

Lighting and Filing

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I wonder how we learned to file to measure - in poorly lit shops. Workbenches and vises were not better lit. Now with age and a reduced capability to focus on small detail I need to improve the circumstances with optimized lighting of the workpiece.

Sawing to measure and filing to measure is much easier when the scribe line is prominently visible by increasing the contrast between line and a dull or inked surface. But installing more lightbulbs (the dentist's method) doesn't help as much you would guess.

I experimented with an LED 'book lamp' that can be positioned around the vise.

(Note the flat stock to keep the equilibrium.)

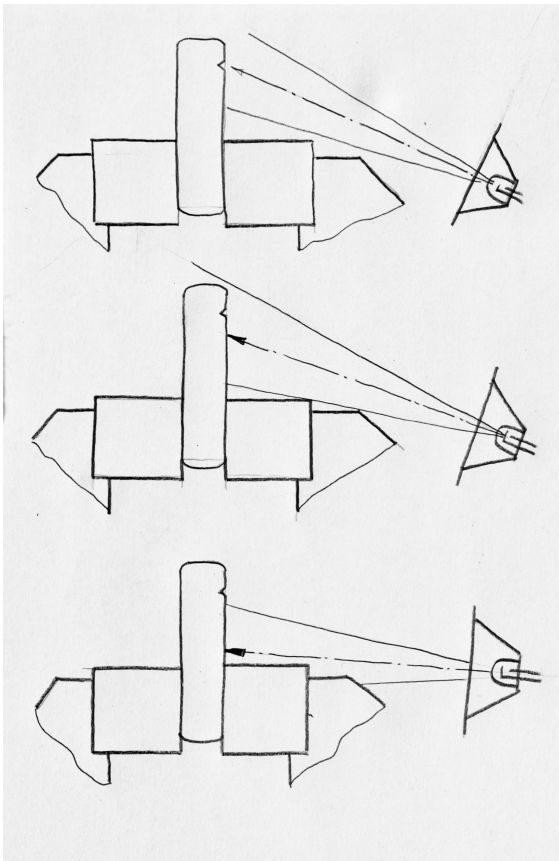


With its gooseneck the lamp can be adjusted to practically every incident angle of the clamped workpiece.



Findings:

- In the case of a horizontal scribe line: Lighting from below towards the scribed surface is best. Unfortunately the front vise jaw is in the way and prevents a (desirable) lower incident angle. Filing down the jaw will improve the angle and not weaken the jaw.
- In the case of a vertical line (sawing): Lighting from the side towards the scribed surface is best.



The light should not point directly to the scribe line - resulting in lack of contrast.

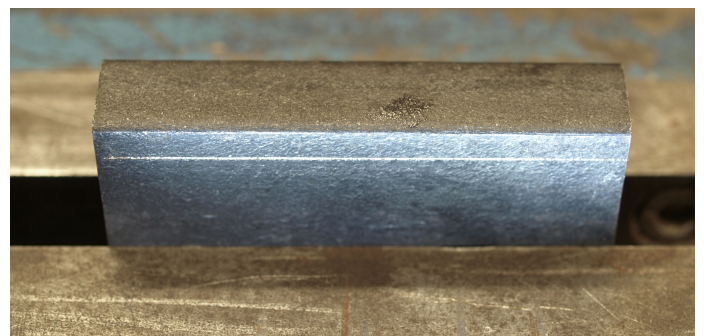
The light should point slightly sideways to the scribe line.

Unfortunately no hard rule:
Experimenting helps to get the feeling.

The light should not point too far away off the scribe line

Some examples:

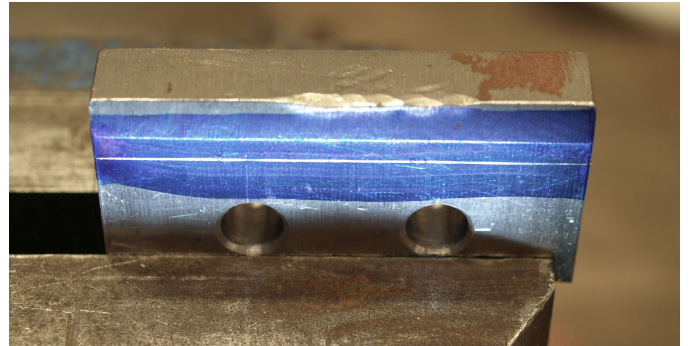
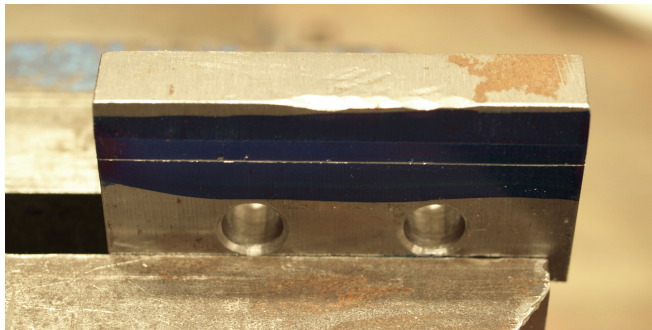
rolling skin



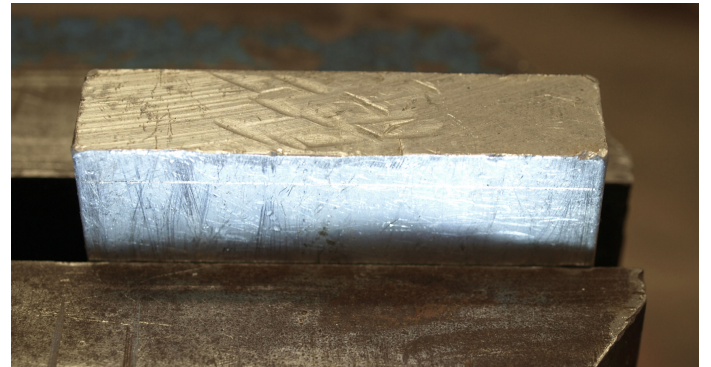
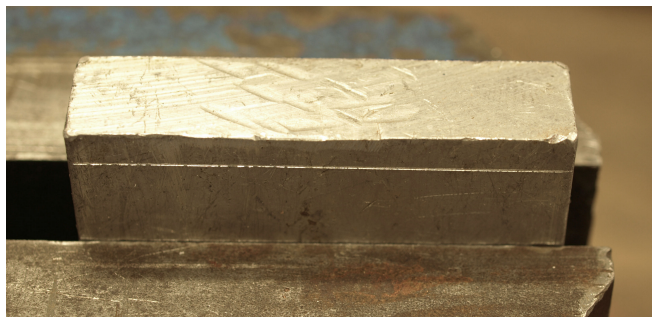
ground stock



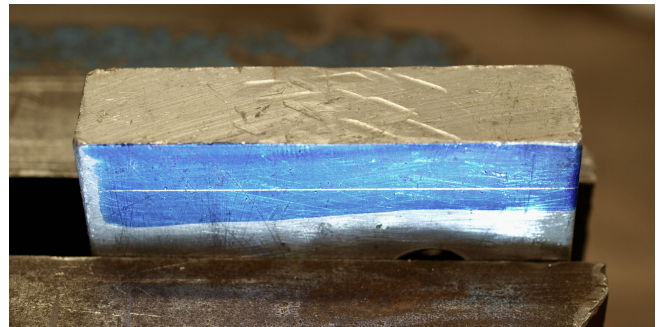
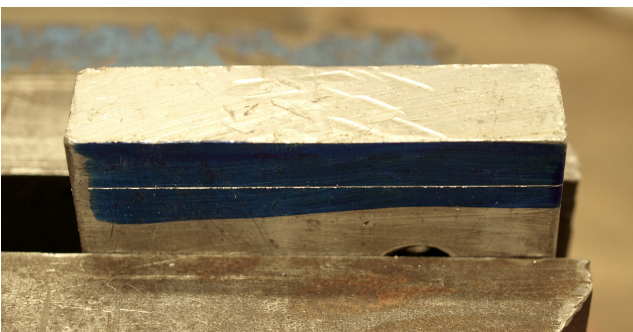
ground stock inked



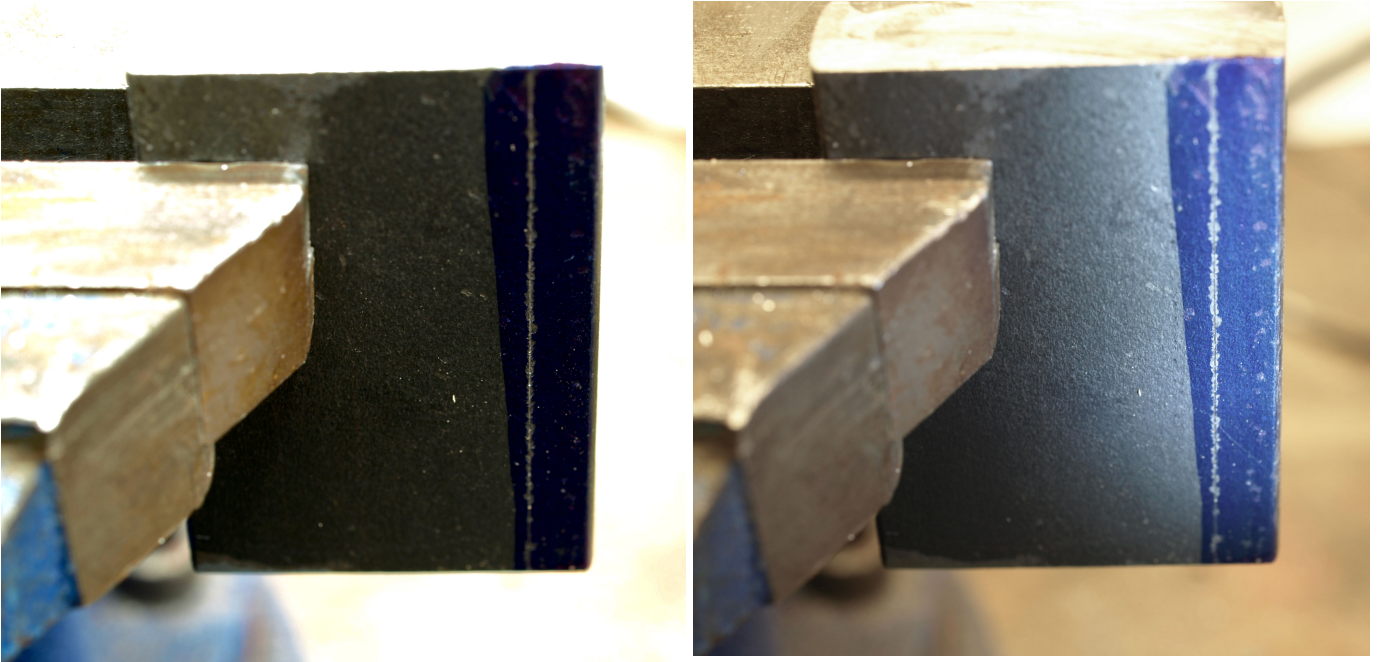
aluminum - lighting deteriorates visibility



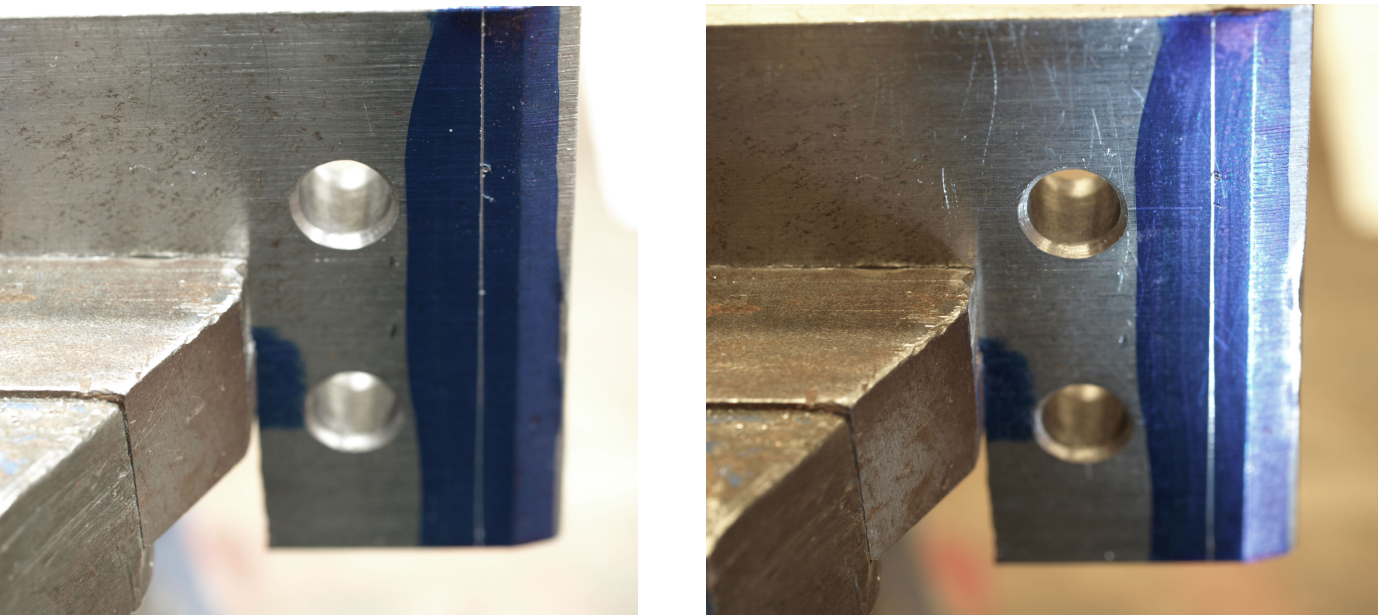
aluminum, inked



Sawing: rolled stock



Sawing: ground stock



Provisional Result:

In many cases the visibility of the scribe line is improved. But the general illumination of the shop interacts with the effect of the filing-light - as one can see from the two first examples (not inked stock).

Shiny (e.g. aluminum) surfaces need inking.