

## NOTES FOR BEGINNING BLACKSMITHS

The following are random thoughts and mostly opinions.

### FORGES

Both coal and propane have a place in the smithy. Don't buy a gas forge. I've never seen a commercial gas forge as efficient as what can be built cheaper. Forge lining materials are called refractory materials. The closest place I know of to buy refractor items is [Harbison Walker](#), they have a store in Knoxville. For years I used ceramic blanket coated with [Satanite](#) and some reflector coating like ITC 100. A couple of years ago I built a forge using Kast-O-lite 30 and [Kast-O-lite 26](#). My opinion now is the castable is the way to go for what I do. Shop the price, most economical for me is to just pick up in Knoxville when I have another reason to be in the area during business hours. If a few members want to build a forge the materials could be picked up in one trip. I like/ use a [force aspirated forge](#). Atmospheric forges can be nice but are finicky and don't offer the total control of a blown unit. Some talk about how little fuel their atmospheric forge use and mention the low psi reading on the gauge. This often leads into a meaningless discussion. The physics of pressure and orifice size are often not considered. In my experience it takes X amount of fuel to heat Y volume to Z temperature, insulation and other factors being the same the fastest most controllable way to achieve Z is with a blower set up. If everything is well tuned and the wind isn't blowing an atmospheric forge will do just as well with the same amount of fuel.

### MANAGING A COAL FIRE

Often I see people working with just enough coal in the fire-pot to maintain a fire. That is the most inefficient way to work. I can show what works for me easier than describing. Mound the coal up above the fire pot. What you are after is a situation that looks like a beaver lodge. In effect it works like an oven, heating all the way around the piece. This is almost a necessity for good clean forge welds. In general forging don't panic if the top crust collapses, you are still heating from the bottom and 3 sides. Just rotate the piece to maintain an even heat. A good way to set up the oven when building a new fire is lay a block of 2 x 4 on top of the level fire-pot then mound coal over the 2 x 4. By the time the fire is mature enough to work the wood will be mostly gone leaving a nice cave of heat.

### HAMMERS AND ANVILS

There are about as many opinions on hammers and anvils as there are blacksmiths. If number of hammers owned counts for much I should be an expert. Use what works for you but try not to develop tendonitis in your wrist and elbow while you are trying to figure it out. I like a lighter hammer than a lot of people. My logic is lots of power has little value if it can't be controlled. In my opinion hammer control comes from background and practice. It can be shown but not taught. My favorite hammer is 750 grams, that's 1.6 pounds. 2 pound hammers are common. To me there is a pretty big difference in using the 750 and a 1000 gram hammer. I also have a 1500 gram that sees little use but can be handy on larger work for short times. I've never seen a factory hammer with a face that suits me. I like an ever so slightly rounded face. I've seen amazing work done with flat faced hammers, I just don't know how it happens. If a job calls for minimal hammer marks there is a tool called a [flatter](#). I have a couple but haven't done work that required their use. I Like to see honest evidence of hand work but hate to see iron gratuitously beaten.

Anvils: Mount a sledge hammer in a vise if you have to to get started. Then find a rail road rail and keep moving up. It is all about the edges and inertia! Get the biggest you can afford with the best edges. It isn't a big deal to repair slightly chipped edges on an otherwise good anvil. If the face shows a little sway don't be scared, you will learn how to use the sway as a tool. [My anvil is #270 set in #500 of concrete](#). It's great, but not as nice to work on as a #500 anvil sitting on a stump. I know because I tried one briefly. It's a good sign to hear an anvil ring when you are buying it. As soon as you get it in the shop quite it down with magnets, binding it down or any way you can to dampen the sound if you want to hear well when you are old. Never used one but for the price I like the look of these anvils a lot for beginners or carrying to shows <http://www.nctoolco.com/products.php?cat=Anvils> likely a better anvil for less than one would normally find on Craig's list and way better than something from a railroad rail. I can't speak to any pattern other than the London because that's all I've ever had. Some people love the German-Euro style. I guess it is what you get used to. Avoid Cast Iron anvils, Cast Steel is a different animal and can be quite good. Seek Peter-Wright, Hay-Budden and Trenton. We have a copy of "Anvils in America" in the forge library, if you don't check it out you are doing your self a disservice.

## TONGS

Avoid using tongs whenever possible. They are clumsy, slow and add to tendon stress. With that said tongs are altogether unavoidable. If you enjoy the process there is no reason not to make your own and it is great forging practice. Personally I would rather make something else sell it and buy nice light tongs and I would much prefer to weld on a handle for forging and then cut it off at the end.

## POWER TOOLS

I can't stress this enough: If you are at least moderately interested in blacksmithing start today saving to buy a power hammer or the tools to build one. The amount and size of work that can be done under power forging tools is exponential compared to a hand hammer and anvil. Physics again, don't know how many times I can hit in a minute with a 2 pound hammer but I do know my air hammer hits around 180 times a minute with a #75 head. One can do work with power forging that isn't remotely practical by hand. The savings in medical bills from damage done forging projects that too big by hand would quickly pay for a power hammer. Tons of homemade hammers on youtube, start by searching "Rusty Power Hammer". Our Library has plans for the "[Clay Spencer Tire Hammer](#)".

Air, mechanical, self contained, steam, German, Turkish, I've never met a power hammer I didn't like! Don't be concerned about staying traditional, water driven power hammers were used 100s of years ago. I'm sure Alan can give more details. Blacksmithing has always been hard work and they traditionally used any tool that would make the work faster or easier. On the other hand, don't arc weld a handle to a fireplace shovel or ladle, Just, Please Don't!

Electric Welders: You need one, valuable for building tooling and welding handles to work to avoid using tongs. to quote a friend "you're a blacksmith, you're allowed to modify tools to fit your needs". If you need to weld custom jaws to a pair of vice grips to get a job done safely, don't hesitate, make sparks.

## BLACKSMITH ORGANIZATIONS AND RESOURCES

Often new people are confused by the organizational structure of blacksmith groups. Bristol Forge at Rocky Mount is a child group formed under the parent group AABC <http://aacblacksmiths.org> The AABC is a regional chapter of the grandparent group ABANA <https://www.abana.org>

Our local group is a tremendous resource. Without trying I can think of 3 people who have a combined experience of around 100 years! All you need to do is ask. Our library is phenomenal and underused.

If you are willing to travel a little there are regional and national conferences every year, and local group meetings like ours monthly <http://aacblacksmiths.org/events/>. I've been lucky enough to make 3 national events and several times to Madison Ga. all were time and money well spent. I've heard good things about the conference in Ohio hosted by SOFA but haven't been. Fire on the Mountain in Spruce Pine is yearly, small but nice. I promise if you can make a monthly meet or chapter meeting in Chattanooga you'll be warmly welcomed, some of the best smiths and nicest people in the community. If you go to Chattanooga find Jack Wheeler and tell him you are a Bristol Forge member.

When I became interested in mid 80s there was no internet. David Oliver and I wore out the 2 blacksmithing books the Bristol Library had, taking turns checking them out. Now everything is on You-tube. No excuses for not improving your skills. When I went to the ABANA conference in St Louis (1994) there was a seminar titled computers for blacksmiths, I remember thinking how silly, what does a blacksmith need with a computer? At that time I never dreamed people would be buying my work via computer all over the USA and several other countries. Point being: It's a tool, use it to your advantage.

## BLACKSMITHING AS ART

Some things to consider: As a blacksmith you can't make a hinge or a coat hook faster and cheaper than the Stanley Company. That is why many blacksmiths went out of business after the industrial revolution. As a blacksmith you can make a hinge or coat hook that is pleasing to the eye, the Stanley Co. can't. Factories can't function doing one of a kind pieces. Art isn't mass produced.

I think the founders of ABANA (1973) were practical enough to realize the only/best niche left for blacksmithing was as art. Worth reading [https://www.abana.org/business/abana\\_founding.shtml](https://www.abana.org/business/abana_founding.shtml) They called the new organization Artist Blacksmiths not the hardware makers. Even a simple S hook can be pleasing to the eye if it is well proportioned and smooth of line. Simple pieces are also very easy to make ugly if you don't care.

As an artist blacksmith you should touch-mark the work you are proud of and strive not to do work you aren't proud of. When things don't turn out well give it away and don't mark it. It isn't a loss, it's the price of learning. Iron work lasts a long time, probably longer than you will. You'll be known by the work you did after you are gone. Do you want to be known forevermore as the guy who made hooks with flat spots in the end where it should have clearly been round. Or the knife maker whose blades always had a slight crook and didn't hold an edge very long. If you don't believe a knife or other tools for that matter can also be art go to <http://www.bladesmithsforum.com> and spend a few minutes studying the work posted by beginners then look in the show and tell for work done by the

more experienced. If the difference isn't obvious, I don't know how to help you. The simplest hunting knife can be quite pleasing to my eye if the lines flow while some big piece mounted with jewels and gold can be a total fail visually if it isn't designed to be proportionate and show pleasing lines. The thing to remember is the people doing beautiful work were beginners once and they weren't born knowing how to use a hammer and anvil. But they did put in the time and effort to make their work better.

## BFRM HISTORY

Since this note is meant for new members a little history of the group might be in order.

Bristol Forge was the first local group formed under the AACB. Our first meeting was in 1990 behind a dairy barn in David Oliver's field. We called it Bristol Forge because that was the address of the area we first met. David loved blacksmithing and traveled the country trading and selling tools. Sadly David is no longer with us, but I think his legacy of sharing can be felt in our group.

I would guess about the first 10 years we rotated meetings to different members shops. While it is always nice to visit other shops, for the group it never really worked out all that well. Someone had to spend a block of time calling each individual to notify place and date, back in those days and it turned out some were happy to be at others shops but weren't happy to host their turn. As a result the group almost died out.

It has been great for the group to have Rocky Mount as a place to meet on the same day of every month at a consistent time. That was when we made the group name Bristol Forge at Rocky Mount.

## IRON IN THE HAT

Explained: [http://www.anvilfire.com/FAQs/iron\\_in\\_the\\_hat.htm](http://www.anvilfire.com/FAQs/iron_in_the_hat.htm)

This funds tools, demo's and the library.

Being new to the group you might not know that any member who is willing to demonstrate for our regular meetings earns a gift card for restaurants or tools. Our Treasurer keeps some on hand.

When we bring in a guest demonstrator we often pay them a fee as well as travel and lodging.

I'll be expecting questions .. Later .. Matt