Rocky Forge News

Volume 7, issue 3 – March, 2008

Meetings

By Ted Stout

Next meeting will be at Ted's shop on March 8th at 9:00. Lunch will be brown bag bring your own. Bring plenty for energy because if the weather permits we will be forging all day. There are several things we can make to sell at the Illiana Show, which will be extra large this year because the club is hosting an International collectors group during the show. We need to be prepared. Also, we need funds to get the new blacksmith shop built. De we want to borrow money?

Thanks to Dominick, Randy P., Gene H., Dale H. and Jim H. for volunteering to oversee the forging contest at the IBA conference in Tipton this year.

I have bad news for myself, the twins (grandkids) are graduating this year and ask that grandma and grandpa host a party for them. Your right the party will be Saturday of the June conference, so start saving your money because I won't be there to buy tools.

Plan on being at the next meeting for a day of forging and bring your lunch and items for iron-in-the-hat.

See ya then.

Ted

Important dates to put on your calendar

By Ted Stout

BAM Conference (ABANA Conf.)	May 1-3
History Days at Illiana Show Grounds	May 5
IBA June Conference	May 30-Jun 1
Rural Smiths Summer Conference	Jun 28-29
Illiana Steam and Power Show	July 18-20
Indiana State Fair	August 6-17
SOFA (Quadstate conference)	Sep. 26-28
Gaithers' Homecoming	October 3,4

Note: To my knowledge Independence will not have their annual festival.

If you have any questions regarding any of these festivities please ask. It is good that our group be so well represented as participants or attendees at such a variety of events.

If you have any additions to the list please let me know.

Ted

IBA News

By David Childress

Dominick and Ted are running for spots on the IBA Board of Directors. The election if they are opposed will be in March and since I never received a February Forge Fire I do not know if they are running unopposed or not, but I imagine that they will be on the Board come March. I foresee the direction of the IBA changing in the next few years. I think that we will have a permanent home and will be much more involved and known in the outside the small circle of Indiana Blacksmiths. At the least the IBA will more fully fulfill the following from the IBA bylaws:

"PURPOSES AND OBJECTIVES:

The IBA is organized exclusively for educational purposes, including for such purposes the following: to encourage and facilitate the establishment of training programs for aspiring smiths; to disseminate information about sources of material and equipment; to expose the art of blacksmithing to the public; to serve as a center of information about blacksmithing and its tradition; and to do so in cooperation with and as a chapter of the ARTIST-BLACKSMITHS' ASSOCIATION OF NORTH AMERICA, INC. Further, the IBA is organized exclusively for educational purposes within the meaning of section 501 (c) (3) of the Internal Revenue Code."

Smoke and Noise

Articles from e-mail and the Internet

Compiled by David Childress

This Month - A little bit on metal spinning, both the fascinating and the warnings. After that some info on removing cadmium and zinc coatings. Maybe after this someone will have a use for 20 lbs of cadmium plated bolts.

From: "terry l. ridder"

Hello;

The other day I happened to be watching the Discover Channel program 'how it's made?'.

This episode was concerning metal spinning pots and pans. At best the information given was just a terse overview. The episode did not explain metal spinning itself. It is clear that a great many things are happening all at once to the metal.

The most basic example from the episode was taking a large aluminum disc and making a large stock pot. The form is a simple straight sided cylinder with a flat bottom with a rim at the top. The aluminum disc is placed on the bottom of the form and the metal spinning lathe is spun up to speed. Then using a tool which reminded me of a huge roller skate wheel the disc was pushed up against the form and into the shape of a cylinder. To try and understand what all was happening here, I took some plasticine clay and made a disc 1/8 of an inch thick. I then placed the disc over a small metal measuring cup. It was clear that the disc would have folds and creases if I were to attempt to make a clay pot in this manner.

So what is happening with the metal spinning tool and the disc? Is the disc being drawn out using the tool? The episode stated several times that the discs were pure aluminum. They did state that the pots and pans had to be heat treated during the process because they were become hardened by the process.

One thing that was not mentioned in the episode is how fast the metal spinning lathe is spinning the metal disc that is to be fashioned into a pot or pan. Would anyone have a rough idea what the rotational speed of the metal spinning lathe would be?

Are there any good books available that gives a reasonable working knowledge of metal spinning? Does Lindsay books have any books on metal spinning that someone would recommend?

Terry L. Ridder ><>

On Mon, 25 Feb 2008, Jerry Frost wrote:

Terry:

If you want to make an analog using clay, look to a potter's wheel. They not only look like the same process is going on, it is in large part the same process.

As the tool is passing over the blank the metal is usually stretching to conform, however it can and must be upset as well to prevent failures.

Rotation speed is determined by a number of variables: dia., material, thickness, shape of the finished part, type of tooling, (specifically, hand > vs. scissor tools) personal preference and skill among other lesser factors.

Annealing may or may not be necessary depending on many of the same factors that determine rotation speed. Pure Al is generally easily spun without annealing as long as the shape isn't too extreme and the spinner's skill level is decent. Most people are taught using Al as it's so easily spun. On the other hand the wrong type of Al can be a real PITA to spin, most of the AL we spun in Father's shop was far FAR from easy to spin. I thought SS was easier and most spinners look on SS with fear and dread.

My personal favorite is mild steel, it likes to go fast, (high rpm) responds well to a sensitive touch and almost never fails catastrophically. (read flying shrapnel)

Brass is a PITA usually requiring multiple heat treats unless you're spinning a very simple shape or one you can really hog.

Copper is like spinning taffy, requires little force and spins really well but work hardens suddenly so you have to be on your toes and have a good feel for it. Still, copper is good teaching material.

I don't know of any good books that cover the kind of spinning we did in Father's shop; we were a production shop and used almost exclusively scissor tools. Most people spinning manually now use

hand tools and I'm unfamiliar with the technique. I'll have to ask a couple of my old contacts and then get back with the name of decent books.

However, on the practical side. Are you thinking of trying metal spinning Terry? If so you're not going to meet with much if any success, it's VERY physical and if you let it get away from you extremely dangerous. Think about a 6-9" diameter metal blank spinning maybe 3,000 rpm. coming out of the lathe and ripping it's way up your arm. A part can also explode if pushed too far or hard and the shrapnel can be almost impossible to avoid.

I've personally practiced 1st. aid on the aftermath. On one occasion it took three of us to apply pressure to enough places to control the bleeding. Though nobody died in Father's shop a number of guys lost fingers, the use there of and in one extreme case his entire hand. Dad's insurance paid for LOTS of stitches.

Metal spinning can be very challenging, intensely satisfying, hypnotically beautiful to watch and cripplingly dangerous. It also takes a number of specialty or specially modified machines.

Frosty

On Mon, Feb 25, 2008 at 10:19 AM, Ben Barrett wrote:

Terry,

I found three pertinent books at Powells, the biggest & best used bookstore in the country :)

http://www.powells.com/biblio/2-9780917914836-0

Metal Spinning: For Craftsman, Instructors and Students by James E. Reagan and Earl E. Smith (1936 reprint, 80-page textbook, $10)

http://www.powells.com/biblio/4-9781559181372-0

Metal Spinning by C Tuells (1994, 38-page pamphlet, $5)

http://www.powells.com/biblio/4-9781879335493-0

Turning Lathes: A Guide to Turning, Screw Cutting, Metal Spinning & Ornamental Turning by James Lukin (1894 reprint, 190 pages, $25)

Those were the best matches on "metal spinning"... there are a bunch more on "metal lathe":

http://www.powells.com/s?kw=metal+lathe&x=0&y=0

Powells is great, they have a wonderful selection of used (&new) books, all nicely cataloged -- they have many reprints as well as out-of-print materials, and if you're ever in Portland be sure to stop by, not just their main location, but their engineering branch down the street. If you order online & are patient enough for book-rate shipping, they'll ship for free on a $50+ order. Sorry for the plug but they've been a terrific source for my workshop library!

Sorry if I'm missing the fundamental difference between metal spinning and metal lathe-work... they seem very similar... is spinning the act of forming on the lathe, i.e. shaping without removal of material? (as opposed to shaping by cutting away material, as is common with lathe work)

cheerio,

Ben

From: Jerry Frost
Date: Feb 26, 2008 4:02 PM
Subject: Re: [TheForge] metal spinning

I knew a lot of digitally challenged spinners. When you're doing production work you don't shut the lathe down between parts. When you finish the or current step you open the tailstock and let the part drop onto a chute that leads to a box behind the lathe. If the part is small enough, sometimes you have to remove it by hand. Still, because the part is no longer a flat disk it behaves in a predictable and reasonably controllable manner.

Then comes the scary part, putting the fresh blank in the lathe. If the part allows a center hole it's zero sweat as your die will have a center pin sticking out and the live center of the tail stock will have a receiver hole so there is no chance of the blank getting away from you.

If the part doesn't allow a center hole, say a cooking pan or gold pan you have to hold the blank between the thumb and pointer or whatever finger you have left on your left hand, eyeballing center of the blank on the center of the spinning die. You have a wooden stick tucked under your right arm and resting on the tool rest with the working end almost

touching the edge of the blank. Next using your right hand you close the tailstock on the blank.

This is the moment of truth, if you're too far off center centrifugal force will rip the blank out of the lathe and because you're holding it between thumb and remaining finger that's where it'll hit first and proceed up your arm like a jagged meat slicer.

If you've eyed it well enough friction between the tailstock and die will hold the blank in place long enough for you to center it with the centering stick. You apply gentle pressure with the stick on the edge of the spinning blank while simultaneously allowing a LITTLE slippage from the tailstock. Sometimes a beginner will lose control of the blank during this process but hands or the remains there of shouldn't be in the way so blood is rarely shed at this stage.

I was really good at stopping bleeding by time I was 9, major bleeding at that.

Frosty

If it ain't forged
it ain't real.
Wrought iron is.
The FrostWorks
Meadow Lakes, AK.

On Fri, 22 Feb 2008, Mitch Quade wrote:

A real easy way to remove Cadium and maybe zinc is to put the screws in vinegar for several hours.

Yes, this does work. However, the cadmium and zinc are now in solution with the vinegar. This is now a liquid hazardous waste to dispose of.

The removal of cadmium and/or zinc by electrolysis would keep most of the cadmium and/or zinc as solids.

From: GRAF
Date: Feb 23, 2008 1:46 PM
Subject: Re: [TheForge] Removing Zinc and Cadium

I did not say that I would drink it for disposal.<G>

Sometimes folks tend to dump all things bad for us into the same category. Zinc oxide is one of the active ingredients in diaper rash ointment and some sun block lotions.

I wouldn't eat that intentionally either, although I am certain to have ingested some sunblock along the way. I do not think a quart of vinegar/zinc oxide solution from stripping a pound or two of bolts poses an environmental risk.

Being very NON PC I'd say turn on the tap and flush it. About the same thing as dumping some pickle juice and taking a shower after a picnic lunch at the beach.

Mike Graf

From: Jerry Frost
Date: Feb 23, 2008 4:27 PM
Subject: Re: [TheForge] Removing Zinc and Cadium

Cadmium is very bad news if you get it in your system. It is a genuine heavy metal, is extremely toxic and without treatment.

Zinc on the other hand is a necessary element for your health, all kinds of biological functions rely on it. It's also water soluble so unless you go totally overboard it'll flush out of your system fairly quickly.

Jim (Paw Paw) Wilson killed himself by burning an obscene amount of galvy pipe in his forge and did it in a relatively closed area. Sure, there was a garage door open at one end but no real cross ventilation. He knew he was putting himself at serious risk and chased everybody else out.

Even after he dosed himself with seriously dangerous amounts he probably would've been okay if he'd gotten help sooner than 4-5 days AFTER he started feeling bad. Instead he waited till he was too sick to get out of bed and by time he went to the hospital there wasn't much they could do except make him as comfortable as possible.

To top it off Jim suffered from COPD.

Do NOT get me wrong, stay out of the smoke, dust and fumes as much as possible but don't panic if you see a little green flare and feathery blue smoke when you're brazing or otherwise working galvy. Unless you're health is already severely compromised it isn't going to kill you or even make you sick.

If you're unsure of what you're getting into there are some common sense precautions you can take:

Number one MIGHT be to ask here but you have to bear in mind the old saying about asking two blacksmiths a question and getting three answers. So a sizeable grain of salt is called for from the opinions of this gang.

The REAL #1 is find out what the heck it is.

#2 is web search the material on the MSDS servers.

#3 is find the proper (appropriate) safety equipment, web searches for "fire and safety equipment" usually yields more info than you'll ever use.

#4 Know when to walk away. Everybody is different in almost all particulars. Some of us are more resistant to smokes or whatevers, some acutely allergic. We all have different comfort levels from blissfully uncaring about personal hazards to paralyzingly afraid. You have to know your own limits and respect them. This goes for whatever you do, where ever you are.

So, while this list may be a good place to start your research into materials safety it's certainly NOT the place to end it.

Have fun, play safe.

Frosty

If it ain't forged
it ain't real.
Wrought iron is.
The FrostWorks

Announcements

The Rocky Forge News is available by E-mail and on our website (`http://www.rockyforge.org/`). If you wish to receive the newsletter via E-mail sent Dave Childress a note at `trollkeep@gmail.com`, or e-mail directly to `rocky@rockyforge.org`.