
Billets & Blades

Official Newsletter of the North Carolina Custom Knifemakers Guild
Mark Gottesman Editor

Welcome to the Fall Issue of "Billets & Blades". The meeting down at Harlan and Karen Simmons was just incredible. Great turnout, super demos and superb food.

One of the more exciting events is that the Guild decided to put on its own show rather than hook up with an existing promoter.

I would like to thank Tim Scholl, Tommy McNabb, Mike Weaver, and Jack Hyer for submitting articles to this issue

So pull up a chair and a cup of coffee and find out what happened and what will be happening.

DUES

Dues must be paid by the end of October! Send the \$50.00 to Gary Gaddy right away. There is going to be only one full membership list printed next year and if your dues are not paid you will not be listed. Also, voting members that do not renew will lose voting status and have to be rejuried. New members will be listed in the quarterly newsletters as they join.

If you have a red circle on you address label it means we have not received your dues.

NCCKG Knife show

The NCCKG is putting together a knife show. This started during a discussion about the New Bern show. Seems that the plan for New Bern was to

have the show in March of 1995 in conjunction with the boat show. However, the knife show was going to be located upstairs in a building that was not near the boat show. Members seemed to feel that this was not what they wanted the Guild to get involved with. It was a short jump to getting a 6 person committee together to look into putting a show together out in the Raleigh area for September of 1995. Chris Latta is the front man for this group. You can reach Chris at 415 Bay Drive, Washington, NC 27889. Sorry, but I don't have a phone.

As far as New Bern goes, the Guild will send a letter stating that it will no longer sanction or sponsor any shows out at New Bern. However, members of the Guild who are interested in selling at the show are strongly encouraged to get in touch with the show promoters.

The members of the committee are Chris Latta as Chairman, Tim and Kathy Scholl, Mickey and JoAnn Wise, Wayne and Susan Whitley, Charles Ray Knowles, Jack Hyer, and Gary Gaddy.

Winter Meeting

There will be a meeting in the central part of the state sometime in January or February. To add to the vagueness the demos are not lined up yet. If anyone has any requests or wants to do one call Tim Scholl or Tommy McNabb. Flyers will be sent out as soon as things are firmed up.

New Members

John (Jack) H. Busfield
153 Devonshire Circle
Roanoke Rapids, NC 27870
(919) 537-3949 [Home]
(919) 537-8704 [Fax]

Eddie Dixon
Route 1, Box 212
Grimesland, NC 27837

Scott Goguen
166 Goguen Road
Newport, NC 28570
(919) 393-6013 [Home]
(919) 393-2934 [Work]

Dave Graedon
215 Pineview Road
Durham, NC 27707
(919) 489-8533

William J. Jones (juried 10/1/1994)
440 Old Kenly Road
Pikeville, NC 27836
(919) 734-6145 (H)
(919) 832-3081 (W)

James Poplin
103 Oak Street
Washington, GA 30673
(706) 678-2729

Calendar

October 29-30
Knifemaking with Bob Coogan. Appalachian
Center for Crafts, Box 430,
Rt. 3, Smitville, TN 38505
(615) 597-6801.

November 11-13
17th New York Custom Knife Show, Roosevelt
Hotel, New York, New York
(212)-661-9600 or
(516) 781-5515 for info

November 26 and 27
"Land of the Sky" Gun and Knife show
Asheville, NC. Call Mike Kent at (404) 972-4904
if you are interested in doing the show

December 3 and 4
Knife forging with Robert Livingston in
Conjunction with the Southern Highland Guild.
Folk Art Center.. Mile Post 382, Blue Ridge
Parkway. (704) 298-7982

December 11
The 8th Chesapeake Knife Show at Timonium
Maryland. For info contact Ted Merchant
(410) 343-0380

February 24-26
Meadowlands Custom Knife Show. For Info
contact Paul Tausig at (516) 757-1859 or (516) 868-
4300

March 17-19, 1995
East Coast Custom Knife Show at the Holiday Inn
Crowne Plaza in Manhattan. Contact Stephen
D'Lack at (417) 335-2170

March 19-25, 1995
The American Hand-Forged Bowie Knife, with Jim
Batson. John C Campbell Folk School, Rt 1, Box
14A, Brasstown, NC 28902
1-(800) 365-5724

March 26-4/1, 1995
Damascus patterns for Bladesmithing, with Chuck
Patrick. John C Campbell Folk School.

April 8-9
4th Greater Shenandoah Valley Knife Show at the
Rockingham Co. Fairgrounds, Harrisonburg Va.
Contact Wes Shrader at (703) 433-1434

Fall Meeting

First off let me say that Karen and Harlan along
with Tim Scholl put together a great meeting out at
Arapahoe. Also a big round of applause and a

heartfelt thank you for the ladies auxiliary for taking care of the victuals. There was lots of great food and drink always ready when needed. Saturday evening we had a "Pig Pickin'" that was good enough to make you cry. What a treat. Everyone went away "fuller than a tick" to quote Jack Hyer.

The business meeting was the first thing on the to-do list. The Guild is in good shape with about \$1500 in the bank and membership is approaching 50 people. Gary Gaddy asked to be allowed to get a larger briefcase to hold the Guild related files. This was OK'D by the group.

Discussion next shifted to a message that Alan and Susan Patterson are doing the Meadowlands Custom Knife show and volunteered to handle a table of other Guild members work. Later on eight members got together and worked out the rent share and number of knives to send. This may be something the Guild wants to continue to do at other shows. Think about it.

The topic of Liability insurance for the Guild and it's activities was talked about. With the upcoming show this will be important. We will be checking with ABANA and some other commercial insurers to find out what we need to cover ourselves.

After the business meeting there was a short talk by Jessie Hauser, the engraving instructor at Montgomery Community College. He said there was a good response to George Herron's class and that maybe the NRA would sponsor another class. Jessie felt that the class direction could be changing towards more High-Tech courses and away from the Artist-Craftsman. However, Jessie felt that a benefit of these classes was that it helped educate people as to why handcrafted products are worth so much. During this talk it was brought up that Bruce Turner of MCCC had been instrumental in getting the Guild started and supporting it thru the first year. For this help it was voted to make Bruce an honorary member of the Guild.

Metal Casting

The first demo of the day was put together by Robert and Pat Grooms. Let it be said right here that lost wax casting is a very complex procedure. If you are interested in the trying it out go take classes or hook up with someone who can lead you thru the process. The results are well worth the learning time, but trying to do it without instruction could end up expensive and frustrating.

The process goes something like this. First you need a model of something to cast. You can either carve an original work out of wax or make a mold of an original item and then make a rubber mold of it. With the rubber mold you can make duplicate waxes. Another possibility it to take an organic item like a bug or leaf and use that as the original.

Next the items are sprued up. This is where the mold is fitted with wax strips and pouring cup for the metal to run thru. This takes some thought since you want the mold to fill completely and you may be pouring multiple items at once.

Then the mold and sprues are surrounded by a high temperature investment which is supported by a metal flask. The whole assembly is vacuum degassed to remove air bubbles in the investment. After the mold has set up, it is slowly heated up to melt out the wax. Then it is heated to a real high temp to burn out the wax residue and ash any organic material if a bug was invested.

As soon as the mold is fully burned out the metal is melted with a torch in a small crucible and poured in the top of the mold. Robert used a vacuum casting rig that pulled the metal thru the mold rather than a spin casting rig that throws the metal thru the interior. Mold breakage with the spin caster can get exciting.

Lost wax casting is both tool and technique intensive, but it offers a way to get incredible detail and repeatability not offered by any other method.

We would like to thank Robert and Pat for putting together this rather extensive demo and sharing all that was possible with us. Rio Grande offers a catalog with all the tools, books and materials that might be needed for doing this sort of work. Robert mentioned two other suppliers, Swessel and Kingsley North, but I didn't get addresses. Drop the Editor a note if you want more info.

James Poplin

A last minute addition to the program was the appearance of James Poplin from Georgia. He brought up a truck full of supplies for us to look over and stock up on. Among the offerings were Desert Iron wood scales, Cocobolo sticks, and several boxes of Stag scales, crowns, and sticks. He also brought grinding and buffing supplies. The handle materials were gorgeous and a fair price. In fact I believe that the group actually got first crack at these supplies. It sure looked like a feeding frenzy when he dropped the tailgate. If you want to get in touch with James his address is in this issues new members section. Hopefully we will see him at some of our other get togethers and maybe at our knife show. Thanks for making the long haul.



Looking over the goods!

tempering will remove temper line. Grind blade, hand rub blade length wise to 220 grit finish. Mix equal parts of potters clay, ground charcoal, ground fire brick, and silica sands, (iron filings may also be added). Add a small amount of water and mix to a cake frosting consistency. Take a spatula and place mixture along spine and about half way down side of blade shaping the line to your preference. Allow clay to dry either in air, under a light bulb, or in an oven on low temperature until all moisture is gone. Heat edge to critical temperature and quench in brine. Remove clay and sand length wise with 150 grit paper until scale etc. is removed. Temper one hour at 400 degrees. Finish to 600 grit polishing length wise. Etch in ferric chloride for one to two minutes, neutralize in baking soda, and rub with 600 grit paper to polish blade. Temper line should show boldly.



Tim Mixing Clay

Clay Tempering by Tim Scholl

Of the steels I have tried this technique on, 1095 gives the best results. 5160 shows hardly any temper line. Do all grinding before heat treating, all finish work after heat treating is done by hand. No buffing. Excess grinding or buffing after

Chainsaw Blade Damascus by Tim Scholl

The first step for a successful billet is grind all cutting teeth off. Some of these are chrome plated and will not weld. Next clean all grease, wood, etc. from chain. Soak in varsol or any degreaser and scrub with brush until clean. Let dry, cut into four inch lengths, stack, and spot weld with nickel welding rods. Weld on a handle and you're ready for the forge. Bring up to even heat, flux, then bring up to welding heat. Use light hammer blows as if welding cable to form stack into tighter bundle. You should start to feel things stick together by now. Flux, bring back up to welding heat start using heavier blows as you feel the chain weld solid. Stretch billet to at least two to three times the length you started with. Clean all scale off, cut into thirds, restack, and forge weld again. Usually this is enough to make a good bar of steel. However, you may wish to forge weld a third time just to make sure.

Power Hammer Workshop with Harlan and Mike Wise

This workshop was run using the smaller 25# hammer in Harlan's shop. The 100# decided that it wanted a break. The heating was done with a Mankel gas forge that had a real good heat in it and several people such as Tony Kelly and Scott Goguen took advantage of the opportunity to put together some Cable damascus billets for later use. I think that even Jessie Hauser took a turn. The combination of gas forge and power hammer seems to be the best damascus set-up for ease of production.

Metal Engraving - Jessie Hauser

Jessie brought along an engraving setup and proceeded to give an evening demo and informal instruction on the art of metal engraving. There was much interest in it and several of the ladies in attendance took a turn at the engraving block. Jessie reviewed the equipment, cutting tools,

sharpening and general procedure. Maybe we can persuade Jessie to put together a full blown workshop for us at the next get together. Maybe a good hands-on workshop with notes and resource list. Tim, are you taking notes?

Scrimshaw- Mike and Cathy Weaver

Mike and his wife came up on Sunday morning to talk about ivory scrimshaw and also the laws that are involved in the ivory trade. He gave out catalogs from "Bone Trading Company" [1-206-796-4330 for Customer Service and 1-800-423-1945 for orders] that carry all the supplies that apply to decorating ivory and horn and bone.

He also gave a lecture on the materials that he had brought along and went over the laws that are found in the "Bone" catalog. This is all the info that I could get as I had to leave early.

Gas Forge info and How to - Wayne Whitley

Wayne brought along a propane forge that he had built that uses a blower for the air supply. Construction was very simple with just a refractory lined tube and a burner setup made from black iron pipefittings. The forge lit off and ran fairly quietly. Heatup time for a good size billet was respectable and at least as good as a Mankel forge that was running in the same shop.

For those interested in building their own, Wayne furnished a 9 page manual that could get you started. If you want a copy get in touch with Wayne or the Editor.

Please remember that gas is dangerous. If you aren't sure what you are doing ask or get help! A gas explosion, if you are lucky, will just kill you. Burning down your shop, spending months getting skin grafts or going to someones funeral is to be discouraged.

Damascus Steel by Tommy McNabb

Tommy has sent in the following article to add some more info on the history and pattern development of Damascus steel

Damascus Steel

Damascus steel is so named because the Europeans first saw it in the trading center of Damascus during the Crusades. It generally originated from India or Persia and was never made in Damascus. It was an exceptionally high quality steel for the times and was mainly used for cutting tools. This type of damascus was referred to as wootz and was made by melting high carbon steel in a crucible and then cooling the material slowly. As it cooled the crystalline structure of the metal differed and a water or damask marking would appear. The steel was then forged into the desired object and by polishing and etching the pattern would be revealed.

The Europeans were interested in duplicating damascus steel but the technique they developed is referred to as pattern welded steel. Starting with at least two dissimilar ferrous materials, alternating the layers and forge welding together, a laminated piece is made. Continuing to cut, stack and forge weld the billet you can obtain many layers. Then by manipulating the billet using different techniques you can create desired patterns.

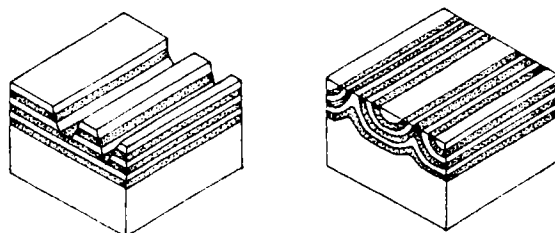
Method of Pattern Development "Stock Removal Followed by Forging"

Stock removal can be done by filing, grinding or chiseling. The billet should be forged as near to the finished shape as possible before stock removal or the pattern will begin to distort with subsequent forging.

This method works best with at least 36 layers. Above 600 or 700 layers in a 5/16" thick billet lines are so fine they are difficult to distinguish. The more layers the piece has the deeper the groove can be and more line will be revealed. Images can be

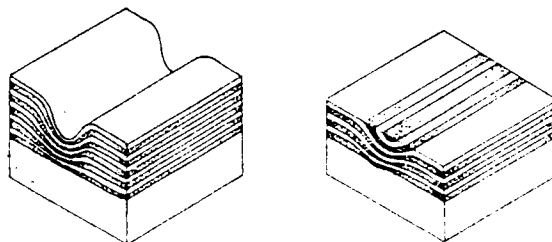
drawn in the metal such as letters, leafs or abstract designs. Unless the pattern design calls for a variation in groove depth it should be constant so a minimum amount of forging is necessary to get the surface flat. To prevent accidental separation of the layers the groove should not have sharp corners. This can be accomplished by using a tool with a slightly rounded edge or by filing.

After removal the piece is forged flat using a flatter. This will bring the bottom of the groove even with the surface which will make the layers thinner and the pattern will spread out.



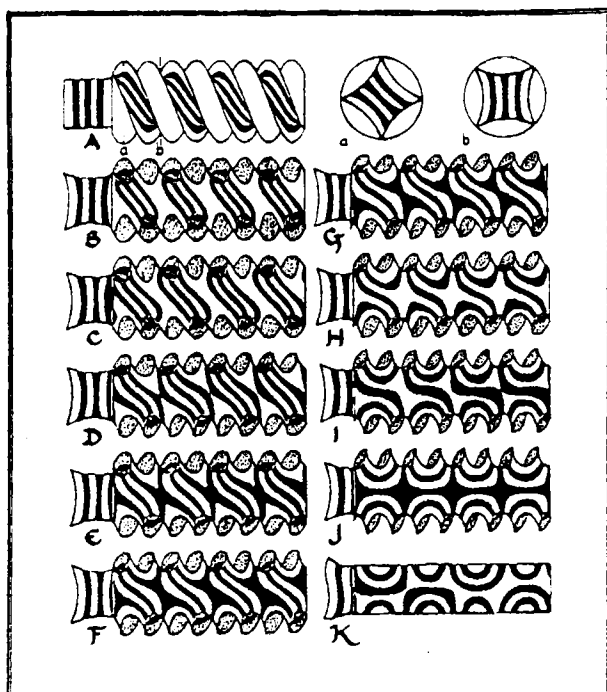
Method of Pattern Development "Surface Manipulation Followed by Stock Removal"

Surface manipulation consists of compressing areas of the metal to develop patterns. This is accomplished by using a fuller, specially designed punch, round faced hammer or similar tool that would not leave sharp edges. As in the stock removal method best results are achieved using a billet of 36 to 600 layers and as close to the finished dimensions as possible.



After developing the pattern to an equal depth the surface is ground down to the bottom of the indentations. This will leave concentric lines around the impressions.

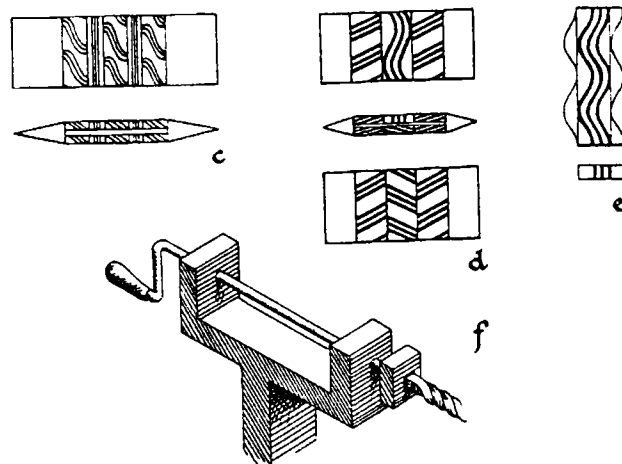
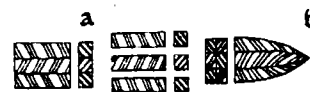
Twisting



Patterns developed by twisting will change with the number of layers, twists per inch and method of reshaping the billet. Reforging will cause the layers to straighten out while stock removal will create a star pattern. A greater variety is possible by joining two or more twisted pieces together forming a multiple star or herringbone pattern.

As few as 4 layers or as many as 100 layers can be used. I found the optimum to be between 16 and 48 layers to have an interesting, easily distinguished pattern.

Starting with a square billet, round the corners and bring near a welding heat and flux before twisting. The use of a twisting device allows better control and results in a more uniform pattern. Possibilities of variation when grinding a twisted damascus rod.



Examples of damascus blades by combining different patterns

Mike Weaver Biography

[Ed. I received the following article from Mike by way of Tommy. I believe that Mike is going to submit it to another cutlery publication, but he is letting me use it first. It has been edited. If anyone wants to send in similar background stories, I'll run them as I can. It is a good way for members to find out about each other.]

At age 16, Mike Weaver sold his first pastels of fish and wildlife. He never dreamed he would be traveling throughout the country selling scrimshaw. Now, at 32 and as an Associate Member of The Knifemakers Guild, Mike is surprised to see how far he has come.

"I had quite a bit of artistic talent passed on to me from my mother and her sister," he said. "My mother drew well and wanted to be a fashion designer and my aunt was a professional artist who owned her own ceramics shop and drew and painted for exhibitions. Aunt Margaret shared many ideas

with me regarding art. With her and my mother's encouragement, I went to college as an art major in 1981." While in college, Mike met a knifemaker who introduced him to scrimshaw.

"When I first started scrimshaw, I attended a few custom knife shows," said Mike. "There, I picked up The Scrimshaw Connection by Bob Engnath and studied how the other scrimshanders worked." In 1983 Mike joined the Marine Corps and stopped doing scrimshaw until 1985 when he was transferred to Hawaii. Mike contacted and met Hamlin Gilmore, who was the art director for the Lahaina Scrimshaw Factory, Lahaina, Maui (HI). During his meeting with Hamlin, Mike was handed a piece of mastodon ivory and Hamlin told Mike to put on it whatever he wanted to. "It took me forever to scrim," Mike recalled. "I did a close-up of an owl holding a mouse in its beak. I sent it to Hamlin and he sent me more ivory and a check. I couldn't believe it." During his four years in Hawaii, Mike scrimmed part-time for Hamlin and for Andrew Alverado, a scrimshander featured in The Second Scrimshaw Connection by Bob Engnath.

Mike now does scrimshaw about 20 hours a week during the school months and full-time over the summers. As a full-time student majoring in music education, Mike finds it a challenge to maintain his 4.0 grade point average, scrimshaw orders, teach private violin lessons and keep up with his family.

Mike is married with two step-sons, Alex, 18 and Vance, 14. Vance is a drummer in his high school band. He was introduced to scrimshaw and the Knifemakers realm just two and a half years ago when he met Mike. "He is my best critic," Mike says. "He will often scrutinize a piece I am working on and catch those things I either missed, or those which I caught, but it's too late to change. He's interested in trying his hand at knifemaking and his mother and I are excited about that."

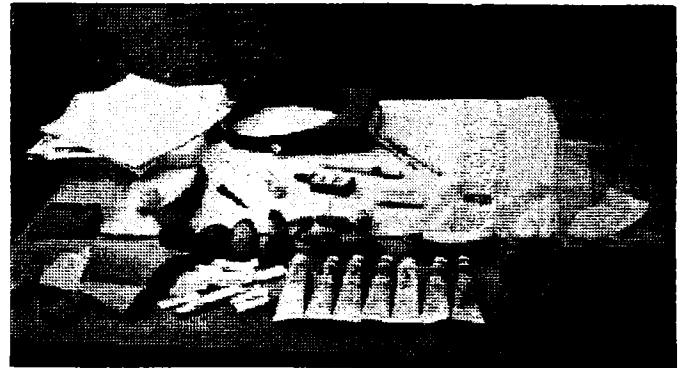
Mike's wife, Cathy, runs an in-home daycare, keeping five full-time children and three

afterschoolers. She's also a tax practitioner, notary public and real estate agent. "I met Cathy in the Wilmington (NC) Symphony," commented Mike. "Cathy and I play the violin and were stand partners, we started dating and the next thing I knew, we were married. I'm still not sure how she keeps up with everything she does."

Mike, a Marine from 1983 to 1993, traveled frequently and could not maintain his art, other than for the time he was stationed in Hawaii. He settled for creating scrimshaw for family and friends as gifts. It was not until he married Cathy in 1993 that he got back into doing scrimshaw for sale.

Mike and Cathy attended the 1993 New Bern (NC) Wildlife Sportsman's Show. To Mike, the show was a new beginning. There, he met Tommy McNabb, president of the North Carolina Custom Knifemakers' Guild. Tommy ordered some scrimshaw from Mike and invited him to show his art at the 1994 Blade Show in Atlanta.

Mike has scheduled to exhibit his scrimshaw at other shows and to demonstrate scrimshaw at knifemakers' and knife collectors' meetings. On a regular basis he displays his work in Fidler's Gallery at The Cotton Exchange, Wilmington (NC). Mike says that joining the Knifemakers' Guild and showing his scrimshaw at the Silver Anniversary Knifemakers' Guild show has laid the foundation for his scrimshaw career. There he met and sold his scrimshaw with the most famous custom knifemakers and scrimshanders, those he read about in The Scrimshaw Connection years ago.



Scrimshaw inks and tools.

Knife Tips

You can blacken Osage orange wood by staining it with a vinegar solution that has had rusty nails soaking in it

If you are looking to buy chemicals try Wilson Pharmaceuticals in Greensboro. Potassium permanganate etc.

Before buffing make sure you trim all the loose strings off the wheel. They will cut a groove in the knife.

Burnish leather sheaths using wax and a hard felt wheel. Cut 1/4" and 1/2" grooves and use beeswax to get a hard smooth edge.

Classified

Sorry, but I didn't get any submissions. If you have something to sell or something you are looking to buy, drop me a note or give me a call.

The Final Cut

Society of Workers in Early Arts and Trades publishes a quarterly newsletter the "S.W.E.A.T RAG". Contact by writing to 606 Lake Lena Blvd., Auburndale Fl. 33823. Looked interesting to me.

Guild Officers

President: Tommy McNabb
4015 Brownsboro Road
Winston-Salem, NC, 27106.
(910) 924-6053 Home
(910) 759-0640 Work

Vice-President: Tim Scholl
Route 3; Box 158-1A
Angier, NC 27501
(910) 897-2051 Home
(919) 552-4504 Work

Secretary and Treasurer: Gary Gaddy
205 Ridgewood Lane

Washington, NC, 27889
(919) 946-4359

Director: Alan Patterson
Route 3; Box 131
Hayesville, NC, 28904
(704) 389-9103

Director: Wayne Whitley
210 E 7th St.
Washington, NC, 27889
(919) 946-5648 Home

Newsletter Editor: Mark Gottesman
5433 Hanover Park Drive
Winston-Salem, NC, 27103
(910) 765-7128 Home
(910) 765-8893 Work
(910) 659-8237 Fax
73030,3437 Compuserve

This Newsletter is mailed to members of the North Carolina Custom Knifemakers Guild four to six times a year. Dues are \$50.00 per year and are due by October 1st every year. Make check payable to NCKKG.

The purpose and policy of this newsletter is to serve as a medium of information exchange for members of the NCKKG, related organizations may copy the information used herein as long as credit is given.

This organization has been formed to help meet the needs of a growing body of custom knifemakers in the Southeastern region. In addition, The Guild seeks to provide a training forum and educational resource for new and veteran makers alike.

Knifemaking and it's related crafts are inherently dangerous occupations. Therefore the North Carolina Custom Knifemakers Guild, its officers and the Editorial committee specifically disclaim any responsibility for damages or injuries that occur as a result of the use, in any way, of any information contained in this newsletter.

Propane Safety

by Jim Halverson

Check List

Do you have the correct propane tank for your job? Frame-mounted D.O.T.-approved tanks are best for farriers' trucks.

Is your tank certified?

Tanks must be certified 12 years after manufacture and every 5 years thereafter.

Are your hoses, regulator and shutoff valves in good working order?

Keep a bottle of Formula 409 spray cleaner on hand to check for leaks.

If it bubbles up, there is a leak.

Is your truck set up so that in the event of an accident, your propane tank will not be struck or punctured?

Does your truck display L.P.G. stickers on left, right and top of your truck?

In the event on an accident, these stickers will alert emergency personnel of the pending danger. It might possibly save your life and theirs.

Do you carry a fire extinguisher?

Do you carry your tanks in an enclosed compartment?

If so, they should be vented to the outside environment.

Did You Know?

Never lay a cylinder on its side. If it vents, it will release liquid instead of vapor.

Did you know that one gallon of liquid LPG = 264 gallons of vapor LPG?

Do you know how many pounds of pressure are in an LPG tank?

At 50oF = 86 PSI

At 70oF = 120 PSI

At 90oF = 165 PSI

At 110oF = 220 PSI

The safety release valve on your propane tank is set to release pressure at 375 PSI.

Some states do not allow vehicles that are carrying propane for use to drive in tunnels. (If caught, there is a big fine - \$\$\$!)

If your tank does explode, it will throw horseshoes approximately one mile in all directions. (FACT!) Just ask Jim Keith.

Propane gas is heavier than air and settles to the lowest point.

So, if you are cutting vent holes, put them in the floor, not the top.

A Final Note

In 1984, Jim Halverson spent \$1000 for a few hours in the hospital and 30 days' loss of work in a minor propane accident. Jim Keith (whose truck is pictured on the previous page) spent \$120,000 and a year suffering from his major accident.

Some costs you may want to consider: A D.O.T.-approved frame-mounted LPG tank, 10-15 gallons, will cost approximately \$250.

The average price of a funeral, including cemetery plot, is approximately \$3000 to \$5000. Straight cremation is approximately \$500 to \$1200.

Think about it.

Don't let this happen to your rig!



Once Jim Keith's horseshoeing rig, this tangled heap of metal is all that remains after a 1988 propane explosion.

Fortunately, Jim has resumed his farriery practice in Indiana.

Turn the page for "Propane Safety," by Jim Halverson.

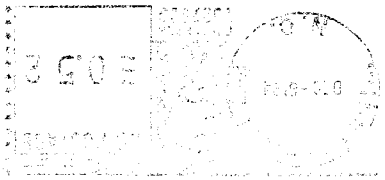
BARRY AND PHILLIP JONES
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Billets & Blades

CUSTOM
NORTH CAROLINA
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MEMBERSHIP APPLICATION FORM

NORTH CAROLINA
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Please send to: NC Custom Knifemakers Guild
\$50 Attention: Gary Gaddy • P.O. Box 2574
Washington, NC 27889

DATE _____

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE: _____ HOME _____ WORK _____

In which category would you be interested in applying: Knifemaker _____

(How long have you been making knives?) _____

Collector _____ Just Interested _____