

∞ EUGENE 5160 CLUB ~ JUNE 2014 ∞



JUNE MEETING

The 5160 Club will meet at Woodcraft of Eugene in the Delta Oaks shopping center – Beltline & Delta Hwy. June 5th at 6:00 pm. We'll have show & tell & pass-arounds – not to mention sharing our triumphs and tribulations.



MAY MEETING

At the start of the meeting **MICHAEL KEMP** (that would be me) got up and shared my travails with my first attempt at a san mai style blade.

I say san mai style because as I understand it san mai indicates that the hard steel center is clad on the sides with a low-carbon or stainless steel – and in my case the outer cladding was 1095/15N20 which is neither low-carbon **nor** stainless. I say travails because the whole process was the sort of thing my father used to call a character-building exercise.

During forging and grinding the hard steel center wandered off to the side of the blade. The differential expansion/contraction of the two steels made for

some impressive warpage during hardening – which I corrected during tempering. Mostly.

There were also “issues” with the hidden tang which eventually broke completely:



So: toss one in the “oops” drawer and do-over. I'm anxious to try out this chef's knife design – so I have a replacement blade in progress. I'm making the blade from a billet of cable “Damascus” I forged last Fall.

When I try san mai again I will be grinding and etching the edge regularly to verify that the hard steel center is actually *staying* in the center of the blade.

WAYNE GODDARD took the floor and asked everyone how they'd enjoyed the OKCA show. He was pleased that his display award knife was the first one picked. And he was also pleased that he was able

to coordinate a gathering of many of his best Bowie knives from over the years.

He then passed around a new Bowie he finished last month. Mokume gane pommel, brass guard, stag handle, mustard finish. Wayne is not satisfied with some of the angles and may rebuild this one.



Then he passed around a handsome camp knife made from saw steel:



STEVE GODDARD shared a couple of blades – starting with a camp knife in 5160 steel with mustard finish. Steve did the mustard finish in a single coat, rather than the three coat process Wayne usually uses. The handle is alder wood:



The more angular mustard finish pattern comes from using a paper towel to do the dabbing. Steve noted that the underlying blade finish also affects how the final mustard finish looks. If I understood right, both Goddards use a swirling motion in the final hand sanding – Wayne uses 600 grit and Steve used 1000 grit on the above knife.

Steve noted that where the mustard is thin, the finish is darkest. Where it's thick the finish is lightest.

I believe this is another of Steve's knives:



MIKE JOHNSTON said he's gotten two commissions for knives like the elk antler with bronze fittings knife he'd brought to the March meeting (I believe this is the graceful hunter at the top of page 5 of the April newsletter).

Mike also shared a couple of tools he made after seeing similar tools in use by Henry Torres at the NW Blacksmith Conference.

These mini-rasps are used to hog out the hidden tang's hole through a wood handle. After you drill a pilot hole through the handle you go to work with these small rasps (the dime is for scale).



Mike took an old used-up file, ground the teeth off, cut strips out of it, annealed it, cut teeth in it, heat treated it, and put handles on it.

“I’ll tell you what. I’ve used these on some pretty darned hard wood and it’ll hog out a hole like you wouldn’t believe. They’re dirt cheap to make and really really really effective!” You can start with a 1/4” hole and go from there.

“The last handle I used these on was African Blackwood. That stuff's pretty hard, but this was like I was going through pine!”



Another 5160 club member (*your name still eludes me – I'm going to write it down next time!*) brought up a few things to pass around. First was a chef's knife which he played with, creating a patina using salsa. “The only thing I had in the kitchen that seemed like it would be acidic enough to etch steel.” Similar to mustard finish, he said that the dark areas on this were at the edges of the stripes of salsa – where wet and dry areas met.



He'd been in China on business after the OKCA show and bought a few interesting knives.

This one is a sugar cane knife – really two blades bolted together. You use the bottom blade as a chopper, and the top blade like a big vegetable peeler to to remove the outer layers.



And a light Chinese chef's knife:



This style is not heavy enough to call it a cleaver, however they sometimes have the first couple of inches (at the heel of the blade) in a thicker grind to be used for breaking bone or other heavy use.

He mentioned that some knives sold in Chinese cutlery shops are marked with Rockwell “C” (Rc) hardness (e.g. 58 +/- 2). This sparked a general discussion of the merits of leaving a Rc dimple on your blades, along with the numeric hardness... and also discussion of differential hardening... and how Rc hardness is only one measure of the qualities of a knife and it's suitability to a given task.

Mike Johnston shared an incident he'd had with the larger knife that he demoed doing clay-back for us in January (see the February 2014 newsletter). It was 1080 steel flat-ground down to zero at the edge and he'd tempered it at 395°f. When he was etching it to bring out the hamon he tapped the edge on a PVC pipe and was taken aback to see that the edge had tiny chips flaked out. After doing three more tempering cycles at 410°f the edge would still chip when struck against the PVC pipe.

Wayne suggested hydrogen embrittlement. It was suggested that the etching was a possible source of free hydrogen ions.

The curiosity here is that Mike treated the smaller of the two knives that he demoed in January exactly the same, but did not have the edge chipping problem with it. Both were made from the same batch of 1080 and heat treated and etched identically... except that the smaller blade was ground with a secondary grind whereas the larger blade was flat-ground to the edge.

Scribe's note: When a blade has two distinct grinds (or bevels), some folks call the grind near the spine the “primary” bevel and the grind near the edge the “secondary” bevel. This is from the knife maker's point of view, as the primary grind is done first, then the secondary grind is done later – possibly after hardening and tempering. From the user's perspective you can call the edge's bevel “primary” as it is the first to engage in the cut – and the bevel from there up to the spine “secondary”. When someone talks about primary and secondary bevels (or grinds), keep in mind that they may be speaking from a user's – or from a maker's – perspective.

A new 5160 attendee, **LUKE**, came up front and shared a knife he finished about a year ago. He was inspired by a magazine article to pick up a used file for maybe 25¢, the maple burl and brass pins were free and he held it all together with a pine tar glue he made himself. The most expensive part was about \$20 for the sheath – done up with copper rivets and brown shoe polish.



He tempered the file to purple and filed the edge. It is a simple knife that demonstrates the pleasure of making something useful and aesthetically pleasing with your own hands:



Next I prompted **ERIK LAND** to give us his take on being at the 5160 Club table at the OKCA April show. Erik thought that there were not quite as many attendees this year (attendance varies due to weather) but that they were more serious about buying. “We had people circling the table and circling the table...” Jerry won a quarter off of Erik by selling the first knife.

Wayne noted that there were 15 of his finest knives on display – a rare opportunity.

Larry Criteser said that the only thing he found to buy was a set of snakewood scales.

I thought he hadn't tried hard enough – I purchased several blocks of handle material and probably enough grinder belts to last me for a year at show discount prices.

JIM JORDAN took the front to show what he'd done with a Damascus blade that he purchased at the OKCA show.



He mounted the blade in what *had* been the carved Ebony sheath for another knife he'd made a year or two ago. Now he has to make a new sheath for the older knife!

Larry Criteser started a discussion of “crapmascus” - which is a mosaic style “Damascus” that is made from leftovers of previous Damascus blades.

Wayne Goddard went over heat treatment, with soft-back-draw techniques for making a blade that will do the ABS JS test bend and still spring back. “Getting a blue line about 3/8” down from the spine” and getting straw color down to the water line (keeping the knife edge in water) produced great results. Wayne pantomimed how fast to draw an oxy-acetylene torch along the spine for good results. A little slower than one inch per second with a #2 or #3 tip – to get to a blue color. The heat transfer through the steel is fast enough that you only need to draw on one side of the spine.

Wayne mentioned how he'd gotten a call from (ABS Master Smith) J.D. Smith that one of his students had perfected a method using 1095 steel for the ABS JS bend test that produces a blade that will go to 90° and flex back to absolutely straight. Full quench. Soft back draw. The devils are in the details, I'm sure.

Wayne said that while he doesn't think that you have to join a group like the American Bladesmith Society (ABS) or the Knifemaker's Guild – he feels that he gained a lot from being in those groups.

LYNN MOORE brought in a VCR tape and player that (after some theatrics) we got plugged into the overhead TV monitor – and we were able to watch the video of a home-made air hammer. There were good ideas to be had – both for air hammer construction and for forging dies. The shaping and

punching dies have me musing about what I might cook up for my log-splitter-cum-forge-press and Rusty-the-tire-hammer. The motor-driven fly press was also a lot of fun to watch.

... and with some informal discussion – the May 2014 meeting of the 5160 Club of Eugene came to a close...



KNIFE RIGHTS AT THE NASC SUMMIT IN BEND, NOVEMBER 2014

As a general rule I keep religion and politics out of the newsletter, but I'd be remiss if I did not mention a planned forging event at the National Association of Sportsmen's Caucuses (NASC) coming up this Fall.

NASC and the Congressional Sportsmen's Foundation lobby state and federal legislators on behalf of outdoor sports enthusiasts.

Knife Rights (<http://www.kniferights.org/>) lobbies and litigates for the right to own, use, and carry knives and edged tools.

At the April show Doug Ritter from Knife Rights noted that they are looking to set up a basic blade forging event for NASC Summit attendees. They will limit the number of legislators who participate in the forging event. They believe that a hands-on experience like this will give the lawmakers a direct connection with knife issues.

I believe that Knife Rights is still scouting for an appropriate venue for the forging event – near the NASC Summit in Bend. The tentative dates are November 19th or 20th.

If you wish to support the Knife Rights effort, please contact Doug Ritter at 602 476-2702 or dritter@KnifeRights.org



Wear your safety gear – no synthetic clothing at the forge or loose hair 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.

For Sale: I have a surface grinder I would like to sell. it's a Boyar-Schultz Challenger Deluxe 2A, 6-18 hydraulic surface grinder with magnetic chuck, in great shape, works good. \$1000.00, call Lynn at 541-554-5294.

For Sale: I live in the Riddle Oregon area and have a large squirrel cage fan that came off a wood stove that I would like to trade. It would work great for making of a forge. This is wildernessman Dan Hines saying keep the steel hot and making those hammer blows work good. wildernessman56@yahoo.com or by phone at 541-817-6215.



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>

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

Here's a few other useful references:

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

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

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

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>

LOGO/ETCHING

Ernie Gropitch – Blue Lightening 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>