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- Air suction capacity: 4029 CFM @ 4.3" SP
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BLOGS



Over the Workbench

Talkin' shop with former editor A.J. Hamler



This Business about Woodworking

Share an opinion with David DeCristoforo but don't expect to be right

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TAKING STOCK

with TOD RIGGIO

Stagnant wage growth continues to halt economy

While reading through economic forecasts for 2015, the overwhelming consensus is quite positive. The stock market is flourishing, unemployment is down and the housing market recovery continues. All good news, especially if you're already rich.

A blogger for the website Economic Outlook 2015 sums it up well in my opinion. "If you're wealthy, 2015 will probably be another year of celebratory wealth creation. If, on the other hand, you're not, 2015 will feel an awful lot like [2009 to 2014]. Wall Street and the U.S. government will tell you the economy is doing well, but it won't feel like it."

The fortunes of the wood industry are tied pretty closely to the housing market, which tanked during the Great Recession. Overall, the recovery has been modest, up 25 percent since the beginning of 2012, according to the Case-Schiller Home Price Index, but still about 20 percent shy of its peak in 2006.

The National Association of Realtors reported in November that existing home sales are at their highest annual pace since September 2013 and are now above year-over-year levels for the first time since October 2013.

"Buyers continue to be encouraged by interest rates at lows not seen since last summer, improving levels of inventory and stabilizing price growth," NAR chief economist Lawrence Yun said in a statement.

But interest rates are expected to climb in 2015. This could be offset by strong job and income growth, but that's kind of a best-case scenario.

"Rising income could help to somewhat offset the effects of rising rates and increased home prices, but we expect income gains

to be modest for most families in 2015," according to Freddie Mac, the government-sponsored supporter of mortgage lenders. "The result is declining affordability, but from very high levels to high levels in most local markets. However, rising interest rates and home prices will undoubtedly create an affordability pinch in much of the country."

Total construction is expected to increase 9 percent in 2015, following an estimated 5 percent increase in 2014, according to Dodge Data & Analytics. This includes an 11 percent increase in single-family housing units, though the demand will be tempered by a lukewarm millennial generation. Commercial building will increase 15 percent, led by a continuing boom in office construction. Multifamily housing led the residential building category in 2014 and should see continued growth.

On the remodeling front, conditions have continued to improve since the market bottomed out in 2011, according to Metrostudy, which compiles the Residential Remodeling Index.

"Our forecast for the remodeling market to reach full recovery in third-quarter 2015 has not changed, mainly due to continually positive job and economic reports that point to a firming in housing fundamentals over the near term," according to Metrostudy chief economist Brad Hunter. "Wage growth, which remains stagnant, will be key to watch heading into next year."

There hasn't been much wage growth for American workers since the late 1990s. Most have lower inflation-adjusted hourly wages than before the Great Recession. So while the economy has been steadily improving, not everybody's feeling it. And that's not exactly great news for your bottom line. **W**

Working with tools and wood is inherently dangerous. We try to give our readers tips that will enhance their understanding of woodworking. But our best advice is to make safety your first priority. Always read your owner's manuals, work with properly maintained equipment and use safety devices such as blade guards, push sticks and eye protection. Don't do things you're not sure you can do safely, including the techniques described in this publication or in others. Seek proper training if you have questions about woodworking techniques or the functions of power machinery.



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NEWS DESK

Schools join in promoting studio-based retreats

By Jennifer Hicks

Five craft schools are collaborating to launch the National Craft School Initiative, which made its debut in a special exhibit at the Nov. 5-8 Sculptural Object and Functional Art expo in Chicago.

The exhibit, called the Craft School Experience, started a two-year educational campaign that will feature a promotional tour by school representatives. The schools include Arrowmont School of Arts & Crafts in Gatlinburg, Tenn.; Haystack Mountain School of Crafts in Deer Isle, Maine; Penland School of Crafts in Penland, N.C.; Peters Valley School of Craft in Layton, N.J., and Pilchuck Glass School in Seattle.

"They are immersive retreat schools where students go to intensive workshops from one to eight weeks," says campaign coordinator Ennis Carter of Social Impact Studios in Philadelphia. "They stay there as residents and only focus on their craft. There is no specific

curriculum or grades that come out. The end result is people get the skills and utilize the tools for their craft. They also have access to master teachers at university levels. But the biggest difference is emersion concept. So, for



Stuart Kestenbaum and Wendy Maruyama.

example, if you took wood turning with David Ellsworth at Arrowmont, that's all you're going to be doing."

Spike TV launches 'Framework' furniture show

By Jennifer Hicks

Spike TV will debut a competitive furniture design series, "Framework," on Jan. 6. Hosted by hip-hop artist, actor and author Common, the show features 13 contestants vying for a \$100,000 cash prize and the opportunity for their work to be sold by a major furniture manufacturer.

"The competitors will be pushed to the brink of their physical and creative limits with challenges that ask them to reconsider everything they know about designing and building furniture," according to the show's promotional literature. "The builders will use unconventional materials, rethink classic furniture pieces and incorporate a variety of techniques and disciplines to demonstrate their mastery of furniture creation."

Curtis Rew of Spokane, Wash., is a contestant on the show and told Woodshop News

this could be a life-changing experience.

"I couldn't wait to get started when I got the news that I was going to be on it," Rew says. "I'm working mainly as a carpenter right now, but from 2005 to 2008 I had a business building furniture until the economy went bad and I had to get a better paying job. But this opportunity was my way to get back into doing it full time."

"I don't know what's going to happen as far as who the winner will be. I will just do what I do best and hope I win."

Rew earns a living as the lead carpenter restoring a 120-year-old building in Spokane, but he'd rather be building furniture commissions. If he wins the competition, he wants to start a company and launch three distinct furniture lines.

"I'm a classic woodworker. I know every

Haystack's director Stuart Kestenbaum adds that an intensive studio-based retreat environment allow makers of all levels to make tremendous strides in their work.

"There are many creative people who don't know about our institutions but who would benefit greatly by participating in our programs. We thought SOFA would be an ideal place to launch this new campaign to highlight and promote the craft school experience," Kestenbaum says.

Wendy Maruyama, a studio furniture maker and professor of woodworking and furniture design at San Diego State University, is a proud alum of the craft school experience.

"I first attended Haystack Mountain School of Crafts as a student in 1977 and Penland School of Crafts in 1976. It was a real eye-opening experience for me, one that really helped to cement the idea that community within the craft field is vital to anyone's growth," she says. "I always come away from that experience with a sense of awe in terms of how students and faculty can learn from each other in such a short period. As a professor, I am adamant that my students have the same experience and send students every year to one of the summer programs." **W**

For information, visit www.craftschools.us.



Curtis Rew of Spokane, Wash.

hand tool that's been made in the past 500 years and can use all of them, so my skillset is heavily in wood and building the classic mortise-and-tenon joinery and doing dovetails, that sort of thing," Rew says.

"Furniture building is not an incredibly difficult process. It's just something you need experience in."

The cash prize and national recognition from winning the show probably wouldn't hurt either.

The show's judges include Common, Nolen Niu and Brandon Gore. For programming information, visit www.spike.com. **W**

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FESTOOL
Tools for the toughest demands

A close-up photograph of a construction site. In the center, a small, square photograph is pinned to a brown, textured wall. This inset photo shows a man with a beard and safety glasses, smiling while using a power tool. The main background image shows the wall with various elements: a white PVC pipe runs vertically through the center; copper pipes with 90-degree elbows are visible in the upper right; two metal electrical boxes are mounted on the wall, one on the left and one on the right, with yellow and black wires running vertically alongside them. The lighting is dramatic, with strong highlights and shadows.

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FESTOOL
Tools for the toughest demands

AWFS debuts youth marketing campaign

By Jennifer Hicks

The Association of Woodworking & Furniture Suppliers rolled out a new marketing campaign called "Meet the New Face of Manufacturing," designed to improve the image of jobs in manufacturing and attract more young people to the wood industry.

The trade group has created a poster featuring young professionals currently employed in woodworking careers. The piece is intended to capture the attention students and teachers as well as career counselors, parents and others who are in a position to influence career choices. More than 1,000 posters have been distributed.

"The purpose is to basically inform primarily parents, educators, counselors, administrators and legislators that there is a future and career opportunities within the woodworking industry and within manufacturing as a whole," AWFS assistant education director Adria Torrez says.

"We are trying to give a new image to those industries by giving them a more fun angle and show them there are young professionals that are working in the industry and that there are a variety of different job opportunities, not just what they would typically think of or a traditional shop. There are lots of different avenues and needs for young professionals."

Initial supporters of the campaign include Blum, Casadei-Busellato, Planit and Woodworking Career Alliance.

Casadei-Busellato product manager Thomas Tuck got his foot in the door as a high school

competitor in the 2001 AWFS Fresh Wood student woodworking competition. He majored in furniture studies at Appalachian State University, interned with AWFS and began his career as marketing coordinator for the SCM Group.

"Young people should be looking at the wood industry as a career choice. There is a lot of opportunity to grow professionally as many boomers are retiring from the industry," Tuck says.

Other AWFS efforts aimed at closing the gap

between industry and education are a series of guidelines developed to help companies reach out to students and schools on their own.

The guidelines are designed to assist companies in setting up an internship program in their company; inviting a teacher into one's company for a short course on industry practices which the teacher can take back and incorporate into the curriculum; how to prepare and deliver a presentation in the classroom, and offering a school tour of their companies.

Torrez adds that AWFS intends to create additional images and general interest stories in the ongoing campaign, as well as create a photo shoot of the 2015 AWFS fair. Any company in the wood industry can submit photos for potential use in the campaign. www.awfs.org

For information, visit www.awfs.org.



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TOOLS & TECHNIQUES

‘Fear of grip’ doesn’t need to be paralyzing

Don’t feel pressure when trying to figure out the right holding and clamping devices for your shop

By John English

Just about everyone has been in the grip of fear at some time, but only woodworkers understand the fear of grip. That’s when we’ve worked for three days making parts and now we have to clamp them together.

Fear of grip involves horrible premonitions of assemblies sliding out of whack as pressure is applied or dings and dents being gouged as steel jaws chew freshly sanded surfaces. Thankfully, engineers all over the world are working hard day and night to alleviate our fears. They’ve developed two different categories of gizmos for us: those that hold things in place while we mark, scribe or drill holes (holding devices) and others that apply pressure during gluing (clamping devices).

Spring clamps and quick-release pistol-grip bar clamps are examples of the former, while pipe clamps, I-beam bar clamps and wooden hand screws are all familiar versions of the latter.

So what could possibly be new and/or different in the world of clamps? Quite a lot, actually.

The new Dorcy 100 Lumen Clamp Light is an LED flashlight — well, more of a mini-floodlight, really — that is attached to a standard spring clamp and its 15” long flexible head lets a woodworker see deep into drawer openings or the far corners of a cabinet. It uses four AAA alkaline batteries and is widely available at big box stores or online at www.dorcy.com.



There are two really handy and very inexpensive gizmos for sale online at www.menards.com. Model 2491332 is a spring clamp with a magnetic base, so it attaches to cast-iron and steel-machine parts. It’s ideal for holding a push stick against the side of a table saw cabinet or perhaps a maintenance log on an air compressor. The other jewel on that website is a tilting vise for less than \$20 that clamps onto the edge of a workbench (or a sawhorse on the job site) and can tilt and twirl every which way. It’s ideal for touching up small carvings or perhaps holding parts of a frame in place while they are being screwed or nailed together.

Not quite a clamp, but still in the business of squeezing things together is the BenchJaws



Bessey’s vertical toggle clamp (top) and lever clamp (above).



The Trak Clamp, available from Kreg Tool Co.



The Jorgenson casework claw clamp.

hands-free bench vise available from www.rockwelltools.com. It attaches to the edge of any standard workbench and has a two-position mount that allows for 90-degree repositioning in seconds. The jaws open up to 16" wide and the device can handle 220 lbs. of load while generating more than a ton of clamping force. But what's really unique is that the clamping jaws are foot-activated, leaving both hands free to reposition work. BenchJaws has an optional multipurpose jaw that self-aligns to handle tapered, round or irregular shapes. There are plastic bench stops on top of the jaws that come with the vise, offering woodworkers a gentler option than steel. Available widely, it can be picked up at Sears for \$129.99.

The elegantly simple Stanley 2" x 4" Clamp is a great way for cabinet installers to bring pressure to the job site without having to haul lengths of pipe. It works with any standard 2x4 and delivers 400 lbs. of clamping force when slipped on a stud and up to 850 lbs. when bolted to the 2x4. The non-mar pads protect work surfaces and, as there is no length limit, they can be used to snug up, say, an entire wall of base cabinets — the only limitation is the length of the 2x4.

The Trak Clamp from Kreg Tool Co. (www.kregtool.com) is an inexpensive (about \$6) and versatile clamp that fits the company's Mini Trak, Top Trak or HD Trak, but will also work in a shop-built T-track made with a router bit. It can even be mounted to a benchtop or jig by drilling a 1/4" hole and then countersinking a 7/16" hole on the underside for the bolt head. Kreg also makes a 90-degree corner clamp that must have a hundred uses around the shop and on the job site. Its self-squaring design automatically aligns joints to 90-degree angle and it has a built-in quick release and a swivel head that easily adjusts for materials up to 1-1/4" thick.

Irwin Tools has been supporting woodworkers since 1885 and if it has been about

that long since you bought pipe clamps, you're in for a nice surprise. Its Quick-Grip brand has an innovative clutch system that eliminates the need for threaded pipe. Quick-Grip pipe clamps also have feet. They're built in and extend past the clutch plates, so the clamps don't roll around or fall over.

One clever little innovation from Pony is its Jorgenson Casework Claw (model 8540), which was designed for frameless construction. It's a simple 90-degree clamp that holds two panels together, but what is clever about it is that there are built-in holes that allow a woodworker access to drive screws or even drill for hardware. The clamp is die-cast magnesium, which is stronger and lighter than aluminum and it has a fast screw thread that speeds things up nicely.

Another new product from Pony is the 9185

angle clamp. At first glance it looks like something we've seen before, but this, too, is deceptively clever. It's a simple thing, but the back jaw swivels for clamping and squaring material of different thicknesses. That makes it a must-have for furniture builders. Another nice feature is that there is a base plate with screw slots in it, so the clamp can be attached to piece of plywood. That makes it easy to create a jig for squaring up and assembling face frames, picture frames and even drawers.

As always, Bessey Tools has a whole bunch of new toys for woodworkers to play with. One of the nicest is its Vertical Auto-Adjust toggle clamp. There are two new versions of this device and they complement eight other models that have been available for a while. These are simply improvements on an old idea: they automatically adjust to workpiece

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From top, Irwin's Quick-Grip and Bessey's SLV & GSV Double Force clamps.

dimensions (up to 1-9/16") while maintaining constant clamping force (up to 550 lbs.), which means things don't slide around. They also let you adjust the clamping force as needed, so they're great for building jigs where multiple parts might be stacked (such as, say, nesting small components on a miter saw). Bessey's new design is quite catching: the nicely formed red-and-black handle fits well in the hand and is big enough to allow aging fingers to work it well.

Also from Bessey is a new classiX Series lever clamp that was released late last summer. This inexpensive but very rugged device comes in clamping lengths from 4" to 20" and delivers clamping force options from 400 to 1,100 lbs. They're really nice for working on curved and shaped laminations, as they're small and strong with a deep reach.

The same company also came out with a handy little system in 2013, which is essentially a bar clamp where both the head and toe assemblies can slide along the bar. Called "Double Force" clamps, they are exactly that: the heads and toes are actually the same. They can be switched from clamping to spreading and a cabinetmaker or furniture builder can slide as many heads and toes as needed onto a bar. That really helps with complex assemblies and glue-ups where accurate spacing

is required, such as large drawers or boxes with dividers or casework with multiple fixed shelves. There are two different thicknesses of rails available for light duty (SLV Series, up to 1,450 lbs. of clamping force) and heavy clamping pressure (GSV, up to 2,000 lbs.). And there are a number of rail length options, too. On both configurations, the sliding arms are drop forged with hardened ACME thread spindles, so they're as tough as they'll ever need to be. The 'jaws' are standard Bessey Morpads, which deliver pressure exactly where it needs to be. And because each clamp has two sliding arms and no fixed jaw, a woodworker can balance workloads more effectively and do multiple clamping or spreading operations on the same rail. What really makes Double Force clamps attractive on the shop floor is that the stops on both ends of the rail can be loosened without tools. That makes it fast and simple to change from clamping to spreading or to add extra heads. Plus, because everything slides on and off the bar so easily, the clamp can be slid through an opening in the assembly, which can really help with awkward clamping issues.

Hopefully, some of these innovative and clever solutions will address your fear of grip issues. Are you feeling a little less pressure yet? [W](#)

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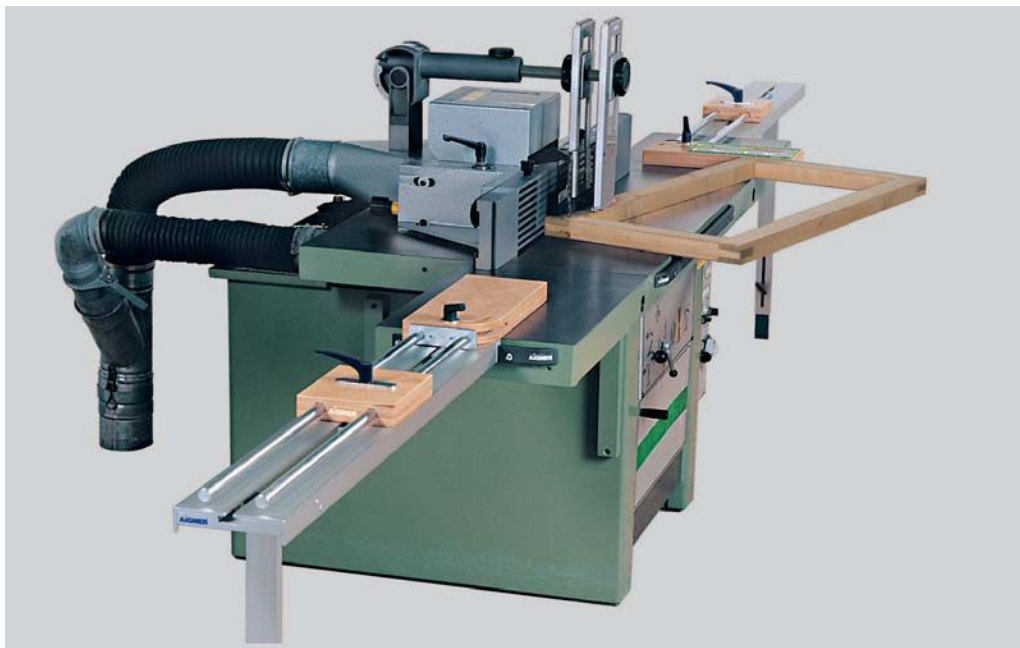
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Martin Woodworking has new Aigner products

By Jennifer Hicks

Martin Woodworking Machines updated its exclusive line of Aigner accessories, which include outfeed tables, fence systems, guides, hand-held feeding devices, and safety guards.

The accessories are compatible with any brand of woodworking machine and many are standard equipment on new Martin machines.

"They can also make your existing machine a lot more accurate, so instead of buying a whole new machine you can look at dressing it up with some more modern accessories that would make your machine safer and more accurate," company president Carl Stout says.

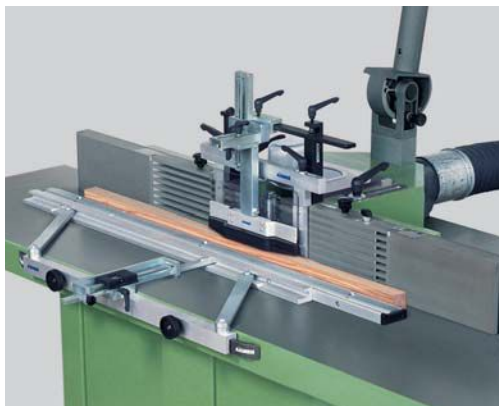
Martin Germany has always had Aigner

products on its machines throughout the history of the company, Stout explains. When Martin USA opened in 1999, Aigner products became readily available in the U.S.

The Aigner catalog was updated in 2014 and there are a number of items customers might not be aware of, including an overhead saw guard.

"One of the most popular new items is the Contermox, a hand-held feeding device for doing various cuts on a router table or shaper. Most people, when they start out with that, usually buy more because they're so impressed with the quality. The Contermox sells for \$165," Stout says. [W](#)

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Oliver Machinery unveils CNC dovetail machine

By Jennifer Hicks

Oliver Machinery recently introduced a CNC dovetail machine, model 6600, to produce a range of woodworking joints. Simple to use, it has the versatility to machine dovetail, box, mortise-and-tenon joints and more.

The operator just needs to enter the dimensions of the material, bit size and number of joints on the machine's touchscreen control, according to product manager Luis Cano.

"It's a fairly straightforward machine, easy to learn. It is an entirely new model machine we presented at IWF 2014. This would be for your cabinetmaker, particularly for a medium-sized or larger shop that is production-oriented," Cano says.

A 2-hp motor drives the machine's spindle assembly, capable of delivering up to 18,000 RPMs. It features an 18mm spindle and 36" x 34" table. It also offers auto or manual work modes.

The machine's overall dimensions are 51" x 42" x 43".

"It's a pretty heavy-duty machine with a gross weight of 1,213 pounds. It's on castors so it can be mobile as well as stationary," Cano says.

The machine sells for \$35,000. www.olivermachinery.net



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WOOD MARKETS



Suppliers gamble with exotic hardwood stock

By Jennifer Hicks

Exotic hardwood suppliers have to gamble a bit when deciding what to keep in stock. There's some intuition involved as to guessing what's hot and what's not, according to several dealers interviewed by Woodshop News.

Steve Jackel of Jackel Enterprises in Watsonville, Calif., says his company is currently stocking jatoba, Brazilian cherry, African and genuine South American mahogany and sapele.

"Demand has been steady. It's been difficult for us because of the recession and limited demand for high-priced woods. We really only bring in the ones I mentioned and others requested by special order. Special orders can be anything from wenge to zebrawood to bubinga," Jackel says.

Because of the relatively low demand for exotic woods, the company recently put a greater emphasis on urban woods, which it calls local exotics to include California black walnut, California bay laurel, Monterey cypress and red elm.

"They're not conventionally harvested; they're not saw logs. We have an operation where we're involved in the total transformation from log to lumber. This part of the business is marketed through West Coast Woods, a division of Jackel Enterprises," Jackel adds.

Ramus Lardie of Rare Earth Hardwoods in Traverse, Mich., a custom flooring company, says that sapele is a top seller.

"I've also had calls on Brazilian ebony with

the sapwood which is our specialty, which we call mountain grade. We're in the unique business. We're the go-to guys for when you can't find something normal somewhere else you come to us. The problem we're fighting against right now is they have more faith in the economy, but they're still being conservative about their money. Exotics are in the higher-end price range for sure," Lardie says.

Ken Wilcox of GL Veneer Co. in Huntington Park, Calif., says that through the years the company has pointed itself towards exotic veneers. While it still sells the mainstays in domestic veneers such as white oak, walnut, cherry, maple, ash, it has really gone out of its way to stock up on exotics.

"We carry close to 200 species and we produce such a myriad of product in sheet veneer, architectural plywood and such that we have the ability of making all of these products in exotics. I would say that business is growing. We have a heck of a following. If somebody wants afromosia to zebrawood we have it in stock, we also stock most of the species in hardwood lumber," Wilcox says.

"The standbys are figured anigre and Macassar ebony is a big one. We move quite a bit of afromosia. We move plenty of the standby exotics like African mahogany and that type of thing. That's kind of a standard commodity. What's really growing is our Hawaiian hardwoods in veneer and plywood, including koa and ohia, which only grows in Hawaii, and also mango." **W**

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FINISHING

with GREG WILLIAMS

Lighten up, there are many ways to mask discoloration

In the second of a two-part series, the author looks at ways to completely hide undesirable color variances

Last month we explored some means of lightening the color of wood either to create an overall lighter color for the finished item or to correct dark stains or uneven color in the wood by removing the undesirable color with a bleaching agent.

This month we'll look at another method of lightening the color by the application

of a bleach tone-type of pigmented coating to mask the original color, then recoloring through several steps to retain the woody look in a lighter color. We'll also look at using a base color type of product to completely hide undesirable color variances and glazing stains and toners to restore color and depth.

Situations that benefit from this approach are where bleaching can't effectively re-

move the objectionable color or where a spot repair is to be performed on a finished object without removing the existing coating. It can also help where the bleaching process is believed to be too difficult, hazardous or uncertain.

An example of a discoloration that can't be corrected by bleaching is char or scorch darkening of the wood or coating. If the discolored surface is structurally sound, a lighter-colored pigmented coating with sufficient opacity or hiding power can be used to cover the dark stain.

If the char is severe, it must be removed, possibly by scraping or sanding or even cut away entirely, followed by filling to restore the levelness or contour of the surface. Often the repair can be completed by coating the fill and a bit beyond it with a base color (sometimes called a background/base color or basecoat) that completely hides the fill material and inpainting the grain or figure to match the original.

The base color can be made by adding pigment to a clear coating, using a pre-colored base color aerosol or by using a pigmented toner. Since the toner generally is not heavily pigmented, it has little hiding power and might need to be applied in several light coats, whereas a true base/background color has

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high hiding power and low film build, requiring only one or two coats.

If filling a void isn't necessary, a base color that matches or blends well with the original can be sprayed over the scorched area. If the wood is open-grained, the texture will still be evident. The color might still need some adjusting; one good choice is to use a dye-type toner to subtly adjust the color as needed. The dye toner will be completely transparent and can work with the base color to more accurately match the original.

ANOTHER OPTION

You also can use a glaze to occupy the open grain and emphasize the pattern of the wood. Most of the glaze will be wiped off, but enough will be left on the base color to imitate the color variation and figure of the original wood.



In the example shown here, the wood has been badly scorched and charred in one area. It was sanded, which removed a bit of char below the surface of the wood.

Step 1 on the left and all of the right side shows the original damage.

Step 2 shows the application of the basecoat, hiding the dark scorch.

Step 3 shows application of a dye-type (transparent) toner to adjust the background color.

Step 4 shows Van Dyke brown glazing stain, wiped almost clean, which picks up the texture and the open pore and leaves a bit of color on the surface. This is locked in with a washcoat of clear satin lacquer.

Step 5 shows application of glazing stain (burnt umber), wiped to add figure and depth to the finish.

Step 6 shows application of a dye-type toner (dark golden oak), giving more richness and depth.

Step 7 consists of two full wet coats of clear satin lacquer for final sheen and protection.

DEFINITIONS

Bleachtone is a brand name for a Mohawk product that is white or an off-white, very thin, fast drying and semi-transparent. The bulk or aerosol form can be sprayed on darker woods to lighten them without blocking out grain as a background/base color would. Then stain can be applied in a normal finishing process.

Background/base color is generally understood to be a bulk or aerosol solid-colored lacquer with high opacity, low film build and low sheen. It is intended to be a blocking coating to hide defects, uniform woods and provide a base for additional color.

Lacquer toner — also known as shading lacquer, shade stain, spray stain and toning lacquer stain — is simply lacquer with little color added to make a colored, yet transparent or semi-transparent, coating. Seldom used for the final finish, aerosol lacquer toners are great for adding small amounts of color to a sealed wood prior to the final topcoat for adjusting color when the stain takes differently on different parts of a piece or to even color within a board.

Toners are made with two different types of colorants: pigments and dyes. Pigments are very finely ground colored particles. Pigmented toners are semi-transparent and do have some hiding power. The dye-type toner is fully transparent, as the dye is completely dissolved in the lacquer, allowing the finisher to apply small amounts of color without hiding the figure or depth of the wood.

Some pigment toners have sufficient hiding power that they can be used as base colors, usually requiring more coats than would be necessary with a true base color. Lighter colors — such as whitewash, pickle frost, champagne, beige, parchment and many named for the raw wood, such as natural ash — can be used in the same fashion as a true Bleachtone in some cases.

Glaze or glazing stain is a semi-transparent pigmented stain applied over a sealer or finish coat to provide additional depth, color and richness to a finish. The glaze is brushed, wiped or sprayed onto a sealed surface and allowed to dry to a dull sheen. It is then wiped off, selectively, allowing more color to remain in pores, in scratches or low areas of a profile such as carving or fluted legs and less color on more exposed areas of the finish.

These products and techniques are valuable tools for the builder, finisher, refinisher or touchup technician. While they take time and patience to master, they greatly increase the ability to save and make money in this craft. **W**

Greg Williams, formerly senior touchup and finishing instructor for Mohawk Finishing Products, is now a freelance instructor and consultant.

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Let's clear some things up about cloud computing

It can produce greater efficiency and cost savings for many woodshops, but is it right for you?

Cloud computing, which can produce greater efficiency and cost savings for woodshops and many other businesses, has recently enjoyed greater acceptance and growth. Yet, in many quarters, particularly among small-business owners, it is still not known well. One seldom realizes in this technological age how soon we get out of date.

WHAT IS IT?

The term "cloud computing" is a catchphrase for accessing computer power to run software and store records, information and data of all sorts on a third-party server, using their know-how and infrastructure. Its purpose is to take advantage of the latest technological devices, to facilitate and reduce the volume of paperwork through the shop and office, in-

crease data accessibility, increase productivity and reduce expenses. The cloud can be used for all office systems such as accounting, cash control, accounts receivable and payable, record keeping, bids and tenders preparation, recording customer input and specifications and cut lists, converting them to production machinery drivers. The cloud is a broad umbrella under which infrastructure such as SaaS (Software as a Service) is provided. In total, it helps in the entire manufacturing process, from shop drawing to finished and delivered product.

Although not realized, most people and businesses use the cloud daily. This is for on-line purposes such as banking, sending and receiving emails, credit card purchases, e-commerce and a host of computer-originated applications. Providing multiple storage options, cloud computing is an Internet-driven way for businesses, including woodshops, to store data and related information on worldwide platforms, the large, high-powered servers that are operated by Amazon, Microsoft and Google, for example.

WHAT DOES IT DO?

Cloud computing takes local computer programs, whether on an office PC or portable laptop, to retrieve forms and data, documents,

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Instead of a program residing on an office or shop computer, it exists on another computer, usually that of a large powerful server under the domain of a service provider. When you use the program, you are running from an off-site computer, not yours. It is not totally unlike a utility where you get full use and benefit from it for a regular monthly charge. You view your data on your computer, but its source sits elsewhere, allowing you access from any Internet-connected computer. In the future, the most significant technological changes will center on computing services "in the cloud."

The cloud concept suggests the "paper free" office. The great advantage to cloud computing is that it provides a greater level of efficiency throughout your entire operation, which is cost-effective.

For example, most in-house computer systems require frequent updating, both of equipment and programs, which can be costly. With the cloud, this is automatic. You are always using the latest versions.

SECURITY

While the risk is very low, there can be some concerns about confidentiality and related matters. It is a given that many managers are reluctant to let any of their valuable data leave their premises. However, you can be assured that all of your data — and that of all other users — is protected. Still, you will want to know what your exposure is; who is looking at what you have placed on the server's computer; what benefit, if any, the snoop would derive from it and what, if anything, you can do about ensuring this does not occur.

One of the biggest cloud security risks is theft or loss of transactional and other private data. If the leaked information is proprietary only to your company, liability isn't a concern. But if your confidential information goes astray you need to know where responsibility lies. Usually it is the individual or company that placed the information on the cloud in the first place. It's seldom the provider that's on the hook. Still, no server would have any customers if they did not assure a high measure of protection and confidentiality.

THE OTHER SIDE

Technology is just another enabler, another tool. You must provide the vision of where you want to take your shop and the direction to get it there. All that cloud computing can do is improve the way you operate. It is not a miracle made in heaven. It is you who must focus on efficiency, improved marketplace acceptance and strive to improve on how you deliver products and services to your customers while keeping the cost of doing business at the minimum.

Aaron McGowan of Appnovation Technologies, an international software development company, says the decision to move to the cloud really depends on whether a shop wants to embrace new technology rather than sticking with standard operating procedures. In his experience, larger businesses welcome change more easily, while small businesses are more resistant.

"Cloud computing is not for everyone," he said in an e-mail discussion with Woodshop News. "Although not all that complicated, for the older manager it could be a bit intimidating. Companies need to consider all of the ramifications prior to buying into the cloud. In some cases, buying the required equipment to do all of these things may be cheaper than paying a server a monthly time and space fee. It's the old axiom of leasing versus buying equipment."

The lesson is to do your own investigation. Ask questions and be meticulous. Don't rush into it. Measure and compare all benefits and detriments, especially comparative efficiency and costs. Talk to your senior staff and see where the cloud can make improvements in your overall operation.

Cloud-computing technology will allow the woodshop owner to be more independent and knowledgeable in his/her dealing with customers, suppliers and associates of all types. Still, it does not remove the hands on or face-to-face professional conduct that effective management requires. **W**

Lloyd R. Manning is a semiretired commercial real estate and business appraiser, financial analyst, and author.

He can be reached at lloydmann@shaw.ca.

Final attendance numbers reported for IWF 2014

IWF 2014 had a total attendance of 23,463, including 14,400 verified buyers and 9,063 exhibitors, according to a recently released statement of attendance.

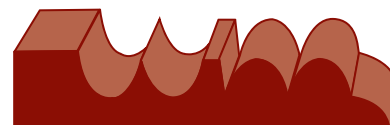
The highest turnout of verified buyers occurred on Wednesday, the show's opening day, at 6,420, followed by Thursday (4,444), Friday (2,665) and Saturday (820).

The leading categories of verified buyers were kitchen and bath cabinetry, distributors, residential custom woodworking, home furnishings and architectural woodwork.

Georgia had the largest percentage of verified buyers in attendance by state, followed by Florida, North Carolina, Alabama, Indiana, Tennessee, Ohio, South Carolina, Texas and Pennsylvania.

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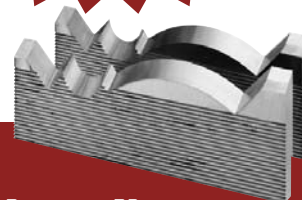


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- Table tilt: 10° left, 45° right
- Floor-to-table height: 37 1/2"
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10" HYBRID TABLE SAW with RIVING KNIFE

- Motor: 2 HP, 120V/240V, single-phase, prewired to 120V
- Amps: 15A at 120V, 7.5A at 240V
- Precision-ground cast iron table with wings measures: 40 1/2" W x 27" D
- Table height: 35 1/2"
- Footprint: 21" L x 19 1/2" W
- Arbor: 3/8" • Arbor speed: 3450 RPM
- Capacity: 3 1/4" @ 90°, 2 1/4" @ 45°
- Rip capacity: 30" right, 15" left
- Overall size: 57 1/4" W x 35 3/8" H x 37 1/2" D
- Approx. shipping weight: 348 lbs.



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• Scoring blade size: 3 1/8" • Scoring blade arbor: 22mm
- Depth of cut: 3 1/8" @ 90°, 2 1/4" @ 45°
- Max. rip capacity: 33"
- Approx. shipping weight: 688 lbs.



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- Motor: 5 HP, 220V, single-phase, 18A or 7 1/2 HP, 220V/440V*, 3-phase, 19.5A/10A
- Precision-ground cast iron table size with extension: 69 1/2" x 78 3/4"
- Arbor: 1" • Arbor speed: 3600 RPM
- Max. dado width: 3/4"
- Max. rip capacity: 52"
- Max. depth of cut: 4" @ 90°, 2 3/4" @ 45°
- Approx. shipping weight: 854 lbs.



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7 1/2 HP, 3-Phase

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14" SLIDING TABLE SAW

- Main motor: 10 HP, 220V/440V*, 3-phase, 28A/14A
- Sliding table size: 15" x 126"
- Main blade arbor: 1" • Main blade speed: 3000, 4000, 5000, 6000 RPM
- Scoring blade motor: 1 HP, 3A/1.5A
- Scoring blade size: 4 3/4" • Scoring blade arbor: 22mm
- Scoring blade speed: 8000 RPM
- Scoring blade tilt: 0-45°
- Depth of cut: 4 1/8" @ 90°, 2 1/4" @ 45°
- Max. rip capacity: 52 1/2"
- Max. sheet capacity: 126" x 126"
- Overall size: 132" W x 55" H x 130" D
- Approx. shipping weight: 2932 lbs.

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- End trim motor: 1/4 HP • Flush trim motor: 3/4 HP
- Buffering motor: 1/4 HP
- Heating element: 1455W (6.6A)
- Table size: 10 1/2" W x 78 3/4" L
- Min. panel dimensions: 4 3/4" W x 9 1/2" L
- Compressed air required: 86 PSI
- Glue pot capacity: 34 oz
- Roller width: 2 1/8" • Roller diameter: 1 3/16"
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- Approx. shipping weight: 875 lbs.



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- Cutterhead dia.: 3⅞"
- Cutterhead speed: 5034 RPM
- Max. jointer depth of cut: ⅜"
- Max. width of cut: 12"
- Planer feed rate: 22 FPM
- Max. planer depth of cut: ⅜"
- Max. planer cutting height: 8"
- Planer table size: 12¼" x 23⅞"
- Approx. shipping weight: 704 lbs.



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15" PLANERS

- Motor: 3 HP, 240V, single-phase, 15A
- Precision-ground cast iron table size: 15" x 20"
- Min. stock thickness: ⅜"
- Min. stock length: 8"
- Max. cutting depth: ⅜"
- Feed rate: 16 & 30 FPM
- Cutterhead speed: 4800 RPM
- Approx. shipping weight: 666 lbs.



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2 HP SHAPER

- Motor size: 2 HP, 120V/240V, single-phase, prewired 240V
- Table size: 24" x 21"
- Spindle travel: 3"
- Spindle sizes: ½" and ¾" (included)
- Spindle speeds: 7000 and 10,000 RPM
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- Stand: cabinet style, powder-coated finish
- Cord length: 10' x 14 Gauge
- Maximum cutter diameter: 5"
- Approx. shipping weight: 290 lbs.



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18" OPEN END DRUM SANDER

- Sanding motor: 1½ HP, 110V, single-phase, 15A
- Drum surface speed: 4000 FPM
- Conveyor feed rate: variable, 2–12 FPM
- Max. stock dimensions: 36" wide x 4½" thick
- Min. board length: 6"
- Min. board thickness: ⅜"
- Sanding drum size: 4"
- Dust collection port: 2½"
- Overall size: 35" wide x 50" high x 24" deep
- Approx. shipping weight: 300 lbs.



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8" JOINTERS

- Motor: 3 HP, 220V, single-phase, TEFC, 15A
- Precision-ground cast iron table size: 9" x 72½"
- Max. depth of cut: ⅜"
- Max. rabbeting depth: ½"
- Cutterhead dia.: 3"
- Cutterhead speed: 4800 RPM
- Cuts per minute: 20,000 (G0656P), 21,400 (G0656PX)
- Approx. shipping weight: 500 lbs.



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20" PLANER with SPIRAL CUTTERHEAD

- Motor: 5 HP, 240V, single-phase
- Max. cutting width: 20" • Min. stock length: 8"
- Max. cutting depth: ⅜"
- Feed rate: 16 FPM & 20 FPM
- Cutterhead diameter: 3⅞"
- Cutterhead speed: 4800 RPM
- Number of cutter spirals: 4
- Table size: 20" x 25¼"
- Table size with extension: 20" x 55½"
- Overall dimensions: 55½" L x 39" W x 45⅞" H
- Approx. shipping weight: 932 lbs.



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CAST IRON BED &
INFEED AND
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- Table size: 35½" x 28"
- Spindle travel: 3¼"
- Spindle sizes: ¾", 1", and 1¼"
- Spindle speeds: 3600, 5100, 8000, and 10,000 RPM
- Max. cutter diameter: 5⅞"
- Approx. shipping weight: 613 lbs.



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7½ HP, 3-Phase
G7214Z ONLY \$2695⁰⁰



15" WIDE-BELT SANDER (OPEN END)

- Sanding motor: 5 HP, 220V, single-phase, 1725 RPM, 30A
- Conveyor motor: ¼ HP, 220V, single-phase, 1.8A
- Air requirement: 57–75 PSI, 2 CFM
- Sanding belt size: 16" x 48"
- Surface speed of sanding belt: 2050 FPM
- Max. board width: 15" single pass, 30" double pass
- Max. board thickness: 5½"
- Min. board length: 12"
- Conveyor speed: 13.1 & 16.4 FPM
- Overall size: 32½" wide x 61¼" high x 35" deep
- Approx. shipping weight: 908 lbs.



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Passionate IN PORTLAND

In a city that has gained accolades for its beauty and charm,
Creative Woodworking NW stays on the cutting edge
By Jennifer Hicks Photos by Ben Roosa



Do what you do best. It's the simple advice that's often the best advice and it seems to be working out pretty well for Mike Redmond at Creative Woodworking NW in Portland, Ore.

The shop has been producing custom millwork since 1982. Sure, it also does stairs and furniture components, but with a library of more than 4,000 profiles and the ability to match anything a customer brings in, custom millwork will always be the focus.

"The way we built our business was, early on, I built two kitchens and stopped. I wasn't good at it. What I did find myself good at was machining. I could run molding very well," Redmond says.

"Portland is fanatical about historical renovation and, with our extensive molding profile offerings, we can match the existing molding in homes going back 100 years. There are a lot of historic architects in the city who work on houses that have been renovated back to Green and Green and other styles from historical eras. That's our passion. That's what we're good at and anything else around that."

THE BEGINNINGS

Redmond, who was born in Escondido, Calif., says he was inspired to be a woodworker at the age of 7 when a boys' youth club exposed him to the trade, allowing him to use a band saw and hand tools to make toys and other small projects. His family moved to Portland when he was 10 and he has lived there ever since. He is now 56.

"I started the business in 1978, unofficially. I did it because I loved woodworking as a hobby. I've always been self-employed, but I devoted myself full time to this career at the age of 24."

He started in a shared shop in downtown Portland and hired employees as needed. He moved about 10 blocks away to his current location in 1993, an old bakery that he purchased with about 10,000 sq. ft. of workspace. He purchased extra space through the years and now has about 40,000 sq. ft.

"Originally, we were not in the correct zone for woodworking. It was a residential zone, not an industrial one, so we really had to move," Redmond says. "But we have a lot of space right now and some of it we might



The shop has a library of more than 4,000 profiles.

not hang on to. There are lots of issues with Portland politics and planning and zoning. It's close to the river, it's an industrial sanctuary, but this area is all being gentrified as we speak which is a little hard for us as a shop here in town."

AIMING TO PLEASE

Eighty percent of the company's work is within an hour's drive of Portland.

"We don't have a sales department. We're a word-of-mouth business. We do a lot of residential and commercial and in the commercial end there's a lot of facilitating other woodworking companies, such as other shops who need solid lumber machined using our hardwood and softwood cutting equipment."

This includes cutting parts for cabinets, furniture, crown molding, wainscoting, coffered ceilings and more.

"Because of the custom aspect and the extra cost involved, we try to find people what they need if it's a commodity before we have to pull lumber and machine it. If we can find the product already made, we do that to help them with the cost. But if they can afford it and want to do it, we go ahead and give them the price. Then we go ahead and ask them what wood they want — usually they want clearer wood — and get the size they need."

The shop most often works with fir, cedar, cherry, white oak and red oak and occasion-

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ally with gumwood and calico.

In 2013, the company registered \$1.7 million in gross sales. Most of the jobs are for less than \$10,000.

"This year is similar to last year," Redmond says. "During the recession we went down to a million, which was in 2009. It set us back but we were all paid up in our equipment and we didn't lay anybody off."

During the recession, Redmond says the shop became very compartmentalized. It survived on its special machining services. It also allowed contractors to supply their own materials without a markup. These practices basically eliminated the competition from moving in.

"We're fairly conservative in our business operations," Redmond says. "Our bills are paid. We maintain what we have. And we were OK to break even for a number of years. I don't know how to market. We built a reputation for all of those years, so we basically had a word-of-mouth reputation to ride on."

A DIFFERENT PHILOSOPHY

There are currently 14 full-time employees and turnover is low, which is good because Redmond says it's very difficult to find anyone with the natural abilities to work with their hands.

"Everyone in the shop is self-trained," he says. "You default towards being specialized as to what you're better at. In theory, our shop works that way. It allows people to do that so we don't have any problems. There may be a planer or sander that runs lots of materials, but all materials are different so you have to use your skills. You might have a slab of wood that is warped and needs the proper surface on both sides so you need your skills to do that. It isn't really just the machine, it's the wood through the machine."

His wife, Linda, does most of the bookwork and all of his children (Hope, Michael, Blake and Joseph) have worked in the shop.

"We have a different philosophy; we don't run like a corporation. I get in the shop and do the woodworking and look like I'm one of the employees, but I also meet with people and do estimates. I take on the tough roles and don't expect anyone else to and conduct business in a pleasant matter. We eat together for lunch every Friday. The whole company sits down for an hour or two and we've done that for 20 years."

The company does designs, but usually customers know exactly what they want.

"That's the unique part of our business. Our customers know what they want already. We very seldom get involved in anything more than our professional understanding of what wood is, what it does, its expansion and contraction and its application. For example, you don't put hemlock outside because it rots fast. You put cedar or fir outside. So we will give direction and from what we've learned over all of these years what works and what doesn't work."

Redmond speaks about the area having changed a lot in recent years. Initially, it thrived on its rich history and a strong economy. But the rise of local property values is taking a toll.

"It's really frustrating," says Redmond. "My kids were raised in this neighborhood and worked here. They were supposed to take this over. Now it's a challenge of can we stay here."

"We own the property, but the land values are going up so much that we could be taxed



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out. And our location is everything. Our customers come to us. We don't ship or deal with trucking in or trucking out. I can't just move without losing a large portion of my business. People pick up their projects. They know where we are."

STAYING THE COURSE

Redmond has no immediate plans to retire, but would like to get the business to where he can come and go as he wants.

"I plan to start working towards any possible change in the event we have to move. It would be very expensive and I'm not sure how we would survive. I have friends who went out of business from moving."

While he's always taken pride in updating his tools, he can't justify adding more CNC equipment. "It's not profitable enough," Redmond says. "We researched it and we're not NASA, we're not Boeing and we're not going to get the money we need. Even if we did put

it in a machine that could custom make things, there's not enough profit."

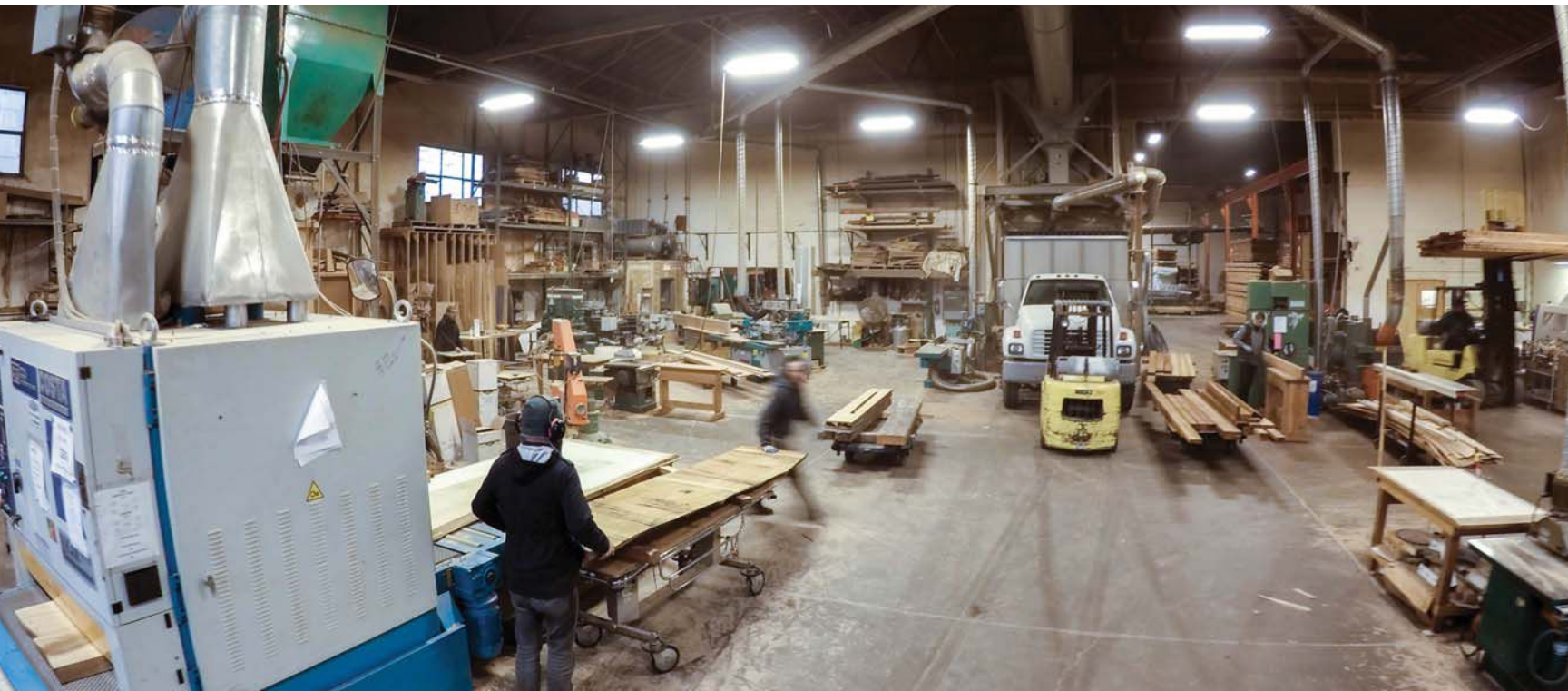
He also plans to continue to put the customer first.

"That's how I've built this business. It's not my way or the highway and that's why we've grown and built ourselves up without advertising. We fix problems and get things solved even if it's our loss. We win because customers love that."

Redmond's final piece of advice goes back to the beginning of this story.

"Find what you're good at," he says. "It may be cabinets or furniture. It may be just working with the material. Keep working at what part you are good at and the sky is the limit. Who says a woodworker can only make \$25 an hour? If you keep working, it will get better." **W**

Contact: Creative Woodworking NW, Inc., 1036 S.E. Taylor St., Portland, OR 97214. Tel: 503-230-9265. www.creativewoodworkingnw.com





no wallflowers here

Vertical panel saws take up a lot less floor space and can be much easier to load with ergonomic loading advantages

By John English

Leaning against the wall isn't generally regarded as the most productive stance. But in the case of panel saws, it can be. A vertical panel saw has two big advantages over a sliding table saw or beam saw. It takes up a lot less floor space and it can be much easier to load.

As with any machine, there are advantages and disadvantages to going vertical. For a start, it's difficult to work small parts on most lower-end vertical panel saws because in vertical cuts the blade moves (up and down) instead of the work. That means the entire saw carriage obscures your vision and makes it extremely difficult to hold onto a workpiece by hand. The only solution is to use jigs, clamps or a vacuum hold-down, which can be time-consuming. One can also build a jig on a plywood panel to take advantage of the saw's horizontal cutting mode (where the carriage is locked and the wood moves). In that case, one would slide the

entire setup through the saw, provided it's not too thick.

But vertical panel saws are designed to rip sheet goods, not mill small parts or straight-line lumber. And when it comes to that function, they are hard to beat. Woodshop News informally asked a few small-shop owners, who run both horizontal and vertical saws, which machine they prefer. Most said that when it comes to reducing sheet goods, the VPS is by far their favorite. Conversely, shops that run very high volumes of sheet goods tend to prefer horizontal saws and a common theme was their system for material handling. The more automated the shop (in terms of forklifts, carts and conveyors), the more likely they will use a sliding beam saw or even a CNC router, especially if they have optimizing software.

Loading a vertical saw can be a lot easier than working with a sliding table saw, especially in a small shop that doesn't own a forklift. It's a one-man operation and it can be made even easier by using a tilting cart such as the Panel Handler from *Shopcartusa.com*. That device flips from vertical to horizontal and can be raised or lowered with a foot pedal.



The 7-hp model ES5210, available from Safety Speed Mfg.

SPACE SHUTTLING

While the actual footprint of a VPS is small, it generally takes up at least 20' feet of wall space. That's because one needs the full length of a sheet before and after the blade to load and unload it, plus a couple of feet on each end to work around the carriage guides (they lie a foot or so to either side of the blade). That generally means the shop has to realign some aspects of production such as rerouting traditional traffic paths, moving machines or accommodating storage that once used the wall space. But adding a VPS along one wall of the shop also frees up a lot of time on the traditional table saw, so workflow and overall production get a boost.

When planning the space, keep in mind that you'll also need room at each end for a cart to hold full sheets (infeed) and panels (outfeed).

When it comes to employees, there are two big positives. A VPS

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The Elcon 155, available from Adwood Corp.

has a very short learning curve and, because the blade is encased and remote, the saws are remarkably safe to operate. Once an employee learns about setup and maintenance, these units have very few quirks. Sawdust buildup interfering with accuracy usually isn't a problem, unless the panels slide on a track instead of rollers (some low-end kits go that route). But several models of VPS do have minor accuracy issues: constant hard use and/or moving the saw can throw the cut off a little, so it's important to check it about once a month. That's especially true if the saw is delivering finished cuts.

Some shops use their VPS to cut panels slightly oversized and then fine-tune them on a CNC router or use the sliding table on a horizontal saw because it has a scoring blade. If a shop is going to use the VPS to square up raised panels or do other final work that requires finesse, then frequent checks for accuracy are a must.

PRICE AND OPTIONS

The cost of a panel saw can be more than that of a new pickup truck or less than the price of a bicycle. They range from top-of-the-line, fully automated rigs with CNC capability to shop-built versions that use a commercially produced hardware kit or even parts from the local hardware store. (When figuring out whether the investment will pay off, don't forget to factor in that you'll need to add a run to the dust collection system and maybe hire an electrician to install a well-placed outlet.)

The size of the saw has more to do with the back support frame than the actual motor. Most saws use an over-the-counter circular saw and the make and model is either designated by the frame manufacturer or installed at the factory. These run the gamut from 7-1/4" budget models to state-of-the-art worm-drives, but in general they're rugged, powerful and in the 8" to 10" range.

The blade diameter is important, as it determines the thickness of material that the saw can handle. If a shop is building, say, countertops or signage, then that can come into play. The diameter of the blade generally determines the distance from the bottom of the saw carriage to the support frame, which of course is a hair more than the maximum material thickness that the VPS can handle.

While most saws are designed to be able to rip or crosscut a 4x8 sheet of plywood, some can't handle a 5x5 sheet of multiply such as Baltic birch. The blade, at full exposure, simply doesn't have enough travel and clearance. Other saws offer options that allow mitered cuts up to 45 degrees and this can be a real boon when it comes to building Lazy Susan corner cabinets and other projects that require angled cuts. Sometimes, one adjusts one end of the bottom track and then slides the work in at an angle. Other machines (especially kit-based models) allow the saw carriage to tilt.

Sizing the back support frame is challenging. It's tempting to go with the smallest viable option, but some of the smaller, space-saving

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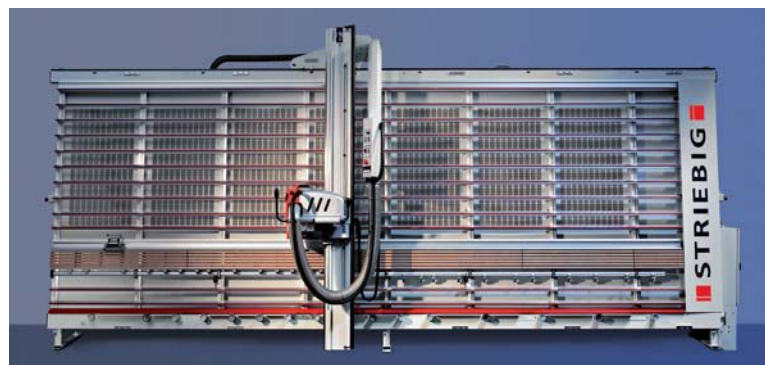
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The Putsch model 950 vertical panel saw.



Striebig's lineup also features the Compact Automatic models.

models are designed to support less than 4 feet of the panel, so the work can tip or be awkward to load and unload for a single operator. A lot of framing carpenters are bringing small saws from companies such as Panel Pro (www.panelpro.com) or Saw Systems (www.sawsystems.net) to the job site to cut OSB panels for sheathing walls and roofs, make extruded insulation panels to size and render accurate subfloor panels. It beats the heck out of running a circular saw on a couple of sawhorses.

The type of material you'll be cutting can have an effect on the size of the motor you choose. If the shop is going to run nothing but thick MDF to create countertops, that will be a lot harder on the saw over its lifespan than sizing 1/2" plywood. One way to ameliorate results is to go with an appropriate blade that assumes some of the workload, such as the American-made Vertical Panel Saw Blade line from Carbide Processors in Tacoma, Wash. (www.carbideprocessors.com). Its inverted V-grind is specifically designed to cut plastic-laminate and melamine-faced substrates and do so without a scoring blade.

When it comes to accessories, automatic stop systems such as those manufactured by TigerStop (www.tigerstop.com) and RazorGage (www.razorgage.com) can dramatically increase both the accuracy and the speed of operations on a VPS. They might take a little ingenuity and experimentation to make them fit both the saw and the task, but once in place they bring repeatability and huge timesaving to its operation. For example, cutting a couple of dozen cabinet backs can take a while on a table saw, but having several adjustable stops set up on the VPS means that a sheet can be ripped to height and then stacked and crosscut into panels.

MANUFACTURERS

Striebig only makes vertical panel saws, offering the 5.25-hp Compact model to the fully-equipped 7.5-hp Control model through Colonial Saw (www.csaw.com). They feature a ridged center shelf, an important aid to cutting small workpieces, a roller system that allows one person



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to flip a panel, completely automated controls, dust collection and much more.

Holz-Her (www.weinig.com) is another high-end manufacturer of VPS, offering three standard models. Model 1254 is available in two frame versions with a cutting length of approximately 14' and cutting height of about 6' or 7'. A maximum cutting length of about 27' can be achieved with model 1255, while the model 1260 automatically manages large cutting quantities in the minimum amount of time.

Putsch Menicini (www.putschusa.com) has been building saws for more than 50 years at its plant in Poggibonsi, Italy. Its machines feature steel frames with 5-, 6- or 7.5-hp motors, an automatic or manual shifting grid, support foot and lift roller system. They include models 133 and 320 (for panels up to 6'3" x 10'6"), models 145 and 420 (7's" x 13'9"), and models 950 and 980 (7'2" x 17'5").

Safety Speed Mfg. (www.safetyspeed.com) has a wide selection, starting with models C4 and C5 with 5' frames, suitable for the jobsite and small shops. The H Series is available with 50", 64" and 74" widths for panel materials up to 1-3/4" thick. Models 6400 and 6800 feature worm-gear saw motors. Production units include the 3-hp models 7000 and 7400, and the 7-hp ES5210.

SawTrax has six lines, including two hobbyist models, model 1000 for small shops, model 2000 for production shops, model 3000



Vertical panel saws have a short learning curve.

for custom door manufacturers and one specifically designed for sign makers. The company also offers numerous accessories at www.sawtrax.com.

Grizzly (www.grizzly.com) offers the 3.25-hp model made by Milwaukee Tools, capable of cutting 4' x 8' sheets, for \$1,495.

U.K.-based Sagetech (www.sagetech.co.uk) has the Zapkut model for small shop and job-site use and the KoolKut line for production use on 4' x 8' sheets.

Powermatic (www.powermatic.com) carries the 3-hp model 511, featuring a worm-drive motor and casters for mobility. It can handle panels up to 5' tall and has a built-in dust collection port.

Elcon Sawing Technology, based in Holland, has been building saws since 1948 (www.elcon-sawingtechnology.com) and distributes in the U.S. through North Carolina-based Adwood Corp. (www.adwood.com). Its product offerings cover the gamut from small shop to large.

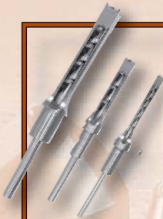
Finally, Hendrick Mfg. (www.hendrickmfg.com) offers the ACM Duo Vertical Panel Saw, which leans toward the aluminum composite industry. **W**

For complete contact information about manufactures and sellers of vertical panel saws, please consult the Black Book resource guide that accompanies this issue or the on-line version at www.woodshopnews.com.



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HARD CHOICES



Hardware is a signature part of artwork in any new kitchen, so keeping with the trends can keep your customers happy

By John English

It's a cliché — it's bottom of the ninth and the bases are loaded. Everything depends on one swing. That's how crucial the right hardware decision can be: adding this one final element to a project can often elevate it to the big leagues or send it down to the minors.

The effect of matching the perfect pulls and knobs to a cabinet or a piece of furniture can be quite dramatic. We're all familiar with the iconic way in which hammered medieval iron worked for Gustav Stickley and how a century later people still want that look on their Arts & Crafts pieces.

Hardware makes a statement — and not always an obvious one. Sometimes the client needs to pull out a drawer and let it slide gracefully closed before he or she understands that impeccable quality says the builder cared.



Staying with the belabored baseball metaphor for a moment, here's something to think about. The home team wears white and the visitors' uniforms are gray. (Apparently, doing laundry on the road was difficult in the early days and that is the source of the tradition.) Given their languid palette, teams learned to distinguish themselves by wearing logos on their hats and shirts.

Kitchen cabinets are, for the most part, standardized. The units share universal height and depth dimensions. Most people like hardwood or paint with granite tops, so even the most elaborate casework jobs are somewhat mundane. We can play with colors and grain patterns, but small pieces of hardware still seem to have an inordinate impact on design. Changing the pulls and knobs can really

change the feel of the room. They are the colorful logos on our caps.

TRENDING NOW

Keeping abreast of trends can be a challenge. In the information age, where a thousand choices are at our fingertips, clients like to browse online to get a feel for what they want. Then they try to match that look to one of the options offered by the cabinetmaker. Sometimes the reverse is true: we have to go and find a product that is not in inventory because somebody saw it online.

A really interesting snippet came out of the automotive industry a few years ago, when the national economy began to dive. Manufacturers noted that car colors were drifting toward white. First there were grays and silvers and then various off-whites. In good times, it seems, people buy with flourish — reds and blues and yellows. And when uncertainty looms, they become conservative.

The same can be said of cabinet hardware. During the last few years there has been a long, slow trend toward neutrality — natural wood tones and a resurgence of off-white paint/stain/dyes and simple hardware that is devoid of both color and texture. Taking a lead from stainless-steel appliances, designers have leaned toward unadorned steel pulls. Appliances are becoming even more built-in and streamlined: they are quieter in color and context than they used to be. Think, for example, of glass cooktops or the virtual disappearance of appliance garages on countertops. Smooth, clean, uninterrupted lines are in.

Perhaps the uncluttered look plays into a subconscious need to feel more sustainable, more responsible for our world. Whatever the motivation, simpler floor and countertop materials, flat door panels and quiet color schemes have arrived and those values are reflected in the hardware we choose.

So, as times get better, will hardware become gaudy?

Perhaps a hint is hidden in Europe. The farther north one travels there, the more austere and functional both casework and hardware becomes. Indeed, many Scandinavian and German kitchens have concealed hinges and no pulls at all. But travel south through the Loire Valley and builders are still working versions of cabriole and carving into their designs. Here, the hardware is more complex, more three-dimensional — not quite classical, but definitely more expressive. As time passes, though, the northern influence is growing. And it's worth noting that the German economy is robust, while the rest of Europe is riding the doldrums. Germany sets the pace and Europe follows.

After World War II, America borrowed many of the best aspects of Italian, French and Spanish furniture, food and fashion. Remember all of those 1960s movies with Americans

in convertibles racing along the Mediterranean? For a while, Southern Europe was chic. In recent decades, the European influence has been more Germanic.

Julius Blum founded the hardware company that bears his name back in 1952. He established a toehold in America in 1977, with the purchase of a small warehouse in Hickory, N.C. Today, Blum products not only serve the American hardware market, but companies like Blum and Häfele also help shape it. For example, last year's introduction by Blum of a new premium metal drawer system, Legrabox, underscored a fundamental change in the philosophy of American kitchen design: drawers don't have to be wooden. Who knew? And if they aren't wood, will hardware soon obviate the need for traditional joinery, too? After all, it's difficult to dovetail a stainless steel corner.

But despite their similarities, the two markets (U.S. and Europe) also have their differences. That's actually a little surprising, considering the shrinking globe and a burgeoning Internet that is homogenizing cultures worldwide. Nevertheless, a latter-day American kitchen still has a certain flavor that distinguishes it from its overseas cousins. One can walk into a home in Connecticut or California and feel familiar. A small part of that is due to hardware. Pulls, knobs, slides and hinges all have both a visual and a tactile role. Pull open a drawer in an original 1970s kitchen, and the action will subconsciously be different than doing the same in a 2015 showroom. There is a feel to hardware, to the way it works, that is more than intuition. It's cultural ergonomics. Our hardware perhaps reflects, rather than contributes to, who we are.

The future looks like an amalgam of sleek European values and that homey feeling of traditional American design. The mood will be hygienic yet hospitable, convenient yet comfortable. We live on a rock where everything is instantly available. Tap on a phone and we can watch parades in Paraguay or safaris in Senegal. Doing simple things can accomplish complicated ends as technology takes over the legwork for us. There's no need to walk to the library anymore.

That pattern, that new instinct for convenience, shows up everywhere in kitchen and furniture design and nowhere more so than in hardware. Adding self-closing, slow-action, gentle slides to a kitchen would once have begged the question: "Should we spend that much money on something that's essentially hidden?" Now the question being asked is more along these lines: why didn't we?

ACCESS AND ACCENTS

When one opens a door or a drawer in a high-end, well-designed kitchen, there is generally no need to get down on one's hands and knees. Good designers use hardware to cre-

ate an environment where things are easy to reach. Heavy-duty, full-extension slides bring the contents to us: we don't need to rummage. Sliding trays (instead of adjustable shelves) allow us to open up a wide base box and see immediately what is stored within. Clever corner cabinet hardware and racks that reach around pipes under the sink all say one thing: convenience. Cabinet hardware is trending toward ever-cleaner lines and our customers also expect it to deliver convenient solutions.

But there is a third aspect to predicting the future of pulls, hinges, slides and specialty hardware. Despite the fact that all of it is mass-produced, the incorporation of hardware can be very personal. Choosing knobs or slides allows the customer to affect the look and feel of the kitchen in a very unique way. It can be a mode of expression, an artistic process that is self-actualizing. The countertops and appliances all live in catalogs, but hardware usually needs to shake hands. Customers find themselves touching pulls at the homes of their friends, at work, in showrooms and on displays in big-box stores. A picture or even a single drawer pull in one's hand still leaves something lacking. Being able to visit the application and view the piece of hardware in place on a complete cabinet — this is what people need before they feel they have enough information to decide. They scour the Internet, but more often than not choose something

they have touched rather than something they have merely seen. They are choosing a colorful logo for their own baseball cap and they need to feel that it is unique. Hardware is their signature on the artwork that is their new kitchen. It's more than just metal.

Being sensitive to that, allowing the customer to "own" some choices, is essential. But so is a little guidance. Somewhere between telling them what they need and they telling us what they want lays a middle ground that serves both interests.

QUALITY COUNTS, RIGHT?

A metal pull is a very small item, both physically and also in terms of a complete kitchen. There isn't much steel, brass or chrome required to make one, so it's not surprising that some pulls are very reasonably priced. When a project requires two or three dozen of them, the multiplier becomes an issue. Thirty pulls at \$4 apiece is a whole lot different than 30 pulls at \$22 each (\$120 or \$660). The same arithmetic can be applied to slides: most range from roughly \$8 to \$85 a pair. With, say, 20 drawers, the difference can come to about \$1,500. Add in the hinges and hardware can amount to a significant chunk of the budget on a kitchen job. There isn't a lot of room to squirm on plywood, hardwood, finishes or payroll, so this is one area where a woodshop might be able to save a couple of bucks.

That brings us to China.

Is there a moral dilemma here? Do we buy cheap and ignore the source or buy quality and celebrate its merits in the sales pitch to the customer? Is there an ethical difference between using American, German or Chinese products? Do we care? Should we?

One thing to bear in mind is that, in many ways, China is now following the same route taken by Japan in the second half of the last century. After the war, that country spent a few decades manufacturing laughably inept copies of American products. From 1958 to 1986, Nissan exported a line of vehicles under the trade name Datsun that were, well, pretty awful. But then companies such as Toyota began incorporating traditional Japanese manufacturing processes into a borrowed American model and developed a new corporate culture that gave rise to what we now call lean manufacturing.

China's products are going to get better, too. And, as they do, prices will rise. That will begin to put them in competitive parity with American, German and Swedish hardware manufacturers and, while their profitability will rise, it's reasonable to assume their market share will fall. Bottom line: cheap Chinese knobs and pulls will be around for a while, but not forever. The question here is at what point will that transition influence our industry's buying patterns? And if the supply is

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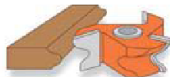
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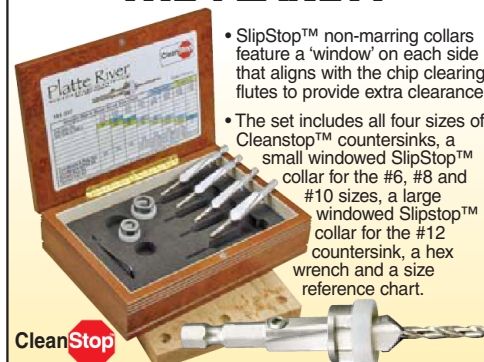
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going to change, is it better to develop a long-term relationship now with a high-quality supplier that will cost us a little bit of cash, but will augment our shop's reputation for delivering only the highest quality merchandise?

There is another, far more basic aspect to this. Will the least expensive hardware actually hold up over time? One aging cabinetmaker we know has a litmus test for any kind of knob: he threads the screw into one of them, locks the head in a vise and then uses a pair of pliers to see what it takes to strip out the threads. If there's little or no resistance, he rejects the product. It's not empirical, but it gives him some idea of how long the part will last in daily use. (Of course, the guy still uses hand tools, so his judgment is questionable.)

Do the slides you use run on steel bearings or nylon/plastic guides? Can the hinges you install be bent easily to align a cabinet door? (If they can, it will be just as easy for a customer to accidentally bend them out of alignment, too.) It seems logical that we might be able to skimp a little on pulls and knobs, but not on those hardware elements that rely on mechanical motion (hinges and slides). Perhaps the savings in one can be applied to upgrading the other. If we build great boxes and save a little on the hardware, those savings could be eaten up by warranty calls, where we have to supply replacements for failed hardware and

sometimes even send somebody out to physically fix something.

The average kitchen is remodeled every 20 years or so. Will skimping on the first job encourage the homeowner to look elsewhere for a cabinet shop when it comes time to redo? That's a particularly significant question for woodshops in small markets, where the choice is often just between you and factory cabinets. With the continued emergence of outsourcing and the subsequent blurring of the line between custom and factory, that choice is already narrowing. It's not unreasonable to assume that many of the outsourcing suppliers will eventually get large enough to reach around us and advertise directly to our customers.

Quality counts and people have long memories. And quality is really the only defense we have against factories. Our hardware choices need to be at least as good as theirs.

THE NEAR FUTURE

If one looks at the unemployment rate (10 percent in October 2009 and 5.8 percent in October 2014), the Dow Jones Industrial Average (7,062 in February 2009 and 17,900 in December 2014), and housing starts (just about double in 2014 over the 2009 numbers), there is an obvious trend in the economy. Things are getting a lot better and, with that, purse strings are getting a little looser. Confi-

dence is a strange animal: President Franklin Roosevelt understood that fear of the future was inhibiting recovery in the 1930s and, even though all the indicators say that our economy is robust and growing, we still have a nagging doubt. As times continue to improve, that will recede and people will start buying yellow and green cars again. When they do, cabinet hardware is going to change, too. Today's stylish but conservative tastes are going to jump on the pendulum and swing back toward something more flamboyant and exuberant. While knobs and pulls might gravitate away from the industrial look and return to the comfort of French farmhouses, the working hardware (hinges and slides) will remain on the path they have been traveling. Customers will continue to ask for and pay for quality and convenience.

Aesthetically, kitchen designers online seem to have a collective opinion that the next generation of kitchens will be a reaction to the fitted, symmetrical lines we have become accustomed to and casework will begin to incorporate more individual "furniture" pieces, rather than walls of identical doors. If so, there will be a new opportunity for hardware sales. A complex kitchen might use two or three different lines of pulls and knobs on the same job.

That's like everyone on the baseball team having a different-colored shirt. Good luck with that on laundry day. **W**



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▲ **SAWSTOP** announced a new job-site saw featuring the company's exclusive safety device, which will be available for sale in early 2015. The portable saw has SawStop's contact detection technology, which detects contact with skin on the blade, and stops and drops the blade in less than five milliseconds, according to the company. The saw will also feature a T-style fence and wheeled mobile cart. The company says the job-site saw will begin arriving in dealer showrooms in March 2015, with a U.S. list price of \$1,299. For information, visit www.sawstop.com.

▼ **DEWALT** offers the new 20-volt cordless job-site spotlight, model DCL043, featuring three LED lights and one red LED light to illuminate dark work areas. The spotlight is IP54-rated with a water and dust resistance seal. It features two lumen settings, a pivoting head (0 to 90 degrees), hanging hook and belt hook. The spotlight retails for \$89 without battery or charger. For information, visit www.dewalt.com.



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◀ DEWALT introduced a new family of premium tapes measures, built to take a beating on harsh job-site conditions, according to the company. They include 16', 25', and 35' models with a reinforced housing and cast metal impact plate to absorb shocks when dropped to protect internal components and the end hook. Rubber over-molding covers all contact points of the tapes for improved grip. The tape blades are made from steel coated in Mylar polyester and feature an oversized end hook. They retail for \$20 to \$35. For information, visit www.dewalt.com.

▶▶ TECHNO CNC SYSTEMS is introducing the Venture ME4 CNC material handling work cell, designed with the high-production cabinet shop in mind for streamlining material handling, CNC routing, and offloading operations. The system is G-Code-based and compatible with all the popular cabinet design nesting programs, according to the company. The ME4 work cell will automatically load a 4x8 sheet from a pallet by way of a scissor lift. Once the sheet is placed, the operator turns on the vacuum hold down and starts the cut cycle for the CNC to execute. Upon completion, the individual parts are labeled by the operator through an integrated barcode system. For information, visit www.technocnc.com.



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One of a Kind Show lives up to its name

Chicago show draws its usual large crowd while a North Carolina museum hosts exhibit featuring decorative work from the late 20th century

By Jennifer Hicks

The 14th annual One of a Kind Show and Sale Chicago showcased work by more than 600 juried artists from Dec. 4-7 at the city's Merchandise Mart. The show encompasses an array of handcrafted work in a variety of media, categories and price points. Offerings included furniture, home accessories, ceramics, fiber art, and more.

The show also featured the Etsy Pavilion, where attendees could shop the work of 40 Etsy artists, whose work is generally found online, and the Fine Art Gallery, a curated exhibition of fine art and sculpture pieces within the show floor.

David Stine of Dow, Ill., exhibited furniture pieces made from sustainably harvested lumber, including a 15' long, 54" wide, two-slab walnut table. He has been attending the show for the last eight years and says it's a great av-

enue for promoting his work.

"It's a huge indoor show right before the holidays and I think they get around 60,000 people through that building during the four days of the show. It's just a huge amount of people. So even if you have niche things like I do, you're bound to see some of your [customers] there. It's been good for me through the years and it's only about 350 miles from my shop so it's actually a lot closer than most of my clients who are in the mountain states and up in the New York area," Stine says.

"You see a lot of artists and craftspeople there year after year, which tells you what kind of response they get. I've had plenty of shows where there have been plenty of people but nobody bought anything, so this is a good one."

For information, visit www.oneofakindshow-chicago.com.



Clint Parker, owner of Woodland Studio in Royal Oak, Mich., exhibited this chair at the Chicago show.



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David Stine's walnut table.

BEYOND CRAFT EXHIBIT

The Mint Museum in Charlotte, N.C., is hosting the "Beyond Craft: Decorative Arts from the Leatrice S. and Melvin B. Eagle Collection" exhibit at its Uptown venue through Feb. 22.

The exhibit highlights important studio objects made from the mid-1960s to the 2000s, with a special focus on the '60s-through-'80s period.

"The Eagle Collection offers an extraordinary opportunity for in-depth study of the foundational period of studio craft history as well as a look at how artists active then have transcended historical traditions to create a new paradigm today," according to a museum statement.



The One of a Kind Show always draws a large crowd.

It includes approximately 90 objects by 50 artists, including Ralph Bacerra, Wendell Castle, Ruth Duckworth, Robert Endorf, John Garrett, Sam Maloof, Albert

Paley, Tom Patti, Joyce Scott and Takeshi Yasuda. Media include ceramics, fiber art, studio furniture, glass, jewelry and works on paper. For information, visit www.mintmuseum.org. 

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Feb. 4-8 — Intermediate Carving with Mary May at the Southwest School of Woodworking in Phoenix. Fee: \$680. www.swcfc.org

Feb. 20-22 — Furniture Design with George Walker at the Southwest School of Woodworking in Phoenix. Fee: \$410. www.swcfc.org

March 7-11 — Joinery with Frank Klausz at the Southwest School of Woodworking in Phoenix. Fee: \$680. www.swcfc.org

April 25-30 — Curved Front Cabinet with Paul Schurch at the Southwest School of Woodworking in Phoenix. Learn design, construction and veneering of a curved front cabinet. Fee: \$816. www.swcfc.org

ILLINOIS

Feb. 6-8 — The St. Louis Woodworking Show, featuring new products and instructional seminars, will be held at the Gateway Center's Center Hall in Collinsville. www.thewoodworkingshows.com

INDIANA

Jan 16-18 — The Indianapolis Woodworking Show, featuring new products and instructional seminars, will be held at the Indiana State Fairgrounds in Indianapolis. www.thewoodworkingshows.com

structional seminars, will be held at the Indiana State Fairgrounds in Indianapolis. www.thewoodworkingshows.com

MARYLAND

Feb. 20-22 — American Craft Council Baltimore Show at the Baltimore Convention Center, featuring original work by more than 650 of the top contemporary furniture, home décor, jewelry and other craft artists from across the country. www.craftcouncil.org

MASSACHUSETTS

Jan. 9-11 — The New England Woodworking Show, featuring new products and instructional seminars, will be held at the Eastern States Expo Center in West Springfield. www.thewoodworkingshows.com

MICHIGAN

Feb. 13-15 — The Detroit Woodworking Show, featuring new products and instructional seminars, will be held at the Suburban Collection Showplace in Detroit. www.thewoodworkingshows.com

MISSOURI

Jan. 30-Feb. 1 — The Kansas City Woodworking Show, featuring new products and instructional seminars, will be held at Kemper Arena Grounds in Kansas City. www.thewoodworkingshows.com

NEVADA

Jan. 20-22 — KBIS/IBS 2015. The Kitchen & Bath Industry Show (KBIS) will be held in conjunction with the International Builder's Show (IBS) at the Las Vegas Convention Center in Las Vegas. www.kbis.com or www.buildersshow.com.

NEW JERSEY

Feb. 20-22 — The Somerset Woodworking Show, featuring new products and instructional seminars, will be held at the Garden State Exhibit Center in Somerset. www.thewoodworkingshows.com

NEW YORK

Jan. 5-8 — Kiln-drying workshop sponsored by the State University of New York College of Environmental Science and Forestry. www.esf.edu/outreach/kiln

OHIO

Jan. 23-25 — The Columbus Woodworking Show, featuring new products and instructional seminars, will be held at the Ohio Expo Center in Columbus. www.thewoodworkingshows.com



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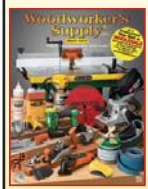
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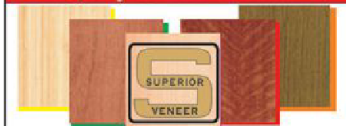
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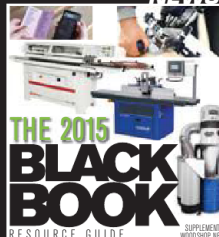
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**WOODSHOP
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Tools for the long haul

In November, Vortex Tool Co., a manufacturer of router and insert cutting tools for the woodworking industry, donated a supply of tooling to the McGill Baja Racing team of McGill University in Montreal.

The team is comprised of 50 engineering students whose mission is to design, build and race a single-seat, prototype, off-road race car. Each year, the team competes against more than 100 universities from around the world in several competitions across Canada and the United States, sponsored by the Society of Automotive Engineers.

The three-day competitions include design presentations, tests of the vehicle's capabilities (such as rock crawling and hill climbing), and an endurance race on the final day. The team had its best finish — third overall — at last June's season-ending event in Illinois.

Vortex product manager Mike Serwa says the company has offered an aggressive program to support education for about 10 years, including a hefty discount on tooling.

"McGill requested some tooling and we donated a number of items they needed for manufacturing. Hopefully, when these students use our tooling and see how well it performs, that when they move into the industry they will continue to use our products," Serwa says.

"We gave them some cutting tools, various types of standard solid-carbide router bits and things like that. They have a project where they manufacture lightweight, Baja-style racing cars and they have a pretty good history as far as their success. They have a set of constraints they and the other schools have to conform to as far as restrictions on



More than 50 students from McGill University in Montreal used tooling donated by Vortex Tool Co. to build their team's Baja race car.

the vehicle."

Serwa explains that the carbide cutting bits were used primarily for machining and manufacturing the MDF jigs and molds that make up the vehicle's body. The special design of the Vortex cutting tools allows them to cut

faster and longer than other cutters while improving the quality of the cut by reducing chipping and fuzzing, he says. [W](#)

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-- Jennifer Hicks



60 Grit

Rough humor by Steve Spiro



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