

∞ **EUGENE 5160 CLUB ~ DECEMBER 2014** ∞



## DECEMBER MEETING

The 5160 Club will meet at Woodcraft of Eugene in the Delta Oaks shopping center – Beltline & Delta Hwy. Thursday December 4<sup>th</sup> at 6:00 pm. Bring your show-n-tell!



## OKCA SHOW DECEMBER 6TH!

Don't miss the Oregon Knife Collectors Association's Winter show at the Lane Events Center – Wheeler Pavilion (the round building). December 6<sup>th</sup> – setup at 7:00am, open to the public 8:00am-4:00pm.

There is a Toys-for-Tots collection being taken – any new, unwrapped children's gifts are appreciated.

If you have items or information to display, tables are available. Advance notice to Dennis is appreciated, but if you are uncertain about the weather “Just come prepared to use a table” (\$40/table) – see the OKCA Newsletter for details and contact info:  
<http://www.oregonknifeclub.org/Newsletter%201411a.pdf>

I'll propose having a 5160 Club table at our meeting Thursday. I think it would be good for the club – and good to support OKCA.

It's also time to reserve that great corner table we had at the April Show for 2015. I'll pass the hat at the meeting (\$120) and see who wants the opportunity to join me at the 5160 Club table. If you are at the table you can sell your wares!

If you have enough to fill a table of your own, here's the info page from OKCA:  
<http://www.oregonknifeclub.org/okcashow.html>



## NOVEMBER MEETING

**WAYNE GODDARD** brought in a couple of buckets of hammers. He pulled out a favorite and some sage advice – such as putting a radius on the edges of your hammers (leave the center of the head flat) to reduce hammer marks and so that when you are working on the edge of the blade you aren't hitting the anvil face – just the blade. And notes on handle construction to reduce vibration – and proper hammering technique.



This favorite has a slot down the handle filled with rubber – plus rubber around the outside to reduce vibration (and carpal tunnel). The narrow peen end is good for drawing – the steel moves perpendicular to the peen. For straight-ahead forging, the big end is

easy to use. The weight-forward head makes the hammer almost guide itself.

Wayne layed out his “extra” hammers (see the photo at the top of this newsletter) and wasn't satisfied until he'd given them all away!

Wayne shared a camp knife he had with him:



Which started a conversation about the cary position of camp/brush knife sheaths. **LARRY CRITESER** shared his thoughts from experience in the jungle in Vietnam. They carried a blade in a sheath attached to their vest/straps with the handle down and a snap over the guard. He had to “oil the blade three times a day... you could just about watch it rust!” In response to a question about losing the knife from the inverted sheath Larry said he never knew of anybody having the snap fail.

That lead into the mustard finish (to protect the blade from rust). Wayne noted that he takes the blade to 400 grit finish, then (using yellow mustard) puts a thin layer on the whole blade – dobbing it on by hand to achieve an uneven, mottled, texture – then hangs it up overnight. “In the morning it's a solid mass of rust” – so clean it up with hot water and fine steel wool. “I give it three treatments. After the last treatment I take it down pretty good and use cold blue on it.”

*Note: Birchwood Casey Super Blue is available at gun shops, Bi-Mart stores, or on-line. Cold bluing is quick and easy compared to hot bluing. Rather than paint Super Blue on the blade I use a dilute bath that I suspend the blade in – either way works but the dilute bath give a more even application. I learned that from Wayne.*



See also the description of Wayne's mustard treatment in the June 2013 newsletter:

<http://www.elementalforge.com/5160Club/201306Newsletter.pdf>

The mustard finish and Super Blue both work to put a patina on the blade that inhibits rust.

There was discussion of making patterns by how you apply the mustard finish... using patterned applications &/or masking off areas between coats.

**STEVE GODDARD** was up next. He said that he goes through Wayne's box of unhafted blades and picks a few out to put a handle on and finish.



Here are a couple that Steve has finished up:



The top knife is from saw steel hafted in Brazilian Cherry. “It was pretty porous so I treated it with Superglue so it's sort of stabilized.” Steve has plenty of the Brazilian Cherry and will part with some if anyone is interested.

The bottom one is 154CM hafted in Micarta. Steve said this pattern was the forerunner for the Goddard Clipit folder.



**MARTIN BRANDT**, referring to the tribute to Wayne & general hammer-in, said “For all you who missed it Saturday, we had a whole lot of fun! And good food too.”

Martin did a demo Saturday on forging a Puukko:



“This was from a grader blade... heat treated in a two brick forge and quenched in Goddard Goop... then I tempered in front of the forge door with a Tempilstik at 350°f.”

It's still a little harder (more brittle) than Martin is shooting for so he'll do more tempering to get it to 60-61Rc. “Wayne, did you tell me – on the three corner file, a well worn one – 60-61 should just barely cutting, with a lot of pressure?” Wayne said that was so.

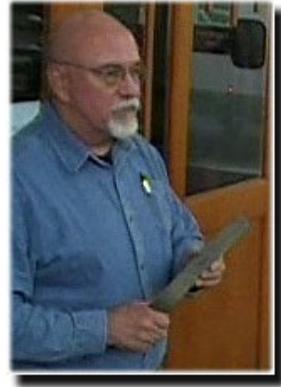
There was discussion about using Rockwell testers on the slightly beveled surface of a blade, and how to make a custom “anvil” for the tester that would present a 90° surface for the indenter – and keep the blade from moving.

In response to a question Martin repeated that this blade was made from the front edge of a road grader blade “probably O-1.” That he heated up past the colors “to clear” to take the hardness out so he could bandsaw it up.

*Note: A “Tempilstik” is like a crayon that you mark the steel with. When the steel hits the rated temperature, the mark on the steel melts.*

<http://www.tempil.com/products/tempilstik-original/>

“I had an awful lot of fun at the hammer-in” said **MIKE JOHNSTON**, “I understood that there were gonna be some power hammers there that I might accidentally be able to use... What I did was, at home, I welded up some pieces of 1080 and 15N20 – or springtooth harrow spring and bandsaw blade steel – stick welded them into a billet 5” long 1-3/4” by 1-1/2” hoping I could forge weld them into a billet.”



*I had my portable forge set up and had finished work on the start of a blade. My forge gets up to welding temp. In my shed it gets to 2250°f no problem – but Saturday out in the cool breeze it only got to 1900-2000°f which is the low end of forge welding temp. So Mike was able to use my forge and the host's power hammers to make his first Damascus billet!*

Wayne Goddard and Chuck Richards were there to give Mike pointers on setting the welds. “It didn't take an awful lot of hitting to set that weld nice and tight. I used the power hammer with round dies to stretch it out, and the hammer with flat dies to true it up. I had 12 layers of steel to begin with. Wayne said I should do three folds, which would give me 96 layers – well, I ran out of gas at two folds – as well as time: it began to rain almost immediately after I quit... the end result was a billet that was 18” long by 1-5/8” by 3/8” with 48 layers. I was thoroughly pleased with the result... and yes – that's a flaw on the end.” *Scribe's note: I always get flaws in the ends of the billet that I have to grind out.*



“So yesterday I finally got out in the shop to make a knife out of a piece of it.”



Mike then passed around a dagger he made recently. You can see the temper line on each side. Mike used Wayne's "weenie roast" method for heat treating daggers to get a hard edge and springy center.

"I got the one brick forge hot – put a handle on the dagger and spun it in the forge until the edges were hot but the center still had the shadow on it and quenched it quick in canola oil. Did a little grinding and etched it. That's from a coil spring."



Next time Mike may use a drill extension to chuck up the tang and spin it in the forge with a hand drill to get a quicker spin on the dagger than he could do by hand.

New 5160 Clubber **TYLER** came to the front to share a hatchet he has in progress. "I took some mild steel... cut it out... it took some grinding to get it to shape. We're going to take some leaf spring to weld onto the front." Ken Swader chipped in that Tyler's been working with a hand-held grinder – which can be hard to control. Kuddos for a first blade making project that is well on the way!



**FRANK BOBBIO** came forward next. "I brought my first attempt at making a short sword – or long dagger" Frank said – bringing out a very impressive piece. "I forged it out of 5160, and forged the guard



and pommel out of mild steel. The handle is an oak core that I wrapped with nickel silver and copper wire. The band and the ferrule are nickel silver."

"I made the wood handle and then burned it on to make it a tight fit. The handle was wire wrapped – and soldered. The nickel bands were put together with jewelers hard solder – then jewelers soft solder for some finer work – then low temp solder to attach the bands to the wire wrap."

"Everything on it was a first" Frank confided. "It's the longest four grind blade I've ever made."

In answer to questions about getting the nickel silver and copper wire twist, Frank filled in details: the wire is 12 gauge; he got the nickel silver wire from Phoenix Jewelers Supply; Frank mocked up the twist with bailing wire so he could estimate how long the wire needed to be to complete the handle wrap (20' of each wire – which made 12' of twisted wire); he chucked the wires up in a hand drill – stretched taught – and carefully twisted them up; keep it slow and keep tension on the wire; if you get it 80% twisted then it will open up a little and not look good; if you twist it just a little too much it will crimp up and make a knot – so do test pieces! After twisting he coiled it up and annealed it to undo the work hardening from twisting; he applied it to the oak core two or three wraps at a time – using a brass hammer to shape it around and a brass flat punch and seat it down tightly; I gather he'd soft solder it at each two or three wraps.

Frank got his design inspiration from Jim Hrisoulas – who has many examples on his web site: <http://atar.com/joomla/>. Jim also has bladesmithing books and a DVD on Damascus.

Frank noted that Jim's sword and dagger handles taper to a round shape at the pommel end. Frank wanted to keep bit of a rectangle cross section to the end of the handle. "Now I realize why he makes all the handles come down to a round bottom because when you go to thread a square pommel onto a rectangle ... so that's where I had to take the bottom band, neck the thing in, and once I screwed the pommel on then I slowly formed it with a brass hammer and necked it down in ... making it fit to a square. So now now I see why all the ones in his



flat platen when I'm doing the bevels, etc. Martin and others chided me for not using a knotted wire cup brush (for an angle grinder) for de-scaling. *I've picked one up and am looking forward to trying it out.*

book ... they all come down to a really skinny point – they're round at the handle – that way you can screw on the pommel, make a band, and it all works.”

The question was asked “How did you get the solder flux off so it doesn't come back and haunt you a year from now?” Frank said that he was cautious because of the wood core. “I sprayed it with Windex, which should neutralize it, wiped it off – did that several times – didn't let it sit too long. And when I went to solder I took wet rags, squeezed them almost all the way out, then stuck them inside the wood core as well as in front and behind the solder joint to protect the wood.”

Frank forged and rough ground the blade ten years ago – put a hole in the tang and hung it on the wall. “It kept on intimidating me... how am I going to make that grind and keep the line straight down the middle?!? So two Winters ago I started working on grinding it – took it to 100 or 220 grit.” Then recently Frank spent a month putting the rest of the pieces together and finish sanding the blade. “Each pass I had anxiety that I was going to mess up the line!”

Frank sat down and Mike Johnston asked Wayne about what grit to use for bringing out the pattern on Damascus. Wayne indicated that the 2000 grit that Mike used was probably finer than needed. Wayne also recommended warming up the bluing solution.

I opened it up to questions from the floor. There was a question about grinders – the 2x72 grinder is standard for knife makers. *(See the “2x72 Belt Grinders” section of the web links at the end of this newsletter.)* I go back and forth between a contact wheel when I'm profiling or getting scale off – and a



## SHOP SAFETY STORIES



“A safety note” from Martin: “my farrier is healing up from having ten stitches in the palm of his hand. He was cutting off something with a cutting wheel (on an angle grinder) sans guard – it bucked a few times and he kept grinding until it bucked so hard it got him three times in the hand! It required some serious suturing and he's going to be out of work for about three months... so all the guards are going back on his tools.”

Martin reminded to always use the angle grinder going off the edge, not into the edge, or it can grab and run away from you.

Larry Citeser noted that the wires can come loose from a wire cup brush – so wear safety glasses! Frank relayed how a cheap cup brush from Harbor Freight had come completely apart and left a spray of wires stuck in his outer jacket. Another reason to always wear that leather apron!

I noted that after grinder grit bounced up under my safety glasses and into my right eye socket – I'd tried several types of face masks until I settled on a Trend Airshield that seals around my beard with an integral fan and filter. It's roomy enough that I can wear my regular eyeglasses – and the positive air pressure keeps the shield from fogging up. Woodcraft has them. They are spendy – but by trying all the steps between safety glasses and the Airshield I probably spent twice what I would have if I'd just gone straight to the Airshield. It's still way cheaper than the eye doctor visits – and less painful than grit in yer eye!

Martin favors a face shield and separate breathing mask with filter facing down so that your exhale does not fog the shield.

Larry sometimes uses his welder's hood with the dark glass flipped up.

Several of us relayed stories of medics digging pieces of steel or crud out of an eye.

Ken noted that a doctor (pulling a steel splinter out of his eye) told him that the steel "dust" is so sharp that the pressure of the eyelid can imbed it in the eyeball. Ken had been wearing safety glasses and that splinter was probably in his eyebrows or forehead and fell into his eye after taking off the glasses. He noted that Wayne has advised wearing a hat with a brim to keep splinters like that from accumulating.

There was discussion about wood dust. Some species of wood produce dust that causes long term health issues – some people have an immediate allergic reaction to wood dust from one exotic wood or another – so get ventilation going in your shop and wear some sort of breathing mask when creating wood dust.

The concensus was: protect your eyes and lungs.

"And the buffer" I prompted. "Anybody want to tell any buffer stories?" I said this because I've seen what the buffer has done to a couple of knife makers when that fluffy wheel grabs a knife and throws it.

Sadly I learned at our meeting that knifemaker Gordon Dempsey of Alaska was killed this October by a knife thrown by the buffer: "It was posted on Don Fogg's old forum that there's the first documented death from the buffer." Mike Johnston said. "Aparently he was buffing a knife and it brought it around, stuck him in the chest with it. Killed him." Wayne confirmed this.

Several folks told other buffer-threw-the-blade stories. Many of which involved trips to the Emergency Room.

Mike's approach is to put a buffing wheel on his drill press and buff horizontally – so that if the buffer catches it, it will throw it sideways away from him.

My approach has been to cut a stack of 1" or 1-1/2" squares out of old blue jeans – stack them on a spindle for my flex shaft tool – load them with polish – clamp the blade in a vice and buff with the flex shaft tool. The blade isn't going anywhere. As Martin noted you need to buff in the direction off of the edge to avoid having the tool catch the edge and pull your hand into the blade.

Craig Morgan told a drill press story: He was drilling out a tang hole in an assembled handle. Just a quick job – but when the drill hit the epoxy layer it grabbed the knife and spun it – hitting him hard across the belly – scoring Craig's apron. The blade spun into the post of the drill press, cutting the power line, shorting out the circuit, leaving Craig in the dark grabbing at his middle to see if his guts were spilling out (luckily the apron held up). Moral of the story: ALWAYS use a stop or a vice at the drill press. You don't want that quick job to be your last job.

"So there was an arc weld hole back from the point where it cut the power – so it became a shorter knife." Said Craig. "I'm just glad the knife wasn't sharp!"

General concensus: Listen to that little voice that says "No, that's NOT a good idea."

And with that we broke up into informal discussions – and wandered into the night.



**OKCA SHOW – APRIL 11-12**  
**DEADLINE TO RESERVE YOUR**  
**2014 TABLE FOR THE 2015**  
**SHOW IS DECEMBER 15<sup>TH</sup>!**

This is the big annual show of everything that goes CUT. Display tables, sale tables, demos, lectures, supplies, books, factory knives, handmade knives, swords, axes, flaked stone blades, you name it. This year's theme is Japanese blades & cutlery.

Show info can be found at:

<http://www.oregonknifeclub.org/okcashow.html>



Wear your safety gear – no loose hair or clothing in the shop – and have fun!

Keep Well ~ ~ ~

Your Scribe

~ ~ ~ Michael Kemp



## FREE DE-CLASSIFIEDS (IN NO PARTICULAR ORDER)

Email me a brief description of what you are selling/buying/looking for with your preferred contact (phone/email/...). Unless you let me know you want a shorter run, I'll run the note for 3 months and then send you an email to see if it's still valid.

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**Help Wanted:** I am looking for help here at the coast (Gearhart, OR). The job will most likely work into a full time position depending upon the individual. The state has a job training program which I hope to take advantage of as they will pay 50% of the base salary for several months. Applicants need to know how to MIG, and hopefully TIG weld. Blacksmithing knowledge would be a plus. Contact John Emmerling [ironwerks@iinet.com](mailto:ironwerks@iinet.com)



## WEBSITE LINKS

### 5160 CLUB

5160 Club Newsletters are archived at:  
<http://www.elementalforge.com/5160Club/>

Hint: to Google the archive for a specific knife style or presenter name, use a search like this:

**sami site:**<http://www.elementalforge.com/5160Club>

or this:

**ron lake site:**<http://www.elementalforge.com/5160Club>

## OREGON KNIFE COLLECTORS ASSOCIATION (OKCA)

The OKCA hosts monthly dinner meetings where you are guaranteed to see treasures from the wide world of “things that go cut!” OKCA also puts on the big knife show in April – if you haven't seen it you've been missing something special!

<http://www.oregonknifeclub.org/index.html>

Go to the “Knewslettter” link and scan a recent newsletter for a membership form and contact info.

## FORUMS

Knifedog Forum

<http://knifedogs.com/forum.php>

Bladesmith's Forum aka Don Fogg Forum

<http://www.bladesmithsforum.com/>

American Bladesmith Society

<http://www.americanbladesmith.com/ipboard/>

Usual Suspects Network

<http://www.usualsuspect.net/forums/forum.php>

Blade Forums

<http://www.bladeforums.com/forums/forum.php>

## REFERENCES

Many of the sites linked under “Knife Maker General” have book & video sections.

Our own Wayne Goddard's books are available at Amazon:

<http://www.amazon.com/Wayne-Goddard/e/B001JS9M10>

And you can email Wayne directly for his DVD at [wgoddard44@comcast.net](mailto:wgoddard44@comcast.net)

Verhoeven's Metallurgy For Bladesmiths PDF

<http://www.feine-klingen.de/PDFs/verhoeven.pdf>

Verhoeven's updated book:

<http://www.amazon.com/Steel-Metallurgy-Non-Metallurgist-J-Verhoeven/dp/0871708582>

ZKnives – Knife steel composition/comparison/etc.  
<http://zknives.com/knives/steels>

Kevin Cashen's Bladesmithing Info  
<http://www.cashenblades.com/info.html>

Tempil Basic Guide to Ferrous Metallurgy  
[http://www.tempil.com/wp-content/plugins/download-monitor/download.php?id=Basic\\_Guide\\_to\\_Ferrous\\_2010.pdf](http://www.tempil.com/wp-content/plugins/download-monitor/download.php?id=Basic_Guide_to_Ferrous_2010.pdf)

## **GENERAL TOOLS & SUPPLIES**

Woodcraft of Eugene – special thanks to Joe & the crew! 1052 Green Acres Rd Eugene, OR 97408 (Delta Oaks Shopping Center) 541 685-0677  
<http://www.woodcraft.com/stores/store.aspx?id=515>

MSC Direct  
<http://www.mscdirect.com/>

McMaster-Carr  
<http://www.mcmaster.com>

Grainger  
<http://www.grainger.com>

Surplus Center  
<http://www.surpluscenter.com/>

Victor Machinery Exchange  
<http://www.victornet.com/>

## **OREGON KNIFE MAKING CLASSES**

Gene Martin offers personal instruction at his shop south of Grants Pass for a daily rate.  
<http://www.customknife.com/>

Michael and Gabriel Bell offer a constant series of small group classes in Japanese style sword forging and fittings. Located on the southern Oregon Coast.  
<http://dragonflyforge.com/>

Murray Carter offers small group classes in a variety of subjects, primarily focused on traditional Japanese cutlery. Located in Hillsboro.  
<http://www.cartercutlery.com/bladesmithing-courses/>

## **KNIFE MAKER GENERAL**

Knife kits, steel, tools, machines, supplies such as handle material, fasteners, belts, glues, finishes, etc.

Jantz Supply  
<http://www.knifemaking.com>

Texas Knifemaker's Supply  
<http://www.texasknife.com>

USA Knife Maker's Supply  
<http://www.usaknifemaker.com/>

Knife and Gun (K&G)  
<http://www.knifeandgun.com/>

Alpha Knife Supply  
<http://www.alphaknifesupply.com/>

## **KNIFE STEEL SOURCES**

New Jersey Steel Baron  
<http://newjerseysteelbaron.com/>

Niagara Specialty Metals  
<http://www.nsm-ny.com> (click Products/Knife Steels)

SB Specialty Metals  
<http://sb-specialty-metals.com/products/knifesteels>

Bohler Uddeholm  
<http://www.bucorp.com/knives.htm>

Pacific Machinery & Tool Steel – Portland, Oregon  
<http://www.pmtsco.com/tool-die-steel.php>

## **2X72 BELT GRINDERS**

Beaumont (KMG) – the industry standard  
<http://www.beaumontmetalworks.com/shop/>

Travis Wuertz – premium brand, versatile machine  
[http://www.twuertz.com/Home\\_Page.php](http://www.twuertz.com/Home_Page.php)

Pheer – affordable, satisfied customers on the forums  
<http://www.2x72beltgrinder.com>

AMK – affordable, quick-change between platen & contact wheel

<http://amktactical.com/>

Coote – affordable, reliable – you supply the motor

<http://www.cootebeltgrinder.com>

Grinder-In-A-Box – low cost – assembly required

[http://www.polarbearforge.com/grinder\\_kit.html](http://www.polarbearforge.com/grinder_kit.html)

Wayne Coe – grinders, motors, VFDs, etc.

<http://www.waynecoeartistblacksmith.com>

Contact Rubber Corp – wheels etc.

<http://contactrubber.com/contact-wheels.asp>

Sunray – drive wheels

<http://www.sunray-inc.com/drive-wheels/>

True Grit – grinder belts

<http://www.trugrit.com>

## **FORGE & REFRACTORY**

Chile Forge

<http://www.chileforge.com/>

Mankel Forge

<http://mankelforge.com/forges.html>

High Temp Tools (scroll down the page for the category buttons)

<http://www.hightemptools.com/supplies-mainpage.html>

Omega – thermocouples & measuring equipment

<http://www.omega.com/>

Auber – more thermocouples and controllers, etc.

<http://www.auberins.com>

Hybridburners – home of the venturi T-Rex

<http://www.hybridburners.com/>

Pine Ridge Burners – for ribbon burners and all associated fittings, blowers, valves, etc.

<http://www.pineridgeburner.com>

Zoeller Forge – low cost venturi & parts: Z Burners

<http://zoellerforge.com/>

## **BLACKSMITH**

Blacksmith Depot

<http://www.blacksmithsdepot.com>

Pieh Tool

<http://www.piehtoolco.com>

Centaur Forge

<http://www.centaurforge.com>

Quick and Dirty Tool Co.

<http://quickanddirtytools.myshopify.com/>

<https://www.facebook.com/QDTool>

## **LOGO/ETCHING**

Ernie Grospitch – Blue Lightning Stencil

<http://www.erniesknives.com/>

IMG International Marking Group

<http://img-electromark.com/>

Electro-Chem Etch

<http://www.ecemmi.com/products.html>

## **OTHER GOODIES**

Sally Martin Mosaic Pins – So. Oregon

<http://customknife.com/index.php?cPath=13>

Burl Source – handle blocks/scales – So. Oregon

<http://www.burlsales.com/>

Gilmer Wood – N.W. Portland

<https://www.gilmerwood.com/>

Oregon Leather – 810 Conger Eugene and 110 N.W. 2ND Portland

<http://www.oregonleatherco.com/>

Coyote Steel – misc., scrap, copper, brass, bronze –  
Garfield & Cross St. Eugene

<http://www.coyotesteel.com>

Cherry City Metals – Salem, Oregon – metal  
recycling and useful objects

<http://www.cherrycitymetals.com/>

Amtek – tool steel & cutting tools

<http://websales.amtektool.com>

Rio Grande – jewelry tools/supplies

<http://www.riogrande.com>

Otto Frei – jewelry tools/supplies

<http://www.ottofrei.com>

M3 Composite – space age mokume & other

<http://www.m3composite.com/>