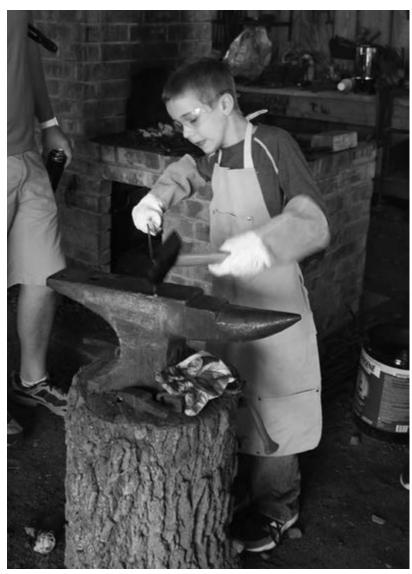
Saltfork Craftsmen Artist-Blacksmith Association

November 2019



Forging at the Fairview Tractor Show - Fairview, OK

If you are interested in hosting a regional meeting in 2020, it is time to plan and secure your date as soon as possible. The 2020 Regional Meeting Calendar is enclosed on page 8.

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Call or Text. If you get voice mail, please leave a message.

Editor's Notes:

By the time you read this, the 2019 Annual SCA-BA Conference will be over. Since we also have workshops following the conference, and I am one of the workshop participants, this newsletter will be getting issued a bit later than usual. It also won't be practical to get the conference photos and information into this newsletter. So stay tuned for the December issue for conference wrap up information.

It seems like it takes forever for conference time to arrive but once it is here, it flies by in a flash. (Probably because it is so much fun.) This year's conference is over by now so the long wait for the next one begins.

Between now and then, there will be many opportunities to host regional meetings which can be a great way to network, introduce new people to blacksmithing, and tune up the hammer control before the next conference workshops get here!

If you would like to host a meeting, please secure your preferred dates as soon as you can. The 2020 calendar is on page 8. If you need help with anything regarding meeting hosting, just feel free to ask!

- Russell Bartling, Editor

The Saltfork Craftsmen Artist-Blacksmith Association, a non-profit organization Our purposes are the sharing of knowledge, education and to promote a more general appreciation of the fine craftsmanship everywhere. We are a chapter of the Artist-Blacksmith Association of North America.

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Visit our Saltfork Craftsmen Website: www.saltforkcraftsmen.org



President's Notes:

Well here we go, another year is almost gone. I hope everyone had a good year so far.

We got together last weekend to set up for the conference and we had a very productive Saturday. We had around twenty people come together to set up for the conference and everyone seemed to get along well. It takes a lot off effort to get everything lined out for the conference and the classes. I would like to thank everyone that came and helped out. I think we're going to have a good conference.



I have been working with metal my whole life and I learn something every time I get around other smiths. I think every conference is a good place to learn, also a good place to hone your skills on story telling. I hope that everyone takes something good home from the conference this year.

Since I am sending this before the conference I won't know how it really went until the next newsletter. It is a scramble this month for our editor just to get the newsletter out while also helping with the conference so most of the conference review will probably be in the December newsletter.

I hope everyone has a good time at the conference!

- Mandell Greteman

All Regional Meetings are Free to Attend and are Always Open to Any Member or Guest...

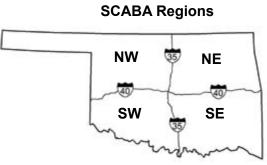
New to Saltfork or just want to check out Blacksmithing but don't know where to start? These meetings are a great place for new members or guests who just want to see what it is all about to come network with like minded people. If you want some pointers on how to get started, there is always someone happy to help get you started hammering. And guests are always welcomed.

Want to host a meeting? The meeting hosting form can be found on the last page along with membership application form. If you want to host a meeting in any area please fill out one of the host forms on the website under the calendar section or in the newsletter and e-mail the information or mail the hard copy form in as soon as possible. If you mail a form, please call or e-mail to verify that it is received. E-mail is the most convenient for me but you can also phone in the information if you prefer. The sooner the meeting is scheduled, the more time there is to get the word out to potential attendees. -Russell Bartling 918-633-0234 or rbartling@ionet.net

What's My Region?

The four main regions are currently defined within the state by being separated by I35 and I40. (For example, the NW region is anything north if I40 and west of I35.)

All meetings are encouraged. These boundary definitions and regional meeting dates are a suggested framework to facilitate orderly meeting scheduling, planning and promotion with a minimum of overlaps and a maximum exposure to the greatest number of members. Not all meetings fit precisely within a rigid boundary definition and members in an area may want to hold meetings on a date that doesn't match their physical region or at a location other than their own region. This may be especially true in the center of state for areas that are close to the I35 and I40 boundary crossing. Special events such as shows, fairs, etc. may also dictate adjustments to the meeting dates within a region.



The regions are meant to be a simplification and clarification to the regional boundaries rather than a rigid restriction to any meeting scenario. *Saltfork members all belong to one club.* Regional boundaries are not intended to imply division within the club, but are intended to help spread distribution and promote monthly meetings.

Safety

Blacksmithing can be an inherently dangerous exercise. There is no substitute for personal responsibility and common sense and no list of safety rules can adequately cover every situation. Every person who attends a meeting, demonstration or event sponsored by the Saltfork Craftsmen Artist Blacksmith Association (SCABA) or its members does so at their own risk and assumes all responsibility for their own safety needs. The SCABA organization, its officers, members, demonstrators, volunteers and guests disclaim any responsibility for any damages, injuries, or destruction of property resulting from the use of any information or methods published or distributed by SCABA or demonstrated at workshops, meetings, conferences or other events. SCABA recommends proper attire and safety gear and standard shop safety procedures appropriate for blacksmithing and shop work during any event where blacksmithing and other related methods are involved. Safety attire includes, but is not limited to, appropriate clothing, eyewear, hearing protection, gloves, and face shields when appropriate. It is every individual's responsibility to provide for their own safety, to determine what safety gear is appropriate for each situation and to provide, maintain and use that gear as appropriate for each individual situation.

2019 Workshop Schedule

Beginner Blacksmith Class

Saturday, November 2nd: 8:00 AM until done. Muldrow, OK

Host and Contact: Brad Nance 918-774-4291

bradley.nance@cnent.com

Note: This is the correct phone number. The prefix in the September newsletter was incorrect. - Editor

Instructors will also include Tracy Cowart and Chuck Waite. Registration fee is \$40, Lunch provided. Participants need leather gloves, long pants, decent shoes (no open toes) and eye protection. Tools and materials will be provided. Limited slots available so please register early. Projects covered will include an "S" hook, a leaf, a hot cut chisel, and a forge welded flux spoon. The venue is open to the public but the class will be for registered participants only. Contact Brad Nance by phone call, text or e-mail to register.

Location: Muldrow City Park at West Shawntel Smith Blvd., Muldrow, OK 74948.

Mandell would like to schedule a <u>tong making</u> class for late fall or winter if there is enough interest. If you would be interested in attending this class, let Mandell know. If there is enough interest, a date will be scheduled and details announced. Otherwise, the class will not be held.

Have an idea for a workshop or class? If you have an idea for a workshop that you would like to attend (or teach), please let the workshop coordinator know so that details for time and place can be worked out.

Mandell Greteman is the SCABA Workshop Coordinator. Contact Mandell at 580-515-1292.

2019 RE	GIONAL MI	EETING SCI	HEDULE
NE Region (1st Sat)	SE Region (2nd Sat)	SW Region (3rd Sat)	NW Region (4th Sat)
Jan 5th (Josh Perkins) (Unless Other Host Interested)	Jan 12th (Byron Doner)	Jan 19th (Open)	Jan 26th (Rory kirk)
Feb 2nd (James Schaefer)	Feb 9th (Open)	Feb 16th (Open)	Feb 23rd (Monte Smith)
Mar 2nd (Josh Perkins) (Unless Other Host Interested)	Mar 9th (Open)	Mar 16th (Bruce Willenberg)	Mar 23rd (Mandell Greteman)
Apr 6th (Diana Simon- Cherokee Strip Hist. So- ciety)	Apr 13th SCABA Picnic	Apr 20th (Open)	Apr 27th (Rory Kirk)
May 4th (Josh Perkins)			May 25th (NW-Terry Kauk)
(Unless Other Host Inter- ested)		May 18th (Open)	May 25th (SW-JJ McGill, Boy Scouts)
Jun 1st (Josh Perkins) (Unless Other Host Inter- ested)	Jun 8th (Open)	Jun 15th (Ricky Vardell)	Jun 22nd (Mandell Greteman)
Jul 6th (Open)	Jul 13th (Open)	Jul 20th (Open)	Jul 27th (Open)
Aug 3rd (Open)	Aug 10th (Joe Hamil)	Aug 17th (Open)	Aug 24th (Mandell Greteman)
Sep 7th (Tracy Cowart)	Sep 14th (Open)	Sep 21st (Ricky Vardell - JJ McGill - Sulphur Tractor Show)	Sep 28th (Ron LehenBau- er as Host - Don Garner as Contact Person)
Oct 5th (Diana Simon-Cherokee Strip Museum)	Oct 12th (Conference Setup Work Day)	Oct 19th (Conference Weekend!)	Oct 26th (Bob Kennemer)
Nov 2nd (Diana Simon-Cherokee Strip Museum)	Nov 9th (Bill Phillips)	Nov 16th (Anthony Griggs)	Nov 23rd (Open)
Dec 7th (Open)	Dec 14th (Open)	Dec 21st (Don Garner)	Dec 28th (Open)

2019 Fifth Saturdays:

March 30th (Beginner Blacksmith Classes Planned for NE and NW Regions. Touchmark Class at Byron Doner's Shop.)

June 29th (Knife Basics Class with ABS Journeyman Anthony Griggs!)

August 31st (Open)

November 30th (Open)

November 2019

NE Regional Meeting November 2nd: Will be hosted by Diana Simon and the Cherokee Strip Historical Society at the new Blacksmith Museum and Shop. 2617 W. Fir Ave, Perry, OK 73077. The shop is located approximately 1/4 mile east of Exit 186 from I-35 on north side of the road (Hwy 64 or Fir St.)

The trade item is either a Christmas item or a candle holder. The meeting is planned to start at 9:00 AM. Lunch will be provided. Please bring a side dish or desert to help out.

Contact Diana Simon at 580-572-8290 or dsimon@gmail.com if you have questions.

SE Regional Meeting November 9th: Will be hosted by Bill Phillips at his shop at 14360 State Hwy 113, Indianola, OK 74442.

The trade item is some kind of tool. Lunch is provided but please bring a side item or dessert to help out. Contact Bill Phillips at 918-200-4263 or bullisac@gmail.com if you have questions.

SW Regional Meeting November 16th: Will be hosted by Anthony Griggs at his shop located at 345387 East Hwy 18B, Sparks, OK 74869. Rock house on the south side of the road on the hill.

The trade item is a set of dice. Lunch is provided and guests do not need to bring any food or drink items. But please bring a chair.

Contact Anthony Griggs at 918-866-2252.

NW Regional Meeting November 23rd: Open.

December 2019

NE Regional Meeting December 7th: Open.

SE Regional Meeting December 14th: Open.

SW Regional Meeting December 21st: Will be hosted by Don Garner at his shop at 23713 E. 860 Road in Thomas, OK. Directions: Go one mile west, then one mile north of Thomas.

The trade item is something "Christmasy."

Lunch will be provided but please bring a side dish or desert to help out.

Contact Don Garner at 580-302-1845 if you have questions.

NW Regional Meeting December 28th: Open.

2020 RE	GIONAL ME	EETING SCI	HEDULE
NE Region	SE Region	SW Region	NW Region
(1st Sat)	(2nd Sat)	(3rd Sat)	(4th Sat)
Jan 4th	Jan 11th	Jan 18th	Jan 25th
(Open)	(Open)	(Open)	(Rory Kirk)
Feb 1st	Feb 8th	Feb 15th	Feb 22nd
(Open)	(Open)	(Open)	(Open)
Mar 7th	Mar 14th	Mar 21st	Mar 28th
(Open)	(Open)	(Bruce Willenberg)	(Mandell Greteman)
Apr 4th	Apr 11th (SCABA Picnic??) (Tentative Date Only)	Apr 18th	Apr 25th
(Open)		(Open)	(Open)
May 2nd (Open)	May 9th (Open)	May 16th (Open)	May 23rd (Open) May 23rd (SW-JJ McGill Boy Scouts)
Jun 6th	Jun 13th	Jun 20th	Jun 27th
(Open)	(Open)	(Open)	(Open)
Jul 4th	Jul 11th	Jul 18th	Jul 25th
(Open)	(Open)	(Open)	(Open)
Aug 1st	Aug 8th	Aug 15th	Aug 22nd
(Open)	(Open)	(Open)	(Open)
Sep 5th (Open)	Sep 12th (Open)	Sep 19th (Ricky Vardell - JJ McGill - Sulphur Tractor Show)	Sep 26th (Ron Lehen- Bauer as Host - Don Gar- ner as Contact Person)
Oct 3rd	Oct 10th (Conference	Oct 17th	Oct 24th
(Open)	Setup Work Day)	(Conference Weekend)	(Rory Kirk)
Nov 7th	Nov 14th	Nov 21st	Nov 28th
(Open)	(Bill Phillips)	(Open)	(Open)
Dec 5th	Dec 12th	Dec 19th	Dec 26th
(Open)	(Open)	(Open)	(Open)

Note: The Annual SCABA Picnic date is tentative only and subject to change. Look for updates in upcoming newsletters once the date and location are confirmed. - *Editor*

2020 Fifth Saturdays:

February 29th (Open) May 30 (Open) August 29th (Open) October 31st (Open)

Around the State...

NW Region September Meeting:

The NW September meeting was hosted by Ron Lehenbauer and Don Garner at the Fairview Tractor Show.

There were about 200 kids that passed through on Friday and many adults and kids came through on Saturday. There were about twenty Saltfork members who came to demo for the crowds and introduce black-smithing to the onlookers (and participants.)

The trade item was a pintle hinge and there were two submitted - one by Don Garner and one by Rory Kirk. Thanks to all of the members who helped out at the show!

- Don Garner







Saltfork Craftsmen Artist-Blacksmith Association







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NE Region October Meeting:

The Saltfork NE Regional Meeting was held at the blacksmith shop on the west side of Perry, OK near the Cherokee Strip Museum on October 5th. We had about 12 people in attendance including a few that were new to the craft. The main shop forge and my portable forge were going most of the day. Our host Diana Simon, the museum director, and her husband Bill fixed an excellent lunch of chicken and noodles. It was noticed that the metal trash can outside the shop needed a handle for the lid. Saltfork member Roy Gamble stepped up to the fire and made a nice handle with a center twist out of about 8" of 3/8 solid square bar. Roy making the handle provided a good demo in layout, bending, and forging a simple project.

- Jim Carothers





Saltfork Craftsmen Artist-Blacksmith Association





Saltfork Craftsmen Artist-Blacksmith Association





Saltfork Craftsmen Artist-Blacksmith Association

SE Region October Meeting: No meeting was held in October. This date was reserved for the Conference setup day in Sulphur, OK.

SW Region October Meeting: No meeting was held in October. This date was reserved for the 2019 Annual Conference. Look for Conference wrap up info in the December newsletter.

Peter Ross Workshop Tool Making Day (Round Two!):

On September 29th, several volunteers converged on Byron's shop (again) to finish making tools which were to be used for the Peter Ross box joint pliers workshop after the conference.

We didn't quite finish on the previous work session so a second (partial) day was required. It was time well spent and would allow the normally five day class to be accomplished in only three days by having a bit of a head start. We also made more tools than were actually necessary to complete the class because we wanted each student to be able to leave with all the tools required to continue making the pliers after the class.

We made the tools in a simplified way since we had to mass produce them. For one-off individual tools, we each probably would have made them in a more "traditional" way. We would later find out that most of the tools did work very well. A few tools needed some adjustments for the class but it did not require much time from the class to tweak them.

Thanks to Ricky Vardell for also doing some grinding on his own and for obtaining much of the stock for the tools and the class. And thanks to Byron Doner, Ricky Vardell, Mandell Greteman, LaQuitta Greteman, Rory Kirk, J.J. McGill, Bruce Willenberg, and Dale Dixon for helping with all the work in the second round! - *Editor*











Saltfork Craftsmen Artist-Blacksmith Association





Saltfork Craftsmen Artist-Blacksmith Association

Saltfork Gate Project!

This is a new group project that is open to all Saltfork members. The project is a four foot high by sixteen foot long gate to be displayed outside at the Route 66 Blacksmith Shop Museum at Elk City.

Participating members will be given a steel ring that can be filled with any (family appropriate) forged work that will fit in the ring and be permanently attached to it. Each ring is 10 1/4" O.D. and made of 3/8" round. Most of the rings will be connected at the four cardinal direction points (N, S, E, W) by welding. A small spacer of 1" by 3/8" will be placed between the connection points of each ring.

Try to keep the projects inside the rings from projecting more than approximately 4" out from either face. Otherwise, the design and connection methods to the ring are strictly up to you.

There will be a central large ring with a Saltfork Craftsmen title.

Mandell Greteman is coordinating the project and will provide the standardized rings. All of the rings will be provided to ensure they are a standardized size. Once the projects are returned, Mandell will weld them into the gate to be displayed at the museum.

There is space for 56 ring projects in this gate. If there are more participants, additional gates will be made and installed inside the blacksmith shop.

Contact Mandell if you have any additional questions or to find out where to obtain one of the project rings: **Mandell Greteman 580-515-1292**.

Concept Sketch for the Gate Project:





Bill Phillips was the first one to submit a completed ring project for the Saltfork Gate Project. Nice Job Bill!

There is currently no official deadline set (subject to change) but Mandell would like to complete the gate no later than the end of 2020.



Fall Hammer-In Conference & Auction

Saturday, November 9th, 2019 from 9am-5pm Brookhaven Community College in Farmers Branch

Price - \$45

This conference will feature Ellen Durkan and Tom Willoughby as our demonstrator. Workshops with the demonstrators also available Wednesday November 6th through Friday November 8th.

http://www.ntxba.org/2019hammer-in.php

https://www.facebook.com/ntxba/





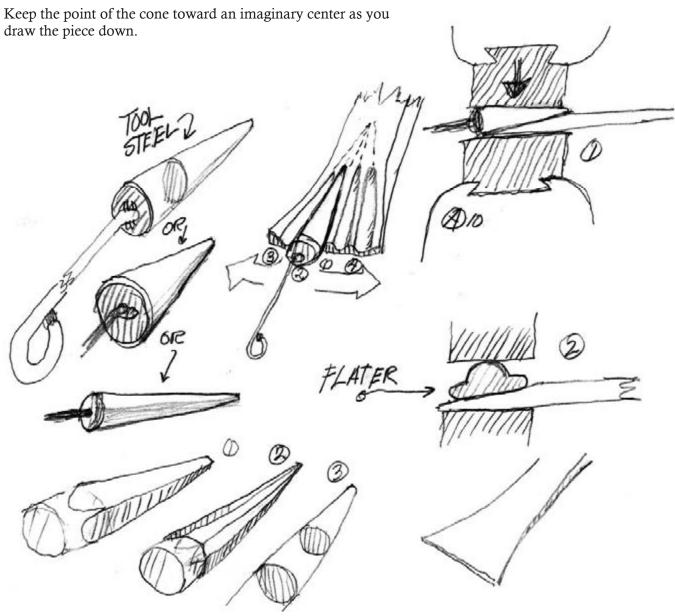




Conical Drawing-Out Tool

By Steve Alling, a MABA member

Make your cone out of a good tool steel and make the length of your cone so that it's angle matches the angle you want to draw to.



This article is reprinted courtesy of the Michigan Artist Blacksmith Association "The Upsetter" newsletter Sept-Oct 2019.



Are You NUTS???

WEAR Your Safety Glasses!!!

THE UPSETTER

NEWSLETTER OF THE MICHIGAN ARTIST BLACKSMITH ASSOCIATION

SEPT-OCT 2019

Blacksmithing with Air Tools

by Glenn Horr and Phil Travis

Hand held air tools can greatly speed up and expand your blacksmithing techniques. Using air tools does not replace basic blacksmithing skills, but can certainly supplement them to your advantage. Typically when you are using hand held sculpting tools you can achieve only a few well placed blows before you have lost your heat. Use of air driven sculpting tools means you can perform many more blows in the same heat.

The air (pneumatic) tool is a hand held air driven impact driver. The

air tool driver is not your typical "garage mechanic" type air gun as those are designed to go from off to full speed with a trigger pull. The preferred drivers are labeled as "aircraft" style that can be started very slowly and then speed up as you pull the trigger tighter some-

times called teasing trigger. This feature is key to controlling the driven tool bit into your work: slower speed to set your tool in place followed by harder and faster blows to move the metal.

The hand held air tool comes in several forms, some of which are partly defined by grip: pistol grip (like a common hand held electric drill), goose neck (puts your grip more in line with the barrel) and "D" grip (like a sawzall). Each have pros and cons to the way they handle. The other defining feature is "barrel" length as longer barrels usually create harder blows.



Some, but not all manufacturers designate the different models by #x. The larger the number means a longer barrel and slower blows. Glenn says: A #3 or #4 is hammer good. A #2 hammer will be faster but will not hit as hard. The 2X guns typically hit around 2,500 to 2,600 blows per minute. The 3X guns typically hit around 2,100 to 2,200 blows per minute. As with many tools your final choice comes down

to personal preference. It is advisable before you buy, to read up on the documentation that is available and do your research.

Some of the models Glenn has found that work for him are: Sioux Tool 270 A (pistol grip in picture), Ingersoll Rand AVC-12 (goose grip in picture) Chicago Pneumatic 714 (not shown) and Cleco (also not shown). Check on eBay, Yard Store, Aircraft Tool Supply and http:// airtoolservice.com and as they many times have new and used guns for sale.

Some of the advantages to buying a name brand tool is that they often provide repair parts and service. Many of the better brands can be factory rebuilt. As with all tools, parts wear and gaskets eventually start to leak. You of course, can prolong use by making sure your air supply has a proper drier and oiler to supply your tool.

Air driven tools are similar to the tools you would hand hold and drive with a hammer. The same assortment of round nose punches, eyeball punches, and chisels are still required to sculpt in steel using air tools. The difference is that the driven end that inserts in a socket of the air tool must be hardened. If the struck end is not hardened it will gradually upset and rivet itself into the socket of the tool. This is decidedly not good as you have to dismantle the air tool and cut out the offending tool bit.

Glenn's tool of choice is the #401 size although there are other industry standard sizes available. Be aware that the socket of the air tool must match the tool bit. The 401 type end is round, .401 inches in diameter and approximately 1 1/4" long and has a small collar above



Above: Bottle opener made with air hammer Below: Socket must match the tool bit!



this to work in conjunction with a tool retainer. Most air tools have a spring or similar attachment

on the end of the tool to help retain the tool bit. In blacksmithing this is dispensed with for sake of quick tool change. That being said, the tool bit is usually held in a gloved hand and held firmly against the work to keep it from being shot across your shop! Safety is imperative when using these tools!

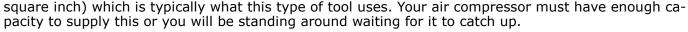
Making tools can be accomplished in many ways. You can buy cheap 401 tools from auto supply and cut off and replace by welding on a new working end. You can buy blanks and forge to shape and harden just as you would a typical hand held tool. You can also swage or lathe turn tool steel down to the 401 shank size.

Glenn suggests welding with the 312 ss rod, as the tools are alloy steel, but he recalls only welding one of his tools. He thinks it is best to get longer tools and avoid welding. As for the steel alloy used for the tools, over the years Glenn has been told 4140 or 9260 KEEP the shank end cool when you are reforging, you don't want to take the temper out. With the 12" tools, most of the time you are OK with the shank not getting too hot. If he does heat

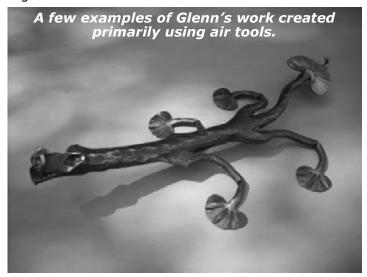
treat, he uses vegetable oil to quench, or just use oil on any of the tools you find.

Making your own tools opens up the opportunity to make some custom sizes and shapes not readily available. One of these is an inverted cone shape on the end. This tool bit allows you to upset the end of a bar very quickly. The bar is heated and clamped horizontally in a vise and the inverted cone is driven onto the end upsetting the mass backs into itself. Because the air tool strikes so many blows per minute, the stock moves rapidly before it has a chance to cool. Again, if you make your own tools bits be sure to harden both ends so you do not upset the end in your air tool. Glenn uses coil spring stock for making tools.

Of course, to use any of this you need an air source. Basic information you need to know is the CFM (cubic feet per minute) your tool requires and at least 90 PSI (pounds per

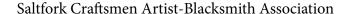


Also, use a whip hose on the hammer to your air coupler, the hammer action will destroy a coupler if it is right on the tool. And don't get a cheap hose, get an industrial type hose. Glenn knows this from experience by burning holes in the hose. Don't use a small 1/4" hose it will restrict your air flow for long runs. But also, don't use a hose any longer than you really need. You will get air PSI drop on long runs. 3/8 hose is a good size. You should really have a FRL, (Filter, Regular, Lube). And don't forget to use oil for Pneumatic tools.





This article is reprinted courtesy of the Pittsburgh Area Artist-Blacksmiths Association newsletter September 2019.



Hold that Rivet! By Bob Elliott

We all have been there, trying to hold a rivet set in the vice. Keeping it straight and not allowing it to migrate downward when holding your work and setting the rivet with a hammer. My solution to the problem works very well and is easy to make.

My rivet set is about 4 inches long and $\frac{1}{2}$ inch in diameter, the length allows me to reach up inside of a ladle to buck a rivet while setting it on the outside of the ladle and handle. I took a piece of $1-1/2 \times 3/8$ mild steel and bent a ninety-degree bend about $\frac{1}{2}$ inch from the end. Then measured the thickness of the vise jaws, add a little to that distance and measure from first bend. This is the location of your second bend. This bend will be on the opposite side which will form a "Z" shape. Then cut it off about $\frac{1}{2}$ inch from

the second bend.



Place your rivet set in the middle of the holder and mark both sides. Cut two pieces of 3/8 square (if your set is made out of ½ steel) and weld one on each side of the marks. This prevents the set from moving from side to side. You want to make sure your side supports are a little thinner than the diameter of the rivet set, this allows the vise to tighten up on the rivet set and hold it tight.

When placing the rivet set holder in the vise, set one lip on the jaw, with the rivet set between the side supports resting on the bottom and tighten up the vise. Your set can not move side to side or migrate down.

Left Photo: Rivet holder photographed on a table looking at it from the front. Right Photo: Rivet holder placed in vise from side view.



Phil Travis Builds his "Gym"

You may have seen gym equipment abandoned on trash day in your neighborhood. Phil Travis has found a use for some of the parts. If you have a treadle hammer, it can be the perfect seat for you! James Michael Walker demonstrated his treadle for us in August, this seat could be added easily just like Phil did! Think about where you could use an



extra seat for your shop, at a work bench, on a piece of equipment ..."you can work it out" ...get it?



Take a Close Look... Like Microscopic!

Tina Chisena has been making things out of metal since 1972. Her full time work was a research scientist at the National Cancer Institute in Bethesda, Maryland. That was her serious work but, Tina has a lighter side which she expresses in her metal work making jewelry and tools. Her work uses biological sources, usually microscopic influences, "to make the viewer look closer". Tina found a glue called "Sugru" to be indispensable in some applications. It is a good buffer between metal, (especially good for jewelry), repairing glass, electrically resistant, and heat resistant. She has

found many uses for the glue in her own work and also in the handy "fix it" use such as repairing handles on pot lids! If this scientist says it worth using, probably is! Check out the web site. Sugru Moldable Glue/ Advanced Silicone www.sugru.com/



Skills

Being technical information

One way of making a Hammer Head.

(part 1 Punching the Eye) by **David Robertson**

There are many ways of tackling making a hand hammer for blacksmithing. All require a fair bit of effort as you are working on a largish bar of tool steel. With time and persistence you can do this by yourself but you will find it much faster if you have a striker with a sledge or a power hammer.

Below I will show how I punch the eye on a block of 4140 tool steel. Slitting and drifting is an option for the eye as well but not discussed here.

First the main tools I use to create the eye.



The top tool is a handled hot set punch. It has a pyramid point ground on it. It is of an oval cross section with the oval oriented 45 degrees to the handle. The direction of the 45 degrees refer to if you are left or right handed or if you are working by yourself or with a striker. The oval cross section is the same as the bottom of the punch that you will be using.

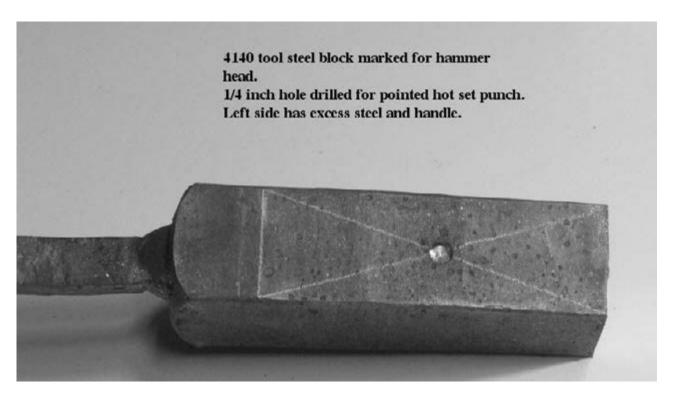
Second from the top is a flat bottomed punch with a welded handle on it. This one I typically use under the air hammer.

The bottom tool is a flat bottomed punch held in tongs. Can be used by hand or under the air hammer. Both punches are smooth and slightly tapered top to bottom and are about an inch taller than the hammer head stock.

For this hammer head I am using 4140 tool steel. This is a tough steel and you want to work it hot. Yellow to no lower than a medium orange.

I have drilled a ¼ inch pilot hole about 3/8 inch deep. This for the point of the hot set to fit into. This allows easy alignment front and back and side to side. You still have to worry about the rotation of the hot set so that it and the punch aligns with the axis of the hammer head.

The block I started with was about 5 inches long and 1.375 inches wide by 1.69 inches high. I decided that I wanted about a 2.5 lb hammer head when I was done.



So some math:

Density of steel = 0.28 lbs per cubic inch approximate

so 2.5 lbs = 2.5 / 0.28 lbs per cubic inch = 8.9 cubic inches of steel
My cross sectional area is 1.375 inches X 1.69 inches = 2.32 inches square.

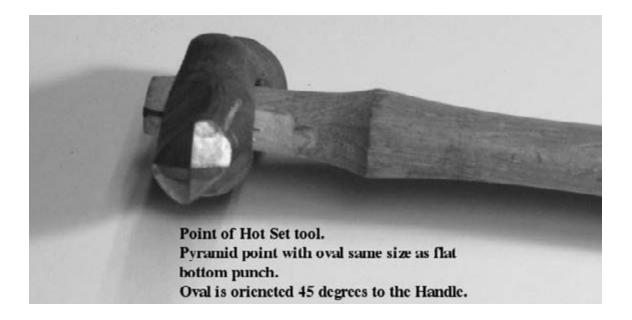
My needed length for the 2.5 lbs is = total volume / face area = 8.9 cubic inches / 2.32 square inches = 3.8 inches long.

Since there will be some loss due to scaling, grinding and a small amount for the punched out slug I opt for 4 inches total length (which is the vertical line on the block).

The punched out slug is actually quite small. It will be the size of the face of the punch but only about a 1/16th of an inch thick. Most of the steel displaces from under the punch.

Now down to work.

First is punching with the hot set with the point locked into the pilot hole until there is a good solid oval for the oval flat bottomed punch to fit into.

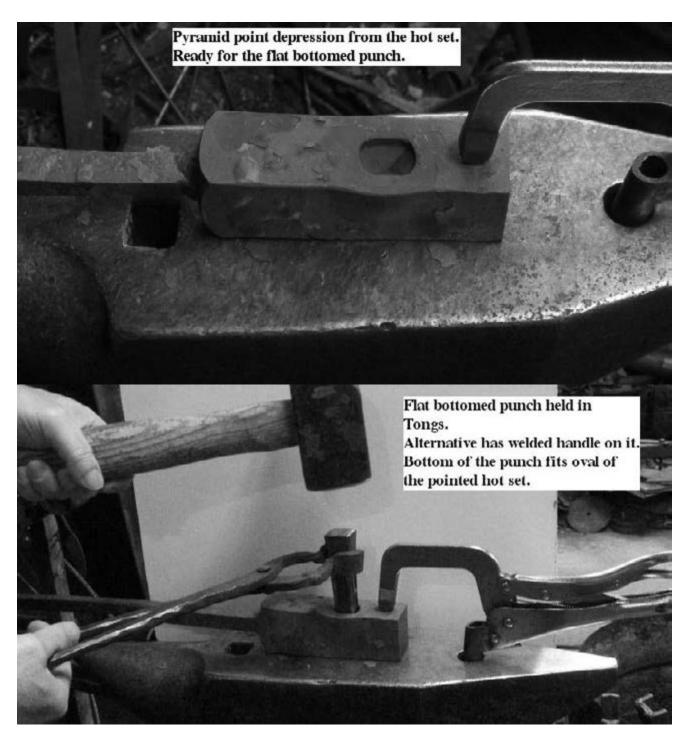


Close Up of the pointed hot set so you can see what is fitting into the hole in below.



The photo above shows the general positioning of the hot set with the hold down since I am working alone. If I had a striker I would simply hold the hot set in position. I am using a heavy hammer here. This is a 5 lb hammer. The bar when being worked is yellow hot. This is big bar! Work it hot and it is much easier on you. 4140 does not like to move when it is cold.!

The photo below is after about 3 heats to get a decent deep depression - which you can see the pyramid bottom from the pointed hot set. This socket is now ready for the main flat bottom punch.



It is best to have a punch either held in tongs or with a handle on it. The radiant heat off a bar this size can cook your hand pretty quickly with a normal hand punch.

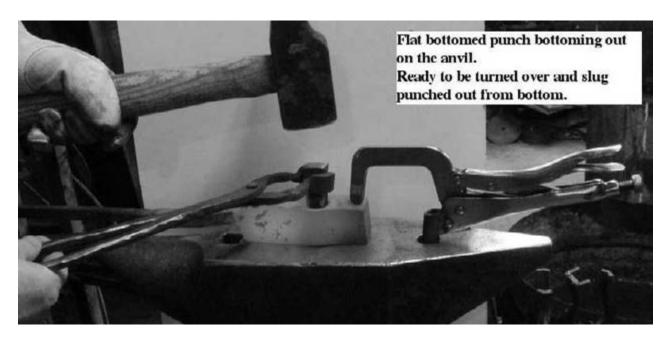
So each heat I take time to align the punch vertically. Then take a few good swings to sink it a bit further each cycle. Once the bar starts to cool (dull orange) back into the forge.

The drift is cooled in water. After a few heats there is a chance the drift can get stuck. To prevent this sprinkle about ¼ teaspoon of coal dust or charcoal powder or possibly saw dust into the socket that is forming. The coal dust creates a lubricant that helps you get the punch out.

The bar will often start deforming into a slight U shape. This may trap your punch as well. Turn over and straighten over the post vise with the punch hanging down between the jaws. Usually with a few taps upside down on the post vise the punch just drops out.

Especially if lubricated with the coal dust. It will be not so use tongs to pick it up and cool it down.

Repeat the cycles until the flat bottomed punch meets resistance on the surface of the anvil (the sound will change as well).



The above photo is right at the bottom of the punching. At this stage you will be able to see a faint outline of where the slug is on the bottom of the block.

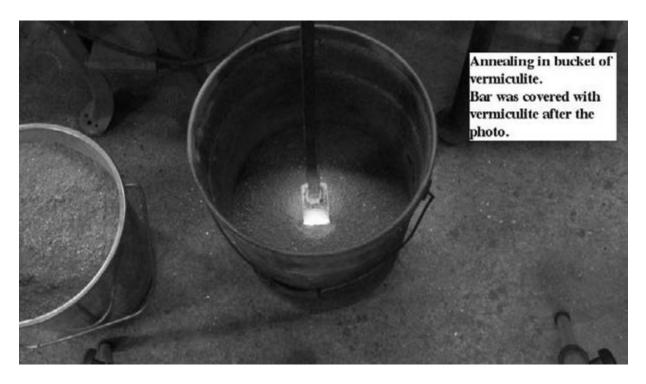


Take another good yellow heat and turn over and drive the punch back through from what was the bottom until you reach the surface of the anvil again. This should have sheared off the slug which often just falls on the floor. (Caution that it does not fall in your boot!)

Now at this stage you should have a neat eye for your hammer.

Next general steps are forging the final shape of the hammer, which I will cover in another article.

So if you choose to take a break here then it is a good idea to thermal cycle your hammer head to reduce the grain size and then to anneal in a bucket of vermiculite.



- Thermal cycling :
- Heat to yellow let air cool to a black heat.
- Heat to bright orange let air cool to black heat
- Heat to medium orange and cool in bucket of vermiculite or wood ash or dry sand.
 (This is the slow cooling for the annealing step.)
- Cover completely with the insulating material to anneal properly.

Once cold (overnight) if it is annealed properly you can cut it off the handle or grind it or sand it easily.

Recommended steels:

For the hammer head itself 4140, 1045, 5160 would work but hard to find in a thick enough block

For the hot set and the punches in order of my preference is S7, H13, 4340, 4140 (don't get to worried about this. Decent thick spring steel eg. 5160 will work fine)

Source for tool steel:

The Steel Store. <u>www.steelstore.com/en/locations/</u> They will ship but you have to order ahead for pick up. Affiliated store is Buffalo Precision Metals:

www.buffaloprecision.com/canada/en-us/locations/

David Robertson has been blacksmithing full time since 1993 and currently works and teaches from his shop in mid-western Ontario. He has a passion for making tools, jigs, and organic forms in his work.

www.ArtistBlacksmith.com

(All photos by the author)



Being technical information

One way of making a Hammer Head.

(part 2 Finishing & Heat Treating) by **David Robertson**

In the previous article I discussed how I punch the eye in the hammer head blank. This article will talk about how I forge and heat treat the hammer head.

First the prepared blank with the eye drift that I will be using.

The hammer head itself is a block of 4140. The drift is forged out of similar material to S7 but in a pinch you could use mild steel, but better 1045 or if you have it another piece of 4140. This is tapered and smoothed off with an angle grinder with a flap disk. This is mostly used to keep the eye from collapsing when you are forging the cheeks.

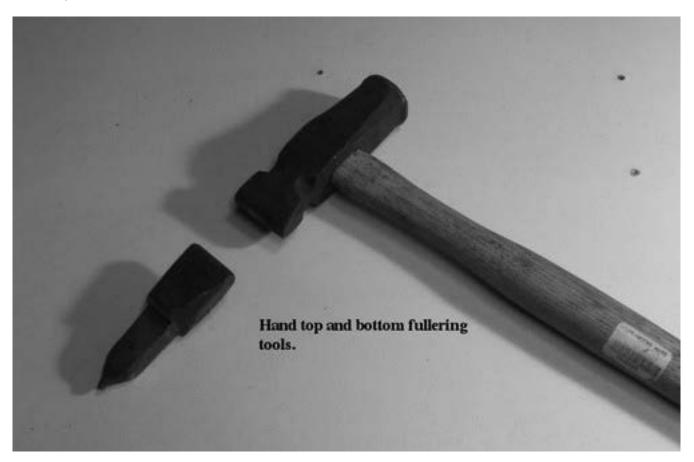


First step is to rough out the shape. I wanted a cross pein with a square face. That means one end has most of the work stretching out and the face very little work. To draw the cross pein out I use heavily radiased crown dies under the air hammer. This allows for a very fast stretch of the material.



I am careful to not damage the eye in this forging process.

If you do not have an air or mechanical hammer you can use a striker with top and bottom fullering tool.

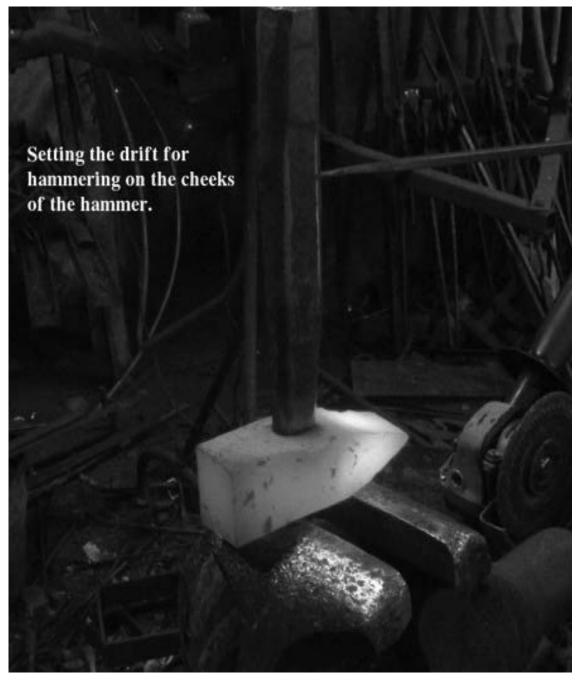


By hand a slow but controlled process. If you did not have a bottom tool it could be roughed out on the horn with the top tool and the striker, or even just on the top of the horn with a heavy hand hammer.

Once I have the cross pein roughed out to the length that I want it is time to do some fine forging on it. I wanted a bit of style to the hammer so I first stretched the cheeks a bit under the air hammer.

Before stretching under the air hammer I drive the drift into the hammer head blank. This prevents the eye from collapsing when I hammer on the sides. Between heats I will knock the drift out and turn it end for end on the next heat.

The photo below looks like bright red. It was actually yellow hot so I had time to get it under the air hammer.

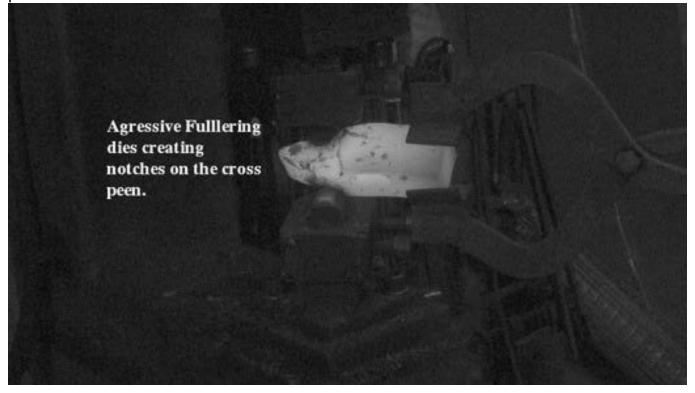


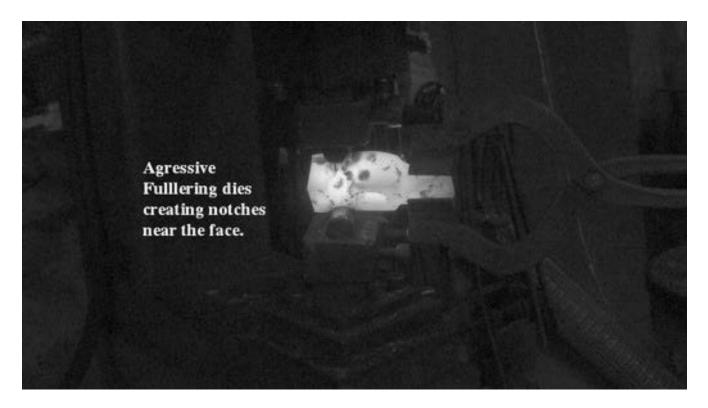
Saltfork Craftsmen Artist-Blacksmith Association

Pulling out the cheeks requires the use of the drift to keep the eyes from collapsing. I am also using the top die of the air hammer to pull the cheek out a bit. If done by hand either a rounding hammer or regular flat hammer will work for stretching the cheeks up and down to your aesthetic.



For added style / interest I am adding shoulders on both the face and the cross pein. This was done with the same aggressive dies, worked on the 4 corners at the base of the cross pein as well as the base of the face end.





Heat Treating

Next I deal with the heat treating process.

- First I normalize and thermal cycle the hammer head. I take 3 to 5 heat cycles first one bright orange to bottom end of yellow and let air cool black heat.
- Second cycle just below previous temperature eg. Medium orange and let air cool to black heat.
- Third cycle low medium orange and air cool to black heat.
- Last cycle also a medium orange and buried in vermiculite to fully anneal.



The annealing step softens the steel so that it can be easily filed, cold stamped, ground, sanded. In general annealing makes any cold work easier. I did some grinding and

sanding on the hammer head to get my final profiles and clean it up a bit. I was looking for a slightly rustic finish so I did not go over board on the sanding. Rough grind with the angle grinder then some sanding with the flap disk on the angle grinder.

Hardening

4140 in thick section like the hammer head is oil quench. I slowly heat so there is an uniform raise in temperature, until it is just past non magnetic. I pull out gripping the side wall of the eye with tongs. Check with the magnet. I quench on the rising temperature. It should just be past non magnetic. Then into the bucket of canola oil. Agitate up and down until cool.

Canola oil is cheap and easy. 4 liters is fine for 1 hammer head (suggest 8 L for added safety) but if you are in production think more on the line of 5 gallons. Any quench oil should be in a metal container with a metal lid. Also have a fire extinguisher handy. You may never need it, but it is cheap insurance.

Tempering

Again this depends on the type of tool steel you used. 4140 likes to tempered hot. 500 to 900 degrees F. I tempered at 550 deg F as that is what my toaster over goes up to. Does not hurt to temper it twice for 2 hours per cycle.



Once tempered and cooled to room temperature you can do your final sanding and wire wheeling to clean up, then mounting the handle.

Handles

This is mainly personal preference. I like a longer handle that has been stiffened by flaming the surface with the torch to carbonize it a bit. Then sand off the excess carbon. Hickory or ash make good handles, and carve them to fit your hand. Make it as comfortable as possible. Along with your anvil this is your primary tool. Might as well have it as comfortable. Any high spots can cause blisters.



Although making a hammer is a fairly heavy job it is manageable even with out power tools. I suggest looking at and trying different hammers to see which style you would like to make. A good quality tool steel is not that expensive and you can make a high quality tool with a bit of time and a few tools. If you take some care and use good materials your hammer could last you your whole career.

David Robertson has been blacksmithing full time since 1993 and currently works and teaches from his shop in mid-western Ontario. He has a passion for making tools, jigs, and organic forms in his work.

www.ArtistBlacksmith.com

(All photos by the author)

This article is reprinted courtesy of the Ontario Artist Blacksmith Association, *The Iron Trillium* newsletter, Fall 2019 with direct permission from the Author. (Thank you David Robertson)

Quick Tips from the Experts!

From Terry Sheridan:

Tip: Lee Valley Tools, about \$12.00 metal ruler, called a cabinetmakers ruler makes for an excellent measuring device in the shop!



From James Michael Walker:

Going to the museum? Take a pair of binoculars...it lets you see up close and personal all those details you would miss by not getting close because of barriers.

This Shop Tip is reprinted courtesy of the Pittsburgh Area Artist-Blacksmiths Association newsletter September 2019.



ABANA 2020 Conference

Washington County Fairgrounds 392 Old Schuylerville Rd. Greenwich, NY

Information Available at

www.abana2020.com abana2020 on facebook abana.org ABANA Central Office 423-913-1022 We will be featuring 8 disciplines of Smithing with at least three talented Smiths in each.

ART: with Daniel Miller, Zeevick Gotleib, & Ellen Durkan

Historic: with Peter Ross, Dick Sargent, & Bob Valentine

TOOLS: with Patrick Quinn, Jeffery Funk, & Eric Schatzel

KNIVES: with Matt Parkinson, Lin Rhea, & Jeff Helm

POWER: with Bruce Jarrell, Steve Parker, & Randy McDaniel

FARRIERS: with Dave Farley, Roy Bloom, Tom Willoughby

TEACHING: with Mark Aspery, Gerald Boggs, & Randy Augsburger

FARM: with Joel Tripp, Judson Yaggy, Derick Glaser, & Lucian Avery

The Patient Order of Meticulous Metalsmiths with Tom Latane, Peter Renzetti, Carl Close &

other exceptional craftsmen.

The lecture series will be featuring such notables such as Albert Paley, Howard Schechter, Doug

Wilson, Bill Hochella, Leigh Morrell & members of the demonstrator staff.

There will be a youth teaching venue and family programs for the non blacksmiths.

The raffle will include a BAM box donated by Pat McCarty and a Big Blue power hammer.

The Iron in the Hat is pleased to announce the return of Len Ledet with his special blend of entertainment and wackiness.

The Saturday evening banquet is back with a New England style BBQ.

We will have a beer tent serving a local micro brew and a local distiller will be pouring our own signature Slack Tub bourbon. Collectable laser inscribed 2 liter wood casks can be purchased filled with our special label. See the website for information on the cask which can only be preordered and can only be picked up at the conference.

Early registration is now open at:

abana2020.com



Follow us on facebook: ABANA 2020 Conference





ABANA 2020 Conference

Washington County Fairgrounds 392 Old Schuylerville Rd. Greenwich, NY

Information Available at

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Scheduled Activities

Demonstrations all day every day at our 8 demo sites. There will be a riveting lecture series featuring such notables such as Albert Paley, Howard Schechter, Douglas Wilson, Bill Hochella, Leigh Morrell, and others

Join the party at the Blacksmith Arms Pub serving local micro brews. We are proud to announce our own private label Slacktub Bourbon. Available by the glass, bottle or collectable 2 liter wooden cask. See the website for information on pre ordering the laser inscribed cask. These must be pre-ordered.

Breakfast, Lunch, Dinner will be available onsite from a variety of food vendors and food trucks.

There will be extensive tailgating, most under roofs. The northeast is the epicenter of the largest accumulation of blacksmithing equipment in the country. If you can dream of it, it will likely be at this conference

We are inviting all the vendors we have come to expect at an ABANA conference.

There will be nightly competitions organized by Mark Aspery to be held at the Teaching site

Of course there will be Iron in the Hat hosted by Len Ledet. We also will be having a large item raffle featuring a Big Blu power hammer and Pat McCarty is donating a BAM box once again for this event. An added bonus will be it is going to be filled with handmade tools from some of the finest blacksmiths in the country.

We are hoping for a strong outpouring of support for the curated gallery exhibition and hope to have items donated to the live auction of art & craft scheduled for Saturday night.

For this conference the banquet will be revived with a Saturday night BBQ northeast style, included with registration. Come and enjoy the warmth and fellowship of blacksmiths from around the world. This will be a party the likes of which has not been enjoyed at an ABANA conference in some time.

Don't miss what is sure to be an event that will be talked about for years.

**** NEW**** For Sale: ****NEW****

Blacksmith Tools, Anvils, Trip Hammer and Other Items

Call Shirley at 580-365-4470 Fletcher, OK

Shirley's late husband was Saltfork member Bob McKelvain.

Detailed list of sale items, photos or prices are not currently available.

Contact Shirley for details.

For Sale: 15 Lb Tire Hammers:

\$1,200 for everything from the base plate up. Two rounding dies included as standard. Has 1/2 HP 115V Motor. Contact: David Barfield - 580-595-1476

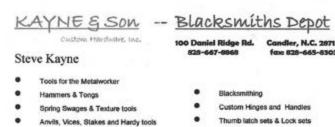






Saltfork Craftsmen Artist-Blacksmith Association





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John Elliott

jelliott@blacksmithsupply.com 804-530-0290

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Thank you to our Conference Vendors who graciously donated items for the Conference Auctions!

Their contributions helped to support SCABA.
Please consider patronizing these vendors to return the favor!



Reeder Products Inc.

3201 Skylane Drive, Suite 114 Carrollton, Texas 75006 United States (469) 257-1000

Bill Davis Forge Welded Tomahawk DVD

This DVD is now available to members for a minimal cost (cost of DVD's is minimal to cover reproduction and shipping if applicable.) Contact the SCABA Librarian, Don Garner, if you would like to get a copy of this DVD.

Don Garner: 580-302-1845

(Call or Text. If you get voice mail, Please leave a

message.)



For Sale:

Tire Hammer Plans by Clay Spencer

Send a check or money order for \$30 US to Clay Spencer, 73 Penniston Pvt. Drive, Somerville, AL 35670-7013. Or send \$32 US to Paypal.Me/ClaySpencer. E-mail me at clay@otelco.net. PDFs will be e-mailed outside US. Phone 256-558-3658

Beverly shear blades sharpened

Remove your blades and send in USPS small flat rate box with check for \$41 US to 73 Penniston Pvt. Drive, Somerville, AL 35670-7103.

For Sale: I have numerous old tools and collectible items of various kinds including blacksmith related tools and equipment. Too many tools to list them all. Inventory is always changing. Contact: Craig Guy (SCABA Member), Piedmont, OK

Cell Phone: 405-630-7769 (Call or Text)

SCABA Library DVD's Available:

This is a partial list of the DVD titles available to members from the SCABA Library. Contact the Librarian (Don Garner) if you would like to obtain a copy of any listed title or if you have questions on any other titles that may be available. Additional titles are listed on the website. DVD's are available for a very minimal cost to offset the blank disc and cases or sleeves. Shipping cost applies if you need these delivered by mail.

- Robb Gunter Basic Blacksmithing parts 1,2,3 and the controlled hand forging series
- Clay Spencer SCABA conf.2013 pts. 1,2 and 3
- Jerry Darnell 18th century lighting, door latches and hinges
- Brent Baily SCABA conf. 2011
- Mark Aspery SCABA conf. 2011
- Robb Gunter SCABA conf. 1998
- Robb, Brad and Chad Gunter 2009 joinery, forging, repousse, scrollwork, etc.
- Bill Bastas SCABA 2002 pts. 1 6
- Jim Keith SCABA conf.2007
- Power hammer forging with Clifton Ralph pts. 1 5
- Doug Merkel SCABA 2001
- Bob Alexander SCABA 2008
- A. Finn SCABA 2008
- Bob Patrick SCABA 2004
- Gordon Williams SCABA 2010
- Daryl Nelson SCABA 2010
- Jim and Kathleen Poor SCABA 2001
- Ed and Brian Brazeal SCABA 2006
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- Bill Epps SCABA 2003
- M. Hamburger SCABA 2007

Librarian: Don Garner 580-302-1845 (Cell)

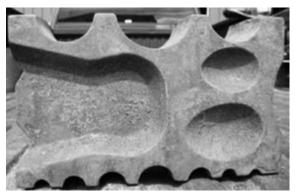
Call or Text. If you get voice mail, please leave a message.

Have an Item for Sale? Item Wanted?

If you have any items that are appropriate for Blacksmiths that you would like to list in the Shop and Swap section (or items you are looking for), please send me your description, contact info, and any photos that you have.

SCABA Swage Blocks

\$200.00 plus shipping. (Same price to members and non-members.)





SCABA Floor Cones



\$200.00 plus shipping.

(Same price to members and non-members.)

To order swage blocks or cones, contact our distributor:

Nolan Walker at Nature Farms Farrier Supply in Norman, OK.

405-307-8031

Club Coal:

Saltfork Craftsmen has coal for sale. Coal is in 1-2" size pieces The coal is \$140.00/ ton or .07 /pound to members.

No sales to non-members.

NW Region coal pile located in Douglas, OK. If you make arrangements well in advance, Tom Nelson can load your truck or trailer with his skid steer loader for a fee of \$10 to be paid directly to Tom. Tom has moved his skid steer and must now haul the loader to the coal pile to load you out, hence the \$10 charge. You may opt to load your own coal without using Tom's loader. The coal can be weighed out at the Douglas Coop Elevator scales. Contact Tom Nelson (580-862-7691) to make arrangements to pick up a load. Do not call Tom after 9 PM!! Bring your own containers and shovels. Payment for the coal (\$.07 per pound) should be made directly to the Saltfork Treasurer.

NW Region Coal Pile in Thomas:

Don Garner now has a new pile of club coal available for sales to SCABA members. The shop is at 23713 E 860 Rd in Thomas, OK. (One mile west, then one mile north of Thomas.) Contact Don at 580-302-1845 (Cell Phone) to arrange details for purchases.

NE Region coal location:

****NOTICE:****

Charlie McGee is no longer hosting the coal pile in the NE region. If you would be interested in hosting a location in NE, let one of the SCABA Board members know.

S/C region coal location: Club coal is now available at Norman at Byron Doner's place. Call Byron to make arrangements to come by and get coal.

SCABA T-Shirts!

2018 Saltfork
Collector T-shirts
are available with
the 2018 Conference Logo.
\$20.00 (plus
shipping if applicable.) Contact
Josh Perkins to
check sizes and
quantities that
are still available.



Legacy SCABA T-shirts and long sleeve denim shirts are also available on clearance while supplies last. T-Shirts are \$5.00 and Denim Shirts are \$10.00. (Plus shipping if applicable.) Contact Josh Perkins to check sizes and quantities that are still available.

If you would like to purchase shirts, contact Josh Perkins (918) 269-3523.





Have an Item for Sale? Item Wanted?

If you have any items that are appropriate for Blacksmiths that you would like to list in the Shop and Swap section (or items you are looking for), please send me your description, contact info, and any photos that you have.

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