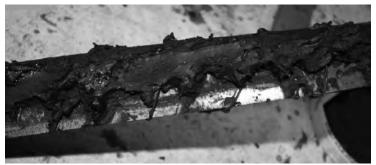


KNIFEMAKING 101 Heat Treating, Part 4 Hamons and Quench Lines

Gene Martin

Quench lines and *hamons* are terms used sometimes interchangeably. While they share a line differentiating between hard and less hard steel, the similarities end there.

A quench line, also called a temper line (which it is not), is usually found as a line that follows the cutting edge. It is dark along the cutting edge and lighter above the line. The dark part below the line is hardened steel.

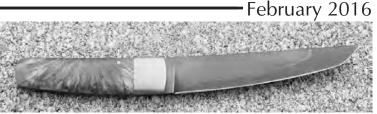


This shows the wire used to keep the clay in place during the quench.

We've talked about what happens when steel is quenched. To achieve a quench line, the maker needs to use a simple steel like a 10XX steel, W1 or W2, or even 5160 and 52100. The blade is heated and then partially quenched.

An easy way to create a quench line is to make a small platform in the quench tank that only allows the bottom third of the blade to be quenched. Whether the blade is heated with a furnace, forge or torch, the blade is placed edge down onto the "platform" and rocked so that the tip is also submerged and quenched. Once the entire blade has turned black it can be submerged.

That's it. The blade must still be tempered. This process is called a differential heat treat. To add flexibility, the spine can be heated to blue, a process known as a soft back draw. The blade starts soft at the spine and grows harder progressing to the cutting edge.



This is a hamon on a knife I recently did.

This is the heat treat method that allows a maker to do high performance testing like bending the blade 90° without breaking it.



Clay coating a blade to achieve a *hamon* (pronounced hamoan) is an entirely different proposition. Sure, it shows a light/dark transition like an edge quench, but that's the only similarity.

Clay coating a blade, as done by most makers, involves refractory cement. The cement is applied from the spine of the blade toward the cutting edge. How far towards the edge is determined by the geometry and thickness of the blade as well as carbon content. 10XX series steels, W1 and W2 seem to work best. Once the clay is applied, it is sculpted to create "waves" or a pattern in the blade.

The Japanese developed clay coating and *hamons*. While it created a hard/soft transition, it prevented swords from being broken when involved in those harsh social interactions found in feudal society.

A sword fight involves incredible stresses in a blade. The clay coating process allowed the blade to bend and not break. It could be straightened and put right back into action. The Japanese smiths also learned that the clay coating/hamon process also kept cracks from propagating so the sword didn't break.

Random Damascus

Michael Kemp

The good ship Damascus docks in a wide berth. For practical purposes Damascus just means a patterned metal.

Crusaders coined the term to describe swords from the city of Damascus which exhibited extraordinary cutting abilities and whose steel had a watery look. Those swords were forged from ingots of "wootz" that came from a series of mines in India; and these ingots not only contained high concentrations of carbon (1.5% to 1.7%), but also vanadium and manganese. Today this is referred to as genuine Damascus. Those mines in India were mined out long ago. In recent years the alloy banding that gave genuine Damascus its watery look has been recreated in limited quantities by Alfred Pendray and his followers.

As opposed to genuine Damascus, forge-welded steel accounts for the vast majority of Damascus blades being produced today. Forge welding steel can be produced from layered Damascus, cable Damascus and/or can Damascus.

Layered Damascus involves stacking alternating layers of two or more steels, which have different resistance to etching, then forge welding those layers into a billet. After a blade (or ring or broach...) is made and polished, it is etched to reveal the banding of the alternate steel layers.

Cable Damascus is similar to layered Damascus except that you start with steel cable. I've tried cable Damascus a few times, and it ain't easy! The individual wires resist packing into a solid billet. The organic cell-like pattern of the finished blade is attributed to decarburization of the individual wires.

Can welded Damascus involves inserting shaped pieces of steel into a metal container and filling the voids with powder of a contrasting steel. Again, the contents are forge welded, and the finished product is revealed with an etch. The revealed pattern of can Damascus can be like a line drawing - Daryl Meier created a Bowie for George Bush (41) with American flags in the steel.

Layered Damascus can be twisted, crushed, rolled, cut, re-stacked and mashed to create an incredible variety of patterns. These can be as bold as a 1970s disco tie; or at high layer counts, the pattern can be quite subtle. I love the wandering feather pattern. One of these days I'll get up the gumption to take a stab at that pattern.

In the meantime I'm happy if I can make a good billet of high layer count random Damascus. That's what I did last week and here's how!

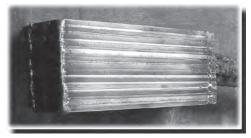
Random Damascus means that the pattern is dependent on the mechanical process of repeatedly drawing and squaring the billet. I started with 1095 and 15N20 steels. To prep the steel I cut 6" pieces and ground off the mill scale.



A welder's magnet works great to hold pieces like this to the grinder without losing too much blood and skin. I stacked alternating layers of 13 pieces of 15N20 and 14 pieces of 1095. With 1095 on both top and bottom of the billet, I have a superstition that the second weld goes better.

I tack welded the corners to keep the layers together and welded three pieces of 1/2" rebar to one end for a handle.

I've found a single 1/2" rebar will get ridiculously floppy at welding temps.



While the billet heats up for the initial weld, this is a good time to talk about forge welding.



Regular welding involves some form of melting metal. The two pieces being welded are melted together at the joint either from their own material or with the aid of wire or welding sticks. When the shared pool of molten metal solidifies, you've built a bridge between the two pieces of metal.

Forge welding, by contrast, is a solid state or diffusion process. The layers of my billet have to be in contact with each other at almost the atomic level so that (with the aid of high temperature) atoms from adjoining layers migrate across the boundary; and then steel grain structures bridge what was once a boundary creating a solid block of steel from what started (in this case) as 27 distinct layers.

I only sanded the layers to 100 grit - so that's a far cry from atomic flatness! The trick is to get the steel really hot and plastic and then to gently persuade

Continued on page 6



OKCA Knews & Musings ibdennis

Ain't Long Now

The Big April 2016 Oregon Knife Show is almost here. By the time you read this, we will have a waiting list for tables. Next month I will go into details about the Show as to hours and events and what badges and cards and membership is all about. The early table fill and the general excitement we sense leads us to believe this will be again one fantastic happening.

Events around

On February 13-14 there will be the Roseburg Gun Show in Roseburg, Oregon. This has traditionally been a great Show. This is followed on March 19 -20 with the Willamette Valley Arms (WVACA) Gun Show here in Eugene, Oregon. The Eugene Show allows free entry with an OKCA membership card. This is not true of the Roseburg Show. Our reciprocal agreement works both ways for the WVACA members.

Display Award Knives

We now have three display award knives in hand with **David Kurt's** knife just arriving. On the internet go to Google and type in OKCA. This is the easy way to our site unless you have it book marked (say yes). Go to the Award Knives link on the left and you will see these knives in colour and a description of the knives. You can also go to our Facebook page and see these knives.

David Kurt trade knife

As you may recall, these knives were taken from a blank to represent a trade knife. The knives thus far are wonderfully useable and functional knives. The old timers seem to have gotten it right. I would encourage the others who are working on these knives to get them in early so we can do our announcement thing for you.

These knives are donations by the knifemakers to go as awards for the museum quality displays that encircle our Show.

Micarta Challenge

Zac Buchanan is the first to submit his Micarta handled knife to the OKCA. This is one awesome knife including of course the Micarta handle. Zac has been most gracious by donating this to the OKCA. As such we will earmark this fantastic knife to our silent auction as a fund raiser. The knife can be seen in colour on our Facebook page along with step by step pictures of the building of this knife. The knife is based on a R.W. Loveless style Prohunter. The blade steel is ATS34, and the fittings are 416 stainless steel.



Zac Buchanan micarta knife

The Micarta challenge evolved from a lumber mill I sell to that was throwing away genuine Micarta blocks when they were worn out as saw guides. Knowing that they could be used as knife handles they allowed them to be thrown to me. As a result I offered these blocks to any maker that wanted to make a handle of this Micarta for judging at the April Show. Several of these takers suggested they would enjoy donating them to the OKCA, and we in turn might offer these to the key people at the sawmill. Well a throw away has evolved into a great project.

2016 Club Knife

We have partnered once again with **Great Eastern Cutlery** to offer our membership a knife that is very special. I call it the Oregon Camp Knife which was patterned off a Remington Bullet Camp knife from the 1920s. This is the first knife of this pattern that Great Eastern has attempted. **Roy Humenick** orchestrated this project and Roy's decision is heavily supported by the OKCA Board. This is a fund raiser for our organization so get in on this offering. Only 50 serial numbered knives will be offered, and applications can be found on our website, on our Facebook page and in this *Knewslettter*.

http://www.oregonknifeclub.org/2016_ OKCA_Club_Knife.html

Articles herein....

I want to thank Mike Adamson, Micahel Kemp, Gene Martin and

Merle Spencer

for their words in this issue. More words are needed, and I know that they are out there. Please share your knowledge,



as this *Knewslettter* is a perfect medium for contributions from our membership. It is what makes our organization unique.

OKCA Facebook Group

Lisa Wages has taken the lead on our Facebook page. She writes: The OKCA now has its own Facebook Group! You'll be able to socialize with other members on FB, stay up-to-date on OKCA events, share show-and-tell photos from your collection, or post a blade for sale. This closed group began accepting members following our November meeting. We hope you'll join our new FB community and help us build a positive online network of area knife enthusiasts. We are at 206 that have joined our merry band of those that like things that go cut.

The Sizzler...

Don't forget our monthly meeting at the Sizzler Restaurant. It is the third Wednesday of the month which makes it February 17, 2016. I always look forward to this gathering, so mark your calendar and come be with us. Come smile with us with your latest purchase. It is always nice to see my fellow knife enthusiasts.

It ain't too early to...

Make lodging reservations for the April Show. The Valley River Inn - (541)687-0123 - which is our partner in lodging for the Show, had a complete remodel; and, from the reports heard, it is one awesome place to stay. Get your reservations in early. The rooms fill up fast. Mention the Show when you register, as we are offered a special rate for the Oregon Knife Collectors. You might also note the Courtesy Inn - (541)345-3391 - the closest motel to the Knife Show. A Budget motel that has worked well with us over the years.



The Seek-Re-Tary Report elayne

The January meeting was held January 20, 2016 at the Sizzler Restaurant. We had 26 present. The President **Craig Morgan** was absent so the meeting was conducted by Vice President **John Priest**.

All the 2016 membership cards and 2016 table confirmations were stuffed and mailed January 1, 2016. Thank you **Larry Criteser, Grace Mikolyski** and **Raymond Ellingsen** for your help. If you have not received your 2016 membership cards or table confirmation, please contact me via email, phone, or mail. (541-484-5564 - the machine will pick up if we are not here. Please record a message, and we will return the call.) Remember that you must be a 2016 member to enter on Friday (set up day). We do not accept any membership

renewals or new memberships on Friday until after 2:00pm. Avoid the rush. Get your payment in ahead of time.

There were no problems at the December Show. All went very well.

We are 98.6% full for the 2016 Show. Thank you for your support.

We are starting to receive display award knives and Micarta competition knives. Never too soon to send them, since we will post a photograph of them on our website and also on our Facebook page.

January is the election of officers. All of the current officers have agreed to another term, if it is the wish of the membership. A motion to re-elect the current officers was moved and seconded. It passed by unanimous consent. Thank you for your support of our Board of Directors. We do appreciate it.

We have been quoted a price by Great Eastern for the 2016 Club knife. There is an order form in this *Knewslettter*.

The Club knife is a fund raising project for our organization. It funds our April Show and supports our December Show as well. Please support us with your purchase.

If you have a display at the Show, we will be requesting a description of the display which can be published in the April

Knewslettter which will be mailed to all of the individuals who have attended our event for the last several years.

This February *Knewslettter* will be mailed to all 2015 members and 2016 or greater. We are hopeful it will encourage lapsed members to renew their membership. Note the date above your name and address – 2015 renew now.

If you do not renew, this will be your last *Knewslettter*.

See you at the meeting, February 17, 2016, at the Sizzler Restaurant, Gateway Blvd, Eugene/Springfield OR.

KNIFEMAKING 101 continued from page 1

When the blade is clay coated, the clay insulates the spine so that it doesn't harden. The clay insulates the blade from the quench, keeping the heat inside. Only the edge can quench.

After the clay is applied, it is wired in place. A thin wire is wrapped around the blade. The clay is also packed over the wire so the clay locks the wire in place. This prevents the quench process from blowing the clay off.

After quenching, the wire is cut and the clay is removed from the blade. The blade is then tempered. No soft back draw is needed. The spine and tang are soft.

If too much clay is used, the retained heat keeps the blade from hardening. Too little clay and the line is too high; the spine will be hard.

The reader needs to understand that the Japanese have been working on this process for over a thousand years so they've had time to work a lot of problems out. Their swords display an absolute mastery of metallurgy.



After the quench and clay removal.

A thousand years ago scanning electron microscopes, as well as a lot of other really cool tools, didn't exist. Their results were produced by simple scientific method in that their work was observable, measurable and repeatable. There were no PhD's writing books, rather secrets were passed down from smith to smith. And while they were at it, they discovered the secret of body centered tetragonal grain structure.

As we discussed a while back, the grain structure of steel changes when heated. The quench freezes that change in place. The BCT structure elongates. These ancient smiths discovered this magic and used it very regularly.

When the spine is kept hot and the edge is quenched, the edge expands and pushes up. The only place this push can go is from end to end. Since the spine is hot, the tip and tang are pushed upward. Yes, you guessed it. The curve of the sword or blade was born.

Whether it took a couple of tries or 100 years to figure out

the cause and effect, the smiths learned that blade geometry, amount of clay and blade thickness control the curvature of the blade. When Bob Engnath taught me to do this, he was careful to explain to always wipe the clay from the top of the spine to prevent curvature. I've seen some pretty wildly curved blades that are the result of too much clay on the spine.

To us these results are predictable due to science. A thousand years, even 200 years ago, it was pure magic, guarded and passed down through successive generations.

Hopefully this will clarify and explain the magic of heat treating. Others may do it differently. These things work for me. And I can only hope that you have enjoyed reading these as much as I have writing them.



Volunteering – Giving or Getting?

Merle Spencer

There's a knife show coming up in April – biggest show in the Northwest, it has been said. This Show is arranged by the Oregon Knife Collectors Association, a nonprofit organization headquartered in Eugene, Oregon.

This Show is made possible by the combined efforts of many members of the OKCA – as volunteers.

I can remember when I was just a kid, and we would be going along some rutted country road (that's all there were) with my mother driving, she being the only one in the family who could; and we'd come upon someone with a flat tire. It was a foregone conclusion that we would stop and help.

Most of the time, if someone offered to pay, the rejoinder would be, "No, just return the favor if you find someone else in need."

That custom has stuck with me all my life. But what about the times you volunteer help, and the other party has no way to return in kind? Are you taking something away from them? It seems to be in our very nature to return favors, give credit where credit is due. Play fair.

You have to let people say "Thank you." Accept graciously. If you get an award for volunteering at a care center, just smile and say, "Thank you." It makes both the giver and the receiver feel good. It's the right way.

I have received a number of awards in my time for various volunteer situations. I have documents I could hang on my wall, even framed plaques. I have felt pretty humble accepting some of these, since I was doing what I did because I wanted to and not for any pay or reward. But you have to accept. You can't take away the other person's or persons' need to express appreciation.

The urge to write this article comes from

a present my wife had arranged for me for Christmas a few years ago.

Since 2001 I have been writing articles for the Oregon Knife Collectors *Knewslettter*. This is something I enjoy doing; and I, like all those aspire to being published, like to see my name as a by-line. I like knives; looking at them, handling them, buying them, making handles for them, decorating them, talking about them, reading about them, writing about them and giving them away as gifts.

Crater

Lake

Why then, should I be rewarded for writing a few words about them?

Remember what I said before? "You have to let people say, "Thank you." It's the right way.

You may imagine my surprise, at the awards ceremony that first year, to hear my name called. Upon advancing to the front with a number of other OKCA members, I was handed a white envelope. Inside, accompanied by a picture and a description, I found a silver medallion with the OKCA beaver on one side and an Oregon Coast lighthouse on the other. Well, as Janie says when she gives someone a compliment, and they seem embarrassed, "Just smile and say 'Thank you'."

A dozen years and some thirty articles later, I had medallions in various places – in between books, lying flat on shelves and one displayed without its plastic cover (which has been lost) turning a kind of dull color. I had lighthouses and covered bridges.

Three or four years ago sometime before Christmas, Janie said, "I want to give you a Christmas present; but I need your permission."

"Oh?"

"I want to have all your medallions put in individual frames so they can be displayed properly."

"Wow!"

As of now, there are more than a dozen. I am proud of every one of them. (Where did my humility go?) The most recent one has the OKCA beaver on one side and Crater Lake on the other. Beautiful! And here I am writing about knives again. Lucky me.

You have to let people say, "Thank you". It's the right way.



Random Damascus continued from page 2

the layers to lay flat against each other. Some smiths set the billet by gentle hand hammering. I've had luck using a light touch with flat dies on the power hammer. But it's not the hammering that welds the billet. This just gets the layers into near-atomic contact with each other. Then I soaked the billet for 15 minutes at 2150°F to 2175°F. That's where the solid state forge welding magic takes place.

If you know me, you know that I wear a belt and suspenders... so it won't surprise you to learn that I don't trust that the first forge welding will have done a complete job. I gently hammered the billet a second time - not trying to change the shape of the billet, just solidifying it - and I put it in the forge for a second 15 minute soak at welding temperature.

Now I'll trust it's really welded, and it's into the jaws of my wood splitter based forging press to stretch it out - alternating the press's drawing dies with the tire hammer's flat dies to square up the faces of the billet.



Different smiths use different steels, methods, and temperatures - all of which interact to determine the success of their Damascus.



At my skill level - and going for 500 to 700 layer count - I lose about half of the steel I start with. After welding 27 layers and drawing the billet out to 11", I cut it into thirds - then ground the mating surfaces flat - then re-stacked and tack welded it into an 81 layer billet and went for another round.

But it's really not 81 layers. Every time I pull the billet out of the forge into the open air, oxygen attacks the steel and forms scale. At these temperatures I'm always fighting NOT to pound the scale into the billet. Luckily most of it flakes off around the power hammer and press dies.



But that's only part of my stock loss. Once I've stretched the billet out long enough to cut and re-stack it, I'm in for my major losses. My billet ends are never square, and often have a bit of delamination - so that's a loss. And then there's my over-

aggressive drawing dies. Despite my best efforts to square up the billet with the flat dies on the tire hammer, I wind up with divots in the surfaces of the billet. I don't trust that I can just clean out the scale and the uneven surfaces will mate properly for the next weld - so I grind down the mating surfaces to the bottom of the deepest divot.

In this photo you can see the unusable end bits (marked at the left and cut off at the right) and the start of grinding out the divots on two of the three sections.



So what would theoretically be a layer progression of: 27 - 81 - 243 - 729 is probably more like 27 - 75 - 210 - 600? Call it 500. I ground out a lot of divots.

So after three rounds of welding/ drawing/cutting/stacking and the final weld and drawing out - what started as 6# of steel plates is now 3# of random Damascus. And thankfully, it rings like a bell (a good sign that the billet is solidly welded - but no guarantee against inclusions or small internal flaws). To check the pattern I sanded the final billet down to approx. 600 grit and did a quick etch in ferric chloride.



And here's what the pattern looks like:



It looks like good wood burl - just like I like it. Now all I have to do is make knives out of it <cough><cough>.

I'll be doing more of this. I love the magic of steel, fire, tools, and time.



Keep Well! 🏎

The Lesson of Strategy

One spring morning Musashi decided to take a boat trip to the islands. During the voyage, as he leaned against the railing enjoying the ocean view, a bully circulated through the passengers, harassing them. Soon he made his way to Musashi and bumped Musashi rather rudely. Musashi ignored this and continued to stare out onto the sea. The bully appraised Musashi and began to taunt him with insults. When Musashi refused to reply, the bully shook his head in disgust.

"My sword method is the cleaving sword style from the northern mountains and the most fierce in the land," said the bully. He patted the large sword protruding from his sash and smiled with satisfaction. "I see you wear a sword as well. What is your style?" the thug asked. Musashi calmly turned to the man and said, "My sword method is the style of fighting without fighting."

The bully stared at Musashi in dismay. "I have never heard of such a method," he said, "show it to me." Musashi looked about the cramped quarters of the sailing vessel and shook his head. "There is not enough room here, and others might get hurt if we draw our blades," said Musashi and turned back to survey the water around him. The bully stared at him for a moment, then began to draw his sword. Musashi held up his hand to stop the man and calmly said, "Obviously you require a demonstration, so let me propose this." Musashi pointed to a dingy being pulled along behind their boat and said, "We will take that small skiff and row to one of the small islands nearby. There we can demonstrate our methods

Satisfied, the bully nodded and they proceeded to mount the small dingy. Once they settled into the little boat, Musashi removed his sword and set it between them. After rowing a few strokes and banging his paddle against the handle of his own sword, the bully reluctantly removed his sword

to one another."

and did the same. The two men concentrated their efforts on making for a small island.

> Finally, upon reaching the island, the bully jumped out and pulled the boat up onto the beach. He turned to find Musashi returning his sword under his sash. "Hand me my blade," demanded the bully. Musashi stepped out

of the boat and drew his own blade. He pointed the tip of his sword at the thug and backed him, unarmed, up the beach. "Where is my sword?" cried the man. Musashi regarded the whimpering bully and said, "I dropped it in the ocean while you rowed here. Now, let us do battle." The bully eyed Musashi's sword then lowered his eyes in defeat. "All the skills and all the swords in the world are useless if one does not have the strategy and wisdom with which to wield them." The thug bowed respectfully, and he and Musashi got back in their boat and continued on their journey



Coffin Bolster Crown Pen

Mike Adamson

Like the top of an old-style coffin, the three-sided bolster of this unique pen knife has a story to tell.

I first found one of these pocketknives with a special bolster at an antique store. It was marked Sword Brand manufactured by Camillus Cutlery Co. With pink cracked ice handles, it has fancy tip bolsters faceted like a gemstone that continue along the edge of the knife. Having collected Camillus knives, displays and ephemera for many years, searching for this rare pattern often; following the same path, I started looking for Sword Brand and Camillus on the internet. Many months later I found a Camillus Cut. Co. stamped Coffin Bolster Crown Pen with gold pyremite handles. I was surprised to find another example at an antique show marked Curtin & Clark Cut. Co. - it has green pyremite handles. Right then

I realized that Camillus not only made this pattern for themselves but for other cutlery companies as well. Now the door was open for finding more of the Coffin Bolster Crown Pen pattern, but with a twist – how do you search for a knife without knowing the brand? By photo alone I have found eleven different tang stamps on this one pattern made by Camillus; The Coffin Bolster Crown Pen.

Eleven and Counting...

On the Coffin Bolster Crown Pen I have found these different tang stamps:

Camillus Cut. Co. Wm Enders Mfr. Co. Curtin & Clark Cut. Co. Hibbard Spencer & Bartlett Henry Sears & Sons Stainless Cut. Co. Shumate Cut. Co. Sword Brand Sta-Sharp W. H. Morley and Sons VanCamp H & I With eleven different tang stamps on the same pattern, Camillus Cut. Co must be considered the king of contract knives, along with other cutlery dynasties like Western and New York Knife.

The Coffin Bolster Crown Pen comes with a handful of variations. Most have a long bar shield. A handful have a badge shield. Some come with a bail, and a few more without a shield. The Sta-Sharp models all have a full length file as the second blade. A very special part of this pattern is at the bottom of the knife: a tapered brass shim integral to the construction of this pattern. As unique as the center of a splitback whittler in order for the second blade to fit and work properly on the same back-spring as the master blade. The triangular tapered shim must be expertly fitted and finished. All this and much more make up the rare and unusual Coffin Bolster Crown Pen







OKCA Free Classified Ads

Free classified ads will run up to three issues and then be dropped. Available only to paid members. Write your ad on anything you have handy (except Bingle bottom tops) and email or snail mail to the OKCA PO Box 2091 Eugene OR 97402. The number and size of ads submitted by a single member will be accepted, or excepted, dependent on available space and the mood of the editors.

Portland Custom Knife Show. March 5 & 6 at the Portland Expo Center. 60 tables filled with knifemakers and supplies surrounded by 900 booths of Antiques & Collectibles. www.christinepalmer.net or (503)282-0877. Dealers welcome.

Eugene 5160 Club: A Club for knifemakers of all stripes, meeting monthly. Check out our newsletter archive to get a feel for the group: elementalforge.com/5160Club. Sign up for newsletter & meeting reminders by finding us on Facebook at "5160 Club" and click the "Newsletter Signup" tab. Non Facebook users can still find us at: facebook.com/5160Club.

Shelton Pacific - Finest curly koa in the world outside of Hawaii. We will be in our usual place at table S06. Please come by to see us and two of our newest products; ringed gidgee from Australia and "Shokwood" (hybrid) knife handleblocks and scales

Wanted: WW2 OSS Stiletto with "Pancake Flapper" sheath. Prefer mint to excellent condition. Contact Fred - fedde1963@outlook.com (206)718-1747.

For sale - 2" x 72" belt sander with an 8" wheel and hollow grind attachment. It was made by Dan Westlind. It is set up for 110 volts \$1200

Ray Simonson (360)601-1927 ray@wildboarblades.com

Wanted - 8"x5/8" grinding wheels. Contact Robert Edmiston (541)726-2990.

For Sale - 1) Wilton #4130 square wheel belt grinder machine, belt 2"x72" 1hp single phase motor. Retail price \$2,500.00. Sell price \$1,595.00.. 2) Burr King Model #526 1"x42" three wheel belt grinder. 3/4hp motor. Retail \$1,785.00. Sell price \$1,185.00. Both grinders are used and came out of a private residence where they had hobby use only (according to the owner who is 86 years old). If interested call evening Kevin Bethel (541)570-1717 or send email kbethel77@gmail.com

Best Pocket Knife Today - Matt Davidson http://bestpocketknifetoday.com

Knifemakers / Entrepreneurs - Start your own business - \$50,000 to \$200,000 - 100% Financing - Start your business - Expand your business -Fund your next project - No up front fees Call for free consultation - JW Harding Finance - Michael Praver (310)310-8614 mpraver@jwharding.com - Mention OKCA.

Randall Made Knives. Buy, Sell, Trade. Also a good selection of Case knives, and many custom knives for sale or trade. Jim Schick www.nifeboy.com (209)295-5568.

I am a jewelry designer and manufacturer in Salem OR, and I do custom work. I can set stones into steel, blades and handles of various materials. I have studied gemology and have a small collection of gemstones and Oregon rocks that can be cut to size and set. I also work in silver and gold and do just about any design. Meghan Donahue Jewelry Design - 189 Liberty St NE Unit B2a -Salem OR 97301 (503)967-5581 www.meghandonahue.com.

Custom leather work. Sheaths, holster and belts are my area of focus. All my sheaths are lined with a fine leather for protection of your blade...The fit on these sheaths is lock tight and strong. See my work on my website www. countyholster.com. John Schnase, Eugene OR (503)501-6067

For Sale - Oregon yearly Club knives, 1979 to 2012. Selling singly, 10% off current pricing. Call Fred (541)285-1894.

Looking for 1902 US Saber marked "1st. Lt. Robert M. Porter". Please contact Don Hanham at dwhanham@gmail.com.

SOG Knife Collector is a new book by Michael W. Silvey in the military knife series. It covers a narrow area of collecting and helps the collector identify honest specimens and distinguish them from fakes. The format is 8.5 inches by 11 inches and is all in color. The soft cover book is less than 50 pages but includes all the known variations of SOG knives. The information covered by this book will be valuable to both the new and advanced collector. The printing is limited to 2,000 copies. \$20 plus shipping. Mike at (530) 644-4590 or m.silvey@comcast.net.

WANTED : Western Wildlife Series knives produced from about 1978 to 1982 (letters B, C, D, E, F). I'm missing the knives with blade etches of eagle, elk, cougar, hunting dog, antelope and bear. Call Martin at (406)422-7490.

KNIVES FOR SALE: Antique, custom & factory, pocketknives, folders, fixed blades, dirks, daggers, bowies, military, Indian, frontier, primitive & ethnic. Other collectibles also. Current colored catalog - FREE, Northwest Knives & Collectibles (503)362-9045 anytime. SPYDERCO KNIVES wanted. Entire collections. River Valley Knives (715)557-1688

AL MAR, BENCHMADE, PACIFIC CUTLERY wanted. Entire collections. River Valley Knives (715)557-1688.

Wanted: 2012 Case XX USA medium stockman #6318 PU CV jigged bone w/punch w/signature of Skip Lawrie. Ralph Nuno Sacramento (916)682-9305.

For Sale: Buck knives. Large consignment. List available from Larry Oden. Typically have Buck standard production, limited edition, BCCI, Buck Custom and Yellowhorse models. Email loden@dka-online.com or call (765) 244-0614 8AM-8PM EST.

Spyderco/Goddard Model C16POD \$85.00; free shipping when you mention OKCA. Call Steve (541)870-6811 email: wgoddard44@comcast.net.

For Sale: Duplicates of my old "WOOD HANDLE" Coke knives, \$100.00 each ..

Email: ronjoyceedwards@comcast.net.

For Sale: older knives. Please visit HHknives at www. allaboutpocketknives.com. Thanks for looking.

Mosaic pins and lanyard tubes by Sally. See at www. customknife.com, email at sally@customknife.com. Phone (541)846-6755.

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Useful reference books on blades. Collectible knives, custom knives and knifemaking, military knives, swords, tools, and anything else that has an edge. Email for a list. Quality Blade Books C/O Rick Wagner P O Box 41854 Eugene OR 97404 (541)688-6899.or wagner_r@pacinfo.com.

Knife Laws on-line. Federal, state, local. Bernard Levine (541)484-0294 www.knife-expert.com.

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February 2016





2016 Great Eastern Oregon Camp Knife

The Oregon Knife Collectors 2016 Club knife will be unique with an etch of our state logo and a Beaver shield. The tang stamp will be Northfield. The handles will be jigged bone, and the four blades will be 1095 carbon steel. The blades will be a clip blade, sheepfoot blade, can opener and punch and will be satin finished. Size closed is 4.83". There will be a total of 52 knives of which 50 will be serial numbered. The knife will come in a Great Eastern tube with the OKCA label. This offer is only available to OKCA Club members.

This is an organizational funding project and allows members to support the organization and get a great return on their investment.

Name:			<i>P</i>	PROPOSED OKCA 2016 CLUB KNIFE
Address:				and a series of the series of
City:	State:	Zip:		4.85
Phone:	Email:			PRING TEXAS CAMP KNIFE
Oregon Camp Knife \$155.00	\$			
Shipping if needed - add \$20.00	\$		G	
Total:	\$			
Payment in full must accompany ord				
Available only to OKCA members -	•	Show on April 09, 20)16	
OKCA - PO Box 2091 - Eugene, OR	97402			SCON KAR

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