

EUGENE 5160 CLUB ~ MAY 2020

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

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



MEETINGS SUSPENDED

After consulting with our meeting site hosts, 5160 Club meetings are suspended for the time being.

I have created a Facebook “Group” where we can continue to share our work and experience. Not to be confused with the Facebook “5160 Club” page (which restricts your ability to post). “5160 Club – The Group” is much easier for folks to share in – and a number of folks already have. Take a look: <https://www.facebook.com/groups/5160ClubTheGroup/>



NOTES AND REMINDERS

Oregon Knife Collectors Association – The 2020 April show will not be held this year due to the Governor's stay-home order. Watch the OKCA website for updates: <http://oregonknifeclub.com/> or like them on Facebook to get notifications of updates and enjoy postings from knifemakers and collectors: <https://www.facebook.com/groups/OregonKnife/>

Lambowie – Check out this new on-line marketplace. It's billed as a low-overhead alternative to eBay for forged knives, swords, etc. as well as bladesmithing equipment and materials. If you have feedback on this site – let me know!
<https://lambowie.com>



Wayne Goddard mentoring a young knife maker.

A note from your scribe: I've been doing this newsletter for a decade. I'd read Wayne Goddard's books and was fumbling along in my shed around the time he and a few others started the club. That was 2009. After a few months Wayne asked if someone would take over the newsletter and yours truly put up his hand.

Full disclosure: I love knives and at that time I very much needed an antidote to my computer/consultant/office-politics/conference-room-white-board-session day job. I have made a number of knives (some of which I'm proud of) and have made a few forges and a power hammer. I have read a number of knifemaking books and some really nerdy metallurgy books and articles. HOWEVER I am not a master of the craft. I've rubbed elbows with masters of the craft and I can tell you that I ain't one of 'em!

When I retired a couple of years ago I stopped making knives. It wasn't a conscious decision, it just stopped happening. I still love knives. I really love this group that Wayne shaped. I will endeavor to knock out a monthly newsletter while meetings are suspended by posting tasty bits of meeting notes from across the years.

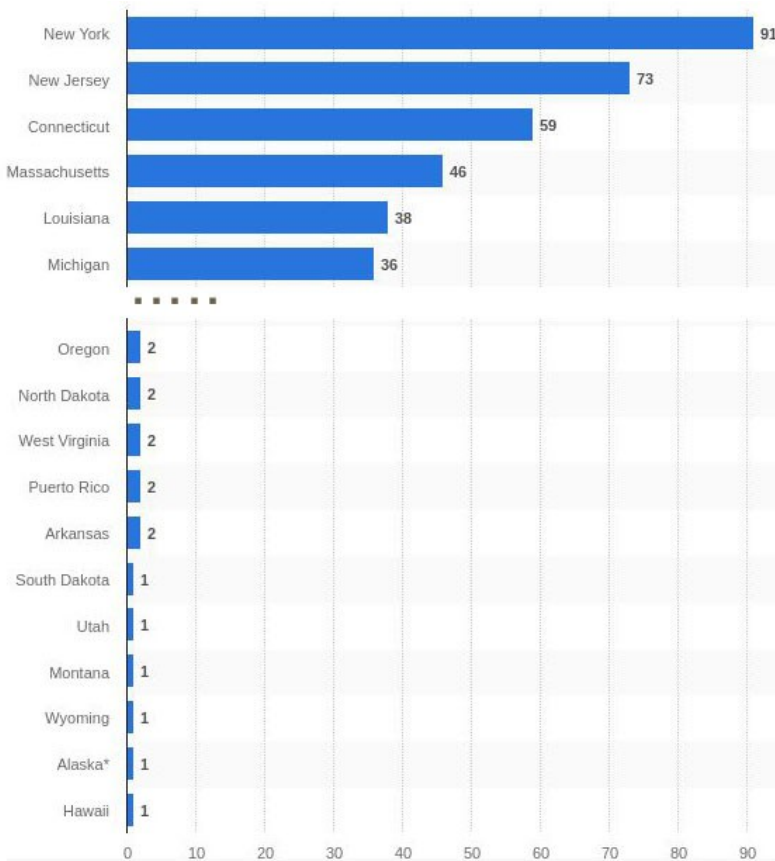
I know there are lots of strong feelings about the rightness or wrongness of the current shutdown, and

when and how to fire the economy and our social lives back up. I feel that I owe you all a glimpse into my own reasons for sheltering in place. I'm well over 60 which is one strike against me – I've had a heart attack which is another big strike against me as far as this stuff killing folks – and I've always wanted to go out through the door marked “10 Seconds Max” and for the unfortunate souls that covid-19 takes down it is a long, grueling, isolated death.

In April alone – with some uncoordinated but drastic quarantine measures – this stuff has killed about as many folks as in a really bad flu year – or the number of U.S. casualties for our 20 years in Vietnam. It's nowhere near as bad as the Black Plague, but it's not your normal cold or flu either.

The chart below is confirmed covid-19 deaths per 100,000 people in selected states as of 4/29/2020.

Oregon is getting off damn easy. Let's see if we can keep it that way.

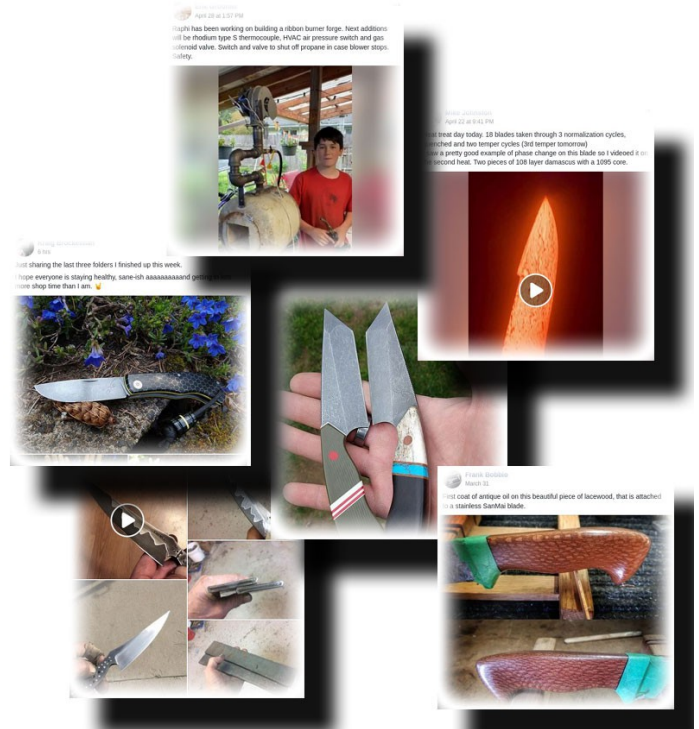


Besides – if I **did** go to a gathering like our regular 5160 Club meetings, my wife would have my hide.



5160 CLUB – THE GROUP

As noted at the top of the newsletter, the Facebook group: <https://www.facebook.com/groups/5160ClubTheGroup/> is a place where folks can share projects, questions, show-n-tell, yadda yadda yadda. It's not the same as face-to-face but – well – here's a few snapshots that might tempt you to check it out:



BLASTS FROM THE PAST

From the August 2020 Newsletter:





The July meeting's secret surprise speaker was Ray Richard who came all the way from Gresham, Oregon. Thank you Ray, and thank you Mighty Mike for being Ray's driver.

I admire Ray's knives and hawks a lot. Check out his website is at <http://hawknknives.com/>

With a short intro from Wayne, Ray launched into his story. How did he become a bladesmith? "I got bored. The library was closed. I went to the book section at Freddy's and found a Reader's Digest book on Back to Basics that had plans for a truck brake drum forge." And he was hooked.

Well it actually goes a little farther back than that. Ray is a 4th generation knife maker. Great grandfather Stephen Richard put together a cutlery-making business in Southbridge Massachusetts back in 1862. Stephen passed the business on to his son JA Richard (the factory burned down and was rebuilt once or twice) and from there went to Ray's father. Business had trailed off and the facility was sold to a wire company.

Ray remembers his dad helping him make a knife or two for himself when he was 14 – but cautioning Ray that the business was too much work for too little money. Hmmm. Some things never change, I guess.

So after 30 years as a carpenter, there was that fateful bored day and the Reader's Digest Back to Basics book. Bladesmithing found its way back into Ray's life.

Ray says his success comes from a simple attitude: he's not afraid to be original. Stay away from what other folks are doing. He remembers one early show where Wayne got the podium and said *something like* "There are a lot of great knives in this show. And it looks like they all were made by three knife makers." That sunk in for Ray.

I don't believe I've ever seen a ricasso or a Spanish notch on one of his blades. The lines just flow: they are where they should be. Ray has won 20 show awards. Wayne complained he doesn't win awards since Ray got going!

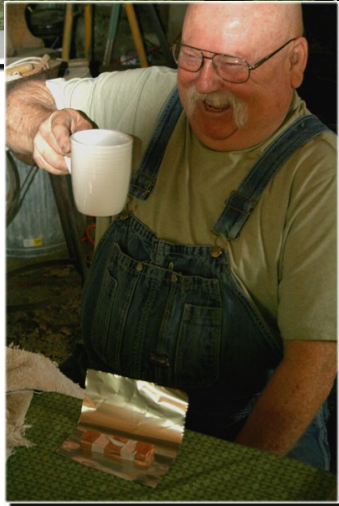


From July 2011 – Here's one of my old knives - I'd forgotten all about making this one!

P.S. - since there's blank space left over, I'll paste in a photo of a blade I finished in December. It's rare that I actually get a blade **done** so here's "Hank's fantasy/fighter":



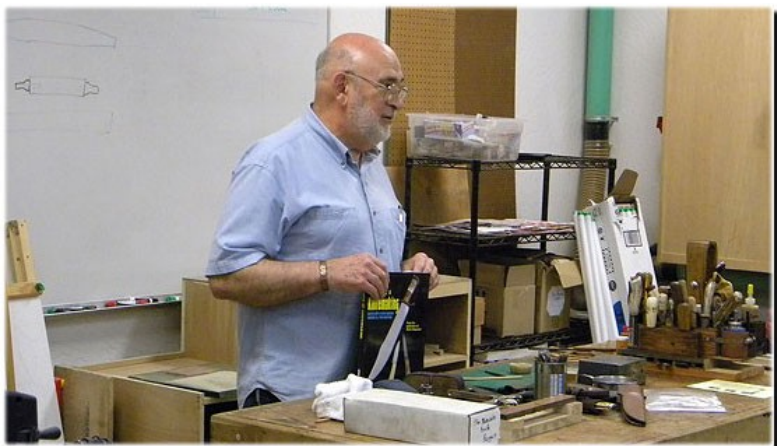
July 2011 – we took a field trip South to Gene Martin's shop where he demoed the making of mokume gane. It was a great day, a great mentor, and a hell of a lot of fun. The text is rather long so I'll just paste some photos. If you want to read it all here's the PDF:
<http://www.elementalforge.com/5160Club/201108Newsletter.pdf>



Several folks made mokume-gane under Gene's watchful eye...



I'll finish up this trip down memory lane with a long sheath-making article from September 2011 newsletter. I was out of town for work and missed the meeting – these photos and notes are courtesy of Mike Johnston.



WAYNE GODDARD started the meeting by reminding everyone that the end of the makeshift knife contest is fast approaching. The knife has to whittle a point on a stick. The contest is described here: <http://www.elementalforge.com/5160Club/20110528WaynesWorldAndMakeshiftKnifeContest.pdf>

Wayne purchased about 50 copies of “The Wonders of Knifemaking” for about \$2.00 each when he was told the book was out of print. After making this purchase, the publishers asked Wayne to make a second edition.

The theme of the August meeting was knife sheath making with Wayne Goddard as the presenter. Wayne brought numerous tools and examples for his presentation.



Wayne began by showing his knife and sheath from 1963 that used aluminum aircraft rivets.

By 1976 Wayne's knives and sheath making had progressed to a much more professional appearance.



The first things to do in sheath making is to determine the size of the piece of leather to use for knife sheath. Wayne said you could make a paper pattern the way Ray Richard showed last month. Another way would be to use a gauge that Wayne developed.



The “T” is constructed from leather and/or leather and a strip of plastic. The long leg of the “T” is marked off, though the scale is a little hard to understand. The short leg of the “T” is placed against the spine of the knife and the long leg is wrapped around the thickest portion of the knife, usually the guard area. Wayne holds his thumb against the scale and moves it to the next largest scale marking.

The short leg of the “T” is about 1/4” to 3/8” wide. This represents the width of the welt spacer (where the sheath is sewn).

This is a critical point. Wayne said any good knife sheath will have a spacer between the two sides of the sheath. This protects the stitching from being cut by the edge. The welt spacer may be a single piece of leather, or may be stacked in a wedge, getting thicker toward the top of the sheath. This depends on how large or thick the handle of the knife is as well as the type of sheath you are making.

Wayne then cuts a piece of leather the width that the “T” measuring tool gave him. The length is determined by laying the knife on the leather and deciding how far up the handle the top will go.

Wayne showed us a Head knife, for cutting leather. Due to his Parkinson's Wayne has had to develop different cutting tools for leatherwork. One of the tools is a simple short bladed “chisel” used to cut off ends of straps and skive ends thinner. The next tool that evolved was a short blade with a rounded end.

Wayne uses this tool held straight down onto the leather and rocks it back and forth.



He said a very small radius can be smoothly cut with very little effort and great control. Another tool he showed was a piece of steel with a notch cut into the end. This notch is the width of the welt spacer and is dragged across a piece of leather to mark where to cut the welt spacer. This way the welt spacer is always the same width (which is also the same width of the one leg of the “T” measuring tool).

Wayne cut the sheath to shape. For a pouch sheath for a knife with a larger guard, Wayne uses a notched welt spacer style.



This photo also shows a dagger sheath with a button stud. On the notched welt sheath, the welt and spacer extends past the edge of the blade part of the sheath so the knife guard rests on the step.

Wayne dyes his leather by dipping the leather into a container filled with his color mixture. He made it

clear that we probably would not get the same color dye job he does as he has mixed colors until it was the way he wanted it. Using a dauber to spread on the dye doesn't result in an even color application. Wayne leaves the leather in the dye for a count of 10. This gives dye penetration of about 1/3 the thickness front and back.

While the dye is still wet, Wayne wet forms the sheath. The moisture from the dye is just right for wet forming. Wayne lets the sheath dry at this point.

The next step is to install the belt loop. Wayne is using a high riding sheath that keeps the bottom of the sheath from pushing into the seat when you sit down. He is riveting either a short loop or a strap to the back of the sheath. See the previous photo and this one:



To keep the tube rivets from rubbing in the knife handle, Wayne uses a counter sink to cut a recess inside the sheath so the rivet head is below the level of the inside of the sheath.

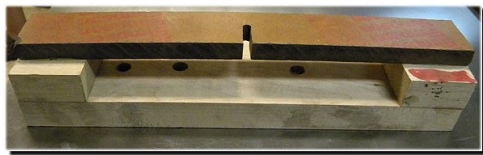
Once the dye is dry, Wayne uses another small scribing/marking tool to scribe a line front and back along the welt where the sheath will be stitched. Before starting to stitch, Wayne uses a groove cutter along this line both front and back. This gives a recess for the stitches to lay in. By recessing the stitches, they can't wear and break.



Wayne showed that an additional use for the groove cutter is to run grooves on the inside of the sheath the width of the cross section of the handle. This method is used if the sheath is not going to be wet moulded as it helps the leather fold around the handle.

Wayne said he can usually freehand punch the stitch holes evenly enough. A stitching wheel marker can help keep the stitch lengths even. There are several different ways to punch to the stitch holes.

A hand awl with a diamond shaped point is one of the most common methods. The diamond shaped awl, or even a round awl can be chucked into a drill press. Wayne uses a fixture that sits on the drill press table with a notch that the awl pushes through. Wayne said the holes can be drilled, but they tend to be messy on the back side of the sheath.



Dave had another method for punching the stitching holes by converting a reloading press. The awl, a turned down Allen wrench, is fixed and the sheath sets on the piston that has a leather pad. The angle fixture pulls the sheath off the awl and is a guide for the next stitch.



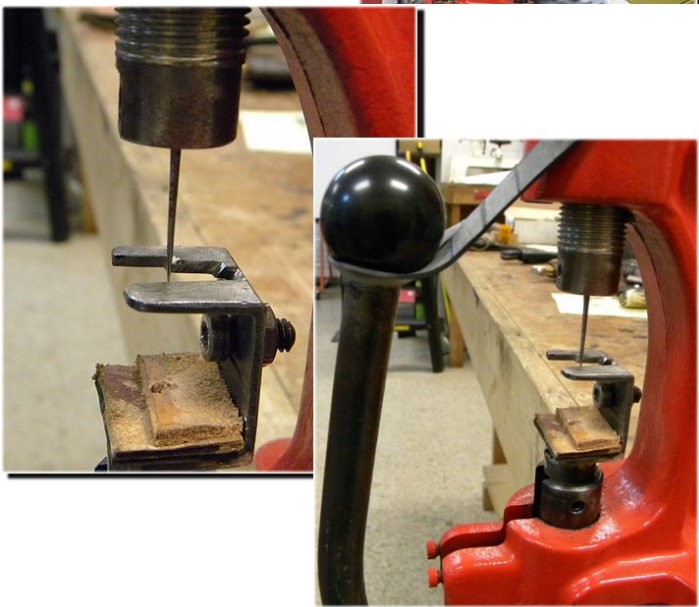
A friend of mine said a reloading press is an "over-center" fulcrum device. Which means that it is capable of putting out theoretically infinite force. The real world limitation are on the material that the press is made of. This means with very little effort, a reloading press could be used as a pin press and could be used to punch holes in light metal. He and I are working on the tools for this application.

The next step in the process of putting together a superior sheath is to glue the welt together. Wayne uses Barge Contact Cement, which is made specifically for leatherwork. The small cans of Barge come with an applicator brush attached to the lid, but the gallon size do not. Wayne said he has experimented with all sorts of brushes and has not had very good success. He did however find that a small plastic squeeze bottle with a small application hole works very well. It lays a fine bead of Barge on each of the welt pieces, which can then be spread out with a small scrap of leather (there are always small scraps of leather laying around).

Note: if you are going to get a gallon of Barge Cement, also buy a gallon of Barge Cement Thinner. The cement will thicken up over time in the can and by keeping it thinned down it lasts longer, spreads easier and dries quicker.

Wayne uses a hair drier (I'm sure it's one he got at a garage sale) to help the Barge dry, which it needs to be before putting the pieces together. Wayne said you can also light the cement on fire with a lighter to dry it, but I have had little luck getting good adhesion that way. The directions say to put a second coat over the first, but Wayne told us that since the cement only has to hold the welt in place while stitching, it really isn't necessary.

To make the next step, stitching, easier, Wayne built a couple different tools (imagine that). The first tool is the stitching needle. Wayne takes a hook type needle made for an American Straight Needle shoe soling machine and gives it a blue color temper. These needles are available at Oregon Leather (that's where I get mine for my machine) and come in different diameters. The needle is mounted in a handle for easy use.



I mounted mine in an awl handle that already had a chuck/collet, but it looked like Wayne's as mounted in a home made handle.

The second tool Wayne finds to be indispensable is a stitching horse. Since this is a small version that is placed between your legs while setting on a regular chair, it could be called a stitching Pony. Wayne found that oak pallets are the ideal material for the stitching pony both because of the price and they are flexible and stiff enough to work well. The jaws of the stitching pony need to have spacers so they can grip the welt area while stitching and still have room for the sheath between the vertical arms.



Wayne gave us the formula for determining how much thread you need for your sheath. The thread should be 5 times the length of the welt.

Wayne uses a light cord/thread called Nyltex, again available at Oregon Leather. It is a flat waxed cord that comes in brown, black and white. The cord lays flat in the stitching groove and looks great.

To begin stitching, Wayne starts at the top of the sheath. He clamps the welt in the jaws of the pony with an inch or so sticking out in front. The needle is pushed through the top hole, the end of the thread is hooked and is pulled through so that half the thread is on each side of the sheath. The needle is moved to the next hole and pushed through. The thread is hooked onto the needle and only a short loop is pulled through. The end of thread "B" is pulled through the loop of thread "A" and the loop is pulled tight. This is a Lock Stitch, the same as the American Straight Needle Stitching Machine makes. Wayne said it is a much stronger stitch than a double needle stitch. Also, when using the double needle method the second needle is hard to push through the hole with the thread in it and

the first thread can be damaged. Wayne uses a leather fingerless glove while stitching to protect the hand from getting cut by the thread while it's being pulled tight. Once the exposed section of welt is stitched, move the sheath to expose another couple inches and continue stitching.

For finishing the welt, Wayne showed the round edger/cutter. It rounds each edge of the welt. The one in this photo is a commercially made one, but Wayne showed us his that is easily made by drilling a hole in a narrow piece of steel, bending it and grinding out the bottom of the bend.



Once the sheath is stitched and the welt rounded Wayne dips the whole sheath in his "secret mixture" of 50% pure neatsfoot oil and 50% bees wax that is heated to 160 to 180 degrees F. Wayne cautioned that there were neatsfoot oil with additives that did not work well.

To test your mixture, take a strip of leather and dip it into the warm mixture and count to 10. The leather should get stiff and when cut in half should show about 1/3 the thickness on both sides.

Hold the sheath in the mixture making sure the inside is filled. Submerge to the count of 10 then drain out all excess. Rub a dauber over the outside of the sheath to even out the coating. Check the sheath in about 10 minutes for dry spots and reapply a little with the dauber on the dry spots.

This should make the sheath stiff and give an even wax/oil finish. Wayne showed us a welt burnishing tool. A block of wood with a Air Force belt around it and into the notch. The welt is placed into the notch and rubbed. This gives the welt a finished edge.



Note: Any piece of heavy canvas with a little wax rubbed into it will burnish a welt to a high gloss, but the wooden block would make it easier and help create more friction/heat to melt in the wax.

One more addition Wayne makes to his sheaths is a drain hole in the bottom. He likes a hole punched through both sides rather than leaving the welt spacer short of the bottom.

When Wayne rivets his sheaths, he uses tube rivets top and bottom. They are available in brass or nickel.

Another option for decorating the sheath is to use copper nails along the welt instead of rivets (see photo). Wayne drives the copper nail through the welt and drives the point "into" a steel block to clinch them over. This makes a very strong "rivet" even without glue.

Wayne found a company on-line called "The Copper Nail" in California that caters to boat builders as a good source.



Wayne then showed and demonstrated several leather stamps. Some were home made and others commercially made.

Note: Thought Wayne demonstrated using the stamps on dry leather, if the leather is lightly dampened with water from a spray bottle or sponge, less energy is needed and the stamp leaves a deeper and more permanent impression.

While striking the larger stamps, Wayne showed a rolling motion while tapping on the stamp. This made sure all the edges of the stamp left an even impression in the leather.



Wayne made a stamp with his logo to use on each of his sheaths. He said every 10 years he makes a new stamp or changes the one used with a series of lines that allows him to tell when a sheath was made (photo 20). Some of the stamps were made on the heads of square nails.

Everyone had a chance to try out the stamps and different hammering methods.



Have fun, keep well, and work safe -

Your Scribe ~ Michael Kemp



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.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)
<https://knifedogs.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/>

Hype-Free Blades
<http://www.hypefreeblades.com/forum>

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

REFERENCES

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 Sg2goddard@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. I no longer see the original free PDF – but here's the updated book on Amazon:
<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>

Knife Steel Nerds – a metallurgist's blog on the technical details of steel
<https://knifesteelnerds.com>

Tempil Basic Guide to Ferrous Metallurgy
[http://es.tempil.com/assets/5/31/Basic_guide_to_ferrous_metallurgy_\(2\).pdf](http://es.tempil.com/assets/5/31/Basic_guide_to_ferrous_metallurgy_(2).pdf)

From the Heat Treating Society of the ASM – the Heat Treater's Guide Companion for Android devices.
<https://play.google.com/store/apps/details?id=com.pfiks.mobile.heattreaters&hl=en>

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

CLASSES FOR KNIFE MAKING, ETC.

Erik Olson is teaching intro to forged knives in Eugene. I don't have a business contact but his personal Facebook page is:

<https://www.facebook.com/erik.olson.77715>

Farrier Supplies aka Bent River Forge offers intro and advanced blacksmithing classes – and supplies. 26729 99W, Monroe, Oregon
Coal, coke, forges, parts, tools, classes...

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

(541) 847-5854

Anvil Academy in Newberg has various classes now including a knifemaking class:

<http://anvilacademy.info/schedule/>

<http://newbergdowntown.org/whats-happening/knife-making-class/>

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

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

Bear Iron in Cottage Grove offers blacksmith classes through Lane Community College.

<https://www.beablacksmith.com/sign-up>

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/>

White Hart Forge offers intro to blacksmithing classes plus some advanced classes and some intro to knife making classes. Oak Grove, Oregon (just south of Portland). <https://whitehartforge.com/classes/>

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

David Lisch is an ABS Master Smith who teaches classes in Washington.

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

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

Keep an eye out on California Blacksmith Association for workshops and events:

<http://calsmith.org/CBA-Events>

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

Zoro

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

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/>

Widget Supply - Dremel tools, needle files, craft knives, drill bits, etc – Albany, Oregon.
<https://widgetsupply.com>

And of course there are the local hardware stores like Jerry's, and chains like Harbor Freight and Woodcraft.

KNIFE MAKER GENERAL

Lambowie – a low-overhead eBay alternative for custom knives and knifemaking equipment.
<https://lambowie.com>

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 – Cedar City, UT
<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/>

Sandvic – stainless steels – Texas & Pennsylvania
<https://www.materials.sandvik/en-us/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 – Cedar City, UT
<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>

Origin Blade Maker – aka Oregon Blade Maker [Portland, Oregon] – affordable chassis and accessories, good reputation – with or w/out motor
<https://originblademaker.com>

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.
<https://originblademaker.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
<https://www.sunray-inc.com/products/wheels/>

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

Helve Hammer and Quick-Change Dies Video –
from a BladesmithsForum.com thread.
<https://www.youtube.com/watch?v=uzruqYkKGNM>

True Grit – under “All Products”/“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>

Mathewson Metals – forges, burners, anvils...
Tacoma Washington
<https://mathewsonmetals.com>

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. for Kaowool, castable refractory, fire
brick up to 2,600°f, etc. Portland, Oregon
<http://hightempinc.net/>

Omega – thermocouples & measuring equipment
Stamford, Connecticut
<https://www.omega.com/en-us/>

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
<https://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 Lightening Stencil
<http://www.erniesknives.com/>

IMG International Marking Group
<http://img-electromark.com/>

Marking Methods, Inc.
<http://www.markingmethods.com>

Electro-Chem Etch
<http://www.ecemmi.com/products.html>

Steel Stamp, Inc.
www.steelstampsinc.com

LectroEtch – Ohio
<https://lectroetch.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/?s=cutlery>

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/>

WOOD & HANDLE MATERIAL

Burl Source – handle blocks/scales – So. Oregon
<http://burlsource.us/>
<https://www.facebook.com/BurlSource/>

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

Gilmer Wood – N.W. Portland
<https://www.gilmerwood.com/>

Bamboo Oasis – wide variety of bamboo – Beaverton, OR phone 503-703-1345
<https://bamboooasis.com/>

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

Atlas Billiard Supplies – Wheeling, IL – cue blanks of Micarta and exotic woods – with some sizes suitable for knife handles. <http://www.cuestik.com/>

For Eugene area boards, planks, etc. there's:

Crosscut Hardwoods at 2344 W 7th, Eugene
<http://www.crosscuteugene.com/>

Tree Products Hardwoods at 150 Seneca, Eugene
<http://treeproductshardwood.com/>

and it doesn't hurt to check Mike's Bargain Center on Hwy 99 just south of Beltline, Eugene
<https://www.facebook.com/MikesBargainCenter/>

WOOD STABILIZING

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

Gallery Hardwoods – Eugene, OR
<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 – Cedar City, UT
<http://www.alphaknifesupply.com/>

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

OTHER GOODIES

Grey Leather Company – Eugene – Hannah Morgan does custom leatherwork, including sheaths.
<https://www.facebook.com/GreyLeatherCo/>
<https://www.etsy.com/shop/GreyLeatherCo>

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>

Burcham's Metals – Albany, Oregon – recycled metal of all sorts. Very good pricing.
<http://www.burchamsmetals.com>

Cherry City Metals – Salem, Oregon – metal recycling and useful objects
<http://www.cherrycitymetals.com/>

Swift & McCormick Metal Processors Inc.
3192 NE Sedgwick
Terrebonne, Oregon
541 548 4448

Everything from big chunks of steel to railroad spikes. Very good prices. They can torch-cut big pieces down for a small fee.

Amtek – tool steel & cutting tools
<http://www.amteksteel.com/index.html>

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/>

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.