

WOODSHOP

NEWS[®]

Shaping the Successful Shop[™]

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October 2017

A fast starter

Matt Smolens leads the Philadelphia Woodworking Co. through rapid growth

Ready for CNC?
Look before you leap

Finish nailers:
Built for speed

White oak
shows its might

NEW TOOLS

- DeWalt ToughSystem
- Homag's IntelliGuide
- Festool sanders
- Next Wave Piranha XL

\$3.95 (Canada, \$5.95)



TRACK SAW MASTER PACK

- Motor: 120V, 1.1kW, 5500 RPM, 9A
- Blade rim speed: 9070 FPM
- Max. cutting depth at 45°: without rail 1 5/8", w/ rail 1 7/8"
- Max. cutting depth at 90° without rail 2 5/32", w/ rail 1 31/32"
- Included saw blade:
 - 160mm x 20mm x 48T
 - Dust port dia.: 1 1/2"
 - Saw weight: 11 lbs.

W1835 Track Saw



55" Guide Rail

Includes: Accessory Pack

W1832 Track Saw Master Pack

7" 2 HP PLANER MOULDER W/ STAND

- Motor: 2HP, 240V, single-phase, 10.8A
- Cutterhead speed: 7000 RPM • CPM: 14,000 • CPI: 64-300
- Feed rate: 0-18 FPM • Max. profile: 6 3/4"W x 3/4"D
- Planing width: 7" • Min. stock length: 9"
- Min. stock thickness: 1/4" • Max. stock thickness: 7 1/2"
- Overall dimensions: 36 1/4"L x 22"W x 34 1/2"H
- Approx. shipping weight: 324 lbs.



PATENT OWNED BY
WOODSTOCK
INTERNATIONAL INC.

W1812 7" 2 HP Planer Moulder w/ Stand

D3393 Elliptical Jig for W1812



12" X 15" VARIABLE SPEED BENCH-TOP WOOD LATHE

- Motor: 3/4 HP, 110V, single-phase, universal motor
- 12" swing over bed • 15" between centers
- Two spindle speed ranges: 500-1800 RPM & 1000-3800 RPM
- 1" x 8 TPI RH thread spindle size
- Spindle indexing in 15° increments
- Heavy-duty cast-iron construction
- Approx. shipping weight: 87 lbs.



New

W1836 Bench-Top Wood Lathe

13" 3/4 HP OSCILLATING DRILL PRESSES

- Motor: 3/4 HP, 110V
- Spindle travel: 3 1/4"
- Swing: 13 1/4"
- Drill Chuck: 1/64"-5/8"
- Arbor: JT-33
- Speeds: 12, 250-3050 RPM
- Table size: 12 3/8" dia.
- Table swing: 360°
- Table tilt: 45° left & 45° right
- Oscillating spindle: 3/4"
- Table dust port: 2"
- Approx. shipping weight: 123 lbs. (W1668), 180 lbs. (W1848)



Spindle Oscillation is so unique that it was issued a patent!



Includes sanding drums

W1668 13" 3/4 HP, Bench-Top Drill Press

W1848 13" 3/4 HP, Floor Drill Press **NEW MODEL!**

A PATENT WAS ISSUED
AS A RESULT OF ITS
AMAZING TECHNOLOGY

W1848
Floor Model



W1668
Bench-Top
Model



63"

38"

POCKET HOLE MACHINE

- Motor: 1/2 HP, 120V, single-phase, 3A, 17,500 RPM
- Two flip stops for drilling consistency
- Auto start/stop motor actuation w/ pull of handle
- Auto adjust clamping foot mechanism for workpiece thicknesses between 1/2" to 1 1/2"
- Cuts both dia. holes for pocket screws at the same time
- Ideal for face framing



Fast & super easy
pocket holes!

PATENTED!

W1833 Pocket Hole Machine

HANGING AIR FILTER

- Motor: 1/8 HP, 120V, 1A
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- Outer filter: 5 micron
- Inner filter: 1 micron
- Fan sound rating: 62 dB, 67 dB, 69 dB
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- Approx. shipping weight: 34 lbs.



W1830 Hanging Air Filter



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- Air suction capacity: 537 CFM
- Static pressure: 7.2"
- Intake hole size: 4"
- Impeller: 10" balanced cast-aluminum
- Bag size (dia. x depth): 13 1/2" x 24"
- Bag filtration: 2.5 micron
- Dust level viewing window
- Height with bag inflated: 44"
- Approx. shipping weight: 55 lbs.



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FB 510
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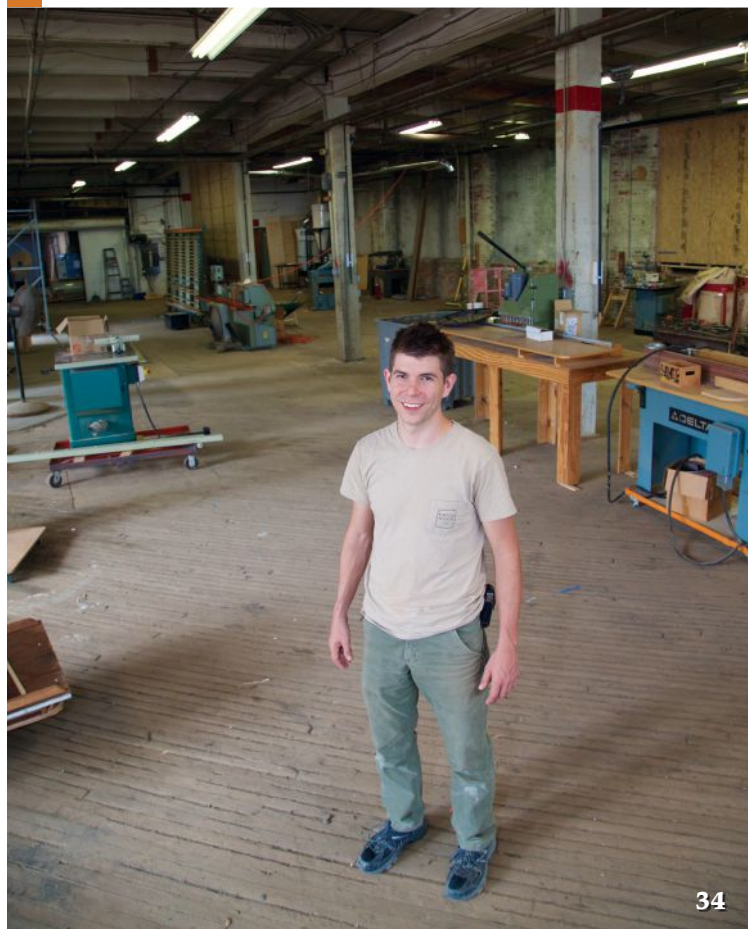
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BLOGS



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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TAKING STOCK

with TOD RIGGIO

Something old, something new for a woodworker to explore

My world is upside down. I've got a well-made piece of furniture in my shop and the local hardware store has changed ownership.

I'm poking fun at my woodworking skills, which I'll defend as having unlimited potential whenever time permits. But I do have a five-drawer chest, inherited from my grandfather, that I've started to restore. It has been

I've always had a thing for taking things apart to see how they are made. This is a basic piece with little decoration, aside from the beauty of the hand-cut dovetails. Other connections were made with nails and huge wood screws. When was the last time you used a nail for fine woodworking?

It's got wood runners and to my delight, figured maple buried under that hideous finish. I'll probably leave a bit of color that accentuates the grain, clear coat and call it done. I'm certainly not aiming for a museum quality restoration. If it's welcomed back into the house, I'll be pleased.

I'm less excited about the hardware store situation. The old store is less than a mile from my house and had local ownership. New ownership is a retail chain with plans to make it more of a building supply house. There aren't any big box stores nearby, but I fear the convenience of buying a bag of grass seed, light bulbs or gardening stuff may be lost. And the new clerks are wearing ties!

Oh, when will the madness end.

Correction

Incorrect information was included in "Sticky business," a story on adhesives, on pages 38-40 in the August 2017 issue. Choice Brands Adhesives has GreenGuard certification on products with Formica, Hybond, Permagrip and Bondrite trade names. Henkel Corp. does not. **W**

rejected, ejected and neglected for more than 20 years, surviving several moves, a teething puppy, and banishment to a damp basement. But I've always felt it was worth saving.

In the light of day, it's not pretty. It has always been the wrong color – a dark brown finish that gives it a clunky look. I'm guessing the piece is about 75 years old, which barely qualifies as an antique in New England, but it's built like a tank.

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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- Cutterhead dia.: 3 1/8" (G0490), 3 1/4" (G0490X)
- Cutterhead speed: 4800 RPM
- Cutterhead knives: 4 HSS, 8" x 3/4" x 1/8" (G0490) 40 inserts (G0490X)
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- Cutterhead dia.: 4"
- Cutterhead speed: 5900 RPM
- Max. depth of cut: 3/16"
- Max. width of cut: 11 1/8"
- Precision-ground cast-iron table size: 12 1/2" x 80"
- 23,600 CPM (G9860); 35,400 CPM (G9860ZX)
- Approx. shipping weight: 1265 lbs. (G9860), 1241 lbs. (G9860ZX)

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- Cutterhead speed: 5000 RPM
- Max. depth of cut: 3/16"
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- Approx. shipping weight: 1742 lbs. (G9953ZXF), 1719 lbs. (G9953ZX)

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- Spindle sizes: 3/4", 1", and 1 1/4"
- Spindle speeds: 3600, 5100, 8000, and 10,000 RPM
- Spindle capacity under nut: 5/8" (1 1/4" spindle)
- Max. cutter dia.: 5 1/4"
- Overall size: 39" L x 35 1/2" W x 43" H
- Approx. shipping weight: 710 lbs. (G7215Z), 692 lbs. (G5913Z)

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- Spindle tilt: -5° to +45°
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- Table size: 59" x 23 3/4"
- Table vertical travel: 21 1/2"
- Platen horizontal travel: 50 1/2"
- Table lateral travel: 18"
- Sanding belt size: 6" x 186"
- Belt speed: 3600 FPM
- Drive wheel dia.: 8"
- Overall size: 98" W x 47 3/4" D x 67 1/2" H
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Design and Construction Week returns in January to Orlando

By Jennifer Hicks

In 2013, the National Kitchen and Bath Association and National Association of Home Builders agreed to co-locate the Kitchen & Bath Industry Show with the International Builders' Show in Las Vegas under the banner of Design and Construction Week. The mega-event returns Jan. 9-11 at the Orange County Convention Center in Orlando with over one million square feet of exhibit space.

Registration is open for both shows, which are expecting a combined exhibitor count of over 2,000.

The IBS will bring together more than 80,000 builders, general contractors, remodelers, designers, flooring professionals and product specifiers.

"Housing industry professionals from all over the world flock to this show because of its incredible display of products, top-notch education sessions and unbeatable networking opportunities," NAHB chairman Granger MacDonald, a home builder and developer from Kerrville, Texas, said in a statement. "Each year's show features more than the last. There is truly nowhere else that you can find all of these offerings in one place."

KBIS, a trade show for kitchen and bath design professionals, has experienced five straight years of growth and expectations are high for 2018.

"The response from our members and the entire industry after our first year in Orlando was outstanding. The 2018 show is shaping up to continue this momentum and be even bigger," Suzie Williford, vice president of industry relations for the NKBA, said in a statement.

For more, visit www.buildersshow.com and www.kbis.com. 

CMA heading to Denver for first national conference

By Jennifer Hicks

The Cabinet Makers Association is marking its 20th anniversary with a national conference, scheduled for March 1-2, 2018, in Denver.

"The CMA's first-ever national conference is appropriately themed 'Elevate' since it will be held in Denver. We hope that attendees' businesses will soar to new heights with what they learn and from the connections they make during the conference," says Amanda Conger, CMA's executive director.



CMA 2018 conference logo

Paul Downs, a writer and owner of a 17-person furniture shop in Bridgeport, Pa., will deliver the keynote address.

Scheduled educational sessions include "The Art of Pricing Profitability" with Sean Benetin; "Transitioning to CNC" with Chris Dehmer, and a panel discussion on "Practical Solutions for Finding Employees."

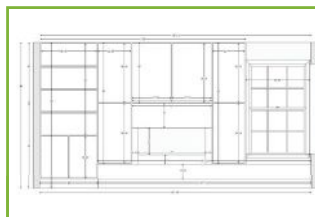
The conference will also feature a plant tour at Premier EuroCase in Denver.

For more, visit www.cabinetmakers.org. 

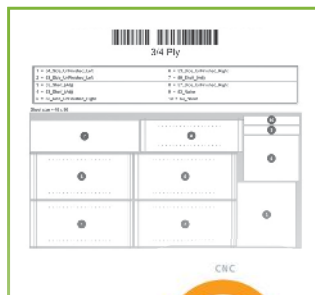


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Massachusetts' furniture maker awarded Mineck fellowship

By Jennifer Hicks

The Society of Arts and Crafts in Boston announced Jack Mauch is this year's Mineck Foundation Furniture Fellow. The \$25,000 award acknowledges an individual's talent and skill in furniture making, exploration and growth of new ideas, and the importance of a community that supports each other.

Mauch recently packed up his studio in Allston, Mass., to prepare for his upcoming

residencies, including a Studio Fellowship at the Center for Furniture Craftmanship and a Windgate ITE Residency at the Center for Art in Wood.

The Society says that, in his application, Mauch thoughtfully detailed the ways the fellowship can fund three interrelated goals that would have an immediate and long-term impact on his career: to buy equipment that is necessary for his continued growth and inde-

pendence; to undertake a course of study in digital fabrication technology; and to dedicate a period of time to the development of his current work that focuses on patterned veneer surfaces by exploring the possibilities focusing 3D modeling and CNC milling to aid in veneering compound-curved forms and complex geometry.

"The research that I will undertake is of interest to many woodworkers and furniture makers, and I am committed to documenting and presenting the results of this study to the field at large through a blog, video, article, presentation or a combination these. I will also seek to teach a course or workshop to share any new techniques I develop as a result of my research," Mauch wrote.

The John D. Mineck Foundation was formed in 2007 to award charitable and educational gifts reflecting Mineck's interests and values. Mineck was a past president of the Society's Board of Trustees and a member of Boston's cultural community. The fellowship was developed to encourage and support a young-in-career furniture artist with the financial assistance to help them succeed.

For more, visit www.societyofcrafts.org. 



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NAP Gladu acquires Ace Saw and Supply

NAP Gladu, a Techniks Industries company, has announced the acquisition of Ace Saw and Supply, based in Los Alamitos, Calif.

"For over 50 years Ace Saw has built an exemplary reputation for providing carbide saw service, band saws, hot taps, and hole saws by maintaining the highest standards in quality and customer service. The acquisition of Ace Saw builds on one of North America's largest service networks and strengthens the capabilities, products, and services of both companies," NAP Gladu said in a statement.

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Jefferson Millwork structures training around WCA Skill Standards

By Rich Christianson

Jefferson Millwork & Design Inc. demonstrates how a woodworking company can leverage the Woodwork Career Alliance Skill Standards not only as a training tool, but as the backbone of an incentive system to reward and retain its employees.

Chuck Buck, Jefferson's shop foreman for the past four years, oversees a 20-man production crew at Jefferson Millwork's plant in Sterling, Va. The company, a member of the Architectural Woodwork Institute, combines the artisan skills of its mostly veteran staff with CNC machines and other technology to craft architectural wood products for a diverse and demanding clientele. Customers include Capital One, Host Marriott Corporation, the Kennedy Center and the White House to name a few.

Jefferson Millwork must be doing something right. According to Buck, the company hasn't had reason to hire a new employee in two years.



Shop foreman Chuck Buck observes Juan Alfano at the table saw.



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"When we get really busy, we just work overtime," Buck said. "Most of the guys like the opportunity to earn extra pay. So our philosophy is we'd rather keep a lean staff and when tough times come we can carry through without having to lay anyone off."

Implementation of the WCA Skills program was initiated by the insistence of Mike Corrigan, vice president and general manager of Jefferson Millwork.

"While Jefferson has always been at the forefront of technology and equipment, Mike challenged us to step up our training process," Buck recalled. "We have an older workforce; the average age is about 50, so we figured it was just a matter of time before we would need some younger talent to come in. Mike made it clear that we needed to institute a self-perpetu-



Chad McCabe tests his skills on the sliding table saw at Jefferson Millwork.

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ating program that would show younger hires a promise of growth for their careers and it was his idea to tie some incentives to it."

Buck readily admitted that he wasn't sure how establishing a training program wrapped around the WCA Skill Standards, which includes more than 240 woodworking machines and operations, would work until he dived into it.

"I had been accredited as a skills evaluator by Greg Heuer of WCA two years earlier. While I knew about the Woodworking Skill Standards, I really didn't know how valuable they were until I started using them to assess the skills of some of our newer employees who were slotted as helpers. I quickly learned that they knew things that I didn't know they knew, and what they didn't know they absorbed like a sponge."

Putting the standards to work

Buck said the WCA Skill Standards provide a structure for training and evaluating an employee's woodworking skills. He focused the new program on the company's four least experienced employees who aspired to become bench mechanics. Two of them had been with the company for more than five years. Each of the four was given a WCA Passport, a portable record of their individual woodworking skill achievements.

Buck said he started the evaluation process by having each of the employees demonstrate the correct use of a tape measure and caliper. Then they each graduated to being evaluated for operating basic woodworking machines like the chop saw, table saw and jointer. Buck said the 'final exam' for each of the four employees was taking the online test to earn their Sawblade Certificate, the prerequisite for advancing through the five stages of the WCA Woodworking Professional Credential

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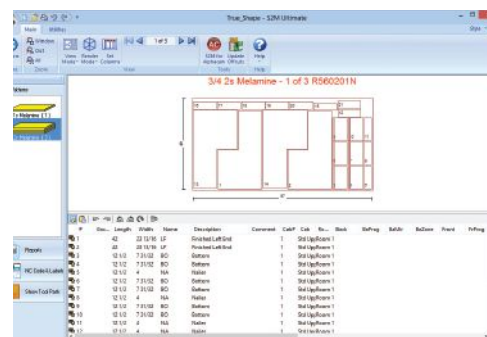


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Mike Pullens works on a bar project at Jefferson Millwork.

program. Green is the first stage and requires 800 hours of experience plus demonstration of machinery skills. The levels get progressively more rigorous, Blue, Red, Gold and Diamond, which requires 6,400 total hours and the completion of a master project.

"We tied a bonus to passing the Sawblade Certificate test," Buck said. "Next, when one of the guys earns his Green credential, he will get an instant percentage pay increase. So they now know if they continue adding skill stamps and advance through the credential program that they will get an automatic raise. It not only gives them an incentive to learn new skills, but to come to me to make sure I perform an evaluation so that they can get a stamp."

So far, so good

Buck said the program, less than a year old, is off to a great start and paying dividends not only for the individual employees but the company as well. One of them, previously slotted as an apprentice, has already earned his Green Credential.

"One of the four employees in the program is Spanish speaking and doesn't talk a lot," Buck said. "So I wasn't sure what to expect when I started the evaluation process. I soon realized that he has a lot more talent than we had imagined. As a result, he's been given more challenging work that we know he is capable of doing. Another of the four guys is learning to become a CNC machine operator. By going through the basic skills evaluation, it became obvious that he has the skills and motivation to be successful.

"I believe the biggest benefit of having the WCA Skill Standards program in place is that we will be able to attract younger people when we need to hire, and I think it will help us retain the guys we have now. In the past, we had a few people who came and left because they didn't feel they were being appreciated and didn't see a path for advancement. But now we have a system in the works that addresses training, retention and recruitment," Buck continued.

"I'm so excited to see the vision that the WCA had 10 years ago to get something like this going. It needs the participation of the industry. Now that I'm knee deep in it, I think it's great and I wish we had been doing this even sooner because it really helps show to youth that being a woodworker can be a rewarding career."

For more information about the Woodwork Career Alliance Skill Standards, visit www.woodworkcareer.org. [W](http://www.woodworkcareer.org)

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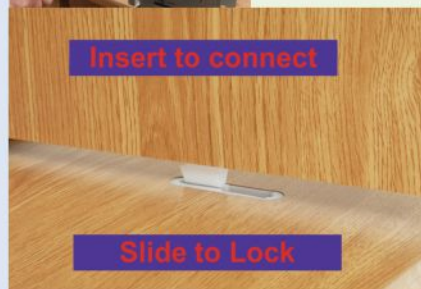
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White oak shows its might

By Jennifer Hicks

North American and European white oak are dominating the hardwood market, according to U.S. dealers surveyed by Woodshop News. The strong demand is reflected in higher prices.

"White oak is red hot," says Rick Hearne, owner of Hearne Hardwoods, a wholesaler and retailer in Oxford, Pa. "We've had strong sales for high-end rift and quartersawn variations, and have sold plenty of flat-cut boards as well.

"We are only buying true *Quercus alba* because in white oak there's something like 30 or so species that are lumped together for lumber purposes. The different species actually have

subtle differences in color, but the *alba* tends to be that light straw color. It's considered to have the finest texture of North American white oak.

European white oak (*Quercus petraea*) isn't quite as white and has a slightly fine texture, according to Hearne.

"Buyers really want the rustic quality and they're looking for lots of small tight knots," adds Hearne.

He says the retail price of flat sawn 4/4 white oak is up \$5.50/bf, while quarter sawn is selling for \$7.75/bf. Rustic is a bargain at \$2/bf, but that's still a significant increase. Prices for European white oak start at \$10/bf for flatsawn and \$15/bf for quartersawn.



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Greg Engle of Certainly Wood, a veneer supplier in East Aurora, N.Y., is seeing new demand for riftsawn white oak.

"Our primary calls are for rift white oak with uniformed fine grains and also for special thicknesses up to 1/16". Our clients who do special finishing such as cerusing or distressing with wire brushing are looking for that little bit of extra thickness in their white oak veneers.

"Aside from nice uniformed grains of white oak, plain sliced is doing well, and distressed white oak with cracks and splits, our rustic oak, is doing well these days. Same for European white oak," says Engle.

Higher prices may eventually stall the market, according to Rocky Mehta of West Penn Hardwoods in Conover, N.C.

"White oak has gone up in price, especially for the 8/4, which is about 30 percent higher," he says, "Customers are still buying 4/4 at over \$5/bf retail, when it used to be \$4.25/bf. I think people will start to shy away in about six months or so." **W**

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TOOLS & TECHNIQUES

DeWalt grows ToughSystem family

By Jennifer Hicks

DeWalt continues to expand its ToughSystem product line with multi-compartment toolboxes, mobile totes and storage racking systems.

"We're providing storage solutions across our ecosystem of our end-users so it doesn't matter if they're on the road in the van, in the workshop or on the jobsite. There's always

a solution that caters to them, and they all work together," says product manager Michal Zeevi-Bender.

"We took into account there's no 'one size fits all' for storage so we really wanted to have the opportunity for users to pick and choose their system and have the very best of what they would need."



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New storage boxes include the ToughSystem Suitcase (Item No. DS130) and Mobile Storage Unit (DS450) with 7" wheels and a top carry handle.

Both storage boxes fit the ToughSystem Workshop Racking Solution (DWST08260), a modular rack assembly.

"The racks have a special jigsaw-type connection so you can place two racks next to each other, line them up perfectly, and have a shelf stretch across two or three racks, depending on how big your garage or workshop is," says Zeevi-Bender.

DeWalt also has a Van Racking Solution for transporting tools to and from the jobsite.

"The brackets fold away when not in use so the van can still be used for camping on the weekend. It's also lightweight and gas efficient," adds Zeevi-Bender.

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Homag's IntelliGuide offers operator assistance

By Jennifer Hicks

Stiles Machinery introduced Homag's IntelliGuide, a panel saw operator assistance system, at the 2017 AWFS fair. IntelliGuide supports the saw operator by responding to their movements in real time and guiding them with an LED light strip and laser technology that is projected directly onto the workpieces during operation.

The technology can be incorporated into any new panel saws offered by Homag or Stiles that feature modern compatible controls. Scott Cruickshank, sales manager at Stiles Machinery, says woodworking manufacturers can use it to increase their productivity regardless of their employees' skill levels.

"One of the major issues today is the skill level of new employees, and anytime you add a new piece of machinery there is a learning curve," says Cruickshank. "The idea behind this system is two-fold. One, it can make inexperienced workers experienced, and two, it can help

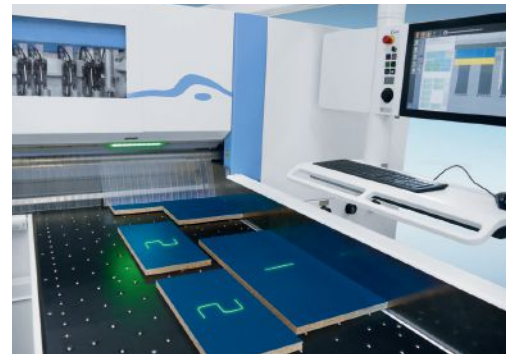
the integration of technology move as smoothly as possible in the shortest period of time."

Offered in a modular structure, IntelliGuide becomes more sophisticated with each version (Basic, Advanced and Professional).

With the Professional version, machine operators experience complete visual support. An LED strip at the cutting line lights up in different colors and lengths, allowing them to see the next action to be performed. This version employs a camera system, which also detects where each workpiece is, then tells the operator which workpiece needs to be inserted in the saw and in what way.

If the operator makes a mistake, the system responds by adjusting the saw's actions or informing the operator of the appropriate steps to correct the error.

"Say you have a new operator and need him to be productive on a machine but you don't have a lot of time for training someone new.



The IntelliGuide's camera system monitors which workpiece is being inserted into the machine and how it is positioned prior to operation.

This visual system will help them to operate the machine, safely and effectively with the least amount of oversight. The screen prompts a new operator when to move the panels and what order to put them in," explains Cruickshank.

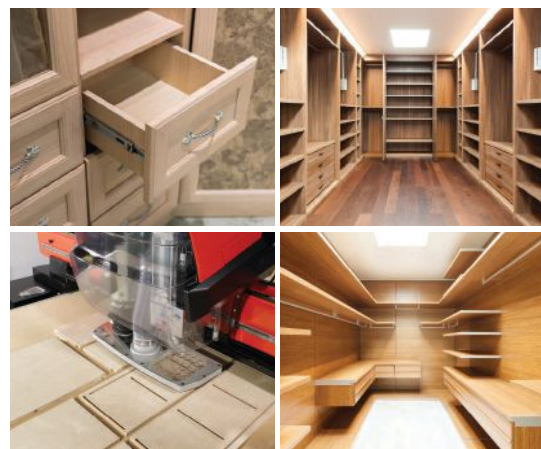
The Advanced version operates without a laser projection system but includes the LED strip and camera. The Basic version only guides the operator with the LED strip at the cutting line.

The system sells for \$4,500 (Basic) to \$25,000 (Professional).

For more, visit www.stilesmachinery.com. [W](#)

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Festool adds three sanders with power option choice

By Jennifer Hicks

Festool is introducing three new sanders with the company's Hybrid Power technology, which gives the user the option of running them off an 18-volt battery or AC power. The sanders include the delta-shaped model DTSC 400, 5" round-disk ETSC 125, and the rectangular RTSC 400.

Product manager Rick Bush says the new sanders feature a Li-ion battery design that provides up to 30 minutes of runtime at full power.

"We wanted to offer a hybrid-style sander without compromising performance and still give end-users the flexibility to plug it into the wall," says Bush. "Part of doing that was coming up with



a special battery.

"We didn't want to just take our existing 18-volt platform and couple it onto a sander.

We wanted to design a battery to compliment the sander and maintain the ergonomics and the balance that are typical to a corded sander, so we did that by developing a special battery called the Ergo battery, an 18-volt battery with 3.1 amp hours that has an integrated LED battery fuel gauge."

The sanders can be connected to AC power by simply replacing the battery with a plug adapter.

"The adapter takes the place of the battery, but allows you to attach one of our removable Plug-it cords. These tools are available with this adapter and the cord, or you can buy it strictly cordless if you wish," says Bush.

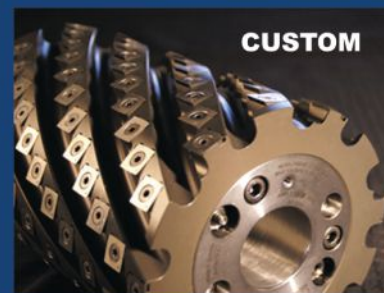
"All of these models are also available as corded units. And the latest corded sanders feature brushless motors for exceptional runtime, reduced weight and slightly smaller diameter around the motor housing."

The sanders are available in a kit with one battery, charger, adapter and Plug-it cord. The kits sell for \$535 (ETSC 125) and \$600 (DTSC 400 and RTSC 400).

For more, visit www.festoolusa.com. 



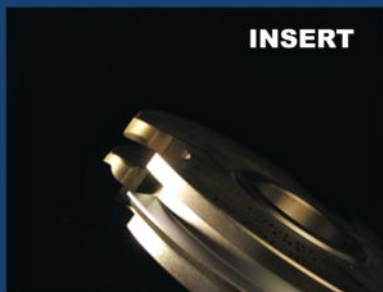
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Next Wave adds larger, faster Piranha XL

By Jennifer Hicks

The new Piranha XL from Next Wave Automation is a benchtop CNC boasting a larger table and more features than its sister model, the Piranha FX.

"The XL is larger and has several different changes. We gave it extra height, larger motors and it's also twice as long. Behind the scenes there is an Auto Sense capability, which allows the machine to locate work, and a Virtual Zero capability, which allows it

to determine if the board is warped or distorted. There are a lot of other software improvements in it as well that are not in the FX," says Next Wave president Tim Owens.

The XL features a 12" x 24" travel area that makes it ideal for projects like carvings, plaques, ornamental boxes and precision parts from wood, soft metals and plastics. With its 3D carving capability and a library of



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models, the XL can produce intricate corbels, detailed inlays, engravings and more.

"They're both very good in their capability and are very similar in their performance. The XL is faster for harder woods and has a larger footprint, so selecting a machine depends on what the person is working with. If they're making little fishing lures, they would want the FX. But for a 1' x 2' sign, they'd want the XL," Owens adds.

The XL also has a new touch screen color graphic pendant-controlled software package.

The machine requires a Bosch, DeWalt, Porter-Cable or similar style of palm router.

The Piranha XL sells for \$2,499 with a Vector Art 3D sampler pack, one V-router bit and two hold-down clamps.

For more, visit www.nextwaveautomation.com. 

PDS launches new website

Precisions Drive Systems, a global provider of high-speed precision spindle motors, support and repair based in Bessemer City, N.C., has made improvements to its website.

"Our new website makes it easier than ever to help our customers locate spindles and repair services," Bob Barone, vice president for PDS, said in a statement.

"Since PDS has its own repair division in-house, we have the unique ability to provide comprehensive repair and service for all makes and models of spindles for CNC machines. Our new website gives our customers unparalleled access to the products, services and information they need to keep production operating at peak performance with a minimum of downtime."

For more, visit pdsspindles.com.

Wisconsin governor praises Milwaukee Tool for investment in Empire Level

Wisconsin Governor Scott Walker recently joined employees of Empire Level, a division of Milwaukee Tool, and local officials to celebrate its commitment to manufacturing growth in Wisconsin.

Milwaukee Tool has invested \$16 million to strengthen Empire since acquiring the company in 2014. This investment supported plant upgrades, over 150 new products, and more than 80 incremental hires, according to the company.

"Empire Level and Milwaukee Tool have shown an outstanding commitment to growth and creating new manufacturing

jobs right here in Wisconsin," Gov. Walker said in a statement. "Both of these long-time Wisconsin companies are teaming up with local colleges and universities on worker training initiatives to close the skills gap and recruit engineering talent. The commitment shown by companies like Milwaukee Tool and Empire is a major reason why Wisconsin will continue to lead the way in manufacturing and worker training."

"Empire Level's success is a testament to our commitment of driving growth and creating new jobs in Wisconsin," added Steve Richman, president of Milwaukee

Tool Group. "The Home Depot, the world's largest home improvement specialty retailer, recognizes Empire as the fastest-growing and largest U.S. manufacturer of levels. Our strategic partnership has delivered tremendous growth which is focused on developing innovative solutions for our users and The Home Depot customers. The investments we've made in people, training, plant upgrades, and quality processes at Empire will allow us to continue delivering on this partnership."

Students recognized for woodturning talent

The American Association of Woodturners announced the winners of the "Turning to the Future" student competition and juried exhibit, which promotes opportunities in woodturning and showcases student woodturning talent, at the 2017 AWFS fair.

High School Division

Open Category

First — Judah Costello, North Salem High School (Ore.)

Second — Justin Fiaschetti, Delaware Valley Regional High School (N.J.)

Functional Category

First — Fiaschetti

Second — Todd Halleman, Newburg High School (Ore.)

Best in Show — Fiaschetti

Post-Secondary Division

Open Category

First — Scott Davies, Brigham Young University

Second — Ian Anderson, Brigham Young University

Functional Category

First — Tyler Gaston, Indiana University of Pennsylvania

Second — Emily MacCloud, Rhode Island School of Design

Best in Show — Davies

People's Choice

Brandon Lucas, Western Piedmont Community College

For more, visit www.woodturner.org.

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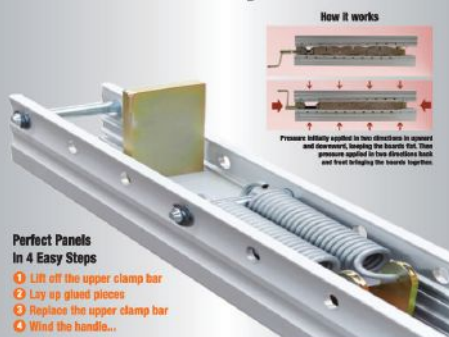
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PRO SHOP

with JOHN ENGLISH

What to expect in 2018

While the stock market reaches new heights, other economic news gives a cause for pause

Looking at the Dow Jones Industrial Average, one might think that the U.S. economy is firing on all cylinders and we're in for some great times.

Wall Street Journal founder Charles Dow created the Index in 1896. It was originally an indicator of the combined stock prices of companies that were at the heart of America's industrial infrastructure – producers of gas, lead, iron, railroads, rubber, cotton, sugar and cattle, to name a few. The index has gone through more than 50 transformations and has little to do now with that industrial base. Today, it seems less of a macro view of the entire economy than a micro view of where the top two percent are investing their money.

While the Dow is purportedly doing well, if one looks carefully there are some disturbing signs in the general economy that are often downplayed but probably shouldn't be ignored by a wise woodworker.

Even though there is a skilled labor shortage, overall employment rates are beginning to stutter. The Labor Department reported at the end of August that the unemployment rate had nudged up a hair from 4.3 to 4.4 percent, and initial estimates are that the economy created only 156,000 jobs in August compared to an expected 175,000. The Bureau of Labor Statistics also revised job growth downward for both June and July by a combined 41,000. It's not earth shattering, but it's a move in the wrong direction. Wage growth also slowed in August.

The U.S. is pulling out of, or renegotiating, global and regional trade agreements, and the word tariff is being bandied about. The U.S. still has a huge trade deficit: it was \$43.6 billion in June, and that was a good month. A country that imports more than it exports might want to be a little cautious about slapping taxes on imports, as other countries will obviously retaliate. And going forward, things look a little less rosy: the Census Bureau re-

ported that the advance international trade deficit in goods increased to \$65.1 billion in July from \$64.0 billion in June, as exports decreased more than imports. Again, not earth shattering but still moving in the wrong direction.

On Aug. 25, the Bureau released a report that said new orders for manufactured durable goods in July decreased \$16.7 billion (6.8 percent) to \$229.2 billion.

Interest rates are beginning to gently nudge up. According to FreddieMac, mortgage rates in 2016 (with 0.5 points) averaged 3.65 percent. For the first seven months of 2017, they averaged 4.06 percent. That's an 11.2 percent increase in the interest portion of one's monthly payment over last year.

Reuters reported on Sept. 1 that construction spending hit a nine-month low in July, decreasing by 0.6 percent to \$1.21 trillion, and investment in public sector projects also fell. While Hurricane Harvey recovery efforts will probably bolster those numbers for a while, it may also cause some material shortages.

There was a 1.3 percent drop in construction spending in June, and July spending on private, non-residential structures plunged 1.9 percent to its lowest level in over a year. Sales of new single-family houses in July 2017 were at a seasonally adjusted annual rate of 571,000, and that's a whopping 9.4 percent below the revised June 2017 estimate of 630,000. And privately owned housing starts in July were at a seasonally adjusted annual rate of 1,155,000. This's 4.8 percent below the revised June 2017 estimate of 1,213,000. Even rental vacancy rates are up a little (0.6 percent more vacancies in the second quarter than there were a year ago).

Once more, it's not dramatic but still kind of inching along in the wrong direction.

Financial planning for 2018

So, how should a woodshop owner look at all these hints and prepare for the future?

Well, according to Kiplinger staff economist David Payne (kiplinger.com, on July 28), “economic expansion in the second half of 2017 should run at an annual pace of 2.5 percent or so, leaving growth for the full year at about 2.1 percent.” In other words, the economy is doing okay, but not great.”

If you’re thinking of upgrading a CNC router or central dust collection system, now may be the best time in the foreseeable future. Because of low inflation, it’s probably a good time to invest but only with a loan that has a fixed interest rate. The Federal Reserve still seems set on boosting short-term rates as a hedge on inflation, and that will probably trigger increases in variable rate loans. Leases are also affected by higher rates.

Woodshops that own its premises and have a variable rate mortgage might want to take a look at their fixed rate refinancing options. If rates continue to rise slowly, there will be time to react. But the Great Recession in 2008 caught many businesses off guard, so it’s a good idea to be prepared. Based on how lawmakers reacted then, one of the first backlashes next time we have a dip will be a tightening of regulations, making credit both hard to get, and expensive. If you’re thinking of refinancing and locking in a fixed rate, now may be the best time to do so.

Shops that rent premises have some choices, too. Those that have reliable revenue streams and a solid, long-term customer base can negotiate longer leases with contingencies that may tide them through several years without significant rent hikes. Woodshops that are not already operating on lean principles might want to plan now for better resource management in 2018. The abiding concept in lean manufacturing is to eliminate waste. That can include better inventory management, smaller premises, upgraded manufacturing equipment and processes, and savings in every expense from utilities to shipping.

One way to begin that process, especially for small- to medium-sized shops, is to hire a lean expert like Brad Cairns. His Ontario-based company, The Center For Lean Learning (the-centerforleanlearning.org), spends a few days in the shop and then goes away and prepares a report. Then they come back and spend a week or so talking with employees, supervisors and managers as they implement the new, more efficient plan. If you are going into 2018 thinking that you don’t have the right people, need more machines and don’t have enough space, make the phone call.

Check your deductibles

One area of business planning that often gets overlooked is insurance. There are several common mistakes made here. Finding the right balance between premium cost and risk

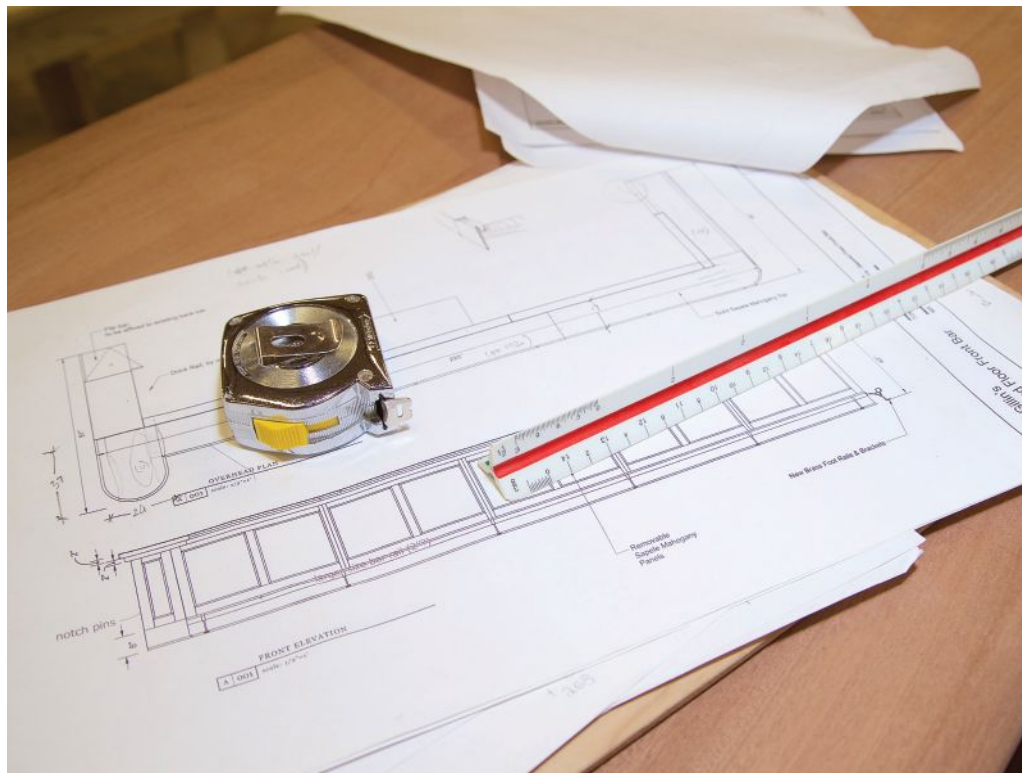


PHOTO:JOHN TROHAREDEX PLUS

coverage can be tricky. Getting it wrong can cost a lot each month, or everything if there’s a disaster.

The first step in getting it right is to do an annual review. And not just with your agent. It is essential to shop around. Better pricing is only one potential benefit: different agents will be able to offer more tailored packages that remove you from cookie cutter solutions and bring you into a more customized, comprehensive mode of coverage. For example, what’s the market value of your building? And the replacement cost? If these numbers are wildly different, you need more than one opinion. If, for example, you own the only stone building in town, it might have a market value akin to its stick built neighbors that is based on square footage. But it might cost five times as much to rebuild in stone than sticks. Which coverage do you want to pay for?

And is your policy only designed to help you replace your building? What kind of liability coverage do you have if a customer walks into the shop and gets hurt? Or if your billing records are hacked and somebody steals your customers’ or employees’ identities? How about disruption coverage, where a policy pays the bills if you need to close down for a few weeks or months after a fire or flood? Are your legal fees covered? What exactly is the definition of a flood in your policy, and when does that exclude you from recovering damages? If some angry idiot drives through your plate glass showroom window, is that excluded because it’s ‘domestic terrorism’?

And be honest: have you ever actually read – and understood – every sentence in the policy that you signed and pay for every month?

Software

The trend toward acceleration in The Internet of Services would suggest that software will continue to become more of a rent than a buy option, as more and more program manufacturers turn to service accounts that include technical updates in a monthly fee. And machinery companies all over the world are adding comprehensive new apps (and often entire packages), often free, that can help shops keep track of equipment maintenance, productivity and even electricity usage. These run the gamut from C.R. Onsrud’s Osync Machine Analytics 2.0 (cronsrud.com) to Homag’s Tapio (tapio.one/en). If you run machines from either company, 2018 may be your year to become uber-efficient.

Other companies are revolutionizing the way we collect, manage and use data from every aspect of our businesses. For example, Houston-based ExhibitForce (exhibitforce.com) recently introduced a cloud-based app called Enterprise that tracks customers, projects and other management data, and lets the shop manager retrieve and use that information in a user-friendly way. ERP, or enterprise resource planning software, is available from numerous companies already and it is going to be a much bigger part of most woodshop planning over the next few years, as we travel into and through our next industrial revolution, Industry 4.0. **W**



FINISHING

with GREG WILLIAMS

Fillers can be frustrating

They still don't take color as well as wood, but with a little knowledge comes better results

When I was a novice at almost everything I did, I was introduced to wood finishing, touch up and repair. Among the many products I had to learn about were fillers of different types, used to fill voids such as gouges, dents, and scratches to restore the shape of the surface of a damaged piece of wood furniture.

Gradually I learned to use simple products such as wax fill sticks, and worked my way up

to burn in sticks, epoxy and polyester putties, and many more that were introduced during my years of teaching finishing and repair.

Filler manufacturers claimed that its products, mostly water- or solvent-based putties, could be stained or tinted. Rarely did it happen that the fill actually accepted the stain like the wood did. If by chance a particular stain colored the fill fairly close to the way it colored a particular piece of wood, a different stain would not. And that same stain

would not color another piece of wood, even of the same species and cut as the first, in the same way.

Let's look at why this is true. There are two main types of stains used on almost all modern wooden furniture, according to the type of coloring material that is in the stain. Those coloring materials are either pigments or dyes, or a combination of the two.

What's the difference?

An easy way to think about it is dyes are color totally dissolved in a solvent, or liquid color. Pigments are particles of color, or colored particles. The pigmented stain is a mixture of the pigment colorant, possibly a binder (resin) and a solvent for the resin that also acts to suspend the pigments. When the stain is applied, excess is wiped off, and allowed to dry; the resin prevents unintended loss of the pigment as the item is handled. In an open-grained wood, more of the pigment will remain in the pores and in the less accessible parts of the surface, such as in carvings, physical distress marks, and inside corners, thus adding visual interest.

A dye stain contains the dye, dissolved in a solvent. It typically does not have a resin com-

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ponent, as it will penetrate into the upper layers of the wood, and is transparent. When the solvent evaporates, the color is in the wood. Dye stains will absorb more readily into the more absorbent parts of the wood coloring it more intensely, and less into resinous, or more tightly grained parts. Dye stains are generally more difficult to control, and very difficult or impossible to remove if you apply them too heavily. They also don't have hiding power.

A pigmented stain holds the tiny colored particles in suspension in a liquid medium. When the solvent dries, the particles lie on the surface of the wood. They will concentrate in sanding scratches, the open pores of the wood, and the nether recesses of carvings. Pigmented stains are generally more forgiving, but can tend to muddy a finish if applied too heavily.

The wood will take or accept a pigmented stain according to the color strength of the stain, how heavily the stain is applied, how the excess is wiped off, how the stain wets out

the surface, and the shape or profile of the surface of the wood.

A dye stain, on the other hand, will be absorbed into the wood according to the absorbency of the surface, which is related to the density of the wood, the moisture content of the wood, the amount of stain applied, and the solvent in which the dye is dissolved.

Filler up

The fillers may be somewhat absorbent, but it is rare to find one that duplicates the absorbency of a particular wood. If the filler is too absorbent, it may accept the dye more than the wood does, making the filler more strongly colored. If the filler is not absorbent enough, it will come out less strongly colored

than the wood.

If the filler is tintable, the finisher can experiment with tinting the fill material to get a mix that will closely match the color of the wood when the filler and wood are stained together.

For a pigmented stain, the surface texture, not the absorbency, determines how the stain will be accepted. The filler and wood surface should be sanded together, and with a grit that is not too fine. Polishing the surface will limit the amount of pigment that will stay on the surface.

I don't expect to see in my lifetime a filler that truly accepts any stain exactly the way the wood does, much less that accepts all stains that way. If you find one, please let me know. **W**

Wax on, wax off

Wax fill sticks of various mixtures can be quite malleable, making it possible to simply rub the stick over scratches or small voids, then removing the excess by scraping with a metal or plastic edge or wiping with a cloth, either dry or dampened with a solvent for the wax.

The softer waxes may not be suitable for edges that may have pressure or applied to them when the furniture is in use, or for surfaces subjected to rubbing or impact. Some forms of wax stick could be quite hard, and brittle, necessitating leveling with a hot burn-in knife, sandpaper, or solvent. Wiping a stain over the wax-based fillers often softens and removes some of the wax. Wax fills should be protected with top-coat.

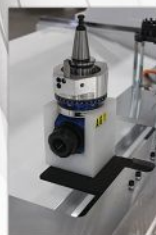
Often it is possible to stain the raw wood before filling damages, and then fill the voids with filler matching the color of the stain, then sealing the wood, followed by coloring in grain lines and other markings over the fill to match the pattern of the wood. Subsequent use of toners and glaze will improve the match.

In figured woods showing a lot of depth, it is worth exploring the technique of coloring the damaged wood, then filling with transparent filler.

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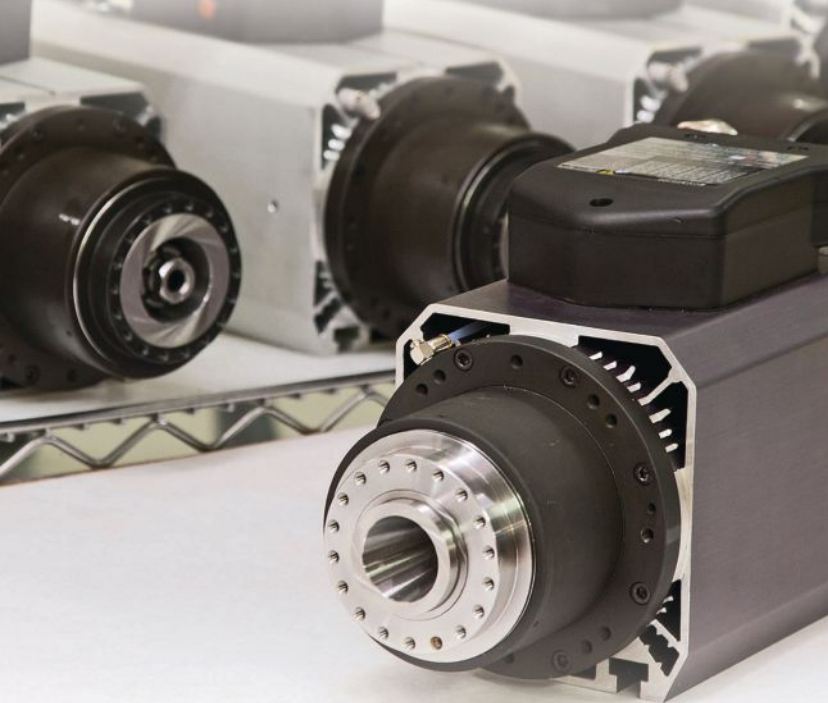


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THE CUTTING EDGE

with R.W. LEE

Small-format CNCs are a great option

CNC router manufacturers recognize that smaller shops can't justify the cost or space requirements of large-format machine so they've created a relatively new category of small-format machines built for production work.

Just so we're clear, I'm not talking about the desktop CNCs marketed to hobbyists. I'm talking about machines with welded steel frames, heavy-duty spindles and gantries, and high quality lineal guide system components.

Small-format machines are offered with two primary drive systems – ball screws or rack-and-pinion. There's debate about which system is best, but they both have a long track record of getting the job done.

The electronics components are the most expensive part of any CNC machine. These include stepper or servo motors, controllers, controller software and a computing device to interpret the G-code that commands the X, Y and Z axis. Manufacturers building quality machines won't skimp on these components.

You should also expect high quality customer service and user support, just as you would expect buying a large-format machine.

Many small-format CNCs use Vectric's CAD/CAM software. Because of its popularity, there's great deal of training available, espe-

Strong demand for Stiles' European tour

Stiles Machinery announced a sold out European Benchmarking Technology Tour in record time, confirming that manufacturing professionals are investing in more technology and automation than ever before in an effort to maintain their competitive edge and meet increasing market demands.

"The European Benchmarking Technology Tour, hosted by Stiles Machinery, provides attendees with a unique behind-the-scenes tour of some of the most innovative, efficient, and productive manufacturing facilities in all of Europe," the machinery distributor said in a statement. "Over the course of seven days, guests receive exclusive insights into the latest advancements in panel processing, batch-size one strategies, cutting-edge production technologies and industry 4.0 innovations for high-end store fixture, component, and kitchen cabinet manufacturers.

"The forward-thinking solutions experienced throughout the weeklong event allow participants to benchmark their own operations against other global leaders, giving them a competitive advantage in the marketplace and equipping them with valuable knowledge and tools that will directly affect the overall success of their companies for years to come."

The tour is scheduled for Oct. 7-14 and includes stops at nine plants in Germany, Belgium, and the Netherlands.

For more, visit www.stilesmachinery.com/events.

cially for V-Carve Pro, at manufacturing sites and online.

Small-format CNCs are available in several configurations and with numerous accessories, some I'll recommend.

First and foremost is a variable frequency drive (VFD) spindle. This is an expensive option but worth it to at least save your hearing. A VFD is much quieter than a production router, especially if it is running hours at a time. In the long run, you'll save money on hearing aids.

Production routers aren't designed to plunge vertically with excessive repetition. The shaft bearing will wear out quickly, which will affect accuracy and repeatability, and the bushings won't last long. An air- or water-cooled VFD spindle is clearly the better choice.

If you'll be drilling lots of holes, consider an air drill. Again, a VFD spindle isn't designed for extensive drilling.

The second must have is a Z-zero tool. It is standard on most small-format CNCs because setting the Z-zero height after changing tools is a frustrating and time consuming task for the operator. If it's not standard equipment, get it.

CNCs make more dust than any other woodworking machine, especially cutting MDF, so get a dust shoe.

The fourth is a set of router bits from the CNC manufacturer. Use this set ex-

clusively with your new CNC and you will get accurately machined parts over and over. When they wear out, buy another set from the manufacturer. In my experience, this is the best way to go.

Two accessories are worth considering. A probe tool is valuable to replicate parts, while a rotary axis basically turns a CNC

into a lathe. A rotary axis can produce some amazing designs, far beyond anything a skilled turner can do. Combined with the probe tool, any spindle can be replicated or repaired.

Small-format CNCs will expand the capabilities of a small shop, no matter what type of work is done. **W**

Lamello reaches sales milestone

Lamello USA, a division of Colonial Saw, recently celebrated the sale of its 1,000th Zeta P2, a precision tool to cut the full range of slots for the P System connector series.

Weber's Cabinet and Fixture Co. in Reno, Nev., made the purchase.

"We're very excited to reach this milestone," product manager Chris Hofmann said in a statement. "It means that woodworkers of all types are taking advantage of the P System for stronger, invisible joints, and using the Zeta to cut the precision slots the P System requires."

For more, visit www.csaaw.com.

Lenox, Irwin begin cross-country tours

The Lenox Cut Above Nationwide Tour and Irwin Tools National Tradesmen Day Road Show will log more than 35,000 miles and host 205 hands-on events at Lowe's retail locations from Aug. 14 through Oct. 27.

Coast-to-coast events kick off in upstate New York, Boston and North Carolina and continue with stops throughout the Heartland as well as California, Washington and Oregon.

For a full list of events, visit www.lenox-tools.com/tour and www.irwin.com/nationaltradesmenday.

Construction industry adds 28,000 jobs in August

Construction employment increased by 28,000 jobs in August, following a dip in hiring and spending in July, according to a workforce survey by the Associated General Contractors of America.

The association says construction job growth would have been even higher but a majority of respondents report a hard time finding qualified workers.

"Construction firms have stayed busy, adding employees in the past year at nearly twice the rate of employers throughout the economy, but more than two-thirds of contractors report difficulty finding craft workers as the number of unemployed, experienced construction workers hit a 17-year low in August," Ken Simonson, the association's chief economist, said in a statement.

"Although construction spending has fluctuated recently, many contractors are still looking for qualified craft workers and project managers."

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- Floor-to-table height: 44"
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- Max. cutting height: 6"
- Blade size: 92½" to 93½" L (⅞" to ¾" W)
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- Amps: 15A at 110V, 7.5A at 220V
- Table size: 21¾" L x 16½" W
- Table tilt: 5° L, 45° R
- Floor-to-table height: 37"
- Max. throat capacity: 13½"
- Max. throat capacity w/fence: 12"
- Max. cutting height: 14"
- Blade size: 120" (⅞" to ¾" W)
- Blade speed: 2820 FPM
- Footprint: 24" L x 18" W
- Overall size: 29" W x 32½" D x 76" H
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- Arbor: 5/8"
- Max. depth of cut: 3" @ 90°, 2⅞" @ 45°
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- Amps: 20A at 110V, 10A at 220V
- Precision-ground cast-iron table size: 17" x 17" x 1½"
- Table tilt: 45° R, 10° L
- Floor-to-table height: 37½"
- Cutting capacity/throat: 16¼"
- Blade length: 131½" (⅞" to 1" wide)
- Approx. shipping weight: 342 lbs.

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- Amps: 15A at 120V, 7.5A at 240V
- Precision-ground cast-iron table w/ wings measures: 40½" W x 27" D
- Table height: 35⅜"
- Arbor: 5/8"
- Arbor speed: 3450 RPM
- Max. depth of cut: @ 90° 3¼", @ 45° 2¼"
- Rip capacity: 31" R, 16¾" L
- Overall size: 64" W x 40¼" D x 35½" H
- Footprint: 21" L x 19½" W
- Approx. shipping weight: 371 lbs.



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*To maintain machine warranty, 440V operation requires additional conversion time and a \$250 fee. Please contact technical service for complete information before ordering.



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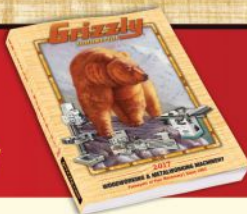
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- Dust port size: 4"
- Planer feed rate: 22 FPM
- Max. planer depth of cut: 1/8"
- Max. planer cutting height: 8"
- Planer table size: 12 1/4" x 23 1/8"
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- Footprint: 26" L x 19 1/2" W
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- Motor: 2 HP, 240V, single-phase, 10.8A, 3450 RPM
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- Cutterhead speed: 7000 RPM
- Cuts per minute: 14,000
- Cuts per inch: 64-300
- Max. planing width: 7"
- Max. planing height: 7 1/2"
- 2 HSS knives
- Overall size: 22" W x 36 1/4" L x 34 1/2" H
- Approx. shipping weight: 324 lbs.



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W1812 \$1920⁰⁰ SALE \$1650⁰⁰

15" PLANERS

- Motor: 3 HP, 240V, single-phase, 15A
- Max. stock thickness: 8"
- Min. stock thickness: 3/16"
- Max. cutting width: 15"
- Min. stock length: 8"
- Max. cutting depth: 1/8"
- Feed rate: 16 & 30 FPM
- Cutterhead dia.: 3"
- Cutterhead speed: 4800 RPM
- Cutterhead knives: 3 HSS, 15" x 1" x 1/8" (G0453); 74 inserts (G0453Z)
- Precision-ground table size: 15" x 20"
- Overall size: 32 1/2" L x 42" W x 45 1/8" H
- Approx. shipping weight: 675 lbs.



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G0453 ONLY \$1250⁰⁰

SPIRAL CUTTERHEAD

G0453Z ONLY \$1795⁰⁰



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- Cutterhead motor: 5 HP, 220V, single-phase (G5851Z); 7 1/2 HP, 220V/440V*, 3-phase (G7213Z)
- Feed motor: 2 HP
- Precision-ground cast-iron table size: 31 1/8" x 24 1/8"
- Max. cutting height: 7"
- Max. cutting depth: 1/8"
- Feed rate: 17-26 FPM
- Cutterhead speed: 5200 RPM
- Approx. shipping weight: 1130 lbs. (G7213Z), 1126 lbs (G5851Z)



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G7213Z \$5195⁰⁰ SALE \$4950⁰⁰

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 dia.: 3 1/8"
- Cutterhead knives: 4 HSS, 20" x 1" x 1/8" (G0454); 98 carbide inserts (G0454Z)
- Cutterhead speed: 4800 RPM
- Table size: 20" x 25 3/4" (20" x 55 1/2" w/ extension)
- Overall size: 39 1/2" W x 55 1/2" D x 45 1/8" H
- Approx. shipping weight: 932 lbs. (G0454Z), 920 lbs. (G0454)



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G0454 \$1750⁰⁰ SALE \$1495⁰⁰

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24" EXTREME-DUTY PLANER WITH SPIRAL CUTTERHEAD



- Cutterhead motor: 10 HP, 220V, 3-phase (G9961); 220V/440V* (G9741)
- Feed motor: 1 HP • Feed rate: 20-40 FPM
- Precision-ground cast-iron table size: 24" x 35 1/2"
- Max. stock thickness: 9" • Min. stock thickness: 1/4"
- Max. cutting depth: (G9741) 5/16", (G9961) 3/16"
- Max. cutting width: 24" • Min. stock length: 10 1/2"
- Cutterhead knives: 4 HSS, 24 1/8" x 1 3/16" x 1/8" (G9741); 162 carbide inserts (G9961)
- Cutterhead dia.: 4 5/8"
- Cutterhead speed: 5000 RPM • 42 - 84 CPI
- 20,000 CPM (G9741); 30,000 CPM (G9961)
- Overall size: 42 3/8" W x 36" D x 58" H
- Approx. shipping weight: 1980 lbs. (G9961), 1935 lbs. (G9741)



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G9741 \$7995⁰⁰ SALE \$7795⁰⁰

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The team of problem solvers
at the Philadelphia Woodworking Co.

A FAST STARTER

The Philadelphia Woodworking Co. and its young owner has outgrown two shops in a short time

By Jennifer Hicks

While the Philadelphia Woodworking Co. has the ring of an 18th-century furniture shop begun by Benjamin Franklin, it only dates back to 2013 and founder Matthew Smolens.

The 31-year-old is moving into his third shop – a 9,300-sq.-ft. space with high ceilings and a city skyline view in north Philly – with his four employees, machinery and clients from the suburbs. He follows a calculated business approach that revolves around a fairly simple creed: give the clients exactly what they want.

“I’ve never had too much of a desire to do my own designs. I’m more of an engineer than a designer. I like to work within constraints of other people’s ideas more, rather than being a furniture maker making a beautiful thing for people who might want it. That makes sense and that’s how business works now. Being a problem solver and working with other people’s ideas makes sense,” says Smolens.

NOT HIS FIRST CHOICE

Smolens grew up in Doylestown, Pa., earned a bachelor’s degree from Temple University’s Tyler School of Art, and has worked with many of the area’s best cabinetmakers.

“Woodworking wasn’t in my family or anything like that but I was always drawn to it and got exposed to it in middle school. In high school I took as many of those classes as I could and ended up getting jobs at local shops in the summers,” he says.

But Smolens also had musical aspirations.

“I had only wanted woodworking to be a hobby back then and didn’t see it as a career. I was in a band and played the bass guitar and that’s what I was focused on that at the time. We did local gigs, we toured a little, and after the first year of college the band got more serious and was approached by a record label. But I decided that wasn’t the direction I wanted to go. So I left the band and got another job at a shop in town here, which was for the next five years.”





He also took woodworking classes at the Bucks County Community College in Newtown, went back to Temple for some architectural studies, and enrolled in the art school. But the work experience in shops got him to think about woodworking as a feasible career.

"That whole time I was working for different furniture makers and cabinet makers, they were doing really interesting work. They showed me a different way to live and have a small business, especially in a big city," says Smolens.

FROM SHOP TO SHOP

Smolens started working for himself in 2011 just to see how it was going to go. He started in a small co-operative shop and in less than two years moved to a larger co-op to take on bigger projects. Now he's expanding again with the new shop, which features a proper spray booth.

"Finishing is not my thing," admits Smolens. "It's an art of its own. I have a basic knowledge and so does a guy who works for me. There is a finisher nearby us that we use now and everyone is going there to learn so we can start doing our own. We always did some clear basic finish work but now with booth we will get into it a little."

Smolens is the designer, estimator, project coordinator and scheduler, and when he's not busy with all that helps in the shop and sweeps the floor.

"I don't work in the shop very much. I work onsite pretty regularly. I can't let go there. That's when it all comes together and a lot of times clients are there, so you've got to be sure things are right."

SOURCING WORK

The shop is fed work from a secret design firm in Philadelphia's Rittenhouse Square. The shop's name has also helped to attract customers.

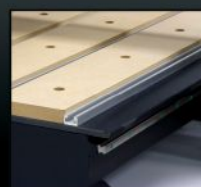
"The name of the business is good and bad," says Smolens. "It's very 'Googleable', and people call for anything. But I get a fair number of inquiries from people who don't fully understand the market, to no fault of their own. The state of custom furniture and cabinets has changed with places like Ikea and Home Depot that are cheap. Some people will approach us with that in mind and when I give them a ballpark price they think I'm trying to rip them off or something."

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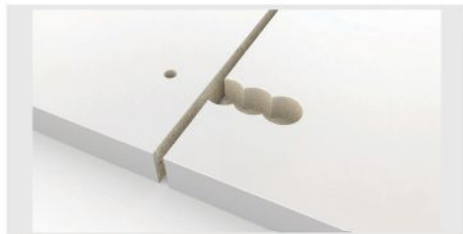
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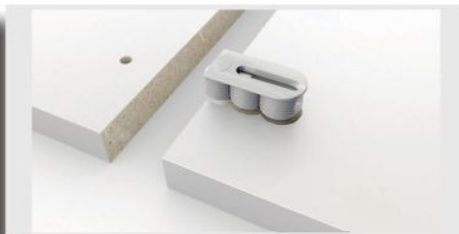


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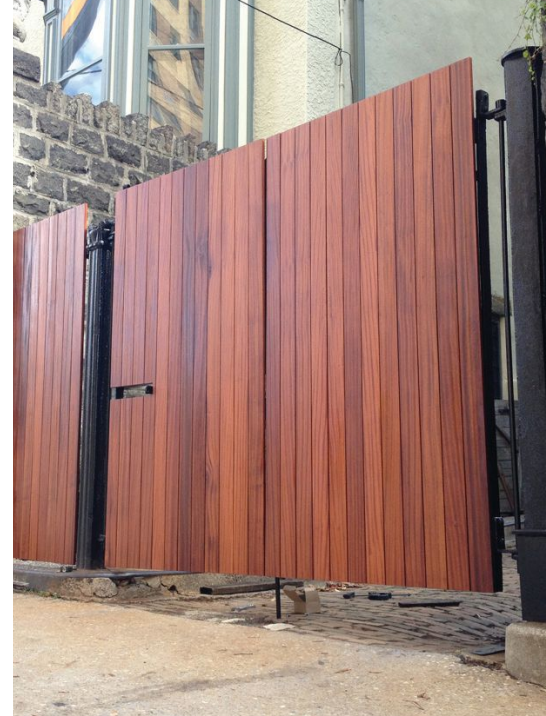
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"So we don't want a sign up or a big public presence because those people come around. I like my clients streamed through architects and designers and builders. They're pre-screened in a way and know the costs associated."

The shop does most its work in and around Philadelphia.

"The city's growing right now," says Smolens. "There's a lot of new construction and we've gotten some work from that. We also do some work older houses. One of our customers wants a whole new kitchen in a 19th-century farmhouse."

TAKING STOCK

While he's moving into a bigger shop, Smolens is trying to be conservative about the future growth of his business.

"I'm a bit nervous about that," he says. "I want to keep eye on things. The guys I have are great but I don't think we're at a point where I can hand off stuff to a person to oversee the work in the shop."

"We are small and I can still be involved and I like that. I couldn't have 30 or so people working here. We're not looking to get that big. But I could see having a couple more people here especially as we get



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into doing more finish work.”

Remember, Smolens is still fairly new at running a shop, a point he concedes.

“I think I’m still figuring out what the heck it is I’m doing here. I’ve only been doing it for a few years and have never done it at the pace that we’re doing it now. Every day we get a little busier and I’m not used to that so I’m just figuring out how to manage a business and make all of these products.”

Smolens recently found an abandoned box in his new space with

(From left) The shop’s portfolio includes this residential built-in; quarter-sawn sapele property gate; master bath vanity, and bedroom headboard.

stationary for the Interior Milling Co., a components manufacturer that had been around for decades. Undoubtedly, it’s a promising sign for the new tenant.

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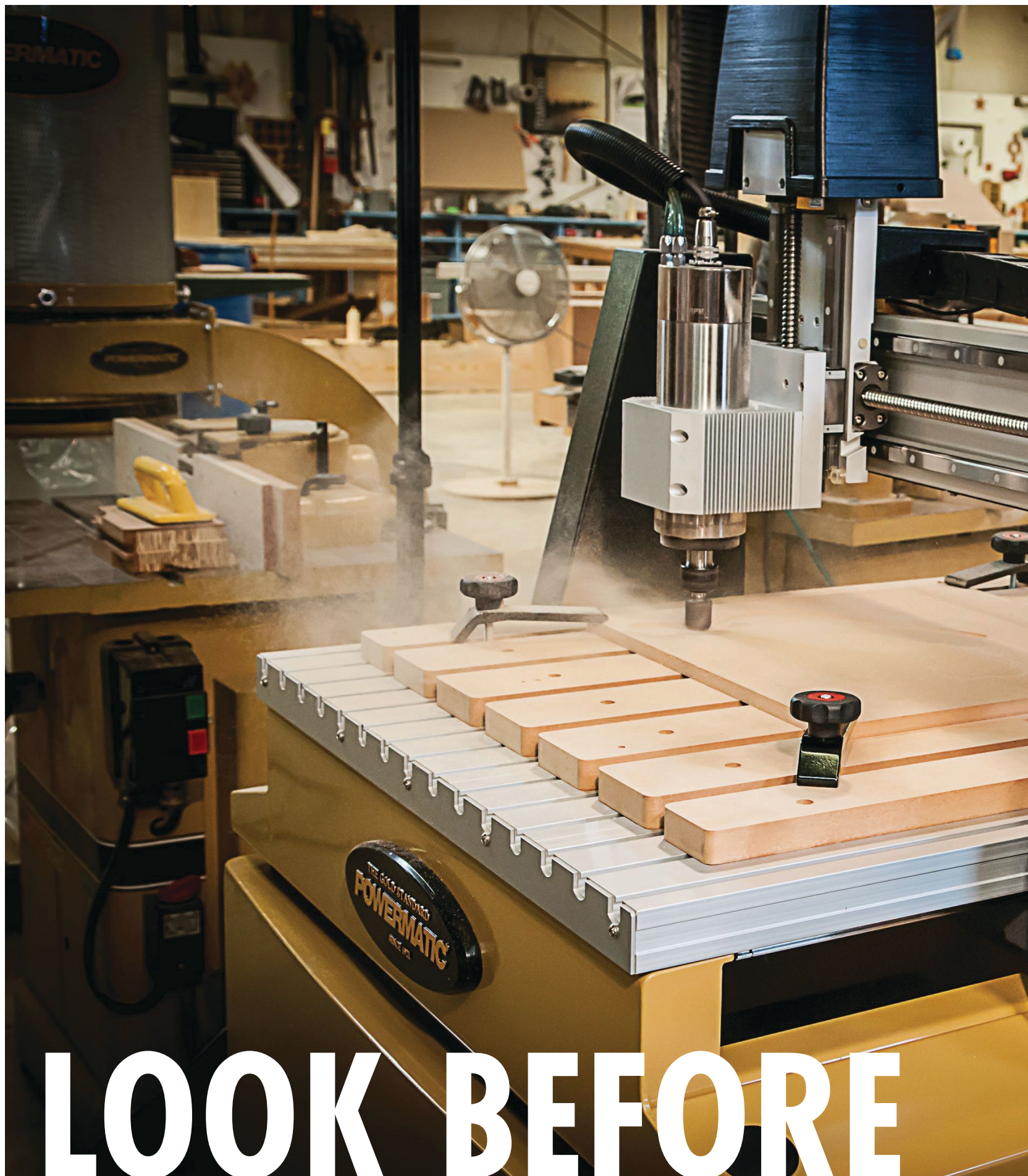
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Small shops need to consider several factors, including machine size, software and training, before making that first purchase

By John English

Physical size seems to be less of a consideration than budget, at least when smaller shops begin shopping for a CNC router. But it doesn't take long to figure out that machines are a lot more affordable now than they were even just a few years ago. That's because this has become a very competitive arena where several companies produce excellent basic router packages, and something new is introduced almost daily. Budget-conscious buyers rapidly realize that low-cost machines can pay for themselves very quickly, if they are given the right work to do.

The world of small CNC routers has changed with the introduction of portable jobsite units such as the Handi-Bot and the Shaper Origin. The first of these (handibot.com) is a "take-anywhere, run-from-any-device power tool" that has fundamentally changed



the way many shops work, especially on details such as rafter tails or timber joinery. It is robust, precise, and downright fun to use. The HandiBot belongs on a jobsite the way that circular saws and routers do: it's just smarter than those other power tools. Place it directly on a countertop, the floor, the wall, or even the ceiling, and go to work. And for woodworkers who are worried about understanding the programming aspect of CNC, HandiBot's control software called FabMo delivers the power of CNC technology while reducing that challenge. You don't actually need to know how to use CAD and CAM software: you can use simple phone or tablet apps to make projects. Of course, if you want to work with the traditional CAD to CAM workflow, ShopBot provides powerful software programs for doing that, too.

The Shaper Origin (shapertools.com) is essentially a handheld router with a screen on board. You hold the base stationary, close to where it needs to be, and the cutter then moves around inside the machine and follows a map. It's very precise and intuitive, and programming is relatively uncomplicated. "Origin integrates seamlessly with the design software, workflows, and file formats you already use," according to the company. And for woodworkers who don't already use design software, there is the option to select from ShaperHub's online library of downloadable designs and templates, or simply design on the fly. It's a whole lot easier than it sounds.

Size matters?

For shops looking at something a little larger than a portable CNC, there are numerous desktop models available.



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ShopBot's HandiBot

Most of them have work areas large enough to handle raised panels for five-piece cabinet doors, or similar sized projects. And if that's borderline for your needs, a woodworker can peruse lots of very affordable stand-alone, entry-level machines that will process panels all the way up to 49" x 97".

Rather than worrying about how much floor space or budget is available, or even the challenges of learning programming, it would be smart to begin there: exactly what do you want the machine to accomplish?

If you just need to cut sheet stock into case parts, that's one thing. But if you want to create decorative panels, or mill solid wood parts, that's another. Will you be working in two or three axes (flat boards), or will you need to do some carving or edge detailing? Is either travel or rotation speed an issue? How about power? Will you need special dust collection? How about work holding – will you be using fasteners, clamps or vacuum?

If you're scratching your head right now, that's okay. It just means that you haven't done enough homework yet, and you're not quite ready to buy.

Getting up to speed on a CNC router has almost nothing to do with being a great woodworker, and everything to do with keyboards and screens. You may be able to shave the hairs on your wrist with the chisels you sharpen, but if you can't run a basic drafting program then you can't run one of these routers.

Software

There are two types of software to master before you even chuck a bit in the spindle. In the simplest of terms, CAD lets you draw parts in the computer and CAM tells the router how to make the parts that you drew. The software choice you make can be just as important as the hardware one, so it's a really good idea to become somewhat familiar with CAD/CAM programs before shopping for a machine. You don't have to become an expert. But if you have drawn even one cabinet in a design program, you'll have a much better handle on what salespeople are talking about. Even if you have a computer wizard on staff, it's a good idea for the shop owner to learn the absolute basics. If your genius leaves, you'll at least know enough to interview a replacement.

There are lots of online courses available, and many community colleges and universities offer classes. Among the free online options is Carbide 3D's Crash Course in CNC (carbide3d.com). Often, individual classes or even workshops that are part of full-time programs can be audited (attended without earning credit) for a fee. Availability can depend on how many regular students are enrolled, and how many machines or computers are available.

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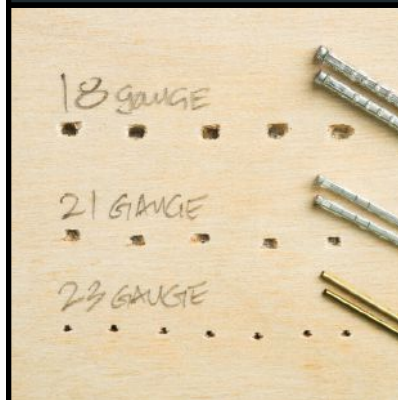
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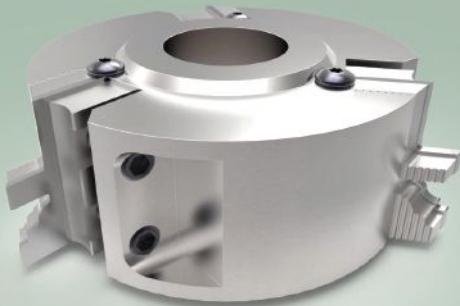
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Getting up to speed on a CNC router has everything to do with keyboards and screens.

Higher education institutions are recognizing the advent of Industry 4.0 and this new world we live in. For example, California's Cerritos College (cms.cerritos.edu/woodworking) offers many classes in CNC woodworking, and the School of Architecture at Clemson University in South Carolina (clemson.edu, search for CNC) is another leader in this area. That school recently developed the Simply construction method where off-the-shelf plywood is cut by CNC routers into interlocking tab-and-slot pieces that are shipped flat-packed to a construction site where they can be assembled with almost no training. North-central Technical College in Wausau, Wis., offers a CNC Router Certificate program, and the courses there include CAD/CAM machine programming, CNC router technology and 2D mechanical CAD. The Fine Woodworking program at Red Rocks Community College in Colorado (rrcc.edu) is currently offering a CAD course called Advanced Wood Technology - Digital Design & CNC that includes classes on CNC wood routing, CNC laser, Rhino 3D design software for furniture builders and cabinetmakers, and the especially appropriate CNC Wood Router: 3-and-4-Axis.

Veteran woodworking instructor George Vondrisk (vondriskatwoodworks.com) operates a shop and school in Hammond, Wis., which presents several inexpensive introductory CNC classes.

If you're in a larger metro area, some showrooms will let you dabble a bit on their machines before you buy. And if there aren't any cabinet shops close by, but you know the owners of a local sign shop or even an awards or plastics manufacturer, odds are they are using CNC to mill parts and might share some pointers over coffee. Guess who's buying.

One of the best options for somebody who has never used CAD and is a bit nervous about the prospect is perhaps to download the Sketchup program (sketchup.com). This is a 3D modeling computer program that is very

suited to drawing boxes, drawers, moldings and other woodshop projects. It is available as a freeware version, SketchUp Make, and a paid version with additional functionality called SketchUp Pro. Many woodworkers try Make for a while and then upgrade. After you download the program and get it open, stop by and visit Rob Cameron's website called sketchupforwoodworkers.com. Rob created this site just to help woodworkers learn how to use Sketchup. With his help, spend a few evenings playing with the program, just to get some experience.

Whether you settle on this or another CAD program, it won't take you long to grasp the basics. The first couple of hours can be daunting, but the learning curve levels off very quickly. When you're comfortable with the concepts, create a list of the CNC machines that you might be interested in buying. Try to keep it to a small number of manufacturers, always keeping in mind that your choices depend most on what you want or need to make, rather than price. Just because you're a small shop no longer means that you have to settle. The right machine is out there, with the right purchasing or leasing option. There are even options such as Thermwood's Cut Center (cutready.com), which allows you to start making cabinets, closets and furniture with no programming at all: it doesn't even require a computer.

Visit the manufacturers' websites to see what software they're using, and then visit some forums or chatrooms to see what users are saying about those programs. If you like the sound of a program that isn't listed as being compatible with your favorite machine, call the CNC manufacturer and ask if it works. If it doesn't, they will probably be able to guide you toward something that has the same strengths.

Listings of CNC manufacturers and distributors are available in the Resource Guide at www.woodshopnews.com. **W**



HAMMER TIME IS SO YESTERDAY

There's a finish nailer for just about any job a woodworker will encounter.
Here's our A to Z guide of manufacturers and the current offerings.

By John English

There are more than 40 brands of finish nailers on the market, and most manufacturers offer several models. But choosing between literally hundreds of options isn't as daunting as it sounds. That's because there's more than one right answer here.

These aren't very complicated machines, so almost any of them will deliver decent quality and handle the job. And as tools go they are relatively inexpensive, so this isn't a major investment. However, choosing the right tool, or family of tools, based on weight and ergonomics can help shorten a long day on the job. Most guns will shoot more than one length of nail, and sometimes both nails and staples, so that may be a consideration. And many of the better models have mechanical advantages that stop marring, or can reach into small spaces, or make quick work of dislodging a jam.

The differences between models – even in the same branded family – are often subtle, so woodworkers shopping for a new gun will probably be more concerned at first with the nails rather than the guns. The term 'finish nailer' most properly refers to guns that drive trim nails, but in reality most woodworkers now use the term generically to include three families of fasteners: finish, brad and pin.

Pins are very small headless nails with 21- or 23-gauge wire shafts, and they come in lengths from about 3/8" to 2" with most being on the shorter side. Brads are a little thicker at 18-gauge, and they have flats heads that are small enough that they don't always need to have the divot filled. They come in a range of lengths from about 5/8" to 2". The last category, finish nails, are quite a bit thicker at 15- and 16-gauge, and these run from about 1" to 4" long and will always need to have the divot filled on appearance surfaces.

The biggest choice for woodworkers is which of the three to buy, and the best answer is all three. You're going to use them, and they're affordable.

Pins are great for installing small items such as embossed carvings, or holding miters together until the adhesive cures. Brads have a little more holding power and are used on jobs such as small moldings, attaching solid hardwood edging to panels, or perhaps securing cove in muntins. And finish nails are ideal for base, case and crown installs. Plastic composite brads and nails are also ideal for securing work to a spoil-board on a CNC as they can be milled without damaging bits and blades. And their severed shafts are so small and stainable or paintable, they virtually disappear in most woods. Straight guns are perhaps the easiest to use on flat surfaces, while angled guns can reach into corners and tight spots.

The following list flows through the manufacturers alphabetically, pausing when something new or interesting pops up. It is presented this way so that you can quickly locate various brands, see what's new, and quickly find the company's website.

Saddle Brook, N.J. is home to **Arrow Fastener Co. LLC** (arrowfastener.com), a familiar name to generations of woodworkers. Arrow is part of Masco Corp., which is headquartered in Livonia, Mich., and it makes seven guns for brad nails (six electric and one pneumatic, the PT18G), one for angled finish nails (PT15G), and one for pins (PT23G). An electric finish nailer is an especially appealing option for installers who don't want to lug a compressor or tank to a jobsite, or have clients endure the noise one makes.

BN Products (bnproducts.com) makes a line of economy nail guns under the Aeropro-USA brand. Included are a pin, brad and finish nailer, plus an interesting tool called the SF5040RN 2-in-1 combination nailer. It's a very inexpensive (under \$70) pneumatic gun that runs both 3/4" to 2" brads and 18-gauge 1/4" crown staples.



Bostitch 20-volt Max 15-gauge



Cadex V2-21.55



Campbell CHG00189AV



Grex GC1850



Hitachi NTI865DMA



Makita XNBO1Z

Bostitch (bostitch.com) has a line-up of 15 finish and brad nailers, three of which are powered by cordless batteries (20-volt Li-ion and no gas cylinders). Those are a brad nailer, a 15-gauge angled finish nailer and a 16-gauge straight version. Bostitch's Smart Point nailers feature small noses that "eliminate the need to compress the contact trip to actuate the tool, reducing work surface damage and the risk of pushing the material out of position," according to the company.

Cadex (cadextools.com) offers two 18-gauge brad guns, two 21-gauge pinners (with a nail range of 1/2" to 2-3/16"), and eight 23-gauge pinners. They all have a built-in dust blower, so a woodworker can see where he/she is aiming.

Campbell Hausfeld (campbellhausfeld.com) offers everything from compressors to air tools. Among them is the 1-1/4" nailer/stapler (CHG00189AV), which has a 2-in-1 magazine that drives both 18-gauge brad nails and 1/4" crown staples. Other sizes are available that drive longer nails and staples.

Crisp-Air Tools (crispocanada.com) is a Toronto company that offers both consumer and professional grade guns. Pro models include the 18-gauge (5/8" to 2") and 16-gauge (3/4" to 2-1/2") brad nailers, both of which have a quick-release nose and a low nail indicator.

DeWalt (dewalt.com) offers several cordless and pneumatic options in small nail guns. Among them is the DCN650B, a 15-gauge angled finish nailer that drives fasteners from 1-1/4" to 2-1/2". It has a brushless motor powered by a 20-volt Li-ion battery so it doesn't need gas, a compressor or a hose. Other cordless models include a brad gun and a pinner, plus a 15-gauge Precision Point finish nailer that has a built-in gauge that flips out to measure exactly 16" from end to nose for convenient location of studs when installing wall trim.

Everwin Pneumatic Corp. (everwinpneumatic.com) was founded by a

group of American and Taiwanese pneumatic tool experts in 2012, and the Taiwan-based factory makes four pin nailers, the P635 (23-gauge), P650 (23-gauge), P850 (21-gauge) and the P650D (23-gauge). They have dry fire lockout with an over-ride system to prevent driver marks on a workpiece.

Fasco America (fascoamerica.com) makes two 23-gauge and one 21-gauge pinner, six 18-gauge bradders and a 16-gauge finish nailer. Both the F23 A64-35PB and F23C A64-50PB will fire the company's A64 pins (23-gauge) and Micro brads (23-gauge). The 16-gauge F3C FN-50A nailer is suited for hardwood applications with a driver threaded into the piston for better resistance. It handles nails from 5/8" to 2".

Freeman Tools America (freemantools.com) makes a 16-gauge straight finish nailer and a 34-degree angled 15-gauge gun. The latter has a tool-less nose that makes it easy to clear jams, and a selective actuation switch that flips from sequential to contact fastening. The company has four pneumatic brad nailers (two of which have the quick jam release), and a 23-gauge pinner.

Grex (grexusa.com) presents the new GC1850 2" 18-gauge cordless brad nailer and four award-winning 23-gauge pinners, two (P645L & P650L) of which alert the user when it's time to reload. Grex also makes 15-, 16- and 21-gauge models.

Grip-Rite is a trademark of **PrimeSource Building Products** and has five offerings in the finish nailer field. There's a 23-gauge pinner, two brad guns and two nailers – a straight 16-gauge and an angled 15-gauge, for which the company also makes stainless steel nails.

The Home Depot offers a set of four hobbyist HDX brand finish guns for \$149 (as of 9/5/17). Included are a pinner, bradder and straight finish nailer, and an 18-gauge narrow (7/32") crown stapler.

Hitachi (hitachipowertools.com) has a comprehensive line-up that includes an angled and a straight pneumatic finish nailer that have



Milwaukee 2743-20



Paslode IM250S

built-in dusters, plus both straight and angled gas-powered nailers and bradders for remote jobsites. There are also 15-, 16- and 18-gauge cordless nailers in the catalog, each powered by a brushless Li-ion 18-volt pack. They have a selective actuation switch that transitions between sequential mode and bump fire mode when rapid nailing is needed, and a built-in LED light.

Husky (huskyoutdoortools.com) is another budget brand offered by The Home Depot and it includes three brad nailers and two finish nailers.

Interchange Brands LLC (interchangebrands.com) makes a composite and a metal body brad nailer, plus a straight 16- and an angled 15-gauge finish nailer, and a 23-gauge pinner. The composite tool (NB3518C) is only 1.64 lbs. and it drives 18-gauge brads from 1/2" to 1-3/8" long.

The Iron Horse brand includes the IH-AFN34, which is a 34-degree, 16-gauge, 2-1/2" angled finish nailer that shoots 1-1/4" through 2-1/2" nails. There are a couple of other economy guns in the line, which is distributed through The Home Depot and some online suppliers.

Makita (makitatools.com) has developed an extensive line of pneumatic guns that includes a pinner, a bradder and two finish nailers, one of which is angled. The company's 18-volt Li-ion cordless line has a couple of 23-gauge pinners and an 18-gauge brad nailer (model XNB01Z) that looks positively futuristic. It drives nails from 5/8" to 2", and up to 1,000 nails on a single charge, according to the company.

Max USA Corp. (maxusacorp.com) offers two angled and two flat finish nailers, a pinner and three brad guns. The lightweight and slim NF665A/15 angled nailer can be contact or single fired with a switch lever, and it has a dial depth control that requires no special tools. Exhaust air can be diverted away from the user without tools, and the gun holds 106 nails.



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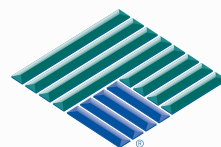
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Porter-Cable PCC792B, Ridgid R250AFE and Powermate 024-0179CT kit.

Milwaukee's M18 Fuel cordless system includes a brad nailer, 16-gauge straight and angled finish nailers, and an angled 15-gauge gun, model 2743-20. They feature the company's Powerstate brushless motor and Redlink Plus Intelligence, which Milwaukee (milwaukeeetool.com) says is "the most advanced electronic system on the market, to prevent damage to the nailer and battery from overloading and overheating."

NextWay has a line of pneumatic tools under the 3 Pro brand name, and publishes a catalog online at 3-pro.com. It offers two brad nailers that handle lengths from 3/8" to 1-1/4" and 3/4" to 2", respectively. There's a 15-gauge angled gun (model DA1564P) that has a quick jam release and accommodates nails from 1-1/4" to 2-1/2", and a couple of 18-gauge combination guns that will handle both nails and 1/4" crown staples.

NuMax (numaxtools.com), which shares premises with Freeman in Ball Ground, Ga., has six finishing guns. Two of them are 3-in-1 mod-

els – they shoot 16-gauge nails, 18-gauge brads and 18-gauge 1/4" staples. And the S2-118G2 is a 2-in-1 brad nailer and stapler that delivers 3/8" to 2" nails and 1/2" to 1-5/8" staples.

Omer USA (omertools.com) makes guns that fire Raptor composite plastic fasteners (raptornails.com). The Omer B17P.763 finish nailer drives Raptor 15- and 14-gauge plastic nails in the following lengths: 1/2", 5/8", 3/4", 1", 1-1/4", 1-1/2", 2" and 2-1/4". Plastic composite nails have many uses in exterior trim and boatbuilding, where they don't rust; in jig and fixture making, where they won't damage bits or cutters; and in temporary glue or clamp use, where they have remarkable vertical strength yet can be snapped with a gentle sideways force to release parts.

Paslode (paslode.com) has been building gas/battery powered framing and finishing guns since before the Li-ion revolution, and was the go-to

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gun on remote sites for many years. Paslode has just introduced two new tools, a 16-gauge straight nailer and an 18-gauge brad nailer. Both are Li-ion powered, and the larger gun (model IM250S-Li) weighs only 4.6 lbs.

Performance Tool (performancetool.com) makes a 3-in-1 air nailer (model M673) that can drive brads, staples and finish nails.

Porter-Cable (portercable.com) offers about a dozen finish nailers in both pneumatic and battery options. The 20-volt PCC792B is a Li-ion powered 16-gauge gun with a built-in LED worklight, tool-free jam clearing and depth setting, sequential firing mode and a trigger lock-off. It fires 1" to 2-1/2" nails, and weighs in at 6.5 lbs. A brad gun is also available with the 20-volt power pack, and both can come as a kit.

Powermate has an 18-gauge nailer/stapler kit (model 024-0179CT) that has a tool-free adjustable exhaust, and a low nail/stapler indicator window in the magazine. It shoots 5/8" and 1" staples, plus 1" and 1-1/4" brad nails. A Coleman branded version is available from Sportsman's Guide (sportsmansguide.com).

PowRyte (powryte.com) distributes through The Home Depot, Walmart, Sears, Lowes and Tool King, as well as some online shopping sites. The company offers a brad nailer/stapler, a pin nailer, and a straight 16-gauge finish nailer (model 1001910) that handles nails from 3/4" to 2" and has a split nose design for quick jam fixes.

Prona Tools (pronatools.com) makes a 16-gauge finish nailer (model B16/50-C1), and some brad guns.

Ridgid (ridgid.com) is a division of the multi-national Emerson corporation and distributes through Grainger, Ferguson, Total Tool and other retailers. The company offers a brad nailer, and both angled and straight finish nailers. The 2-1/2" angled tool (model R250AFE)

is 15-gauge and has all the bells and whistles – oil-less motor, dry-fire lockout, tool-free jam fixing, adjustable exhaust with muffler, and an Accu-Drive tip design that helps with accuracy.

Ryobi Power Tools (ryobitools.com) are sold exclusively through The Home Depot. Among its 18-volt tools are an 18-gauge brad nailer, 16-gauge straight finish nailer and 15-gauge angled finish nailer (model P330). The latter weighs 6.8 lbs. and has the capacity to drive up to 750 nails per charge (1" to 2-1/2") using the P108 battery, which is sold separately, according to the company.

Senco (senco.com) offers a wide array of both pneumatic and cordless guns. Among its newest offerings are composite (plastic) fasteners and the guns that fire them. Manufactured with a blend of polymer resin and fiberglass, these fasteners can be machined without damage to router bits, cutting blades, or sanding belts. They require dedicated pneumatic tools, and in addition to composite staplers, the company offers an 18-gauge brad gun and a 15-gauge finish nailer, the SPFN15XP. This latter comes with a reversible belt hook, rear exhaust with an embedded muffler and an ultra-narrow nose that allows easy access to tight spaces. The plastic nails are 3/4" to 1-1/2" long.

Surebonder (surebonder.com) offers a budget-minded brad stapler with directional exhaust and a nail viewer, plus a straight finish nailer (9755) that also has a quick release nosepiece for fast jam clearing.

And finally, **WEN** (wenproducts.com) makes an 18-gauge brad nailer that sells for \$45. The model 61720 gun drives 3/4" to 2" brads and has a lightweight aluminum body and a quick-release design that makes jam clearing easy. The kit includes oil, adjustment wrenches and a carrying case. **W**

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▶▶ **SAWGEAR**, a portable automatic lineal cutting system made by TigerStop, has added a more robust leg structure to its optional jobsite tables. Rather than a single stand with tripod, the new legs branch in two directions from a direct connection point and provide even more stability, according to the company. SawGear is an automated stop that attaches to either side of a miter saw, chop saw, double miter saw and vertical panel saw. For more, visit www.tigerstop.com.



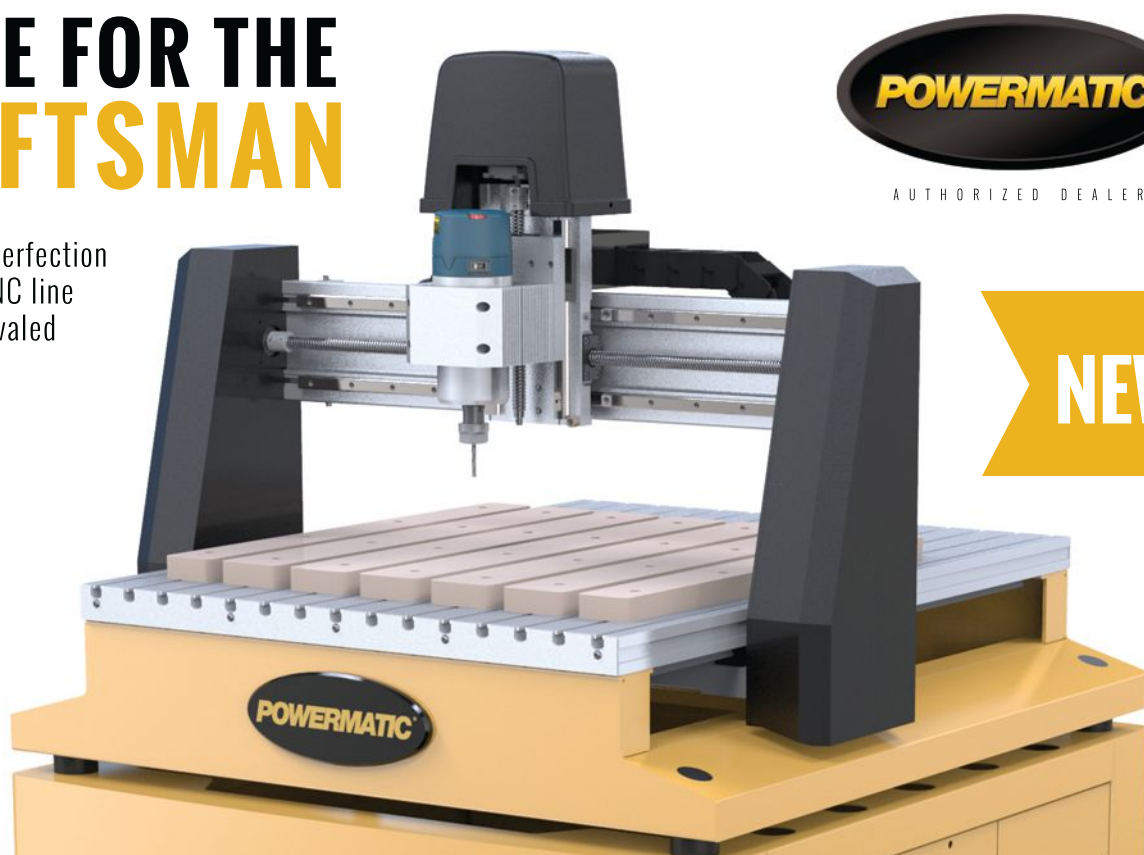
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▲ SKILSAW, inventor of the portable circular saw, has entered the linear cutting market with a 13-amp reciprocating saw. The saw features Buzzkill technology, a patented full-frame counterbalance that suppresses vibration. Other features include a variable speed trigger and tool-less blade clamp. The reciprocating saw sells for \$99. For more, visit www.skilsaw.com.





▲ **MAKITA** has released a new cordless solution for trim, finish work, cabinetry and more with the 18-volt LXT Li-Ion brushless compact router, model XTR01. The router has a compact design, durable aluminum housing, and purpose-built motor, according to the company. It is compatible with the accessories and bases from Makita's previously released corded compact router. For more, visit www.makitatools.com.



◀ ▲ **BOSCH** offers two new two portable light sources, an 18-volt articulating model GLI18V-300 and the 12-volt model GLI12V-300. The 18-volt worklight provides 10 hours of illumination with a 2.0 Ah Bosch SlimPack battery. It features an articulating action to angle the light at a variety of positions. The 12-volt worklight offers six hours of runtime with a 2.0 Ah battery, according to Bosch. For more, visit www.boschtools.com.

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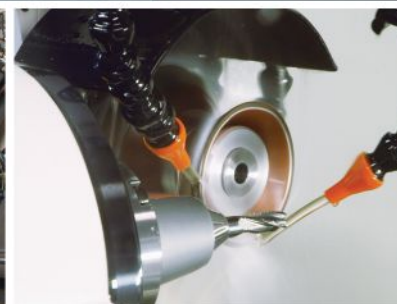
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◀ **DANRAY PRODUCTS** has recently introduced a new sander safety scale to verify that the openings between the belt and disc and the tables on sanders are 1/8" or less. The bronze-colored scale, about the size of credit card, features easy-to-read text and graphics that will not rub or scratch off, according to the company. It has a ruler along the back edge to measure openings for compliance. For more, visit www.danrayproducts.com.



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◀ **ROCKLER WOODWORKING AND HARDWARE** has recently developed and introduced the Material Mate, a rolling metal frame that functions as a panel cart and a mobile, adjustable-height shop stand. In panel cart mode, the metal frame features rack supports on one side capable of hauling 4' x 8' sheets of plywood, sheetrock and other panels to a capacity of 150 lbs., according to the company. In shop stand mode, users can simply attach their own tabletop to the metal frame and lock it in the horizontal position. The Material Mate sells for \$249.99. For more, visit www.rockler.com.

▶ **ACCURIDE** is introducing the 116RC, a new heavy-duty linear track system that carries loads up to 793 lbs., according to the company. It uses 7" recirculating ball carriages inserted within an aluminum track to deliver smooth sensorial movement. Available in 94.5" and 142" lengths, the 116RC's tracks can be cut or butted together to fit almost any application. Each track supports multiple carriages, and can be installed in many orientations. For more design flexibility, an optional Door Mounting Kit is available to be used on sliding entryways. For more, visit [www. accuride.com](http://www accuride.com).



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Western style captured at Wyoming show

Jay Rogers' sculptural boxes on display at the Society of Arts & Crafts

By Jennifer Hicks

The roundup of talent at the 25th annual Western Design Conference Exhibit + Sale in Jackson, Wyo., showcased the latest in Western design style from the work of juried artists of all mediums. Held again at Snow King Event center from Sept. 7-10, items included functional art for the home and handcrafted furniture.

The event featured over 150 juried artists and exhibitors specializing in home décor, jewelry, fashion, woodworking and mixed metal. It was founded on the idea of cultivating the best of contemporary craft.

Furniture exhibitors included Bruce Schuettinger of MosArt Fine Art Furniture in New Market, Md., who combines his background in studio furniture and abstract painting to create custom-made tables, chairs and sideboards with sustain-

ably sourced wood varieties; John Gallis, who mixes contemporary and rustic styles for his



The Western Design Conference featured the work of Bruce Schuettinger.

furniture company Norseman Designs West in Cody, Wyo., and Doug King of D.A. King Design in Missoula, Mont.

For more show information, visit www.westerndesignconference.com.

Sculptural boxes at SAC

A new solo exhibit, "Fantasy Architecture: Sculptural Boxes by Jay Rogers", will be on display from Oct. 26 through Dec. 9 at the So-



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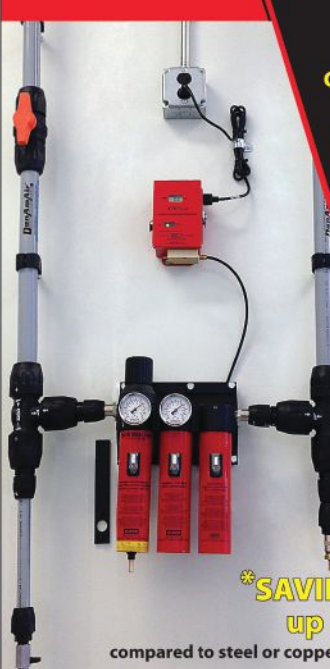
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The annual Western Design Conference featured over 150 juried artists and makers.

ciety of Arts and Crafts in Boston.

Rogers has been making boxes and sculptural containers for over 30 years and in that time has made thousands of sculptural boxes inspired by many sources. His current work is about the psychological realm of architec-

ture, inspired by the work of artists such as Giovanni-Battista Piranesi and M.C. Escher. The sculptures are containers with hidden drawers and secret compartments, and range in theme, size and material.

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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.

— Compiled by Jennifer Hicks

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

COLORADO

March 1-2, 2018 — Cabinet Makers Association's national conference. Scheduled agenda includes educational seminars, networking events and keynote address by furniture maker. Location: Crowne Plaza Denver Airport Convention Center in Denver. www.cabinetmakers.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.

Monthly — Woodcrafters Club of Tampa meets every third Thursday evening at 3809 W. Broad St. in Tampa. www.tampawoodcrafters.org

Jan. 9-11, 2018 — Design & Construction Week, featuring the Kitchen and Bath Industry Show and International Builder's Show, will feature over 2,000 exhibitors. Location: Orange County Convention Center in Orlando. www.buildersshow.com

ILLINOIS

Nov. 2-5 — SOFA Chicago. The 24th annual

exhibit featuring more than 70 dealers of handcrafted items made of wood, glass, ceramics and other mediums. More than 36,000 artists, collectors, curators attend for programming, demos and more. Location: Navy Pier. www.sofaexpo.com

MARYLAND

Monthly — The Howard County Woodworkers Guild meets the first Saturdays of the month at the Bain Senior Center at 5470 Ruth Keeton Way, Columbia, Md. from 9 a.m. to 12 p.m. Open to all those working in wood. For information, email Manny Flecker at aaron0641@hotmail.com

MASSACHUSETTS

Nov. 11-12 — David Calvo's two-day woodcarving class. Location: Calvo Studio in Gloucester. www.calvostudio.com

Nov. 17-19 — Paradise City Arts Festival Marlborough featuring more than 175 contemporary furniture and other fine crafts by selected artisans and makers from throughout the country. Location: Royal Plaza Trade Center in Marlborough. www.paradisecityarts.com

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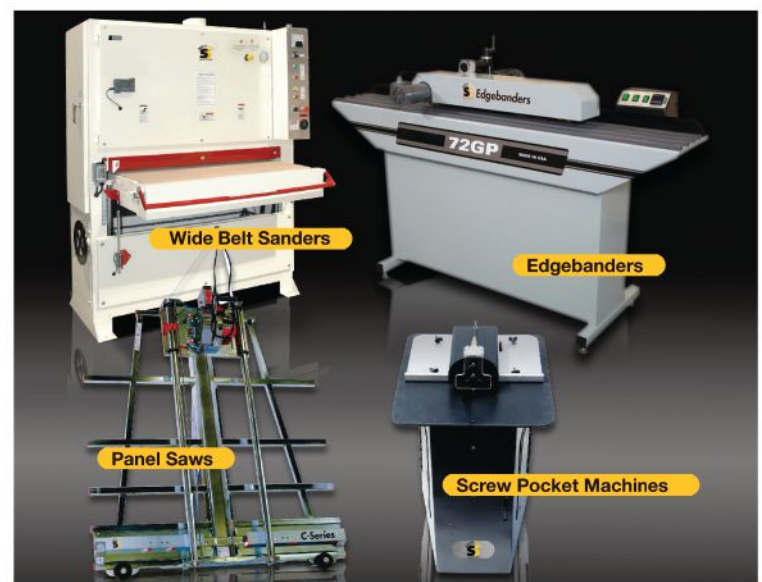
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Woodworking Association meetings are held on the first Wednesday of each month at 6:30 p.m. at the Cold Springs Fire Department in Baldwinsville. www.sawdustwoodchips.org

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

NORTH CAROLINA

Oct. 14-18 — High Point Fall Market. The biannual trade show for the furnishings industry with 11.5 million sq. ft. of showrooms in 18 buildings. www.highpointmarket.org

Nov. 3 – Nov. 5 — North Carolina Biennial Symposium. Featuring 63 demonstration periods in nine rotations with a variety of national and regional demonstrators, a large trade show, instant gallery and banquet with live auction. Location: Greensboro Coliseum in Greensboro. www.northcarolinawoodturning.com

Nov. 8-9 — Stiles Manufacturing Solutions Seminar at High Point. The latest in technology solutions and manufacturing processes for the panel processing and solid wood industries. www.stilesmachinery.com

Feb. 16-18, 2018 — 31st National Arts & Crafts Conference. Provides collectors and other enthusiasts with educational seminars, group discussions, walking tours, demon-

strations and more. Location: Grove Park Inn, Asheville. www.arts-craftsconference.com

RHODE ISLAND

Nov. 3-5 — Fine Furnishings Show offering handmade furniture, accessories and fine art. Location: Pawtucket Armory Arts Center in Pawtucket. www.finefurnishingshows.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 wood-turning groups. www.sdwoodworker.org

TEXAS

Oct. 26-Dec. 1 — 18th annual Texas Furniture Makers Show. A juried exhibit featuring furniture makers from Texas. Location: Kerr Arts and Cultural Center in Kerrville. www.kackkerrville.com

Nov. 12-14 — Specialty Tools & Fasteners Distributors Association 41st annual convention and trade show. Manufacturers, distributors and other industry professionals will convene and take part in educational programs, seminars and new product debuts. Location: Austin Convention Center. www.staftda.org 

AWI manufacturing members report improved operating margins

Overall business sentiment among the Architectural Woodwork Institute's manufacturing members about the next six months is high (73 percent), according to respondents from the AWI's 2017 Cost of Doing Business Survey and Compensation Study.

The results suggest an improving business environment among architectural woodwork business owners, according to the AWI.

"Capital investments are up in the last 12 months. Fifty percent of high profit firms invested \$100,000 or more in the last 12 months compared with 52 percent of respondents overall who invested more than \$100,000 in the last 12 months. And, the investment outlook for the next 12-month period revealed that 30 percent of high profit firms plan on investing \$100,000 or more in the next year, which is up from 2016. And, nearly 40 percent of respondents plan on increasing their workforce by 10 percent or more in the next 12 months," the AWI said in a statement.

For more, visit www.awinet.org.

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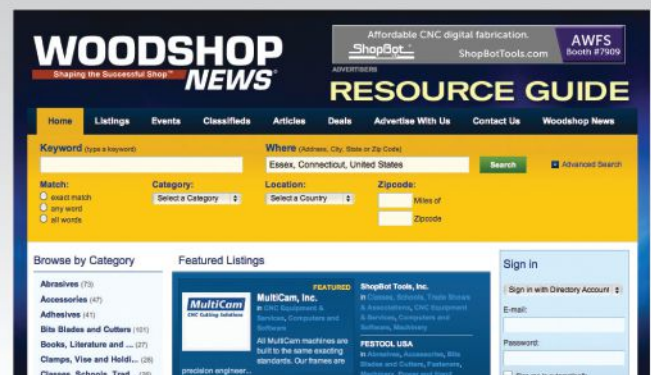
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Though he claims to not have a musical bone in his body, Michael Thiele has been making and selling wooden art drums and other percussion pieces for 43 years.

"I have no musical background, I just hear compositionally. It's an odd thing for me. My whole family is musical. My daughter sings, my two sons play music and my wife teaches piano. I am the black sheep of the family but it's my passion and shows up in my work. I go in at 5 a.m. each day and work at it," says the owner of Hardwood Music Co. in Flagstaff, Ariz.

The drums, fabricated with exotic woods, can be found in galleries and music stores throughout the U.S. and Canada. Thiele was a teacher when he made his first drum in the early 70s. He became a full-time maker in 1974, selling through art shows in the western states. He added drum-themed furniture pieces about eight years ago, available on a commission basis. They sell

for \$7,000 to \$35,000.

"Furniture is only a small percentage of what I do," says Thiele. "I decided to manifest the drums into tabletops and other pieces. Most of the pieces are coffee tables. Not all are, but I always take a coffee table to an art show."

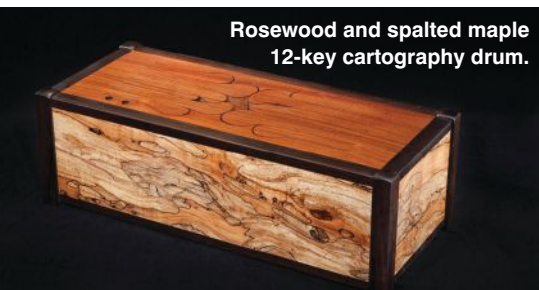
While the furniture is an extension of the small drum concept, it is built much differently. Thiele says he must work to isolate the

music from the structure of the furniture so that the vibration from the sounds doesn't pass through the structures.

His son Joah has joined him in exploring and developing new designs. To date, they have over 40 designs and 200 different melodic tunings.

Contact: Hardwood Music Co., P.O. Box 2655, Flagstaff, AZ 86003. Tel: 928-522-0211. www.hardwoodmusic.com 

-Jennifer Hicks



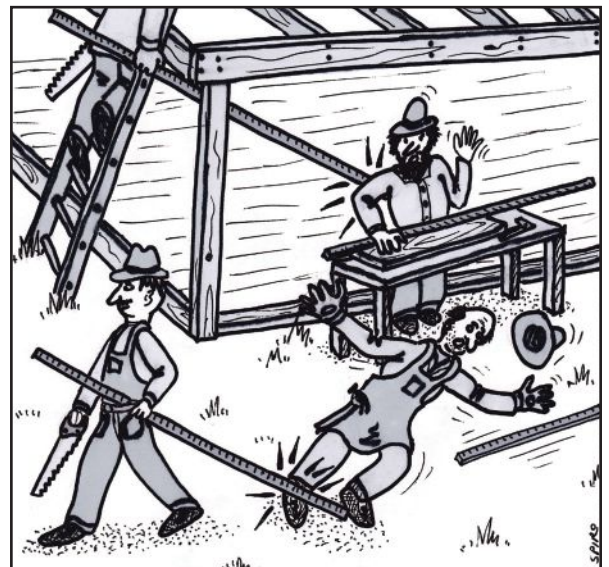
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