



EUGENE 5160 CLUB ~ APRIL 2012



The April Meeting will be Thursday the 5th at 6pm at the Woodcraft store in Sheldon Plaza on Coburg Road, Eugene. Informal get-together at McDonald's at the North end of Sheldon Plaza around 5pm.



Last meeting saw yours truly out of commission: flu had gone through the family and I got mine.

Many thanks to **Mighty Mike Johnston** for notes and photos of the March meeting!!



APRIL MEETING

We'll start out with show-your-work – so if you've got something to show & get feedback on, bring it! I'll bring my “learning experience” bamboo-copper handle knife for your amusement – and my leather tooling doodle on a belt loop for my Crowner blade.

Then **JEFF CROWNER** will show us his methods for creating thermo molded Kydex sheaths. He's ramped up production on his hard use tactical knives and has developed techniques for quickly creating what I'd call taco and pancake style sheaths. He will have work-in-process examples and depending on the availability of tools, he may be able to demonstrate part or all of the process for us.

For anyone interested in hard use tactical grade sheaths, this is one not to miss!

Then I expect the usual Guidance-From-Goddard and general sharing. Such a deal.



MARCH MEETING NOTES

I've formatted Mighty Mike's notes and photos into my newsletter template, and I hope I don't mangle any of it in translation:

As usual I was about 10 minutes late to the meeting. This time I would have been there on time, but there was construction on I-5 that delayed me.

Lynn had already announced that he had picked up a tub of Curly/Fiddleback Maple wood that was cut into handle sized pieces. Since he got it free, he was passing it along at the same price. Most had a nice wavy pattern and some had some spalting. I walked away with several pieces to play with.

SHOW AND TELL:

Lynn brought a OKCA Display Award 2012 knife that he had finished for the show. Wayne thought it should be selected first at the meeting.



Another member brought in a Ray Richard knife he bought recently on eBay.



He told us that eBay will allow a search and notify you when a specific item comes up for auction. He had requested notice on Ray Richard and Wayne Goddard knives and was notified

about this one. The knife was listed as a very early and rare Richard knife. The logo was stamped on the side rather than his name on the spine.

I contacted Ray and found some background. Ray thought he had sold the knife at the OKCA show in 1996. The knife was forged from 60 grade rebar which he still thinks is good knife steel. He said this knife was the most radically curved knives he made in a group of about 30 at the time. Ray said he still has several rebar knives at his house, but they were stored in an unused fireplace and got rusty. The knife is cold blued.

Ray was not certain, but thought he sold the knife originally for about 1/2 the recent purchase price. The sheath is not made by Richard, he sold it originally without a sheath. Who ever made the sheath obviously made it specifically for that knife and did a fine job fitting it to ride in the small of the back.



Another member showed a knife he bought more for the sheath than the knife. The sheath was made from pronghorn antelope horn and leather:



Wayne brought in four items to show.



Two sharpening steels, one being a Case XX that was fairly old. I was still setting up and did not catch the details on the chef's knife, but I think Wayne said he thought it was shear steel.

The forth item was an old broken bowie blade, broken at the guard. Wayne said someone had ground a tang into the blade. The makers mark, which had probably been in the middle of the blade, that read "Joseph Mappin & Brothers Queens Cuttley Works Sheffield" was still visible just before the new tang grinding.



Wayne had polished an area of the blade near the tip to show the pattern that the shear steel production process leaves in the steel.



Wayne described the process of making shear steel and double shear steel.

“Blister steel was made by heating iron bars covered in charcoal. (Iron sucks carbon into itself at the right temperature and charcoal is an excellent source of carbon.) The heating was continued for up to a week. The material produced was called blister steel because blisters covered the iron bars. Blister steel was then turned into shear steel by wrapping blister steel bars up in a bundle and then heating them again before forging the bundle. The heat and the action of the forge hammer welded the rods together as they were hammered to the size required. This shear steel was used to make every kind of cutting tool. Sheffield became famous for their shear and double shear steel blades.”

As part of our ongoing education in knifemaking, Wayne brought in a “blade” that he had silver soldered 1/2 of a bronze guard onto the side. Wayne started by notching the side of the guard to fit tightly over the side of the blade.

Wayne placed small “snippets” of silver solder on the tang side of the knife and applied heat with a torch on the blade side of the knife. The silver solder flows evenly toward the heat under the guard.



Wayne said using “snippets” limits the excess solder most people experience when



applying solder from a stick or wire. Wayne said he had placed a little too many “snippets” of silver solder on the tang side of the knife as there was a little too much flow through. The amount of excess solder on this joint was far less than most of my joints were AFTER I cleaned them up.

A trick to cleaning a solder joint that Wayne uses is to cut the bristles of a flux brush short. Once the solder is applied the solder can still be moved for 30 to 60 seconds. Wayne uses the flux brush to “brush away” any excess solder rather than filing, scraping or sanding off the excess. Wayne cleaned up the blade with hot water and a rag before bringing it in to the meeting.

Wayne said he typically finishes his blades at least to 600 grit, and is done except for sharpening before he puts the guard in place. This “blade” was finished to 240 grit before installing the guard.



To demonstrate the strength of the solder Wayne started hammering on the guard to break the joint. After several attempts to knock off the guard, Wayne put the blade in a vise and continued striking the guard with a small cross peen hammer several times before the joint failed. Wayne

said this was far more stress than any knife guard would ever experience, even under extreme conditions.



Examination of the joint showed an even and complete coating of silver solder on both the guard and blade.

In addition, Wayne suggested that for additional strength in a soldered guard, a small radius notch filed in the blade/tang junction. The split guard is then driven over the edge of the blade/tang junction, is driven partly into the notch and the notch is covered by the guard. When the solder is applied, the remaining notch is filled giving an even stronger guard to blade joint.

The question was asked about heating the finished blade/guard to solder on the guard and how it would effect the heat treatment of the blade. Wayne said due to the low temperature of silver solder, 450 degrees F, and the small area of the blade effected, it was unlikely that the heat treatment of the blade would be effected to any degree. The discoloration of the sample "blade" was on the surface and at the most brought the blade in the ricasso area down to a hard spring temper.

(Editor's note: What my jewelry friends call silver solder flows from 1300°F for "easy" to 1425°F for "hard" – while Stay-Brite Silver Solder flows at the temperature Wayne noted – so there's a wide range of solder out there being called "silver solder." For clarity Wayne calls jewelers' silver solder "braising solder"... but if you go to RioGrande.com and search for "silver solder" you'll wind up with the 1300°F stuff and I'd bet that *would* mess up your heat treat.)

Wayne said that most makers use a torch that is too large to do their silver soldering. A torch with a small, hot flame is better as it will heat the area to be soldered quickly and not effect the rest of the blade as much.

When silver soldering onto stainless steel the best option is to use Welco #5 stainless steel flux.

The discussion changed to quenched steel hardening over time. Wayne had quenched a piece of O1 in water, placed it on a shelf for 6 months and it had developed cracks.

If a blade is cooled too slowly in the quenching process, the untransformed Martensite will convert back to Austenite. This will allow the blade to continue to harden over time. The triple temper should allow all the Austenite to stay converted into Martensite and the blade should stay at a consistent hardness over time.

Regarding quenching, the discussion lead to whether the process of quenching blades in slaves was actually

done. Wayne doubts this was ever done as slaves were too valuable and it was unlikely of getting a superior hardening of a blade by running it into a human body. There was a story of one knife maker who always ate chicken the day after he was heat treating blades. The rumor was that he would quench the blades in live chickens and those would be chicken dinner.

Wayne said kukris were edge quenched by pouring vegetable juice along the edge of the blade. The Gurkha would make the kukris for the Sherpas and the Sherpas would pick up meteorites that landed in the snow fields. The Sherpas traded the meteorites to the Gurkhas. The Gurkhas worked the meteorites into the blades of the most expensive kukris.

Is forging a blade better? This question sparked a lively discussion with several ideas for answers. Wayne suggested, why would you forge a piece of steel that was made as good as it could be made at the factory? He said for every one thing that can go wrong in the stock removal process of knife making, five can occur in the forged knife process. The best suggestions made was that forging refines the grain of the steel, less material is wasted, it's traditional and it's more fun.

In 1984-85, during the early years of the ABS, the other makers complained that Wayne's knives did not look forged.

Stock removal started about the Civil War era at which time there was an explosion of technology. Prior to that, forging was the method of knife making.

Wayne brought in a larger blade made of cable Damascus that he had given up on due to a flaw in the weld. Wayne suggested that the blade could be cut in half to make two blades, or cut into two to four pieces, stacked and re-forge welded.



Someone had a blade that would not stay straight, no matter what they did. Wayne said his best suggestion was to reheat the blade to critical temperature and work it back and forth over the horn of the anvil on one side, then the other. This would be like flattening out a piece of wrinkled paper by rubbing it over the edge of a table. Wayne thought doing this twice, then normalizing the blade MIGHT keep the blade straight. Lynn said he had started normalizing his 5160 before he started doing any work as he got some with very bad course grain from the factory.

Wayne brought in a box of “give aways” because people had not been coming over and helping him get rid of his “free pile”. The box started at the front of the room and each person would pick one, ONLY ONE, piece from the box. The box made it around the room three times before it was empty. Short deer antler crowns and handle material was most of the content.

While the box was being passed around, a discussion about anvils started. Wayne said some anvil faces are too hard to file at about 59-61 Rc. These are not good anvils as the edges chip too easy. The face of some are so soft that the face will dish and the edges willpeen over. Peter Wright anvils were known to be a bit soft faced, but that was not a problem for bladesmithing.

If someone was going to make an anvil and wanted a pre-made hardie hole, Wayne suggested using a one inch drive impact socket and welding that into the anvil.

Jim was asked if he would sponsor another hammer-in at his farm. Jim said he would be happy to do that as long as it was early enough that the fields had not dried out yet. An early to mid May weekend date was tentatively suggested for the hammer-in. No “theme” for the hammer-in was suggested.

Lynn announced that the NWBA was holding it’s spring meeting at the Longview, Washington Fairgrounds on April 27th, 28th and 29th. These meetings/workshops are very informative and there is always lots of hands on workshops in forging. See the NWBA website for details.

Everyone agreed that since the first Thursday of April was far enough away from the show, there would be an April meeting of the 5160 Club.



DE-CLASSIFIEDS

Buy/sell/trade/etc. notices received by the editor. I'll repeat notes a few times then drop them unless I hear that the deal is still on. Postings are not backed by anyone other than the person who sent in the notice. We're an honorable group of people but still, misunderstandings can occur and it's up to the folks making a deal to check it out first.

Larry “Bear” Criteser has a commercially made oxy/acetl. cart with an 80 or 100 cubic ft. oxy bottle (not sure which) with unknown amount of gas in it, for sale. No acetl. bottle, sorry. He'd like to get \$75 for the cart and bottle. He also has an extra oxy bottle the same size as the one with the cart, with some gas in it for \$40. Home phone is 541-689-5680, or email at [<bearsgunnery@criteser.com>](mailto:bearsgunnery@criteser.com)

Marty has a 6" jaw width post vise for sale. Also 1050 and 5160 steels, old files to make knives out of, and anhydrous borax. Martin Brandt 541 954-2168

Wayne's totally revised **Wonder of Knifemaking** is now available. And I believe he still has an active free steel pile beside his driveway, and an ongoing tool sale. Call for an appointment: 541 689-8098.

Mighty Mike has access to a steady supply of used LARGE brake drums that can be welded up as bases for post vices, grinders, propane forges or whatever. Let him know if you are interested: Mike Johnston 503 351-3104.



BAMBOO-HANDLED KNIFE CONTEST

Judging at the July meeting. You'll get to see my entry at the April meeting – we'll see if I can come up with something better by July.

Keep Well!

Your Scribe ~ ~ ~

Michael Kemp