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### JANUARY HIGHLIGHTS

While it's been cold around here, it was warm and cozy at the Nu-Way Saw Shop. Ed McStay, professional sharpener, was our host and presenter at his shop on Ernest Street this month.

Ed educated us about sharpening and what to sharpen. For example, most consumer blades are not worth sharpening. Sharpening a carbide tip table saw blade that was bought for \$12-15 is generally not worth the cost of sharpening. However, a professional \$80 blade is well worth the price of sharpening. The cost for a typical sharpening of a carbide tip blade runs from \$9 to \$12 depending on the number of teeth and needed repair of any damaged teeth.



Sharpening a carbide tipped table saw blade comes in several stages. First, the blade is cleaned of tarnish and wood resins. The blade is checked for any missing or broken points and repaired as needed. Ed starts the sharpening process at 180 grit and moves in several stages to 600

grit for the final polish. The blade is side dressed if needed (and always after a tooth is replaced). Side dressing ensures that the teeth are aligned and that the kerf is correct. Finally, the blade is buffed clean and the teeth dipped in a protective wax. Of course, non-carbide tip blades can be sharpened as well on his machines.

While Ed can cut any angle desired, he generally uses the same angle originally on the blade. The key to the sharpening is the setup. While the jigs on the sharpening machines are very precise, setting them up for the correct angles is the real skill of the professional sharpener. But once this is done, the machine takes over.

Ed also mentioned what you should look for in a blade. Always get carbide tooth blades with C-2 or C-3 carbide (the lower the number the more carbide and thus the more brittle the tip). A higher carbide content means that the tooth is more brittle and

subject to breaking or chipping. So-called "tungstun" carbide is a trade name of General Electric. Carbide tips do not contain any of the element tungstun.

Ed demonstrated making a band saw blade. He can make any length needed as he keeps rolls of the blade material in various widths (except 1/8th inch as it is too fine to weld with any reliability). He also demonstrated still a different band saw blade folding technique. Ed can also make up chain saw chains as well in various sizes and any length as well as sharpening them.



Hand saw blades can be sharpened in his shop as well. But Ed says that there is not a big demand for this any more. Still another machine does this in an automated way that sharpens and sets the teeth. He does not sharpen Japanese saw blades as these are typically edge hardened. That is, only the sawing edge is hardened so the sharpening process would take enough metal off the steel to go past the hardened part.

Some of the largest blades he sharpens are from printing companies. These look like very over-sized planer blades — three to six feet long. They are sharpened in a special machine in his other shop at the rear of the business, also used for general storage. The blades are used in a guiotine-like machine that cuts large stacks of paper in one stroke. Horace Gradny won the door prize — a custom band saw blade complements of Ed.

Coming Up...

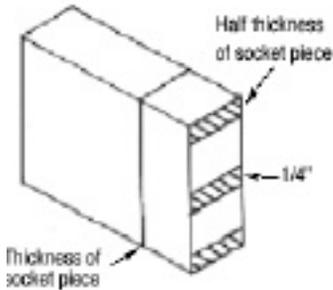
Saturday, February 16 — McNeese Burton Business Center, Room 203. Woodworking on the Internet with Dr. Theresa Wilfert



## DOVETAIL JOINTS

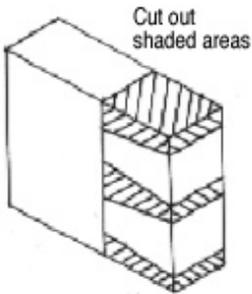
While we admire all of the wonderful things that Norm Abram does with power tools it is also possible to make perfect joints manually. The common misconception about dovetail joints is that they are very hard to make. They are not. However, making manual dovetails does take a considerable amount of time and patience when compared to the router-based method, although the satisfaction level is higher too!

The optimum slope of a dovetail joint depends upon the type of wood you are using. Softwoods should have a slope ration of 1 in 6, while hardwoods should have a 1 in 8 angle: that is one "unit" in from the side for every 8 units along the length of the wood. It is worth making a dovetail template to each of these proportions if you intend to make a number of dovetail joints. Not only will it speed the process up somewhat, but it will also ensure a



uniformity between the joints.

1. Set the marker gauge to the thickness of the Tail wood, and mark this thickness all around the Socket piece. Then set the gauge to the thickness of the Socket wood, and mark all around the Tail piece.



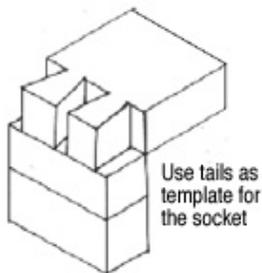
2. On the end of the Tail wood, draw a line across the end that is half the thickness of the socket wood. For example, if the Socket wood is 1" thick, this line will be drawn 1/2" in from the end of the Tail piece. Repeat this for the other end of the tail piece as well, so that you have a matching line.

3. Measure the distance between these two lines and subtract 1/4" for each pin, less one. For example, if you plan to

have six pins, and the distance between the two end lines is 7 1/4", subtract FIVE (i.e., six, less one) 1/4" gaps. The result is 6". Then, divide this number by the number of pins that you want (in this case six) to ascertain the size of each tail (in this case 1"). So, what we now have is six pins, each 1" wide, with a gap of 1/4" in between each one.

4. Once these end lines have all been draw out, mark out the tail slopes (at either a 1 in 8 or 1 in 6 ratio, depending on the wood used).

5. Saw out the tails. To do this, clamp the wood vertically, and at a slight angle so that the saw cut is vertical, rather than the wood itself. This makes cutting the desired angle far easier. If the saw cut moves slightly away from the desired angle, do not worry too much. Continue along the new line as it is more important to have smooth joints than it is to



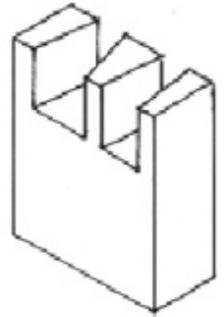
have them absolutely identical.

6. One the tails have been cut out, clamp the Socket piece vertically in a vice. Then, using the Tail wood as a tem-

plate, mark out the shape of the Socket pins on the end of the Socket wood. Once this is done (and it must be very accurate), draw these lines down to the thickness line done in step 1.

7. Cut out the Socket pins, being very careful not to cut beyond the line. It is better to err on the side of caution, cutting just in the waster wood, and then neaten up the cut line with a chisel later. Once you cut into the good side of the joint (ie not the waste) then the joint won't work well.

8. Once the pins have been cut out it is time to glue the two pieces together. Before you do this, however, gently push the two pieces together and make any minor adjustments to the joint. Note that the joint should be very stiff and it is not advisable to push the joint completely together until you are ready to glue. From *Amateur Woodworker* [www.am-wood.com](http://www.am-wood.com).



## TENON AND MORTISE JOINT

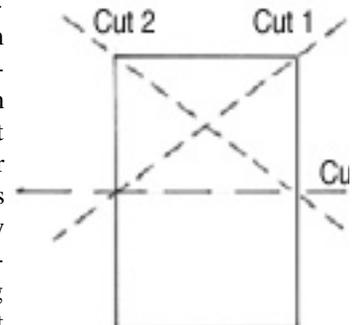
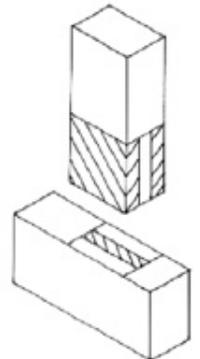
A tenon and mortise joint is one of the classic joints that every woodworker should know. It is the fundamental joint that has provided the basis of more recent joints such as the finger joint. When reading the below explanation, keep in mind that the Tenon is the piece of wood that slots inside of the mortise (which has a hole cut into it that matches the size of the tenon). (If you only have a few to make, cutting them by hand takes about as long as cutting with a mortising machine and table saw, given all of the setup required. *Ed.*)

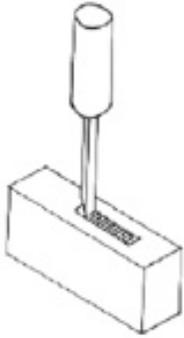
1. Calculate the size of the tenon joint. The size of the tenon is the same as the width (not depth) of the mortise wood. So, if the mortise is 2" wide, the tenon will be 2" long. Mark all around the tenon.

2. Calculate the width of the mortise. As above, this hole is relational to the size of the tenon wood. If the tenon wood is 2" wide, then the mortise will be 2" long.

3. Mark out the width of the mortise. The width of the mortise is calculated as being 1/3 of the wood's thickness. Use a mortise gauge to mark both sides of this hole. Then, use this same measurement to mark the thickness of the tenon piece, thus reducing the risk of introducing an error.

4. Once both pieces are marked out to your satisfaction, it is time to begin the cutting process. Use a tenon saw (obviously!) to cut the waste away from both sides of the tenon. Be very careful that you do not cut into the tenon itself. Although it is tempting to cut straight down into the tenon, a safer way is to cut at a 45 degree angle, as shown in the diagram, before finally cutting in a horizontal manner. Doing this reduces the risk of cutting into the tenon on the side furthest away from you (see diagram).





5. Cutting the mortise requires a little more delicacy. Start in the middle of the mortise and cut down with the chisel about 1/4". Then, move the chisel backwards about 1/8" and repeat the process; and so on. Do not move back all the way to the end of the mortise, but instead leave about 1/8" untouched at either end. Once you have done the entire length of the mortise, scrape out the loosened waste wood. Then begin again, cutting down another 1/4" and so on. Once you are down to just over half-way down into the joint, turn the wood over and start in from the other side.

6. Once the hole is made, clean up both ends, cutting back that extra 1/8".

7. Finally, glue the tenon into the mortise. If the fit is less than perfect, use small wedges to make it more solid (see diagram). From *Amateur Woodworker* [www.am-wood.com](http://www.am-wood.com).

You can take advantage of this by using a household iron to help you remove the veneer. The heat of the iron will soften the glue and the steam from the iron will force moisture into the glue, thus breaking the bond between veneer and surface. Make sure the iron is filled with water so you can use the steam. Set the iron at it's highest heat setting and let it heat up. Next, using a wide spatula or putty knife, start at one corner and try to slightly lift the veneer by placing the blade between the veneer and surface then pushing in and prying up.

Once lifted, place the iron directly on top of the veneer and let it slowly heat the surface. Move the iron in a circular motion while periodically applying steam. The veneer will gradually start to lift as the hide glue starts to soften. Work into to the center and finally off to the other edge until all the veneer has been removed. You may run into some stubborn spots, in these areas try applying water directly between the veneer and the surface by squirting or injecting. After all the old veneer has been removed, make sure to remove all remains of hide glue left on the surface. You can use warm water and a scraper for this operation. Let the surface dry well before sanding and preparing for re-veneering or other operations.

If the piece has been built in the past 50 years, the veneer was most likely bonded with either a yellow, white or some other type of synthetic resin glue. While the initial bond of these adhesives are not much stronger than the old hide glues, many of these glues are extremely resistant to heat and moisture, therefore removing the same method that is used for hide glue will not work effectively on these glues.

The best way to approach removing veneer that has been bonded with a modern adhesive is by trial and error. Sometimes you may get lucky and the veneer will lift off without much work because the initial gluing application was not performed properly due to lack of adhesive, uneven application or inadequate clamping pressure.

Once again, start at one corner and try to slightly lift the veneer by placing the blade between the veneer and surface then pushing in and prying up. If it does not budge, you may have to use a chisel and actually break away some of the veneer from the corner. In certain cases like with the hide glue, soaking also helps. Sometimes a mixture of 50 percent vinegar and 50 percent water will help soften the adhesive somewhat. If this does not work, try a solvent like lacquer thinner or acetone.

The bottom line is that removing veneer can often be a hard, time consuming job and sometimes it all boils down to patience and a lot of good old fashioned elbow grease.

### Lake Charles Woodworkers Club, Inc. 2001 ANNUAL FINANCIAL REPORT

2000 BALANCE CARRIED FORWARD	531.58
RECEIPTS	
YEAR 2001 DUES	480.00
BAR-B-QUE	220.00
DONATION	5.00
YEAR 2002 DUES	620.00
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TOTAL 2001 RECEIPTS	1,325.00
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	1,856.58
EXPENSES	
RENT	0.00
POSTAGE	340.40
PRINTING	181.78
DOOR PRIZES	70.00
BAR-B-QUE	601.39
MEMORIAL (B. Vincent)	47.50
STATE OF LA.	5.00
REFRESHMENTS	23.63
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TOTAL 2001 EXPENSES	1,269.70
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2001 ENDING BALANCE	586.88

Dick Hopes, Treasurer

#### REMOVING OLD VENEER

Removing old veneer from a workpiece can be a nightmare or relatively easy undertaking. This all depends on what type of glue was used to bond the veneer to the surface. The veneer on most antique pieces was originally bonded with hide glue and although very strong, has little resistance to heat and water.

#### IT'S TIME FOR SOME DUES

Lake Charles Woodworkers Club Treasurer Dick Hopes reminds members that 2002 dues are due now. Not only do you get great monthly meetings with all sorts of information, tips and great looking projects, you get this Newsletter each month. So please mail your 2002 \$20.00 renewal payable to LC Woodworkers, 1139 Green Road, Lake Charles, LA 70611.