

EUGENE 5160 CLUB ~ NOVEMBER 2016

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

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



NOVEMBER MEETING

November 3rd – 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!

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



NOTES AND REMINDERS

Farrier Supplies (Monroe Oregon) is undergoing a revival. I got an email from Peter Newman a week ago. He and his wife (longtime owner John Turkington's granddaughter) are working in the shop these days. They sell coal, coke, gas forges, forge parts, blacksmithing tools, etc. He has started up “Intro to Blacksmithing” classes. Peter is offering 1 to 2 day classes. They are on Facebook at <https://www.facebook.com/FarrierSuppliesOR/> and are working to get a website up and running.

They are open 8-5 Mon-Sat. Coal for \$29.50 and coke for \$20.00 – 50# bags.

Farrier Supplies is at 26729 99W, Monroe, OR 97456 (541) 847-5854. From Eugene you go to Junction City and take a left onto 99W at the North side of town – 8 miles to Monroe then 3+ miles North of Monroe – on the East side of the highway.

Oregon Knife Collectors Association (OKCA) – December Mini-Show – Saturday December 10th in the Wheeler Pavilion at the Lane Events Center.

Willamette Valley Arms Collectors Association Gun Show - March 18th-19th at the Lane Events Center. OKCA will have a knife table.

OKCA Knife Show – April 7th (OKCA members only) 8th & 9th (public) at the Lane Events Center. <http://www.oregonknifeclub.org/okcashow.html>

Northwest Blacksmith Association – see <http://blacksmith.org/events/> for all events.



OCTOBER MEETING



I put **DENNIS ELLINGSEN** on the hot seat first to talk about the OKCA shows in December and April <http://www.oregonknifeclub.org/shows.html>. “I put on the Oregon knife show and have been doing it for 42 years” “Have you got it right yet?” “No – we're still working on it. It's a work-in-progress. Your question is really spot-on because that's how the

success of this has come: by continuing to evolve – we don't stay complacent at all...” with that said Dennis shared that (as a departure from the past) they'd decided that the theme of the 2017 show will be paring knives. A selection of knifemakers are working on 2017 display award knives from paring knife blade blanks (see Jim Jordan's share-n-tell in the last newsletter). But paring knives are generally plain and utilitarian – so to spice it up the full theme of the show will be Chef Knives/Cook Knives/Paring Knives. Dennis is encouraging makers to create and bring chef & kitchen knives to the show. There will be judging category(ies) for them at the April show!

Dennis also plugged the December OKCA “mini-show” at the Wheeler Pavilion at the Lane Events Center – December 10th. Open 7am – 4pm. Tables are \$40 pre-paid or at the door. Other than a few tables reserved for volunteers and toys-for-tots, tables are 1st come 1st serve. Free to the public.

Dennis mentioned that the Willamette Valley Arms Collectors Association will be having their 2017 gun show at the Lane Events Center on March 18th-19th. You can get in free with your OKCA membership card. The OKCA will have a couple of tables at the show. Dennis invited folks to come in “and throw a knife or two on the table for sale.”

Dennis noted that Steve Huey of Huey & Sons Cutlery tagged him about doing a small run of tribute knives based on a set of utility knives that Wayne Goddard had made for his company many many years ago. The knives will be available for sale at a future date.

Dennis then passed around a couple of knives – the first by Wes Madison – marked “Jedediah Smith Rendezvous 1977”:



And the next was a Wayne Goddard from 1967.



MICHAEL KEMP was up next (*that would be me*) and I started with a couple of my go-to forge tools. We had decided at the last meeting to chide folks to bring in their favorite or wackiest tongs. I expanded “tongs” to “forge tools”. One is just a long rod with a bit of curvy forging at the end that I use to place items in – or retrieve items from – the kiln shelving bridge that serves as a “raised floor” in my forge. The other is my favorite set of tongs: offset V bits. I like the way they grab a variety of sizes, and the offset allows grabbing a piece a good way along its length.



The other thing I passed around was my very rough blacksmith knife that I made at the hammer-in:



Fun and functional but not exactly a work of art or craftsmanship.

“5160 Club has a table at the December OKCA show. And I'm sure we'll do the same two tables at the April show.” *I'll pony up for the April tables and we can discuss at the meetings who else wants in on the tables – and splitting the cost &/or passing the hat.*

JIM JORDAN came to the front with tongs in hand. Jim has picked up a number of tongs at garage sales. First off he showed a “clenching tong” used by



farriers to set the nail in horse hooves. Jim uses these as “blanks” to forge the bits to a shape he wants. Next was a pair of duckbill tin snips where he'd forged the snips into cones for use as curling tongs – for bending a piece tighter than you'd get on an anvil horn.

Next up he moved on to one of his passions: engraving. Here's his latest (home made) engraving ball:



A little too heavy to pass around. Jim noted that on previous engraving balls he used fancy bearings – but on this one he got a lazy Susan bearing from Woodcraft for \$5 – mounted it between two plates he got from Coyote Steel and it works just fine. The “ball” is an IKEA bowl filled with lead. Jim machined the vise on top. He recommends an engraving vise for general work on small parts – not just for engraving.

Jim **did** pass around a small aluminum vise made and sold by the Emerald Valley Model Engineers Society. Suffice it to say that Jim could not resist embellishing it:



(I can't find any on-line presence for EVMES – but contact Jim if you are interested in purchasing either this size 2” square – for \$25 or the 1” square vise for \$15)



Then Jim brought out a project he's been working on for his 29th wedding anniversary: an engraved metal jewelry box. Yowzers!

He has been using his home made pneumatic engraving tool for these projects. *For details see page 7 & 8 of the July/August 2016 newsletter:*

www.elementalforge.com/5160Club/20160708Newsletter.pdf



FRANK BOBBIO was up next – and started with one of John Emmerling's quick utility knives. John is a accomplished blacksmith and bladesmith on the north Oregon coast at Gearhart

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

Frank was visiting, and John knocked out the knife blank in 10 minutes. Frank took it home and eventually did the finish grind, heat treat, put a handle on it, and made the sheath:



“Back in '96 I started making horizontal belt knives.” He made this one for his wife. Kydex sheath, ATS34, Paul Bos heat treat. This was Frank's first version of a horizontal belt knife:



His most recent horizontal belt knife has a cast aluminum handle with turquoise inset on the side and a rubber inset on the top of the handle. O1 steel with black Kal-Gard Gun-Kote – Frank recommends using Brownells version of Gun-Kote that is available in spray can:

<http://www.brownells.com/gunsmith-tools-supplies/metal-prep-coloring/paint-finishes/bake-on-aerosol-paints/gun-kote-oven-cure-gun-finish-prod1150.aspx>



Frank noted that Gun-Kote will mar a little. He used a Gun-Koted knife for 10 years and it did wear off the high points but protected the rest of the blade.

With the Brownells you pre-heat the blade to 100°f, spray it on, then bake it at 325°f for an hour. Frank notes that it smells like burning plastic while it's curing in the oven. Obviously this could be problematic with non-metal handle styles.

Frank showed us the forms he used for his batches of these knives. He'd press the forms into casting sand, set the heat treated O1 blades into the outlines this would leave, close the mold and cast the aluminum. The O1 would show tempering heat color to about 1/16” from the handle – so the heat treat on the O1 was not compromised.



Frank's first cast handle knife was this this ATS34 blade with “lost foam” for the form. His complaint about the lost foam process was that it wound up with too much porosity in the aluminum. The handle scales are Corian.



Next up Frank showed us three kitchen knives he's made. Each has a different steel and Frank wanted to see how they stood up to use and how they each held their edge over time.



The top one is 15N20 (with torch heat treat), the middle is in A2, and the bottom one is 1095 with

mustard finish. They have about six months of normal kitchen usage for the 15N20 and A2 – three months for the 1095. They were not run through the dishwasher but not pampered either.

The 1095 acquired a lot of patina on top of the mustard finish. The A2 held up a lot better. The 15N20 was bead blasted and etched – which got a little mottled but no rust.

Frank sounded like the edge retention on all these were in the same ballpark – good – but none of them could be said to outperform reputable kitchen knives like Wusthof or Zwilling/Henckles.

The last piece Frank shared was a project from the first casting class he took. Since he was a locksmith he cast the parts for a lock - fun!



MARTIN BRANDT came up front with a bucket of tools. “Initially it was to bring your oddball tongs in but it morphed into forging tools” Marty said looking at me. *“I figured we might get more a few more things comin' in that way”* I replied. “That's alright” Martin said as he plopped a big guillotine fuller on the table.



There's a square peg at the hinge side that goes into the Hardy hole. Martin likes having a handle on the back side of the top bar (which rotates) so that after you put your hot steel between the blades and whack

the top blade to make your fuller, you can hit the top guillotine blade's handle on the other side of the pivot and free your work piece before it loses its heat.



Martin also brought in “an old-style hairpin fuller”. And he brought in a cutting plate with a peg for the Hardy hole – something you can set on top of the anvil to cut against and save the top of the anvil – when the anvil's cutting shelf isn't big enough.

Martin pulled out a big “schwaking stick”. This is for when you are forging the edge bevel on the knife and it goes into a buffalo skinner shape. You set the spine of the knife on the anvil and use the schwaker to hit the knife edge and take the curve out of the spine. *I use a scrap of 2x4 – you can use a tree branch – anything that you don't mind getting chewed up.* Martin notes that you don't want to use a wooden mallet because the face of the mallet is end-grain and you'd split your mallet on the knife edge.

Like Jim, Martin uses cast-off farrier tools to forge out special-use tongs. He showed some examples he has made over the years.

While flat jaw tongs and “fire tongs” are not much good for keeping a grip while you are forging, Martin likes fire tongs when he's doing the final straightening precisely because he can pivot the blade back and forth to get a good look from multiple angles. And he likes them for edge-quenching too.

Martin has a narrow diamond shaped straightening tool that he uses in the Hardy hole for taking bends out of the blade – especially corkscrews.

He also showed a bent rod hold-down tool for the Pritchel hole – made out of spring steel rod.

Marty's last show-n-tell was a garage sale hammer that had had the handle chewed up by the family dog.

He repaired the lost wood with a mixture of sawdust and super glue!



BLAIR GOODMAN

recalled that he got introduced to the club a few years back when we did a hammer-in at the Bohemia Mining Days. Dave Rider helped him forge his first knife. “I asked Dave where you get your tongs at and he said to go down to the 2nd hand store, buy a



pair of vice-grips...” Blair cut and re-welded the jaws so that they are more parallel to each other. He welded a long tube on for a handle – removed the spring (since it would eventually fail due to the heat) and ran a wire down the tube to take its place.

For tongs, Dave recommended getting a pair of garage sale nippers, cutting some square tube on the diagonal and welding that to the nipper jaws – making V jaw tongs – so Blair did that too.

He is also a fan of picking up garage sale tongs that have a lot of stock in the jaws so that you can re-form them to your needs.

And of course you pick up other treasures like this:



Then one of our newer members got up next. “I just finished my first knife ever.” <applause from the group> “You guys are a tough act to follow!”

“You guys saw this six months ago. It’s O1.” He was working with a hacksaw and file – and after heat treating “I could not do a darn thing with it” which means the heat treatment went well. “Until my buddy bought a Burr King – then I was able to finish it.” Stabilized maple burl for the handle.



Mea Culpa. Apparently I did not get a photo of this knife.

“Making the sheath was almost more fun than the knife because... you could cut the leather with scissors! Glue it together with Rubber Cement! And the consequences of mistakes was just: yah, I’ll cut another piece out.”



MIKE JOHNSTON

was up next. “Yes, I’m back...” his new job at a steel fab shop has kept him busy. “I heard that this meeting was about re-purposed tools and I brought my hammers.”



The bottom hammer in the photo is one that “drove [Wayne Goddard] nuts in its original form.” It was a masonry hammer with a long peen on the back for breaking bricks. “Once I cut the long peen off and rounded the face more it worked real well for forging... It worked real well until I got a little stronger and I wound up using a 4 pound sledge.”

The sledge hammer tended to twist in his hand – so (middle hammer in the photo) Mike bandsawed off one side, welded it to the remaining side – and made more of a dog-face hammer out of it. “I like it a lot. It puts all the weight right there where you hit.” He felt the handle was too big so he took a lot of the handle material off.

The top hammer in the photo was a square hammer that he ground into a diagonal-peen hammer. *This style is great for drawing steel one way or the other.* If you make the peen angles parallel to each other then they are actually at right angles when you flip the hammer – so that you can draw lengthwise down the blade or across the blade by switching which end you forge with. “I use this thing constantly. I use it with every knife. The handle has a shock absorber in it...” *meaning there is a groove cut through the handle. This can be left open or filled with rubber.*

Mike noted that he makes blades almost exclusively from new pickup coil springs, as a lift shop nearby sets the factory springs aside for him. “This one is a basic drop-point... hidden tang, brass guard, copper Sally Martin pins, brass brazing rod pins.”



The next one is from a brand new Dodge pickup coil spring. “It heat treats up real nice. Takes a nice edge.” Mike accidentally drilled through the end of the handle – and decided to make it a “feature”. He took a sanding disk, sanded a recess in the end of the handle. Shaped a piece of African blackwood to match the recess. Drilled through and put a Sally Martin pin through the blackwood into the main handle (Thuya burl) to epoxy it all together. Sally Martin pins on the side. “No straight edges on the blade. Everything's got a bit of a curve to it, using shaped platens.”



ERIK LAND came to the front. “I have not been in my shop for awhile.” But he has been working on a new folder pattern. And “about four months ago I scored a whole sheet of old Westinghouse Micarta – 3/8” x 2' x 3' – and all I had to do was trade a folder for it.”



Erik noted that every new pattern brings new challenges with it. He pre-loads the spring tension before heat treat. “When I heat treated it and put it back together, well, it took two grown men to get it to open and close.” So adjustments were made.

Here's photos of the two knives – works in progress. One with the Micarta and one with Lignum Vitae.



There was some discussion of drill bit types and how to sharpen them. Then **JOVE LACHMAN-CURL** got in front and asked a few questions. He had been to the tofu shop of a friend's mom... they buy good (Nakiri style) quality knives, but run them through the dishwasher until the handles give out.



So Jove's first question was "What handle material would be good for the food preparation industry?" Handles that would survive industrial dishwashers. "Buy knives with those white handles" was one suggestion. "Yah, but she buys Shun or something" Jove replied.

The old "glue wars" forum thread was mentioned – to find an epoxy that would stand up to high temperature – and bond to heavily stabilized wood.

His final question was about the preferred height for blade grinding. Most folks seemed to prefer grinding at belly-button height (*or dantian or manipura if I'm allowed to be more woo-woo about it*). This allows you to lock your elbows against your sides with the forearms at right angles to the body. You have more control of the movement of the blade against the grinding belt for fine work – as well as requiring less effort to exert force for hogging off material.

I noted that a lot of the time I lock my arms and hands in place, bend my knees, and drift my body from side to side.

Frank's suggestion was to hold your body stable, use one hand stable to be an index on the spine of the blade while you draw the blade across the belt with the other hand. He puts one or two wraps of green gator tape on two fingers which gives him one or two seconds before his fingers get burned (if the blade heats up) but still lets him know if the blade is getting hot. And on the guide finger the tape protects against losing skin to the belt.

Here's the link to that tape at Tru-Grit:
https://trugrit.com/index.php?main_page=product_info&products_id=3699

Frank will sometimes put on nitrile gloves under the tape – so that his hands stay dry while grinding at finer grits. He dunks the blade in his bucket under the belt after each pass. When dust builds up on the surface of the water he sprays it with Simple Green – which breaks the surface tension so the grit sinks to the bottom and the water is clean for dunking the blade. Frank also noted that he runs at slower speeds for fine grits – full speed for course grit.

"And if you slow it down you'll make your mistakes

in smaller increments" quipped Erik.

"And you grind everything at 5,000 [fps]?" somebody asked Mike.

"5,000 – no gloves – that's why my thumbs look like this" Mike responded. "I know that I'm getting too close to damaging my blade if my skin is melting."

STEVE GODDARD noted that he is looking at setting up a wet belt grinder. Full on wet rather than mist. We'll look forward to updates on that.

And here's my photos of some of the favorite &/or weird forging tools & tongs. Another Mea Culpa: For some unknown reason I did not get photos of David Thompson's selection – he had some truly original tongs he'd made for various projects – at least one of which he couldn't remember for the life of him why he would have made such a thing!





... and just for fun – John Emmerling (who Frank mentioned at the meeting) sent out a photo of his new knife display – bookmatched burl with embedded rare earth magnets. But I bet you focus on the blades!



Have fun all – and work safe!

~ ~ ~ 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

I'm not sure if all this is gone – but if you are interested then check with Lynn:

Lynn Moore has some items he will be bringing to the October meeting for sale:

- 1 - propane forge \$50
- 1 - coal forge with hand crank blower \$50
- 1 - heavy duty vice \$25
- 1 - electric dust collection motor & bag \$50
- 1 - Champion forge blower \$40





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

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/forums/forum.php>

Julious Griffith groups on Facebook:

- Custom Knives For Sale by Maker - Available now
- Knifemaking - Works in Progress (w.i.p.'s)
- Knifemaking Equipment Buy, Sell, or Trade (used only)
- Knifemaking - Masters to paying Students connection
- Knife shop photos
- Knife Calendar - Events, shows, hammer-ins, schools, misc.

These are all closed groups – to keep them focused – so if you want to join one of the groups, click the “+ Join Group” button and also message Julious and give him some info on yourself so he knows you have real interest in the group.

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 teaches classes in Washington. I've heard rave reviews from his students. Lisch is very skilled at blacksmithing in general and bladesmithing in particular.

<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
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/>

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://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>

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_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
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

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>

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/>

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/>

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