

Billets & Blades

THE OFFICIAL PUBLICATION OF
THE NORTH CAROLINA CUSTOM KNIFEMAKERS GUILD

SPECIAL POINTS OF INTEREST:

- Next North Carolina Custom Knifemakers Guild Meeting will be held on January 17th



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LETTER FROM THE PRESIDENT

Well its finally starting to cool down around here, My favorite time of the year. This is the time I start to get the Forge ready for Damascus season. I generally try to forge Damascus during the coldest parts of the year and then use the other three seasons to stock removal my Damascus into knives. The Southeastern was a good show for myself. It was good to see many Guild members at the show as well. For a few it was their first show. I was fortunate enough to be asked to judge at the Southeastern show and was quite literally blown away at the talent in the room when judging, and quite happy I was not participating in the competition. I plan to attempt to throw in a few new classes into Montgomery college lineup next year if possible. I am thinking currently of Mosaic Damascus, How to build a forge and how to build a 2"x72" grinder. Let me know if there is any other course you are interested in seeing.

Chris Williams

ABOUT THIS PUBLICATION AND OUR GUILD

Billets and Blades is the official publication of the North Carolina Custom Knifemakers Guild. It is compiled and published in four annual issues, with two additional special publication dates possible each year.

The North Carolina Custom Knifemakers Guild was formed to meet the needs of the growing body of custom knife makers in the southeastern United States. The purpose of this newsletter is to serve as a medium of exchange for the members of the NCCKG.

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Knife making and related endeavors are inherently dangerous crafts or occupations. The material contained in this newsletter is for information only and is not intended for private instruction. Therefore, the North Carolina Custom Knifemakers Guild and its Officers and Editor specifically disclaim any and all responsibility for damage or injury that may occur as a result of the use of any information that is contained in this newsletter.

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Blade forging tutorial

By Barry Clodfelter

So you want to get started forging blades? There are quite a few ways to successfully forge a blade and the following article is how I forge a blade. I am by no means an expert forger or blacksmith but the steps laid out below are the way I have learned from both trial and error and also from those more experienced than myself. First, let me make a few comments on equipment. While you don't need an anvil you will need a good sized block of steel with a flat top. You can use vise grips to grab the hot steel if you don't have tongs and last but not least you will need a forge. I use an atmospheric propane gas forge for most of my forging. The blade I am forging here is one of my small hunter blades. This is a bar of 1084 that is .25 thick and 1" wide and it started life 4' long.



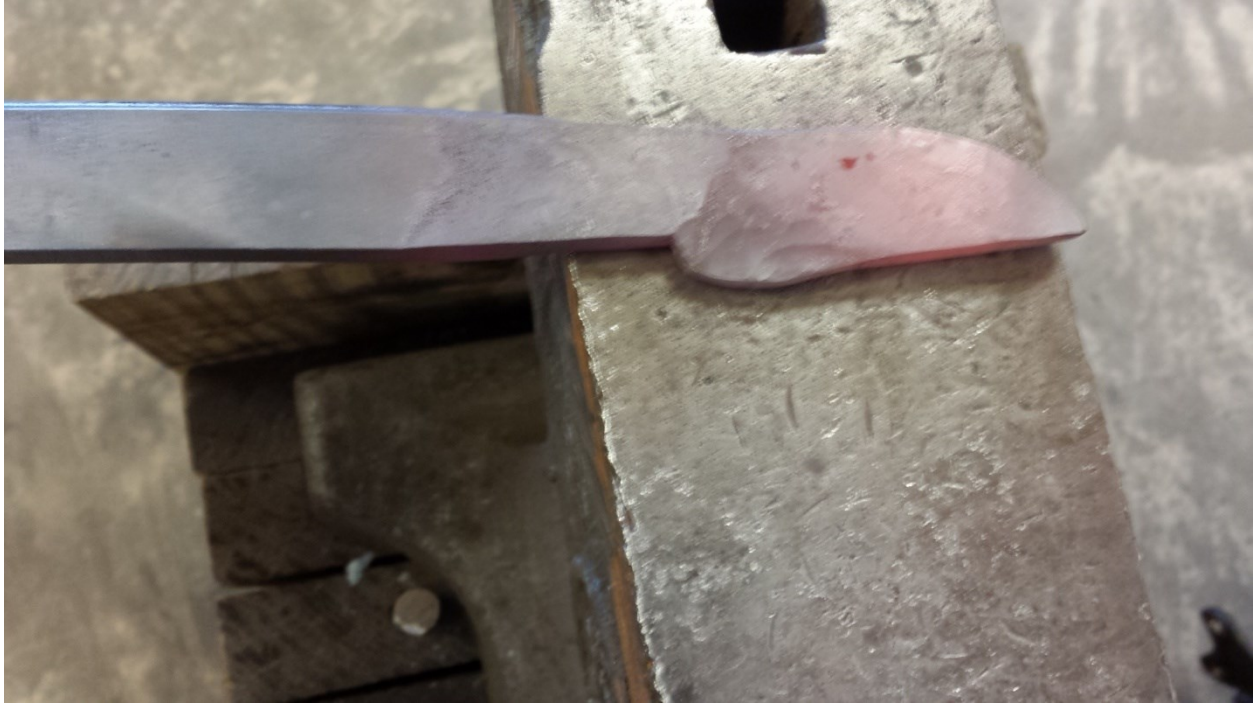
In case you notice the slight angle cut on the end you will see what caused that in a later photo. It is easier to forge a point from a bar with a slight angle rather than cut square. The first order of business is to heat up the tip of the bar and forge in the point.



In the picture above the cutting edge will be down and this looks like it is going to be a sheepsfoot or warncliff blade but it isn't. By starting with the point forged in like this you have less work keeping the blade looking like a blade and less like a banana. Next I set where the blade ends will end and the handle begins.



Right now the bar of steel is basically still .25" thick over the length. Now it's time to pinch down the edge. This is done by holding the point you want the blade to start on the anvil and carefully hitting down on that spot. You want the edge to be pinched down and centered.



Try to keep the edge in the center of the bar while pinching it down. Don't worry if it gets off it can be centered again later.



So far the edge is centered so we start at this point and draw down the rest of the blade and adding some distal taper. As you gain experience forging and getting the blade dead nuts straight you can add more taper during the forging.



At this point I have drawn down the blade and started forging in the distal taper. Now I use a cut off saw with an abrasive wheel to cut the blade and a bit extra for the tang.



In the picture above you will notice the slight angle on the cut. This has exactly nothing to do with the shape of this blade or anything to do with the one we are working on. The slight angle will help me begin the point of the next blade I forge from that bar. Now I start drawing out the extra bit into a tang.



When you are forging larger blades you should avoid any hitting the ricasso area so you start grinding with a .25" ricasso. With a blade this small I will use a hammer with a big face and forge it a little thinner. Draw out the tang as far as you need while trying to keep the thickness just a little less than the thickness of the ricasso.

Now comes the fun part...straightening the blade. One tip you can use that will help you see the edge better is to highlight it with soapstone. It was really hard to get a decent picture of that. Hopefully you get the idea. The blade doesn't look straight in the picture and that is mostly true. There is a slight wave in the edge so a little more fine tuning to get the blade as straight as possible and keep the edge

centered on the ricasso before calling it done.



And here is the blade as forged and straightened. At this point I will do 3 normalization cycles that are not part of this tutorial so those steps are skipped.



Now the forged blade is profiled and the blade bevel is ground. Here is our blade ready for heat treating.



And our completed blade is on the cover

I hope you found this tutorial informative and useful and best of luck in your forging. Remember...get it hot and hit it hard.

Randall's Ramblings

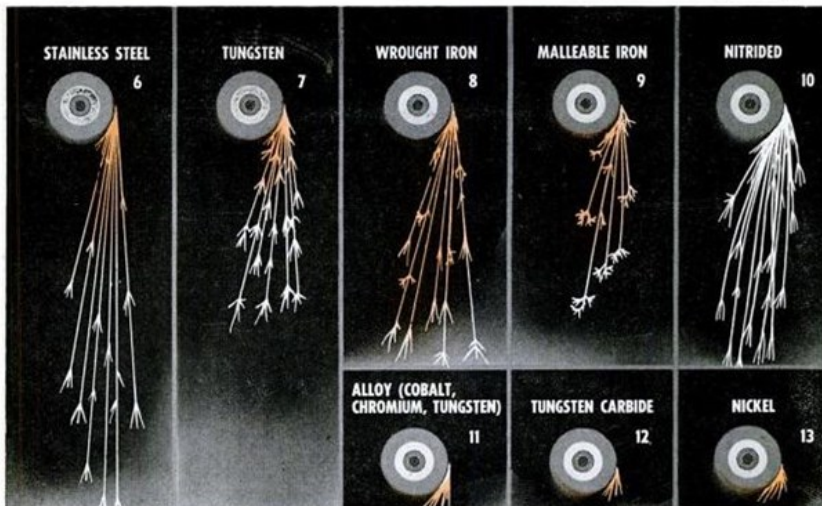
I'm Steve Randall the current Vice President of the North Carolina Custom Knife maker's Guild.

I thought I'd start a VP corner to share interesting nuggets of information. Mostly knife related, but not required.



SPARK CHARACTERISTICS

1. **WHITE CAST IRON.** Length of spark stream is about 20 in. Volume is small, color straw-yellow. Sprigs are small, repeating
2. **GRAY CAST IRON.** Spark stream is straw-yellow, length about 25 in. Sprigs are small, repeat along length of each streamer
3. **LOW-CARBON STEEL.** Color is white, spark stream moderately large. Length is 60 to 70 in. with forks, appendages
4. **HIGH-CARBON STEEL.** Stream is white, of fairly large volume with numerous small, repeating sprigs. Length 50 to 55 in.
5. **HIGH-SPEED STEEL.** Spark stream averages 60 in. long. Individual streamers are small, straw-yellow with only a few forks
6. **STAINLESS STEEL.** Stream is moderate in volume, straw-colored near wheel and white near end. Streamers end usually in forks
7. **TUNGSTEN (CHROMIUM).** Stream is of small volume, 35 in. or so in length, red near wheel, white near ends. Forks are repeating
8. **WROUGHT IRON.** Stream is yellow, about 65 in. in length. Volume is fairly large, streamers ending in forks, appendages
9. **MALLEABLE IRON.** Length, volume of stream is moderate, straw-yellow turning to white, ending in small, repeating sprigs
10. **NITRIDED (ALLOY STEEL).** Stream is large with curving streamers up to 50-60 in. long, white and ending generally in forks
11. **ALLOY (COBALT, CHROMIUM, TUNGSTEN).** Volume of stream is generally small with short streamers, usually red near wheel
12. **TUNGSTEN CARBIDE (CEMENTED).** Stream is very small, rarely more than 3 in. long and is light orange throughout length
13. **NICKEL.** Volume of stream is very small with occasional wavy streamers 2 to 3 in. long. Color is orange throughout



SOURCES: <http://www.scrapmetaljunker.com/24/the-spark-test-and-spark-testing-metals-2>
<http://books.google.com/books?id=JTBDAAMBAJ&pg=PA102#v=onepage&q&f=false>

RETIREMENT MESSAGE

Wayne Bernauer will be retiring at the end of January. Wayne has been a fixture with the Gunsmithing program at Montgomery Community College for 30 years now! You are all cordially invited to a retirement celebration on Feb. 7th at an Densons Creek Golf Course starting at 6.00 pm.

(1235 NC Hwy 134 N, Troy, NC 27371 (910) 576-1487)

We feel that 30 years of service deserves a grand send-off! As a retirement gift we plan to send him on a Bison hunt. For anyone who would like to help with this, we have an account set up at the MCC business office to accept contributions. (910-576-6222 ext. 329) You will just need to let the folks at the business office know that you are contributing to "Bernauer's Buffalo". They can accept checks or credit cards. We are still looking for the best outfitter/guide to send him with. If any of you have any suggestions in that area, please contact me. The gift is to be a secret, so please don't let the cat out of the bag to Wayne.

January Demo Schedule

- **John Hege:** Wooden Sheaths
- **Philip Jones:** Traditional Puuko Sheath
- **Chris Williams/Steve Randall:**
Compare/Contrast – The Business of
Knifemaking: Manufactured vs. Custom

FROM THE EDITOR

If you are a new member, please make sure that I have your correct email and physical mailing addresses. You may send this information to me via email or the address listed on the right. If you are currently receiving *Billets and Blades* but are no longer interested in receiving it please let us know. You may contact Michael Wilson (see contact list on page 3) to have your name removed from the mailing list. Thank you.

If you know of someone who may be interested in becoming a member, please let Chris Williams or Michael Wilson know and we'll be happy to mail a copy of the current newsletter to that person.

Existing members, please check the website to verify that we have your correct information. Especially your correct email address so you may be contacted should the need arise. I am also always in need of pictures, articles and ideas on how to make the website and newsletter better. Please contact me with any suggestions.

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FOR SALE:

Lil Johnny Forge, Stand w/100lb. Propane Tank and Temperature Gauge \$500
Contact Michael Wilson @ 336-202-1695, michaelwilson@triad.rr.com



Gerstner & Son Knife Oak 250 Collectors Chest \$500 (MSRP \$1020)
Includes Drawer Divider (\$40)
Contact Michael Wilson @ 336-202-1695, michaelwilson@triad.rr.com



The **North Carolina Custom Knifemakers Guild** was founded in June of 1992. Our goals are to:

- Promote the craft of custom knife making
- Seek to constantly improve the craftsmanship of its members
- Provide an educational resource to anyone interested in the craft
- To encourage new makers and provide a forum for their training

Through public knife making and forging demonstrations by a group or individual members, we try to display the craft and to educate the public. It is our intent to raise the general awareness of custom made knives and the people who create them. That is why there is no cost to attend one of our meetings, and we welcome anyone with an interest in knife making.

Our quarterly meetings are organized around speakers and various demonstrations of activities important to our craft. These speakers and demonstrations are from our members or experts in the field who come as our guests. As a training resource, our Guild is prepared to present any aspect of our craft to organizations that feel it would be beneficial and informative.



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