

EUGENE 5160 CLUB ~ JUNE 2015

<https://www.facebook.com/5160Club>

newsletter archive: <http://www.elementalforge.com/5160Club/>



JUNE MEETING

June 4th – 6:00pm at David Thompson's shop. David has some chairs but if it's easy, bring a folding chair. If you didn't get the directions in the meeting notice, email me for them: michael@elementalforge.com.

Bring your latest project or show-and-tell!



As a friend of mine (a veteran who works with PTSD/TBI folks) said recently: "Now that we have honored our fallen, lets honor the survivors by treating them."



MAY MEETING NOTES

This was our first 5160 Club meeting at Thompson's shop – what a great venue.



DAVID THOMPSON fired up a garage sale "find" – a two burner open sided forge that was at full heat in just a few minutes. He picked it up for \$25. He turned down offers from the crowd to double his money!

With forges in mind I (**MICHAEL KEMP**) relayed my recent visit to John Emmerling's shop in Gearhart Oregon – and his “ribbon burner” forge. John was a great host – and demonstrated the ribbon burner forge with a quick project. I'm thinking my next forge build will be with a ribbon burner. It's fairly quiet and spreads the heat over a wide area. For that matter the concept isn't much different from the tube-with-holes burner on a Weber gas grill. John says it is efficient with propane and gives him more burn for the buck.

John borrowed his design from a glass blower who used to have a shop next door to him. John wrote a how-to article for Artist-Blacksmith's Association of North America's Hammer's Blow magazine back in 2006 – I can't find the original article but here's a PDF version with some additional comments that Wayne Coe loaded to the Bladesmiths Forum:



http://www.bladesmithsforum.com/index.php?app=core&module=attach§ion=attach&attach_id=59546

You can also buy a pre-made “Pine Ridge” ribbon burner from Correll Glass Studio:
<http://correllglasstudio.com/front/>

David noted that the heat in a propane burner is out near the end of the flame – “it just makes a lot of sense to me to have a lot of small flames.” He described how in his propane forge with a long firebox, all the heat is in the far end of the firebox from the burner. David made the forge as a recessed firebox in a table surfaced in firebrick – with a suspended/insulated top that can be raised or lowered to accommodate any shape or size project! It's the yellow table in the background of this photo.



David talked about coal versus gas forges... relaying a friend's adage that “if I'm doing production I'll use gas – if I'm doing a prototype I'll use coal.” David said “There's an intimacy with fire – we're all pyromaniacs otherwise we wouldn't be doing this – there's something about working with coal that's really close to the heart.” *There was general laughter and agreement.* In the basic blacksmithing course David is setting up he will be teaching with coal to give the students a feel for “what is hot and how hot can help you – when you put it where you want it – and you can get that with coal.”

Back to my visit with Emmerling - another idea that I got from John was to install a gate valve between my forge blower and where the propane is introduced. I've added that to my burner... and along with the variable speed blower, it gives me full control of the fuel/air mix – especially at lower heat treating temperatures.

A couple of folks at the meeting chimed in that you can put a flap valve between the blower and where propane is introduced so you can bleed off excess air pressure. This is reported to work well – again, especially when working at low heat treat temps.

Then I passed around my show-and-tell: a set of test handle blocks that I had my step-daughter run through their dishwasher 12 to 15 times (they've got three kids – so the dishwasher runs a lot). All the blocks were glued onto AEB-L steel roughed up with 120 grit (*it was noted that sandblasting provides a better grip for glue*). In the photo – starting at 2o'clock – there are two blocks with Dymondwood scales, then a block at 6o'clock with K&G stabilized tigerwood, a block with home stabilized cherry, and finally a block with ResinWood scales. The first four blocks were glued up with JB Weld and System Three T-88 epoxy on alternate sides. All of them came loose from the steel except for one side of a Dymondwood glued with T-88. The cherry block warped a bit – the tigerwood warped, but less so than the cherry. The Dymondwood blocks (dyed birch veneer in a stabilized block) did not



appear to have warped, but did show signs of checking on the end grain. After those failures I made up the block of ResinWood scales – on one side I sandwiched a G10 spacer between the ResinWood and the steel – and glued that block up with Acraglas. The ResinWood showed no signs of warpage or fracturing (it's basically resin and sawdust if I understand right) – and the side without the G10 spacer delaminated. The only block to fully survive this dishwasher test was the ResinWood/G10/Acraglas combination. It is possible that the other glues might have also withstood the 12 to 15 runs through the dishwasher if paired with ResinWood and a G10 liner – but I did not test that out.

Since my interest in this is kitchen knives that a spouse or youngster might put through the dishwasher – the checking in the Dymondwood counts it out even though it showed no sign of warpage. The checking of the end grain would make a great place for bacteria. There are other handle materials like Micarta, G10, Carbon Fiber, etc. that should perform as well as the ResinWood. And there are probably other glues that would hold up as well to the heat, water, and caustic detergent of dishwasher use. But at least I know I've got one survivor – ResinWood with G10 spacer and Acraglas (and I'd add a couple of Corby bolts). And I know what to avoid if I want to make dishwasher-tolerant knives. I would not say “dishwasher safe”.

Frank Bobbio relayed some conclusions from the “Glue Wars” thread on one of the forums – noting that with a variety of glues: if the surfaces were sanded about 6 out of 10 would detach – whereas if the surface was sandblasted or bead-blasted almost none of them would detach. This made much more difference that whether the surface was cleaned with acetone or not.

Frank tried his own test using JB Weld and golf shaft epoxy gluing up 2” metal strips and then broke them apart. On the ones he roughed up with 60 grit he had about 50% delamination – where the glue would release from one of the metal strips. On the bead-blasted strips, when they broke apart it was the glue itself that failed – both strips' surfaces were covered with a remaining film of glue – you could not see bare metal. This was also the case with a test he did on rusty steel: Frank brushed off the loose rust, glued

the strips, and when he broke them apart the glue itself failed – it did not delaminate from the steel.

WAYNE GODDARD recounted a dishwasher incident involving a set of 16 steak knives made to order. 4 wood, 4 abalone, 4 stag, and 4 pearl handled – and all went into the dishwasher and had to be re-done.



JIM JORDAN was up next. He recounted “how I got introduced to this whole debacle” of knife making... having met Wayne in the '80s and going to a hammer-in at Wendell Fox's place. Jim noted that Wendell passed away last year. So when Jim spotted a knife at the Piccadilly Market with “W Fox” inscribed on it he had to pick it up:



“I really like how the handle fits – it's really well thought out.”



BLAIR GOODMAN had another interesting find to share around. He purchased an old axe head that had

been exposed to the weather. The axe head Blair brought in had been covered in rust. In talking it over with a co-worker, the co-worker found a YouTube video for using electrolysis to clean rust off metal parts (maybe this one:

<https://www.youtube.com/watch?v=54ADeB6V1rQ>). Do this outdoors as the fumes are hydrogen and oxygen – not what you want in a confined space. The other caveat is to only use simple steel in the tank – no copper (or brass or bronze) or stainless steel.

Blair noted that when the process was done the steel had a black sludge covering that had to be brushed off. The de-rusted axe head was not only cleaned up, the edges were sharpened too – similar to using a mild acid etch to sharpen up a dulled file.



Blair's co-worker did one axe head overnight, and another for 3 hours – and he feels the 3 hour electrolysis was plenty.

Blair is thinking of setting up a tank of his own for those rusty pliers in the back of the drawer.

On the use of mild acid etch to sharpen a file, Mike Johnston related that after Wayne told him about this method, he's used it with great success. First clean the file – brush out the old filings, clean it off with acetone (wear gloves and don't breath the fumes). Then put it in a bath of 3:1 ferric chloride with the teeth up. Brush off the residue that accumulates – Mike likes to do 3 rounds of 15 minutes apiece.

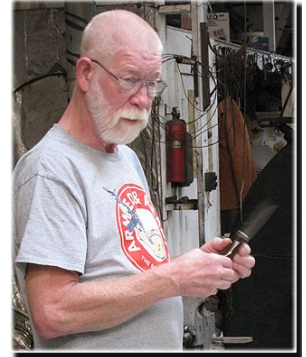
Frank Bobbio noted using vinegar to clean off fire scale – it can take a couple of days to work, but it cleans out shapes that are hard to get into – and eliminates a lot of grinding.

Mike Johnston noted that when he tried using vinegar to etch a temper lines and Damascus he found that it “didn't work worth a darn” cold – but when heated up to not-quite-bubbling it worked very aggressively. He noted that it works a lot differently than ferric chloride – and that the vinegar works best on hamons. It's a “very fine etch – really brought the hamon out and brought out different contrasts that I

wasn't seeing with the ferric chloride.” He noted that you can find references to this – and using lemon juice and such – on bladesmithsforum.com

Larry Criteser noted that if you love axes and use Facebook, the “Axe Junkies” page is worth following and has a lot of information.

LARRY CRITESER brought in a knife he has in progress. “I've had this set of ironwood scales floating around the shop... and 8 or 9 different blades in various stages of completion...” but the scales did not match any of the blades. Then the other day he moved a chunk of desert ironwood and under it was the right blade for the scales!



“I looked at it – and true enough: the holes lined up! Now I'm gonna have to finish it.”



LYNN MOORE shared a cable Damascus billet he started recently. Initially it forged out really long, so Lynn cut it in thirds and stack welded it so that the grain on the cable alternates – the outside bars slanting one direction and the center bar slanting the other.

“So I think it'll be a real nice knife when it's done... I want to draw it out a little more.”





JULIOUS GRIFFITH took a course recently from Bill Burke – at David Lisch's Studio 4 Forging – on triple tempering 52100.

“I can't describe it properly but you use the torch and do everything three times, basically.”

He did the rest of the finishing when he returned home. “The interesting thing is that – I hand sanded it to 600 grit – everything was super pretty – set it aside for a couple of days and when I came back there were little pits – like lint – barely see 'em...” so he re-ground – re sanded but the pits came back.



In answer to a question about the class itself Julious said that after you get done forging “you heat it up to critical – lightly oil quench it 30 or 40 seconds so it gets down to black [but not room temp] and you do that three times...” followed by three normalizing cycles (heat to critical and air cool to room temp) ... then three lower temp normalizing from 1250f – then heat the edge up to non-magnetic with a torch and full oil quench – do that three times. “I may not be getting it all right so if you have any questions on it tag Bill Burke on Facebook.”

David Lisch's classes can be found here:
<http://www.davidlisch.com/Learn.html>

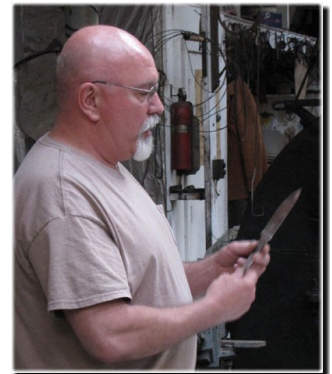
The 52100 multiple thermal cycling that Julious describes is a method pioneered by Ed Fowler and a metallurgist friend Rex Walters. This multiple thermal cycling has caused hot debate online – but if you watch Ed's DVD on the process, the results are convincing. <http://www.edfowler.com/>



HUNTER LOTTSFELDT shared a knife made from a circular saw blade. He normalized three times then edge quenched it. The wood handle is padauk.



MIKE JOHNSTON got up next. “I had a great show this year! [at the OKCA April show]... I sold six of my knives off of my table and got orders for two more. And since then I've gotten two more orders. I had a phenomenal show.”



Mike has gotten into making knives with handle material from whiskey barrel staves. “Where'd the whiskey go?” was the call from the audience. This one is from a coil spring – with a bronze guard – mosaic pins by Sally Martin.



Mike expounded on an annual whiskey fair in Portland that I'll have to try to get on my calendar for next year – it's in early May:
<http://whiskeytownusa.com/>

The second knife (in process) that Mike shared around is for an order he got at the show. The customer processes pigs and has a heck of a time

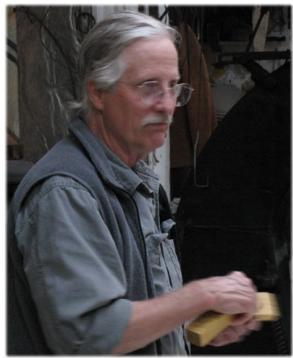
getting into the neck to bleed pigs out. He wanted something like a large dagger but a little asymmetrical – one side fully sharpened but just the tip sharpened on the other edge – turning into a strong rounded spine. And with a cross-guard to protect the hand. Forged from a Ford coil spring.

The last knife is a kitchen knife forged thick and ground thin. “It's got a pretty decent flex to it, but it's good and hard – forged out of a Jeep coil spring. It's sanded down to 600 grit.”

Here's the two in-process blades: kitchen on top and pig sticker on bottom:



MARTIN BRANDT brought in the sample bois d'arc (aka osage orange) wood blocks – one cut in line with the grain and the other cut at a slight angle – to demonstrate that even with a plain grain you can get more interesting lines happening if you approach it at an angle.



Martin noted that on wood like this that has pronounced pores – if you wipe it with a dark stain and then immediately wipe off, you bring out the contrast of the pores versus the rest of the wood.

In response to a question about boiling wood before drying, Martin noted that “some woods, like Oak and

Madrona – they've got so much stress built in that they'll tear themselves apart when they're drying – fish-eyes and cracks and checks...” noting that when you cut slabs out of something like a big oak branch, you may cut away neighboring wood that was keeping the stress locked into your slab. Boiling helps relieve that stress in the wood. About an hour per inch of thickness.

Martin has saved aside the boiling water from walnut to stain antlers... but he's looking for something with a more amber or reddish-brown color.

Martin did forging demos at the OKCA show and forged a tanto shaped blade:



The last person up had a mystery blade that he was looking to see if anybody could identify where it might have originated from. There were guesses ranging from the Levant to Malaysia. China and Bhutan/Nepal have also been mentioned.



I've checked with some of my extended family who are fluent in Arabic and the script on the front of the blade translates to “hand of Allah” - the owner noted that the script on the back says “Mohamed” but it doesn't look like standard Arabic script to me. If someone recognizes the script it might indicate where the blade was made.

Here's the blade – if you have feedback on it please comment on the 5160 Club Facebook page.



Lots of folks stayed after the meeting to visit – but I headed off into the evening – speaking of which I have a granddaughter's birthday party to get to – so this issue is going out without being proof read!!!

Keep Well!

~ ~ ~ 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. It's free – email me at Michael@ElementalForge.com

Rent Time on Your Hammer: My name is Sam. I've been making titanium-alloy swords in Eugene, using arm-power and a small home-built trip hammer. Right now I'm in desperate need to use a more powerful and realistic trip hammer to flatten out some sword billets. Would you gentlemen perhaps allow me the use of a trip hammer for an afternoon? I'd be very grateful and willing to pay for the privilege. Sam Taylor ksamee@yahoo.com

D2 Planer Blades for Sale: Joel Puckerson sent an email saying: I have over 200 D2 planer blades available that vary between 6 and 25 inches for knife making at reasonable cost. My contact info is jpcustomknives@gmail.com and (541) 220-3629.



NOTES AND REMINDERS

The **Northwest Knife Collectors Kelso Show** will be September 26-27 at the Red Lion conference center in Kelso. Watch here for more details: <http://www.nwkc.org/home.html>



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 somethig 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

Knifedogs 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

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

My “Knife Info” has some knife musings and cheat sheet charts – plus Oregon and Eugene knife laws:
http://elementalforge.com/tips_notes/

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/>

GENERAL TOOLS & SUPPLIES

Woodcraft of Eugene – thanks to Joe & the crew for six years of hosting 5160 Club meetings – we've had to move on, but the hospitality was appreciated.
<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/>

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/>

True Grit
<http://www.trugrit.com>

KNIFE STEEL SOURCES

New Jersey Steel Baron

<http://newjerseysteelbaron.com/>

Kelly Cupples (High Temp Tools) – Alabama

<http://www.hightemptools.com/steel.html>

Niagara Specialty Metals – New York

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

SB Specialty Metals – New York & Texas

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

Bohler Uddeholm – numerous U.S. locations

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

Sandvic – stainless steels – Texas & Pennsylvania

<http://www.smt.sandvik.com/en/products/strip-steel/strip-products/knife-steel/sandvik-knife-steels/>

Pacific Machinery & Tool Steel – Portland, Oregon

<http://www.pmtSCO.com/tool-die-steel.php>

EQUIPMENT

Beaumont (KMG) [Ohio] – the industry's benchmark 2x72 belt grinder

<http://www.beaumontmetalworks.com/shop/>

Travis Wuertz [Arizona] – premium versatile grinder

http://www.twuertz.com/Home_Page.php

Pheer [Gresham, Oregon] – affordable grinder made in Oregon

<http://www.2x72beltgrinder.com>

AMK [Ohio] – affordable grinder, quick-change between platen & contact wheel

<http://amktactical.com/>

Coote [Port Ludlow, Washington] – affordable, simple grinder – you supply the motor

<http://www.cootebeltgrinder.com>

Marinus Kuyl [Hillsboro, Oregon] – another affordable grinder made in Oregon – and parts – you provide the motor.

<http://oregonblademaker.com>

Grinder-In-A-Box – grinder kit, assembly required

http://www.polarbearforge.com/grinder_kit.html

Wayne Coe [Tennessee] – grinders, motors, VFDs...

<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/>

Quick and Dirty Tool Co. [Auburn, Washington] - will build Spencer/Clontz style tire hammers

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

Renaissance Metal Art [Mulino, Oregon] – 80# ram air hammer

<http://www.rmetalart.com/tools.htm>

Anyang [Texas] – air hammers from 20# to 165#

<http://www.anyangusa.net/>

Meyer Machine Tool [Ohio] – treadle hammer

<http://www.meyermachinetool.com/Blacksmith-div-.html>

Spencer/Clontz tire hammer plans/workshops

http://www.alaforge.org/Trading_Post.html

Appalachian Power Hammer plans

<http://www.appaltree.net/rusty/index.htm>

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.hightempools.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.
<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/>

Shelton Pacific – stabilized wood – Shelton, WA
<http://stores.sheltonpacific.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/>