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JULY MEETING HIGHLIGHTS

What club of any kind would be complete without an annual BBQ? And there's no place like a LCWW BBQ. We had a great one this year. More than 50 people attended including children. The food Brent Evans and others prepared kept us eating until it was gone. There was some show and tell items that members had brought as well as some guests and spouses we got to meet. Special thanks to Wil Graybill for arranging the PPG Family Center for our meeting.

Theresa Wilfert told us about the crafts school she and Leonard recently attended—the John D. Campbell Folk School in Brasstown, N. C. Founded in 1925 by Olive Campbell, she named the school in honor of her husband who had died in 1919. This school offers a great variety of craft skill training from basketry to writing. They have three different categories related to wood: carving, turning and gen-



eral woodworking. Within each are many different courses that last from a weekend up to 6 days, depending on the subject. The school is situated on 380 acres not too far from Cherokee, NC (where I hiked part of the Appalachian Trail a couple of years ago) and the facility and surrounding area are picturesque. The school includes an elderhostel with joint and separate courses.

Theresa attended the “Making a Mountain Dulcimer” taught by Homer Ledford. They began by choosing from the supplied hardwood and hardware and each day brought their musical instruments together. She described the process of making the instrument but said she hasn't learned to play it as yet. Leonard attended a ladder back chair making class during the same week. The cost ranges from \$178 for a weekend to as much as \$350 for a 6 day

week. The price includes all of the materials and tools but the lodging and meals are extra.

Besides some scroll work (including a neat little arbor used as a plant basket), Lee Frazier brought a very interesting rule. It is one designed for people with limited vision that produces a positive feel and action in 16ths on an inch. It comes with extensions in 12 inch increments. The rule would in fact help anyone as you don't have to see it to make accurate measurements. Lee said it was available through the National Federation of the Blind.

John Leonard Fontenot showed us a beautiful bowl he turned from parts of an old beer barrel, a spalted maple item as well and the most wonderful miniature peices including a couple of bowls and a cup and saucer — only 1/2 inch across. He turned them with conventional tools.

Dick Trough has been making toys for our Annual Toy program. He made lots of toy cars including a couple of dozen he turned on a lathe — made from standard 2x4s.

Chuck Middleton has gotten the turning bug (it's an easy thing to get!) and brought a great set of hot air balloons that will hang in his livingroom. Made from laminated walnut, maple and purpleheart, they were a delight. He also mentioned that the Calcasieu Public Library not only has many books on turning, but lots of video tapes you can check out on turning techniques. Rod Nunally showed us a great “knot” clock. It is made by slicing wood that has a knot running through it, then assembling the slices such that the knots go round the face of the clock.

Eltee Thibodeaux brought his great scrollwork Ferris Wheel and even turned in on for us! Barry Humphus brought more of his turned bowls made of purpleheart and spalted maple. He described the maple one as a surprise because worms flew out of the wood when he first brought the blank up to speed on the lathe. He also brought some of his favorite books on turning techniques.

Coming Up . . . Saturday August 10, 9:00 a.m. Shop of Dick Trough — Turning and Engraving

RESTORING HAND TOOLS

It's great to bring an old hand tool back to life. You can scrounge auctions and yard sales, looking for likely candidates. As long as the castings are sound and the tool is in reasonable condition (and dirt cheap), adopt it and bring it home. Keep in mind that you should be interested in using the tool, so you'll have to do more to it than a collector would. Most tool collectors are interested in preserving the tool's patina, and that's fine.



But the once-over you give a tool would put most antique tool collectors in shock. If you're interested in collecting tools and want to learn more about what you should or shouldn't do to an antique, visit the Midwest Tool Collectors Association website at www.mwtca.org.

They've got great information.

First disassemble and clean the tool. To start work on an old tool, begin by taking it completely apart (top photo). This lets you check the condition of all the parts and makes them easier to clean. Clean most parts with a mild detergent solution, and if pitch and resin have built up, scrub this away with a cloth or woven abrasive pad dipped in acetone, mineral spirits (paint thinner), or lacquer thinner.



Next, tackle any rusty areas. Depending on whether it's surface rust or heavily pitted, this can require anything from scrubbing the part with a Wonderbar (a great product) to using a wire brush, or even the

magic of electrolysis (see the next article).

Sharpen parts if necessary. If the tool employs a part with a cutting edge, you should sharpen the edge using your standard sharpening techniques.



When all the parts are clean, free from rust, and sharp (if applicable), put the tool back together. As you do this, add a drop or two of light machine oil (automatic transmission fluid is light, acid free, cheap and makes a great general purpose light lubricant) to linkages

and apply a light coat of paste wax to cast-iron surfaces to help prevent future rust. If the tool has wood parts (like a plane handle), apply a light coat of tung oil to them to help keep out dirt and grime. Then on to the best part—using the tool—what better way to spend an afternoon in the shop! *Barry Humphus*

USING ELECTROLYSIS TO REMOVE RUST

There is a very easy way to remove rust from your tools using electrolysis. Electrolysis passes a small electrical current from a battery charger through a rusty tool that's submerged in an electrolyte solution. An exchange of ions takes place and the rust simply flakes away.

To do it, first make up a solution of electrolyte consisting of 1 tablespoon of baking soda in a gallon of water in a PLASTIC container or bucket. Remove any non-metallic parts from the tool. Clamp the positive (red) lead of a .5 to 2-amp battery charger to an anode—an anode is just about any large piece of steel (I use an old bolt or a piece of rebar—give it a brush with a wire brush). Connect the negative (black) lead to the rusty tool.

Place the rusty tool and anode in the solution so they are a few inches apart. Make sure the tool is completely submerged and the red clip attached to the anode is above the solution to prevent it from corroding. Turn on the battery charger and check that it is not drawing more current than its rated for (you can measure this with a multi-meter or the charger's built-in ammeter). If it is drawing too much current or not enough, move the tool farther away or closer to the anode. *NOTE: make all adjustments with the charger unplugged!* It's working if you see bubbles forming on the tool and anode—in just a few moments. The electrolysis is not instantaneous—it's going to take a while—30-45 minutes for a large file or plane iron.

Make sure the electrodes and part to be cleaned are not touching when you turn on the charger. Do not do this inside, or in a closed area—those bubbles are the component parts of water—Hydrogen and Oxygen, good old H₂O. Remember the Hindenburg?

You will need to clean the anode from time to time—as it will get very covered with gunk and rust, and in fact, after many uses, it will have eroded down and needs to be replaced. That is why I use rebar—it's easy to get and cheap, and most of all—SAFE FOR YOU and the environment! You can pour the waste solution on the lawn and it won't hurt it. Do watch out for ornamental shrubs which may not like iron rich soil, however. No use making your spouse mad!

You'll find a lot of black gunk on the tool. The quickest way to remove this crud is with an abrasive pad. Just scrub the surface with a pad dipped in warm, soapy water. If the rust is gone, you are finished. If not, repeat the process. This method will frequently solve the problem of a screw rusted into a piece of steel, without the need for force, which can break things. The method is self limiting: it is impossible to over clean an object. I've even used this method to remove paint from steel. And if you don't care for that old high school ring, you can use electrolysis to plate your tool with gold! *Barry Humphus*

TABLE SAW SAFETY

The best first source for table saw safety information is your owner's manual. You should read this thoroughly, and understand it fully. However, there are some issues which are not typically found in owners manuals.

Is it a Dangerous Tool? Someone once asked: "What is the most dangerous tool or operation in the shop?" The answer is simple: One tool. One operation. The most dangerous tool or operation in any type of shop is the one that you don't think will hurt you! The second most dangerous tool or operation in the shop is the one that you are afraid of.

If you don't respect the danger of a tool, it will eventually come back to bite you. The most innocuous looking tool in your shop still has the potential to do serious harm. If you fear a tool or operation, your reactions in the face of a problem will be those of fear, not rational thought. You will also bring about problems by not handling the equipment with confidence.

Kickback. Kickback is one of the most dangerous and least understood problems on a table saw. There are several causes and types of kickback, but they all tie into the same issue: the workpiece is driven backward unexpectedly by the saw blade.

Straight Line kickback. When most woodworkers hear the term kickback, the type initially thought is it is the result of a ripping operation coming to a sudden and dramatic stop, and the workpiece is driven back by the rotation of the blade. There are two interrelated causes for straight line kickback: Underpowered Saw, and Blade height.

Underpowered Saw. Kickback will occur on an underpowered saw as the saw blade slows down, catches, and then grabs the workpiece. If the saw has enough power to "keep driving" when an obstruction or bind is encountered, it will not kickback. Not only does the sheer power of the saw come into play here, but the physical weight does too. If the motor's rotor, pulleys, blade and saw arbor are heavy, their momentum will keep the blade spinning during a sharp impact.

Blade Height. The second major cause for this type of kickback (and other problems) is due to a low blade height. The old school of thought was to keep the blade as low as possible for the cutting operation. Even though there is a danger in having the blade protrude above the wood too high, there is an even greater danger by having it too low.

When the blade is set low, the overall force of the teeth on the workpiece is generally in the forward direction. When the blade is set higher, the force is directed downward. The other issue with a low blade height is motor drag. There is a greater drag on the motor because there are more teeth in contact with the wood at any one time, and each tooth cuts a longer path through the wood.

Low blade height will increase heat buildup and drag on the motor. Not only is the heat bad for the blade, but since the blade is already being slowed, and the motor is operating closer to its stall rate than necessary, kickback's are more likely to occur. But don't take this to the extreme. You should not raise the blade up too far, as this is dangerous too. You should have a blade height which is about 1 inch to 1-1/2 inches above

the wood (generally, slightly below the depth of the gullets). The actual height will depend on the type of cut.

Back-Side, Kickback. This type of kickback is the most dangerous type, because the velocity of the wood coming back at the operator can be nearly the same speed as the blade. (50 to 100 miles per hour on a typical 8-10 inch saw.)

In a back-side kickback, the workpiece catches the rear teeth of the blade, which lifts the wood off the table and propels it forward. This is most common when cutting thin sheet stock where the sheet can either be curled upward already, or the edge is flexible enough to curl upward from blade friction, and catch a forward moving tooth.

This kickback will leave a distinctive semi-circular gouge in the back side of the workpiece. The shape of the gouge is caused by the wood being trapped by the fence as it shoots forward, rotating the piece against the near-right corner. Since the workpiece has rotated as it comes out of the blade, it's a pretty good chance that when the piece hits you in the thigh, it will be with the corner of the wood. The best way to prevent this type of kickback is don't let the wood begin to lift, and don't allow the wood to bind counter-clockwise.

Over-the-top Kickback. This type of kickback is growing more common as some woodworkers are putting together a shop on a shoestring budget. The two primary causes for this type of kickback are a low blade height, as discussed above, but also using the wrong blade for the cut (or a dull blade).

A fine (or dull) blade has a harder time ripping lumber than a coarse (or sharp) blade. This is like ripping a board with a hacksaw.

More and more woodworkers are only buying combination blades for their table saws, even when they have the funds available to buy other blades. The salesmen have told them that the combination blade is a catch-all, do-all, tool. This is not true. Combination blades were developed for the shops which can only afford a single blade. For best results, a shop should have blades dedicated to each task. When the wrong blade is used, the wood cuts slower than typical. If the wood is not being cut well, it can ride up the radius of the blade, and lift off the table.

Don't Let Go. Never let go of the workpiece! No matter how rough it gets, or how probable a kick-back will be, do not let go of the wood. You are not fast enough to get out of the way of a 60 mile per hour tree stump. More often than not, by holding fast, you will actually prevent the kickback in the first place. Over the years I have trained myself not to panic and jump away (this is contrary to the natural "fight or flight" instinct in all of us.). Instead, I hold on tighter, or even drive the piece forward depending on the circumstances.

Now think about what's more important: burning out the saw motor, or having a three pound chunk of oak sticking out of your ear?

Although some circumstances leave the operator with no choice but to bail out, the majority of problems are best handled by holding fast. One other thought is to ALWAYS think through the cut, where it is going, where the waste will go and most importantly, stand to one side of the direction of the blade when at all possible. *Barry Humphus.*