N.J.B.A. Newsletter

NJBA Volume 12, Issue 1 05/01/07

Editors Soapbox

Happy Spring to all. We have a good calendar of events set for the rest of the year and are working on next years already so try to put them on your schedules and get out and bang on some iron. Sign up for the hood workshop, this is a great opportunity to get a long lasting piece of shop equipment. Larry Brown, Editor

Upcoming events for 200

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

May 19 2007 - Forge Hood Workshop, Marshals Farm, Howell NJ. Will use previous design but with 18 gauge stainless. David Macauley is the coordinator. Information on this page.

June 30—July 1st— Historic Cold Spring Village This is our annual event. David will bring down the NJBA trailer David Macauley

Jul 21st - Delaware City Day Hammer in and barbeque Kerry Rhodes and John Chobrda

July 25 -29th - Monmouth county Fair ?
Will be trying to get a demonstration area for us – not confirmed yet. Check web site before event or contact David Macauley

August 19th—Red Mill Hammer in Hammer in and picnic Robert Bozzay Eric Cuper, Adam Howard

September 14th – 16th - Delaware Valley Assn. Engine Show Washington Crossing State Park John Chobrda

September 29th - Peter's Valley Pig roast, tickets $25 before Sept 1st, $30 after. More info to come Bruce Ringier

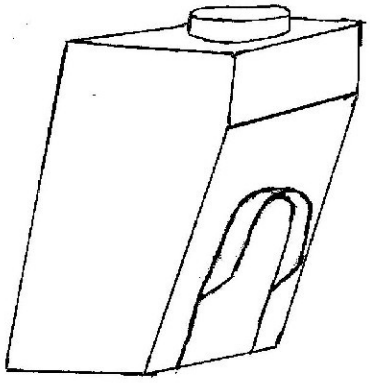
October 7th - Walnford Day We usually do a demo Jeff Morelli?

November 3rd Randy McDaniel demo Demo by Randy McDaniel on wizard and animal heads – Eric Cuper's shop in Easton Pa.
Coordinator—Tim Suter

December ? Holiday Party, Date not confirmed

Forge Hood Workshop
May 17
at Marshall's Farm

A forge hood workshop is organized for May 19th. We are making the same design as last time but we are making them out of 18ga. stainless steel this time. The price will be $175/hood. A deposit of $50 is required as soon as possible to ensure that you can buy a hood. The number of hoods being planned is limited. For more information contact: David Macauley, drmacauley@att.net, 732-206-1568.



The NJBA Web Site!

The NJBA Web Site is up and running at:

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

The Newsletter is at:

http://members.bellatlantic.net/~vze25jcc/index.htm

or the site may be linked to from the NJBA web site.

Official NJBA Address

NJBA
P.O. Box 224
Farmingdale, NJ
07727-9998

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

NJBA Board of Directors

Marshall Bienstock, June, 2007
663 Casino Dr., Howell, NJ 07731
732-938-6577 732-780-0871
jlfmib@optonline.net

Larry Brown. Editor, Membership, June, 2007
90 William Ave., Staten Island, NY 10308
718-967-4776
lp.brown@verizon.net, brownln@hotmail.com

John Chobrda, June 2007
231 Morrison Ave., Hightstown, NJ 08520
609-443-3106
jchob@verizon.net

Eric Cuper, June 2007
109 Lehman Lane
Branchburg NJ 08853
908 369-3913, 908 642-6420 ericuper@msn.com

Tom Eden, June 2007
152 Oak Lane, Hightstown, NJ 08520
609-371-0774
njirrigation@msn.com

Bruce Freeman, June, 2007
222 Laurel Place, Neptune, NJ 07753
732-922-8408, 609-716-2827
freemab@pt.fdah.com

Bruce Hay, Jr, June 2007
50 Pine St., Lincroft N.J. 7738
732-747-4758

Thomas Majewski, June 2007
165 Robertsville Rd., Freehold NJ 07728
732 462-2453 v2e4mab9@verizon.netv

Adam R. Howard, June 2007
Red Mill Forge
56 Main Street, Clinton NJ 08809
908-735-4573 kunstschmeide@aol.com

David Macauley, Chairman, Treasurer, June, 2007
4 Patricia Ct., Howell, NJ 07731
732-206-1568, 732-949-8422
drmacauley@att.com

Jeff Morelli, June 2007
234 Rahilly Road, Wrightstown, NJ 08562
609-723-5990, 732-494-9061x1162

Daniel O'Sullivan,
110 Midland Ave., Glen Ridge NJ 07028
973- 259-9873 danandbeckyos@netzero.net

Bruce Ringier, June, 2007
346 Rt.565 Wantage, NJ 07641
973-702-8475 yllwbrnfrm@aol.com

Tim Suter, June, 2007
1112 Ladner Ave., Gibbstown, NJ 08027
856-423-4417

Cold Spring Village in Cape May

June 30th—July 1st. David Macauley will be bring the NJBA trailer down to the shop at the Village. This is a good event for South Jersey members to get out to without having to travel too far, and for other members who want to visit Cape May, so come out and have some fun.

Delaware City Day

Kerry Rhodes and John Chobrda are inviting all smiths to a BBQ/hammer-in on July 21st at his shop (Forged Creations) in Delaware City DE. This event will be held in conjunction with Delaware City Day, a day of parades, food, and fireworks. Contact John if you are coming down to help give him an idea of how large to make the BBQ.
John Chobrda 609-443-3106 jchob@verizon.net

Monmouth County Fair East Freehold Park, NJ

July 25—29th. WE are not officially scheduled for this event. David is trying to get a location at the fair with Pine Creek Railroad and the NJMT. Please check the web site for updated information or call David Macauley, drmacauley@att.net, 732-206-1568. Also check with David as to the times and locations to help with the setup and teardown on Sunday. We really would appreciate any help setting up and tearing down.

From Garden State Parkway:
Garden State Parkway to Exit 100, Hwy. 33 west. Follow Hwy. 33 to Kozloski Rd., turn right. Follow signs to Park. State Hwy. 9 to Hwy. 33 east, south of Freehold. Follow Hwy. 33 to Halls Mill Rd. North exit. Follow Halls Mill Rd. north to intersection. Road name will change to Kozloski Rd. Follow Kozloski Rd. to Park on left.
From Rt. 18;
Rt. 18 to Exit 22, Rt. 537 west. Take Rt. 537 west to Kozloski Rd., turn left. Follow to Park on right. It has also been recommended that to avoid traffic approach from Rt. 537.

Red Mill Hammer In

August 19st

Hammer In / NJBA Picnic

More details on this event next newsletter.
Red Mill Museum; Take exit 15 on I-78 onto old route 22 going North (routes 513 and 173), make a left onto main street before bridge. Museum straight ahead.

Old Time Engine Show

September 14th, 15th, and 16th

NJBA will again be at the Delaware Valley Old Time Power and Equipment Association's "Days of the Past" Engine Show at Washington Crossing State Park, in Titusville, New Jersey. Come on out and bring the family, there are hay rides for the kids, a metal heads flea market, and a lot to see. We will have a couple of forges going so bring a hammer, also if you have some items for sale we will have a table out. Come on out and join the fun. For more information check out their web site http://daysofthepast.com/

Directions:
The Engine Show is located in Washington Crossing State Park off of Rt. 29 (River Rd.) South of Lambertville and North of Trenton signs are posted to show the way.

Peters Valley Pig Roast

Sept 29th

Peters Valley will be holding its seventh Annual Pig Iron Fest. More information next newsletter.

Only $30 per person~~s~~kids under 12 free!
Tickets $25 before September 1st

Presented by Jimmy Clark, Dick Sargent, Bruce Ringier and the Staff
All proceeds to benefit Peter's Valley Blacksmithing Department. Call for details 973-948-2393 shop, 973-948-5200 office. 1:00 PM Hurricane or Shine

Randy McDaniel Demo

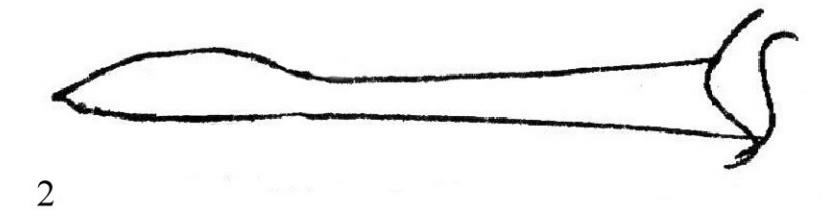
November 3rd - Demo by Randy McDaniel on wizard and animal heads – Eric Cuper's shop in Easton Pa. Coordinator—Tim Suter
Mark your calendars!!!

Squid Demo by Eric Cuper, 17 Feb. 2007
Meet at Eric's shop in Easton, PA
by Bruce Freeman

Eric began with a comment that this demo was in part to demonstrate Jonathan Nedbors "Black Magic Flux," and throughout the demonstration, that is the flux he used, liberally.

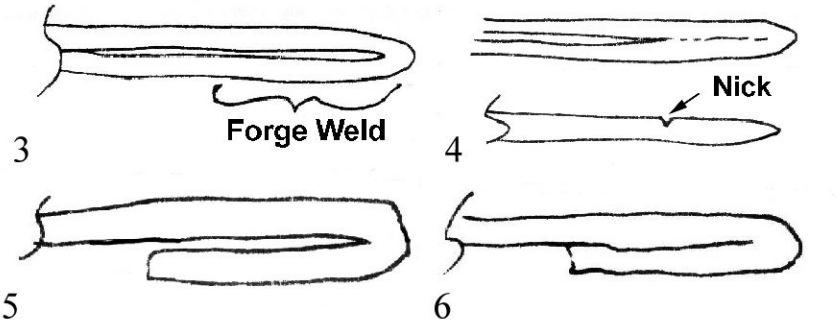
1. For the two arms, Eric started with about 18" of round stock, perhaps 1/4" or 5/16" diameter. He tapered the end and used half-faced blows to isolate perhaps the last 1.5" for the fluke, as is done to make a leaf. He then tapered the "arm" behind the fluke.

2. He flattened the end to form the fluke, a symmetric or asymmetric leaf-like form. He then quenched the end, and repeated these steps on the other end of the same rod.

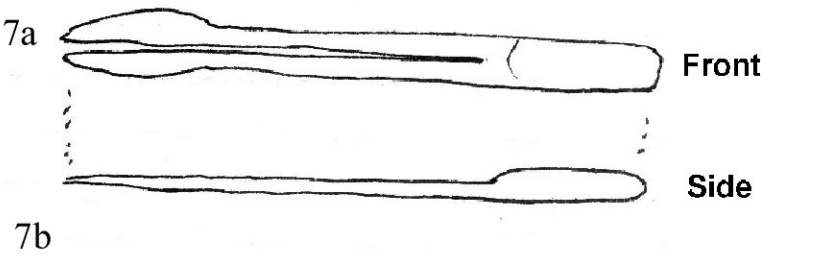


3. Next he bent the rod in the middle (with the flukes oriented as shown in figure 7A) and forge welded about 5" or 6" back from the fold.

4. He nicked the side of the forge welded end, then…
5&6. Folded it over and faggot welded it together as shown.

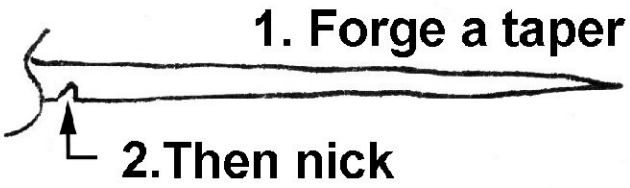


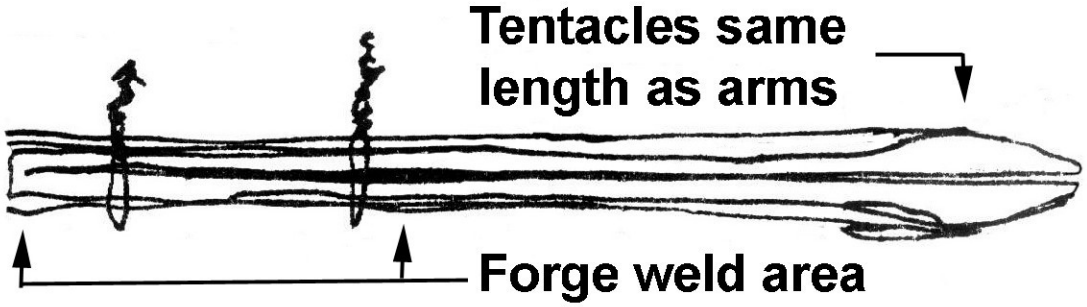
7. (A and B) He worked the forge-welded end as shown in preparation of the next step. As the forge-welded end cooled, he wire brushed it to eliminate scale as it formed.



For smaller stock (1/8" - 3/16") keep anvil close and warm

8. For the eight tentacles, Eric started with round stock of 1/8" to 3/16" diameter. He (1) forged this to a tapered end, and (2) nicked and broke it off at a length almost the same as the arms. He repeated this to produce eight tentacles.

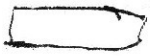




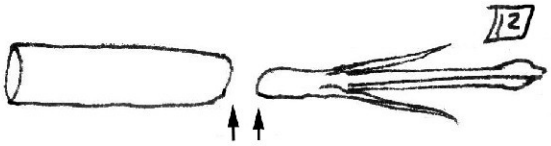
9. Eric then carefully bundled the tenticles around the arms with annealed steel wire. He slowly and carefully heated this bundle so as not to burn the tenticles before the arms were up to welding heat. Then he forge welded the tenticles to the arms.

10. For the body, Eric started with perhaps 3/4" schedule 40 black pipe. He swaged down one end slightly…

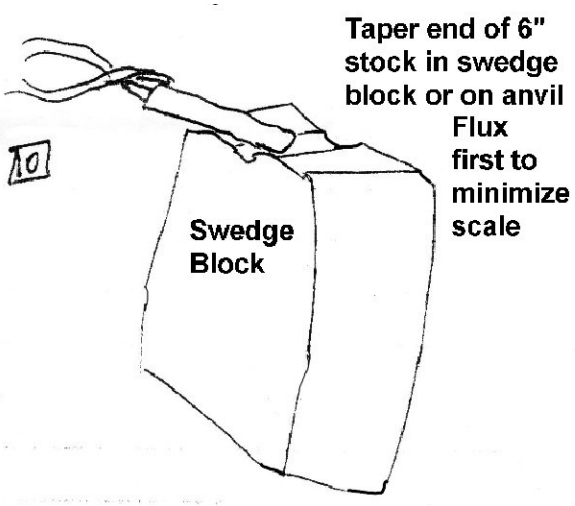
11. …as illustrated.



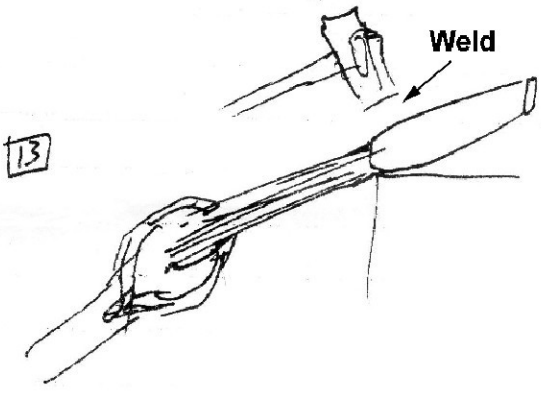
12. He then test fitted the tentacle weldment to the to body piece.



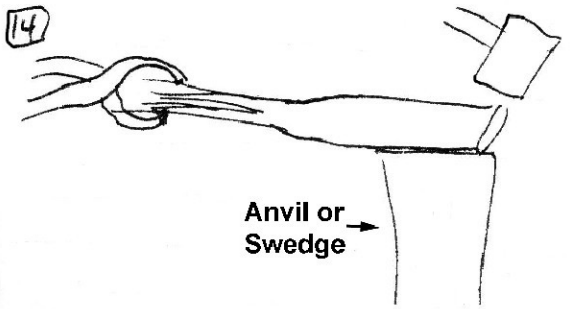
Fit the two pieces



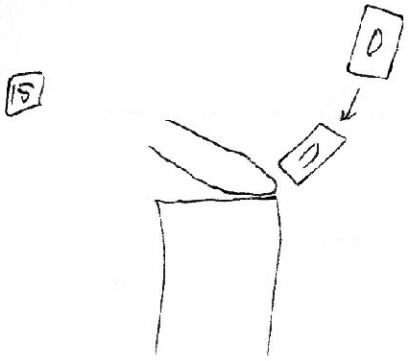
13. Once satisfied he welded the body to the tentacles weldment. He cleaned off the scale right away with a wire brush. He followed up with a second weld, but noted that this is a low-temperature (no sparks!) forge weld, because structural strength is not needed.



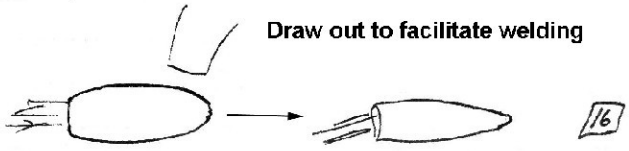
14. Next Eric forged down the opposite end of the body tube. He emphasized that when forging pipe, one does not forge "SOR" (square-octagonal-round). (The reason is that SOR forging is intended to prevent opening up a channel in the center of a solid rod being forged down. For pipe, this is not a consideration.) He used flux during this operation to reduce scaling.



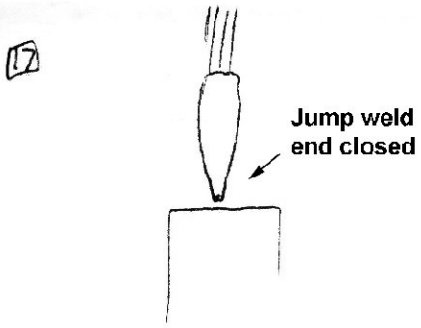
15. He closed up the end of the body in preparation for welding…



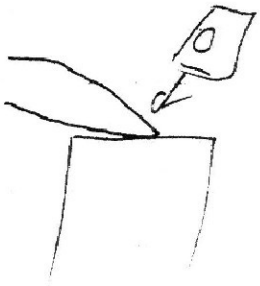
16. …and drew it out to a point to facilitate welding.



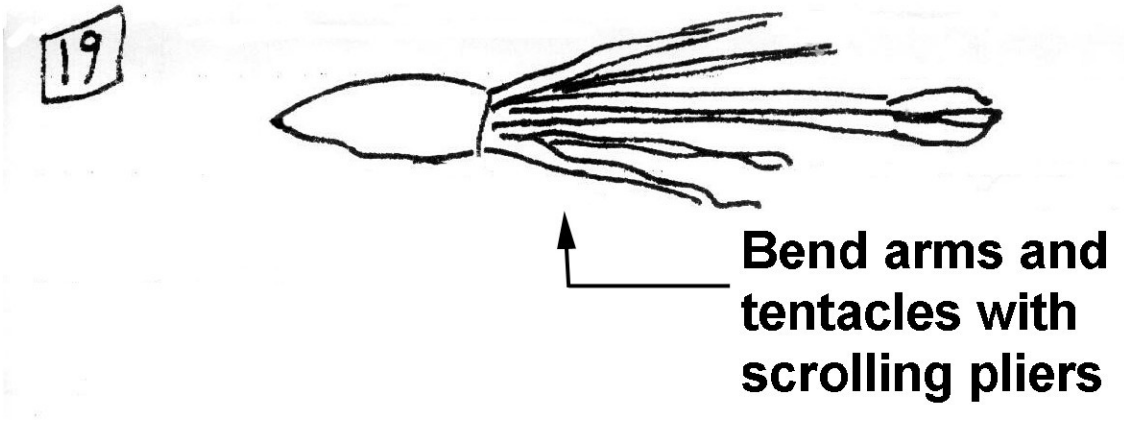
17. After reheating to welding temperature, Eric used the jump-welding technique to weld closed the end.



18. Then he finished the shape of the end to his satisfaction. He mentioned that the weld should be made as soon as possible in this process so as not to excessively scale the inaccessible interior of the tube and jeopardize the weld. He also mentioned that the forging can be done over the anvil or the swage block, but he prefers the anvil because using the swage block forges scale into the metal.

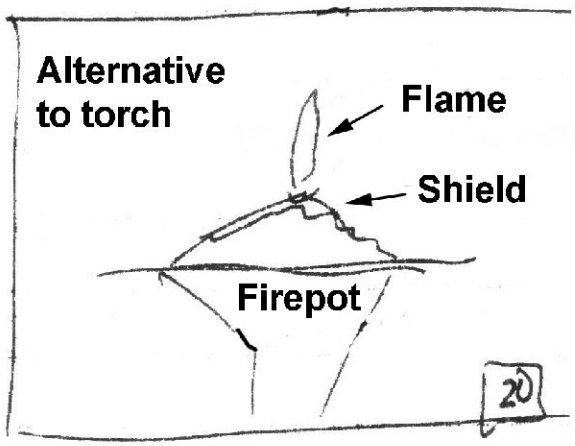


Finish end shape
Note: Forge weld end first to prevent excessive scaling inside

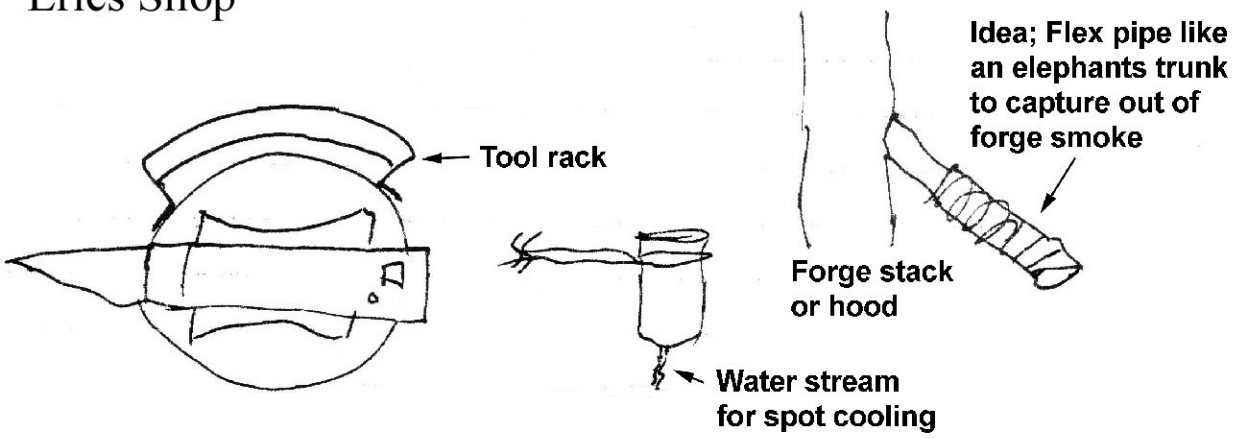


19. Finally, he bent the arms and tenticles to the desired shapes. He emphasized (A) don't over-heat these small pieces of steel, and (B) don't work them too cold.

20. He mentioned putting a cone of sheet steel with a hole in the middle over the forge to make a "torch" of the coal forge. (I have done this without the sheet metal by punching a hole through the coal to the tweer.)



Shop Tips from Erics Shop



Tenon Forging Table by Len Ledet

Recently Mo and I had an upscale railing (in conjunction with Phoenix Forge) to construct. Each picket required a tenon on each end. The pickets were forged utilizing 5/8 inch square bars. First step was to calculate the length of bar needed to forge the required tenon. I had made this calculation on other occasions (volume of bar and volume of cylinder). Why have to make the calculation each time? Why not construct a handy TABLE and make it easy to determine the bar forging length. The table below includes bar sizes 1/2, 5/8, 3/4, and 1 inch, with varying tenon diameters and lengths. Hope this makes this calculation easier. Please note, I suggest you always construct a sample for the tenon to verify the forging process.

TENON WORKSHEET Len Ledet Phoenix, Arizona

Bar Size	Tenon Diameter	Tenon Length	Amount needed to forge tenon
1/2	3/8	½	0.2209
		¾	0.3313
		1	0.4418
	1/4	½	0.0982
		¾	0.1473
		1	0.1964
5/8	½	½	0.2513
		¾	0.3770
		1	0.5027
	3/8	½	0.1414
		¾	0.2121
		1	0.2827
3/4	5/8	½	0.2727
		¾	0.4091
		1	0.5454
	1/2	½	0.1745
		¾	0.2618
		1	0.3491
1	¾	½	0.2209
		¾	0.3313
		1	0.4418
	5/8	½	0.1534
		¾	0.2301
		1	0.3068

Volume of Square Bar = (width) x (height) x (length)
Volume of Cylinder = (.7854) x diameter) x (diameter) x (length)
Volume of Square Bar = Volume of Cylinder

$$\text{Bar Length Needed} = \frac{(.7854) \times (\text{diameter}) \times (\text{diameter}) \times (\text{length})}{(\text{width}) \times (\text{height})}$$

Example: ¾ inch square bar and need to put a 5/8 diameter tenon on the end is to be 1 inch long. From the above table you need to forge 0.5454 (approx. 9/16 inches) of the 3/4 inch bar, to get the tenon.

The Anvil's Horn, Arizona Blacksmiths

Tenon Table

Use the tables to determine the amount of increase per unit length of a tenon.
Example: If you have a 5/8" square bar and want a 1/2" round tenon on it, Table 2 tells you that the finished tenon will be 2.0 times longer than the shouldered piece. So, if you want a tenon that is 1 1/2" long, shoulder the piece 3/4" from the end. This should give you enough material for a tenon of the desired length (3/4 X 2.0 = 1 1/2).
Use the tables to determine the amount of material to shoulder off for a tenon of desired length. The italic non-bold numbers are less than 1 indicating a negative length gain for upsetting.

Table 3 on next page.

Round to Round and Square to Square—Table 1

		1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
	1	**16.0**	**10.2**	**7.1**	**4.0**	**2.6**	**1.8**	**1.3**	**1.0**
	7/8	**12.3**	**7.8**	**5.4**	**3.1**	**2.0**	**1.4**	**1.0**	*0.8*
	3/4	**9.0**	**5.8**	**4.0**	**2.3**	**1.4**	**1.0**	*0.7*	*0.6*
START	5/8	**6.3**	**4.0**	**2.8**	**1.6**	**1.0**	*0.7*	*0.5*	*0.4*
	1/2	**4.0**	**2.6**	**1.8**	**1.0**	*0.6*	*0.4*	*0.3*	*0.3*
	3/8	**2.3**	**1.4**	**1.0**	*0.6*	*0.4*	*0.3*	*0.2*	*0.1*
	5/16	**1.6**	**1.0**	*0.7*	*0.4*	*0.3*	*0.2*	*0.1*	*0.1*
	1/4	**1.0**	*0.6*	*0.4*	*0.3*	*0.2*	*0.1*	*0.1*	*0.1*

Square to Round (Table 2)

Finish (Tenon)

		1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
	1	**20.4**	**13.0**	**9.1**	**5.1**	**3.3**	**2.3**	**1.7**	**1.3**
	7/8	**15.6**	**10.0**	**6.9**	**3.9**	**2.5**	**1.7**	**1.3**	**1.0**
	3/4	**11.5**	**7.3**	**5.1**	**3.5**	**2.0**	**1.3**	*0.9*	*0.7*
START	5/8	**8.0**	**5.1**	**3.5**	**2.0**	**1.3**	*0.9*	*0.6*	*0.5*
	1/2	**5.1**	**3.3**	**2.3**	**1.3**	*0.8*	*0.6*	*0.4*	*0.3*
	3/8	**2.9**	**1.8**	**1.3**	*0.7*	*0.5*	*0.3*	*0.2*	*0.2*
	5/16	**2.0**	**1.3**	*0.9*	*0.5*	*0.3*	*0.2*	*0.2*	*0.1*
	1/4	**1.3**	***0.8***	***0.6***	***0.3***	***0.2***	***0.1***	***0.1***	***0.1***

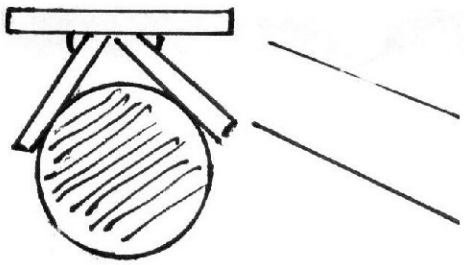
Round to Square (Table 3)

Finish (Tenon)

		1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
	1	**12.6**	**8.0**	**5.6**	**3.1**	**2.0**	**1.4**	**1.0**	*0.8*
	7/8	**9.6**	**6.2**	**4.3**	**2.4**	**1.5**	**1.1**	*0.8*	*0.6*
	3/4	**7.1**	**4.5**	**3.1**	**1.8**	**1.1**	*0.8*	*0.6*	*0.4*
START	5/8	**4.9**	**3.1**	**2.2**	**1.2**	*0.8*	*0.5*	*0.4*	*0.3*
	1/2	**3.1**	**2.0**	**1.4**	*0.8*	*0.5*	*0.3*	*0.3*	*0.2*
	3/8	**1.8**	**1.1**	*0.8*	*0.4*	*0.4*	*0.2*	*0.12*	*0.1*
	5/16	**1.2**	*0.8*	*0.5*	*0.3*	*0.2*	*0.1*	*0.1*	*0.1*
	1/4	*0.8*	*0.5*	*0.3*	*0.2*	*0.1*	*0.1*	*0.1*	*0.0*

SCRAP CORNER

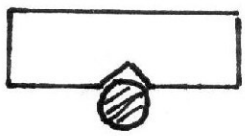
Have you ever had trouble, securely "C" clamping a round shape to a flat? Try this simple gadget.



Hammer dawn to snugly fit 5/8" round. Good for 5/8 round and up.

3/16" X 1 1/2"

3/16"X 1 1/2" X 1 1/2" angle



3/4" X 1 1/2" bar
File or fuller right angle 3/16" deep. Good for 1/2" round and smaller

Tim Suter