N.J.B.A. Newsletter

NJBA Volume 14, Issue 3 11/01/09
http://njba.abana-chapter.com

Editors Soapbox

Hi, We still have the Holiday Party for this year and we are working on the events for next year. As editor I would appreciate some help in writing up events for the newsletter. You don't have to be a gifted writer just send me something about the event as I can't make all of them or remember everything.

We need some more activity from our members!

Recent events in the lives of some of our directors have made it hard for NJBA to be all it can be. We need more people to help out other than the same few doing everything. Please talk to one of the directors to find out what you can do to help!

We had a lot of help for the meet at the Red Mill, it is appreciated and helps the group thrive. My thanks to all who stepped up to the plate and helped make this an enjoyable event.

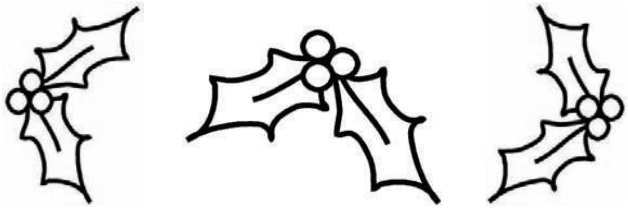
We are also looking for members who have a pickup and would be interested in helping bring the NJBA trailer to meets. If you are interested in helping please contact one of the board members listed on page 2. Larry Brown, Editor

Upcoming events for 2008

Get you calendars out and mark these events down. Please bookmark our web site and check for updated meet information. Remember most of our meets have an "Iron in the Hat" drawing, so be sure to bring something. Meet information starts on this page and continues on page 3.

December 6th 3PM—Holiday Party—Information on this page.

February 6th 9am NJBA/PABA Meet at Eric Cupers Information on page 3.



NJBA Holiday Party!

The holiday party is to be held on December 6th, 3PM at Jan and Marshall's house. Many thanks again, to Marshal and Jan for opening their home to us in the holiday season. Members are asked to also bring various trivets, candle holders, or other holiday items they are making to the party.

Despite the emphasis on blacksmithing, members are encouraged to bring their families. Bring a dish, beverage or dessert. Contact Jan or Marshal for advise on what to bring.

Directions to Marshalls' Home:

Marshall and Jan's "cabin" is not on Marshall's farm, but about 3 miles east of it on the same road. Casino Drive is just off Rt. 9, about 3.5 miles north of interstate I. 195 (exit 28). and about 4 miles south of Rt. 33. Either of these routes can be easily reached from the major north-south highways including the Garden Sate Parkway, the NJ Turnpike. 1-295, Rt. 18 or Rt. 34. From Rt. 9 northbound. make a right onto Casino Dr.; southbound. take the jug handle to make a left onto Casino Dr. Continue past Marshalls' Farm to #301 Casino Dr., Howell, N.J. (ph# 732-938-6577) jlfmib@optonline.net

NJBA RENEWAL NOTICE

The NJBA Renewal was the last page of last newsletter. If you haven't please fill it out and send it back to continue enjoying being a member!

The NJBA Web Site!

The NJBA Web Site is up

and running at:

http://njba.abana-chapter.com/

The Newsletter is at:
http://
members.bellatlantic.net/
~vze25jcc/index.htm

or use the link on the NJBA web site for the newsletter.

Official NJBA Address

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Rather than use room in the newsletter, All correspondence between ABANA and NJBA is now being posted on the NJBA web site. If you cannot access it there, contact me and I will send you copies. ABANA is communicating again so check it out

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Blacksmithing Demonstration

Eric Cuper and Daniel O'Sullivan at Cuper Studios Saturday, February 6th, Starting at 9am.

Eric and Dan are teaming up again to present a scintillating demonstration for NJBA, PABA, NOMMA and others.

All are welcome! As always, there will be an Iron In The Hat, tailgating is welcome (try to leave parking spaces in front of the garage doors for tailgaters), and maybe I'll turn the heat all the way up to 60 (don't tell my employees). Coffee and Donuts will arrive at 8:45ish, demos starts at 9ish, lunch and IITH at 12ish, more demos from1 until 4. We usually order out for lunch and request contributions. I only have a few chairs so if you want to sit, you might want to bring a chair.

The Demonstrators

Eric Cuper, an NJBA Board member, began blacksmithing at Peters Valley Craft Center in 1996 (which is where he first heard of NJBA). From there he attended Southern Illinois University at Carbondale to receive his BFA and MFA degrees specializing in blacksmithing. While at SIUC, Eric's forged sculptures were shown nationally and won several prestigious awards. His work can also be found in several books on forge work.

Since 2004, Eric has been operating Cuper Studios LLC in Easton, PA. Cuper Studios is an architectural metalsmithing company currently producing railings, lighting, gates, furniture, fireplace accessories, sheet metal work, sculpture, and other house jewelry.

Check out www.cuperstudiosllc.com for some of Eric's work.

Daniel O'Sullivan received a BFA from Parsons School of Design, completed a traditional Ornamental Ironworker Apprenticeship followed by Stage Forge at the International School of French Wrought Ironwork in Muizon, France. He taught blacksmithing in County Mayo, Ireland, and worked for an exclusive European metalworking company. Daniel is now proud to be a Local 483 Union Ironworker and is on the Board of the NJBA.

A good time should be had by all, hope to see you there.

Directions to Cuper Studios

Shop address is 1301 Lynn Street, Easton, PA 18042. Phone 610-438-8694.
Email: www.ericuper@msn.com

From NJ: Take 22 West into PA. After you leave the toll booth, stay in the right lane. Take the first exit immediately off the bridge. Keep right on the exit, going under 22, to a stop sign. Turn left at stop onto Larry Holmes Drive. Take Larry Holmes Drives thru 2 lights and turn left onto Lehigh Drive (immediately following Wawa strip mall). Lynn Street will be your first right and my building is the first big beige building with maroon trim on the right.

From PA: Take Route 22 East towards Easton. Take the 248/ 25th Street Exit. At the end of the exit turn right onto and follow 25th Street heading South. Turn right onto Lehigh Drive. After the intersection with a stop sign and the bridge for the park, Lynn Street will be the 4th left.

Howell Living Farm Gives Blacksmith Demo

Added by Debby Berger on June 13, 2009 at 9:38 PM

Volunteer, (l) Mike Erdie helps Kyle Nock, 11 years old of Green Lane, Pa, heat the iron which will be formed into a tool, to the right is Kyle's father, Joe Nock.
Mary Iuvone/For the Times
http://photos.nj.com/the-times/2009/06/

howell_living_farm_gives_black_4.html
Kyle Nock, 11 years old of Green Lane, Pa, strikes a hot iron during a blackmsith demonstration, to the left his Kyle's father, Joe Nock and to the right is volunteer Mike Erdie. Mary Iuvone/For the Times
http://photos.nj.com/the-times/2009/06/howell_living_farm_gives_black_2.html

Middlesex County Fair

Report by Bruce Freeman

Middlesex Co. Fair. Sunday, August 2, a Marshal Bienstock, David Macauley, Tom Majeski, and I met at Marshall's farm and caravanned in two vehicles, with Marshall towing the NJBA trailer, to the Middlesex Co. Fairgrounds (Cranbury Road, and Fern St.) where we set up the equipment. It went fairly well.

Monday, Aug. 3, the Fair opened and NJBA was there, but I wasn't, as I subbed for Marshall at his open forge meeting so that he could attend the fair. The rest of the week Marshall was out of town, attending a class taught by Peter Ross. Saturday, Aug 8, David picked me up and we arrived earlier than our 5 PM start time so we could set the equipment back up. It had been moved aside for the four days we were not at the fair so others could use some of the space. As it turned out, a 5-11 PM stretch was a bit tough. After working half the day in my own shop, I had trouble even thinking of things to forge, but I did make a tablespoon, which I added to our collection of examples of blacksmithing work. David did a leaf or two.

Sunday, Aug. 9 was the last day of the fair, and we were scheduled for 11 AM – 5 PM. David again picked me up and we made good time to the fair, as well as setting up. This time I'd come equipped with books by Tom Tucker and Percy Blandford with suggested projects. I made a couple sets of feathers and wedges – tools used to split stone. I attempted some ornamental work, with no luck. I finished off with a spatula, but quit as it approached 5 PM with the handle unfinished.

As it turned out, I needn't have quit, because we could not pull out till 7 PM! Tom Majeski had planned to join us, but was held up by some work he had to do for his sister.

He arrived about 4:30 PM and helped us clean up. Then we all sat around till nearly 7 when I finally convinced David to go get the truck. Tom towed the trailer back to Marshall's farm, while David and I headed home.

Red Mill Picnic

Report by Bruce Freeman

Since Eric Cuper was otherwise preoccupied (over something trivial like his first-born being due), I opted to help run this event this year. As it turned out, I got substantial assistance from several others, including Bob Bozzay, Dave Ennis, Mark Balzarette, and several others. Even Eric showed up and helped with the Iron-in-the-Hat, showing that he really does know what's most important in life!

My main task was to fetch the food, which I did with the help of Marshall Bienstock, who has a membership in a national membership store where we were able to get much of the food at a good price. However, not wishing to buy picnic supplies for 250 people when about 30 were expected, I finished off the shopping at my local supermarket. I then kept all the perishables carefully on ice till the next morning.

I was joined by Bruce Hay for the trip up to the Red Mill. It was a rainy day, but the worst came early so it wasn't intolerable. When we arrived, we were greeted with donuts and coffee in the smithy. One canopy was already up and another was being put up by Larry Brown and others. The NJBA canopy fit perfectly between these, giving us a rain-free zone for the cook-out and the IITH.

Mark brought the grill and agreed to be in charge of the cooking. Bob and others of us fetched a couple tables and set them up for the cooking and for the IITH. Meanwhile, folks had been pulling in their vehicles and displaying their goods for sale. A few sellers put up tarps to provide more refuge from the rain. As usual, there were forges, blowers, anvils, vises, hand tools, books, and lots of other assorted items for sale, and I know that a lot of this merchandise changed hands before the end of the day.

Peters Valley Ironfest and Pig Roast

Report by Larry Brown

The Peters Valley Ironfest and Pig Roast was held on October 10th this year and as usual it was a great time and party. Mark Emig of the Northeast Blacksmiths demonstrated in the shop during the day and was later joined by Arie Haksteen a smith from the Netherlands.

There was a good size tailgating area and there was an auction of contributed iron work, much from the smiths who taught there over the Summer. As usual the food was GREAT!

This event was a benefit to help the teaching program in the blacksmith shop. I don't know how much they made at the end but I hope it was worth doing so they'll repeat this great event again next year. Keep your eyes on their web site for the calendar of next years classes and sign up for one and increase your skill level. The Web site is; www.petersvalley.org, Phone 973-948-5200

Mid Atlantic Smiths Association 6th Annual Bill Gichner Memorial Hammer-In

January 8- 9-10, 2010 at Hutchison Brothers' Farm, Cordova, MD 21625.

Featured demonstrators Masters In Wrought Iron, Pat Livengood and Kim Thomas. Cost is $60 till Jan 01, $80 after. Space is limited, Registration Is Required. More info @ masasmiths.org .

This is not a blacksmithing article and he is working on aircraft parts but, the description of the weld puddle makes it worth the read, Editor

Article submitted by John Moriarity with permission from the author.
Reprinted from the Guild of Metalsmiths Volume 31, No. 4, December 2007

Zen and the Art the Weld Puddle

Budd Davisson, EAA/Experimenter, October, 1993

Back in the 60's (which really isn't all that long ago for some of us), one of the tomes that was required reading for anyone seeking spiritual enlightenment and the right to wear a tie-dyed shirt was the book, Zen and the Art of Motorcycle Maintenance.

The basic premise of the book was that the spirit of the Buddha (don't get me off on religion, I was raised Methodist and didn't understand THAT either), could be invested in things mechanical, like a motorcycle, just as well as it could in living, breathing organisms. The author, Robert Pirsig, viewed the motorcycle as a mechanical-spiritual organism and the repair of it as a religious experience.

Yeah, I know. What does this have to do with welding?

I had totally forgotten the book until the other day when I was chasing the front edge of a weld bead down into the metal with my trusty Smith airline torch. My world totally disappeared and was replaced by one the size of a pea that glistened and flowed at the end of the fiery blue cone of my torch. As I sat there, positively disappearing into the warmth and liquidity at the very front edge of the tiny, molten puddle, I suddenly felt as if I, too, was having a religious experience, albeit, a hot one, but still an experience. It was as if the puddle was alive and I was trying to train it to do my command. It was no longer steel and fire. It was something growing that was striving to unite two pieces of inanimate steel into something with a soul that flies.

At the time I thought it probably was a good thing I escaped the 60's without having done drugs. If a weld puddle can send me off, LSD would probably have turned my brain into an ant farm.

I was concentrating so hard on the front 1/16 inch of that puddle that it seemed as if it was ten feet across and I was standing beside it, a tiny little conductor orchestrating the rhythm of the torch's dance. I was carefully placing the heat and rod in such a way that I could almost hear the metal begin to melt, then quietly flow together, the filler rod stepping in for just an instant to give the puddle more body and help bridge the gap.

It was at that moment I thought Pirsig may be right. I doubt if I can make a case for having seen the spirit of Buddha in a weld puddle (I'm from Nebraska, we don't have thoughts that ethereal), but I'll stand toe to toe with anyone and argue that the front 1/16 inch of the puddle actually does contain the kernel of life that we put into rag and tube flying machines.

Everything of any importance having to do with welding happens in that minuscule area at the very front of the puddle, where the metal melts and the union is forged.

The strength and beauty of the weld is determined entirely by what happens in that narrow band of heat, which is another way of saying your own life and that of your aircraft is also determined by what happens in that almost immeasurable part of the airframe.

Control the leading edge of the puddle and you've guaranteed yourself a lifetime of joy and happiness (in Zen words). In pilot terms, you've just written your own ticket for a hell of a lot of fun for a long time.

What we're about to do here is take a micro, micro approach to welding. We're going to ignore the controversies of the best way to cut tubing. We're not going to get drawn into the "weld into or out of a heat sink" controversy. We're going to have nothing to do with anything that exists more than the thickness of a nickel from the weld.

We're going to control the puddle.

First we probably should define exactly what it is that is supposed to be happening at the puddle edge. The short definition says the parent metal is supposed to be melting so that the weld penetrates a measurable distance into the metal. More discussion on that later.

Once the surface on both sides of the joint is melted and flowing, filler rod is supposed to be melted into the joint to help bridge the gap and to add more strength to the weld. Every farm kid knows this before he's out of kindergarten. The real trick is knowing what the puddle is actually supposed to look like and what the welder can do to make it look that way.

The absolute first problem all welders have, but don't know they have is they don't have a clear picture in their mind of what the puddle is supposed to look like.The second problem is they look at the puddle in general terms, rather than separating the leading edge away from it visually so they can concentrate on it.

A third problem that contributes to the situation of not concentrating on the leading edge is that their eyesight, regardless of how good they think it is, may not be strong enough to give them a clear image of the leading edge.

Taking the problems in reverse order, let's solve them. Regardless of how much of an eagle-eye you think you are, break down and buy a pair of those $12 reading glasses you see in racks in the drug store. Pick the lowest power they have, but get a pair.

It is difficult to make people understand how critical it is to actually see what is happening at the puddle's leading edge. If you don't clearly see it, you can't easily control it. You may be able to weld, but you are working the puddle in a general fashion, because that's the way you see it, not in a specific, detail-driven fashion.

As far as what the puddle and its leading edge are supposed to look like, it's difficult to tell it in words, so we'll try to combine it with the illustrations.

In the first place, although the joints in an airplane vary wildly and those changes from joint to joint do effect the puddle and the way it reacts, the basics of the puddle don't change, and what's happening at the leading edges stays absolutely constant. For that reason, most of our conversations will deal with an imaginary 90-degree tubing joint, like a vertical into a longeron.. We'll make random comments on puddle behavior for other types of joints later.

Bet you didn't think we could drag a tiny subject like a weld puddle out this long, did you? Just wait! There's more exciting stuff to come!

First let's describe the ideal puddle. We'll get to the techniques of developing and controlling the puddle once we have it clearly in mind as to what it is supposed to look like.

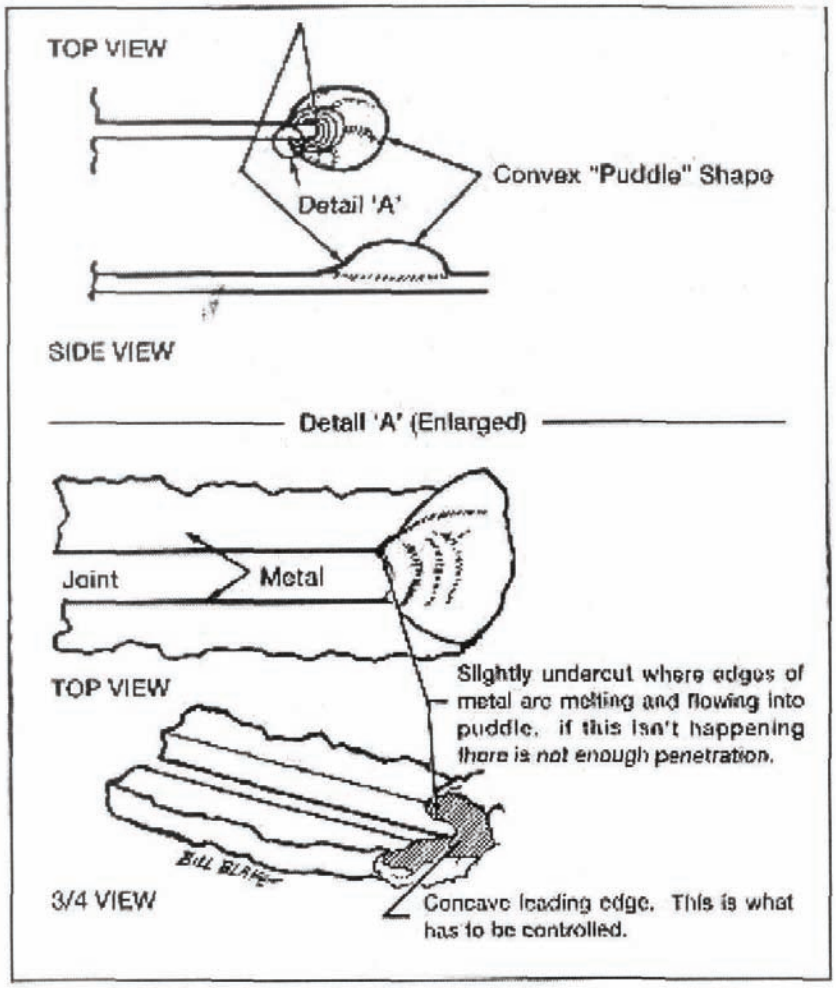
Viewed from directly above, the puddle should be a roughly circular area of molten metal that will vary in diameter depending on the torch tip, thickness of metal and the configuration of the joint. A "C" shaped bite will be taken out of the circular shape at the leading edge, where it is eating into the edges of the joint. If it was on an uninterrupted surface, the surface of the puddle would be convex, like a drop of water. However, since it is sitting on a crack and is eating part of the edges of that crack, the front edge is concave.

Yeah, I know, it's confusing; just look at the drawings, then it will make sense.

The really important features to notice, and those we are trying the hardest to influence, is what the surface and edges of the parent metal look like right at the interface where the puddle is melting into the surface. What is happening at that interface is what determines the strength of the weld. Nothing else counts.

You can have the ugliest weld in the world, but if it looked right at the interface, while welding, then it is still a safe weld. It can be a really pretty, smooth weld, but if the interface wasn't right, it has no strength.

The first thing you're looking for is that the square edge of the tubing cut is melting and flowing into the puddle and, if your eyes are really good, you'll see the edge is very, very slightly undercut by the puddle.



Part of the art of welding is holding the torch just right to direct the heat into the correct spot, and for the welder to support one or both hands to provide better control. Below, Lloyd Toll demonstrates the proper angle. Note in the opening photo how Paul Poberezny uses the engine mount as a support for his left arm.

The edge of the puddle should not be riding up on top the edge of the metal. The edge should be melted and flowing down into the puddle. If the puddle is riding up on top the edge of the tubing, its not getting penetration. The edge absolutely has to be melted.

The smooth surface of the longeron, which has no exposed edge, should be melted, very slightly concave and should have clearly sucked the molten metal of the puddle into it, making it flow along the surface into the joint. This part of the joint can sometimes fool you! It is possible to "wet" the surface of the tubing with the torch and it will appear as if the rod is flowing on to it. However, when it is cooled you can chip it off with a screw driver. What you are looking for is unmistakable melting of the surface and a very, very gentle concavity right at the front edge of the puddle.

As we said, the diameter of the puddle will vary, but that variance will be much smaller than you think. It will always be about 1/4 inch and may widen out to 5/16 inch or even larger on acute-angle joints in clusters, but that's a function of the joint configuration and the bead bridging a gap, rather than the metal or torch tip.

Incidentally, it is because the bead is so wide in relation to the thickness of the material that it is difficult to get a bad weld, as long as it penetrates and doesn't get too hot and oxidize. Since we are working metal .035063 inch thick, if we get penetration into the surface and the bead is 1/4 inch wide, we've got a tremendous amount of weld area in relation to the thickness of the metal. So, as long as there actually is penetration, the weld will be good. Period.

Equally as important as the way the puddle is shaped and how it is melting into the parent material is its general "attitude." A weld puddle can have a personality and it's important you read that personality, since it has a direct effect on the strength of the weld.

The ideal puddle is a tranquil, golden bead with a yellowish glow (as seen through the glasses and a slight skim of impurities floating on the surface. It isn't bubbling, it isn't sparking, it isn't doing anything but sitting there shimmering. Its general attitude is a little laid back and easy going.

If the puddle starts getting excited, you have to start asking yourself questions as to what's irritating it.

If the puddle loses color and starts bubbling, it is telling you it is too hot. Either turn down the torch, go to a smaller tip or change your rhythm so the rod is going in faster and you are moving ahead more quickly. A loss of color is your first indication there's too much heat for the amount of metal being worked. This is what happens when welding down towards the centerline of the longeron, where the vertical member has been cut so that the end of it forms "ears" that sort of wrap down around the longeron. The ears don't have much metal, so they heat up too quickly and get cooked. You'll be welding merrily along with a nice yellow, happy puddle, when suddenly the yellow goes white and the puddle starts boiling. It's talking to you and asking you to cool things off. Fast!

Even worse than simple bubbling is when the puddle starts throwing off sparks, along with bubbling. An occasional spark is okay, those are just impurities cooking off. What you don't want is a frantic puddle that is throwing off a string of sparks like fireworks. This means it is

not only too hot, but it is oxidizing the metal because there's too much oxygen getting into the weld.

Oxidation is the worse thing that can happen to a weld. When that happens, the weld and the material close to it change crystalline structure completely, and everything in the area assumes the general strength characteristic of cheap peanut brittle.

Oxidation is generally caused by the torch needing re-adjusting. If the flame has been allowed to become oxygen-rich, this is easily seen by the loss of color in the inner cone of the flame and the shape of the cone changing from a gentle, slightly rounded, friendly looking cone shape to a harsh, straight-sided, pointed cone that looks angry. When that happens, stop welding right now and readjust the torch. Don't continue for a second.

Do yourself a favor: before reading further, take a close look at the illustrations. It is really important we have it firmly in mind what the edge of the puddle is supposed to look like before we start talking technique.

Assuming the torch is correctly sized and adjusted, several things effect the shape and penetration of the puddle and therefore effect the shape and finish of the weld bead.

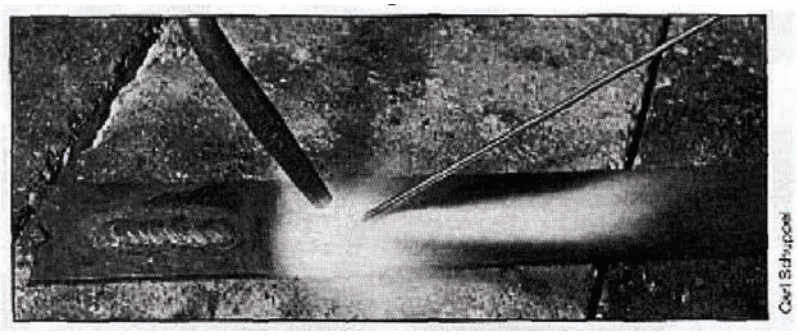
The primary factors are:
Distance of torch from weld
Angle of torch to weld
Rod insertion technique and rhythm

The angle or the torch to the objet being welded is important, with a 60 degree angle considered the best. A more upright angle puts too much heat into the puddle, whereas a lower angle doesn't allow enough.

The distance of the torch from the weld is measured only from the tip of inner cone and determines how much heat is lost before it gets into the metal. The distance also determines how far the heat will diffuse, which in turn effects the width of the bead.

The cone should not be touching the surface and should generally be about the width of the cone from the surface. For most normal tips this will be 1/16 -3/32 inch.

The angle of the cone should be about 60 degrees from horizontal. The steeper the angle (closer to vertical) the more heat is flowing into the joint. The flatter the angle, the more heat is flowing out in front of the joint. Picture it like a water hose pointed at a sidewalk. The heat flows the same as the water. Too vertical and it splatters out in all directions. Too flat, and it skips off the surface.



The rod insertion technique is important for a number of reasons, since a clumsy technique can make or break a weld.

The objective of the correct technique is to deposit just the right amount of rod into the puddle at the exact moment the puddle has melted sufficiently into the parent metal that it needs another droplet of rod to form another puddle.

It is important you understand that the rod should never touch the puddle. This is a common mistake that results in welding rods stuck to airplanes like porcupine quills, because the rod instantly cools the puddle and gets stuck. The insertion technique is to quickly poke the rod into the space between the cone and the puddle and remove it the instant metal melts off the end. There is so much heat in that gap it will instantly melt a small drop off the end of the rod and deposit it into the puddle, where it forms a new puddle that flows into the progressively melting parent metal.

It is also necessary for the welder to understand the rod material can act as a heat sink and have a cooling effect on the puddle. This can sometimes be used to advantage to cool off a weld, but generally it causes problems by stopping the weld cold (sorry, couldn't help myself).

A smooth rhythm should develop in which the torch melts the puddle, the rod is inserted, which forms a new puddle that melts into the surface, the rod is inserted again, etc. Each time the rod is inserted, a new puddle is formed and the characteristic "ringlet" pattern of the weld is formed.

Everyone wants to make welds that are pretty, in which the width is consistent and the ringlet pattern is even and smooth. The appearance of the weld, not necessarily the strength, is a strict function of:
Holding the torch a consistent height above, and angle to, the surface. If either factor changes, the width and intensity of the welding heat changes which will change the width of the bead.
"Reading" the puddle so the rod is consistently inserted at the exact same moment in the melting cycle every time. That doesn't mean the rod rhythm is always the same because the melting cycles will change, as the heat-sink characteristics of the joint change, so the amount of time between rod insertions may change by a nanosecond or two.
Depositing exactly the same amount of rod material every time, which is a function of how long the rod is left in the flame. The material is melted off the rod so quickly, the movement is more of a jab, than anything else, but it has to be the same every time.
A good looking weld is a function of consistency. One of the primary sources of inconsistency in welding is lack of support for the welding hands. Give yourself every break you can by sup-

porting at least one hand against the side of the structure. Sit down, if you can, but if that's not practical, pull a tool box or step ladder over, so you have something to lean against. It is difficult to appreciate the dramatic effect good body and hand support has on producing consistent welds.

Some of the most common questions concerning the puddle have to do with how it acts in different joint situations and how techniques have to be modified to control the puddle. We can't cover every single joint, but we can hit enough of them that techniques can be extrapolated and modified to fit.

On an acute angle in a cluster, it is impossible to get the heat all the way down into the "V" where the two pieces of metal come together because the heat is so intense, holes will be blown in the tubing a ways up from the point of actual joint contact. In that situation the puddle actually bridges across the gap at the very top of the "V," leaving a void for a short distance. Don't worry about the void, since that causes less problems then trying to weld down in the "V." However, the rod technique will have to be modified so more rod is going in and it is walked from one side of the "V" to the other to put enough rod in to keep the bridge going.

The deep 'V' of this joint requires increased heat as you move into the "V" itself and may require adjusting of your flame.

This close-up of a "V" joint shows how a puddle can melt above the edge of the material leaving a slight void in one place.

In a situation where a thin piece is being welded to a thick one, bias the torch heat to the thicker one, in effect, directing the puddle off center. The puddle will wind up centered because the thin metal takes so much less heat to melt, it will draw the puddle material into it. The hard part is keeping from melting the thinner stuff away. To do this, angle the torch away from the thin stuff and periodically lift the torch for a second to let some of the heat go away. This is the kind of situation that tests your ability to direct the heat.

In running a bead around a cluster, there is always a point where the new bead runs over an old one. Try to plan the weld so, as the heat builds up in the joint as the bead progresses, you're working towards the old bead. That way the old bead will already be hot, and it won't be so hard to keep the puddle going. If that's impossible, just know you want to actually melt and weld your way through the old bead and that the second you hit the old bead, the puddle will cool off and you'll have to slow down to put extra heat into the old bead. Then, when you're through it, for a second there will be too much heat, and you'll have to back off for an instant.

There are about a thousand things about welding we didn't cover here, but that wasn't our purpose. We just wanted to make sure everyone who welds is conscious of how important it is to keep your mind and your skill directed at controlling the very front edge of the puddle. That's where it's all happening.

I'm still not sure about the Zen connection, but there is something powerful and mystical going on during welding. How else can you logically explain a process that takes medieval alchemy ingredients like fire and iron and converts them into beings that fly?

The only thing missing is the cauldron! BD

Buds Davisson
3536 E. Shangri-La Rd. Phoenix, AZ 85028

Demonstration Opportunity

We looking for a few reliable blacksmith that are available to do demonstration out our museum. We are located in Clark ,NJ 07066. The dates we are looking for at this moment are December 5 and 6, 2009 from 12 -5 PM. We are also hosting a Civil War Re enactment on June 5 and 6 ,2010 .

Please call me at 908-966-2844 for more details if needed. Any assistance you can offer would be extremely helpful and appreciated. Demonstrators would need to provide what ever they need. We do have some money to pay for supplies.

Regards,
Scott McCabe
Director
Dr. Wm. Robinson Plantation/Museum, Circa. 1690
www.drrobinsonmuseum.org

Once You Lose It, It's Gone Forever

by Eden Sanders, San Andreas California

I may not be hearing as much as I think I should. When my husband, Dave tells me, "I just answered that question, why did you ask me and then walk away?" and I recall that my back was turned or I was just in the next room with the door open, I know something is different. Either he is speaking softer these days or I am not hearing as well as I used to. I've always been able to hear from two rooms away and even from down in the basement. Dave was the one who had to be close enough to hear, not me! It's time I face the truth. I used to think that if I could not use my legs, life would feel really bad for me, but today I know that not being readily able to participate in conversation would be worse!

I made my audiology appointment today and will be ordering fitted ear defenders - like the ones Mark Aspery uses - for me to use in the smithy.

Don't take your hearing for granted.

Here are some warning signs of hearing loss:

- You are frequently asked to lower your voice or to turn down the TV or radio.
- You hear ringing or buzzing (tinnitus) in your ears when there is no sound.
- You can hear people talking but you cannot understand them.
- You cannot hear someone three feet away or behind you.
- You have pain in your ears after leaving a noisy area.
- You often have to ask people to repeat themselves.
- You turn up the volume on your telephone.

Studies show. People with hearing loss experience irritability, negativism, anger, fatigue, tension, anxiety, stress, depression, loneliness, feelings of paranoia, reduced alertness and many more unpleasant symptoms.

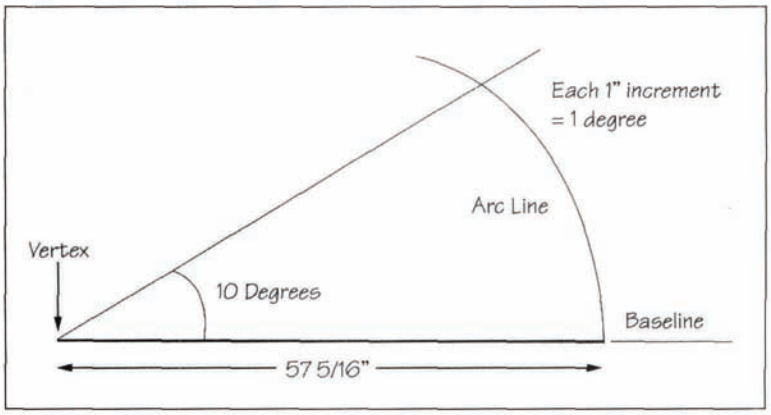
Source. Sight & Hearing Association, www.sightandhearing.org.

Schedule a diagnostic test. It is not uncomfortable. Ask about getting fitted for personal ear defenders. Wear ear defenders now, or wear a hearing aid for the rest of your life and experience feeling left out.

An Easy Way to Lay Out Angles

by Rick Hartline

Originally published in the Upper Midwest Blacksmith Association newsletter



You want to lay out a 100° angle for a project. Mark a point on your layout table or floor where the two angles intersect along the baseline (vertex). Measure 575 " from the vertex along the baseline. Swing an arc line starting from the vertex crossing the baseline at 575/16'.

Use a set of dividers set at 1". Step off the dividers along the arc. Each 1" step of the dividers equal 10. A 100° arc would require 10 steps of the divider. Mark the line between the vertex and the point along the arc to establish your line for 100. 4

Picket Spacing 101

by Graham Robinson, England, from Artist Blacksmith, Winter 2004

Measure length of rail excluding stiles and posts. Enter into calculator, add diameter of one vertical bar and divide by number of spacings. So if you want 10 bars, that's 11 spacings, and make a note of the figure as you will need it in a moment.

Take away half the diameter of one bar - this figure now gives you your first center. Add to this figure the division figure you noted. This gives you your second center. From now on, all you need do is press the equals (=) button on the calculator for succeeding centers.

Thus, all measurements are taken from one end of the rail, eliminating compound measurement errors. As my Aunt Ann would say, "It's as simple as that!"

Example

Length of rail excluding stiles and posts: 3m = 3000mm. Add diameter of vertical bar, say 20mm = 3020. Divide by number of spacings: 10 bars = 11 spacings. 3020 divided by 11 = 274.5 (note this figure). Then minus half bar diameter: 10mm from 274.5 is your first center. Add to this the noted figure for the second center.

Then press equals button for subsequent centers. So the sums are:

Rail: 3m = 3000 Plus 20mm = 3020
Divide by 11 spacings = 274.5 (note)
Minus half bar: 10mm = 264.5 (first center)
Plus noted 274.5 = 539 (second center)
Press equals button = 813.5 (third center) And so on, = 1088, = 1362.5, =1637 4

Magnet Reminder

from Wayne Coe, Talking Rock, Georgia (Anvil's Chorus, Spring 2006)

Remember that a magnet holds on to all pieces of ferrous metal, even small sharp ones that are not easily seen. Today I had a magnet on top of the anvil. While shoving it out of the way, lo and behold, I got a nasty, dirty, deep slice across the heel of my hand. I won't soon forget that lesson! *September/October 2006 California Blacksmith*

How I Demonstrate to the Public

by Pete Stanaitis

I prefer to demonstrate "traditional blacksmithing" when I am before the public. It's the image that most people have and want to perpetuate in their minds. And, since your demonstration opportunities are most often related to historical things and craft events, this approach fits right in. This means, among other things, that I avoid using "modern" tools like an electric/ cordless drill. Save the plasma cutter and the Nazel demo for events when you are demoing to other blacksmiths.

Dress the part if you can. Sneakers are out. You probably shouldn't be wearing shorts anyway. I prefer to dress in the 1870s period, but at least look like a blue collar worker from the period you want to represent. There are several catalogs that have period clothing and patterns for sale. "Smoke and Fire" is one of them.

You may choose to stay totally within a character of the period you are representing or you might choose to jump in and out of character from time to time to make connections between the past and the present.

Staying in character:

For example, if someone mentions some modern item, you just (politely) appear to have NO knowledge of it.

Jumping in and out of character:

For example, you might be demonstrating a punched hole in a hinge. You might mention that "this is the way holes were made before the invention of twist drill". Or you might say something like "Hmmm, I need a hole here, but since the drill hasn't been invented yet, what shall I do?"

Position yourself so the people can see what you are doing. If you have to put your back to the audience, talk them through what's going on. They didn't come there to see butt cracks.

Personally, I think I am "teaching" blacksmithing when I demo to the public I am constantly trying to make eye contact and to find the people who are most interested, but I want everybody there to get something out of their visit. I get a big kick out of seeing how long I can hold a crowd.

Do your demonstrating in "sets". That is, have a plan, demonstrate it for a hour or two or whatever makes sense, then take a break. You can use this break time to talk with any REALLY interested folks who may want to take up blacksmithing or hire you to do work

My basic demo "set" consists of starting with something very simple and quick, relating to the basic processes of blacksmithing as I go, explaining each step, and adding more of the basic processes with slightly more complex projects as the "set" continues.

I often have a chalkboard on which each project is listed, in the order I will do it.

Comment on the old blacksmith sayings and explain their sources
-strike while the iron is hot
-dead as a door nail

These comments fit in well while you are reheating your work or doing repetitive work at the anvil.

Do simple things, since peoples' attention spans are relatively short. There may be settings where you are doing "industrial" blacksmithing; -making big things that take a long time to produce, but that doesn't match the image that most people have of the "village blacksmith" If you do have to do something lengthy, encourage people to "stop back from time to time to check on the progress". Or, you can simply do one process on the big job at a time, then go back to the quick projects to keep the crowd's interest up.

Play to the kids:

When playing to the kids, watch the parents for clues about whether you are going somewhere that they wouldn't want you to go.

This probably goes without saying, but: This is NO place for foul language.

Don't short-change the women who stop by to watch.

So what if you have had to answer the same question for the hundredth time today? Even if the same person asks the same question several times, be polite in your answer. This is not the place to give wise-crack answers. You want people to enjoy what they saw and become friendly to the idea of blacksmithing as a worthwhile endeavor. You don't want to leave them with a "bad taste in their mouth" because you talked down to them.

If you are going to joke, let the jokes be about yourself. A favorite of mine is to tell them how, if I make a"fatal" error, I simply put the part back into the fire and crank like mad while I talk to them until the part burns up so they never see the mistake. I tell them that I can then blame the problem on THEM. ----So they are going to have to look real close if they are ever going to catch me making a mistake. Always gets a big laugh and NOBODY in the crowd is affronted.

Always be prepared with some brochures for your club. I used to lay my literature out on the table in front of me, but everybody seems to "take one": Most just toss them into the next garbage can. So now, I keep them hidden from view and offer one to anybody who expresses a genuine interest.

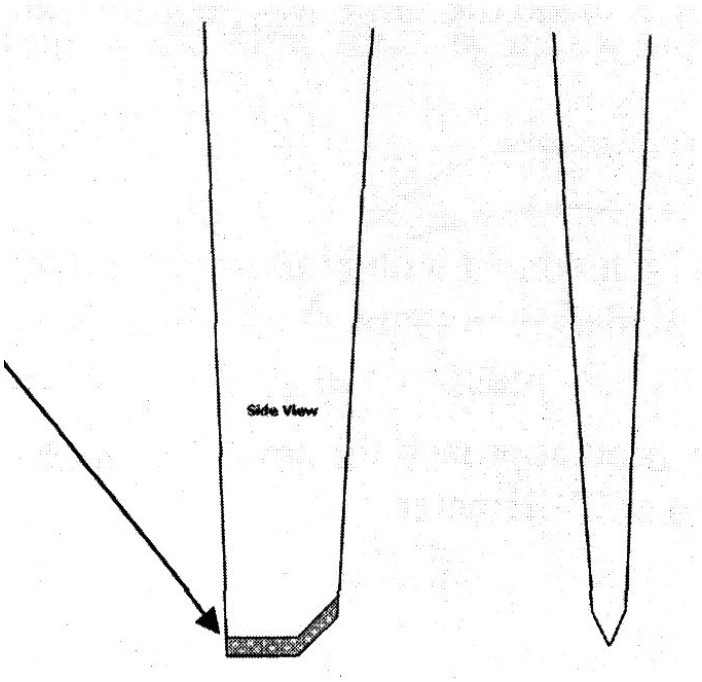
In closing, the idea is to provide a pleasant experience for your audience. And in so doing, you will improve both your presentation skills and your blacksmithing skills.

Volume 32, No. 3, September 2008
METALSMITH

This article reprinted from the New England Blacksmiths Newsletter Winter 2008

Cold chisel for cutting curves in sheet material

This chisel doesn't look like much, but it's the cat's meow
once you try it out. Forge a bluntly pointed chisel blank.
Taper and flatten, ending up with perhaps a 3/16" x 1/16" tip. File the tip to the shapes below. Do NOT round the corner between the 45 degree and flat portions of the edge (side view). To use it, tip; the chisel to the left (side view) and cut towards the right. Sounds strange, but it works very nicely. This tool should be made of high carbon steel, hardened and tempered.
Steve Smith, ME Rep.



Blacksmithing Workshops and Classes:

Peters Valley Craft Education Center
19 Kuhn Rd., Layton, NJ 07851 (973)948-5200
pv@warwick.net www.pvcrafts.org

Academy of Traditional Arts
Carrol County Farm Museum
500 South Center St. Westminster, MD 21157
(410)848-7775 (410)876-2667

Touchstone Center for Crafts
R.D.#1, Box 60, Farmington, PA 15437
(724)329-1370 Fax: (724)329-1371

John C Campbell Folk School
One Folk School Rd.
Brasstown, NC 28902
1-800-365-5724 www.folkschool.com

Brookfield Craft Center
286 Whisconier Road
P. O. Box 122
Brookfield, CT 06804-0122
203.775.4526

Open Forges

We are looking for members who are interested in opening their forges up to members as a open forge. This does not have to be a weekly forge as is Marshall's the others can meet once or twice a month. Please contact, Larry Brown, Editor.
We want to encourage all to join us at:

Monday Night Open Forge in N.J.

Marshall Bienstock is hosting an open forge in his shop at 7 pm almost every Monday night (Please call ahead on holidays to make sure , (732)780-0871)

Open Forge in Long Island

Sunday from 10:00 am to 6pm.
Starting the 1st Sunday in November until the end of April. Please call ahead to confirm and get directions. Ron Grabowski, 110 Burlington Blvd. Smithtown, NY (631) 265-1564
Ronsforge@aol.com

If any members have a forge at home and work in the evenings or weekends and want to open it up to help a few local guys, let me know, Larry Brown, editor, as we get requests from members who have a hard time traveling to some of the open forge locations.

Business Members

We would like to thank those who joined with our new Business Membership category . Business dues are $40
Please show them our support

John Chobrda, Dragon Run Forge
P.O. Box 315 Delaware City, DE, 19706
302-838-1960 jchob@verizon.net

Grant Clark, GWC Forge
PO Box 158 Perrineville NJ 08535
732 446-2638, 732 446-2638

Eric Cuper Artist Blacksmith
109 Lehman Lane, Neshanic Station, NJ 08853
908 642-6420 ericuper@msn.com

Bruce Hay, Jr.
50 Pine St., Lincroft, NJ 07738

Jayesh Shah, Architectural Iron Design
950 S. 2nd St., Plainfield, NJ 07063
jay@archirondesign.com

Louise Pezzi, Blacksmith
1241 Carpenter St
Philadelphia, PA 19147
215 336 6023 pezziandjr@gmail.com

Mark Balzarette, Blue Sun Customs LLC
124 Greenwood Ave. STE.C Suite C
Midland Park, NJ 07432

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Join ABANA or Check out other area chapters!

Northeast Blacksmiths Association

Northeast Blacksmiths holds its meets twice a year at the Ashokan Field Campus in New York State.

The Ashokan campus is located in Olivebridge, N.Y., several miles west of Kingston, N.Y. The meets are held the first weekend in May and in the first weekend in October every year. The main demonstration is in the blacksmith shop and there is a "Hands On" workshop for beginners. A main demonstrator is brought in for each meet, food and bunk-house style lodging are provided as part of the cost of the weekend long meet.

Contact : Tim Neu
to register for hammer-ins
or subscribe to the newsletter;
Tim Neu, The Ashokan Center,
447 Beaverkill Rd.
Olivebridge, N.Y. 12461 [914]657-8333
For more information check out the web site; <http://nba.abana-chapter.com/>

Join The Pennsylvania Blacksmiths Association!

_____
Name

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Address

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City, State, Zip code

_____
Home / work Phone # E-mail (optional)

New Member ____ Renewal ____

Do you have any particular skills (welder, accountant, carpenter, doctor) that may be helpful to the group or membership?

_____

_____
Suggestions for PABA demonstrations

What is your skill level?
O Beginner O Intermediate O Advanced O Professional

Membership paid by ___Cash ___Check # _____

Send your completed application with $ 20 (one year dues) to;
PABA Treasurer, Buzz Glahn
1667 Wyomissing Rd.
Mohnton, PA 19540
(make Checks payable to PABA)

PABA Membership Application

Membership is from *Jan. 1 — Dec. 31*

New Jersey Blacksmiths Association
Attn: Larry Brown, Editor
90 William Avenue
Staten Island, New York 10308

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How to Join or Renew your Membership in NJBA:

NJBA Dues are $20 per year.
NJBA Business Dues are $40 per year
Please make your check out to: "NJBA"
Please mail checks to:
NJBA, P.O. Box 224, Farmingdale, NJ 07727-9998

Please include payment with the information listed below. You will receive a postcard confirmation of your membership, and will receive a newsletter within a month. NJBA's "year" runs from June to June. If you join mid-year, the postcard will offer a prorated dues option which will then allow you to extend your membership till the following June. The following information will be listed in a roster available to other members.

Name _____ Home Phone_____
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