Lake Charles Woodworkers Club, Inc. January 2003

Bubba Cheramie, President
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Barry Humphus, Editor, Brent Evans
George Kuffel, John Marcon, Chuck Middleton

DECEMBER MEETING HIGHLIGHTS

Gail and Mickey Hart's great shop was our meeting location and they were our hosts this month. Gail and Mickey always have such great goodies for our Christmas meeting and this year was no exception. And of course their shop is always a terrific place to meet because of its size and their wonderful collection of tools. Mickey found a couple of used product racks for sale for $5 and put them to use as a clamp rack and brush rack.

The holiday meeting brought lots of Show and Tell items. Bubba Cheramie brought a couple of bowls he recently turned. Bubba has only turned spindles in the past, but with a little advice from Gary Rock, Bubba has done some fine work and looks forward to more.

Edward Blessing has built a couple of classic clocks to show us. He was also looking for an exceptionally large Fostner bit (3-1/2") with which to cut the hollows for the clock mechanisms in solid stock. While I have not seen a Fostner this large (but I presume that they are available for a price - see the article on wood bits that follows), I do know that Multi-Spur bits are available up to 4 inches.. Another member suggested that a jig used with a router and a straight bit might be a good and lower cost choice. A jig made of hardboard or plywood with a hole 1/8" larger than the desired hole could be used with a router plate guide collar. The jig could then be attached to the work piece using carpet tape.

Several new gum bowls turned by Gary Rock were on display. In fact Gary and Dick Trouth are doing our presentation next month at Gary's shop on bowl finishing. I've always admired the thin black rings Gary makes around some of his bowl. While I don't know what kind of wire he uses to make this, I found that a base guitar string works very well. Just hold the wire down hard against the bowl (always use two hands in case of a catch) until it smokes. Even easier (and safer) is to mount it in an old hacksaw frame.

Dick Trouth brought a brochure for an interesting new product from Leigh Tools that he recently acquired. The jig is designed to facilitate making just about any mortise and tendon combination you might desire. Called the Frame Mortise and Tendon Jig, it has adjustable templates for both sides of standard and more complex joints. You can visit Dick to see his or look at the info on Rockler's web site at www.rockler.com.

Lee Frazier brought some items for the toy program. A clever Southwest Louisiana version of the old stick horse was his "alligator" horse. Made of scrap pine and colorfully painted, Lee said he suggested a standard stick horse to a child who was reluctant to be seen riding a stick horse for "little kids". So Lee came up with a more "mature" alligator version for this child.

Charles Richard has been very busy lately with lots of clock and cabinet work. He showed us several photos of his latest items plus a glance of his great shop. John Marcon showed off a new carving mallet. Construction of the mallet was a joint effort of his son, plus Bob Patin (turning), George Kuffel (lead shot), Eltee Thibodeaux (bowling pin) and of course John, who designed it. Using lead shot and lead wool resulted in a mallet weighing 35 oz.. The lead wool was acquired at Trahans Hardware on Common.

While George Kuffel didn't bring one, he's been hard at work re-caning seven chairs. These French chairs are about 70 years old and brought to the US by his wife Nancy in the '60s. It is slow work, but the materials are cheap and saves about $200 per chair!

Coming Up . . . Shop of Gary Rock with Dick Trouth on finishing bowls, Saturday, January 10, 9:00 a.m.

CHOOSING THE RIGHT BIT

We've all chucked a twist bit in a drill press to bore wood. They are both cheap and handy. While twist bits make holes in wood, they are actually designed to cut metal. In contrast, screw-tipped bits, while made for wood (such as augers designed for a brace), they should never be used in a drill press. An auger is designed to feed itself and is way too aggressive to use in a drill press or electric drill. The result is a torn-up hole or an unclamped work-piece whipping out of control. But there are much better bit alternatives for boring crisp, precise holes in wood.

When boring holes in wood, there are several basic bit types: machine spur (also called brad point), Multi-spur and Fostner. There is also the spade bit, Powerbore and plug-cutting bits which come in handy. All six types are designed to cut wood and all are available from a wide variety of wood working suppliers. Multispur, Fostner and brad point are also available in metric sizes.

Multi-spur bits come in 3/8 to 4 inches and are your best choice for holes larger than 1 inch. They have brad points to seat and lead them into wood. They use saw-like teeth arranged in a circle to cut the outside of the hole and recessed lifter tips to shear off and eject the wood chips. These bits can start holes at almost any angle, bore over-lapping holes (great for hogging out wood for mortises and rabbets and the center of bowl blanks) and start holes on curved surfaces or cylindrical work pieces. While they do not make a glass smooth hole like a Forstner, they are my choice for most large hole boring. To sharpen a Multi-spur, always file the tooth relief at factory angles to avoid shifting its tip. File the lifter's upper face rather than the lower clearance angle. When properly sharpened, the lifter will shear after the outside teeth cut the hole's edge.

Forstner bits come in 1/4 to as much as 3 inches (though more commonly 2-1/8 inches - the standard hole size for door knob hardware). They make very smooth, flat bottom holes. Larger Forstner bits usually have a small cone-shaped lead points (the ones on Multi-spur bits are larger), so won't make a truly flat bottom hole. Ersatz-Forstner bits all have a long lead point. The bits combine an outside razor-sharp circular band, which cuts wood fibers with an interior pair of lifters that remove material. Because the lifters and cutters act on the same plane (unlike Multi-spurs), Forstners are increasingly aggressive with the larger sizes, so be sure to clamp your work. To sharpen, file the inside of the cutting rim out toward the edge. File the angle (upper face) of the lifter.

Powerbore bits come in 3/8 to 1 inch diameter. Like spade bits, they are aggressive and cut fast by using a spur and scraper arrangement to cut holes. They are less expensive than other brad-point bits and they make cleaner holes than spade bits. Sharpen the spur similar to a machine spur bit (see below). File the brad point at an angle towards the tip. And file the scraper edge outward, following the factory angles.

Spade bits come in 1/4 to -1-1/2 inch and are made for quick, rough holes. They have long, sharp-edged lead points and either one or two scrapers. These bits work well in end grain and if you need a hole with a different-shaped bottom, just grind the spade to the profile you need. In fact, you can grind spur points at the outer edges of the spade to provide a smoother hole. You can also grind down both sides to give you an in-between size as necessary. To sharpen them, grind both edges of the lead point. To grind the scraper edge(s), you'll need to set the bit in a tool rest at your grinder at a 5 to 10 degree rake angle.

Machine-spur (i.e., brad-point) bits come in 1/16 to 1-1/4 inch diameter and look somewhat like a standard twist drill bit but with spurs and a lead. These are the best all-around hole makers for wood and come in a couple of varieties including ones for pocket hole drilling. They have two perimeter spurs that sever the wood fibers and lifters that scrape out the interior of the hole. The brad (diamond) point starts and leads the bit into the wood. To sharpen, file the relief and flute lifter (avoiding a "belly") and file the spur toward its tip from inside.

Plug cutters come in sizes from 1/4 to 2 inches and come in lengths from under an inch to over 3 inches. They use a cutting rim to scribe a hole's edge and a lifter to remove chips. Plug cutters can make a custom plug for almost any counter-bored hole, whether to cover a screw head or to inlay some decoration. They also come in "tapered" versions that make plugs and bungs that fit holes that are not quite round or off size. To sharpen, file the upper angle of the lifter. For the rim, file outside of the rim toward the cutting edge.

Run all of these bits only at their recommended speed and don't just toss them in a drawer. Instead, store them in an index, cloth pouch, a rack or something similar. Periodically douse them with light machine oil (such as WD-40) to control rust. You can polish the flutes and spirals with steel wool to keep them running cool. When you sharpen, use auger-bit files (available at most hardware stores and often sold as "microfiles" in kits). Don't worry about wire burrs left from filing as the burrs will strop away as you bore holes. Finally, if you think a bit has been used or honed beyond reason, don't toss it out. For a nominal fee, most major bit makers will restore bits to factory specs. *Barry Humphus*.

QUICK FIX ON THE LATHE

Back in the early 70's, I was visiting my college friend Eddie Malowitz. Eddie was a consummate hobbyist and built all sorts of plastic, metal and wooden models. He managed a hobby store near NASA in Clear Lake City, TX and owned the first lathe I ever used (a micro-lathe from Unimat). Clear Lake Hobby was especially popular with the NASA aerospace engineers living in the area and even owned by one. In any case, it was this visit that Eddie introduced me to alpha cyanoacrylate (CA) glue. Eddie used it and sold it to airplane, car, railroad and just about every other model builder who came into his store. The early versions of CA had very low viscosity (much thinner than water), so it didn't have much in the way of gap filling qualities. Any joints to be glued had to fit very precisely or it didn't work very well. Eddie showed me how to use glass micro-balloons as a filler (which he also sold) as well as using common baking soda to thicken the mix.

Today, CA manufacturers offer a range of different glues some of which are designed for wood and wood turners. For example, I use it to glue brass inserts for turned pens into the stock. CA is also great for strengthening areas of soft or punky wood in damaged or spalted turning blanks (use the low-viscosity type and let it soak in). In fact, there is a product called Wood Hardener, available at most hardware and paint suppliers, that contains some very thinned CA in a 16 oz. can.

But the one area where CA is indispensable is repair work. The glue's transparency coupled with its strength and nearly instant drying time make it possible for a wood turner to fix a mistake and in most cases, without having to remove the turning from the lathe. Two common turning situations in which CAs excel are fixing breakage and small surface repairs.

For example, I've re-attached part of a bowl rim that blew out during some too aggressive turning. After attaching the broken rim part with CA, I wicked additional CA into the remaining line and lightly sanded. Minor defects in a bowl's surface can be handled by filling the area with fine wood dust from the turning and then applying low-viscosity CA. After the CA cures for a few moments, the spinning work piece is lightly sanded with a small sanding disk chucked into a drill.

Today, there are many brands on the market including Hot Stuff, Pronto, Zap, Wood-Pro and many generic brands mostly manufactured by 3M, Bordens and Bob Smith Industries. Many of these come in a variety of viscosities including super thin, medium, maximum, gap fill and gels. The Bob Smith brands are found with distributor labels on them, i.e., custom brands. Most of these "pro" versions are designed to be used with an accelerator and some manufacturers also sell a "de-cure" that can remove cured CA. Acetone can also be used to remove CA. Wood-Pro, originally formulated for wood, has an interesting property: if not used with the accelerator, it has a 90 minute working time. A very, very fine mist of water can also be used as an accelerator. For wood turning, a medium viscosity variety works the best for me as general purpose wood repair glue.

CA is not cheap. Unless you find a really great deal on the standard .07 oz. retail tubes, expect to pay $8-$10 for a 2 oz. bottle from one of the major manufacturers (the equal .07 oz. retail tubes will cost you over $20 at the regular price). Fortunately, a little goes a long way and in most cases, an accelerant should be used. The most common accelerant is Hot Shot from Satellite City. By the way, the trick to storing an opened bottle of CA is to squeeze the bottle until a little bead of glue appears at the end of the nozzle, then cap it and store it upside down.

There are a few cautions to consider when using CA glues. First, it has a very pungent odor and fumes that can irritate your eyes when applying or when your tools cut through a layer of glue. There are a few odorless versions but expect to pay more.

Second, you must be very careful when applying CA because it will glue your skin as quickly as anything else. It's possible that many of us have had the experience of gluing their fingers together or to the object of interest on occasion. For example, ever had a large bowl hanging from your finger? I know I have. The standard solvent for CA is acetone. Once cured, you have to be patient, even with acetone and acetone will also get CA out of your clothes. If early in the curing, a little water streamed between your stuck fingers will allow you to carefully peel them apart.

A final caution: Don't squeeze a CA bottle hard to get glue to come out when the tip is clogged. The glue can squirt sideways and into an eye. While there have been no reports of permanent damage, the experience can be painful and frightening. What you do is examine the tip of the bottle and if fluid won't come out normally, clear it by giving the bottle a rap sharply on the work bench. The key is to take a few simple precautions and you'll find that CA is really good stuff. *Barry Humphus.*

The LCWW lost a good friend and collegue in December. J.D. Morgan was a teacher and administrator at Sowela and a member since 1999. He was smart, funny and always willing to help. We'll all miss J.D. Morgan (1939-2003)