



NEWSLETTER

July 2009 Volume 2 Issue 7

* Summer Family Day * Mortise & Tenon Joinery *

TBG FAMILY DAY 2009

By definition, the TBG Family day falls on Fathers Day. This year we tried something different. Instead of holding it at the Guild's Forge, we rented a shelter at Northwest River Park in Chesapeake with the thought that there would be more for the family's do at the park. The weather cooperated providing a mix of sun and clouds with an occasional sprinkle of rain and a light breeze to make for a lovely picnic day. The Guild provided hotdogs, hamburgers and cold drinks while Travis donated a grill-full of sausages. The membership also brought loads of supporting dishes and deserts. A number of the guests enjoyed the rental boats while we gave away 24 door prizes. The iron in the hat raffle, while small brought in \$185. We also had a "Show & Tell" table with items of interest on display. We took down the TBG banner and hauled off the BBQ grills just before five, and I can say a good time was had by all.

Steve LaPaugh



Vince P. taking photos at the grill



Hey did you guys forget about me!



I don't care about ITH. I want to run around.



Foods ready!



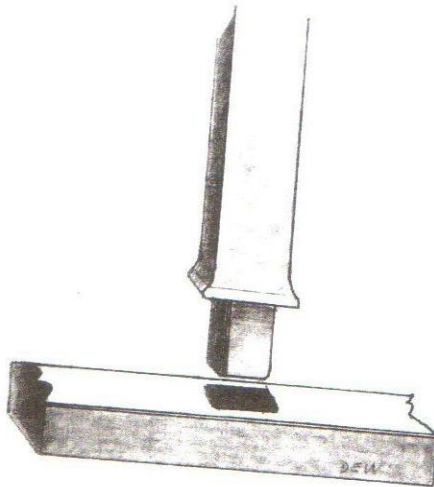
Iron in the Hat is shaping up. Might have to get some more tickets.

This 3 page article was reprinted from ABANA's Hammer's Blow- Summer 2004

CONTROLLED HAND FORGING

Mortise and Tenon Joinery

Text and Illustrations by Doug Wilson



#1. Example of technique

Lesson Number Nine-Mortise and tenon joinery

Definition:

Making a mechanical joint with two or more pieces

Intent:

The smith will learn to forge a tenon and assemble a mortise and tenon joint.

Tools

Side set - top and bottom (drawing #2) Note that the cutting edges aren't sharp. The cutting edges are slightly radiused.

Set hammer

Monkey tool or bolster plate with 1/4" x 3/4" hole (drawing #3) (This is a tool block with a 1/4" x 3/4" hole in center.)

Materials:

1/2" x 1" x 18" mild steel bar.

Method:

Step One:

Upset end of bar and forge to 1 1/8" x 5/8", 3/4" from end. End tapers down to 3/8" x 3/4". (drawing #4) Mark bar on hot cut 3/4" from end.

Step Two:

Take a full yellow heat. Place the bar over the bottom side set. Hit a light blow. The bottom surface of the bar will be cut. Turn



#2. A top and bottom side set

the bar up on its corner. Strike another light blow.

Turn bar onto uncut next surface. Strike again. This marks the second side of the bar. (drawing #5)

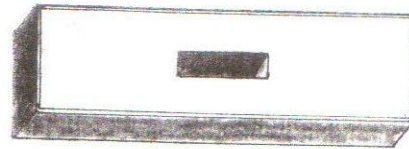
Repeat and cut the remaining two corners and sides with light blows.

Notes: The light blows on the corners help to insure proper tool alignment.

Misaligned cuts or double cuts cause hot shuts, then cracks. Proper tool alignment is critical here. Any mis-cuts should be filed out immediately.

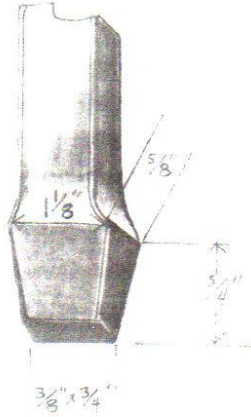
Once marked, the bar can be supported on a stand or your hip. Use top tool to continue. (See previous lesson for bar support.)

Reheat bar if necessary. Continue cutting until the core of the bar is just a bit oversize, in this case about 5/16" x 13/16".



#3. A bolster plate

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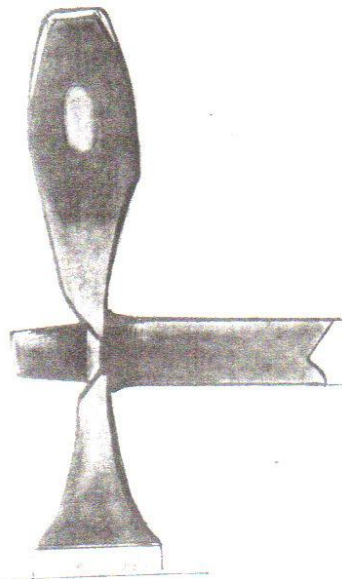
#4. Upsetting and forging dimensions

Notes: If the tenon is a bit too fat that's ok. Too thin won't do. A striker's assistance helps with drawing down the tenon.

Step Three:

Reheat bar to full yellow. Place bar over sharp edge of anvil face. Place set hammer directly over it. (drawing #6)

Strike a heavy blow. Turn the bar 1/4 turn. Strike again. Turn again in the same rotation. Strike again. You are drawing out the tenon.



#5. Marking the second side of the bar

Continue until you have drawn down the tenon to 1/4" x 3/4" length as far as it goes.

Finally, lightly forge down the corners.

Note: As you forge down the tenon, the set hammer and the anvil must be parallel. Check base of tenon by inserting end of tenon into bolster.

Step Four:

Upset square shoulders. Reheat to soft yellow. Heat should extend about an inch up from tenon shoulder.

Note: Quench the tenon to prevent burning if necessary.

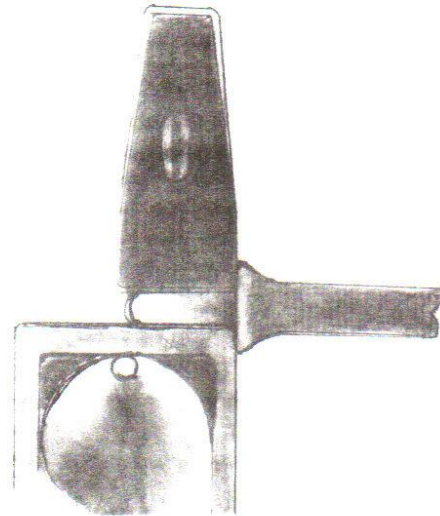
Pull the bar from the fire. Set bolster over the hardie hole. Insert tenon. Upset and square by hitting hard on top end of bar. (drawing #7)

Straighten bar as necessary. Square shoulders to bar with light hits on anvil face.

Note: Tenon should be centered on the bar. Centerlines of bar should be straight. Shoulders should be straight and square.

Step Five:

Cut tenon to length on cutoff hardy. In this case, length should be 1 1/4" from shoulder.



#6. Using the set hammer

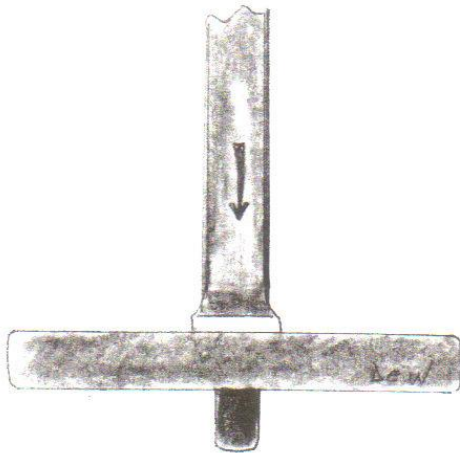
Note: Beveled edges on the end of the tenon help prevent thin, sharp or cracked edges on the finished tenon head.

Step Six:

Finishing the joint. Heat tenon and about 1" above shoulder to full yellow.

Quickly set bar in vise. Set mortise onto it. Tap it down so it sits firmly on tenon shoulders. With rapid hammer blows, upset the tenon. (drawing #8) First hammer blows are straight down. Finish with angled blows.

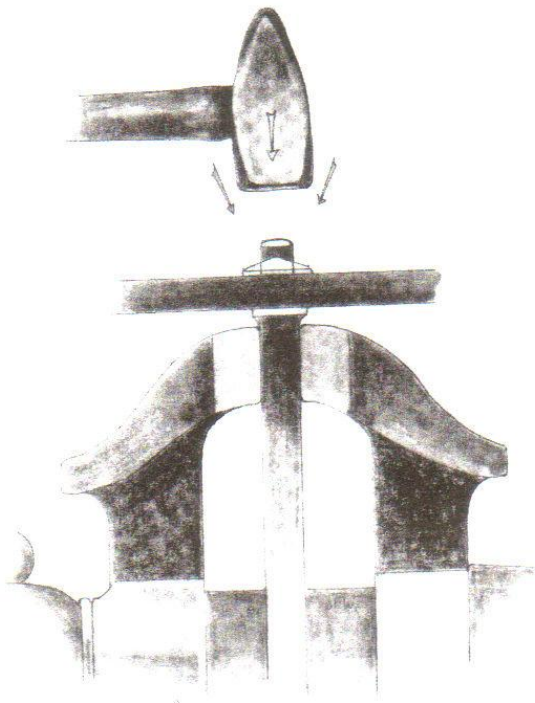
CONTROLLED HAND FORGING



#7. Using the bolster plate

Note: The entire tenon and a bit of the shoulder must be at a bright heat to insure a tight joint.

Forge the head of the tenon into a symmetrical shape with smooth edges. It should be centered on the face of the bar it has joined.



#8. Upsetting the tenon

Note: If you run out of heat, you can use a torch to reheat the tenon head. It is best to finish this operation in one heat. A second heat should only heat the tenon, not the bar with the mortise. (drawing #9)

Troubleshooting:

If the tenon has cracks at the shoulder, this was caused by (1) cutting too deep in step two, (2) misaligned or double cuts, or (3) forging tenon at black heat.

Note: File out hot shuts before and during forging of the tenon.

If the tenon head is not centered on the bar it joins, your upsetting blows may not have been straight down or the mortise was not centered in the bar the tenon joins.

Targets, Time:

Upsetting bar, one heat.

Cutting shoulder and drawing out tenon, two to three heats.

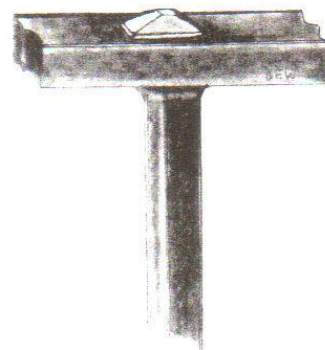
Trimming end of tenon, one heat.

Assembling pieces and heading tenon, one heat.

Targets, Dimensional:

Tenon head should be symmetrical, without sharp edges and centered on the bar it joins.

Tenon shoulder should be the same dimension or slightly smaller than the bar it passes through and joins.



#9. The lesson completed

ABANA Conference News

Site set for Memphis AgriCenter International

June 2009 - Vol. 1 Issue 1

The ABANA 2010 conference will be at the AgriCenter International in Memphis, Tennessee. Located at 7777 Walnut Grove Road, from I-240, on the east side of Memphis, take Exit 13 and drive east on Walnut Grove Road approximately 4.2 miles to Farm Road and turn south, go .1 mile.

Opening ceremonies will be on Wednesday, June 2, 2010. Thursday through Saturday will be full days of forging demo's and excitement ABANA style. Saturday will conclude with a pay as you go Memphis BBQ banquet and the conference auction.

The theme of the conference is to be "ABANA's Greatest Hits" in keeping with Memphis' musical heritage. The ticket price will turn the clock back at least 8 years... The site www.agricenter.org is within a few miles of thousands of reasonably priced hotel rooms. Camping and RV hook-ups will be available on site. Stay tuned for additional announcements.

Log on to the ABANA website and sign-up for our Constant Contact emails, find the box at the very bottom of the home page, enter your email address and click on "Get ABANA Email". You will receive periodic ABANA 2010 Conference announcements.

Lance Davis, Co-Chair for the 2010 Conference said, "We are excited to be putting on the ABANA 2010 Conference at AgriCenter International because the site has ample room to spread out the demonstration areas, it has a great area for the "Tailgaters", supports a large attendance, has hot showers for campers and RV hook-ups, plus the great on-site parking arrangements. Most of all, by hosting the conference on the grounds of AgriCenter we support our members by making the conference less expensive to attend. We are planning a conference focused on blacksmithing education while not forgetting the many groups that come together to be ABANA."

The Conference will open on Wednesday, June 2 and close on Saturday, June 5 with the Auction. See you in Memphis!

Gallery Open to Public
Top Demonstrators

"Green Coal" Forges
Tailgate Heaven
Lectures & Workshops

Memphis Style Banquet
Vendors for the Craft

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"We will preserve a meaningful bond with the past. We will serve the needs of the present, and we will forge a bridge to the future. Function and creativity is our purpose. Our task is great and so is our joy."  
Dimitri Gerakaris, 1973  
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AgriCenter International Memphis, Tennessee
June 2-5 2010

Editor's Note: Hi all, this is a problem that seems to only effect me, but it is the computer system that I have so when submitting photos please ensure that they are reduced in size to 300dpi and under. I can increase the size, but it seems that I am unable to decrease them in size. Don't understand it and neither does my usual source of computer help. I had a wonderful newsletter ready to go, but it was at 32K for emailing and that's more than I can send in an email for starters, then there is Travis on the receiving end of it to convert to a PDF and post on the website. I know that in some of the more upscale magazines and newsletters they prefer larger format pictures because they are all glossy and such. That is not the case here. So please be kind and resize to under 300dpi. Thanks!

I want to especially thank Steve LaPaugh and Vince Parrish for supplying the Photos and article for this month's newsletter. I am told that there wasn't much business discussed, just having a good time and enjoying the day and fellowship. Remember to send in your project, tip, item of interest, etc. for next month's edition, unless of course you enjoy my going-ons all the time. If you have a demonstration please remember to send out an email early enough for members to make plans to attend. At present there are none scheduled until the Civil War Day & Heritage Festival on the 19th & 20th of Sept. This is a really good demonstration with lots to see and lots to do. If you want more info contact Emory Ewell or Larry Ange. Hope to see you all July 19th.

Vince Nakovics

Tidewater Blacksmiths Guild Mission Statement

“The Tidewater Blacksmiths Guild is a non-profit organization dedicated to preserving the craft of Blacksmithing and to increasing the public awareness of the history of Blacksmithing while at the same time demonstrating that in this world, things hand made still exist and remain objects of art”

2007 - 2009 TBG Officers:

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Tidewater Blacksmiths Guild meets every third Sunday of the month. Location of the meeting is posted on our website: <http://www.tidewaterblacksmiths.com> .

Demonstration Schedule: See website or contact Tom Herendeen or Vince Parrish for details.

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