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Want to know about finishes? If you didn't attend the May meeting, you missed a great presentation by Steve LeGrue of Houston's The Cutting Edge. Not only did we get some terrific information about finishes, we also got many references including getting the opportunity to buy a wonderful book on the subject.

Steve (and the books he brought), make one thing very clear: stop sanding so much. For better finishes, you don't need to sand beyond about 240 grit. More than this level of sanding, the pours of the wood are closed and prevent the final finish from penetrating the wood. What you really need to do is use a simple cabinet scraper to reduce the surface of the wood to it's final smooth surface.

Another point to consider: if you want a highly polished result, use a wood paste filler — also known as a wood grain filler. This is not a wood patching filler (used to repair defects), but a product designed to fill the pours of open-grain wood, like oak, mahogany, and walnut. Woods such as teak, maple and cherry, generally don't need a wood grain filler because of their close grain. These fillers can carry stain and need to be surfaced with a scraper.

Another way to fill the pours of wood is to use the finish itself to do so. Several thin coats of shellack will do the trick especially if it is scraped with a cabinet scraper after it is built up. In general, most finishes will go over shellack with no problem, that is, it is compatible with lacquer and varnishes (polyurethane).

If you want to stain wood, there are two ways: a penetrating stain and a surface stain. The former goes into the wood using a solvent carrier such as oil, lacquer thinner, alcohol or water. If using a water-based stain, note that this will raise the grain of the wood and you will need to resurface the wood prior to laying down your finishing products. Also note that water-based stains raise the grain only once.

Penetrating stains generally are clear in the sense that they do not obscure the grain and figure of the wood. Gel-stains and other surface stains, put the stain on top or are carried by the final finishing prod-

ucts to the surface. These are great for evening out color in the wood. In both cases, you can moderate or reduce these stains using the appropriate solvent.

Generally, all of these stains are compatible with most finishes including shellack, lacquer and varnishes.

Steve talked about the four basic types of finish: shellack, lacquer, varnish and oil.

Oils are easy to apply, forgiving and are easy to maintain. You get a scratch and another dab of oil on the spot will generally hide it. But oil is a not tough finish. While oils penetrate the wood slightly, they never harden (despite what manufacturers such as Watco used to claim). They are all compatible with one another and work well with most stains.

Shellack is also easy to apply and can be brushed or, if thinned, sprayed. Alcohol is the thinner, generally safe to use and apply and is food safe even if not completely cured. Subsequent coats slightly dissolve the underlying coat, so there is little need to sand between them. It is not resistant to many solvents and does not form a tough finish.

Lacquer is also easy to apply with a sprayer but difficult to brush unless reduced with a thinner that extends the curing time. It cures very fast and you can lay down multiple coats very quickly. After curing, you can lightly sand between coats. Lacquer uses lacquer thinner as a solvent. It is not good for you so you need to wear a respirator when working with lacquers. Lacquer is resistant to some solvents.

Varnishes, such as polyurethane, are very resistant to solvents and are very tough as they are made from a combination of oil and resins. They can be brushed or sprayed (if thinned) and are extremely durable.

See the members works at our web site gallery: <http://woodworkers.lightwire.net>

Comming Up ...

Semi-annual Show and Tell, Sulphur Branch, Calcasieu Public Library, 9:00 a.m. Saturday, June 8, 2002 June.

EQUIPPING YOUR SHOP

New woodworkers often ask which tools they should purchase to equip their growing workshop. There's really no definite answer, as the list of required tools changes based upon the projects they attempt to build. First though, there is tool quality and why it might not be worth purchasing the best tools.

When you go to the store to buy a power tool you are going to see a wide range of manufacturers and prices. Generally the more expensive the tool the better the quality. Better quality tools have better parts, design features, and tighter manufacturing tolerances. They also generally perform better when in use. Usually you should buy the best tool that you can afford. If you are just starting out and can only invest a limited amount of money in setting up your shop don't buy the best. There are some exceptions to this rule but generally if this is going to be a weekend hobby and you're not working on advanced projects there probably isn't a need for the best tools. Still, you should look for a quality tool at a reasonable price and probably shy away from the rock bottom priced off-brand tools. The following list details the tools and the order you should purchase them.

Tool #1 - Drill

Start with a good 3/8" corded drill. With a screwdriver attachment you can use it to accomplish a number of different tasks. I wouldn't start off with a cordless drill. They are more convenient but are also quite a bit more expensive.

Tool #2 - Circular Saw

You can use a circular saw to trim down plywood and perform basic cuts on 2"x4"s. There are a number of woodworking plans out there that only require these two tools. (i.e. picnic table)

Tool #3 - Finishing Sander

This type of sander generally uses a 1/4 piece of sandpaper and is used for finish sanding. It's great for smoothing out a surface for painting or finishing. You can also use it to round over edges on some of your projects.

Tool #4 - Jig Saw

A hand held jig saw is great for cutting curves and rough outlines. If you plan to build lawn ornaments this is a must have tool.

Tool #5 - Table Saw

The table saw is one tool you shouldn't skip on. There are many small inexpensive table saws out there but unfortunately they are under-powered and don't work very well. It is important that you purchase a table saw with a good powerful motor. Otherwise the blade will tend to stall when ripping wood and even burn some of your work. Equally important is that the fence be of a decent length and lock down tight without movement. If price is a good judge I wouldn't go below \$300 – even on my first saw.

Tool #6 - Router

Just like a table saw don't skip on a router. A router is a tool that's used to cut a profile into the edge of a piece of wood. (The profile on the edge of your dining room table was probably cut by a router.) They can also be used to cut molding and special profiles. When used with a "pilot bit" the router can be

used to trim plastic laminate and cut parts from a template. Routers are available in plunge and fixed versions. The plunge router is spring loaded on its base and can be pushed down into a workpiece for special cuts. The other factor in router is the bit size. They are generally available in 1/4 and 1/2" . This refers to the size of the router bit it will hold. If you plan to work your way up into larger projects you will need 1/2" bits. My recommendations are to buy a 1/2" plunge router with a decent amount of power. Also be sure to purchase top quality carbide tipped router bits. Inexpensive router bits tend to be made with lower quality materials and ground to less precise tolerances.

Tool #7 - Band Saw

You can use a band saw for a number of projects. It's extremely useful for cutting shapes and curves. You can also use a bandsaw for re-sawing lumber and cutting boards from logs.

Tool #8 - Compound Miter Saw

You can perform compound miter cuts on a table saw but this tool is a lot easier to use.

Tool #9 - Lathe

More important than the quality of the lathe is the quality of the turning tools you use. You can spend about \$150 on your lathe and about \$200 on your first set of turning tools. A good quality chuck is also important and plan to spend about \$100 for one.

Tool #10 - Biscuit Joiner

A biscuit joiner is an excellent tool for joining together pieces of wood. The tool cuts a small slot in each side of a joint and a biscuit is inserted and glued in place to hold the parts together. A biscuit joiner can really speed up assembly of a project.

Tool #11 - Belt Sander

Belt sanders are great for rapidly smoothing lumber as well as shaping parts and objects.

Tool #12 - Drill Press

A drill press is great for drilling consistent holes in wood, however the limited depth makes them less useful for woodworking than metalworking. The best uses for a drill press are when you are working with small parts.

Conclusion

The best tools for you depend on your needs and the projects you plan to tackle in the future. Before purchasing tools for your shop you should consider the projects you hope to build as your experience grows, ask your self if this tool will grow with you. From WoodZone.

USING A CABINET SCRAPER

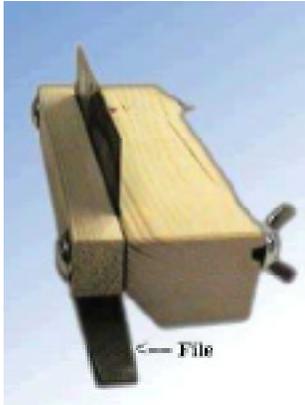
For hundreds of years master woodworkers and cabinetmakers have used cabinet scrapers to bring wood to a glassy smooth finish. A skilled woodworker can often achieve a surface so smooth it needs no further sanding. A scraper can also be used to remove paint and other finishes without damaging the wood below. Our presenter last month, Steve LeGrue, really believes that the combination of a good sharp plane and a scraper is about all you need to achieve a perfectly smooth surface on wood. As a long-time user of scrapers (I even make my own out of old saw blades) I cannot agree more with his assessment.

A scraper is basically a flat rectangular piece of high

carbon steel roughly the size of a 3x5 index card. The edge of the scraper is burnished, or rounded over to form a hook. This hook is then pushed or pulled across the surface of the wood to remove fine shavings.

Scrapers are made from hard saw or spring steel and come in a number of sizes and shapes. The most common shape is a rectangle. French Curves and other odd shapes are available for scraping bowls and other irregular projects. Before a scraper can be used it must be prepared. The steps for preparing a scraper are as follows:

1) File The Edges.



Most scrapers are stamped from sheets of steel. This process leaves the edges ragged and requiring attention. Before the edges can be used for the first time they must be jointed with a metal file. As seen in the picture to the left, the file must be kept at a 90-degree angle to the body of the scraper. The best way to make sure the file is perpendicular is to clamp a small scrap of wood to the edge of the scraper. Note: If you plan to use the scraper to remove paint, globs of dried glue, or similar applications then you can stop with this step.

2) Stoning the Scraper.



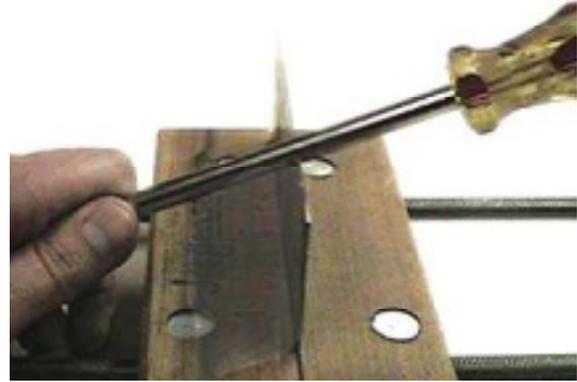
For more demanding scraping applications, such as finished work, you will need to smooth out the edges you just filed. The edge is smoothed on a bench sharpening stone. It is best to use the edge of the stone so you don't wear a groove in the top. The easiest way to smooth the edge of the scraper is to lay

the stone flat on the benchtop and rub the scraper against the side of the stone. Use a piece of smooth scrapwood under the scraper.

3) Drawing A Burr

The edge of the scraper should now be 90 degrees to the body and can be used for light scraping work. To remove more material you will need to draw a burr on the edge of the scraper. This is done using a burnisher. A burnisher is simply a hard steel rod that is run down the edge of the scraper to draw the edge over into a wave-like hook. A screwdriver can be used as a burnishing rod but a commercial burnisher will work better since its made from harder metal. It is this hook, or burr, that catches the wood and scrapes it from the surface. The angle of the burr effects the amount of material it will remove. The greater the angle the more material it will remove. Angles of 5 degrees are used for fine finishing while angles of 10 degrees are used more for removal of paint and lacquers.

To burnish the edge of the scraper, hold it firmly in a



padded bench vice. Before burnishing you will need to apply a very small amount of lubricant across the edge of the scraper. Then take a burnisher (or screwdriver) and while holding it at an angle run it along the edge of the scraper. Use minimal pressure and make a number of passes. (See picture above).

Using the Scraper

Using the scraper is for the most part self explanatory. However, there are a few tricks that will help you produce a perfect finish.

The first trick is to work with the grain to help prevent the scraper from grabbing and gouging the wood.

The second trick is to bend the scraper slightly in the middle. (See picture below).

The easiest way to bend the scraper is to hold the edges and apply pressure to the middle. There are a number of commercial jigs that hold and bend scrapers for easier use.

The final trick is to make sure your scraper is well tuned and kept in a good condition. If you notice that your scraper begins to produce dust instead of shaving it is time to sharpen it. Since the scraper has already been jointed with the file, you may skip this step and start with the bench stone. Edited From WoodZone.

