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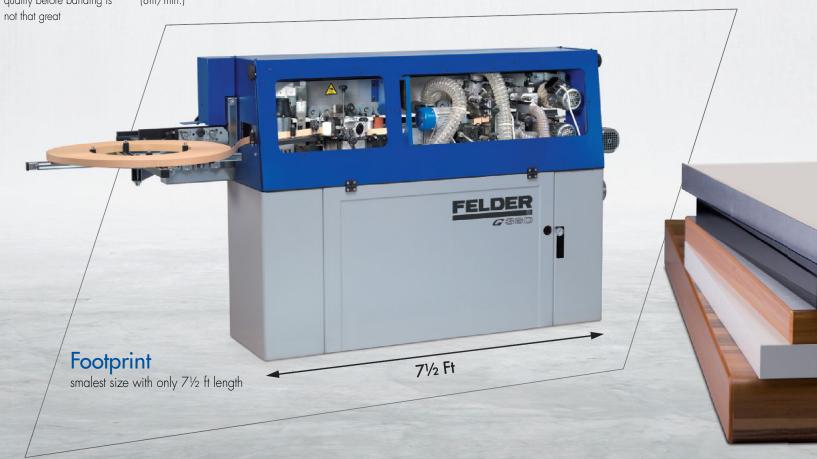
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#### **BLOGS**



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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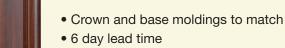
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### **TAKING STOCK**

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### Hammer comes down on Lumber Liquidators

n Oct. 6, Lumber Liquidators pleaded guilty to a felony violation of the Lacey Act and must pay \$10 million as part of a U.S. Justice Department settlement. In addition, Lumber Liquidators will pay the federal government \$3.2 million in lieu of forfeiture of the illegally sourced flooring in inventory and is on probation for five years.

Lumber Liquidators pleaded guilty to four misdemeanor due-care violations of the Lacey Act and one felony for entry of goods by means of false statements.

"The government appears to making an example out of Lumber Liquidators and its violation of the Lacey Act," Wedbush Securities, a privately-held financial services and investment firm, said. "The Department of Justice's prior landmark enforcement action was against Gibson Guitars in 2012, which resulted in only a \$610,000 in fines versus \$13.2 million for Lumber Liquidators. Moreover, Gibson was not charged criminally, but Lumber Liquidators was. Lumber Liquidators pleaded guilty to a criminal Class E felony because it falsely declared the country of origin of timber harvested and used in the company's wood products."

Lumber Liquidators is still facing federal investigations from the Consumer Products Safety Commission and Federal Trade Commission and more than 100 class-action lawsuits involving the Chinese laminate flooring it sold.

The settlement payments include a \$7.8 million fine and community service contributions of \$880,825 to the National Fish and Wildlife Foundation and \$350,000 to the Rhinoceros and Tiger Conservation Fund. Under terms

of the agreement, \$500,000 from the National Fish and Wildlife Foundation award must fund development of electronic wood identification devices that can identify the genus, species and country of origin of timber and wood products in a non-laboratory setting.

The company also has to implement an environmental compliance plan.

"We appreciate the opportunity to have collaborated with the DOJ to develop an Environmental Compliance Plan, which we believe when fully implemented will be one of the strongest and most comprehensive in the industry," Jill Witter, the company's chief compliance and legal officer, said in a statement. "The program is designed to ensure an unbroken and verified chain of custody and documentation of our products from the store all the way to the forest."

The Lacey Act was amended in 2008 to prohibit the importation or sale of wood that was logged in violation of the law of other countries and to require an import declaration.

The International Wood Products Association issued a statement urging all wood products importers to review their compliance procedures.

"To assist our members with this important task, IWPA has developed a training course for CEOs, CFOs, buyers, compliance staff, customs specialists, sales staff, overseas producers and exports involved in the wood trade," IWPA executive director Cindy Squires said. "The course 'Seeing the Forest and the Trees: Wood Trade Compliance Training and Due Diligence Tools,' will be offered in multiple locations in 2015 and 2016 and will help them meet their responsibilities under the law."

For more, visit www.iwpawood.org. 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

# National training center planned in Colorado

By Jennifer Hicks

ean Mattson, credited for revamping the high school shop program in Salem, Ore., is going national. With industry support, Mattson is working to open the National Woods Manufacturing Training Center in Peyton, Colo., in 2017.

Mattson developed his career technical education program about eight years ago at North Salem High School, which at the time served about 100 students and was dying on the vine. Heavily infused with lean manufacturing principals, enrollment has increased to more than 700 students. He's been honored by the Wood Machinery Industry Association and shared his dream of creating a national program at the 2014 Wood Industry Conference in Puerto Rico.

The center found a home when Tim Kistler, superintendent of Peyton School District, offered a vacant middle school. It will start with about 100 high school students and



eventually be expanded to offer training for graduate students, returning veterans and woodworking instructors.

The center has received tooling and machinery donations worth about \$2.5 million. Sponsors include Stiles, Leitz Tooling, Columbia Forest Products, TigerStop, Bosch and Kreg Tools.

"We know the future of our industry prob-

ably doesn't have their driver's license yet," Leitz Tooling CEO Mike Lind says. "It's critical that programs like Dean has developed offer current technologies and capabilities so graduates are ready to contribute."

For information, contact Dean Mattson at deanmattson@peyton.k12.co.us or Tim Kistler at kistler@peyton.k12.co.us.

# **AWI** survey points to stronger industry in 2016

By Jennifer Hicks

he Architectural Woodwork Institute recently held its 63rd annual convention in Salt Lake City where results of the organization's 2015 Cost of Doing Business Survey and Compensation Study were a hot topic.

The AWI publishes the annual report to provide industry specific statistics to architectural woodwork manufacturers. Results suggest a positive business climate through 2016.

"The growing business sentiment is a huge success for our members," AWI chief member services officer Cassey Gibson says. "The numbers are definitely looking up and getting better." The AWI is a non-profit trade association that represents about 4,000 manufacturers, suppliers, design professionals and students from around the world. Survey respondents included 135 manufacturers, more than half of which have been in business for more than 25 years, according to Gibson.

The survey says sales predictions are on the rise. Seventy-five percent of the respondents reported favorable business conditions and operating margins as high as 17 percent.

Capital investments are up in the last 12 months and about a third of the respondents are planning to increase their workforce by 10 percent in the next year, according to the survey.

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# **DMT** happy with investment in 'Rough Cut'

By Jennifer Hicks

hows produced for public television depend on viewers like you and, of course, sponsors. "Rough Cut: Woodworking with Tommy Mac" is doing well on both counts.

The Emmy-award nominated show receives major funding from Woodcraft Supply. Other sponsors include Diamond Machining Technology, on board since Season 4. The company, based in Marlborough, Mass., is the show's exclusive supplier of sharpening equipment.

"Being in Massachusetts ties everything together very nicely. Tommy's from the area and the show is based here," DMT president Mark Brandon says.

MacDonald has visited DMT on several occasions to discuss product ideas. He has also connected the company with the North Bennet Street School in Boston where he received his



Tommy MacDonald visits DMT in Marlborough, Mass. (L-R: Mark Brandon, president of DMT; Tommy MacDonald, show host; and Stan Watson, DMT technical director)

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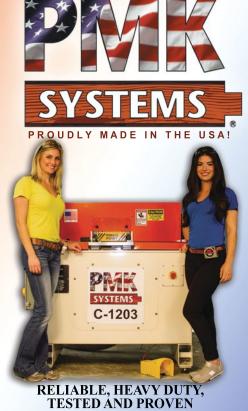
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**NEWS DESK** from Page 12

formal training in furniture making. DMT has been offering a scholarship to a deserving student for the last two years.

"One of our concerns in woodworking is being able to talk to younger woodworkers and we think that Tommy is going to engage them. And, of course, he is aligned with Woodcraft Supply, which is a very important customer for us," Brandon says.

"Woodcraft's investment in 'Rough Cut' provides woodworkers across the U.S. with

access to expert woodworking information and innovative projects that will instruct and inspire them," Woodcraft president Jody Garrett adds. "The show is a perfect fit for Woodcraft's mission to help woodworkers improve their skills, as well as encourage more people to discover the joy of working with wood."

"Rough Cut" is produced by WGBH in Boston. Season 6 is currently on the air. Other sponsors include Pony Tools, MicroJig, Titebond and Starrett.

For more, visit www.tommymac.us. W

### Sales are up at Blum

Blum announced that it has ended its 2014-2015 fiscal year with a 6 percent increase in sales. The hardware manufacturer says it ended the year up \$14.2 million with total sales of \$245 million.

"We attribute this increase mainly to a healthy housing and remodeling market and a strong nationwide Blum distributor network," Karl Rudisser, the company's president and CEO, said in a statement.

"Our success this past financial year was the result of the introduction of new product innovations in both our lift systems and box systems and in the additional services we offered to our customers," added Steve Regele, the company's vice president of sales and marketing. "We are looking at the upcoming fiscal year 2015/16 optimistically and we will launch several product solutions in our product groups that address the design trend of handle-less cabinetry. Blum's latest motion technology, Tip-on Blumotion, will combine the mechanical one-touch opening with the soft and effortless closing of Blumotion."

For more visit www.blum.com.

### Free poster touts career in wood manufacturing

The AWFS released the second poster in its "Meet the New Face of Manufacturing" campaign, a marketing effort to acquaint and interest young people in careers in wood products manufacturing.

In an attempt to dispel outdated myths about jobs in manufacturing and build the number of young skilled workers who will consider wood products manufacturing in their career choices, the poster is designed to portray 21st century manufacturing as modern, high-tech and with a variety of challenging careers available for young people

today, according to the trade group.

Initiated in 2014, the New Faces campaign started with a poster touting jobs in manufacturing. More than 1,600 copies were requested and distributed to teachers, principals, counselors, superintendents and state directors of Career Technical Education, as well as chambers of commerce and industry companies.

For a free copy of the "New Faces" poster, send a note to nancy@awfs.org. Include your name, mailing address and the number of posters you would like.

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## WOODMARKETS

# Black walnut sales held up at the sawmill

By Jennifer Hicks

lack walnut's status as a premium hardwood hasn't changed as buyers continue to favor the wood's rich dark color and highly figured appearance for custom furniture and cabinetry. But it's not currently a huge mover at the retail level, due to its high price and rather limited supply, according to hardwood dealers interviewed by Woodshop News.

The market has been strong for the last few years, but a shortage of really big logs (around 14') and demand for thick slabs (12/4) has contributed to slower sales recently.

"Part of the problem is that the price went up and then there was an oversupply so the market price dropped and a lot of the people that have the logs bought them at the old price," says Louis Irion, owner of Irion Lumber in Wellsboro, Pa. "Walnut's the type of log that you don't have to cut right away and it will age OK as opposed to other logs such as maple or ash, so a lot of our suppliers are holding off cutting walnut to see if the market equalizes."

Black walnut (*Juglans negra*) typically grows as scattered individual trees or in small groups throughout the central and eastern parts of the United States, according to the U.S. Forest Service. Its natural range extends from western Vermont to the Midwest, Texas



and Florida. The species is currently threatened in some locations by thousand cankers disease, a result of the combined activity of a fungus and the walnut twig beetle. Information on the disease and resources for finding local quarantines can be found at *www.thousandcankers.com*.

Live-edge walnut, where the bark has been removed but the edges haven't been machined straight, continues to sell well, dealers say.

"We sell a lot of live-edge walnut slabs and some that I mill into flooring as well," says Jeff Hanna of Keystone Vintage Lumber in Lebanon, Pa. "It seems like year to year there are trends where people are either into a lighter or a darker color, but walnut always seems to be fairly popular and, personally, it's my favorite species.

"What's becoming more popular with walnut is people really seem to like the contrast between the dark heartwood and the light sapwood, so they are incorporating that into furniture like desktops and things like that."

Clint Dillon of Steve Wall Lumber in Mayodan, N.C., says walnut sales have remained pretty steady, mostly for furniture-making purposes.

"It seems everyone is still on the kick for the naturally dark wood. Our live-edge walnut sales have stayed pretty high too for dining tables and countertops and things like that. We see a lot of people wanting live edge because it has that little bit of sapwood by the edge and it creates a really pretty contrast."

Retail quotes for 4/4 select grades of walnut ranged from \$6.50 to \$8.50/bf.











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# TOOLS TECHNIQUES



# Kreg adds auto-adjusting face clamps to new K5

**By Jennifer Hicks** 

reg Tool Co., a manufacturer of woodworking tools and accessories, introduced its K5 Master System, model K5MS, with an additional auto-adjusting face clamp and portable base.

"We came out with the K5 in early 2014 and we've always offered a Master System with our K4 jig, which has been our standard jig for years," Kreg brand manager Dave Stone says.

"The idea of this Master System is when you buy any Kreg jig, there are a few things that are really helpful, like our face clamps. The K5 Master System has auto-adjusting face clamps. Unlike our standard clamps, these will automatically do the adjusting for you when you switch from one thickness to another. For custom woodworkers, this really speeds up their setup time."

Stone points out these adjustable clamps can also work well with creating pocket hole joints as they can hold the two workpieces flush as you drive a screw from one workpiece into another at an angle.

"In a production environment, the K4 style is a ridged setup," Stone explains. "It uses a threaded rod and if there are any slight material variations, the clamping pressure is not as efficient unless it's readjusted. On the K5, the (clamping) pad is springloaded. It's a really fast, tool-free change which for a custom woodworker is a very big deal."

The K5 Master System sells for \$170.

Contact: Kreg Tool Co. Tel: 800-447-8638. www.kregtool.com



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- Airflow capacity: 1654 CFM @ 2" SP
- Max. static pressure (inches of water): 14.2"
- Filters: primary at 99.9% efficiency captures 0.2-2 micron dust particles, secondary HEPA at 99.97% efficiency captures 0.3 micron dust particles
- Filter surface area: 113 sq. ft.
- · Collection drum: Steel, 55 gallons
- Sound rating: 79–80 dB
- Stand: 14-gauge steel
- Overall dimensions: 60¾" W x 33" D x 107½" H
- Approx. shipping weight: 578 lbs.





### 5 HP DUAL-FILTRATION HEPA CYCLONE DUST COLLECTOR

· Motor: 5HP, 220V, single-phase, 3450 RPM, 60 Hz, 22.4A, TEFC Class "F"

- Remote-controlled magnetic switch
- Intake hole size: 10"
- Bag material: Plastic
- Impeller: 16" steel radial fin
- Suction capacity: 2184 CFM @ 1.9" SP
- Max. static pressure (inches of water): 14"
- Filters: primary at 99.9% efficiency captures 0.2-2 micron dust particles. secondary HEPA at 99.97% efficiency captures 0.3 micron dust particles
- Filter surface area: 226 sq. ft.
- Collection drum: Steel, 55 gallons
- Sound rating: 79-81 dB
- Overall dimensions:  $80\frac{1}{2}$ " W x 51" D x  $111\frac{1}{4}$ " H
- Approx. shipping weight: 826 lbs.











### 7.5 HP 3-PHASE DUAL-FILTRATION HEPA CYCLONE DUST COLLECTOR

Motor: 7.5 HP, 220V/440V\*, 3-phase, 25A/12.5A, TEFC Class "F

G0441HEP \$215000 SALE \$205000

- Intake hole size: 10"
- · Filter surface area: 261 sq. ft.
- Impeller: 18" steel radial fin
- Airflow capacity: 3468 CFM @ 4.3" SP
- Maximum static pressure (inches of water): 14.7"
- Sound level: 78-80 dB
- Filters: primary at 99.9% efficiency captures 0.2-2 micron dust particles. secondary HEPA at 99.97% efficiency captures 0.3 micron dust particles
- Collection drums: Steel, 55 gallon x 2
- Stand: 13-gauge steel
- Cyclone body: 16-gauge steel
- Blower housing: 11-gauge steel
- Overall dimensions: 961/4" W x 521/2" D x 1391/2" H
- Approx. shipping weight: 1123 lbs.











140V operation requires additional conv

### 10 HP 3-PHASE DUAL-FILTRATION HEPA CYCLONE DUST COLLECTOR

- Motor: 10 HP, 220V/440V\*, 3-phase, 30A/15A, TEFC Class "F"
- Intake hole size: 12"
- Filter surface area: 398 sq. ft
- Impeller: 181/2" steel radial fin
- Air suction capacity: 4029 CFM @4.3" SF Maximum static pressure
- (inches of water): 16.8"
- Sound level: 82-85 dB
- Filters: primary at 99.9% efficiency captures 0.2-2 micron dust particles, secondary HEPA at 99.97% efficiency captures 0.3 micron dust particles
- Collection drums: Steel, 55 gallon x 2
- Stand: 13-gauge steel Cyclone body: 16-gauge steel
- Blower housing: 11-gauge steel
- Overall dimensions:
- 961/4" W x 521/2" D x 1391/2" H Approx. shipping weight: 1240 lbs.











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Concept 350 puts new spin on panel saw

By Jennifer Hicks

SCO Industrial Machinery, a manufacturer of industrial machinery and panel processing equipment, offers a new panel cutting saw called the Concept 350. Designed as an





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alternative to a traditional sliding table saw or vertical panel saw, the machine has the advantages of being more accurate, easier to operate, safer and more productive, according to the company.

Product manager Dan Pasqualucci says the Concept 350 is ideal for small- to mid-sized shops manufacturing cabinetry, casework or closet components and shops making mostly straight cuts.

"It does whatever a sliding table saw will do, but the difference is you're not sliding the material through the blade. The material is still and the blade is what moves. So, in use, it takes up half the floor space as a sliding table saw," Pasqualucci says.

The saw has a 12-hp motor to cut through material up to 80mm in height. With a standard sheet of melamine or plywood being 18mm, it has the capacity and power cut through four sheets at once, according to the company.

As the name Concept 350 suggests, the saw uses a standard 350mm diameter blade, which is slightly less than 14". The blade's tilt is electronically controlled for a range of 0-46 degrees. The main blade is completely enclosed during the entire cutting cycle, while a single scoring blade produces chip free cuts, the company said.

The saw's control panel is on a mobile pedestal and has sufficient memory to store about 100 cutting programs. Other features include a telescopic fence that has two mechanical stops and two dust collector ports. More than a dozen optional features can be added, such as miter gauges and lasers.

The machine is available in three length of cut versions (2600, 3200 and 3,800 mm), priced at \$31,850 to \$34,900. The saws are manufactured in Italy.

For information, visit www.dscomachinery.com.



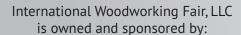


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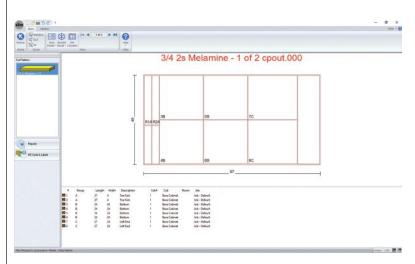


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### **TOOLS** & TECHNIQUES



# Cabinet Vision offers three versions of new cut-list software

By Jennifer Hicks

abinet Vision, a design-for-manufacturing system produced by Vero Software, recently launched its new Screen-to-Machine (S2M) Optimizer. The software product is offered in three versions to increase material yield by way of manual layout or through automated machining.

Product manager Chip Martin describes the product as a jigsaw puzzle solver that converts cut-list parts of all sizes and gets the most it possibly can out of a fixed sheet of material.

"This is meant for any size woodworking shop, but it is probably going to be more beneficial for those who already have some way of calculating a cut list, such as an Excel spreadsheet," Martin says. "What this product does is it allows them to still take advantage of technology to reduce their waste and possibly reduce their labor at the saw."

The software is available in Standard, Advanced and Ultimate versions.

Standard is the base version and includes all the functionality necessary to communicate basic engineering data directly from CAD software to CNC machinery. It will also produce full-sized part patterns for manual cutting.

"This is especially good for smaller shops that are doing their cut list and they just want to get more parts out of their material," Martin says.

The Advanced or middle version offers multiple machine selection, a parts library, nesting tools and the ability to import/export machine code files. The Ultimate version is for shops with high-end CNC capabilities.

For pricing and information, call 800-280-6932 or visit www.cabinetvision.com.







# Festool debuts three brushless motor sanders

**By Jennifer Hicks** 

estool USA added three new handheld sanders to its North American product offerings. The 5" and 6" random orbital sanders feature the company's EC-TEC brushless motor technology, which enables them to be smaller, lighter and more compact than sanders with carbon brushes. Prototypes of the sanders were introduced at the AWFS fair in July.

The three new models include the ETS-EC 125/3, which has a 5" (125mm) pad size; and the ETS-EC 150/3 and 150/5 versions with a 6" (150mm) pad size. All three have a 400-watt motor, variable speed range of 6,000 to 10,000 rpm and weigh about 2-1/2 lbs.

Product manager Rick Bush says the sanders can be used in a variety of applications. For example, the 150/3 and its 3mm sanding stroke excels at ultra-fine sanding. The 150/5, with a 5mm sanding stroke, is ideal for light sanding and intermediate clear-coat sanding.

Bush also notes that because of the sanders' low profile design, users are not limited to working with flat horizontal stock. The ergonomic features allow for comfortable sanding for vertical and overhead work as well.

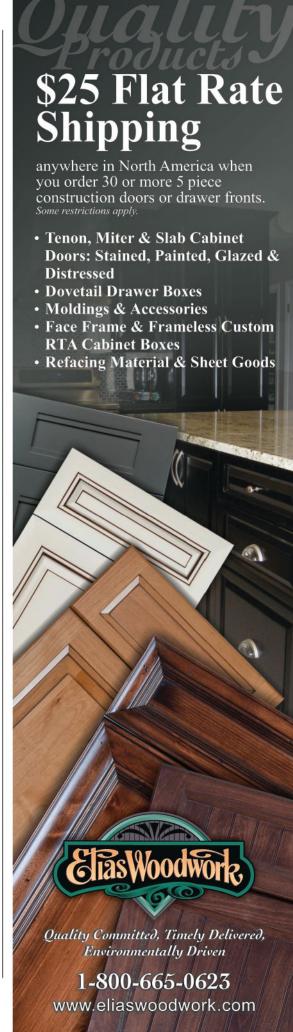
"These sanders are compact and lightweight and you can run them all day, every day," Bush says. "You won't have the downtime for changing brushes and they'll have a much longer service life than an average sander."

The motors are electronically controlled, which saves energy and reduces vibration, according to Bush.

The sanders also feature a dust extraction detection system. When activated by the user, the tool will only start when a suction hose and dust extractor are connected.

The sanders sell for \$385 to \$485. W

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# VFDs pump up compressor market

By John English

ave you heard about variable frequency drives (VFDs)? They're the electric wizardry that controls a variable speed air compressor's rotary pump. Well, technically, they control the AC motor's speed and torque and they do that by varying the motor's input frequency and voltage. That, in turn, controls the air pump. OK, back to VFDs.

Most woodshop compressors today run at one fixed speed. When the air in the tank is depleted, the motor runs until the pump refills the reservoir. A variable speed compressor's VFD slows down or speeds up, depending on the load. If you only need a pin nailer for a few minutes, that's not the same energy demand as running half a dozen guns or staplers and a spray booth all day. So, why pay for all that excess compressed air that just sits in the tank?

We're definitely going to hear a lot more about VFDs during the next few decades and much of that is due to how wasteful it is to burn coal. No, seriously. Your pneumatic stapler and spray guns probably run on coal ...

### **GENERATING POWER**

Here's a stunning thought: roughly 10 percent of all the electricity used in the United States is used to power one form or another kind of air compressor. They're everywhere, from refrigerators to window AC units to woodshops. Given that almost unimaginable volume, replacing an industry's existing piston machines with VFD-based systems could have a huge impact on America's carbon footprint. That's because two-thirds of our electricity is still generated by fossil fuels (39 percent coal and 27 percent natural gas).

If VFDs can reduce power requirements for compressors in the industry by a significant percentage (estimates are at around 35 percent), there will be a domino effect in the next few decades that will not only save businesses money, but will also help clean the air. Several leading manufacturers are already offering lines of variable-speed compressors. And, as this new technology develops, it will most probably evolve in several directions. There might be hybrid systems as there are in the auto industry, where combinations of existing and new technologies are allowing a tradition industry to transition at a reasonable pace.

#### **COST SAVINGS NOW**

So how does this affect your woodshop?

Quincy Compressor manufactures a line of QGV variable-speed compressors that use an integrated variable speed drive to deliver "35 percent energy savings over conventional rotary screw compressors," according to the company. That qualifies for energy efficiency rebates in some states and municipalities. When a shop doesn't need the entire capacity of the compressor, the unit decreases the airflow output, saving about one-third of the energy.

Kaeser Compressors is one of the world's largest providers of compressed air systems and its SFC variable-speed product line is a significant part of that. The soft start in these units allows them to "go from zero to full load without current spikes or excess heat rise. This allows unlimited motor starts," the company says. The SFC line is exceptionally efficient because it uses larger air ends with optimized profiles, turning at slower speeds. (An air end is a chamber in which air is compressed.) That means the compressors provide more air per kilowatt and are able to deliver optimum performance over their entire speed range.

There are many other reputable manufacturers of variable-speed compressors including Sullair, CompAir, Almig, Powerex, Gardner Denver, Chicago Pneumatic and Ingersoll Rand. The latter's Nirvana line matches a standard variable-speed inverter with a Hybrid Permanent Magnet (HPM) motor and this results in a true variable-speed drive compressor that is available in both single- and two-stage options. According to the company, Nirvana compressors have "fewer rotating parts than any other air compressor in [their] class." The line also has the ability to grow with your business. With a simple firmware upgrade, the Nirvana 7.5-40 hp can grow without having to upgrade to a new compressor. That is, it allows a shop to upgrade just the drive to the next largest horsepower.

That HPM motor is interesting, too. It has no bearings, pulleys, belts, couplings or motor shaft seals that would wear out, leak or need replacing. That makes it amazingly low-maintenance. If something does go wrong, the stator (the stationary part of the motor) can quickly and easily be replaced by authorized technicians. Exchanging the stator is usually less expensive than a motor rewind.

Beyond the motor, all of these manufacturers use rotary screw technology to compress air. This is a system based on two meshing helical screws (called rotors) that work in sync to force air through the compressor. This technology was first patented back in the 1800s and really came into its own around World War II. One advantage to rotary screws is the small amount of vibration or, well, violence involved. They synchronize inside a housing, rather than pump up and down in a cylinder. They also reduce power surges because there are fewer motor starts and they deliver much more constant pressure.

Rotors are typically used where the demand for compressed air is larger than that produced by reciprocating compressors (our industry's smallshop standard), but less than the volume delivered by industrial sized centrifugal units. They are available in both oiled and oil-free configurations.

#### THE DOWNSIDE

Variable-speed compressors offer significant savings when demand is varied. But most analysts seem to have concluded that a variable-speed drive compressor that is operating continuously at full speed will actually be less efficient than an otherwise identically sized fixed-speed compressor. When researching your options before purchasing, ask about this. If your shop has projects where the compressor will be running all-out for long periods of time, variable-speed rotary compression might not be the way to go.

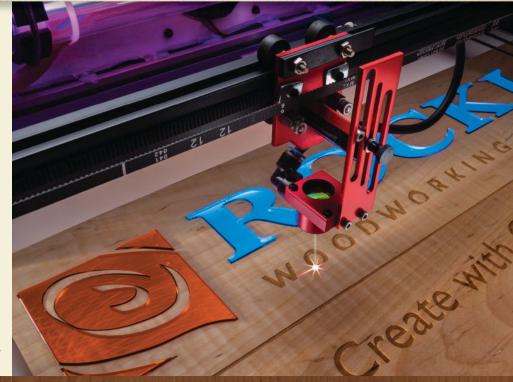
Variable-speed compressors are often high-end in both terms of performance and initial cost. Unfortunately, that means that small shops are often excluded from upgrading, but mid-sized operations can graze an extensive buffet of options. For example, Quincy's QGV series come in models from 20- to 200 hp, and Kaeser's SFC models range from 10- to 700 hp. However, there are some small shop options, such as a 5- to 25-hp line from Sullair called ShopTek.

In addition to the cost of the compressor, variable-speed drives can be quite sensitive to dust, heat and humidity, and installing them in a way that keeps them remote from these factors in a woodshop can be costly and unwieldy.

The bottom line here is this: small shops might still be best served right now by inexpensive-to-buy, but more-expensive-to run compressors with reciprocating pumps. Larger shops with varying compressed air demands might want to take a look at upgrading to a variable-speed compressor — not always to replace existing equipment but often to complement it. Some tasks that require peak delivery over long periods could be better kept as they are on a fixed-speed compressor, while other tasks with intermittent needs might be better served by adding a rotary-drive variable-speed compressor as a dedicated solution.

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## Age should just be a number for woodworkers

This preoccupation with a set date for retirement is not good for your personal health and drive

t's unfortunate that society places such a huge emphasis on youth. Much like in the movie "Logan's Run" (1976), where the government decided that its citizens could not live beyond the age of 30, the youth obsession dominates advertising, pop culture and even shapes our opinion on when people should retire. Rather than retiring when our career is complete, we are brainwashed into thinking that it should occur at a predetermined age or, worse yet, when we have enough money to sustain ourselves without

working. People live longer and healthier when they have a purpose. When that purpose is taken away, the will to live dies with it.

A human resource study conducted by the Shell Oil Co. discovered people who retire at age 55 are 89 percent more likely to die in the 10 years after retirement than those who retire at 65. Getting old does not create a negative energy, but a bad attitude about the aging process does.

Younger people typically have more to live for and not just because they have more years ahead of themselves. It's because they still have to prove themselves both on the job and for their own self-worth. For the older craftsperson dealing with the "societal norms" about aging, they often wind down when they are really entering their peak. This is the time to soar.

Even if you are firmly established in a career and are not ready to retire, this negative aging indoctrination can act like a cancer, dulling your drive through a resting-on-your-laurels mindset of achievement. That's the equivalent of laying down your sword in the middle of a battle. Life is a battle, regardless of whether you're retired or working. Therefore, if you take off your armor when you quit a routine of working, you're vulnerable to attack both physically and mentally.

#### **LIKE FINE WINE**

If we take a look at the reasons wine can get better as Father Time passes, we'll better understand the fine art of the aging process. Young wines might smell like ripe berries, but their taste is often tart and bitter (such as a greenhorn in a new profession). On the flip side, aged wines will smell more earthy, but leave your palette feeling fuzzy and warm. Why is this? A dumbed-down layman's explanation tells us there is a chemical process that takes time to develop. You could liken it to eating a green banana; not only has the flavor not been fully developed, it leaves a dry chalky taste in your mouth.

The art of craftsmanship develops in much the same way. Straight out of an apprenticeship or schooling, a novice craftsman might have the title, but has not yet earned his or her place in the pecking order. Although some are born with a special gift to create, experience (time) is still one of the most important aspects to a craftsperson or artist's development. It simply takes time to figure out the relationship both with the material that is plied in your trade and how your hands process that material.

### THE BENEFITS OF AGING

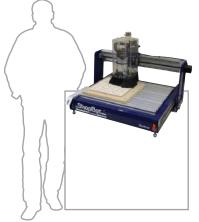
No one seems to like the process of aging. But, again, I think that attitude has been developed merely from the pressures of societal pedagogy. Aging is actually a very good thing because it's natural. We are slowly learning the importance of using natural products over their artificial counterparts, so why does society fight the human aging process? Is plastic surgery for the sake of youthful appearance natural? Of course not.

Why is there such an obsession with youth? Look at it from a logical standpoint: it is typically the young that go to school, not the old. This is because young people do not yet have the experience needed to perform tasks for society. That's not to say that simply being older is being wiser. That is only proven true when

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an elder person implements the vast experience they've gained along life's journey. Society has fallen away from the natural order of things; we accentuate the fixation with youthful appearance (that has the "tart and bitter" taste) and yet neglect our older people (by degrading their purpose) who are the ones that hold the ability to create a "warm and fuzzy" taste to the palette of life.

### **BETTER WITH AGE**

Being an older craftsman or artist is a blessing. Even though the work is hard, often underappreciated and underpaid, it has a long shelf life.

Consider the career of an athlete. They typically reach a career prime in their mid-20s. These young professionals can make generational money, yet they still need to find a purpose for three-quarters of their life after their career has ended. Even though that might sound appealing, statistics show that many of these young millionaires either lose their hard-earned cash or travel down a road to depravity. Much like many lottery winners, Las Vegas would set the betting line against their success after having received such a large payoff in such a short time.

Even the more common corporate professions push employees into early retirement to bring up the next generation of lower-paid professionals. On the flip side, highly skilled occupations, especially those that require actual hands-on experience, get better with age. In fact, the trust factor of an older craftsman or artist is generally much greater than that of a younger contemporary.

Working with a specific material such as wood, glass or metal can take a lifetime to understand. Although the basics are taught in school and passed down to the apprentice, the tactile nature of craftwork requires years of working with the material before you really understand how it wants to be manipulated. This is why age rules in the trade environment. As long as the aged craftsman doesn't get complacent, his position on

the food chain will continually reside at the top.

Aging is a natural process. On the outside we shrink, get wrinkles and slow down. On the inside, however, our brain continues to collect information. In fact, the mere quantity of years in the trade should trump the less experienced hand.

There is a caveat to this, however. The obvious is health. Some things we have control over and some we don't. Second is application. As you get older, are you continuing to grow as a craftsperson or are you content with the knowledge you have?

In order to grow you must constantly be feeding new information and challenges into your experience. If you've done all the right things, use your age to your advantage. Here are a few suggestions:

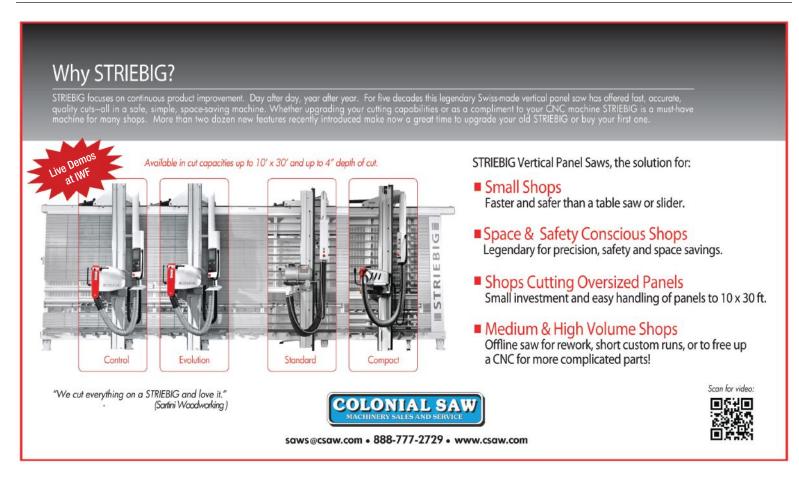
Become the expert: This wisdom should be used to help your clients. Not only do you have more understanding about their needs, but also more skill to achieve the goal.

Become a mentor: Share the wisdom with your younger peers. They represent the next generation.

Become a better businessperson: Age should teach you how to better manage people.

There's nothing wrong with never retiring. If you have the physical ability, the drive and, most importantly the desire, by all means pursue your goals. Colonel Sanders franchised Kentucky Fried Chicken when he was 65 years old, an age when most Americans are considering retirement. In fact, studies in Blue Zones (concentrated areas of the world where people live over 100) reveal part of the secret to longevity is staying active and having a purpose.

Your life encompasses every day that you take a breath, not just the ones from the moment of your first job to the day you retire. As craftspeople, you need to be like Logan in the movie, defy how society tells you to live and work. Live life fully your way.



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# Cut through the myths involved in French polishing

rench polishing is a method of applying shellac to a surface to create an almost perfect high-gloss finish film that has great depth. Though it takes practice to master, the procedure is easy to describe.

Wrap a folded cotton or wool cloth about the size of a golf ball or larger inside a thin, tightly woven, non-stretchable cotton or linen cloth (I like using well-worn handkerchiefs). Twist the edges of the outer cloth tight to take out wrinkles and pour some one-to-two-pound-cut shellac onto the bottom of the pad. Tap it hard against your other hand to disperse the shellac and rub the cloth in straight, circle or figure-eight strokes over the wood surface to slowly build an evenly thin film.

When you tap the pad, it should feel damp, not soaking wet.

At an early stage, sand with very fine sandpaper (for example, 600-grit) to remove roughness and other flaws, then continue building the film. At any time flaws such as rag tracks or dust appear, sand them out with very fine sandpaper.

There are three tricks for getting good results.

The first is to apply a couple of finger dabs of mineral oil to the bottom of the pad every time you add more shellac. Then disperse again. (I dab from the cap of the mineral-oil container.) You could also use another oil, but if it's a drying oil, you have to be sure to remove every bit of it at the end or you'll end up with a sticky surface.

As the alcohol in the shellac evaporates through the oil, it leaves a vapor trail across the surface, which tells you if you have the right amount of



Tap the pad against your hand to disperse the shellac.



Read the vapor trail for the right mix.

shellac and alcohol in the pad. If the pad is too wet, the vapor trail will be so long you can't see its end. If the pad is too dry, there won't be a vapor trail, just a smear of oil on the surface.

As you rub, the vapor trail will shorten to just a few inches. This tells you it's time to replenish the pad.

The second trick is to wipe the oil off the surface now and then with naphtha to see where you are. The oil disguises flaws, making you think you're closer to being finished than you actually are. For this reason, many experienced French polishers don't use oil at all, but they lose the lubrication and the visual clues provided by the vapor trail.

Naphtha is better than mineral spirits because it evaporates within seconds. Neither damages the shellac.

The third trick is to reduce the amount of shellac and increase the amount of alcohol as you near the end of the job — that is, as the film starts looking good with the oil removed. The easy way to do this is to dispense from two squeeze bottles: one with two-pound-cut shellac and the other with alcohol.

For all the building phase, pour some shellac followed by a little alcohol onto the pad and disperse. As you near the end, slowly reduce the shellac you're adding to nothing, finally adding just alcohol.

The purpose of increasingly thinning the shellac is to eliminate rag tracks. Just as brushes leave brush marks when the finish is thick, cloths leave rag tracks.

#### ADDING SHELLAC AND ALCOHOL

It's common to see instructions to open up the outer cloth and apply the shellac and alcohol to the inner cloth whenever you need to replenish it. It's claimed that the outer cloth regulates the seepage.

This is silly. Once both cloths are wet with shellac, the outer cloth doesn't know it is separate from the inner cloth. Removing the outer cloth every time you need to replenish the pad gets really messy and there's no need to do this as long as your outer cloth isn't so thick that the poured shellac can't penetrate.

#### PRESSING HARD

Another common instruction is to press very hard, like you're pressing all the way to China, as George Frank, a prominent writer in Fine Woodworking in the 1970s and '80s, used to say. This is not necessary.

Shellac is an evaporative finish. It settles flat as the alcohol evaporates. Pressing might add a little heat, but the alcohol evaporates very rapidly without the added heat and pressing hard is a sure way to damage an antique.

#### **FILLING PORES**

Another instruction from George Frank is to use pumice to fill pores in porous woods. Sprinkle some pumice on the surface and rub with a pad that is mostly, or all, alcohol. Slowly, the pores will be filled with the pumice.

It's important to keep in mind that, traditionally, French polishing was most commonly done on mahogany and the Cuban mahogany that existed in the 19th century was much denser than the mahogany we have today. That is, the pores are much smaller.

So unless you are French-polishing an antique, trying to fill with pumice is a laborious task. It's much faster to do the filling by spraying or brushing several coats of shellac and sanding them back.

#### **FINISHING UP**

When you believe you are finished, you need to remove all or most of the oil on the surface. There are two ways to do this.

The traditional way is with alcohol. This is called "spiriting off." Either continue adding just alcohol to the pad or make a new pad and add just alcohol. Slowly, you'll remove the oil.

The problem is that if you get too much alcohol in the pad, you will damage the surface. You'll have to sand out the damage and continue with shellac and alcohol to repair the damage. But if you can master the spiriting-off step, you'll end up with a very rich, deep and flawless finish.

The other way to finish up is to wipe with naphtha, using just a cloth, not a pad. This will remove all the oil quickly. But this procedure doesn't leave as nice of a surface as does spiriting off. To improve the look, apply paste wax or a silicone furniture polish.

If you fail to get good results with either method, you can always rub out the finish with fine sandpaper and rubbing compounds. But you can do this, of course, without French polishing. You can simply rub out brushed or sprayed shellac.

Many professionals, in fact, do apply several coats of shellac with a brush or spray gun, sand the surface level, then finish up by French polishing. This is much faster than getting all the build from a pad.

Bob Flexner is author of "Understanding Wood Finishing" and "Wood Finishing 101." W

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### THE CUTTING EDGE

with R.W. LEE

# Thermwood's Cut Center shortens the learning curve

o successfully operate a CNC router, shops usually need at least one fully trained operator who is an expert on the necessary software. This includes the design and manufacturing programs (CAD/CAM), as well as for the CNC router's controller.

The learning curve has been made easier through the years with better training resources and streamlined products, but it's still a time-consuming task. Thermwood offers a new approach with its Cut Ready Cut Center, which integrates the CAD, CAM and controller software. Rather than learning a bunch of code and commands, the operator simply an-

swers a few questions on the machine's touchscreen control. The machine comes preloaded with cutting instructions to make more than 10,000 different cabinet combinations, plus doors, drawers, furniture and more.

#### **LOAD AND GO**

Thermwood took the ideas and techniques behind its eCabinets and Smart Router systems, integrated the design and machine control software, and made the user interface visual to create the Cut Center concept.

To make cabinet parts with the Cut Center, the operator answers a series of questions via the touchscreen monitor and inputs the dimensions. The machine takes over, automatically generating the tool paths and optimizing the parts layout, all based on the cabinet style selected from the machine's extensive digital library. All that's left for the operator to do is load the material and press start. If the design calls for two-sided cutting, the machine will flip the sheet after the first cut, saving time and the operator's back.

The operator can also specify frame and drawer preferences and the types of slides and hardware to be used.

What is most interesting about this digital library is that it will allow for almost any style of cabinet construction and it places unique assembly marks on each piece to minimize mistakes. The Cut Center can also print parts labels and produce an exploded-view drawing showing how everything fits together.

The Cut Center software will easily produce countertops and tabletops in rough or finished dimensions. It's particularly useful for making those dreaded cutouts for kitchen and bathrooms sinks.

The machine can also be used to cut straight or curved lines in long pieces of solid lumber, such as for a valance or to surround a vent over a stove. There are built-in programs to design and cut MDF doors and to manufacture straight- and curved molding from any material.







Thermwood's Cut Center is not a CNC router, but it sure looks like one.

### **NEWER CAPABILITIES**

to 1/4" grooves in thin plywood and man-

three-piece sets.

made materials. Available in two-piece and

For a shop that already has a CNC router and might be thinking about upgrading, but wants to continue using its CAD/CAM programs, the Cut Center offers a "CNC Access" capability. In other words, it can be operated as a CNC router, executing programs generated by just about any software.

The user can also "teach" the Cut Center to make custom products using Thermwood's eCabinet software. Once the programming is done, it can be installed in the machine and run in a typical fashion.

Thermwood recently added a mobile app for the Cut Center, allowing the user to select and create jobs using a smartphone or PC. The jobs are stored on "the cloud" where they can be accessed by the Cut Center, processed and cut.

The company says it developed the Cut Center with the idea that an average person could walk up to and run it with no prior knowledge, no training and no manual. It's certainly a novel concept and removes a significant annual operating expense associated with a CNC router.



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- Table tilt: (G0555) 15° L, 45° R; (G0555LX) 10° L, 45° R
- Cutting capacity/throat: 131/2"
- Max. cutting height: 6"
- Blade speeds: (G0555) 1500 & 3200 FPM; (G0555LX) 1800 & 3100 FPM
- · Approximate shipping weight: (G0555) 198 lbs; (G0555LX) 246 lbs.



G0555LX

G0555

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G0555LX

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- Motor: 2 HP, 110V/220V, single-phase, TEFC, prewired 220V, 1725 RPM
- Amps: 20A at 110V, 10A at 220V
- Precision-ground cast iron table size: 17" x 17" x 1½" thick
- Table tilt: 10° left, 45° right
- Floor-to-table height: 37½"
- Cutting capacity/throat: 161/4"
- Blade size: 131½" long

· Approximate shipping weight: 342 lbs

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- Floor-to-table height: 371/2"
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- Max. cutting height: 12"
- Blade size: 143" long
- Blade widths available: 1/8"-11/4"
- 2 Blade speeds: 1700, 3500 FPM
- Overall size: 36" W x 76" H x 32" D
- · Approximate shipping weight: (G0514X) 460 lbs; (G0514X2B) 512 lbs.

G0514X \$149500 SALE \$142500

G0514X2B with Motor Brake \$172500 SALE \$165000

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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: 401/2" W x 27" D
- Table height: 35%"
- Footprint: 21" L x 191/2" W
- Arbor: 5/8" Arbor speed: 3450 RPM
- Capacity: 31/4" @ 90°, 21/4" @ 45°
- Rip capacity: 30" right, 15" left
- Overall size: 571/4" W x 353/8" H x 371/2" D
- Approximate shipping weight: 348 lbs.

G0771 \$79500 SALE \$67500



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TIPPED BLADE

### 10" LEFT-TILTING TABLE SAW with RIVING KNIFE & CAST-IRON ROUTER TABLE

- · Motor: 3 HP, 240V, single-phase, 14A
- · Precision-ground and heat treated solid cast iron table
- Assembled table size: 48" W x 27" D
- Arhor: 5/8"
- · Cutting capacity: 8" left, 26" right of blade
- Maximum depth of cut @ 90°: 3"
- Maximum depth of cut @ 45°: 21/8"
- Footprint: 201/2" x 201/2"
- · Approximate shipping weight: 550 lbs.



G1023RLW \$137500 SALE \$132500

### 10" CABINET TABLE SAWS Motor: 3 HP, 220V, single-phase, 12.8A

Precision-ground cast iron table with extension

(G0690) 27" x 40"; (G0691) 27" x 743/4"

- Table height: 34"
- Arbor: 5%
- Arbor speed: 4300 RPM
- Max. dado width: 13/16
- Capacity: 31/8" @ 90°, 23/16" @ 45°
- Max. rip capacity: 12" L, 291/2" R (G0690); 12" L. 50" R (G0691)
- Approximate shipping weight: (G0690) 530 lbs; (G0691) 557 lbs

G0690 1495 SALE \$142500

G0691 with Extension Rails & Table 1595 SALE \$152500



### 14" SLIDING TABLE SAW

- Main motor: 10 HP, 220V/440V\*, 3-phase, 25A/12.5A
- 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: 4¾"
- Scoring blade arbor: 22mm Scoring blade speed: 8000 RPM
- Scoring blade tilt: 0-45°
- Depth of cut: 4" @ 90°, 23/4" @ 45° Max. rip capacity: 521/2"
- Max. sheet capacity: 126" x 126" Approximate shipping weight: 2932 lbs.

G0772 \$10,950 SALE \$10,45000



### AUTOMATIC EDGEBANDER

- Required power supply: 30A, 220V, single-phase, 60 Hz
- Feed motor: ¾ HP Glue and edge motor: ¼ HP
- End trim motor: 1/4 HP
- Flush trim motor: 3/4 HP
- Buffing motor: 1/4 HP
- Heating element: 1455W
- Table size: 101/2" W x 783/4" L Min. panel dimensions: 4¾" W x 9½" L
- Compressed air required: 86 PSI
- Glue pot capacity: 34 oz
- Roller width: 25/16" Roller diameter: 13/16 Edgebanding coil capacity: 311/2"
- Approximate shipping weight: 875 lbs.

G0774 \$999500 SALE \$950000



\*To maintain machine warranty, 440V operation requires additional conversion time and a 3250 fee. Please contact technical service for complete information before ordering.



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### 8" JOINTERS with BUILT-IN MOBILE BASE

- Motor: 3 HP, 240V, single-phase, TEFC, 3450 RPM, 15A
  Total table size: 8" x 76%" Infeed table size: 8" x 43%"
- Cutterhead knives (G0490): 4 HSS, 8" x 3/4" x 1/8"; (G0490X): Spiral cutterhead with 40 indexable cutters . Cutterhead speed: 4800 RPM
- Cutterhead diameter (G0490): 3<sup>3</sup>/<sub>16</sub>"; (G0490X): 3<sup>3</sup>/<sub>8</sub>"
- Max. depth of cut: 1/8" Max. rabbeting depth: 1/2
- Cuts per minute: 21,400
- Deluxe cast iron fence: 36" L x 11/4" W x 5" H
- · Approximate shipping weight: 564 lbs.

G0490 \$99500 SALE \$95000

with Spiral Cutterhead

G0490X \$132500 SALE \$125000



### 12" JOINTER/PLANER with SPIRAL CUTTERHEAD

- Motor: 5 HP, 220V, single-phase, 25A
- Jointer table size: 14" x 591/2"
- Cutterhead dia.: 31/8"
- Cutterhead speed: 5034 RPM
- Max. jointer depth of cut: 1/8"
- Max. width of cut: 12" Planer feed rate: 22 FPM
- Max. planer depth of cut: 1/8"
- Max. planer cutting height: 8"
- Planer table size: 121/4" x 231/81
- Approximate shipping weight: 704 lbs.

G0634XP \$239500 SALE \$229500

150

### 15" PLANERS

- Motor: 3 HP, 240V, single-phase, 15A
- Precision-ground cast iron table size: 15" x 20"
- Min. stock thickness: 3/16"
- . Min. stock length: 8"
- Max. cutting depth: 1/8
- Feed rate: 16 & 30 FPM
- Cutterhead speed: 4800 RPM
- Approximate shipping weight: 675 lbs.

G0453 \$115000 SALE \$109500

G0453Z \$1850 SALE \$17550 SERIES

2 YEAR

WARRANTY!

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with Spiral Cutterhead

G0453PX \$17950 SALE \$169500

CAST IRON BED AND

**INFEED & OUTFEED** 







#### **20" PLANERS**

- Motor: 5 HP, 240V, single-phase, 19A
- Max. cutting width: 20" . Min. stock length: 8"
- Max. cutting depth: 1/8" Feed rate: 16 FPM & 20 FPM
- Cutterhead diameter: 31/8" Number of carbide inserts: 98 (G0454Z) • Number of knives: 4 HSS (G0454)
- Knife size: 20" x 1" x 1/4" (G0454)
- Cutterhead speed: 4800 RPM
- Table size: 20" x 253/4" Table size with ext.: 20" x 551/5'
- Overall dimensions: 555%" L x 39" W x 457%" H
- Approximate shipping weight: 932 lbs.

G0454 \$175000 SALE \$165000

with Spiral Cutterhead

G0454Z \$257500 SALE \$249500



**CAST IRON BED & INFEED** AND OUTFEED TABLES



### 2 HP SHAPER

- Motor: 2 HP, 120V/240V, single-phase, prewired 240V, 18A/9A
- Table size: 24" x 21"
- Spindle travel: 3
- Spindle sizes: 1/2" and 3/4" (included)
- Spindle speeds: 7000 and 10,000 RPM
- Miter gauge slot: T-slotted
- Stand: cabinet style, powder-coated finish
- Cord length: 10' x 14 Gauge
- Maximum cutter diameter: 5"
- · Approximate shipping weight: 290 lbs.



W1674 \$102500 SALE \$96400

### PROFESSIONAL SPINDLE SHAPERS Motor size: 5 HP, 220V, single-phase, 25A

- or 71/2 HP, 220V/440V\*, 3-phase, 20A/10A
- Table size: 351/2" x 28"
- Spindle travel: 31/4"
- Spindle sizes: 3/4", 1", and 11/4"
- Spindle speeds: 3600, 5100, 8000, and 10,000 RPM
- Max. cutter diameter: 51/8"
- Approximate shipping weight: 613 lbs.



SERIES.

(SP

5 HP, Single-Phase

G5912Z \$262500 SALE \$249500

71/2 HP, 3-Phase

G7214Z \$269500 SALE \$255000



### 20" HEAVY-DUTY DISC SANDER

- Motor: 2 HP, 220V, single-phase, 9.5A
- Disc size: 20" Table size: 251/16" W x 12" D
- Table tilt: 45°R
- · Floor-to-table height: 36" Footprint: 261/2" x 19"
- Overall size: 25" W x 51½" H x 28½" D
- · Approximate shipping weight: 434 lbs.

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### 24" WIDE-BELT SANDER

- Sanding belt motor: 10 HP, 230V, 3-phase
- Feed motor: 1 HP
- Table elevation motor: 1/4 HP
- Sanding belt: 25" x 60"
- Drum speed: 2565 FPM
- Conveyor speed: Variable, 15-49 FPM
- Maximum board dimensions: 24" W x 6" H
- Minimum board dimensions: 14" L x 1/8" H Approximate shipping weight: 1573 lbs.

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ou can almost hear the pitchman say, "Want a quality cabinet? Go to Quality Cabinet in Jenks, Oklahoma."

And if you make the trip to Jenks, south of Tulsa, you'll meet owner Dave Grounds, who joined his dad's business in 1995. The shop has been producing — you guessed it — quality cabinets for nearly 50 years. Grounds is about as grounded as they come, taking the daily challenges of running a small woodworking shop in stride, always with an eye on the big picture.

"Daily challenges aren't problems, they're just part of life," Grounds says. "If I have a challenging day, I try to remember other people have real problems."

#### LIKE FATHER, LIKE SON

When Chuck Grounds started the business, he quickly developed a reputation for integrity within the homebuilding community and built a strong local customer base. Naturally, this left a strong impression on his son.

"[My dad] grew the business basically by word of mouth and reputation, which is really the best advertising that money can't buy," says Grounds, who came to the business with a bachelor's degree in business management and computers from Oklahoma State University in Stillwater and an MBA from the University of Tulsa.

"After receiving my undergraduate degree, I worked in information technology for eight years. I always knew I wanted to be self-employed at some point, but just didn't know what capacity that would be in, which was my reason for getting the MBA.

"So 20 years ago, I had the opportunity to join my dad's business here and I jumped at it. At that time, all of the cabinet drawings and cabinet part cut lists were done by hand. My technology background prompted me to automate the process and create a company website about eight years ago."

The shop's clientele is mostly local homebuilders, contractors and homeowners. It serves the Tulsa metropolitan area that has a population of nearly 1 million people.

"We offer custom cabinet design and manufacturing. We build unfinished cabinets and deliver them to the job site," says Grounds, noting that it's fairly typical in his part of the country for independent painting contractors to finish the job on site after trim has been installed.

The job mix is about 95 percent residential and varies between new construction and remodeling work. Grounds proudly says that four out of five customers are repeats.

"Work trends change from month to month around here," he says. "If you asked me 10 years ago, I'd had said about three-quarters wanted work for new-home construction and the rest wanted remodeling work. Since the economic downturn, I think more people are remodeling instead of buying new homes so that has kind of pushed that percentage closer to 50-50."

Cabinets and entertainment centers have always been the big sellers, but the shop also offers furniture, bathroom vanities, wine racks, wet bars and more. The shop has always tried to stay with the times.

"Advances in cabinet hardware over the years have enabled us to expand from building half-inch overlay face frame cabinets to building cabinets with full overlay and inset doors and drawers," Grounds says. "We've had a steadily growing demand for full overlay and inset cabinets from our customers."

The shop offers "good, better and best" cabinet interiors, which translates to using high-density particleboard, MDF or plywood. This lets the customer choose the option that best fits their budget.

#### **FOUR-MAN SHOP**

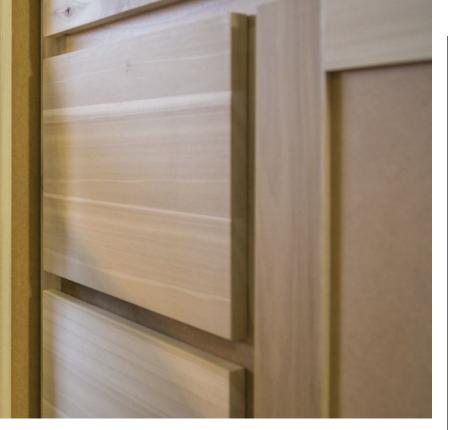
Quality Cabinet is housed in a 10,000-sq-ft. building, which features an elaborate showroom and plenty of parking.

"Since my dad started the business, there were two other previous locations. He built this building in 1981 so we've been here quite awhile," says Grounds, who reports his dad is still alive and working, but stepped out of the cabinetry business shortly after he took over.

Grounds measures, designs and quotes every job. He handles the invoicing, accounts payable and payroll. He also coordinates the cabinet deliveries. But he's more than happy to outsource the tax work.

He currently has four employees, but has had as many as eight in the past. The "new guy" has been employed for eight years. Suffice to say, he's got an experienced crew.

"I'm lucky to have low employee turnover. I've had two employees retire after 25 years of service and my shop foreman has been here for 19 years," Grounds says.



Shop foreman Kevin Lettlefied and owner Dave Grounds review the plans; Kevin Littlkefied installs cabinet hardware.

The showroom really helps customers to decide on a finish. It has sample oak, maple, cherry, hickory, knotty pine and ash doors on display, as well as knotty alder that has been very popular lately, according to Grounds.

"We're doing a lot of knotty alder and stain grade maple, but we're not doing as much of the oak these days. People have kind of gotten rid of the grainy look. We also see a lot of paint-grade cabinets. Some people will do stained cabinets in their kitchen and painted in their utility cabinets and their baths. Other people will do painted cabinets everywhere. In terms of percentage I would say the painted versus stained cabinetry finishing preference around here is close to 50-50, which is more than I've ever seen in the past with the paint."

Despite Grounds' background in computers, the shop doesn't have any CNC machinery because it builds so many custom projects.

#### **SOONER PRIDE**

The Tulsa area is still feeling the effects of the economic crash in 2008 and 2009, but Grounds doesn't think Oklahoma was hit as bad as other states.

"We were affected the same way our customers were affected. As their fortunes go, so go our fortunes. It was a challenge for the homebuilders in particular. Remodelers were not hit as hard, but there were a lot of homebuilders that just got out of business. We just adapted and did whatever cabinet job we could," Grounds says.

"For about five years, we also did a lot of fire and water restoration jobs. It's an avenue that's totally separate from the homebuilding market. There's a challenge in it because you have to match existing work." Grounds attributes any success to the professionalism of his crew.

"You need — and we have — a quality shop foreman who can really make or break your operation," he says. "Our previous shop foreman retired after 25 years and our new one has been here 19 years. He's a talented leader in our shop and definitely a key to our success. He's especially good at building installer-friendly cabinets. He takes steps in the fabrication process that can make installation much easier and quicker for cabinet installers. In turn, this leaves a happy end user who doesn't have to deal with unnecessary delays or hassles.

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Mistake-free work and on-time delivery have distinguished Quality Cabinet for nearly 50 years. Above, a sampling of the shop's recent projects.

"We also use quality hardware rather than using a cheaper knockoff end-product in order to avoid call backs and warranty issues. And we have a reputation of delivering on promises. When we give an estimated production lead time, you can depend on delivery 99 percent of the time."

Grounds is extremely focused on efficiency and the job details. The idea is to get it right the first time, thus saving time and money.

"Everyone makes mistakes but it's how you deal with mistakes that can set you apart," he says. "If we make a mistake, we apologize and make corrections immediately. Customers certainly appreciate a swift response to problems."

#### WHY CHANGE?

Grounds is pleased with the pace of the shop's growth and can't

think of anything he'd do differently. Change for the sake of change can only do more harm than good, he believes.

"Everyone knows we're here. We've got a good location on a busy street and we're very close to a lot of the new home developments," he says.

Grounds is a native of Oklahoma and can't imagine doing business anywhere else.

"The state's leadership is very pro-business and that makes it easy to operate here," he says. "I plan to continue our current strategy and grow when business conditions warrant it. I like to grow to meet demand, rather than grow in hopes of [generating] demand."

Contact: Quality Cabinet Co., 817 N. Elm St., Jenks, OK 74037. Tel: 918-299-2721. www.qualitycabinetsjenks.com



According to the August HUD report, housing starts continue to grow at a very vigorous pace. Privately owned units in August were at a seasonally adjusted annual rate of 1,170,000, up 12.5% from August 2014. With steady interest rates and lower unemployment, everything points to more healthy growth in 2016. Are you ready?

Woodshops need to be efficient to take advantage of a vibrant market. One way to cut costs, increase productivity, enhance quality and maximize your crew's potential is to add a TigerStop or SawGear programmable stop to one or several of your workstations. Either unit will dramatically enhance the performance of miter, band and radial arm saws, drill presses, mortisers and even boring or doweling machines. Plus, SawGear is designed to go out to the jobsite with installers and tackle everything from base to crown moldings.

For small shops that need to upgrade a band saw or drill press, and larger concerns that need one of these machines for a dedicated workstation, General International has added new models in both categories. The drill presses are equipped with easy speed changes (no more playing with pulleys) and digital speed displays. And the band saws come with two cutting speeds, a power lockout and more.

Maybe you can take advantage of the year-end lull to take stock of your equipment, and re-tool to take advantage of the promising 2016 housing market.



## New Drill Presses, Band Saws are User Friendly, Safe and Accurate

Woodshops upgrade tooling for many reasons – among them, to achieve better accuracy, increase ease of operation and enhance employee safety. A new line of drill presses from General International MFG Co. Ltd resoundingly meets all of those goals. The presses include a 12" bench-top model plus a 15", two 17" and one 20" floor models. To change

speeds, the user simply turns on the machine and then moves the speed control lever until the desired RPM appears on a digital speed display. One of the 17" models has electronic inverter variable control,



where a small knob adjusts the spindle speed from 120 to 3200 rpm.

Each drill press comes with an innovative, see-through, flip-up chuck guard that quickly extends to house the chuck, and most bits. All of the models come with a forced line interrupter switch, which requires a machine restart in case of power failure or circuit interruption. And all five models have an adjustable spindle-tension return spring, which makes quick work of repetitive drilling. They are also set up with easy-to-adjust, dual depth stops, and a builtin laser pointer adds accuracy and repeatability. The presses

have a cast-iron head, base, and table, and are equipped with high-quality bearings for smooth, vibration-free operation.

General International has also introduced three new band saws expressly designed for smaller woodshops. The 10" model 90-030 (1/3 HP) and 12" model 90-040 (2/3 HP) come with easy-to-assemble open-base steel stands, and the 14" model 90-120 (1 HP) has a sturdy closed base. All three models have welded steel frames and precision balanced wheels with replaceable tires. And all three come with two cutting speeds, for excellent results in either hard or soft woods. There's also a lockout switch with a removable key, to prevent unauthorized use.

The 90-030 comes with a slide-out extension table, a miter gauge with an auxiliary crosscut fence and a gooseneck work-light. In addition, the 90-040 has easy-to-adjust European style precision blade guide bearings, and a deluxe dual-position rip fence. And the 90-120 comes with an extra-large (21-1/2" x 15-3/4") castiron table, ideal for working on cabinet parts.





Genreal International

Web: general.calhome.html
Phone: 888-949-1161
Email: orderdesk@general.ca

40

General® International USA Inc., 760 Jessica St., Murfreesboro, TN 37130

## It's About Time!

A new calendar year looms, and with it a whole new construction season. Are your woodshop – and your install crew – ready to go? Have you squeezed every last ounce of efficiency from your cutting stations? Time is money, and saving both can be the difference between breaking even, and breaking profit expectations.

Is it about time you looked at automation?

How many times a day do the people on your shop floor have to pull out a tape measure, speed square and pencil? Wouldn't it be fantastic if they could just punch a couple of buttons and make an incredibly accurate, totally repeatable cut every single time?

TigerStop is the worldwide leader in stop gauge and material positioning systems. The company's solutions will add rapid, precise positioning to your parts-making processes, and also to on-site installations. TigerStop products are simple to install, train and use, and they will add value, precision and savings to everything from face frame construction to installing moldings.

TigerStop's flagship product has over 30,000 units in the field. It has been designed from the ground up to be easy and intuitive. With its industrial controller and user-friendly layout, you can train a new employee in minutes and have them producing like a seasoned sawyer the very same day.

Here are some of the immediate impacts of adding any TigerStop solution. It takes the average worker forty-five seconds to set a traditional stop for repeat cuts. With TigerStop, he/she can do it in less than three!

An automated process can boost yields as much as 75%. And a TigerStop product can be added to virtually any model of miter saw, upcut saw, band saw, radial arm saw, drill press, mortiser or boring machine.

You'll immediately get more from every hour punched on the time clock. You can train ANY employee in minutes, and they'll be your top producer by the end of the day. Plus, there will be virtually no mis-

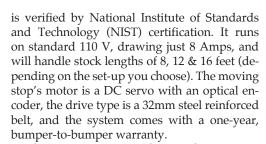
takes: TigerStop is extremely accurate, with repeatability to  $0.004^{\prime\prime}$ 

With Dynamic Optimization™, your crew will keep and use every possible inch of those expensive materials. Plus, job satisfaction skyrockets when an operator has a TigerStop automatic stop gauge and pusher system. People feel good about working well, and efficiently.

When you send out a team to install a job, send a SawGear® system with them. This portable solution from TigerStop will completely revolutionize the way materials are handled on the jobsite – from framing to moldings, filler strips, shelves and more. Forget the old 'measure twice, cut once' rule. Just cut it right the first time! SawGear sets up in minutes, and is rugged enough for any jobsite.

Here's how it works: simply attach the table and fence to the saw, add the support leg and attach the interactive control pad. Then dial in a number and the stop automatically moves to where it should be. If you have multiple lengths to cut, that's no problem. The control pad will store your dimensions and return to where it needs to be right away. And by adding Crown+MiterPro™ software to SawGear you can easily make complex cuts, or quickly train even a novice woodworker to cut perfectly accurate, finish grade crown.

SawGear delivers incredible accuracy to .008" (.20 mm), and that performance standard



When you service and sharpen those cutting tools during the slow time this winter, think about how much faster, more accurate and easier to train this whole part of your business could be with an automated stop system. TigerStop and SawGear can increase speed, yield and quality, and take a significant bite out of your labor costs, and cost of goods sold. Both systems generally pay for themselves in mere months.

It's about time.









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nfortunately, a custom shop has limits. But fortunately, the woodshop industry has a solution in outsourcing. By purchasing cabinet or furniture components already made

and/or finished and working them into the shop's existing offerings, a small business can significantly expand its catalog and also run several jobs at the same time. It's an easy way to grow a business as long as the suppliers are reliable.

If you're new to outsourcing or haven't shopped around for a while, the following overview introduces many of the major suppliers. It also takes a look at some of their latest innovations and offerings and suggests some specialty suppliers that might come in handy sometime when a customer asks for something unusual.

#### **CABINET COMPONENTS**

While many of the larger companies supplying doors and boxes started out as small cabinet shops, some began life as specialists in this field. WalzCraft in La Crosse, Wis., was founded in 1982 to supply cabinetmakers and refacers with quality cabinet components. Outsourcing components was still in its infancy then and the company began with just a few profiles in oak. It didn't take long to outgrow the original shop and today Wal-

zCraft occupies more than 340,000 sq. ft. and employs nearly 300 full-time employees.

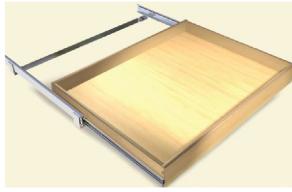
The secret to that kind of success and growth is constant innovation. This year alone, WalzCraft has expanded its muntin pattern options for glass upper doors; added new contemporary style high-pressure laminate doors and drawer fronts; began offering a veneered frame option that has no visible joints; introduced a line of contemporary melamine fronts; added six new colors to its paint palette; began offering its solid-wood dovetailed drawer boxes in both painted and primedonly options; and also expanded its options for French mitered cabinet doors.

Elias Woodwork & Manufacturing was founded just a year after WalzCraft and is located in Winkler, Manitoba. The company ships daily all across the U.S. and offers a flat rate of \$25 when a woodshop orders 30 or more five-piece construction doors or drawer fronts. Shops that require solid finishes can order product in several new colors that were added to Elias's lacquer collection during the summer. The company also notes that raw products have a much shorter lead time than finished products and customers can expect to receive most raw doors, drawers and molding in approximately seven business days, with the possibility of earlier delivery.

Keystone Wood Specialties is located on the old Philadelphia Pike in Lancaster, Pa. Key-



Northern Contours has a new option called Level Impressions, with textured melamine on the face and back and ABS edgebanding.



DBS's new Smart Shelf is a smooth-gliding drawer that mounts directly to cabinet shelves and maximizes access to cabinet contents.



stone has been helping woodshops grow and thrive for 40 years and the staff there has also understood that success is tied to innovation. For example, a shop can now pop any element from the company's door library into KCD Version 10 (the catalog even comes with the software). Among those are Superior Green doors, which are a high quality paint-grade product that features soft maple stiles and rails, as well as MDF panels. They're available with any panel raise and can be ordered unfinished, primed for painting or prefinished in stock or custom colors. Keystone is also pushing the envelope on 3-D printing. The design department should be able to offer customers detailed samples of custom designs soon and is already using this technology in-house to create new component prototypes.

A small custom woodshop can rarely afford to do the kind of research and development involved in new technologies like 3-D printing, but being able to outsource this allows even the smallest shop to stay current.

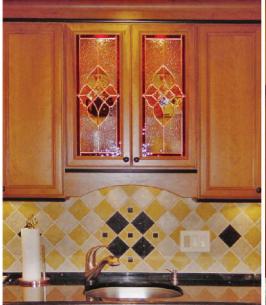
One type of research that component suppliers do can really benefit the ordering process and that's customer surveying. This summer, TaylorCraft Cabinet Door Co. in Taylor, Texas, did just that. The survey asked professional woodshop owners a number of questions designed to improve the process and some of the results were quite informative. For example, the respondents were very clear that when it comes to a custom woodshop's priorities, quality is at the top of the list, followed by service and then lead time, selection and, finally, location.

That lack of priority with location is interesting. Once committed to outsourcing, shop owners don't seem to feel there is a big difference between ordering from Maine, Muncie or Miami. Being able to order online has cut many days from outsourcing and new shop technologies (including CNC) have also dramatically reduced production schedules, so shipping days are not as consequential as they once were.

Shop owners are becoming more aware of the opportunities offered by outsourcing and attitudes are constantly changing. Existing technologies are always evolving, too. For example, Northern Contours, based in Fergus Falls, Minn., is offering a new textured melamine option called Level Impressions. The doors come with textured melamine on the face and back, and ABS edgebanding options that include matching melamine, 3-D aluminum or steel gloss. It's an interesting look and feel.

#### STAYING CURRENT

It's not always the finish on a cabinet that catches a customer's eye. Sometimes dimensions alone can do the trick. Cabinetry that stretches all the way to the ceiling continues to gain popularity with designers and homeown-









Middlefield Glass offers a "design online" option that allows a woodshop to partner in the stained-glass design process.

ers alike. Based on that, Conestoga Wood Specialties in East Earl, Pa., has recently expanded its extended-height options. The company also noticed another trend in design this summer — lift-hinge lateral doors that are installed above built-in appliances. These are short, wide cabinet doors hinged at the top that stay open while the customer browses inside the box. The new options from Conestoga can extend across an entire wide appliance such as a fridge, if necessary.

Another supplier, CabParts, has been building components since 1987 and currently offers a huge product line with more than 1,500 standard boxes, in addition to custom sizing. The company offers thermo-fused melamine panels in a wide range of colors and textures, plus hardwood veneers on a large variety of substrates including MDFs, plywood and various green cores. Located in Grand Junction, Colo., CabParts can supply drawer boxes, rollout shelves, adjustable and fixed shelves, slabtype door and drawer fronts, closet organizer systems and functional hardware.

For small shops that still want to do their

own assembly and finishing, there are processors in most cities that will just mill highly accurate parts on a CNC. Hall's Edge in Stamford, Conn. is a good example. The company specializes in nested-based cabinet-part machining for the professional custom cabinet-maker. It can accept electronic files from eCabinets or any software that creates a 2-D DXF file or take your design and create the files for you.

If you're shopping for a more complete line of components, Eagle Bay might have the answer. The manufacturer in Orlando, Fla., supplies cabinet doors and dovetail drawer boxes in wood and thermo-foil, plus RTA (ready-to-assemble) boxes. Eagle Bay also provides refacing items such as veneer, concealed hinges and moldings — all shipped within 10 days or less to the U.S., Canada and (in case you're thinking of taking things a little easier) the Caribbean.

Jack and Eric Lansford like to make life easier for cabinetmakers, too. The brothers operate Decore-ative Specialties, which their father founded in 1965. The company, based in Irwindale, Calif., also has operations in Monrovia and Elk Grove, Calif., plus Monroe, N.C. The



Elias Woodwork & Manufacturing has recently added several new solid colors to its lacquer options.

Lansfords have reached out to custom cabinet and furniture builders in a big way in the last few years in the area of compliant finishes. Their customers have made them increasingly aware of tightening regulations and how tough those are on a small shop. So the company has aggressively pursued finishes that are environmentally friendly for both woodworkers and end users. If you don't have to spray, you don't

have to worry about booth regulations. And if you find a great supplier, you don't have to worry about quality or VOC compliance. Decore-ative Specialties offers RTA cabinets, doors, drawer, moldings and hardware.

#### DRAWER DEVELOPMENTS

They're time-consuming and finicky to build, but high-quality drawers are perhaps the most obvious aspects of a kitchen and one of the first things a customer checks out. Steve Harmon and his crew at the Drawer Connection have understood that since 1997. The Mesa, Ariz., supplier builds dovetail and doweled drawers for shop all across the country and also offers some accessories including rollout shelves.

Drawer Box Specialties in Orange, Calif. recently announced the launch of Smart Shelf, a smooth-gliding drawer that mounts directly to cabinet shelves, to help maximize access to cabinet contents. Kind of a hybrid between a shelf and a drawer, it makes it easier for homeowners and commercial kitchen users to reach previously hard-to-locate items in the back of a cabinet. The company also recently introduced a beautiful, wood-faced pullout unit that hides unsightly trash bins.

Top Drawer Components operates out of Apache Junction, Ariz., and has taken innovation in a different direction. The company has recently committed to convert over to 100 per-

cent solids UV finishing for its drawer manufacturing. The new technology, developed by Cefla America, triples Top Drawer's existing finishing capabilities, while at the same time eliminating VOC emissions. The result is "a higher quality end product with a beautifully consistent finish that is much tougher and more scratch-resistant than standard lacquer finishes," according to the company.

Timbercraft Custom Dovetail Drawers of New Milford, Conn., offers 5/8" maple or birch sides and 3/8" plywood bottoms for a traditional, very tough, dovetailed option. Timbercraft also promises to deliver throughout the Northeast in just five to seven days. As with most suppliers, the company offers a range of dividers and inserts, built-in ship pulls (that's a scalloped handhold in the front that obviates the need for a metal pull), spice racks, file drawers and so on.

And Stratton Creek Wood Works LLC in Kinsman, Ohio, provides dovetail drawer boxes along with a host of other components including moldings, louvers, gingerbread, pergolas — and custom CNC routing services.

#### **SPECIALTY COMPONENTS**

Looking for something unique to set off a custom kitchen or piece of furniture? Have a look at stained glass panels from Middlefield Glass in Middlefield, Ohio. The company has a new "design online" option that allows a cabinet or



furniture shop to genuinely partner in the design process. Adding stained glass panels in wall cabinet doors is surprisingly affordable and delivers a vivid design upgrade — especially if they are backlit with some of the new, low-intensity rope light systems.

Furniture facelifts often begin with small changes and one of the more innovative firms in that arena is Doug Mockett & Co. The Torrance, Calif., supplier is known for cutting-edge cabinet accents — everything from built-in wireless phone chargers to leather bathroom fixtures or futuristic, polished aluminum hooks and coat stands.

If you're looking for turned wood components, check out Brown Wood Inc. Brown's catalog includes columns, legs, bun feet, furniture feet, corbels and brackets, carved appliques, moldings, bases, knobs and even complete tabletops. The company, headquartered in Lincolnwood, Ill., can custom-produce and finish an amazing array of wood components, based on a cabinet or furniture shop's designs. It can also create replicas of existing parts, so a wood-shop can build new to match an existing style.

Turnings Unlimited is a smaller turned-component supplier based in Latham, Ohio, that produces custom balusters, spindles, newel posts, table legs, columns, capitals, finials and stair parts.

Osborne Wood Products is another great resource. Established in 1979, Osborne offers table



Artisans of the Valley offer custom carving such as this piece by Eric Saperstein titled "Shiloh Prairie" with a reproduction 1874 Shiloh Sharps rifle.

legs, island legs, corbels, bun feet and moldings. Always innovative, the company's new product page featured 50 fresh items when checked in October, including some very impressive legs with carved vines and basket weaves.

Some companies specialize in a single aspect of wood components. The A. Lewis Manufacturing Co. is just such a supplier, and specialization has allowed the Baltimore, Md., firm to become one of the leading suppliers of embossed moldings. All products are manufactured to order, using most cabinet wood species. Lewis also makes rosettes, plus dentil and turned rope moldings.

Serving both coasts, Outwater Plastics Industries has facilities located in Bogota, N.J., and in Phoenix. If you're looking for furniture components, Outwater probably has them

— everything from appliques to cabinets, columns and wainscoting.

Adams Wood Products in Morristown, Tenn., has been in business since 1975 and supplies stock and custom unfinished furniture and cabinet components including bedposts, finials, bun feet, cabinet onlays, corbels and a whole host of furniture legs.

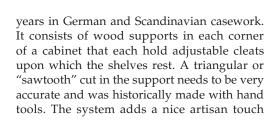
Many of these items can also be found online at CabinetParts, which specializes in hardware but also carries an extensive inventory of wood components. And if you're looking specifically for table legs, try Tablelegs or ArchitecturalDepot

One of the more unusual specialty component suppliers is Sawtooth Shelf System in Washington, N.J., which has revived a shelf support system that was used for hundreds of





Traditional shelf support from Sawtooth.





New carved legs from Osborne features basket weaves, Acanthus and even carved vines.

to casework, is relatively inexpensive, very strong, easy to install and appears quite graceful. It's well worth a look.

Woodshops that need custom carving can contact Artisans of the Valley in Pennington, N.J. The company provides museum-quality hand carving including wildlife, floral, leaf work, landscape, traditional period reproductions, ropes, vines and figures in relief and in sculptural form.

A shop that is looking to outsource boxes, doors and drawers, or furniture components, might also need to find a few specialty hardware suppliers.



#### **COMPONENT SUPPLERS**

• Adams Wood Products

Tel: 423-587-2942.

www.adamswoodproducts.com

• A. Lewis Manufacturing Co.

Tel: 800-969-2212. www.alewismfg.com

• Artisans of the Valley www.artisansofthevalley.com

• Brown Wood Inc.

Tel: 800-328-5858.

www.brownwoodinc.com

• CabinetParts

Tel: 800-857-8721.

www.cabinetparts.com

• CabParts Inc.

Tel: 970-241-7682.

www.cabparts.com

• Conestoga Wood Specialties

Tel: 800-964-3667.

www.conestogawood.com

• Decore-ative Specialties Tel: 800-729-7255.

www.decore.com

• Doug Mockett & Co.

Tel: 800-523-1269.

www.mockett.com

• Drawer Box Specialties

Tel: 800-422-9881.

www.dbsdrawers.com

• Drawer Connection

Tel: 877-917-4887. www.dcdrawers.com

• Eagle Bay

Tel: 800-229-1769.

www.eaglebaywood.com

• Elias Woodwork & Mfg.

Tel: 800-665-0623.

www.eliaswoodwork.com

• Hall's Edge Inc.

Tel: 203-653-2281.

www.hallsedge.com

• Middlefield Glass

Tel: 800-772-1477.

www.middlefieldglass.com

• Keystone Wood Specialties

Tel: 800-233-0289.

http://keystonewood.com

• Northern Contours

Tel: 866-344-8132.

www.northerncontours.com

• Osborne Wood Products

Tel: 800-849-8876.

www.osbornewood.com

Outwater Plastics Industries

Tel: 800-631-8375.

www.outwatercatalogs.com

• Sawtooth Shelf System

Tel: 908-689-7600.

www.sawtoothshelfsystem.com

• Stratton Creek Wood Works

Tel: 330-876-0005.

www.strattoncreek.com

#### • Tablelegs. com

Tel: 800-748-3480. www.tablelegs.com

• TaylorCraft Cabinet Door Co.

Tel: 866-585-7623.

http://taylorcraftdoor.com

• The Architecuraldepot. com.

Tel: 888-573-3768.

www.architecturaldepot.com

• Timbercraft Custom Dovetail Drawers

Tel: 800-345-4930.

www.timbercraftdrawers.com

• Top Drawer Components

Tel: 800-745-9540.

www.topdrwr.com

• Turnings Unlimited

Tel: 937-588-4050.

www.turningsunlimited.com

WalzCraft

Tel: 800-237-1326.

http://walzcraft.com

#### HARDWARE SUPPLERS

Some of the more comprehensive inventories are maintained by:

Cornerstone

Tel: 800-788-4450.

www.cabinethardware.com

• Hardware Resources

Tel: 800-463-0660.

www.hardwareresources.com

• Hardware Source

Tel: 877-944-6437.

www.hardwaresource.com

• House of Antique Hardware

Tel: 888-223-2545. www.houseofantiquehardware.com

• Kennedy Hardware

Tel: 800-621-1245.

www.kenneduhardware.com

· Woodworker's Hardware

Tel: 800-383-0130.

www.wwhardware.com



Surplus inventory, excess materials and extra storage space can all be put to better use than they probably are now in your shop

By John English

In business, it's almost always better to act rather than react. When it comes to waste, creating less is a more profitable choice than disposal.

But how does a shop create less waste? To answer that, a manager will need to know exactly what kinds of waste are being generated and the volume of it. Every shop is different. One also needs to look beyond the garbage can. Is there too much inventory on the shelves, wasting storage space and cash reserves? Is there too much travel or materials handling in the shop, wasting time? How about the utilities and physical space? We'll come back to those questions, but first let's take a look in the dumpster. There are few things more disheartening to a shop owner or manager than watching good materials being thrown away.

#### **OPTIMIZATION**

Most woodworkers, especially those who operate CNC software, are familiar with the concept of optimization. It's most obvious form today is nesting. But optimization has been with us a long time. For example, Isaac Newton used it back in the 1600s to find mathematical solutions. He was using iterative methods (they break a large problem into smaller ones) to find the most efficient way to arrive at a logical conclusion. Woodworkers still use those methods today. The most obvious example is that we don't build a kitchen as a single giant cabinet. We break it into manageable units (single cabinets) that are later combined to create the whole.

Optimization means getting the most out of available resources.

A couple of months ago, Rod Schaeffer retired from running a wholesale hardwoods business in the Midwest. His clients were cabinet shops and finish carpenters. After decades in the busiA shop that carries too much inventory is usually wasting square feet and cash reserves. Buying "just-in-time" is a better way.

ness, he still scratches his head when talking about the way people buy lumber.

"I'd have guys come in every week and order a bunk of 16-foot red oak for a trim job," Schaeffer told Woodshop News. "They'd pay a premium price for length, haul it to an install ... and then chop it all into short lengths for window and door trim. They could have saved a fortune over the years by buying shorts or even random lengths. I used to suggest they make a list of the actual sizes being used on each job, throw those numbers into an Excel worksheet and figure out the most efficient way to order. The results would be based on actual job history and not just guesses. Nobody ever did that, though. I guess those 16-footers just looked prettier."

His point is simple. Long boards usually cost more, so if you can use shorter ones, then order them that way. If the shop is building face frames, most of the longest requirements will be 42" for upper stiles. Why pay a premium for 192"? Plus, those 16-footers only deliver four-and-a-half stiles and all of those halves can really add up over time. Many of them can be used for rails in narrow cabinets, but many can't.



A lot of hardware nowadays comes in blister packs with, say, a dozen pulls. It's conceivable that individually packing knobs in little plastic bags will soon be reserved only for top-of-the-line designer hardware. The blister packs usually come from China and the quality is sometimes suspect. But if a shop finds a reliable line of product, the cost per part can be extremely low. One can often find a pack of 12 for the price of two or three individually wrapped parts. To optimize that effect, a shop can push particular pulls so that the excess from one job spills into the next. The most obvious way to popularize a line of product is to install it on the showroom fixtures. If you use 37 pulls on a job, the 11 remaining in the fourth blister pack will soon find a home if you make a conscious effort to steer customers toward them. By offering a twotier hardware option, you can still deliver those expensive designer solutions at a premium price and your "standard" line (from the blister packs) can be offered at a more affordable markup. In this case, good marketing can help control waste.

#### **DRAWING SOLUTIONS**

Sheet goods create a lot of waste. Even if a shop doesn't have a CNC router, the manager or draftsman can still use design software to figure out the most economical way to carve up sheets and build projects. Programs such as Cabinet Vision, Vectric, ArtCam, Mozaik, KCD Software, Microvellum, CabinetPro and CabMaster all offer optimization tools and most have design and rendering programs, too. Many of them will even price out the job.

Most software now offers labeling, where parts can be identified with stickers or stamps that allow assembly crews to keep track. The soft-

ware that does that works from a spreadsheet or a database that lists every side, bottom, back, etc. There's no reason a shop couldn't create a simple spreadsheet to keep track of the cutoffs, too. The columns could identify parts by material (plywood, MDF, etc.), thickness, face material (plastic laminate, melamine, veneer by species, and so on), width and length. Keeping an inventory of material that is less than a full sheet allows a project manager to use up all the possible cutoffs before starting in on new stock. And having the information at your fingertips means that nobody has to walk out to the lumber rack and figure out what's usable at the start of every job.

Software packages that design and draw cabinets and furniture are quite inexpensive. Learning how to use them means that the shop is much better positioned if and when it acquires CNC capabilities. And shops that are already up and running will find it quite easy to sticker and track partial sheets and control this one aspect of waste.

#### ALTERNATIVE USES

It's relatively easy to find a way to use waste, rather than just discarding it. Some shops burn everything during the winter in an outside furnace that helps heat the shop. But there are lots of other ways to use up scraps. If there is a woodworkers' club in the city, most of them build toys for children or perhaps flag cases for veterans and so on. As long as the club is a 501(c)(3), then a woodshop's donation of scrap wood is entirely deductible at cost (just work out the board feet to figure out what you originally paid).

Wood pellet plants will often buy waste, especially sawdust, but also short cutoffs, and reduce it to fuel. Chipboard and MDF manufacturers





#### REMANUFACTURED

Sandingmaster WideBelt Sander Model 2075-C 37" x 75" Belt. This machine also has Veneer sanding capabilities. Combination Head allows for light thicknessing as well as fine sanding.

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#### By offering a two-tier hardware option, you can still deliver those expensive designer solutions at a premium price.

— and even paper mills — might also purchase waste, although their requirements can get complicated. Shops that plane a lot of solid wood can sometimes sell the shavings as animal bedding, although many species are not suitable. Outlets for bedding include everything from dairy barns and zoos to pet shops. Landscapers are often delighted to get sawdust and chips as they can use it in making charcoal-based fertilizers (the wood is burned and then mixed with organic waste) or as mulch on fall plantings that need a little protection during the winter. Mulch can also be used to help control volunteer weeds. And if there's a biomass power plant anywhere near you, give the buyer a call.

Supermarket chains, butchers and similar retailers like to buy clean wood waste to mop up spills, but they'll want you to package it in manageable units — perhaps something like 30-gallon plastic bags. If you don't want to deal with that, then outfits such as Sawdust Supply in Seattle (www.sawdustsupply.com) specialize in recycling larger volumes of wood waste.

If none of these suggestions work and you're having trouble finding a way to get rid of clean waste, try an ad on Craigslist or Facebook. It's amazing what creative people come up with and there's probably somebody close by that wants your waste for something that would never have occurred to most of us — perhaps stuffing toys, soaking and compressing it into sculpture, firing pottery kilns and many other creative uses.

#### **LEAN MANAGEMENT**

Waste isn't always comprised of detritus such as dust, chips and cutoffs. Sometimes it's a little subtler. A shop that carries too much inventory is usually wasting square feet and cash reserves. Buying "just-in-time" is a better way. That begins by placing an order for only the materials one will use, rather than rounding up to convenient or habitual numbers (as in, I only need 47 sheets, but send me 50). Then the material should arrive at the shop a day or two before it is needed, rather than eating up space for weeks or months.

Once in the shop, materials need to be stored conveniently and managed in a way that the least amount of time and effort is being expanded moving them around. That sounds simple, but here's an eye-opening exercise. Follow a single sheet through the shop and see how many times it is touched and moved. You might be surprised.

One other area of waste control is the utilities. Switching to more energy-efficient bulbs and ballasts can make a big difference in the electric bill. Separating heating and cooling into zones usually means that work spaces are warm in winter, but storage spaces can be cooler and vice versa in summer. Motion detectors can turn lights on and off as needed. And, before you fill the dumpster, is there any way to harvest heat calories from the stuff you're throwing away? Check out woodburning furnaces online, but make sure you look at remote models that sit outside and don't threaten the woodshop.





## Wisconsin museum showcases reclaimed wood

By Jennifer Hicks

n concert with its contemporary craft focus, Racine Art Museum in Wisconsin is the first museum to host "Urban Wood Encounter: RAM Explores Contemporary Furniture", an environmentally conscious exhibition of fine furniture. The exhibit, which opened in September and will run through Jan. 3, 2016, offers a collection of furniture and objects made by regional artists who apply their individual creativity and personal interests to wood that is often discarded.

The show challenged furniture makers and designers to create inspiring and thoughtful furniture from underutilized natural resources. Rescued from trees that are not harvested for their timber value, this material would otherwise find its way into landfills when it succumbs to age, injury or disease.

Participating artists include Jarrod Beglinger, Robert Andrew Black, Michael Doerr, Fabian Fischer, Kevin Giese, Icon Modern, Mike Jarvi, Joe La Macchia, Tom Loeser, Aaron Malinowski, Erich Moderow, Paul Morrison, Joseph Murphy, Charles Radtke, Keaton Rogers, Anthony Saporiti, Thuy Khuu, Dwayne Sperber and Andrea Yencha.



"Crescent Lounge" by Katrina Vonnegut, on display at the "Contemporary Wood Design" exhibit.

PHOTO: DON KERKHOF







Walnut chairs by Robert Andrew Black, featured at the Racine Art Museum.



"Contemporary Wood Design," a national exhibition showcasing a new generation of furniture makers, opened at the Messler Gallery of the Center for Furniture Craftsmanship in Rockport, Maine, in September and will run through Jan. 6, 2016.

"Every generation brings fresh perspectives to the fabrication of the shared world," center director Peter Korn said in a statement. "The aesthetics, materials, methods of production and intended audiences in Contemporary Wood Design reveal a greater sense of social connection



Tom Loeser's "Dig 23," a bench made of maple and shovel handles, part of the "Urban Woods Encounter" exhibit.

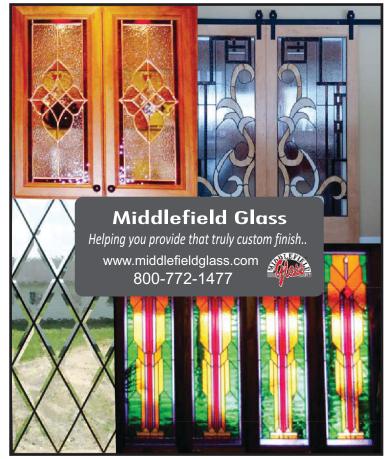
and an engagement with commerce that would have been foreign to most craftspeople of my era."

The exhibition was co-curated by Diana Budds, formerly senior editor at "Dwell" magazine, and Asher Dunn, founder of Studio Dunn in Providence, R.I. ₩

#### Contacts:

Messler Gallery. Tel: 207-594-5611. www.woodschool.org Racine Art Museum. Tel: 262-638-8300. www.ramart.org





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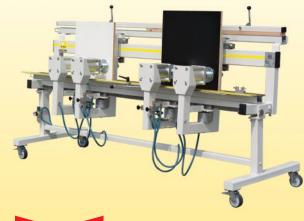
a new wall-mounted dust collector with canister filter, model G0785. It features a 1-hp, single-phase motor, 1-micron canister filter with a built-in handcrank cleaning brush and 10" cast aluminum radial fin impeller. It has an airflow performance of 537 cfm and weighs approximately 62 lbs., according to Grizzly. The dust collector sells for \$295. For more, visit www.grizzly.com.

KREG TOOL is introducing two Universal Clamp Trak Kits for use with any workbench, according to the company. The 27"x45" kit (Item No. KKS2745) includes one 27" and one 45" Trak, designed to fit benches 30" x 48" and larger. The 27" x 69" kit (Item No. KKS2769) includes one 27" and one 69" Trak, designed to fit benches 30" x 72" and larger. The kits will be available in November for \$99.99 and \$139.99, respectively. For more, visit www.kregtool.com.



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ACCURIDE expanded the company's heavy-duty product line with the addition of model 3634 and its Easy-Close counterpart (3634EC), soft-closing slides designed for drawers up to 42" wide and loads up to 150 lbs. Both models have the same cabinet member hole pattern as Accuride's 3832 slides, simplifying installation and saving valuable time in high production environments, according to the company. For more, visit <a href="https://www.accuride.com">www.accuride.com</a>.



DEWALT offers a new 5" single-speed random orbit sander with hook and loop pad, model DW6421. The 3-amp tool delivers 12,000 oscillations per minute on a 3/32" orbit. It weighs 2.9 lbs. and achieves smooth finishes with minimal vibration via a separate counterweight that provides the user with comfort and control, the company adds. The sander retails for approximately \$64. For more, visit www.dewalt.com.



### **CALENDAR**

Organizations sponsoring meetings, classes or shows of interest to professional or hobbyist woodworkers are invited to submit items to: Calendar, Woodshop News, 10 Bokum Road, Essex, CT 06426; editorial@woodshopnews.com.

Include name, dates, location, description of event and a contact address or telephone number. Calendar items, which should be typed or printed clearly, must be received a minimum of 60 days before the event.

Please note that fees, as listed, might not include materials or shop fees. Check with a specific class for further details.

The complete national calendar of events is continuously updated at www.woodshopnews.com.

— Compiled by Jennifer Hicks

#### **ARIZONA**

Nov. 2-5 — Introduction to Inlay with Raul Ramirez. Learn the technique of inserting decorative elements into the surfaces of furniture, musical instruments or other wood-crafted objects. Fee: \$211 plus materials. Location: Southwest School of Woodworking in Phoenix. www.sw-sw.org

Nov. 8-11 — Furniture Design with Michael Fortune. Learn the design process this maker uses to create his unique work. Limited to 10 students. Fee: \$616 plus materials. Location: Southwest School of Woodworking in Phoenix. www.sw-sw.org

Nov. 8-10 — STAFDA 39th annual convention and trade show. Serving the construction market, the association has more than 2,500 members comprised of distributors, manufacturers, rep agents and affiliates in the safety tools and fasteners industry. Location: Phoenix Convention Center. www.stafda.org

#### **CALIFORNIA**

**Monthly** — San Fernando Valley Woodworkers meetings are held on the third Thursday of each month at 7 p.m. at the Balboa Park Sports Complex, Gym Building, at 17015 Burbank Boulevard in Encino. www.sfvw.org

#### **FLORIDA**

Ongoing — The Dunedin Fine Art Center is offering six-week woodturning classes at its Cottage Campus taught by AAW professional member Tony Marsh for beginners and intermediate-level participants. Full day classes are held on Thursdays. Call 727-298-3322 or e-mail education@dfac.org for information.

Monthly — Woodcrafters Club of Tampa

meets every third Thursday evening at 3809 W. Broad St. in Tampa. For information, visit www.tampawoodcrafters.org.

#### **MASSACHUSETTS**

**Nov. 13-15, Dec. 11-13** — Two and three-day wood carving courses with David Calvo. Location: Calvo Studio, Gloucester. *www.davidcalvo.com* 

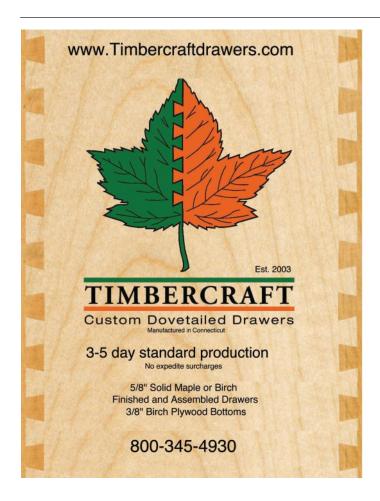
**Dec. 11-13** — Eighth annual CraftBoston Holiday. A juried contemporary craft show featuring 175 artists selling unique work in furniture, jewelry, clothing and home décor. Location: Hynes Convention Center in Boston. www.societyofcrafts.org

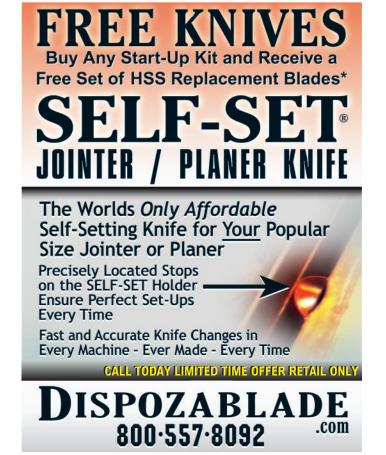
#### **NEVADA**

Jan. 19-21, 2016 — Kitchen and Bath Industry Show (KBIS) will showcase the latest industry products, trends and technologies in kitchen and bath design and remodeling. Location: Las Vegas Convention Center. www. kbis.com

#### **NEW YORK**

**Monthly** — Sawdust and Woodchips Woodworking Association meetings are held on the first Wednesday of each month at 6:30 p.m. at the Cold Springs Fire Department in Baldwinsville. www.sawdustwoodchips.org





#### **NEW YORK**

**Monthly** — Northeast Woodworkers Association meetings held on second Thursday of the month at various locations in Albany area. *www.woodworker.org* 

#### **RHODE ISLAND**

**Nov. 6-8** — The Providence Fine Furnishings Show. Annual show featuring handcrafted furniture and accessories. Location: Pawtucket Armory Arts Center, Pawtucket. *www. finefurnishingsshows.com* 

#### **SOUTH DAKOTA**

**Monthly** — The South Dakota Woodworkers Guild meets the last Thursday of every month (except August) at various members' shops. The club has hand tool and woodturning groups. <a href="https://www.sdwoodworker.org">www.sdwoodworker.org</a>.

#### **TEXAS**

Oct. 29-Nov. 28 — Texas Furniture Makers Show. The 16th annual show is a statewide competition that will feature works from custom furniture makers in Texas. Held at the Kerr Arts and Cultural Center in Kerrville. www.kacckerrville.com

#### UltraCraft adds Reflekt panels

Premier EuroCase announced it is producing Reflekt high-gloss acrylic panels for UltraCraft Cabinetry, the largest manufacturer of full-access cabinetry in the United States.

Premier launched Reflekt in August 2014. The panels are crafted using a scratch-resistant and UV-stabilized acrylic top layer laminated to carefully selected premium MDF core material, according to the company.

"We are excited to work with UltraCraft because they're committed to providing their customers with the highest quality products," Premier EuroCase president Andy Wilzoch said in a statement. "We believe this will be a great collaboration and we're happy to add to their already extensive product line."

For more, visit www.premiereurocase.com.

## Festool USA wins two industry innovation awards

Festool USA won two Pro Tool Innovation Awards for its new TSC 55 cordless track saw and the BHC 18 cordless rotary hammer, according to the company.

"We're thrilled that both [tools] won," Festool USA chief sales and marketing officer Steve Rangoussis said in a statement. "The 18-volt categories are extremely competitive and these awards represent Festool's success in providing professionals with tools that truly help them work more efficiently and with better results."

The Pro Tool Innovation Awards are an annual awards program judged by a panel of professional tradesmen in the electrical, plumbing, MRO and concrete fields as well as general contractors and builders.

For more, visit www.protoolreviews.com and www.festoolusa.com.

#### **ADVERTISING INDEX**

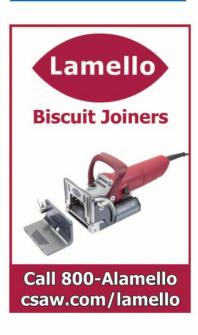
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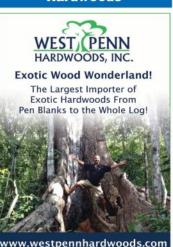
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NEWS

## Two Maine companies celebrated for innovation

he Maine Wood Products Association recognized two in-state companies — Pride Manufacturing Co. of Burnham and Longleaf Lumber Co. of Berwick — with its Pine Tree and Pine Cone awards, respectively.

"The companies have shown innovation, growth, success and leadership in their respective industry sectors," trade group executive director Kris Cornish says. "Having two winners, representing a large and small company, allows the MWPA to showcase the creativity and innovative spirit at both ends of the manufacturing spectrum."

Pride Manufacturing is the world's largest manufacturer of wooden golf tees. It also makes wooden cigar tips and plastic golf cleats and has 140 full-time employees at its Burnham manufacturing facility.

Pride recently secured a contract to produce Lincoln Logs for K'Nex Industries of Hatfield, Pa. The toy was previously made in China.

"Pride Manufacturing's innovation is helping to bring manufacturing back to the United States, closer to the large consumer market in this country. This is a great example for our industry," Cornish says.

Longleaf Lumber is a family-owned-and-operated reclaimed lumber mill producing flooring, paneling, beams, stair parts and other millwork products. It has 14 full-time employees. The company places a strong focus on sustainable practices, including sawdust upcycling.

"Longleaf Lumber is a great model that demonstrates that sustainable practices and business success go hand in hand," Cornish says.



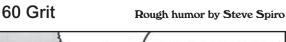
Pride Mfg. recently won the contract to produce Licoln Logs.

The winners were honored at an awards banquet in July. For more, visit www.mwpa.org. W

Jennifer Hicks



Pride's executive team accepting the Pine Tree award from the MWPA.





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