

## 5160 Club Newsletter

June, 2009

Meeting June 4, 6PM, Woodcrafter store on Coburg Road, Eugene, Oregon

### May Meeting News by Wayne

At the monthly (May) meeting at the Woodcrafter store in Eugene there were twenty members present. A variety of topics were discussed and the show and tell part is always fun. An informal survey showed that 50% of those present were mostly interested in knifemaking in general and didn't particularly care to do the blade quality test that was part of the original proposal for the formation of the 5160 Club. That's OK because there are no rules in this club at this point. Wayne runs the meeting unless someone else volunteers. Jeff, Wayne and Chuck are the reporters, editors and mailmen.. They need help with short articles for the E-Newsletter. Send to Jeff [jcrown1@netzero.com](mailto:jcrown1@netzero.com)

Or Wayne [wgoddard44@comcast.net](mailto:wgoddard44@comcast.net)

### Jeff's Hammer-in.

On May 16<sup>th</sup> we had another hammer in with the 5160 club. We the 5160 club members gathered together at Jeff Crowners shop to learn about forging techniques from Wayne Goddard. Wayne enlightened us all with the use of simple forging of small blades and how the tools work with the anvil. Wayne went over handle making fixtures and gizmos. Christian Griese ground out a blade that Wayne forged as Larry Criteser watched.



We all got to chop rope and 2x4's with various blades having lots of fun. Jeff Cowner flexed a blade with it breaking along a stress riser. Wayne went over how stress risers can affect the breakage of blades even with the best heat treat. Jeff took his broken blade placing another blue back draw on the broken piece of approx 4 inches long and easily flexed the piece over 90 degrees. All in all it was a great time being very productive. We will meet again at Wood Craft on June 4<sup>th</sup> at 6 pm. We will discuss the upcoming Bohemia mining day's event in Cottage Grove.

The one brick forged was gone over and used by various people. It will be utilized at the Mining days event. We will have a table to place club blades for sale on it....Good luck and see you all soon.....Jeff

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## Eliminating Stress Risers

From "The Wonder of Knifemaking".

By Wayne Goddard

A knife blade ready for the quench should be free of stress risers. A stress riser on a blade would be any sharp change in contour, a surface defect or even a coarse grinding mark on the surface. The classic stress riser that has caused many knives to break is a square corner where the tang meets the blade. The knife breaks at the junction of tang and blade where the two lines meet at 90 degrees. The break started with a small crack that was caused by the stress of the quench. This junction should have a nice smooth radius which will spread out the stress created in the quench.

I see many knives were made from files and rasps that have marks showing where there are remnants of the teeth left. So called "buck skinner" knives are often made that have hammer marks left on the surface. The hammer marks usually show remnants of scale that was hammered into the surface. These defects and irregularities are all stress risers where microscopic cracks can form during the quench. These stress risers may lead to failure of an otherwise good blade.

When a blade fails because of a stress riser there is almost always a discolored area visible that shows where the crack started in the quench. At a recent demonstration/ teaching day at Fort Vancouver one of the participants brought a drawknife that he had forged and heat treated. It had warped quite badly in the quench and I thought I would straighten it for him. I gave it a soft back temper using heat tongs and proceeded to try to straighten it. It broke in half with very little pressure. The break crossed a medium sized hammer mark that had fire scale hammered into the surface. There was a dark line spreading out from the bottom of the dent, proof positive that the crack that caused the blade to break started in the quench. The break showed a nice fine grain and such a blade will usually not fail when given a soft back temper. That drawknife blade had been quenched back first into the oil. This puts the back under compression and the edge in tension. In my opinion this is exactly backwards to gain the maximum strength in a blade.

See you at the meeting, June 4, 6PM, Woodcrafter store on Coburg Road, Eugene, Oregon

Wayne

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