Lake Charles Woodworkers Club, Inc. June 2003

MAY HIGHLIGHTS

Our scheduled presenter, Steve LeGrue, had to cancel because of a family illness so John Marcon, Barry Humphus, John Fontenot and Gary Rock filled in with a variety of great information.

John Marcon started off with a discussion of the staining techniques he uses on his carvings. John prefers water soluble dyes to oil, gel or alcohol stains. The water based stains are easier to use, transparent, penetrating and controllable. John'a advice is to start light and add more stain to go where you want. Also, this stain raises grain so if you don't want raised grain on the finished finish, just coat the piece with water before finishing. This will raise the grain, but it only happens once. Subsequent applications of water-based products will not raise the grain again.

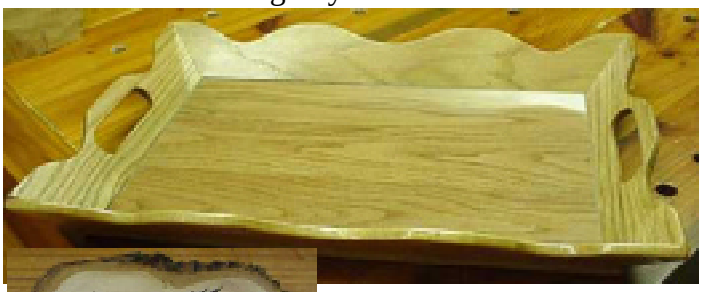
John Fontenot showed some of the maple mallets he's produced from bowling ball pins. He got them from member Eltee Thibodeaux. Eltee said that a large local bowling alley discards more than 400 pins a year. John first removes the plastic cover by scoring it with a utility knife then prying off the cover. The pin can then be mounted on a lathe and turned into what you want. The mallets can be varied in weight from about 16 to as much as 30 oz.

Gary Rock and Barry Humphus demonstrated some ways to sharpen hand tools. Barry demonstrated the Veritas honing jig that permits precise bevel angles on plane irons and chisels. You can use various grits of W/D sandpaper or in combination with a Japanese water stone to achieve a mirror finish on the bevel. The Veritas also has a 1, 1.5 and 2 degree micro-bevel setting.

Tage Frid, Richard Raffan, Mike Darlow and many other professional turners use a sanding belt to sharpen gouges, skews and scrapers for turning. Barry uses an upside down belt sander mounted in a jig. He uses 120 grit paper in the sander. He normally mounts the rig about chest high on a stand so he can see and follow the bevel angle of the tool while giving it a quick swipe over the sandpaper. It takes just a few seconds to get an edge for turning using this technique. For gouges, he uses a rolling motion to sharpen. If this results in a burr, it can be removed using a small slip stone.

Next, Gary Rock demonstrated the Tormek sharpening system. The unit consists of a slow turning stone wheel that runs through a water bath. The other end of the motor has a leather buffing wheel that can be impregnated with honing compound. The unit turns slow and the stone is bathed in water so you won't remove the temper from tool steel. In addition, the system mounts a tool rest in several positions to permit various tools to be sharpened. The Tormek unit costs about $400 and many accessories are available. Once you have ground your tool to the desired shape and edge angle, you can reproduce exactly the same shape with all future sharpening-even difficult tools like fingernail turning gouges, spoon shaped woodcarving gouges and oval skew chisels with a curved edge.

Show and Tell brought us the mallets John Fontenot made for John Marcon plus a Rod Nunnally scroll piece, an Eltee Thibodeaux wood engraving and a fine oak serving tray from Bubba Cheramie.



Comming Up ... Saturday, June 14, 9:00 a.m. at the LSU Ag Center. Dr. Todd Shupe will discuss Louisiana wood products.

Friday, July.18... Annual BBQ. Get Tickets from Dick Hopes or Barry Humphus.

COMMON WOODWORKING GLUES

For centuries, glue has been used to join wood to wood without the need for mechanical reinforcement. But if you examine old furniture, you will discover that these early glues had distinct disadvantages—notably a tendency to break down due to the presence of moisture, allowing the joints to become loose. Today, woodworkers are able to select from a range of excellent adhesives with different properties, such as resistance to heat or moisture, slow drying, long pot life or fast setting, most of them capable of forming a bond so tough that the glue line is stronger than the surrounding wood fibers.

Hide glues. The traditional woodworker's glue is still made using animal skins and bone to provide the protein that gives this type of glue its adhesive quality. Hide glue was once the staple woodworking adhesive but today it is rarely used except for hand-laid veneers, where its thermo-plastic quality is especially advantageous.

Hide glue is usually supplied in the form of "pearls" or fine granules, ready for dissolving in water in a jacketed glue pot heated either by electricity or on a gas burner. A slower setting hide glue is also available which is liquid at room temperature, but this type of glue has a shelf life of little more than one year, after which it will not dry hard

Hide glues are nontoxic. They form a hard glue line that can be planed and sanded, and they can be re-softened with the application of heat or moisture—great if you are restoring furniture—though the susceptibility to heat and moisture sometimes leads to structural failure

Hot-melt glues. Hot-melt glue is sold in the form of cylindrical sticks for application using a special-purpose electrically heated "gun." This type of adhesive is convenient to use and sets within seconds which makes it ideal for constructing mockups and jigs. Different sticks are available for gluing materials other than wood.

Hot-melt glue is also made in thin sheets for veneering. The glue is laid between the veneer and groundwork, then activated by a household iron

PVA adhesives. Polyvinyl-acetate (PVA) ''white glue" is one of the cheapest and most convenient wood working adhesives on the market is an emulsion of PVA suspended in water that sets when the water evaporates or is absorbed into the wood.

An excellent general-purpose nontoxic wood glue, it has along shelf-life (1-2 years). The tough, semi-flexible glue line can creep, though usually only when a joint is subjected to stress over a prolonged period Standard white glue is not water-resistant, but there is a mostly waterproof exterior grade version

A slightly thicker, yellow aliphatic-resin PVA glue dries to a harder glue line that is resistant to heat and moisture. Unlike white glue, it sands well without clogging sandpaper. You ean also buy PVA glues modified to increase gap-filling capacity or to give a slower seting rate for large-scale assemblies.

Urea-formaldehyde adhesives. Urea-formaldehyde glue is an excellent water-resistant gap filling adhesive that cures by chemical reaction. It can be obtained in a powdered form that once it has been mixed with water is applied to both mating surfaces.

Some urea-formaldehyde glues are made to he used in conjunction with a separate liquid catalyst or "hardener " The hardener is applied to one half of the joint and the powdered glue mixed with water is spread onto the other Clamp the work once the joint is closed.

Resorcinol-resin glues. Similar in many ways to urea-formaldehyde adhesive, resorcinol-resin glue is completely waterproof and weather resistant. It is a two-part glue comprising a resin and a separate hardener. Some manufacturers supply both the resin and hardener as liquids; other glues are supplied with one component in powdered form. In each case, the resin and hardener are mixed together before applying the glue to both surfaces of the joint. The cured adhesive forms a reddish-brown glue line that may be noticeable on pale colored woods. Setting time is accelerated by hot weather and the adhesive may not cure at all at temperatures much below 60°F. When handling the uncured glue, wear hand and eye protection and ventilate the workshop.

Polyurathane glue. Polyurethane glues are a relatively new product on the market. It is supplied as a one-part liquid and it dries hard and can be sanded plus has good gap-filling qualities. It forms a dark glue line so may not be suitable for light colored woods. It is moisture activated and foams during the curing process of 6 to 8 hours. Care must be taken to prevent it from expanding a joint because of the foaming quality during the cure. Care should also be taken to not get it on your hands as it is very difficult to remove from skin.

Contact cements. A contact cement is spread as a thin layer on both making surfaces. After the glue has set, the two components are brought together and the bond is instant. Modified versions allow the positions of the components to be adjusted until pressure is applied with a block of wood or a roller, causing the glue to bond. This type of adhesive is used extensively for gluing melamine laminates to kitchen counter tops but soft thixotropic (gel-like – I learned a new word this month!) versions are also used for applying wood veneers. Solvent based glues set quickly, but they are extremely flammable and emit unpleasant fumes. Use them in a well-ventilated workshop only. Water based contact cements are safer but take longer to dry.

Epoxy-resin adhesives. Epoxy adhesive is a synthetic two-part glue consisting of a resin and hardener normally mixed in equal proportions just before application The most common form of epoxy glue—sold in tubes—is a general purpose adhesive for joining diverse materials. As it is relatively thick, it is not really suitable for woodwork except for rub jointing. However, liquid versions of the adhesive are made for gluing wood. Epoxy glues cure by chemical reaction to form a very strong, insoluble, transparent glue line. Standard epoxy adhesive sets hard in a few hours, but fast-setting glues are also available. Wipe uncured glue from the surface of a workpiece, using a cloth dampened with rubbing alcohol. Note that epoxy glues may irritate sensitive skin, so wear protective gloves. *Barry Humphus*.

OIL AND WAX FINISHES

Oil and wax are among the easiest wood finishes to apply, no experience being necessary in order to achieve first-rate results. Unlike varnishes and lacquers that coat the surface, oil penetrates the wood without leaving a film that holds brush marks or other blemishes—and provided you use a fast-drying variety, it does not form a sticky surface to attract dust particles. Wax is used as a finish in its own right and also as a dressing over varnish and lacquer.

Oil is traditionally used to treat oily woods such as teak and afrormosia, which tend to reject the majority of finishes. But it is equally suitable for other hard woods—and even for softwoods, which it endows with a rich amber color. Oil is water-resistant properties are particularly advantageous for exterior woodwork. Moreover, a subsequent application nourishes oiled wood suffering from the effects of exposure to the sun. However, it is not suitable as a finish for the interior of drawers or cupboards. where it could stain the contents.

Linseed oil. Raw linseed oil is suitable for small objects only. It can take up to a week or two to dry, by which time it may be covered with fluff and dust. Boiled linseed oil is marginally better since it dries after 24 hours, but neither oil forms a hard, durable finish.

Tung oil. Pure tung oil, also known as China wood oil, is a more durable oil finish. It shrugs off water and is resistant to heat and alcohol It takes 24 hours to dry, but careful rubbing down with very fine silicon-carbide paper between coats will produce a superb finish. Apply five or six coats in all.

Danish and teak oils. Tung oil and other vegetable oils usually form the basis of a number of commercially prepared finishes known variously as Danish or teak oils (Watco is the most common brand). Driers are incorporated in these oils to shorten the time between applications to four to six hours. Heat, alcohol and water may temporarily leave white stains on the surface but they disappear quickly. More permanent blemishes can be refaced with a wipe of fresh oil.

You can make your own “Danish” oil by combining long oil polyurethane (“spar” varnish), boiled linseed oil and mineral spirits (or turpintine). To quicken the drying time, add a few drops of Japan dryer to your mix. Proportions are pretty flexible and you may want to start with equal portions. I use more polyurethane to provide a somewhat harder finish plus add a dryer to speed up the curing time.

Salad-bowl oil. Most wood-finishing oils contain toxic materials. However, you can buy non-toxic “salad-bowl oil’’ for wooden counter tops, chopping blocks, wooden toys and other objects, such as bowls and spoons, that come into contact with food. Or if you prefer, use olive oil, or other edible oils, instead. Mineral oil is a very good choice for projects that come into contact with food. Unlike organic oils, it will not turn rancid.

Waxes. In the past, woodworkers made their paste wax by dissolving a mixture of beeswax and hard carnauba wax in turpentine. These raw materials are still available but there are so many excellent ready-made preparations on the market that mast woodworkers do not find it necessary to make their own

Wax makes for an attractive mellow finish that seems to improve with age It is produced m a range of colors, from practically transparent for pale woods to deep brown ‘’antique polishes” that create the impression of an aged patina and w ill disguise scratches in a finished surface.

Silicones are added to same polishes to make them easier to buff; but if they penetrate the wood they are very difficult to remove and will repel practically any other finish should the workpiece ever have to be restored. So if you even plan to refinish wood where a silicone product was used, you will need to bring the piece to raw wood before applying any varnish to avoid “fish-eye” effects in the finish.

Liquid or cream waxes. Liquid or cream waxes are fluid enough to be brushed onto the wood. Two or three applications are required to build up a protective body of polish.

Paste wax. A paste wax, made to a slightly thicker consistency is ideal for application with a pad of very fine steel wool or lint-free rag. On hardening, it can be buffed with a clean soft rag to an impressive luster.

Woodturning wax stick. A stick of wax, hard enough to be used as a friction finish, is rubbed against a workpiece spinning on a woodturning lathe. This provides a high lusture finish.

Applying Oils. Apply a generous coat of Danish or teak oil to a clean well-prepared surface with a cloth pad or paintbrush. Leave it to soak into the wood for a few minutes then wipe over the surface with a clean rag to absorb excess oil. Four to six hours later, apply a second coat and leave it to dry overnight. The next day apply one more coat, and buff it to create a sheen.

It takes longer to finish a surface with pure tung oil After the initial coating, applied liberally with a brush and rubbed over as already described, apply several thinner coats to allow the oil to dry between applications If dust particles adhere to the surface during the 24-hour drying period, rub it down lightly with very fine sandpaper in the direction of the grain.

Applying wax. Although you can apply wax directly to bare wood, it is an advantage to seal the surface first with a varnish or, for superior-quality work or oil-stained wood, with two coats of thinned shellac. Sealing prevents the initial coat of wax from being absorbed too deeply into the grain, especially when you are using a liquid wax It also prevents dirt from sinking through the wax and permeating the wood over a period of time.

Having flattened the sealer coats with very fine silicon carbide paper, if you are using a liquid wax apply the first liberal coat with a brush or use a soft cloth pad to rub it into the wood with circular strokes first and then straight ones in line with the grain. One hour later, buff up the wax and apply a thin coat with the pad in the direction of the grain only. Add a third coat, if needed, and buff it as before. Leave the wax to harden for several hours then burnish the surface vigorously with a clean soft rag.

If you decide to use a paste wax polish, apply it with a pad of 0000 steel wool rubbing with the grain only, and bring it to a shine with a soft cloth. *Barry Humphus*.