

John Griffith, President  
Patrick LaPoint Treasurer

Officers and Directors

Barry Humphus, Editor, George Kuffel  
Gary Rock, Steve Thomas, Joe Comeaux

**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; Gary Rock: 433-1679; Eltee Thibodeaux: 436-1997; Dick Trowth: 583-2683. Each have years of experience and knowledge.

### May Meeting Highlights

Our May meeting was because of the generous folks at Stine's in Lake Charles as they provide the space for our monthly meetings. Please always thank these folks as you shop after the meeting.

We had a couple of guests this month including Clint Anderson and Steve Grey. Mr. Robert Pertuit joined us as a new member this month. Our current president John Griffith had to attend the McNeese graduation so treasurer Patrick LaPoint filled in this month for the meeting and John should be back for our June meeting.

Someone started off by letting us know that the great Aquacoat wood grain filler products are on sale at South City Paint on Sale Rd. Don't know if this product is still on sale, but always ask and mention that you are a member of the Lake Charles Woodworkers Club - you may get a great price on anything you may purchase. In fact always mention this as you shop locally at suppliers.

For safety issues, Barry Humphus mentioned the replacement of a Pacific Federal electrical panel in his home. The Pacific Federal electrical panels are known to have very



serious fire issues and if you have one, please consider contacting an electrical contractor for a replacement particularly if this panel is inside your home. The panels may be identified with the name or simply PF. The company went out of business several years ago because of the fire issues.

Another safety idea is an arc fault breakers and these are available for most panels. An arc fault breaker includes

arcing of switches and the like. The device then shuts the circuit down when arcing is detected.

For Show & Tell, Mr. Thibodeaux started us off with a nice whirly-jig and JW Anderson showed a jar opener to be mounted plus a great pine and mystery wood box with lots of coats of poly and another of spaled sycamore.

Ray Kibodeaux had a large bowl he turned and finished with Minwax tung oil and wet sanded with 1K grit with thinner. Mark Underwood showed a mesquite bowl that was wet sanded and finished with poly. Steve Tomas had a lovely wormy pecan bowl to show. George Carr had a nice chip carved toy box with a great gel stain that is to be a wedding gift. Steve McCorckadale brought a wonderful 'his and hers' walnut top table of oak burl that was great on both sides. In fact it was made to flip to either side to show the great burl figure. The base was made of old growth china berry.

Erik Jessen brought us a wonderful laser cut map of the Lake Charles estuary cut in beech plywood. Erik detailed the map with various levels of the depth of the area lakes and colored the depths as well. We hope that he does many more as I would like to own one to provide as a gift to relatives. Erik also brought a great stand with which he will display his work at various shows. Darren Hood provided us with a photo of a great end of bed table. Bubba Cheramie showed us a Tropper Shadow box of oak showing his various awards for the City, Parish and State.

Patrick LaPoint did a nice jewelry box of cypress plus Port wood of birch with a nice tray and flocked and a rosey box from the same woods. Frank Tartamella did a Bishops Cup with symbols of oak and Mike Dupris had a nice piece as well. Gary Rock has a great piece for the Courage of Beads program with stone paint plus a couple of nice weed pots of cedar and red heart with a high gloss finish.

Mr. Underwood won the Show & Tell Gift card from Stines and Mr. Hood and Mr. Cheramie sold items at the April show outside of Stines. While there is a photo on this page there are more on the next page.

Coming Up . . . Saturday, June 11 at 9:00 A.M. in the Stines Lake Charles meeting room.



### Choosing Your Lube

If your shop is typical, you've got a selection of colorful cans claiming to contain the best and absolutely only lubricant you'll ever need. we've been sucked in by the marketing more times than I care to admit, hoping that the next product

will really set itself apart from the others and magically unstick all the stuck stuff in our mechanical life. It never happens, though, and in the end I generally find myself reaching for the familiar blue and yellow can of WD-40 for just about every job. But that's the easy way out, and it's not often the best choice. With that in mind, we wanted to explore what exactly lubricants are and how they work, to enable more informed decisions on which lube to choose.

So why do we even need lubricants in the first place? Why can't two pieces of metal ground and polished to a mirror finish just be rubbed over each other? In a word: asperities. Asperities are the microscopic peaks and troughs that cover even the most finely finished surfaces, and when they drag over each other, they snag and catch. The force needed to overcome the friction this creates can break off the tiny peaks, resulting in both wear of the metal surfaces and heat as the kinetic energy is transformed into thermal energy.

Lubricants are just substances that keep surfaces separated. In the case of our finely polished metals, a lubricant may be a fluid that fills the voids between the asperities, reducing snagging. Friction is reduced, the heat that's created is conducted away from the surfaces, and any asperities that do touch and break off are flushed away by the lubricant.

Of course not every lubricant is a fluid, and not every fluid lubricant is a liquid. Dry lubricants abound, including graphite, Teflon, graphene, and molybdenum disulfide. For the home shop, though, liquid and semi-liquid lubricants are probably the most convenient, so we'll concentrate on them.

Most – but not all – lubricants common in the home shop are based on some form of mineral oil, which is just a highly refined petroleum distillate. Various substances, including viscosity modifiers, detergents, and corrosion inhibitors are added to the base oil to give the resulting lubricant different properties. One way to classify liquid lubricants and select the right one for the job at hand is to look at viscosity. The thinner the lubricant, the easier it can flow and wick between surfaces, while thicker lubes can typically stand up to higher pressures and temperatures.

On the thin end of the viscosity spectrum we find the penetrating oils. Usually the first product we reach for when a rusty bolt resists our attempts with a wrench, penetrating

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## Lubes Continues

oils are just low-viscosity oils that can seep into the threads and lubricate the surfaces. Common brands include Liquid Wrench, PB Blaster, Kroil, and the ubiquitous WD-40. Each product claims to have just the right mixture of secret ingredients needed to dissolve rust and release that frozen bolt with minimal effort.

All of these products work to some degree, but do they justify their expense? Maybe not. In 2012, a group of engineering students from Drexel University studied alternatives to commercial penetrating oils, which are often expensive or hard to come by in developing countries. In experiments they determined that a simple mixture of vegetable oil and acetone was far superior to WD-40 in reducing the breakout torque of nuts rusted onto bolts. Similar comparisons show that a 50-50 mix of automatic transmission fluid (ATF) and acetone beats the commercial penetrating oils at a fraction of the cost. In fact ATF is useful for many applications including as a gun oil, lock lubricant, soing machine lubricant or any small fine moving metal or nylon components. It's also substantially less expensive than a tiny can of Three-In-One oil.

I must admit that I've always been disappointed at the performance of commercial penetrating oils when it comes to rusty fasteners but I doubt I'll be giving up on WD-40 altogether – after all, it makes a dandy adhesive remover, and I've never found anything better at getting tree sap off your hands and tools.

Moving way up the viscosity scale, we find the greases. Greases are semi-solid mixtures of a base oil and some kind of thickener, usually a soap. Greases exhibit a characteristic property called *shear thinning* – when shear forces are placed on them, their viscosity decreases. That makes it sticky and thick enough to let you pick up a small nut with a dab of grease on a fingertip, but stepping on a drop of the same grease would make you slip.

The soap used to thicken the grease determines some of the lubricant's properties. One of the most common greases is lithium grease, formed by thickening a base oil with the soap lithium stearate. Lithium soap adds thermal stability and high load handling properties to grease, as well as bonding well

to the metal. Lots of additives make it into modern greases, such as anti-oxidants, corrosion inhibitors, or even solid lubricants like molybdenum disulfide or Teflon. Unlike penetrating oil, a DIY alternative to commercially prepared grease is probably more trouble than it's worth – but that doesn't keep folks from trying.

Since grease selection is highly dependent on the application, what you should stock is based on what you do. A shop that does a lot of auto work will need tubes of molybdenum grease and a grease gun; shops that specialize in electronics might need a tube of heat sink compound, which is a high-temperature silicone grease with zinc oxide added in.

Silicones are interesting compounds. While the base oils in most greases are based on the hydrocarbon polymers in petroleum, silicones are polymers with a backbone of silicon and oxygen. The polymerization reaction and the selection of monomers can be tweaked to produce silicone oil or various kinds of silicone resins with properties similar to rubber or plastic.

Silicone oils, most notably polydimethylsiloxane (PDMS) can be mixed with a thickener like vaporized quartz sand or Teflon to make silicone grease. Silicone grease tends to be rather expensive and so its use is limited to places where a little dab'll do you, like lubricating O-rings or preventing laboratory glassware fittings from seizing up. Silicone grease is often used in automotive brakes, too, due to its ability to resist heat breakdown.

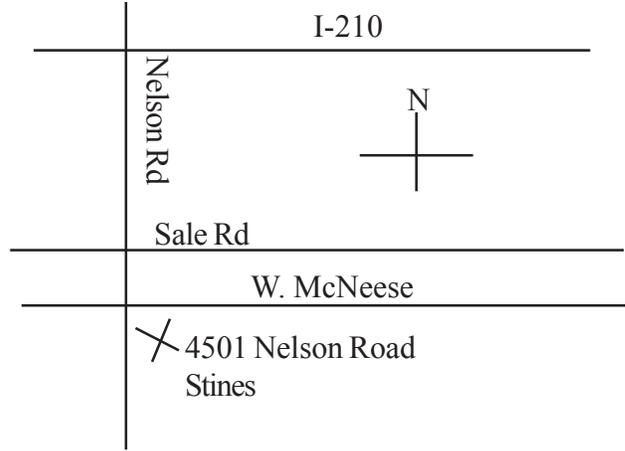
Most lubricants needed in the home shop are based on mineral oils. But long before they become fossil fuels, living things often find a way to provide useful lubricants. Sheep's wool is the source of one of the most useful natural lubricants, called woolwax or lanolin. Sheep secrete the waxy substance from their skin to keep their fleece from becoming like a sponge in a rainstorm. It's washed from fleeces with hot water and detergents in a centrifugal extractor and purified into a solid waxy substance with a melting point near body temperature. That makes lanolin an important component in cosmetics and in medical products, but that doesn't mean it can't be used in the shop. Also note that there are artificial versions of lanolin as well. While lanolin is non-toxic, a very small number of folks can have a minor allergic reaction to the product. So as with most lubricants, consider wearing nitrile gloves. Barry Humphus

### June Meeting Location

We have the wonderful opportunity to meet at the Stines Lake Charles location at 4501 Nelson Road. Please enter the store and go to the back left in the store to the meeting room.

To get there go South on Nelson Road in Lake Charles going from I-10 or I-210 and turn into the parking lot. Go to the back of the main entrance to the very back to the meeting room to find us.

Please take an opportunity to explore Stines before you leave to find the items for your shop or home that you may need. As always, thank the folks at Stines as you check out.



June 2016