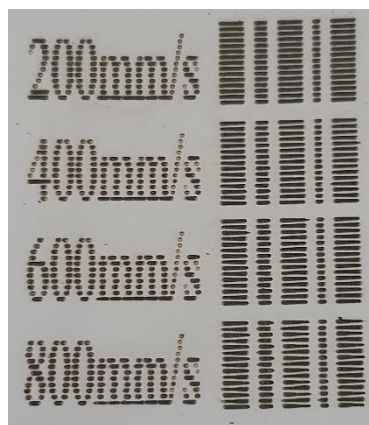
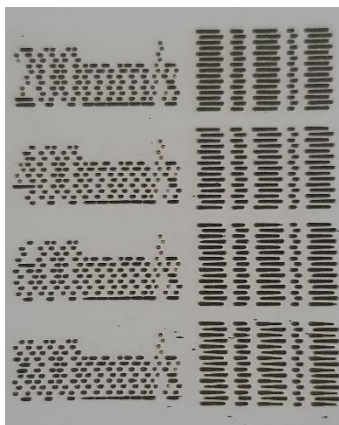
7. Set the interval to **0.500 mm**.



8. Send the file to your laser machine and run the file as usual on a piece of scrap material (ideally greyboard card, but wood/acrylic or similar could also be used). When the test job has completed, look at the results (it is best to use a magnifying glass for closer inspection). Compare your results to the below examples and adjust the settings accordingly.

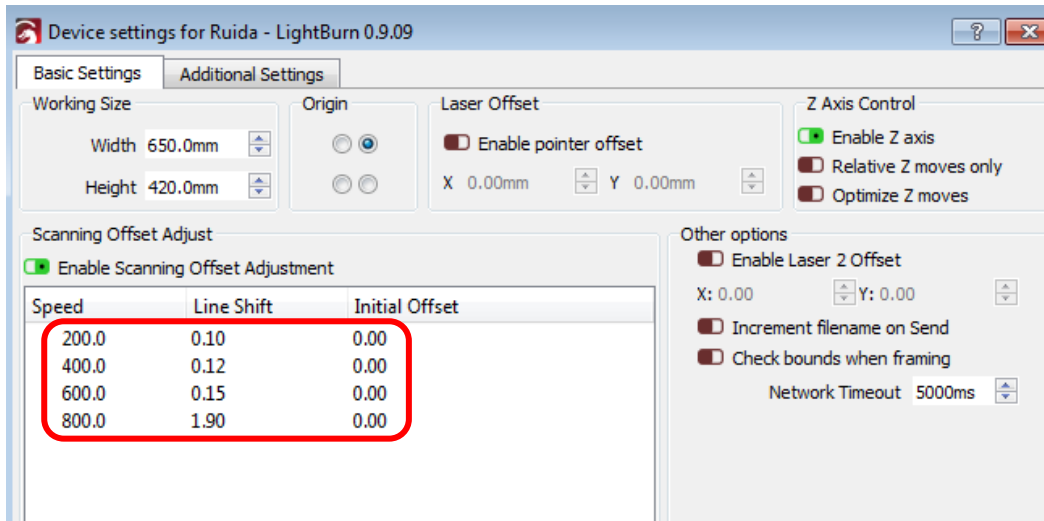


The below are two photos showing the type of results you could expect to see.

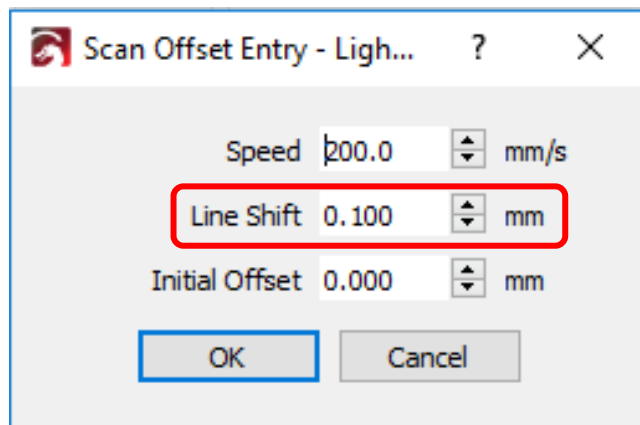


9. To adjust the Line Shift values, in the LightBurn software go to **Edit > Device Settings**.

10. Double click the speed you want to edit in the area shown below (each speed line must be edited individually).



11. Enter the new values into the below window and press **OK**.



IMPORTANT: Each time you change one or more value(s) (i.e. adjust the line shift value), you will need to re-send the test file to the laser machine, run the job, and inspect the results until no further adjustment is required (perfect machine backlash).

Line Shift adjustments should be made in small increments i.e. **+/- 0.01 mm**, depending on the adjustment required.