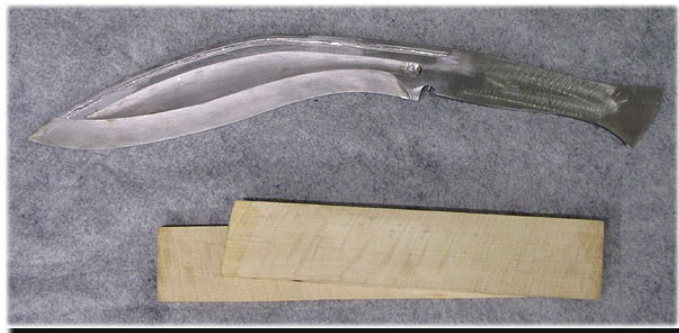


EUGENE 5160 CLUB ~ FEBRUARY 2018

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

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



FEBRUARY MEETING

February 1st – 6:00pm at David Thompson's shop. If you didn't get the directions in the meeting notice, email me for them: michael@elementalforge.com.

Bring your show-n-tell!

Request from the Thompsons:
“Please **drive very slowly** down our lane. The maintenance is all ours. Thanks.”



NOTES AND REMINDERS

OKCA April Show – Members only April 6 10am-7pm – Open to the public Saturday the 7th 8am-5pm, Sunday the 8th 9am-3pm (Public \$6/day - free to members) <http://oregonknifeclub.com/okcashow.html>

Northwest Blacksmith Association – Intro Blacksmithing classes (Portland, OR & White Salmon, WA) etc. <http://blacksmith.org/events/>

California Blacksmith Association puts on a slew of events to the south of us. Check out their list: <http://calsmith.org/CBA-Events>

Bent River Forge aka Farrier Supplies – north of Monroe, OR has blacksmithing tools and supplies and ongoing intro to blacksmithing and other classes: <https://www.facebook.com/FarrierSuppliesOR/>

David Thompson – has coke and coal for sale (near Jerry's in Eugene, OR) – Talk to him at one of our meetings or call 541 688-2348.

DiamondBlade Knives (the friction-forging company that Wayne Goddard worked with) – Lynn Moore gives us a heads up that they will have an episode on Discovery Channel's “How It's Made”. The date is unknown so keep an eye out for it.



JANUARY MEETING NOTES

DENNIS ELLINGSEN started out the meeting with a give-away: chunks of industrial bandsaw steel and Micarta. We all trooped out to his car and emptied the

trunk! The lumber mill has been quite generous in cutting up used bandsaws for us – and donating that and used Micarta bushing blocks. We are treating the bandsaw steel as 15N20. This headrig bandsaw steel is plenty thick for kitchen knives and every-day-carry but not thick enough if your knives need to serve as crowbars and breaching tools.

Thank you Dennis and your mill friends [who will remain anonymous]!

Dennis noted that “The last time I got a bunch of saw steel and Micarta Frank Bobbio was kind enough to make a bunch of paring knives that we gave to a few people – so if anybody has the kindness of their heart and want to donate to the mill, I'll be sure it gets to the proper people there... it's up to you what you want to do – or not – you're not obligated. But I take names.”

Dennis reminded us that this Micarta was used in the OKCA show's Micarta contest a couple of years ago... and cautioned to use a respirator when working with it.

for OKCA to display knives. Those knife tables were not as well supported as he would have liked, so this year when Dennis purchased his two tables he tried to turn down the two tables for knife folks but WVACA insisted – so there will be two knife tables at the show (March 17-18 at the Lane Events Center). “Get in touch with me if you'd like to participate – just come to the table and talk to people...”

OKCA members get into the WVACA show for free. WVACA and OKCA have a reciprocal agreement.

Dennis pulled out a paring knife that he said had been bothering him “because every time we cut something hot or put it under hot water it turned blue – which was quite annoying because it wasn't a blue that we liked...” so he experimented with the Wayne Goddard mustard finish.



And he brought in one of Wayne's mustard finish knives. *As noted by some of the folks present – I believe this was Wayne's version of the “Forrest Bowie” historical blade.*



... and once he got bit by the mustard bug he took a Russel Green River butcher knife and tried his hand with that!



At first the results were disappointing – until he left the mustard on overnight. A nice pattern indeed – and here's another!



He went on to describe the headrig operation where the log is passed forward and back on a carriage – being fed through the bandsaw coming and going. And noting “The business I was in was saving milliseconds in production. I don't do that anymore. I've resolved myself to a life of seven

Saturdays and one Friday night a week. But no! I'm not retired! Because I've seen too many people in the mill industry who've retired – then they've retired.”

He set out a stack of fliers for the OKCA April show and noted that they only have a few tables available at the time of the meeting. “So if you have a notion that you might want a table – don't think on it too long.”

Along the “show” lines, Dennis noted that the Willamette Valley Arms Collectors Association donated two tables last year

“Use the cheapest mustard on the shelf” Dennis opined. “I just put a dollop on there and another dollop and another...” and on the last knife (above) he very lightly smeared the edges of the dollops.

It seems to me that the darkest lines occur at the thinnest coatings of mustard. Here's a newsletter with notes on Wayne Goddard demonstrating:
www.elementalforge.com/5160Club/201306Newsletter.pdf

Wayne dabbed it on with a finger. Other folks have used other methods of applying it – including using a course brush and making diagonal swipes in a single direction across the blade. Some folks do multiple applications – cleaning off one before applying another. Leaving the mustard on for hours (or overnight) makes a good etch. Or keeping it warm. This does not work on stainless steel.

Dennis then passed around a little pocket knife with odd parts to it. Note the square-ish hole and the tool with a small version of a bottle opener. And the short screwdriver tip on the butt.



Dennis challenged us to guess what it was designed for. There was the usual scattering of sincere and sarcastic suggestions but nobody hit on it: a painter's knife. The hole and the undersized bottle opener are for dealing with door knobs and hardware. “They're used in Europe all the time – not so popular in the United States.”

His final pass-around was an old Bill Harsey knife – a chef knife with some engraving on it that (sadly) I did not have the lighting to capture. On one side is an engraving of a pig with all the cuts outlined – on the other is a chicken with its parts outlined.

Dennis purchased this blade from someone at a show. The woman who sold him the knife (and two others)

admitted that all of them had been through the dishwasher many times. Damn that held up well!



There was discussion about how the scales were attached – such that they had not warped off of the tang in the dishwasher. Speculation ranged to Loveless and Corby bolts but we really don't know. I suspect Corby because I don't remember seeing any trace of a circle within the pins. Either that or darn good chamfer and peening!

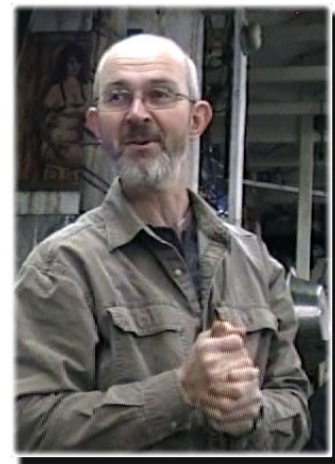
BROME MCCREARY was up next – ribbing yours truly about my inability to remember names – it's true!

“I did spend quite a bit of time in my shop the last couple of weeks...” he noted.

Brome talked about Burcham's Metals in Albany – noting that along with regular scrapyards fare (cut-offs, steel, aluminum, steel cabinets, power tools, etc.) they get cast offs from Hewlett-Packard “a lot of aluminum extrusions and really technical stuff – crazy machinery, drive motors, micro-motors...” and that they sell on eBay. If you *ask* you'll be guided to a shipping container with DC drives “and all sorts of insane stuff...”

Their website says they are currently having a 30% sale through January. Brome noted that they might extend the sale: www.burchamsmetals.com

“As a research scientist I spend a lot of time in the bush – because my primary responsibility is to supervise our field crews...” and last November he came across the remains of an old homestead. A piece he could not resist was a steel front-piece for the front edge a kitchen stove. What caught him was a protrusion along the middle marked “Knife Sharpener”. From what we could tell the space



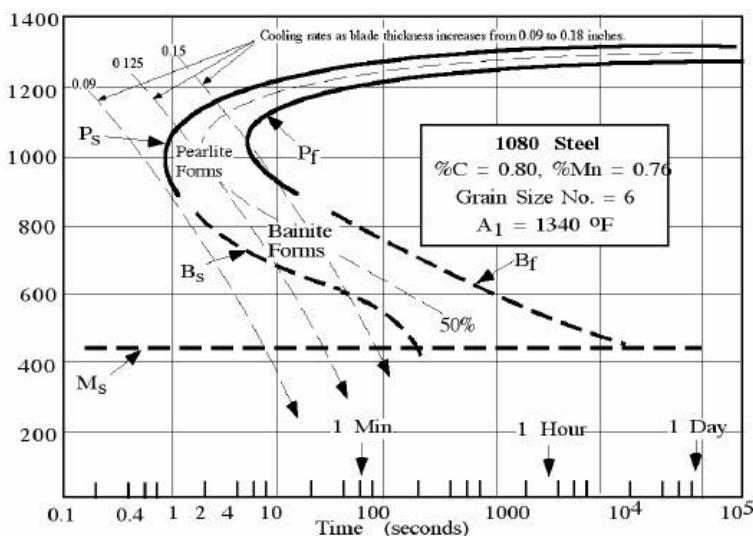
between the stove body and the “sharpener” was not wide enough to hold a stone. Maybe it held an abrasive strip of some sort? Maybe just the edge of the “sharpener” was supposed to be used?

I've played up the contrast in this photo, trying to highlight the extended edge “sharpener”.



I'm thinking that it was just a sharp corner of the steel that you'd draw the knife across – like drawing a knife across the unglazed base of a ceramic coffee cup to touch up a knife edge.

He then asked opinions on the heat of canola oil for quenching blades. The conventional wisdom is to heat the oil to 130°f or so before quenching. Brome notes that the oil gets a lot hotter after several items are quenched. There didn't seem to be much concern about quenching simple steels in slightly overheated oil... as long as it's not on fire! It seems like as long as the steel gets cooled quickly past the “nose” on it's Time Temperature Transformation (TTT) chart and gets below Martensite Start temp (Ms) you should be good. Here's the phase transformation chart for 1080:



Note that the time scale is logarithmic – so you need to get below 900°f in 1 second or less to avoid

forming pearlite (beating the nose) – but then you've got almost 200 seconds (3 minutes+) to get down to the 400°f range and get Martensite forming. But the sooner, the better.

Martin noted that if you agitate the blade in the quenchant – do so in linear movements (like stabbing or slicing) and not side to side. Side to side makes uneven cooling and the blade will warp. *Heck, the blade often warps a little on me anyway.*

Next up Brome shared his version of a knife vice. A hole in the base allows him to bolt it to a firm surface. The arm rotates on its horizontal axis – and can be clamped in place. In the vice jaw itself Brome has left it open to accept any number of inserts for different shaped knives – and for holding a knife in different positions.

This also shows his bevelling vice – which he mounted on a “multi-angle” vice.



Brome demonstrated several inserts on the knife vice – to hold knives in various positions – and single use versions for instance to clamp around the handle of a completed knife being repaired.

Some of his inserts are lined with rubber to aid in grabbing knives of slightly different dimensions.

As for the bevels vice, he has a series of threaded holes drilled in the face with machine screws underneath – a piece of flexible plastic (Plexiglas?) that the machine screws can be adjusted to support the distal taper of the blade being sanded.

Actually, the bevel base is based in 1/2 of an I beam and is clamped in the multi-angle vice – so the vice itself can be freed for other uses. The clamp for the blade tang is a separate C shape that slides up and down the bevel base – with the clamping screw added.

As an aside – Brome highly recommends visiting Robnett's Hardware in Corvallis (a True Value). I think that's where he got the gasket material that he uses to line come of his clamp inserts.

Then he brought out a series of O1 knives that were just through heat treat. He noted that he was never comfortable with the “file skate” test for hardness. On a couple of the knives he brought in he re-did the hardening step and still was not sure about the “file skate” testing – but after sharpening in doing the brass rod test the edge “rolled but didn't fold” so that's a good sign.

Someone tossed in that if there is a decarb layer (before final sanding and sharpening) that can confuse the file skate test. And it was noted that for the file skate test you should use the flat of the file – not the corners.



Here's two of his O1 blades:

He also passed around a 15N20 kukri style brush blade in process. Brome noted that he'd rather use a blade like this for chopping through small to mid-

sized brush and trees than using an axe. The steel is from “negatives” left over from making saw blades.

“It makes a great steel for choppers because it's so thin. It cuts a lot better than those heavy ones. The ones I have from Indonesia and the Philippines are really thick. You pick up a real kukri and you think 'I don't want to swing that thing all day – my arm would fly off!’”



There was some discussion of handle material – Micarta; wood; horse stall mat...

Brome was asking about glue/attachment for stall mat scales. Lynn Moore noted that he'd had success with marine epoxy and “pinning” with flared tubing.

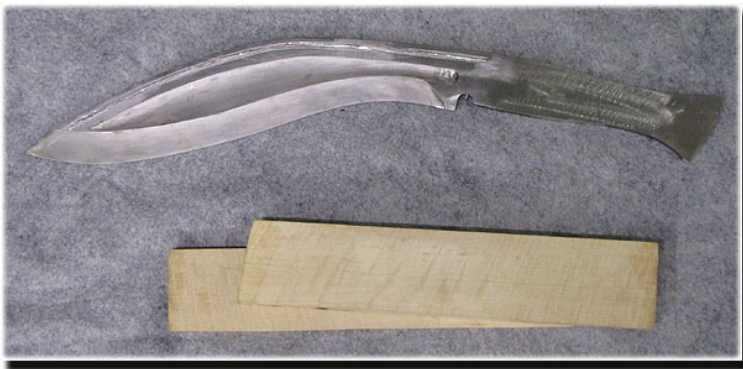
There was discussion prompted by Brome about clay coating, normalizing, and heat treating in general.

Back to shop tools – Brome recently got some Kant-Twist clamps and is really impressed with how firmly they clamp and how they clamp down straight onto the work surface.



Continuing the kukri theme, **JIM JORDAN** came to the front with a hefty Gurkha blade of his own. This is from one of the blanks for OKCA display award knives for the April show. He ground a couple of wide fullers into it with an 2” angle grinder. He also ground off a couple of points in the blank that he didn't like – and will do some workarounds to move the “cho” forward a little.





Given that kukris are mainly stick tang and this is full tang he figures he has license to play with the blank a little. The handle scales will be curly holly that Jove Lachman-Curl brought back from Ireland.



“All right, this is my first time for being here” said **BROCK** as he came to the front. “... just beginning making knives.” He said he got started buying folder kits “made 'em real pretty. Gave 'em to friends... but I never made an actual blade before.”

He's looking for something to make him “less insane” and got some 24” circular saw blades from a friend to cut blades out of.

This is the first knife he's made from scratch. The handles are bloodwood with brass pins.



And the second one has scales from shed deer antler. Looking good!



This is going back to his buddy that gave him the antler. “He wanted a full tang – and it drove me batshit crazy trying to halve something that's asymmetrical and put it on something that's reasonably symmetrical.”

Brock's third pass-around is one he plans on keeping for himself – made from CPM M4 – and fourth pass-around is one for his wife in AEB-L.

The top knife in the photo is the AEB-L, the bottom knife is the CPM M4.



I'm sad to say that when Brock (speaking of his knife making pursuit) said “hopefully it'll be something that pays for itself” there was a burst of laughter from the crowd. Most of us are part-time knifemakers who are happy if a few sales can pay for the materials and maybe some tools. Successful knifemakers are a truly dedicated breed – hats off to 'em! And yes, some successful makers have spent time at 5160 Club meetings. It tends to be that when their careers take off we seldom see them except at shows.

STEVE GODDARD was up next – picking up on a discussion in the last meeting about knife blade finishes – as in satin finish versus mirror versus rough... “I can spend as much time rubbing a knife out as all the rest of it... this is a satin finish” he noted as he passed around an in-process blade made from D2 (plainer blade). He noted that he had to anneal the tang to get the holes drilled.



Steve then talked about a box from his dad's shop labeled “Micarta” that he had ignored – but when he

got into it “it was like Christmas for me” because it was full of stamps and punches – most of which he believes Wayne made. There are ones made from bolts, files, EZ Out broken bit extractors... along with leather bits with sample stamping. Here's a few:



Next up was **ERIK LAND** with some of his new work in CPM 154. “I’m getting a lot better edge, and definitely edge retention, from the CPM 154 than from the O1.”



He noted that he could not have made the jump (to stainless) without buying a heat treating oven. “It is a lot more persnickety. When you are heating it up for your quench, when it says to hold it for 30 minutes – you have to hold it for 30 minutes. The first batch I did I held it for 30 minutes and man, they came out just perfect. The next batch I held it for 10 or 15 minutes – they still got a good edge but you can definitely tell it is different.”

There was discussion about the soak time being required to bring all the elements and carbides into solution.

CPM 154 will air quench but Erik is doing plate quenching. He heat treats in stainless steel pouches.

He has thick aluminum blocks and puts the blade from the oven between them, stands on top, “in less than 10 seconds they are cold enough that you can pick them up.”

He notes that he has only had one blade warp using this method - “but that’s the drawback – you don’t know it warped until you cut it out of the pouch.”

Hardness testing files put the blades at HRc 61-62 and tempering at 475°f for a couple of hours which bring them down to about HRc 60.

The top scales are Micarta, then dyed maple, then sycamore.



Yours Truly (**MICHAEL KEMP**)

then passed around a saex that I’ve had “in process” for years. I’m finally getting to hafting it. “This is just put together temporarily for shaping [the handle] – then of course I dropped the wood on the floor and got a big chip so I’m going

to have to redo that.” The blade was from a pattern-welded saex workshop by Jim Austen in Oakland, CA. The blade edge is 1070 with a layer of twisted 1070/mild steel on top and a layer of straight 1070/mild steel layers at the spine – you can’t see any of that at this point. The fittings are scrap pieces of forge welded 1090/15N20, copper, and oak.

I took the advice from folks at the meeting and have

added another copper spacer (which helped me recover from the chipped oak).



The through tang is threaded into the tapped butt cap. After I get the steels all etched up I'll put it back together with epoxy.



MARTIN BRANDT came to the front saying "I'd never done any San Mai blades, so I got an itch to do one." So he took some 1008 for the cladding and 1084 for the core. "I learned that it's a good idea to set that initial weld in a vice, before you start hammering, because the top layer of 1008 may want to move."

In the process of forging out the blade the center 1084 wandered a little, and the softer 1008 spread and thinned out some. As a result you might set up your billet with the harder steel in the center a little proud.

Martin noted that he forged in bevels – but next time he might just forge full thickness and grind in the bevels – so it's easier to keep the harder steel centered.



EDWARD DAVIS was up next. "I think I'm in the minority today, but I can't stand pocket clips. I can't have my knife in my pocket in the way of all my stuff."

He recently got a KA-BAR imitation Buck knife and used the cloth sheath as a template



to make lasts to form leather belt sheaths. "It turns out that it's the right size for Leatherman tools as well and I came up with the idea that maybe I would make a whole bunch of these and sell them at the knife show... I can't be the only person that doesn't like having a knife in my pocket."

He's finished one for the KA-BAR knife and has another in progress for his Leatherman. He's built a forming frame and lasts for 3 sheaths out of heavy plywood – shown here with a sheath that's already tooled, dyed, and has the snap set in.



"I've marked the slots for the size of a Leatherman and for the size of a Buck 110..." and he's planning on having a batch ready for the April show.

He noted that the hole he drilled to be able to turn the bandsaw blade when making the frame (visible in the lower left corner of 2 of the cut-outs above) – it leaves a divot in the formed leather. He's planning on going back and filling the drill hole by gluing in a dowel (and cutting the corner into the dowel). *Isn't it funny how there's ALWAYS one more little thing? It looks like I didn't get a photo of the finished sheath which is a shame. I guess you had to be there.*

He smoothed the edges of the lasts so as not to cut into the wet leather. He used a mink oil/beeswax treatment to finish the leather.

"I've got friends asking for custom ones for their phones and things."

When asked why he didn't glue the lasts to the base he said that it's handy to have them loose so that when you are stitching the back of the sheath to the formed front you can insert the last and put the sandwich in the stitching saddle.

There was discussion of how accouterments on your belts – and pocket clips – can catch on objects – or scratch whatever you lean against. Edward might try making a hidden snap (or Sam Brown stud) – or just use Velcro.



Have fun all – and work safe!

Your Scribe ~ Michael Kemp



FREE DE-CLASSIFIEDS

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. No charge – just email me at Michael@ElementalForge.com

Knifemaker equipment and supplies are often put up for sale in the OKCA classifieds – so remember to check their newsletters:

<http://www.oregonknifecub.org/>



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 a small show in December and the big knife show in April – if you haven't seen it you've been missing something special!

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

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

FORUMS

Bladesmith's Forum aka Don Fogg Forum

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

Knifedogs Forum (USA Knifemaker)

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

American Bladesmith Society

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

Usual Suspects Network

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

Blade Forums

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

Hype-Free Blades

<http://www.hypefreeblades.com/forum>

Peter Newman of Bent River Forge/Farrier Supplies has a closed Facebook group for Oregon Blacksmiths
<https://www.facebook.com/groups/173156733117832>

REFERENCES

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

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

And you can email the Goddards directly for his DVD at wgoddard44@comcast.net

Most of the companies in the “Knife Maker General” links (below) have a section for how-to books and DVDs.

Verhoeven's Metallurgy For Bladesmiths PDF – this is a very deep dive, not an introduction.

<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

From the Heat Treating Society of the ASM – the Heat Treater's Guide Companion for Android devices. Look up heat treating details on hundreds of steels in the palm of your hand.

<https://play.google.com/store/apps/details?id=com.pfiks.mobile.heattreaters&hl=en>

My “Knife Info” has some knife musings and cheat sheet charts – plus Oregon and Eugene knife laws:

http://elementalforge.com/tips_notes/

CLASSES FOR KNIFE MAKING, ETC.

Gene Martin offers personal instruction at his shop south of Grants Pass for a daily rate.

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

Michael and Gabriel Bell of Dragonfly Forge offer an ongoing 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, Oregon.

<http://www.cartercutlery.com/bladesmithing-courses/>

David Lisch is an ABS Master Smith who has taught classes in Washington. He recently moved his shop and has not restarted classes yet – keep an eye out on this page:

<http://www.davidlisch.com/Learn.html>

Jim Hrisoulas now offers both formal classes and mentoring sessions in 2 hour blocks at his shop in Henderson, Nevada:

<http://www.atar.com/joomla/> and click the “Bladesmithing Classes” link.

The ABS (American Bladesmith Society) offers classes in Washington, Arkansas and elsewhere – if you are up for traveling across the country to take classes, check out their “Schools” link:

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

James Austin offers forging classes in Oakland, CA – axes, tongs, viking anvil, etc.:

http://forgedaxes.com/?page_id=148

Blacksmithing classes at Farrier Supplies aka Bent River Forge

26729 99W, Monroe, Oregon

Coal, coke, forges, parts, tools, classes...

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

(541) 847-5854

Blacksmithing and some bladesmithing workshops are hosted regularly by the Northwest Blacksmith Association: <http://blacksmith.org/>

USA Knifemaker has a lot of fun & informative videos on their YouTube channel:
<https://www.youtube.com/user/USAKnifemaker/videos>
... and hey - "free" is a hard price to beat!

Nick Wheeler also has a good YouTube channel with a lot of how-to videos:
<https://www.youtube.com/user/NickWheeler33/videos>

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/>

Zoro
<https://www.zoro.com/>

KNIFE MAKER GENERAL

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

Jantz Supply – Davis, OK
<http://www.knifemaking.com>

Texas Knifemaker's Supply – Houston, TX
<http://www.texasknife.com>

USA Knife Maker's Supply – Mankato, MN
<http://www.usaknifemaker.com/>

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

Alpha Knife Supply – ?Everett, WA?
<http://www.alphaknifesupply.com/>

True Grit – Ontario, CA
<http://www.trugrit.com>

Especially Abrasives – lower cost 2x72 belts
<http://www.especiallyabrasives.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://shop.sbsm.com/>

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>

Alpha Knife Supply – ?Everett, WA?
<http://www.alphaknifesupply.com/>

KNIFEMAKER EQUIPMENT

Beaumont (KMG) [Ohio] – the industry-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>

Oregon Blade Maker [Oregon] – affordable chassis
and accessories, good reputation – you supply the
motor <http://stores.ebay.com/oregonblademaker>

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

<http://amktactical.com/>

Northridge Tool [Ohio] – precision manufactured
belt grinders <http://www.northridgetool.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_order.html

The “No Weld Grinder” plans can be purchased from

<http://usaknifemaker.com>

either as a booklet or as a download – just use the search
box to enter “no weld grinder”

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/>

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.appaltnet.net/rusty/index.htm>

Helve Hammer and Quick-Change Dies Video – from
a BladesmithsForum.com thread.

<https://www.youtube.com/watch?v=uzruqYkKGNM>

True Grit – under “Machines & Accessories”

<http://www.trugrit.com>

FORGE & REFRACTORY

Chile Forge

San Marcos, Texas

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

Mankel Forge – Muskegon, Michigan

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

Western Industrial Ceramics Inc.

All things refractory – Tualatin, Oregon

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

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

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

High Temp Inc. has also been recommended for
Kaowool etc. Portland, Oregon

<http://hightempinc.net/>

Omega – thermocouples & measuring equipment
Stamford, Connecticut
<http://www.omega.com/>

Auber – more thermocouples and controllers, etc.
Alpharetta, Georgia
<http://www.auberins.com>

Hybridburners – home of the venturi T-Rex
Smithville, Georgia
<http://www.hybridburners.com/>

Pine Ridge Burners – for ribbon burners and all
associated fittings, blowers, valves, etc.
Conway, Massachusetts
<http://www.pineridgeburner.com>

Zoeller Forge – low cost venturi & parts: Z Burners
Lanesville, Indiana
<http://zoellerforge.com/>

Here's the original article on making a ribbon burners
that John Emmerling wrote back in 2005 for the
NWBA Newsletter:
<http://blacksmith.org/2005-1-hot-iron-news/>
You can download the PDF from that site. John's
article starts on page 11.

BLACKSMITH

Farrier Supplies aka Bent River Forge
26729 99W, Monroe, Oregon
Coal, coke, forges, parts, tools, classes...
<https://www.facebook.com/FarrierSuppliesOR>
(541) 847-5854

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.com/>

LOGO/ETCHING/STAMPS

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>

Steel Stamp, Inc.
www.steelstampsinc.com

HEAT TREAT SERVICES

Here are some folks who provide heat treating
services for blades. While all of these have been
recommended by one reputable person or another I
have not had experience with them. If you use one,
let us know how it went!

Paul Bos Heat Treating at Buck Knives. Paul Bos has
retired and handed the torch to Paul Farner. Highly
reputable. Post Falls, Idaho:
<http://www.buckknives.com/about-knives/heat-treating/>

Peters Heat Treating is another highly reputable
operation. Meadville, Pennsylvania:
<http://www.petersheattreat.com/cutlery.html>

Texas Knifemaker's Supply offers heat treat services.
Houston, Texas:
<http://www.texasknife.com/vcom/privacy.php#services>

Tru-Grit provides heat treat services. Ontario,
California: https://trugrit.com/index.php?main_page=index&cPath=34

K&G also provides heat treat services but I can't find
a reference on their web site – you'll have to contact
them for details. Lakeside, Arizona:
<http://www.knifeandgun.com/default.asp>

Byington Blades heat treat service is in Santa Clara, California: <http://www.byingtonblades.com/>

It's my understanding that Chris Reeve Knives uses ACE Co in Boise Idaho – which is enough for me to add them to the list:

<http://www.aceco.com/heattreat/index.html>

WOOD SUPPLIERS

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/>

North Woods Figured Wood – Gaston, OR
<http://www.nwfiguredwoods.com/>

WOOD STABILIZING

K&G (Knife and Gun) – Lakeside, AZ
Good reputation with everybody.
<http://www.kandgstabilizing.com>

Gallery Hardwoods – Eugene, OR
I've purchased stabilized blocks from them at the April show. They tend to be heavier, presumably more durable/stable but less wood-feel than others.
<http://www.galleryhardwoods.com/stabilized.htm>

WSSI (Wood Stabilizing Specialists International, Inc.) – Ionia, IA – some folks have had issues with them, some folks are totally happy.
<http://www.stabilizedwood.com/>

Alpha Knife Supply – ?Everett, WA?
<http://www.alphaknifesupply.com/>

Turn Tex Woodworks – San Marcos, TX
“Cactus Juice” and pressure chambers etc. for the do-it-yourself folks – your mileage may vary.
<https://www.turntex.com>

OTHER GOODIES

Sally Martin Mosaic Pins – So. Oregon
<http://customknife.com/index.php?cPath=13>

Oregon Leather – 810 Conger Eugene and 110 N.W. 2ND Portland
<http://www.oregonleatherco.com/>

Coyote Steel – wide variety of new steel, 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/>

Voodoo Resins – striking resin handle material
<http://www.voodooresins.com/>

Minarik automation & control
<http://www.minarik.com/>

The Engineering Toolbox (formula & info reference)
<http://www.engineeringtoolbox.com>

Valley Stainless (that does water-jet cutting) is one of Craig Morgan's customers. They told Craig “bring in a pattern” and they'd work with you on small batch cutting. They don't have a website yet. 29884 E Enid Rd, Eugene, Oregon 97402 (541) 686-4600.