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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. 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 Trouth: 583-2683. Each have years of experience and knowledge.

December Meeting Highlights

The wonderful shop of Leddie and Larry Cooper was the meeting place this month. They have certainly brought this large shop from four walls to a great place to work or play. Complete with a kitchen area and rest room, lots of fine tools and as big as a half basketball court. The food was wonderful as well - thanks to both Leddie and Larry for a wonderful time.

We learned that long-time members Leonard and Theresa Wilfert are moving to Mandeville and that Robin Richard is convalescing in Baton Rouge after knee surgery. We wish them all well. Guest of Joe Comeaux was John Reeves.

Dr. Bill Fey presented our safety discussion this month about wood dust hazards. He spoke about minimum exposure levels established by the American Conference of Industrial Hygienists. Particularly toxic common woods are black walnut, boxwood, cocobolo, most rosewood, mansonia (aka African walnut), sassafras and yew. We've got more on wood toxicity in the following article.



But to protect yourself from wood dust of all types, Bill discussed several options. The standard dust mask only protects you from rather large particles - from getting up your nose. The really fine stuff (.3 microns - 1/3 of a millionth of an inch) is what you need to block. To do that, step up to a N-95 dust mask. This

blocks 95% of the .3 micron dust. A decent respirator will block 99 % of this dust and a forced air system will block 99.9%.

There was also a discussion on fire safety when it comes to natural Christmas trees. A dried out Christmas tree is a serious fire hazard.

Show and Tell brought us a sassafras cane and umbrella holder/stand from J.W. Anderson while Don Elfert showed photos of a Porter Cable (Delta design) 6 inch jointer for sale from a friend. Contact Don if you have an interest.

Don also showed some very nice picture frames he built complete with photos he had taken over the years.

Pie Sonnier showed off a great yard tractor made of cherry, Osage, walnut and ebony. Gary Rock had a very nice bowl of hackberry with leather wrapped handles as well as some of his great tree ornaments using pen turning stock. The bowl's inside was very highly polished while the outside consisted of fine ridges he did by using the indexing mechanism of his lathe and a grinder.

Joe Comeaux showed off a neat little scroll saw insect from a plan while Bill Fey showed us a child's desk and bench he built from a 1990's plan he found in an old wood working magazine. Someone brought a great child's rocker but sadly, I did not get the name of the maker. Mr.Thibodeaux had a pair of the largest scissors you can find - all of wood



Steve McCorquodale brought some lovely elm boards he had sawn - they looked almost like cedar due to the contrasting color and figure. Steve said this wood has working characteristics between cherry and walnut. While elm is difficult to find in this part of the State, contact Steve if you want to work with this beautiful wood.



So what did you get for Christmas? I suspect that something arrived down the chimney or at least from your spouse or a good friend. Tell us about it at the next meeting.

Coming Up . . . Shop of George Kuffel - January 8, 2011 at 9:00 A.M. Please join us at George's all weather shop for our first meeting in 2011.

## Wood Dust Toxicity

About 30 years ago I had my first encounter with wood dust toxicity. This came about when sanding some African Walnut — at least that was what it was called when I bought it from a wholesale wood supplier. I was building my first large projects — a coffee table, end tables and a dining room table — all of which I still use today. The wood turned out to be mansonia but sometimes called sneezewood (though actual sneezewood is a different wood). The symptoms were a runny nose, sore and swollen throat and a bit of fever — I thought I had caught a cold. But after a day or so of recuperation and back to the sanding, the symptoms started all over again. It was then I realized that something was going on. Back then not much was known in the U.S. about wood toxicity for hobby woodworkers. I ask a professional woodworking friend and all he knew was to stay away from was yew, greenheart and warned that cedar splinters go septic in a hurry.

This little scare certainly got me to thinking about wood dust safety. While I don't have asthma or any known allergies, this was still very important particularly after another friend (a biology major at the time) warned me about something she called sensitivity.

I would suggest that in all, the biggest threat to a woodworker comes not in the form of bodily injury from a power tool, but from wood dust. Now to overlook or minimize the importance of hearing, eye, and overall physical safety when dealing with power tools, it is the small stuff—the tiny and easily overlooked wood dust particles—that can cause the most long-term damage. So, just how does wood dust affect a woodworker?

**Irritants:** The most common way that wood dust affects a woodworker is by being an irritant. This simply means that it can irritate your skin, your eyes, and most of all, your lungs. This can mean reactions such as sneezing, coughing, runny nose, rashes, and asthma-like breathing problems.

**Sensitizers:** Taking things a step beyond being just irritating, some woods can make us more and more sensitive upon each successive exposure. So even if you don't experience any sort of allergic reaction to the wood or its dust upon first exposure, each time you breathe the dust or handle the wood. Sometimes the eventual reaction can be quite strong, resulting in rashes or boils, severe sinus or respiratory pain/inflammation, or a number of other conditions depending on the wood species.

**Toxins:** Not nearly as common, some wood's are considered to be directly toxic. One example of this is Yew, which even according to ancient Roman knowledge, was capable causing fatality in certain cases.

**Carcinogens:** If you look at the toxicity chart of wood species, you'll notice that some species have been shown to cause NPC. That is, Nasopharyngeal carcinoma, or nasopha-

ryngeal cancer.

Let's look at some of the ways that we can minimize risk and reduce the likelihood of having a serious health reaction.

Different safety measures can be employed depending on what tool you're using, and what procedure is being done on the wood. (For instance, resawing an 8" wide board on a bandsaw will create a lot more dust than simply ripping it at 1" thickness.)

So, since there are a variety of operations that can be done, there are also a variety of protective measures.

**Dust mask:** Available at a variety of hardware stores, these masks are just disposable cloth with an elastic band. Some of the better ones have an exhalation valve on the front. They're better than nothing, but the serious woodworker would probably do best to find a solution that is more efficient and form-fitting than these disposable products. Spend about \$4 and get a HEPA rated dust mask—not a common three for \$4 type.

**Respirator:** A step up from a simple dust mask is a respirator. These filter airborne particles with fairly good efficiency, and have replaceable filter pad(s) that can be swapped out when they get clogged, saving money in the long run.

**Wood Dust Mask::** One advantage that these units have over their disposable counterparts is that they are made of flexible rubber, which forms a much better seal than cloth/paper masks. There are also larger models and/or optional filter pads that use charcoal to also filter out solvents and other chemicals. These cartridge respirators are a great choice when applying wood finishes in enclosed areas, especially during winter months when ventilation can be difficult.

Taking this personal protection one step further, there are also powered respirators which enclose your entire head and actively pump fresh air in/out of the mask. These units offer the ultimate in wood dust protection, and are well-suited for those with extreme wood allergies.

**Air filter:** Another all-around useful item to have in your shop is an air filter. These are typically ceiling-mounted units that run while you are working in your shop, and collect airborne dust particles with minimal intrusion or hassle.

**Wood Dust Air Filter:** Air filters Most commonly will use furnace filters for the pre-filter, with an array of felt-like bag filters on the inside. Depending on how fine of a dust you'd like to filter, you can buy HEPA furnace filters for the pre-filter (though this can slow down on the overall CFM through the filter), or washable/reusable filters, or even charcoal filters to remove organic vapor from the air.

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Yet despite the versatility and convenience of using an air filter, it certainly shouldn't be relied upon as a woodworker's only line of defense against wood dust. It should instead be viewed as a backup: helping in the background while you minimize your exposure to dust in the first place.

**Air exhaust:** Despite all of helpfulness of the previous items, one of the very best ways you can protect yourself from wood dust is to blow it out of your shop. Just because you can't see any dust doesn't necessarily mean that there aren't any particles left in the air. You may think the coast is clear, and take off your dust mask, but there's probably a host of very fine wood particles still floating around in the air: soon to be in your lungs. One of the items in my shop are two biscuit fans that blow out of the shop through the windows.

This is where an exhaust fan can come in handy as well. Instead of using so many resources, expensive filters, masks, etc., sometimes the very best thing is to get a breath of fresh air, and exhaust the old, dusty, polluted air out of your shop. They are easy to install and my big one is on a temperature controlled switch that turns on when the heat gets about 100 at the peak of my shop roof. This unit blows out at 10 CFM.

**Dust Filter system:** These are relatively low cost and available from many sources such as Rockler. But, you can easily build your own. See my article on the LCWW web site under Projects. My system cost about \$50 to build or you could purchase a system for about \$250 - \$300. Be sure that the unit draws at least 8 CFM from the size of the shop. See my article for more details.

**Dust collector:** This is the tool that is a staple in every serious wood shop. They usually use 4" dust collection hose, and will filter large chips and dust from a variety of wood-working machines.

**Wood Dust Collector:** The beauty of a dust collector is that they are designed to create a lot of CFMs of suction, and unlike ShopVacs which use a small internal filter, dust collectors use a giant bag (or a canister) and almost never lose any suction with continued use.

You can also outfit your dust collector with an upper felt bag to increase the efficiency of collecting smaller dust particles: a feature that is very helpful when using a collector on a drum sander which creates finer dust. See Dick Truth's system as an example.

Another option on the opposite side of the spectrum, (that is, if you are creating a lot of large wood chips/shavings as from a planer or jointer), is to use a cyclone separator with your dust collector. This is essentially a giant vortex-shaped pre-filter piece that allows larger chunks of wood to drop and fall into a trash can or other large container: prolonging the life of the dust collector's bag and greatly reducing the frequency

that you have to empty it.

Common tools that are typically used with a dust collector include: table saw, jointer, planer, down draft table, drum sander, and bandsaw. As you can see, most shops would be quite messy if a dust collector wasn't in regular use!

**Down draft table:** This is simply a specialized table/platform where sanding or other shaping operations can be done almost dust-free. The table is full of holes or slots, and a vacuum or dust collector is attached, creating a continuous downward suction on the table. There are also stand-alone down draft tables that have a built-in motor which can be used for industrial types of situations. I noted that Larry Cooper has a great down draft table that he built. This is a great tool to have in your shop if you have the room.

**Vacuum/direct dust extraction:** The last option is to connect a vacuum to a specific tool. This is usually done with a hose adapter of some sort, and the vacuum is only switched on when the tool is running. Some vacs have an auto-on feature to work with a sander or other small tool to kick on when the tool is switch on. In most instances, the tool is actually plugged directly into the vacuum.

**Wood Dust Sander Vacuum:** One advantage to this method is that it can be very precise, so that even though only a moderate amount of suction is created with the vac, it is in just the right place for optimum dust extraction.

Vacuums are typically used with miter saws, sanders, and other small hand held tools that have a dust port. When I plug in my jointer, hand sander, band saw or table saw, I always have the shop vac engaged and you should as well.

If you don't have an auto-start vacuum, one useful tool that can perform the same function is called the iSocket. What this small device does is plug into any standard electrical outlet, and has two plug-in sockets: one for a tool, and another for the vacuum. It then will sense when the tool is turned on, and automatically turn on the vacuum as well. It also leaves the vacuum on for a few seconds after the tool has been switched off to help clear any lingering dust from the hose. *Barry Humphus from various sources.*

#### Joe the Collector

Speaking of dust collection, we could not pass up that our own Joe Comeaux is a collector as well. What he does so very well is to collect your Lake Charles Woodworker dues each year. He is ready and very able to do this so you get to continue to enjoy the LCWW Newsletter, join us for each monthly meeting, learn about and teach the rest of us about wood-working and of course, have a great time.

All you need to do is to send Joe a check for \$20 to engage in ever expanding sessions on woodworking and more. Send your check to LCWW, 1675 Campfire Rd., Lake Charles, LA. 70611. Or, just give him a Hamilton and you are done.