

The Anvil's Horn

A Publication of: The Arizona Artist Blacksmith Association

Issue No. 142

January 2010

Fireplace Tools
by

Len Ledet

Recipient of the
2009 *Bill Callarway*
Outstanding
Membership
Contribution Award



President's Message:

Ok, Dan says I have to write this, my first President's letter. Oh no, what do I say, what do I talk about, I'm no writer, I have a hard enough time talking! Ok calm down there has to be something to say, to talk about that people want to read, but what?

Well, let's start by thanking Ira for the great job he has done in the past two years, I'm sure it has been a rough job, but he made it through with just a bit of extra gray hair. Seriously great job, I'm glad to have you as my mentor and still here for guidance and advice!

This next year looks to be starting out great, the Caleb Kullman demo at Saguaro Ranch looks like it will be a great show, don't miss it. Caleb will be putting on a three day workshop following the demo and we have almost filled it up as of the weekend of the auction.

Next we have the SWABA Conference in Las Cruces NM. Our own Peter Sevin will be one of two featured demonstrators. We will be at a new location this year so watch your newsletter for more info and directions. If you have not been to this event try to make it, it's always a great time!

Then we will be visiting Triangle L ranch in Oracle in March, we are working out the details of our demonstrator so stay tuned, I'm sure it will be great!

In April, back to Wilcox and Fred Borchardt's, Buckskin Ranch. Last year this was one of our greatest weekend events and this year will be just as good, maybe better, because we have Lorelei Simms coming to do a two day demo on her botanical forms. Art Jones will be there to demo on Fred's Nazel 3B and maybe he'll bring some of those videos of big power hammers at work! And we all know Fred will pitch in with something really cool.

Grizzly Iron will be having an open forge the first weekend of the month this year, so come over, share ideas, bring new jigs, come to use the tools and create a work of art, or come to just hang out for awhile!

Well, can't think of much more now, keep the iron hot and keep hammering. And don't forget to bring stuff for show and tell as well as iron in the hat.

"GRIZZ"

Right: At the Camp Verde demo, Ira took some good-natured ribbing resulting in his purchase of 4 used hats.

Thanks, Ira for your dedication and service for the last 2 years as president and for the years before as demo chair. But, don't think you're done, yet. There's still more to do!



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January Demo: Caleb Cullman

January 16 & 17 Sahuaro Ranch Gates open 8:00 am. Demo begins 9:00

Special Registration flat rate: \$15 pays for one day or both days

Friday evening (January 15) : 6:30 pm Slide Show at Grizzly Iron

“During the two day demo I would like to explore how we as blacksmiths develop designs and bring our projects from concept through to completion of production. I will show how I arrive at design concepts and ideas and take them from the drawing board to the anvil. The demonstration will focus on creating current, contemporary designs that draw inspiration from the natural world, the built environment and the works of previous masters. I will show how these designs can be built while remaining true to our craft by highlighting traditional blacksmithing methods. Most of the demo will involve forging technique with small forays into discussions of design theory.”

Friday evening Caleb will have a slide presentation of his work, trip to Nigeria and time spent with Yoruba smiths.

- Tailgating: bring your stuff and your money.
- Show and Tell and Iron-In-The-Hat
- Lunch is on your own

“Innovating with Joinery” with Caleb January 18 –20

Class fee \$300

Skill required: Intermediate or better. Students should be confident in their ability to perform basic forging techniques

“I would like to focus on innovating with joinery. Using the topics covered in the demo as a foundation, I would like to spend the class time developing new approaches to old methods of joinery. We will cover 5 different joinery techniques over the three day class. I plan to spend a full day on mortise and tenon joints and a half day on each of the following topics: wedge joinery, collars, forge welding, and rivets. We will build small items such as fireplace tools, door and cabinet pulls, and architectural elements using these different techniques. I will give the students general design parameters and let them fill in details to incorporate some design practice into the class.”

There are still 2 slots available for this class.

Contact: Grizz 602-716-9660
grizz@grizzlyiron.com

Directions to Sahuaro Ranch:

From the South, West, and East:

I-10 to I-17 North (Toward Flagstaff)

Exit Dunlap. Go west to 59th Ave.

North on 59th Ave to Brown

West on Brown

Turn into the Last Library drive
make a quick right through the
gate.

From the North:

I-17 South to Dunlap

Same as above

Directions to Grizzly Welding:

1329 W. Lincoln St., Phoenix

Take I-10 to 7th Ave, by the tunnel

Exit on 7th Ave.

Go South on 7th Ave to Grant

Turn right on Grant

Turn right on 13th Ave

Turn left on Lincoln

It's on the left.

November Demo Report: Jill Turman and the Demo Challenge



Grizzly Welding is a great place to hold a demo. Plenty of room, central location and two of the best hosts we could ever hope for. Thanks Grizz and Jason!

Jill made a great Art Nouveau piece and brought slides of her work and shop. Great demo!



*Far left: Pattern. Near left : Finished piece
(The finished piece sure looks more like the pattern
than mine ever do.. Ed)*



There weren't too many demo challenge items, but the ones that were there blew us away.

The tree below and left. was done by the Camp Verde Lunch Club: Jim Sheehan, Marc Larsen, Bill Morris, Mark Finn and new member, Steve Imms (contrary to rumors you may have heard, Jim Sheehan claims he was not the model for the buzzard in the tree).

The copper, brass and iron flowering tree above was done by Jim Sheehan.

The Rock Climber, by (who else?) Paul Dief was the Challenge winner.



The Anvil's Horn

Bill Callaway Award recipient: Len Ledet

Len Ledet is the recipient of this year's Bill Callaway award for Outstanding AABA Member Contributions. The Award's symbols represent the Cornerstone, a Guiding Light, and a Helping Hand and is intended to recognize members who extraordinarily exhibit those traits.

Len has served on the board of Directors for more 20 years. Len's special gift during that time has always been a voice of reason and fiscal responsibility. He has also been one to volunteer to take on projects, do research, make phone calls or whatever was needed. He can always be counted on to get the jobs done. When AABA needed a treasurer a couple years ago, Len volunteered. This is a demanding task that Len has handled very professionally.

Len's special love has been Iron In The Hat. His dedication to this fun fundraiser has raised a lot of money for the AABA scholarship fund.

Len has hosted several workshops to help members learn the things he has learned or sometimes the things he is trying to learn.

Finally, although it has nothing to do with the Callaway Award, and although it took many years, Len has actually become a pretty fine blacksmith.

Dan Jennings



Bill Callaway and Len Ledet

SPEECHLESS

by Len Ledet

Yes, standing up in front of my friends at the Auction I was speechless. Just think, I was just asked to become a member of a very special, exclusive club – a winner of the Bill Callaway Award. I was joining Bill Callaway, Dan Jennings, Doug Kluender and Ron Kinyon, and now me, Len Ledet. It is an award I will always treasure, but most of all, the friends I have met through AABA, and things we have done together.

It all started in 1983 at the Tempe Art Fair when I met Bill Callaway and Bob Rummage, they were exhibitors and demonstrators, loud and noisy with smoke coming out of their small rivet forge and surrounded by very attractive women. Over several months of conversation, I convinced Bill to teach a class on Blacksmithing. It was two weeks in the evening and one weekend. There were three in the class, including Mo Hamburger. Thus began a twenty-five year love of the craft and comradeship of the AABA Club and members. How lucky can one get. Having friends and relationship for over 25 years is very special.

The plaque is now on the wall in my home. It is beautiful, thank you Mary Ann LaRoche, Richard Rozinski, Peter Jonasson, Paul Dief and Doug Kluender for your efforts in creating it – it is a work of art. It is an award I will always treasure and thank you AABA members for this honor.



Mary Ann headed the committee, made the base and assembled the pieces with Paul's assistance. Peter made the hand, Paul made the anvil, Rich made the guiding light bulb, Doug found the engraver.

Great job!

Glow Report from the Triangle L Ranch by Bill Ganoe

Several AABA members took their work to the public in early in October in what is becoming an annual event, selling several pieces, demonstrating varying levels of smithing skills, and attracting an interested audience.

The demonstration was at GLOW on Friday and Saturday, October 3rd and 4th. At the Triangle L Ranch in Oracle, Arizona -- where the March 2010 AABA demo is scheduled to be held. As described in the brochure, GLOW is "... an annual multimedia art event coinciding with the full moon. Located at The Triangle L Ranch in Oracle AZ, a short drive from Tucson, GLOW celebrates the work of dozens of visual and performance artists. There will be an array of illuminated sculpture, light projections, installations and a gallery exhibition in the 1890's adobe barn. Attendees are encouraged to wear glow-in-the-dark attire and participate." Our forges, propane and coal, and the glowing iron contributed to the multi-acre light show.

AABA members who participated included Ira Wiesenfeld, Steve Fisher, his daughter Bethany, and Bill Ganoe. Bethany set up a tent next to the forging area where she demonstrated her skills using a small oxyacetylene torch to turn tin cans into attractive candle holders.

Our demonstration attracted audiences that ranged from a single solitary soul to a large crowd. The biggest turn out was on Saturday night. Some people sat down and watched for half an hour or more. Many asked questions, and Ira handed out back issues of *The Anvil's Horn* to folks who expressed an interest in blacksmithing. Steve's puzzles kept several people scratching their heads -- while some of their less intrigued companions spent extra time looking over the pieces for sale. Ira's time machine attracted a lot of attention too. Some people appeared to accept Ira's explanation of the "technology" for time travel while many others watched with big, tongue-in-cheek grins.

The GLOW is an annual event, and it looks like it will grow as the years go by. Watch for the announcements of the 2010 GLOW next summer.



THE AMAZING ALAN CRESSEY

By Barry Denton

Recently we lost one of our long time members, Mr. Alan Cressey of Camp Verde, AZ at age 95. To me, he was one of the most amazing people I have ever known and a true friend to many. This was evidenced by the variety of people at his funeral. When you looked around the room at Alan's funeral you realize what an impact he had. People from all walks of life loved and respected Alan. There were cowboys, businessmen, Mexicans, Navajos, blacksmiths, horseshoers, pretty girls young and old along with his wonderful family. What a colorful bunch it was.

I first met Alan at our annual Arizona Artist Blacksmith Clinic that we hold each year here at our Bar U Bar Ranch in Skull Valley about six years ago. Alan had heard that I had a number of handmade bits and asked if he could see them. After showing him my bits it was apparent that his knowledge of bit making was first hand. He also knew horses inside and out. Alan then informed me he had spent most of his life on the back of one. Alan explained that at age 16 he went to work for the Clark Ranch near the San Bernadino Mountains in California. Not long after he found another job herding about 200 horses for a livery in Big Bear, California. When the summer was over he and 3 other men drove 240 head of horses about 80 miles to El Casco, California. Not long after that trip World War II broke out so he enlisted in the Air Corps. After the war in 1945 he married his wife Ann who was ranch raised and loved the life as much as he did. Because of the great influx of people to California in 1946 Alan realized the cattle business as he knew it was about over, so he moved to Arizona. Alan continued to run ranches in Arizona until his retirement in 1977.



Not being one to sit still Alan began his blacksmith career at a time when most men pull up the rocking chair. He started out forging branding irons, bits, and spurs from the knowledge he had acquired practicing in ranch blacksmith shops. A few bitmakers helped him along the way such as Frank Bradney of Camp Verde, AZ and Gene Klein of Miami, NM. Alan said he was also inspired by a vaquero in the San Joaquin Valley of California named Dewey Winder. Mr. Winder not only forged his own bits and spurs, but also made his own rawhide reins, bosals, horse hair mecates, and piggin strings as did Alan. It wasn't long before Alan was known throughout the southwest for his beautifully forged and engraved silver bits, spurs, buckles, and conchos. Nearly everyday Alan was out in his shop building his famous "AC" marked items. I know this because I have had the privilege of working with Alan.

I have and use some of the bits Alan and I made together. He was always excited when we won a championship using one of his bits. Alan also won several national awards for his work. However, to me the true "champion" among men was my friend Alan Cressey.

The Village Blacksmith, Jerry Harris, Hosts Pima Community College. By Harold Hilborn

On Thursday October, 22 at 6:00 pm Jerry Harris opened his shop to the 20 beginning blacksmithing students from PCC taught by Jason Butler. Jason has tried every semester to take his class to a local blacksmiths shop in the Tucson area to actually see what goes on in a production shop to give them an idea what can be done with blacksmithing techniques. If you are interesting in hosting you can contact Jason at jasonebutler.com

Jerry started out the evening by giving a background on himself telling how he got started and he was now 70 years old and had been working as a artist blacksmith for 45 years. After looking through his port folio I was amazed at the work he has done in that time period and I am sure there is a lot that was not shown. He then went to his coal forge and 50 lb Little Giant and quickly banged out a simple leaf in one heat, which he uses in a lot of his work. He talked about doing production work with a few basic pieces and how you can combined them in a infinite number of ways.

Next up was his associate Steve Grater who has been blacksmithing and helping Jerry for quite a number of years. He first did a ribbon scroll then a fishtail scroll for Jerry's curtain rods which are a constant seller for him. Later Jerry went to his Hossfeld Bender and showed how fast he can make the hanging brackets for the curtain rods.

After the demo Jerry fielded a host of questions and a shop tour. Then

showed his jigs for the birds he makes and how he has studied the anatomy of birds to make them so realistic. His Gallery and sculpture garden were also open for viewing.

There was so much information and so much to see it was hard for one to take it all in the 2 hours we were there.

I am sure I am safe in saying from all who attended, "Thank you Jerry " for a wonderful evening.



CALENDAR 2010

January 2	Open Shop	Grizzly Iron	Phoenix
January 16 & 17	Demo Caleb Kullman	Sahuaro Ranch	Glendale
January 18,19,20	Workshop w/Caleb Kullman	Sahuaro Ranch	Glendale
February 13 & 14	SWABA w Peter Sevin		Las Cruces, NM
March 20 & 21	Demo	Triangle L Ranch	Oracle
April 23, 24, 25	Demo Lorelei Simms	Fred Borchardt's Ranch	Wilcox
June 2-5	ABANA Conference	Agricenter International	Memphis , TN

Open Forge Jan 2

8 am till we get tired.

Grizzly Iron will host an open forge the first week-end of each month, This will be a time to share ideas, bring new jigs, create something new or just shoot the bull. Come join us!

Next month it will be Feb 6, 2010

Grizzly Iron Inc. 1329 W Lincoln St. Phoenix, AZ 85007 (see page 3 for directions)
602-716-9660 shop 602-717-1458 cell

AABA Publications

Most of the Best Tips Project Ideas Patterns from ABANA Chapter Newsletter , aka The Tips Book, is 291 pages of all those things organized so you can find them. It is bound in a 3-ring binder so you can add info as you get it. Available at demos for \$25.

The Blacksmith and His Art by Jess Hawley. Many feel this is still the best basic blacksmithing book available. Plus it's got pictures and a bit of history. Available at demos for the wholesale price of \$12, Or from Pieh Tool or Blue Moon Press for \$20.00

The Skills of a Blacksmith Vol. I Mastering the Fundamentals by Mark Aspery

Mark has finished and published the book and it is arguably the new "best" blacksmithing book available. He has put in writing all those things you learned in class and are trying to remember. But he didn't stop there, there is plenty more help to keep you advancing.

The book is available from AABA and can be purchased at demos. Cost is \$55.00

Or purchase directly from Mark's website:
Markaspery.net

Welcome New Members

Robert A. Wilson
Stephen F. Imms
Jerry Brannen
Larry Roberts
M. Gabriel Bayne
Howard V. Noble

Vern Lewis Welding AABA Discount

"Vern Lewis Welding supply, inc. is happy to extend discount pricing to all members of the Arizona Artist Blacksmith Association. Discount applies to all industrial gases, welding supplies, safety equipment, and more. Vern Lewis Welding Supply, Inc has 5 locations: Phoenix, Avondale, Mesa, Wickenburg, and Prescott Valley.

Delivery is available at the low price of \$8.00 per order.

For more information on Vern Lewis Welding Supply, Inc, visit us online at: www.vernlewis.com or contact Chris Perella @ 602-319-7693"

Examples of Discount pricing

Oxygen - \$12.30 (LG Cylinder)

75/25- \$39.38 " "

70S-6 .035 welding wire - \$1.61 lb

Correction

In the November 2009 AH, we failed to credit Verde Valley Newspapers Incorporated for the article about our September 2009 Demonstration. It was produced by Staff Reporter Jon Hutchinson and first appeared the September 23, 2009 edition of the CAMP VERDE BUGLE.

Deadline: February 7 for the March issue of the Anvil's Horn. Earlier would be greatly appreciated. Articles, photos, notices, and ads can be emailed to: Danshammer@cox.net or mailed to AABA 2522 W. Loughlin Dr. Chandler, AZ 85224

2009 Dues are Due January 1

Thanks for your prompt response

SWABA/ AABA Southwest Annual conference

February 13 & 14 at Las Cruces New Mexico.

Demonstrators will be Peter Sevin and Pep Gomez

- Peter's demo theme. "Blacksmithing Simplified or How I Solved a Lot of my Problems"
We all know Peter's demo will be well planned and chock full of new info. Ed.
- Pep will be demonstrating a variety of pattern welded patterns (it's not only for knife makers).
We met Pep at Fred's last March, he brought several pattern welded items including a poker and some medallions. This guy knows his stuff. Ed.

In response to cold, windy days of past conferences, this year's event will be inside - lots of room and vented, too. Of, course there will be tailgating (although that will be outside) and a few vendors.

There will be a gallery, Iron-In-The-Hat and a silent auction (if there are donations to support it). So, bring your bragging pieces and a few items to donate.

Conference Fee: \$55 if paid by January 31
\$65 at the door

Special rates for families and students.

Brochures will be mailed out around January 1.

More info is available at swaba-abana-chapter.org

Questions? Thomaspowers@zianet.com

Pieh Tool Educational Opportunities

Beginner/Intermediate Blacksmithing Classes with Gordon Williams

Jan. 29-31, 2010

Feb. 19-21, 2010

Mar. 19-21, 2010

Apr. 16-18, 2010

Knife Making Class with Ray Rybar

Feb. 12-14 2010

\$455 per 30 hour class. All materials and equipment are provided.

Bill Pieh Resource for Metalwork at Pieh Tool in Camp Verde, Arizona.

Contact: 928-554-0700 or

www.piehtoolco.com

Mesa Arts Center Blacksmith Class

Instructor, Michael Sobrado, will start the spring session January 21. The class is Thursday evenings 6:00—9:00

Class fee \$115 Mesa Resident, \$137 others

For info or to sign up:

<http://www.mesaartscenter.com/index.php/classes/sculpture/blacksmithingI>

Michael Sobrado dragonforgeI@cox.net

AABA Website: AZ-blacksmiths.org

AABA New Member and Membership Renewal Form

Name _____
Address _____
City _____ State _____ Zip _____
Phone _____ Email _____
Professional blacksmith _____ Hobbyist _____ Farrier _____ Blades smith _____
Your main blacksmithing interest _____
Occupation or skill _____
Please check one:
Regular membership (\$30) _____
Family membership (\$35) _____

Mail to: Terry Porter
2310 E. Melrose St.
Gilbert, AZ 85297

Make Check Payable to AABA

2009 AABA Reed Carlock Scholarship Auction

Photos by Wally Warnke

In spite of the economy, the cold weather and conflicting schedules, we managed to raise \$2700 for the AABA Scholarship fund. Auctioneer, Geoff Gifford did a spectacular job, as usual, adding humor while keeping the pace moving.

Committee chair, Jason LaBrash, did a great job putting everything together and enlisting fiancée Amber, to keep track of everything and collect the money. Thanks Amber!

Jason and Roger LaBrash's whimsically forged awards were wonderful rewards for the efforts of those who created the winning items. (We'll have a photo in a later issue)

Here are the member made auction items.



First Place winner in the intermediate division by Dale Harvey



First Place winner in the novice division by Pat Clark



People's Choice winner by Len Ledet.



First Place winner in the advanced division by Peter Sevin



Left: Packages by Grizz LaBrash

Below: Bells by Michael Sobrado

Below left: Copper belt buckle by Doug Kluender



Above: Necklace, by Mary Ann LaRoche

Left: Tree with flowers and humming bird. By Jim Sheehan

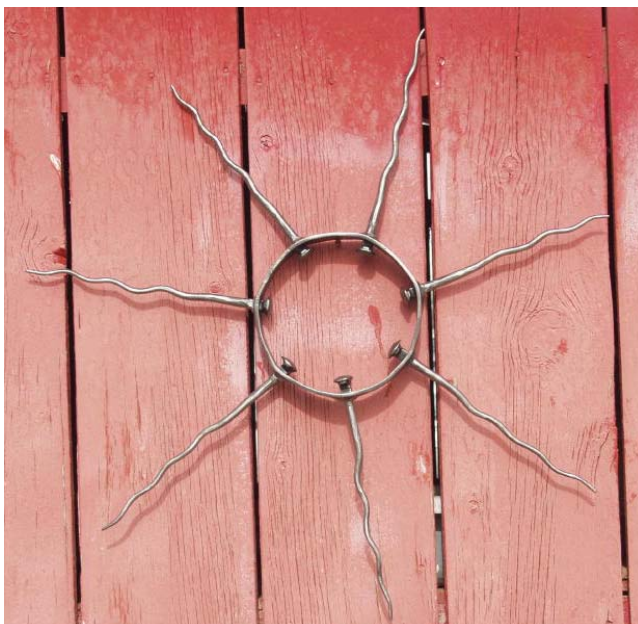
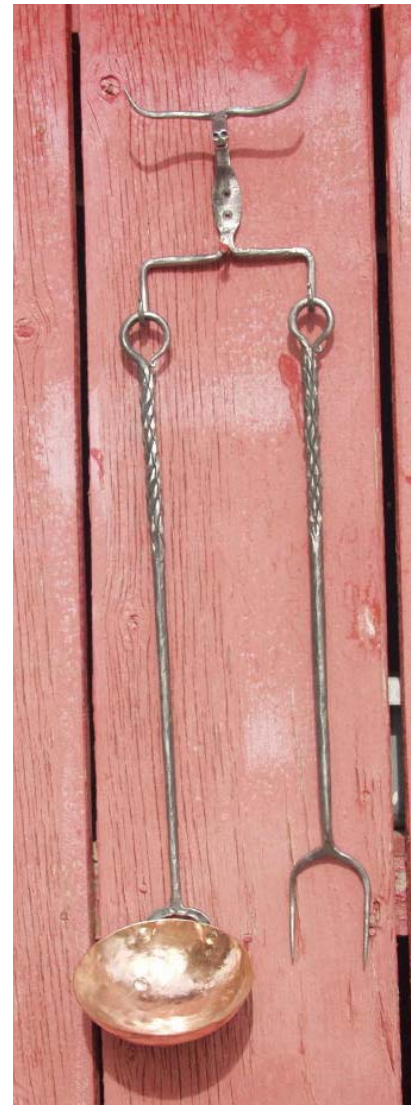


Left: Wizard bottle opener
by Terry Porter

Above: Wrought Iron stand
by Dan Jennings

Right: Longhorn ladle and
fork by George Alexander

Below: RR spike Icon by
Paul Diefenderfer





Above: Tree with buzzard by Jim Sheehan, Marc Larsen, Bill Morris, Mark Finn and Steve Imms

Below: Ironwood table by Ira Wiesenfeld



Vendor Donations

Vendors were especially kind this year providing lots of stuff for door prizes—almost everyone left with some goodies. Give them your support when you can.

1. AZ Powder Coating 602-220-0553
2. Birchwood Casey finishes 952-937-7931 www.birchwoodcasey.com
3. Blacksmiths Journal 573-237-8882 www.blacksmithsjournal.com
4. Chile Forge 520-360-2141 www.chileforge.com
5. Jansen Ornamental Supply Co 800-423-4494 www.jansensupply.com
6. Jerry Kirkpatrick - Valley Forge and Welding 707-459-2523
7. Kayne and Son 828-667-8868 www.blacksmithsdepot.com
8. King Architectural Metals 800-542-2379 www.kingmetals.com
9. Pieh Tool Co 928-554-0700 www.piehtoolco.com
10. Sculpt Nouveau 760-432-8242 www.sculptnouveau.com
11. Van's Gun Blueing 218-340-7561 www.vansgunblue.com
12. Art Ironworks—Peter Sevin

Getting The Most Out Of Your 110 MIG Welder

By Harold Hilborn

Lately, I have been asked a lot of questions regarding welding issues of all types. Someone even suggested I write some articles to help with some of these problems you might be having. I also know for some of you purists, WELD is a four letter word unless preceded by the word forge, but it is a necessary evil in a modern shop today.

Before I begin, maybe I should start by giving you some of my background, so those who do not know me, will feel comfortable with the advice I suggest to you. I have been working as a welder/fabricator for 32 years. During this time I have had two years in a vocational school and another two years at a university studying welding technology. I have worked as a master welder and fitter and have certifications in all major welding process on ferrous and non ferrous materials. I also have ASNT certifications as a welding inspector and have also been a welding instructor. All this being said, I still can not weld the crack of dawn or fix the crack in a broken heart.

So some of you might have been lucky enough to have received a sweet, new 110 volt MIG welders from the fat man in the big red suit for Christmas. You might have an older one, or if you're lucky, a larger machine. Hopefully this article will help all of you who have not had formal welding training unlock some of the mysteries of your machine.

Let's begin with some basics and the term MIG, it is an acronym for metal inert gas or the correct definition GMAW, gas metal arc welding by the American Welding Society. This is a welding process using a continuously fed wire with an inert gas for shielding.

For those of you who do not have a MIG welder yet and have thought about purchasing one, let's look at machine selection first. I recommend you go to a welding supplier who carries either Miller or Lincoln. Try to stay away from buying your machine from Home Depot (Lincoln Handy MIG), Sears (Hobart which is made by Miller) or other home improvement centers or catalogs. These machines do get the job done and the price is usually better than your local welding supplier, but

the dirty little secret is though they might look alike on the outside, they are not the same on the inside. In Lincoln's case they refer to their older model as a Weld Pac 120HD. The HD stands for Home Depot, not heavy duty, It is not the same as the SP model they sell in the welding supply store. The bottom line is, the welding supply machine will cost you a little more, but it should last you longer and if it does break, it will be easier to get it fixed. Also, name brand consumables, like contact tips and cable liners, are easier to get.

Models that come from home improvement centers usually come set up for self shielded wire. (which we will cover later in this article). So if you want to run shielding gas you will have to go to your local welding supplier anyway.

We also need to explain duty cycle. This is the time a machine can run at maximum amperage in a 10 minute period. Most 110 machines are 20% duty cycle, which means they will weld 2 minutes in a 10 minute period. Machines that run on 220 amps are usually rated at 60% duty cycle. It is very hard to exceed a 60% duty cycle.

Now, let's decide what kind of shielding gas you should run. The two most popular ones are 100% carbon dioxide or 75/25 which is 75% carbon dioxide and 25% argon. I run CO2 in my shop, it is far less expensive. It gives better penetration and handles rusty material better. The disadvantages are that there can be more spatter and it is harder to run on thin gage material (16 gauge or thinner). Both of these disadvantages can be overcome if your machine has a variable voltage control. 75/25 is a more refined gas. It produces better bead definition and less spatter and works better on sheet metal. The draw backs are, less penetration and higher cost. Oh yes, don't be shy about negotiating with your supplier. Everyone does not pay the same price.

When I get requests for help from people or go into someone's shop, the first thing I notice is that most machines are not set up correctly. If the machines do run satisfactorily, they are afraid to touch the settings and they weld everything on one setting.

Let's begin with drive roller tension. You should be able to pinch the wire with your thumb and index finger at the end of the contact tip and almost be able to stop the feed when the trigger is pulled. (Be careful not to feed into a grounded table or part.) The wire speed and voltage parameters that are given on your machine are a good place to start. Keep in mind that these are laboratory settings and are for welding usually in the flat position. Do a test weld on the same material you're going to weld before welding the actual piece.

Next let's talk about the term sickout. This is the un-melted wire distance from the end of the contact tip to the weld puddle. This should be $\frac{1}{4}$ " to $\frac{3}{8}$ " of an inch. Practice holding it up to a piece of material of the same thickness to get a good visual picture. It is very important to maintain this distance when welding because, along with your wire feed speed, it controls the welding amperage. If you go closer, the amperage goes up. If you pull back, your amperage will go down. Your voltage controls the heat and the arc length.

There are 3 types of metal transfer. This is the way the metal melts off the end of your wire. They are, short circuit transfer (sometimes referred to as short arc), globular transfer and spray transfer. It is important to know all these and that they are controlled by wire diameter, voltage settings, and shielding gas. To keep it simple, for now, we will concentrate on the short arc because that is what is happening for us.

Polarity is the direction the current flows when we weld. We weld with DC current, in this case, reverse polarity. Which means the current travels from the welder, through the ground, into the part and across the arc gap, into the wire. A droplet of wire melts off and is deposited into the puddle. This happens between 20 to 200 times a second depending on settings. Your welding gun should be on the + lug on your machine and your ground on the - lug. Herein lies the most common problem I see with beginning welders. The machines that come from home centers are set up to run self-shielded wire (instead of shielding gas), which means they are set up to run straight polarity. Often when people need help, it is when they are switching over to hard wire and don't know to change the polarity of their machine.

Since we are talking about self shielded wire let's look at pros and cons. The pros are portability and

being able to weld in a windy environment. The cons are more spatter, more skill is required to weld out of position, and larger diameter wire is required to get the same size weld. For example, if you are running .023 hard wire you would need to run .035 flux cored wire to get the same deposition rate.

So, now you are up and running, I hope. When welding you must be able to see. Keep your lenses clean and get cheater lenses (magnifiers) if you need them. You can't make a good weld if you can't see what you are doing. "Let the force be with you" does not apply here.

Let's discuss welding technique and what we should weld with our 110 MIG welders and what we should not. Unless you are a seasoned welder, you should not weld anything over $\frac{1}{4}$ " thick and nothing that someone's life depends on, such as, trailer hitches and automotive suspensions. Even if you are a seasoned welder, there are almost always better choices.

Weld vertical up when strength counts. Remember, when you weld vertical down it might look pretty, but the penetration and strength in the throat of the weld are not there. Concentrate your wire on the leading edge of the puddle. Wire concentration in the middle or in the back of the puddle will lead to lack of penetration or cold lap as it is commonly called. When welding thicker than 16 gauge manipulate or oscillate your welding gun like a small cursive e, or in and out; back and forth. I am sorry I don't have the ability to draw in this article. It probably would make more sense. Above all, practice, practice, practice.

Hopefully, this will help you in your welding needs. If you need help or have questions please feel free to contact me. Remember a "Beautiful Weld" is a good thing. It does not always have to be ground off, blended, or hidden just because it is an electric weld.

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Safer Grinding

by Dan Jennings

Halloween photo? Nuclear Holocaust preparation?

Nope, this is what I've been using when I have to do a lot of grinding.

A few events started me thinking about using a full face respirator for grinding.

- Paul Dief's story about getting a steel chunk in his eye and having it oxidize.
- When you get that ray of sunlight that illuminates the bits floating in the air you realize how much of the abrasive and metal you're breathing. I figured out that those floating bits of grinding grit trigger my allergies.
- New glasses at \$200+ per pair.

Full face respirators like this have stick-on plastic lens covers that protect the face mask from getting scratched or having hot sparks melt into the surface. Just replace the stick-on cover when it becomes difficult to see.

The respirators are removable and are usually purchased separately. They are available for dust only or for chemical fumes (like paint).

This one is large enough to be worn over eye glasses, which means I can actually see what I'm grinding.

Consider the full face shield for painting, also. A lot of information I have read about painting is that many kinds of chemicals are absorbed through the eyes and the skin. The full face shield also keeps the paint off the eyeglasses or safety glasses.

I got this one from Grainger. But there are better deals if you search the internet. Be sure to order some of the plastic lens covers too.



Copper belt buckles by Doug Kluender from Show and Tell in November

Classifieds

Classified ads are free to members and can be submitted by email to: danshammer@cox.net

Lots Of Blacksmith Tools For Sale: 300lb. Hay Budden, 225lb. Hay Budden, 6- Heavy 6" Post Vises, 5- Heavy 5" Post Vises, 8- 4" Post Vises, 1 Swedge Block, Numerous small anvils, & the "Best" anvil stand, bar none, from the World Champion Blacksmith Competition. (928) 442-3290 any day before 8:00PM.

Wanted: Anvil & Post Vise. I cannot afford the best new tools, nor am I worthy of them. But if you have an extra anvil or post vise suitable for a beginner, please let me buy it! Thanks, Joel@kxci.org, 520-975-6280

Kinyon Simple Air Hammer, 75#. \$1500 OBO.
Call Peter Sevin: 602-320-2384

L Brand Coke For Sale
\$22 for 50 lb Bag
S5 Tool Steel for Sale
1", 1 1/4" and 2" Round Available
12-14" Lengths. \$3 per pound
Call 602-716-9660

35 ton C frame mechanical press. Frame only. Would make a great hydraulic forging press.
\$100.00 OBO
Harold Hilborn 520-603-6723

New style Kinyon air Hammer "Mark 2". 30 Lb head weight, total hammer weighs 565 Lbs. This hammer was made to be portable, short and light weight It will run on a 3 Hp compressor. \$2900
Ron Kinyon @ 602-568-8276

If anyone is interested in a side draft coal forge, but don't have the time to build your own, I would love to build one for you. Parts and labor cost will vary. Call Clark Martinek for details 602 323 4114.
See Page 13 of March AH for photo

Wanted: Someone "near" 43rd & Bethany Home area willing to teach an apprentice. I am 17, Sophomore, don't yet drive, ROTC student with my life back on track wanting to learn blacksmithing skills. Will work weekends for knowledge. Contact very new member Tim Wentworth at qm33@cox.net or 623-934-5511 Thank You.

Sources

Rocky Mountain Smiths have videos available of their conference demonstrators. Most of these are high quality edited, multi-camera videos. For more info:

www.rockymountainsmiths.org

Enco Metalworking supplies.
800-873-3626 or shop online at: use-enco.com

Bar U Bar Supply

The source for anvils, post vises, and other new & used blacksmith tools. Barry Denton ph 928-442-3290
email: barubarranch@gmail.com

IMS (formerly Capitol Metals). Full service supplier of Steel, Stainless, Brass, Aluminum, Copper. 5150 S. 48 ST. PHX. 602-454-1500

Pieh Tool Company Inc.

Blacksmith Supplies, Coal, coke, & Kasenit #1 in 1# cans,
661 Howards Road Suite J
Camp Verde, AZ 86322
888-743-4866 ,www.piehtoolco.com

Scottsdale Farrier Supply

Mostly farrier supplies, but has hammers, tongs and other blacksmith goodies. Ph. 480-838- 4455
863 E. Baseline Rd. Tempe 85283

MSC Industrial Supply Co. is a mail-order supplier of all kinds of industrial & metalworking supplies. You can get a 4500+ page catalog by calling 1-800-645-7270.

Norm Larson Books

Sells hard to get blacksmithing and knife making books. 800-743-4766 email: larbooks@impulse.net

Brent Bailey. A blacksmith in California specializing in custom tools and ornamental forgings for artisans.
www.brentbaileyforge.com

Pacific Insulation Company

Supplier of high temp insulating materials. Bricks, Kaowool and other refractories. 215 S. 14 St. Phoenix. 602-276-1361

Blue Moon Press, Ltd.

Metalwork books, some of which are only available through them.
Bluemoonpress.org
Toll free ph. 866-627-6922.

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*One piece at a time.
Eventually James McLaughlin will
have made the entire suit of armor.*

