

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

February Meeting Highlights

The February meeting was at the Stines store on Nelson this month. Be sure to thank the nice folks at Stines as you check out. We had two guests this month: Todd Palumbo and Meril Ward.

John Griffith ask if anyone would want to host a meeting during the year. If that is of interest, please contact John at the next meeting.

J.W. Anderson described his experience with a broken band saw blade. He mentioned that it is best practice to take the pressure off your blade once you have finished the job as this will prolong the life of the blade. Another issue he mentioned was that the Makita saw he was using has a short radius on one of the wheels making it more likely to damage the blade.



First up was Eltee Thibodeaux for Show and Tell with his own version of a Super Bowl trophy honoring the NE Patriots. Bubba Cheramie brought us a wonderful cypress bowl he turned and designed finished in poly and painted black inside, it featured a series of equally spaced holes around the circumference.



Bob Theau brought a large pile of old wooden venetian blinds that he gave away to members for various projects. Pie Sonnier outdid himself with a neat go-cart featuring a complete toilet for the seat.

J.W. Anderson brought in a very nice cutting board out of a Malasian wood. Steve McCorckodale brought photos of one of his great tables with this one out of 2-1/2 inch thick pecan from Rita. Steve did a ring count and found

the tree to have been 130 years old. Steve also told us a bit about the evolution of the modern pecan nut. Prior to modern grafting pecans were small and hard to crack but through various horticultural techniques have been developed into the pecans that we enjoy today.

Joe Comeaux has been turning some seem rippers of tiger wood plus a laminated shaving stand for brush and razor. He also has been turning knitting bowls.

Steve Thomas brought one of his recently constructed kalediscopes with this one with a manually operated crank. Steve also had constructed one of his great segmented bowls with a NASCAR theme for Joe's sister.



Scott Pias had a nice curly and bird's eye maple turn table. The plan came from one of the great videos found on the Fine Woodworking web site. However, to see these and much more, you need a subscription to the magazine.



Ray Kebodeaux showed some great malets: one of oak with a leather face and another of oak and walnut. Ray also showed a marking knife made of an old file with a mesquite handle. Ray mentioned that he recently purchased some LinkTech batteries and we have story about batteries on page two. He mentioned that Battery Tech locally rebuilds Ni-Cad batteries but does not do Li-Ion ones.

Pat LaPoint made some good looking boxes of birch and pine plus the mysterious Port wood and finish with poly. Gary Rock had some great turned pendants of aluminum and acrylic plus a bowl of elm with cool application of stone paint embedded and stones in acrylic. Bubba Cheramie won the S&T prize.

Next Up . . . Saturday, March 11 at 9:00 A.M. at the Stines location on Nelson Road in Lake Charles. Please join us for refreshments and conversation.

More Pictures



The Myth of Storing Lead-Acid Batteries
Contrary to very popular belief (even touted by many a mechanic), today's car batteries with their hard plastic shells will not discharge or otherwise be damaged when placed on a concrete floor. (The other way around isn't always true,

with an already damaged battery leaking battery acid on a concrete floor potentially causing some damage to said concrete.

To quote Interstate Batteries, "The type of plastic (polypropylene) used in battery cases today is a great electrical insulator. Also, tremendous technological improvements have been made in the seals around the battery posts and vent systems, which have virtually eliminated electrolyte seepage and migration. So, it's OK to set or store your battery on concrete."

So how did this pervasive myth get started? As with so many such myths, it once had a basis in fact- a remnant of an era when car batteries were made of different materials.

For example, some of the earliest car batteries were composed of lead-acid contained in glass cells, all encased in a tar-lined wooden box. Placed on a potentially damp surface such as concrete, the moisture could cause the wood to swell and shift, and the glass cells to break, damaging the battery.

Advancements in battery technology ultimately led to a nickel-iron battery known as the Edison cell, which was more durable but also had a downside in its classic form. Encased in steel, an Edison cell battery placed directly on a concrete floor would discharge more quickly than normal.

A subsequent innovation, encasing the battery in hard rubber, also had its drawbacks, as rubber is both made of carbon and a bit porous. Between the carbon and the pores, together with moisture and a concrete floor, this could potentially lead to a path for the electricity to flow, resulting in the battery draining.

Today all of these automobile battery-destroying or current-conducting flaws have been eliminated by using plastic shells around the various types of battery designs. And the potential problem of damage to the concrete floor from battery acid leakage has also been mostly mitigated, as previously noted by Interstate Batteries.

However, it is important to note that today's batteries will still ultimately be drained just sitting there, just in different ways. For example, if a battery's terminals are dirty with a combination of dirt, dust and leaked acid, the filth can potentially create a circuit between the terminals, draining the cell. This is, of course, easily prevented by cleaning the top of the battery case before storage.

What's not preventable, however, is the fact that, as with all batteries, a car battery will self discharge over time due to certain chemical reactions occurring within the cells. In fact, a discharge rate of 1%-25% per month for modern

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lead-acid car batteries without any load is typical, with the two major factors on discharge rate being temperature and age of the battery.

This leads us to another common car battery myth- that cold weather will increase this self-discharge rate. In fact, the opposite is true- cold weather slows the self-discharge (slower chemical reactions) and hot weather speeds it up (faster chemical reactions). As Pacific Power Batteries notes, "A battery stored at 95° F will self-discharge twice as fast than one stored at 75° F."

On top of that, the overall lifespan of the battery is also diminished when kept in hot weather vs. cold, with lead-acid car batteries having about a 60% increase in expected lifespan when kept in cold climates instead of tropical ones according to Pacific Power Batteries.

The idea that cold weather is bad for these types of lead-acid batteries used for automotive purposes most likely derives from the fact that in extremely cold weather a battery may *seem* drained when one tries to start a car, with the car potentially cranking slowly or not at all.

Assuming the battery was properly charged before the car was shut off, in most cases this is not because the battery lost its charge but because, due to the aforementioned slowing of chemical reactions, a cold battery simply isn't capable of outputting as many amps to the starter as when it's warm.

An old battery on its last legs may also be exposed as such in this scenario with its cranking amp ability already diminished with normal age-related reduction in capacity.

On top of that, the problem is (potentially) made worse by the fact that an extremely cold engine may in some cases take more cranking amps than normal to turn over- all potentially contributing to people thinking cold weather is worse for the battery than hot.

For reference here, according to Industrial Battery Products, a typical lead-acid car battery will see about a 50% drop in its normal cranking amps at -22° F vs. around 75° F. On the flip-side, that same battery would see about a 12% increase in cranking amps at 122° F vs. 75° F.

Thus, if you were to place a cold lead-acid battery back in a relatively warm environment, once it warmed up, you'd find its cranking amps restored and that it actually would have maintained its charge level much better in the interim while it sat there vs. stored in a hot environment; this is all thanks to the very same slowing of chemical reactions that reduces the battery's cranking amp output ability in colder temperatures.

By the way, a good trickle charger is best for long-term storage of lead-acid batteries. While you have to check

the water level periodically, these can be left in place for months without damaging the battery and are used by the military for that purpose. An inexpensive one will cost less than \$15.

For modern battery-powered power tools we use lithium-ion batteries and these have their own issues. You have seen reports about these batteries catching on fire. The problem with lithium is that it is very difficult to extinguish such a fire. Once it starts, there are very few extinguishers that will put such a fire out and the extinguishers are very expensive. You would only likely find one of these extinguishers at a local fire station or industrial plant.

Interestingly, I had a couple of very good chemistry courses in undergraduate school and one of my teachers was one John Goodenough. Goodenough was one of the two folks who invented the Li-ion battery that we use today. He did this while a professor at UT-Austin and at 94 years old, he's still inventing new forms of this battery.

In February, his team announced a new type of solid-state Li-ion battery. He originally identified the lithium cobalt oxide material that forms the cathode used in today's Li-ion batteries and has teamed up with Maria Helena Braga to develop a battery that uses solid glass as an electrolyte.

Based upon just published research, it also appears that these solid-state batteries may have an energy density close to three times that of conventional Li-ion batteries. That's important, as a solid-state battery would theoretically be able to store three times as much power as a conventional Li-ion battery of the same volume. The researchers claim that the cells can be charged and then run down more than 1,200 cycles with low cell resistance. The cells will operate at temperatures as low as -4 degrees Fahrenheit,

Goodenough and Braga also said that a glass electrolyte, made with sodium, should be more environmentally friendly than the lithium used in today's cells. The glass electrolytes will also allow manufacturers to plate and strip alkali metals on both the cathode and the anode side, which will simplify manufacturing.

To replace today's lithium-ion batteries with solid-state batteries, the need is to tick off all the boxes. Consumers value and safety, but they won't be happy if their phones and tablets get less battery life than they did before. Goodenough, Braga, and their team of researchers seem to have accomplished this, offering hope that the agonizingly slow pace of battery development will amount to a big leap. The next task of the team is to find a company to make them.

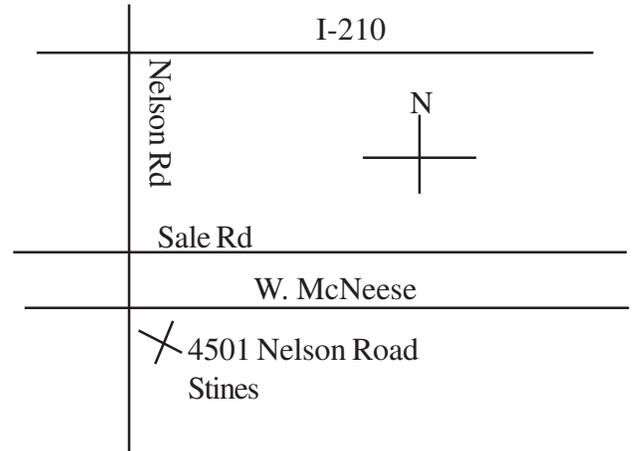
We hope they do that as this would be a revolutionary technology for our power tool needs. Barry Humphus

January 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 nice folks at Stines as you check out.



March 2017

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