

EUGENE 5160 CLUB ~ OCTOBER 2018

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

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



OCTOBER MEETING

Thursday October 4th – 6:00pm at David Thompson's shop. Please do not arrive before 5:45pm. 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

Blade Show West returns to the Portland Convention Center on October 5-7. A table goes for \$350. <http://www.bladeshowwest.com/>

OKCA December Show – December 8th – 7:00AM setup for table-holders – Free to the public 8:00AM-4:00PM. \$40 per table. See the OKCA newsletters for details and developments:
<http://oregonknifeclub.com/knewsletters.html>

OKCA April Show – this is the big one: April 12th is OKCA members only. April 13th & 14th are open to the public – admission is \$6/day – members free. \$120/table + OKCA membership. 360 tables at the Lane Events Center. Everything from the world of cut! <http://oregonknifeclub.com/okcashow.html>

Northwest Blacksmith Association – Mentoring at Cowlitz Expo – Longview WA. Intro Blacksmithing classes at White Salmon, WA; SwaptoberFest October 26-28 Longview, WA
<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.



SEPTEMBER MEETING

FRANK BOBBIO was first up with two bags of goodies.

The first pass-around was a high contrast Damascus knife. I'd call it an Every-Day-Carry but it's got a lot of class for an EDC.



For Frank's ferric chloride process used on this blade, see 2018 April/May newsletter – page 6:

<http://www.elementalforge.com/5160Club/201804Newsletter.pdf>.

There were other tricks involved to get the high contrast, but you had to be at the meeting. The handle is African blackwood and maple burl that Frank stabilized. Frank did the billet for the blade in his induction forge. “You can only do small billets...” Frank said that the outside heats up much faster than the inside – and you may need to heat it in stages with the induction forge.



On the next knife, Frank wanted to forge an integral guard (not just an integral bolster). He started with 3/4” 52100. In the raw bar he heated the area for the guard and upset it in his press. There were “wobble room” issues so he had some extra work getting it all lined up.

Parkerized with Micarta handle. The design allows choking up on the blade to put your finger on the back of the tip for better control when skinning.



Notice the nice clean transition from steel to Micarta? “The nice thing about Micarta” Frank noted – was that he could completely finish the knife before Parkerizing and immerse the whole knife in the Parkerizing solution – since the Micarta does not react with it. And you have to use a high temp glue. JB Weld has a 500°f working temp - 600°f max – and Parkerizing calls for just under boiling.

He then treated the knife with a light coat of WD-40 followed by Ballistol. He likes that with a Micarta handle you can spray the whole knife with whatever oil you like and just wipe off the handle.

Frank said that the first handle he put on this knife was a 2-part wood handle with green stabilized maple and cocobolo. But he “just didn't like the green. So I thought this is a good opportunity to see how good the glue joint is on the stick tang.”

He first cut the top of the handle down to the tang so he could see how well the JB Weld had filled around the stick tang. The glue joint was almost perfect. “From there I chucked the knife up and started beating on it... Was there any chance of the handle coming off – a stick tang just being glued [*with JB Weld*] – without any pin? Not a chance.”

Frank uses blackened JB Weld for gluing handle material to the tang – or will use G/Flex if a black glue is not appropriate for the look of the knife. He colors JB Weld black with a tiny amount of the dye from TurnTex (Cactus Juice folks). His tests show him that the dye has no detectable effect on the glue. Dry powder black dye, on the other hand, does degrade the performance.

Frank uses a gram scale to measure resin and hardener for 2-part epoxies. For the JB Weld, Frank mixes it up about 8 grams total, then heats it to about 120-130°f so it flows better, fills the tang hole, coats the tang, and clamps the handle vertically, and sets the blade into the handle. He can just let the weight of the blade seat the blade into the tang. When he's tried to clamp the blade into the tang it will sometimes cure at a slight angle and you can't tell until you clean it up – so letting it gravity-set with heat-thinned epoxy works better for him.

Frank then went on to give us a live test of various glues. His primary reason for this testing was to see if Titebond wood glue would be appropriate for assembling components of a handle. The composite handle would then be glued to the tang with his favorites: JB Weld or G/Flex.

His candidates were Titebond III Ultimate, JB Weld, G/Flex, Loctite E-120HP, Loctite Super Glue Ultragel (Frank's testing shows this to be better than other CA gel glues), and DAP Rapidfuse.

Frank noted that I had recommended E-120HP and "I looked it up and yah, it's probably the strongest epoxy in the world – but it's 4 times more expensive than the G/Flex but where G/Flex is rated about 4,000 psi tensile strength the E-120HP is rated 59,000 psi..." Not only is the E-120HP a lot more expensive – it also comes in an oddball dispenser that requires a special squeeze gun which runs around \$40. *FWIW I don't use the mixer tube because it wastes so much epoxy – I just squirt a little on the slick backside of a chopped up used 2x72 belt and mix it with a toothpick ~ Michael Kemp.*



First Frank tested breaking 3 blackwood blocks off another wood block that were all glued with Titebond (using a wrench with a line attached to its end with a pound scale that he pulled on – so given the leverage of the wrench, the pound measurements are only good relative to each other).

One block that was not wiped down with acetone broke at 8 lbs, one that was wiped with acetone broke sooner – at 5 lbs, and the 3rd which was wiped with acetone and glued with finger pressure rather than clamped broke off at 12 lbs. Frank noted that when he had done this same testing at home they all broke about the same "within 10-20% of each other."

So my take-away is: your results may vary.

For the main event, all the blackwood blocks were glued to a long maple block. All were wiped with acetone before gluing – except "I forgot to wipe the JB Weld block." And again – this is an informal setup with the leverage of the wrench thrown in – so the pounds readings are only meaningful against each other – not in any absolute way.

The blackwood blocks broke off the maple spine at:

Loctite Ultragel 7 lbs
Rapidfuse 8 lbs
Titebond 15 lbs
JB Weld 12 lbs
Loctite E-120HP 16 lbs
G/Flex 23 lbs



So the G/Flex came out way ahead. It should be noted that the Titebond/JB Weld/E-120HP all pulled up wood from both the maple bar and the blackwood. The G/Flex broke the blackwood in half!

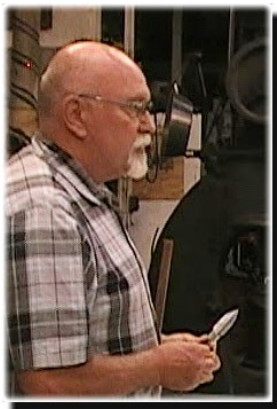
Frank also noted that super glues in general are considered to have a bond life around 5 years. Other glues generally have much longer bond life.

And it should be remembered that (1) different glues work better on wood or plastic or steel – and (2) full curing usually takes several days for epoxies – and a full week for G/Flex.

Frank noted that when he had done this same testing at home "the Super Glue was about 10% weaker and everything else was about the same... which means you're free to use the Titebond wood glue and not worry about epoxy." *i.e. avoid the expense and mess of epoxy – at least for handle component assembly.*

Here's a shot of the better performers: G/Flex, Loctite E-120HP, JB Weld, and Titebond III Ultimate.





MIKE JOHNSTON came to the front next, noting he's been preoccupied recently by the Clark County Fair, then the State Fair. Plus getting stung all up by a swarm of yellowjackets a day or two before.

Mike's first pass-around was a piece of antler carved for a knife handle by a man named John

Hall. "He liked to carve with a Dremel and he'd sit there without a respirator – he died of lung cancer a few years back... so just DON'T *[make dust without using a respirator]*" Mike got this eagle carving from his widow.



Next Mike brought out a cable Damascus dagger that he forged at the club's hammer-in. "I forged it out, folded it twice, forged it all back together – and forged into a dagger blade. I etched it with ferric chloride and put it in a pint jar 1/3 full of instant coffee and boiling water. Coffee blackens the background... I'm not convinced I etched it enough in the ferric chloride... You can see at the tip that when you forge it out it kind of straightens the layers."



Also at the hammer-in, Mike took a Dodge coil spring approx. 3/4" diameter and forged out a Bowie sized blade. Back at his shop he experimented with a convex grind using a felt platen. He's happy with it. "The stuff I've got is blue wool and it's not very dense – so it's got some give to it... I took it down to

600 grit. I was pretty tickled with it."



Lynn Moore chimed in that he loves his felt platen – his is a hard high density felt.

"Is that 5160?" someone asked.

"I think it is" Mike responded "I try to weed out anything newer than '05 because apparently the manufacturers changed and went to lower carbon and higher other things – according to Ford. Ford was the first one to do it, then everyone else went that way."

Next: "A person asked me if I could make a knife in this shape:"



"... and I said 'probably not'. This is going to have either dark green or tan Micarta scales." *The blade has a mirror finish so the photo is showing tools hanging on the wall of David's shop.*

"Hand sanded to 1000 grit... again forged out of the coil spring."

"I did a knife out of a farrier's rasp. Interestingly, when I was at the State Fair – talking to a farrier there he said that his good farrier's rasps are made out of H13 *[a low carbon steel]* and he goes through one every week." Mike wonders if they case harden the rasps.

"The only way I could get this rasp to harden was in 120°f water. It snapped clean and had a real fine grain to it." On the suggestion of another club member, Mike tried an interrupted quench – first water then into oil. "It worked exceptionally well." He noted that the edge and point are well hardened while the thicker spine is tough.

“I only went to 600 grit on that, and where the teeth are showing, back towards the choil, I used a straight-up wire wheel and it did real nice – gave it a soft pebbly look to it. I kinda like it.”



“So then I did a 2nd one. When I quenched it in the water it was [counting] 1, 2, 3 – and while it was in the water I could see the edges turn black but it was still bright orange in the middle... so I etched it and you can see a little bit of a hamon [not visible in the photo].”



Mike noted that when he was forging in the choil he forged against a wood block to keep from deforming the spine of the blade.

In answer to a question Mike noted that he uses G/Flex for his hafting – and heats the bottles with a heat gun to get it to run nicely.

Mike told us about a boning knife he made for a friend who was headed to Alaska for a guided brown bear hunt. He made it out of a piece of industrial bandsaw blade that was 3 times the thickness of other bandsaw blades he's seen.

Mike made a 6-1/2” up-swept boning knife with “not a lot of flex in it – but some – and the stuff heat-treated wonderfully – I did some test heat-treating on it and tempered it back at 350°f and it was in the 57-58 HRc range. Turned out super...”

“... of course his son [the Alaska guide] wants one and his other son wants one – and both of them want longer fillet knives... so I said 'now I have to be able to go up and test these knives for you first' ... so it could happen.”



LYNN MOORE stepped up next. “A few years ago I went to the December show and somebody broke in to my truck afterward and stole 13 knives...” *Here's the link to photos and notes on the stolen knives:*

<http://www.elementalforge.com/5160Club/201012LynnsKnives.pdf>

But here's a knife he got back! “Jack Murphy found it over at Piccadilly – he saw my logo on it and went ahead and picked it up... they really beat it up – I haven't cleaned it up at all – I think the wood is a sycamore.”



Next up was a blade he made at the blacksmith conference in Longview “a year ago or so”. Lynn did a class there taught by David Lisch - “I'm still playing around with it trying to figure out what I want to do with it.”



Lynn wasn't comfortable with the original handle design which included a black leather spacer between the tang and scales. There was much discussion about the options for waterproofing leather or using other spacer materials like vulcanized paper and G10.

“Dennis asked me to make a knife for the gentleman who gave us all the Micarta and metal – so this is one I've been working on... now that it's finally cooling down a little I might get back out in the shop... this is a piece of that saw blade.”



“I went to a garage sale back in Fall Creek and I saw these little mine spikes – they look like little railroad spikes... I was looking at that and I said 'that looks pretty cool' and he said 'you like that?' and I said 'yah' and he said 'wait a minute...' he walks away and comes back with a box full...”



Next up was “I had a big reel of cable – must have been a couple hundred feet... this is just another piece of cable that came out of that – I've got to get around to finishing it up.”



And the last 2 pass-arounds were in-process pieces from saw blade steel from Dennis. One profiled to one of Wayne Goddard's old patterns and the other rough ground and heat treated – 57 HRC.



MIKE JOHNSTON had been conferring with another person in the group – also a customer of his – and came back to the front saying “I was given permission to show these to you. I was asked to refinish these blades. These are Wayne Goddard knives

and it was obvious to me that he was going to put a mustard finish on them... it's got that 600 grit swirly pattern that he always put on the mustard finish. They wanted to leave the mustard finish on but they wanted the blades re-blued.” So Mike did a bluing on the 2 knives.

These were large Bowie knives. One of them was edge quenched with a “temper line”.

Somehow these knives never came by my photographing table – so if you weren't at the meeting – you missed 'em.

Mike noted that he's come into an old circular saw – 36” diameter and almost 1/4” thick. He's going to have some cleavers water-jetted out of it.

There was informal discussion about any possible toxicity with a knife that's been Parkerized. If any of you newsletter readers know if there are any food-safe issues with Parkerizing – let us know!

Does the manganese leech out of a Parkerized blade?

Given that manganese is found in whole grains, nuts, and leafy vegetables – that is comforting. But the fact that manganese in larger doses is a neurological toxin argues against it. And it certainly argues for using intense ventilation when Parkerizing a blade as the heated solution gives off fumes. The greatest danger may be in doing the Parkerizing itself.

MARTIN BRANDT didn't come to the front, but passed around a stone carver's hammer that he really likes using for light hammering or in tight spaces where a small arc is all you get for hammering:





ERIK LAND was the last man standing (or rather the last to stand up in front).

“I’ve just got one... I’m a slouch!”

Here's the folder he passed around. He really likes the light yellow scales but

struggles to get a clean sanded finish. There was much (un)helpful advice as to “fixing” that problem.



After that there was quite a bit of discussion about the merits and demerits of various steels. Apparently there was quite a brouhaha on the KnifeSteelNerds blog. Even for a particular steel, the manufacturing process can alter the tensile and shear strength of a bar of the steel.

A new maker asked for some help on some O1 steel he has to work with. He got some pointers. The gist of it seemed to be “do stock removal – don't forge it.”

And as usual the meeting broke up into informal discussions as we wandered into the night by ones and twos...

Have fun 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)
<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

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>

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

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.

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

My own “Knife Info” has some of my 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

Bladesmithing 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

Bladesmithing 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 Lightening 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.