

Jeff Cormier, President  
Joe Comeaux, Treasurer

Officers and Directors

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

**Mentoring Program** - If you have a project, a problem in any woodworking area, these members have volunteered to help. Give them a call. Jeff Cormier: 582-3278; George Kuffel: 478-2707; John Marcon: 478-0646; Chuck Middleton: 625-3134; Gary Rock: 433-1679; Eltee Thibodeaux: 436-1997; Dick Truth: 583-2683. Each has years of experience and knowledge.

### June Meeting Highlights

Tom Bergstedt's great shop was our meeting place this month. While it is certainly out in the country, it was well worth the trip. Tom's shop is in two parts, one with the A/C going and one not. Tom had moved his larger equipment in the second room to free up meeting space. Everyone really appreciated the biscuits and jam and this was the first meeting in a long time that I haven't had a donut! Also, the tour of his milling operation was great. Like Steve McCorquodale, Tom uses the Wood Miser band saw system, though in Tom's case, it is powered by a gasoline motor. Noisy but effective.

Jeff Cormier discussed table saw safety, mentioning Micky Hart's encounter with a spinning blade recently. Micky said it happened so fast, he didn't recall just how his finger got in the way. That was the point - think through every single

cut, no matter how repetitive or ordinary and of course always pay close attention to where your soft parts are in relation to the blade. Only this past week I was running a sample through and got a hard kickback

- no harm done, but it makes you think.

Chris Smith said he would do a talk about frame nailers at a future meeting.

Mr. Eltee Thibodeaux started the Show and Tell with a sweet little box. He used a draw line router bit to do a nice chamfer for the top and bottom. Bob Theaux showed off a walnut cane he produced using a Legacy machine.

J.W. Anderson brought one of his great chairs in cypress that was from a design. Pie Sonnier had a John Deer tractor he's doing for a client. It will eventually have a bush hog attachment. The unit is made from walnut, cherry, ebony and Osage. John Perry pointed out that Osage fruit (aka horse apples) are great for repelling most insect, particularly

arachnids (spiders and their relatives).

John showed us a very nice quilt display ladder that is foldable and made of oak while Joe Comeaux had turned a pen out of some acrylic-based circuit board. Joe said it is very delicate work. Dick Truth brought a black powder replica pistol to show off the finish he did with Tru Oil (Woodworker's Supply) that he hand rubbed. When asked what was in Birchwood-Casey Tru Oil, Dick referred us to the MSDS sheet. In fact, it is petroleum distillates (56%), long oil polyurethane (33%) and boiled Linseed oil (11%). You could make your own instead of spending the \$10 plus shipping. I'd suggest you add a couple of drops of Japan Dryer as well to an eight ounce serving. Watco is about the same stuff - just a different ratio mix plus a drop or two of Japan Dryer.

Jeff Cormier had pics of a large entertainment center he recently constructed for a client as well as a new cypress door he made for someone.

Bill Fey showed pics of a restoration piece - a dresser for which he had to make matching drawers - great job. Bill has been looking for mirrow for it and Chris Smith said he has some. Chris also mentioned that he has ash and white oak in 10 inch widths and 13/16 inches thick in various lengths.

Steve McCorquodale showed pics of an entertainment center he did of American Chestnut, cypress and pine. The pine was recovered. Chuck Middleton showed a nice nick-nack cabinet from red oak.

Gary Rock stays busy with an elm bowl, an elm bowl with worm holes, a sycamore and purple heart vase plus a great large platter of spruce. Gary must employ a whole army of boring larvi.

Our host Tom, showed off some of the many hand made garden tool handles, a great little scratch awl, a nice sheet goods lifter/mover and an Abrams designed clamp rack

Bill Fey won the door prize, a 425 gift card from Stines and Chuck Middleton won the book, "A Splintered History of Wood", donated by the author, Spike Carlsen.

Coming Up . . . Saturday, July 11, 9:00 a.m. at the shop of Jeff Cormier. We hope Jeff turns on the A/C before we get there!



## Installing Router Bits

Almost everybody knows that the “proper” way to install a router bit is to bottom it out in the collet, then withdraw it 1/16" to 1/8" before tightening the collet nut. Almost nobody, however, knows why. I've never seen an owner's manual divulge this. The stuff you have heard is almost wrong: you pull the bit back to reduce vibration, or to decrease heat transfer into the motor spindle, or perhaps to keep fairy dust from getting in your eyes. Even though such things actually show up in print from time to time, they're entirely nonsense.

Most of us aren't real good at following instructions whose purpose and provenance we don't understand, and I'd guess I'm not the only router user who's sometimes been a little too casual about bit installation because the rules just didn't seem very real or important. It turns out the rules are both real and important, and once you know why they're there you'll never fail to pay attention and install your router bits safely.



Picture a collet at work. As you tighten the collet nut, you drive the increasing taper of the collet cone into the matching decreasing taper milled into the end of the motor spindle. This squeezes the collet against the router bit shank, creating so much friction that the bit is locked in place and can't twist or pull out during operation.

If you try to make this happen while a bit is bottomed out in the spindle, however, you're asking for the impossible: the collet cone must slide along the stationary shank while simultaneously locking onto it immovably. What actually happens is that the collet grabs the shank hard enough to quit sliding, so you might not be able to tighten it further even though it's not yet tight enough to control the bit under operational loads. So when you fire up the router and start stressing the bit, it comes creeping out of the collet. This makes for exciting times in the shop, you bet, but it's not very productive.

If instead you first bottom out the router bit and then pull it back a tad, you allow the collet cone to grab the shank and pull the bit along with it as both are driven deeper into the spindle, locking on tighter and tighter all the while. The story is so simple it's absolutely obvious--after you've heard it, of course. Pass it along; there's no reason for every new

router owner to stumble through the same bog of ignorance and misinformation that you and I have had to put up with.

Incidentally, if you have a 1/2"-collet router which uses adapter sleeves rather than replacement collets for smaller shanks, be sure to treat the adapter exactly as if it were a bit; leave room for both bit shank and adapter to travel deeper into the collet when you tighten the nut.

Tightening the nut means just that: don't “kill” it, just tighten it. Apply firm pressure with your wrench and then go away before you decide that more is better. Overtightening eventually will stretch the mouth of the spindle so it can't hold any bit securely--and when you need a new spindle you get to buy a whole new router along with it.

Having firmly established the rules, we should mention that they don't apply to several top-of-the-line current routers. A relatively new design feature has the motor spindle drilled far deeper than the usual inch or so, so deep that it's unlikely even the longest shanks will reach bottom. This completely solves problems that would result from bottoming out, but it creates a different problem: you can't always figure out how much shank you've inserted into the collet. As a general rule, you should insert any bit shank to the full depth of the collet's grip (usually at least 3/4") to ensure positive control. Any less risks creeping bits, bent or broken shanks, and more unproductive excitement. An effective low-tech solution is marking a heavy black line on your bit shanks to eliminate guesswork errors when using deep-bored spindles.

Here's a related thought: if it's friction that holds a bit in the collet, then anything that reduces friction is bad news. Friction results from contact between surfaces; the smoother the two surfaces are the more contact they can share. Corrosion, dirt or damage can reduce friction dramatically. Never grab a bit with pliers to change bearings, clean it or sharpen it (the router collet is the right tool for holding a shank harmlessly, after all). If you have a bit with a scarred shank, discard it, no matter how painful the loss. Do not treat shanks with oil or other coatings designed to prevent corrosion. Regularly inspect the collet, the motor spindle and your bit shanks to make sure they're clean and polished. If they need help, use nothing coarser than 4/0 steel wool, a white Scotch-Brite pad, a bronze gun bore brush or a fine Rust Eraser to clean them up. From *Highland Hardware*, edited by Barry Humphus.

### LCWW Mentoring Program

Ever need a little advice or some help with your project? I know I do and what I did was to contact one of our mentors. They are listed at the top of the first page of each issue and welcome your questions with solid, experienced answers.

## Sharpening Forstner Bits

Conventional Forstner bit anatomy works like this: the center brad is the first part of the bit to touch your work. Next, the curved rim of the bit must contact the work before the



straight flutes begin paring out the waste. If you lay a straightedge across the rims, it should clear the straight flutes by at least 1/64" or so. It's important to maintain this relationship, lest you end up with a bit that requires too much feed pressure because the rims are too high or which won't cut cleanly because they're too low.

Conical grinding points such as those used in Dremel or Foredom tools are the best tools I've found for the job. Chucked in one of those tools at medium RPM, or in a drill or drill press at its highest RPM, an aluminum oxide grinding point sharpens quickly and effectively. The tool should be stationary; it's a lot easier to rotate the bit smoothly than to move even a small hand-piece around the bit's curved edges.

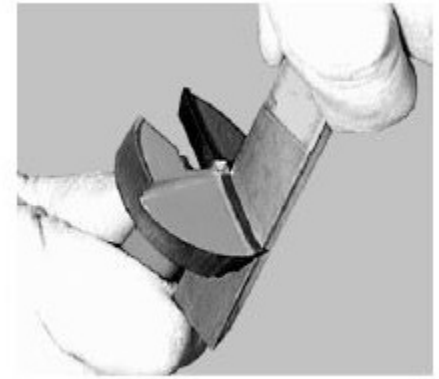
If you are using a drill press, make certain that you clamp the bit securely before you grind. The easiest way to do this is with a machinist's vise on top of the drill press base. You do not want that Forstner bit to get away from you and smack you in the face.

Start sharpening on the bevels on the inside of the bit's rims. Bring the bit to your spinning stone and rotate it through a light, smooth stroke along the entire length of one bevel, maintaining the angle ground at the factory. Count strokes; give one half-rim several strokes then give the other half-rim the same number. Once both sides of the rim are sharp, the outside surfaces may be touched up very lightly with a fine sharpening stone held flat on the rim's surface.

Next, sharpen the straight flutes. Bring the center brad into light contact with the grinding point, then stroke outward smoothly all the way to the edge. As with the rims, count strokes to assure even stock removal. Check with a straightedge to make sure the flutes are slightly below the rims. Finally, give the two exposed faces of the center brad a light lick to sharpen its edges, and the bit will be ready to go back to work.

Carbide tipped Forstner bits actually may be easier to sharpen than conventional steel Forstner bits. In this design, the bits' carbide flutes do all the cutting and the rim serves only to guide the bit; it has been relieved of cutting duty. All you have to work on, just as with a router bit, is the flat face of the carbide flute.

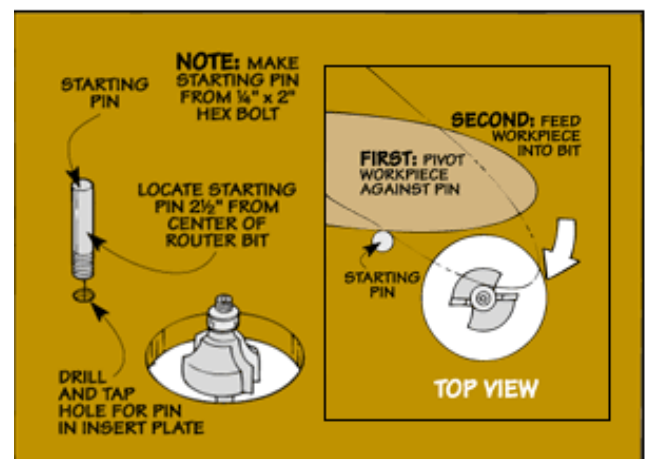
Diamond paddles are ideal tools for this job. Coarse abrasive can chip carbide edges; it's safest and most effective to sharpen with fine (600 grit) and super fine (1200 grit) paddles only. These will work best if you sharpen regularly. If a bit becomes very dull,



resharpening with fine grit will take a while, so try to make a habit of regular maintenance. Wet the diamond abrasive with water to keep it from clogging. Lay the paddle against the flat face of one flute and give it five or ten strokes, then move to the other flute and do the same. Do not work on the narrow edge of the flute, whose relief angle is critical to good bit performance. Inspect the flutes often as you work to be sure you're wearing them flat and even. When they feel sharp, you're done. Wipe the bit clean and it's ready to go back to work. From *Highland Hardware*, edited by Barry Humphus.

## Using a Starting Pin on a Router

If you're using a piloted bit to rout an irregular-shaped workpiece, the beginning of a cut can be a bit tricky. That's because the bit has a tendency to grab the workpiece and suck it into the bit, often ruining the work piece you've so carefully prepared. Jim Couvillion asked about this at the June meeting.



Using a Starting Pin To reduce the chance of that happening. This is just a cutoff bolt that threads into a hole in the insert plate.

It's easy to use a starting pin. Simply pivot the workpiece against the pin as you feed it into the bit. The pin provides the leverage needed to make a controlled cut. *Barry Humphus*