



Michigan Woodworker

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Michigan Woodworkers Guild (Est. 1981) December 2014 Vol. 35 No. 10

Sunday, December 14, 2014, 2:00 - 4:30 PM

At The **LIVONIA Senior Center**

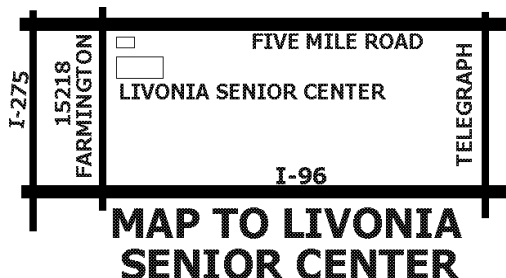
Photography Techniques

by Jerome Burns

Annual Christmas Meeting and Dinner

Annual Elections

The December luncheon will be at Jimi's on Wednesday the 17th at 1:15 PM. **Please note the change in date!**



Ken Wolf Making A Point



Chris and George Theriot

Calendar Of Events

The January 2015 meeting will be held on the 11th. The topic is Veneering Techniques and will be presented by Mike Belzowski.

The January 2015 luncheon will be at 1:15 PM at Jimi's in Royal Oak on the 22nd.

There will be no formal meeting in February. The MWG will host an area at the Woodworking Show on February 13, 14, and 15th

The February 2015 luncheon will be at 1:15 PM at Jimi's in Royal Oak on the 26th.

The March 2015 meeting will be our annual Showcase Of Skills. The meeting will be held at the TechShop on March 8th.

The March 2015 luncheon will be at 1:15 PM at Jimi's in Royal Oak on the 26th.

The April 2015 meeting will include a presentation on Windsor Chairs by Jim Crammond. The meeting will be held at the TechShop on April 12th.

The April 2015 luncheon will be at 1:15 PM at Jimi's in Royal Oak on the 23rd.

President's Corner by John Sanchez

Happy Thanksgiving everyone:

Just a reminder that our annual Christmas dinner will be December 14 at the Livonia Senior Center. Thanks to the ladies of the Michigan Woodworkers Guild for preparing the meal for us every year. Jerome Burns will be giving a talk on photography. At this meeting I will hand out the work schedules for the upcoming woodworking show in February.

This is the month for elections. If anyone wishes to run for office please see Bill Gayde at the December meeting. Offices for President, Vice President, Treasurer and Secretary will be voted on. We also have openings on the board of directors or if you wish to get involved and help with the library please let us know.

This past month we had Ken Wolf and Al Goldstein give talks on alternative methods for screwing wood together (Ken) and keeping your equipment rust free (Al). Al also informed us on what he found to be the best methods for working with plastic.

The alternative method of screwing wood together will come in handy for me. If you have seen my ship, U.S.S Constitution (Old Ironsides), it is getting increasingly more difficult to transport it from my home. The ship seems to be getting bigger as time goes by. With Ken's method, I will be able to cut the masts at the base in the lower level and screw them back in place at the various shows that I attend. Because it is at a lower level the public will never see it.

Rust is always a problem for me as my workshop is located in my outside garage. Rust is always accumulating on my power equipment. I will try some of Al's methods to try and eliminate this problem.

I hope to see everyone at the December meeting.

Freud Announcement New From Freud

Freud has designed its new generation of *Premier Fusion general purpose saw blades* with a patent-pending tooth geometry called "Fusion Trio," which combines a special grind for the top, sides and face of

each tooth. Fusion Trio includes a 30° Hi-ATB for slicing through plywood and melamine; a double-side grind for crosscuts; and an axial shear face grind with a block tooth design that improves feed rate by up to 30 percent and reduces amp draw by 35 percent. The axial shear face grind also allows for a more controlled cut, making it easier to feed and requiring less power from the saw. The Fusion Trio blades are made from TiCo Hi-Density carbide, a specially designed carbide with titanium and cobalt that provides a sharper edge and longer cutting life. Perma Shield nonstick coating reduces blade drag and protects the blade from corrosion and pitch buildup for better cut quality and longer life. Laser-cut anti-vibration slots in the blade reduce vibration and sideways movement in the cut. The Premier Fusion blades are available in both general (P410) purpose and thin-kerf (P410T) 10", 40-tooth sizes, and a 12", 48-tooth version. Prices range from \$80 to \$125.

November Meeting Review by Dale Ausherman

Wooden Threads, Rust, and Plastic

9 November 2013

At the May 2014 meeting on jigs, Ken Wolf presented clever shop-made clamps for securing angled joints during glue up. Some of those clamps employed adjustable wooden hemispheres secured in place by set screws inserted into threaded holes. Previously Ken has presented jigs developed by furniture builder Michael Fortune, jigs which also employed assembly and adjustment screws threaded into wood. In prior classes Michael has shared with Ken his favorite methods for making reinforced threaded holes in wood. For the November meeting, Ken shared these methods with us. Ken was followed by the father and son team of Chris and George Theriot presenting a boat building project that son George had undertaken as part of his interest in woodworking. Then Al Goldstein educated us on rust removal and prevention methods for metal tools, followed by a second presentation of methods for cutting and assembling of Plexiglas parts for use in the shop.

Ken presented four approaches to securing machine screws into wood in a manner which allows repeated uses over time: 1) Machine tool tapping of holes then reinforced with epoxy; 2) “Knife-edged” threaded brass inserts; 3) An E-Z LOK product called zinc alloy hex drive threaded inserts (EZ-LOK also makes the brass inserts); and 4) Conventional T-nuts, rather crude threaded tubes with sharp flanges to secure the device when pounded into a containing hole. The T-nut method is effective, but does not have the finely-finished appearance of the other methods. An EZ-LOK product catalog is available at <http://www.ezlok.com/TechnicalInfo/pdf/EZLOKBrochure2012.pdf>.

The machine-screw tapping method requires that an appropriate size hole be drilled and then tapped using a “machine coarse” metal tap. He described three different types of taps and their uses. Taper or Starter taps have a tapered lead of 7-10 threads which helps the thread to start. Second or “Plug” taps have a tapered lead of 3-5 threads and can be used for through holes or blind holes where the thread does not need to go right to the bottom. Finally, there are Bottom Taps which have a tapered lead of only 1–2 threads, and thus are used to produce threads close to the bottom of blind holes. The Plug taps alone can be used in wood, as long as the threads do not have to extend all the way to the bottom of the hole, and care is used in starting the tap. Ken made a little alignment block to help start a tap. The block was made by drilling a hole in a small block of wood then cutting it in half through the middle of the hole.

To reinforce a hole tapped into wood, Ken coats the interior of the threaded hole (using a toothpick or similar) with a slow cure epoxy, then drives in a bolt which has been coated with wax or paraffin and lets it sit overnight to harden. To wax a bolt Ken heats it with a flame then lays it against a block of wax or paraffin. Ken provided a handout table of drilled hole sizes required for tapping of holes to fit various size machine screws. He notes that Michael Fortune occasionally used this technique for wood screws as well.

Ken then reviewed the tradeoffs between the threaded insert types. He reported that the brass inserts are often difficult to screw into pilot holes (a screwdriver is used) and that the soft brass is easy to mangle in the process. One can help in this process by screwing a headless machine screw into the insert, with a pair of locked nuts secured to lock against the top of the insert. This is inserted into a drill press,

and one turns the drill press mandrel by hand to drive in the aligned insert. Well and good, but Ken prefers the zinc alloy hex drive threaded inserts, as they use a special hex drive tool which is less destructive to the insert.

The Chris and George Theriot presentation was inspirational in showing what a young woodworker can accomplish if given support and resources, and in demonstrating what a great dad can do to support and nurture such an interest. This is a good example of what can be done to productively fill a youth’s time with something other than video games or music iPods. Chris and George were invited to join the Guild by Bob Mills, who had earlier helped George with a Cub Scout pinewood derby project. George has a strong interest in woodworking, and even invented a simple yet effective plastic bag dryer project as a result. I showed my wife a photo and she said she could really use one of these! Chris had suggested that George to pick a new project from *The American Boy's Handy Book*. First published in 1882, this book is a wealth of projects and games, with practical directions on how to make them, by one of the founders of the Boy Scouts of America (Amazon.com, which still offers a Centennial Edition for around \$11). George modified plans from this book to make an 8 ft. long, pine-planked “Flat Bottom Scow.” The boat was a success as George showed photos and videos of its launch on the Huron River in Ann Arbor. He has plans for adding of seats at both ends, and perhaps an addition of Bob Mill’s old canoe outboard motor mount to enable some power. There was much discussion of how one might cure the minor leaks caused by the knots in the bottom. If we had more dads like Chris, and more industrious youth like George, the world would be a much better place!

Al Goldstein gave a presentation on rust removal and prevention for tools. I always enjoy Al’s presentations because his experience as a physicist “leaks out” and we are rewarded with greater insight and understanding of the subject at hand. He started by reminding us that prevention is generally better than a cure and thus reviewed methods for preventing rust. He recommended regularly coating the metal tools, such as with the Trewax product, a carnauba wax said to be used by bowling alleys. While Trewax is effective and economical, others recommended Johnson’s Paste wax as being unique in that it contains no water. One can also coat the tools with various oils, including pricey Camellia oil. Other rust prevention measures include storing the tools in wooden boxes, wrapping in treated tool wraps, and

using canvas covers for larger machinery. Such covers are available from Harbor Freight.

Al then reviewed various rust removal approaches, including a recap of experiments Michael Holden had recently presented to meetings of the Society of American Period Furniture Makers. Mike had described several rust removal approaches including citric acid (from grocery store canning shelf), lemon-lime Kool-Aid, Molasses, EvapoRust product, and electrolysis. Al showed slides of success with overnight application of these to rusty tools, and then showed his experiment at performing electrolysis on an old rusty backsaw. He used a five gallon plastic bucket, a simple auto battery charger, and three old table saw blades connected with copper wire as anodes (positive terminal) surrounding the backsaw, with the cathode (negative) connected to the saw. Al mentioned that electrolysis is supposedly a “line of sight” process such that the cathode should surround all the rusty surfaces to be cleaned. Overnight the electrolysis worked well, but left a horribly messy deposit on the old saw blade cathodes. Al said the worst part of electrolysis is the clean up afterwards. In fact he preferred the wire brush or wire wheel approach over all the other approaches, as it was faster and performed as well or better, with no risk of pitting to the cleaned metal and no cleanup required. Of course some tool parts may have rust in recesses which are not possible to reach with a wire brush. Al likes the “fine” bristle wire wheels from Lee Valley. Members pointed out the importance of wearing full face shields when using wire wheels. Al provided a handout sheet with several good references on rust removal and prevention.

To complete our meeting Al gave a well researched presentation on handling and tooling of Plexiglas to build fixtures and other items. Al's experience in this area comes from building water tanks and fixtures for his hospital physics lab while performing research in ultrasonic imaging. He presented various cutting, drilling and edging techniques, reporting the results of experiments with these techniques as a function of Plexiglas nominal thicknesses, from 1/16 in to 1/2 in. The Masking paper protecting the material should not be removed until all machining is done, and one can use Mask-Off or Goo Gone to remove masking made hard by sun or age. For cutting he described scribing, and performance available from various circular saw, scroll saw, and jig saw blades. He reviewed drilling performance of both metal drill bits, and special bits designed for plastic. For edge smoothing he recommended against flame polishing

as being difficult with potential for fire. So he then showed results for edge scrapers, sandpaper, and special buffing wheels. Finally, he described the joining of smooth edges with acrylic cement (methylene chloride), a liquid that is drawn by capillary action into butt joints, dissolving the plastic which then re-solidifies into a strong water-tight joint. - DAA

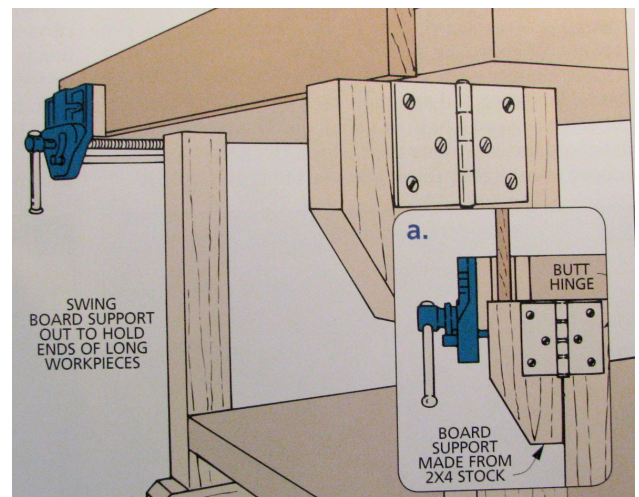
FYI by Bill Rigstad

Bench Board Support

A lot of the old, heavy traditional-style workbenches had a big, bulky support called a bench slave for holding the ends of long boards that are clamped up in a bench vise. They were used mostly when jointing the edges of longer boards with a hand plane. The problem is a bench slave takes up a lot of space when it isn't being used and it's a hassle to drag it out every time you need to use it.

Recently, I built a new, heavy-duty workbench for my new shop. And with my new bench, I decided to use a simpler design for the support. To do this, I made a board support out of a scrap piece of 2x4. Then I attached it to the leg of my workbench with a butt hinge.

Now, when I need to clamp up a long board, I just swing out the board support. When I'm done, it just folds back under my bench.



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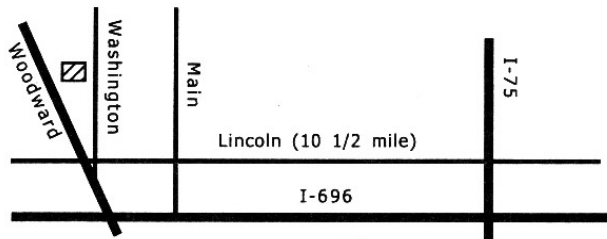
For name tags, sign up with Ed Stuckey at a regular meeting



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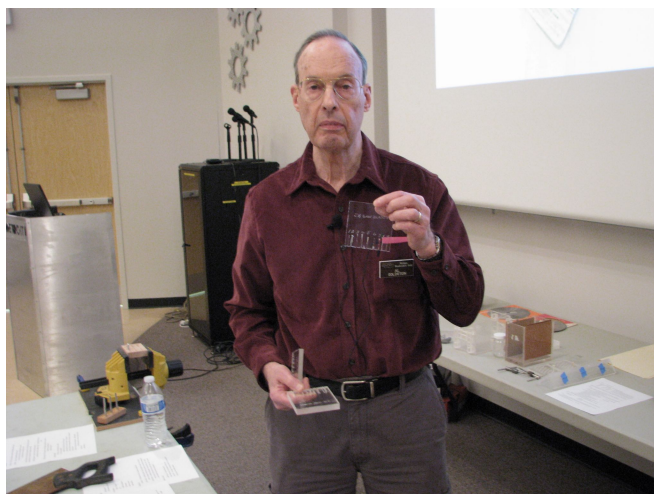


Michigan Woodworkers Guild
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Royal Oak, Michigan 48067

The Picture Gallery



Ken Wolf Tapping A Wood Block



Al Goldstein Presenting

