

# Southwest Louisiana Woodworkers Club June 2020

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**Mentoring Program** - If you have a project, a problem in any woodworking area, these members have volunteered to help. Give them a call. Frank Tartarmella 802-8989; John Marcon: 478-0646; Eltee Thibodeaux: 436-1997; Ray Kebodeaux: 583-2378. Each have years of experience and knowledge.

## No May Meeting Highlights

We continue to do distance socializing this month so no meeting. However, we continue to work hard in our shops and make wonderful things (even clean once in a while). I need to replace all of my old fluorescent lights in my shop and have recently purchased four new LED shop lights. As Ray Kebodeau's shop has these, I was intrigued. They are wonderful lighting up your shop. If you have fluorescent lighting in your shop, consider a set of LED shop lights. I ordered four of these through Amazon and these easily replaced the six units I had before. Nice and bright.

For years, our club has discussed the need for PPE while we are doing work in the shop. Now, we should be wearing at least a mask when we need to be out in public where will encounter others in the community. This is for respect of others and your safety. A mask in this case protects others. If you get sick from someone, that means you will potentially expose the EMT crew, hospital ER nurses and doctors, critical care personnel, your family and others - in short, a lot of folks. Respect others and wear that mask

## More Screw Information

Last month, we started a series about screws. The following continues that information.

Robertson lost money in his first attempt to produce and distribute his design in the United States, and from then on insisted on not licensing his design to any other manufacturers. Henry Ford wanted to use these fasteners on his assembly line, but wanted to manufacture them himself. Robertson wouldn't budge, and while long popular in Canada, square-drive screws have only recently caught on in the United States.

The Phillips head didn't come into existence until the 1930s, and was actually invented by John P. Thompson, who couldn't convince any screw manufacturers the cross-shaped recess could be manufactured affordably. Henry F. Phillips bought the rights from Thompson, obtained patents on the design and searched for a manufacturer.

The American Screw Co. spent half a million dollars to develop the manufacturing process only after the presi-

dent of the company threatened to fire all of his engineers. General Motors was the first customer, and Phillips-head screws were first used in Cadillacs made in 1936.

What most of us consider to be the Phillips-head screw's biggest defect was actually an advantage when it was first adopted. Because the intersection of the crossed recesses is slightly rounded, the driver will slip, or cam-out, when a Phillips-head screw becomes tight. This prevented overtightening on the assembly line, but is the bane of any woodworker who has had a screwdriver slip and go dancing across a finished surface.

In the last 25 years, cordless drills have become the preferred method of driving screws for woodworking, and the general frustration with the Phillips bit has led to an increase in popularity of the Robertson square drive, as well as other types.

The Quadrex or Combo drive is a combination of the Phillips and Robertson types. In theory, either driver may be used but they work much better with a square drive, the Phillips being relegated to emergency status when a square driver can not be found.

The Pozi-Drive was patented by the Phillips company and features the same cross-shaped recesses as the Phillips, but the intersection has an additional square recess that reduces cam out considerably. This type is commonly used in European cabinet hardware. A Phillips bit can be used, but problems of cam-out and head stripping are much worse than if the Pozi-Drive bit is used.

Numerous other drive configurations exist, but their purpose seems to be keeping the average person from taking something apart because the right driver isn't available. None of these other drive systems offer any real advantages over the Robertson.

Whatever type of driver is used, the interface between driver and screw head should be a close fit to prevent damage to the screw head or the end of the driver. Flat-tip screw drivers can be filed back to shape if they get damaged, but other styles of bits aren't really repairable. You

**NO June Meeting. We are going to try to meet at Stines in July.**

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might increase the life span of a rounded off Robertson bit by grinding a little off the end, but I know of no way to fix a damaged Phillips bit.

Screws Continues . . .

Rather than fill a drawer or two of your toolbox with various sizes and shapes of screwdrivers, use insert tips in a driver with storage in the handle and a magnetic tip. These tips also fit magnetic bit holders for driving with a cordless drill. Magnetism is your friend when power driving a lot of screws, or when placing a screw in a hard to reach location.

The countersink-style head is the most commonly used head in woodworking, and it has another advantage in addition to coming flush with or slightly below the surface of the wood. The wedging action of the countersink lines the parts up in the same orientation whenever you take it apart and put it back together. Most of the time this is what you want, but sometimes you need to allow for wood movement.

Due to this wedging action, screw holes for hardware need to be exactly in the center of the countersink in the hardware. Once again, a special drill bit comes into play. The Vix bit has the drill bit enclosed in a self-centering guide. A spring inside the guide keeps the drill bit out of the way until you begin to apply downward pressure.

If you put the pilot hole in the wrong place or strip it out, you can repair the damage with a small piece of wood glued in the hole. For stripped holes, toothpicks can be used. Glue them in and break them off flush with the surface until there is enough wood in the hole for the screw to bite. To move a hole, it's better to whittle a small piece of wood from scrap, glue it in and make it flush with a chisel cut. This makes it easier to drill a new pilot hole.

Pan-head screws allow for the two parts to slide around below the flat head. This allows you to adjust the joint slightly as it comes together, as with a pocket screw. To attach a solid wood tabletop or cabinet top you need to allow for the wood to expand and contract. If the hole in the attached piece is elongated, the wood is free to shrink or swell while remaining firmly in place. George Kuffle and I did this when building the dining table for the Las Brisas beach house and it worked very well.

A variation of the pan head screw, the truss head screw has an oversized head that functions as a built-in washer. Also known as a drawer-front screw, this style allows for both minor adjustments of position, and seasonal wood movement.

So is it cheating to use screws? Like any method of joining wood, there are times when a screw is ideal, and

times when another choice is better. When I worked on wood boats or built commercial cabinets, I used thousands of screws without a second thought. For other work, I only use them in a few specific situations.

Like a clamp, a screw isn't really a permanent fastener. Over time, the fragile connection between wood and metal deteriorates as these different materials move in different ways. This may take decades, but whenever you remove a screw from an antique, you usually find crumbled bits of wood.

As you may know, a screw may not last forever, but for attaching a solid wood top or hardware, or reinforcing joints in unseen places, it is the best fastener. Using it correctly will improve the odds of your work outlasting you.

### Bench Chisels - The More the Merrier

Some woodworkers take a minimalist approach to chisels, owning very few and using a narrower size for both narrow and wide cuts. That works for them because they have both the skill and time to finish cuts that way. You should have access to a wide range of chisels of different widths so that you can choose the right one for the job. As author and furniture maker Garrett Hack once pointed out, it is more accurate to cut a line in one stroke with a wide chisel than in two or more cuts with a narrow edge.

Here is another reason you should own more than one set of bench chisels: you can grind them at different angles, such as 25° for general use and 30° for chopping hard wood. You can also have a few ground with a round bevel for working concave surfaces. Keeping extra chisels on hand is like having extra blades for your hand planes.

In general, I use a chisel with the bevel down for roughing cuts. You can control the depth of cut by raising or lowering the handle. Since the bevel-down orientation tends to resist digging in, use it for excavating a mortise, initial horizontal chiselling to a line, shaping concaves, paring in a tight spot, and removing waste.

For smoothing cuts, such as cutting flat or working with convex curves, use the chisel held bevel up. Sometimes, you can use both types of bevel cuts interchangeably. For example, you can make feather cuts in mortising a hinge using the chisel with the bevel up or down. In many instances, both methods are needed to complete the job.

When chopping or paring vertically, face the bevel side toward the waste and begin the initial few cuts away from a scribed line. If you force a cutting edge on the line, the wedging action of the bevel will push back the scribed line.

Using a sharp edge and working with the grain gives  
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a clean and smooth result. Paring or chopping straight across grain and end grain could result in a rough or even a pitted surface. To achieve a better finish, take light shavings and use slicing cuts — either pare with the trailing corner of the chisel, a technique woodworker and illustrator Aldren Waston called “compass stroke”, or move the chisel laterally at the same time as you push it forward.

I'll use two examples to illustrate step by step how a chisel can be used, starting with cutting an end rabbet. First, lay out the shoulder or recess using a marking knife on the face and a marking gauge on the end grain. Pare at an angle with the bevel up to form a V-groove (Paul Sellers calls it a “knife wall”) at the shoulder line. Repeat the knifing and paring to create a deeper wall, then handsaw the wall to depth.

There are two different approaches for removing the rabbet waste using a chisel and each has its own merits. The first method entails paring or chopping away the waste from each side in turn using either straight horizontal cuts or slanting cuts. The second method calls for chiseling from the end. The first method is quicker but works across the grain. The second approach, working with the grain, gives a cleaner finish and is the only practical option if the rabbet is an especially wide one. You can then use a router plane or pare the bottom flat with a chisel held bevel up.

Chisels can shape a concave or convex curve. To cut a concave curve, use a chisel wider than the thickness of the workpiece and hold it with its bevel down (bevel up for a convex curve). For tight curves, a chisel with a round bevel rides more smoothly.

After laying out the curve on the workpiece, clamp it in the vise and remove the bulk of the waste with a coping saw. Cut with the grain, using short mallet strokes as you get closer to the line, advancing the cutting edge 1/4" or so each stroke. As you chop, raise or lower your arm to keep the cutting edge from going beyond the layout line. The final smoothing can be done with a paring chisel. In addition to sighting, you will find that running your hand along the curve gives you constant feedback on how fair the curve is.

For further reading, see:

Lee Valley Tools. (2012, May 16). Cutting Curves with a Chisel. Retrieved from [http://www.youtube.com/watch?v=sGveu9832nY&feature=player\\_embedded](http://www.youtube.com/watch?v=sGveu9832nY&feature=player_embedded)

Watson, Aldren. *Hand Tools: Their Ways and Workings*. W. W. Norton & Co. New York. 2002: 87 – 104.

## Dovetail Jig Tips

When you rout a dovetail joint, your sense of feel is important. Your router should slide easily around the jig's fingers, without hesitating, so you can tell which direction to push the

router. To eliminate drag, rub a piece of canning wax (paraffin) on top of the comb. You won't need much, but it sure helps!

To eliminate tearout inside a dovetail joint, make this your first step: Rout a shallow pass from right to left, all the way across the pin board.

This scoring pass is a climb cut (routing in the direction of the bit's rotation), which is the opposite direction that you would normally move a router. The hazard of a climb cut is that the bit can grab, suddenly pulling the router ahead. When you take a very shallow cut, though, that's usually not a problem.

When you've completed the scoring pass, rout the rest of the dovetail from left to right—the opposite, and normal, direction.

When you're constantly picking up and putting down a router with an exposed bit, it's convenient to park the router on a safe platform. There are many ways to make one, but the main idea is that once you've put the router down, the bit has no chance of catching anything.

This platform is just a 1-1/2" thick block, the same size as the router's base, with 1/4" X 1-3/4" sides nailed on all around. The hole in the center is 1-3/8" dia. Once the router is perched, it stays put. Of course, you still have to turn it off, first!

Accidentally routing right into your dovetail jig is pretty discouraging, and will ruin your bit. The brackets that support the jig's comb are directly in harm's way—if you're not sure of the router's position, you can chew right into them.

The solution is to add blocks that prevent the router from getting too close to the brackets. On this jig, you can clamp bumpers directly to the comb; for models without extra-long combs, clamp tall blocks to the workbench.

To control the depth of a dovetail joint, you move the comb in or out. The comb must be perfectly parallel to the front of the jig, as measured by a board clamped upright in the jig. If you're making a drawer, you'd use one of the drawer parts, but you have to move it back and forth a number of times to measure the comb's setback on both sides of the jig.

Here's an easier method. Clamp a 12" wide piece of MDF in the jig, as shown above. Position the comb so it's approximately in the correct position according to the jig's manual. Use a combination square to check both sides. Remove the MDF and clamp two scrap boards in the left side of the jig. Make trial cuts and fine-tune the comb's position on the left side until the dovetails are exactly the correct depth. Put the MDF piece back in the jig and use the square to adjust the comb's position on the right side

## No Meeting Location

We tried to meet in June at Stines, but they are still restricting meetings in their meeting room in Lake Charles and Sulphur.

Therefore, there will not be a face to face meeting in June.

However, Tina Phillips, store manager at Stines, Lake Charles said they may be able to open their meeting rooms in July. Let's hope.

Stay safe.



June 2020