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February 2017

One-stop shop

M.R. Brewer mixes construction with millwork services

Clever clamping considerations

Adding age and allure to a finish

White oak is red hot

NEW TOOLS

- **Ironwood sanders**
- **Festool carpentry saw**
- **Empire's latest level**
- **Handy helpers**



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

Includes: Accessory Pack

W1832 Track Saw Master Pack

55" Guide Rail

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.

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W1812 7" 2 HP Planer Moulder w/ Stand

D3393 Elliptical Jig for W1812



10" 2 HP OPEN-STAND HYBRID TABLE SAW

- 2 HP, 120V/240V, single-phase (prewired for 120V)
- Motor Amps: 15A at 120V, 7.5A at 240V
- Enclosed cabinet bottom w/ 4" dust port
- Precision-ground cast-iron table w/ steel wings measures 40 1/4" x 27"
- Rip capacity: 30" to right, 15" to left
- Quick removal/replacement system for blade guard and riving knife
- Weight: 243 lbs.

Includes a 10" x 40-tooth carbide-tipped blade, standard and dado table inserts, miter gauge, push stick, and arbor wrenches



W1837 10" 2 HP Open-Stand Hybrid Table Saw

13" 3/4 HP, BENCH-TOP OSCILLATING DRILL PRESS

- Motor: 3/4 HP, 110V, 1725 RPM
- Overall height: 38"
- Spindle travel: 3 1/4"
- Swing: 13 1/4"
- Drill chuck: 5/8"
- Speeds: 12, 250-3050 RPM
- Table: 12 3/8" dia.
- Table swing: 360°
- Table tilt: 45° left & 45° right
- Approx. shipping weight: 123 lbs.

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W1668

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



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

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



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W1833 Pocket Hole Machine



6" PARALLELOGRAM JOINTER W/ SPIRAL CUTTERHEAD

- Motor: 1 1/2 HP, 110V/ 220V, pre-wired 110V, single-phase, TEFC, 3450 RPM, 15A/7.5A
- Precision-ground cast-iron table size: 55 1/2" L x 6" W
- Floor to table height: 32 1/2"
- Max. cut (per pass): 6" W x 1/8" D
- Rabbeting capacity: 1/2" Spiral cutterhead dia.: 3"
- Cutterhead speed: 4,850 RPM
- CPM (effective): 19,400
- Fence system: positive stops @ ±45° & 90°
- Approx. shipping weight: 429 lbs.

Built-in mobile base!

W1755S

6" Parallelogram Jointer w/ Spiral Cutterhead



WALL DUST COLLECTOR

- Motor: 1 HP, 120V/240V, single-phase, prewired 110V, 7A/3.5A
- 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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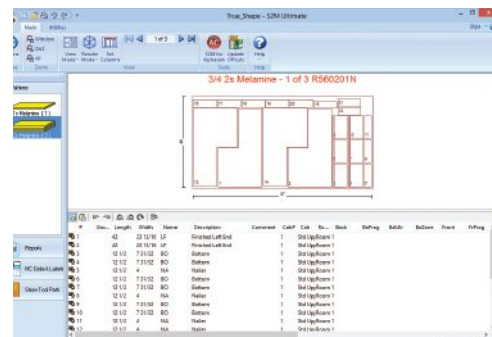
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BLOGS



Over the Workbench

Talkin' shop with former editor A.J. Hamler



This Business about Woodworking

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

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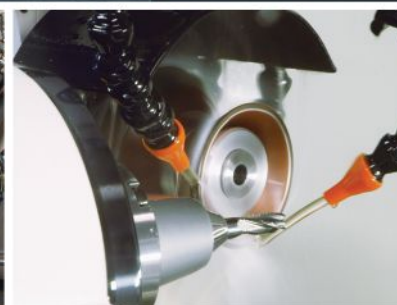
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FEBRUARY 2017 VOL. XXXI, NO.3

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Canada Post Return Address undeliverable to:
APC-PLI, PO, Box 503, RPO West Beaver Creek,
Richmond Hill, ON L4B 4R6.

Canada Post Publication Mail Agreement No 40624074.

E-MAIL: circulation@woodshopnews.com.

Please include name, address, and phone number on any inquiries.

Woodshop News, (ISSN 0894-5403, U.S.P.S. 000-966).

Vol. XXXI, No.3, is published monthly by Cruz Bay Publishing, Inc., an Active Interest Media company. The known office of publication is: 10 Bokum Road, Essex, CT 06426. \$21.95 for one year; \$35.95 for two years (Canadian subscribers add \$12 per year for postage; U.S. funds, foreign subscribers add \$14 per year for postage; U.S. funds). Periodicals postage paid at Essex, CT, and additional mailing offices. **Postmaster:** Send address changes to WOODSHOP NEWS, PO Box 433212, Palm Coast, FL 32143-3212. Printed in the U.S.A.



TAKING STOCK

with TOD RIGGIO

Sears' sale of Craftsman is a sign of changing times

The news was shocking, but not unexpected. When Sears sold its Craftsman brand to Stanley Black & Decker in January, I suddenly got nostalgic.

For those of us of a certain age, Sears was where we shopped as kids. It is where I got my Toughskins jeans, Dad bought his lawnmower and Mom spent what seemed like an eternity in housewares. I can remember picking out my first bike there and the family getting a new TV, washer and even a pool table. True, it was the only department store in town, but Sears was the essence of one-stop shopping. I miss those days.

The store's tool section provided several years worth of Father's Day and birthday gifts. It always had something a kid could afford — like a socket set or flashlight. I'm still dreaming about getting one of those rolling toolboxes.

Stanley Black & Decker is buying the rights to develop, manufacture and sell Craftsman-branded tools outside of Sears for \$900 million.

"Craftsman is a legendary, American brand with tremendous consumer awareness built on a legacy of producing quality products at a great value," Stanley Black & Decker president and CEO James Loree said in a statement. "This agreement represents a significant opportunity to grow the market by increasing the availability of Craftsman products to consumers in previously underpenetrated channels. We intend to invest in the brand and

rapidly increase sales through these new channels, including retail, industrial, mobile and online. To accommodate the future growth of Craftsman, we intend to expand our manufacturing footprint in the U.S. This will add jobs in the U.S., where we have increased our manufacturing head count by 40 percent in the past three years."

The deal allows Sears to continue selling the Craftsman brand royalty-free for the next 15 years.

"In Stanley Black & Decker we have found a great owner that is committed to expanding Craftsman and helping it to reach its potential outside of its current channels," Sears Holdings chairman and CEO Edward S. Lampert said. "It's important for our members to know that we will continue to sell Craftsman in-store and online at Kmart and Sears and Sears Hometown, and the structure of the transaction will provide Sears Holdings with a significant upfront payment, another payment in three years and an opportunity to participate in the growth of the Craftsman brand in both our stores and at other retailers selected and managed by Stanley Black & Decker."

Stanley Black & Decker expects the sale of Craftsman branded products to contribute approximately \$100 million of average annual revenue growth for the next 10 years. The company's tool and storage portfolio also features DeWalt, Porter-Cable, Bostitch, Vidmar and Mac Tools. [W](#)

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

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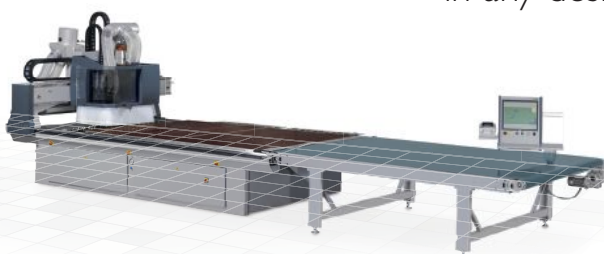
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crossed into history with
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Florida woodworker honored by governor

By Jennifer Hicks

Only 23, Nick O'Donnell has created a successful business using 3-D software to produce wooden furniture, light fixtures and carved structures under the company name Terraform Design. His endeavors paid off when he was recently awarded the "Young Entrepreneur Award" from the Florida Governor's office.

modeling and laser-cutting equipment to create his products.

"I am incredibly happy to be recognized with this award. I have worked hard to make Terraform Design into a successful business within the newly-emerging field of digital fabrication," O'Donnell says.

After graduating from Florida State University's College of Business in 2014, O'Donnell discovered the center's "Fab Lab,"

as it's called, when he was seeking a location that supports young entrepreneurs and grants access to innovative equipment that startups like Terraform Design cannot afford.

Now in its second year, Terraform Design creates a variety of visually appealing home products that sell from \$139 to \$4,500. His "Terraform Chair" and "Paravlon Lamp" have been featured in USA Today and The Wall Street Journal, respectively.

"Nick is our ideal member and it's inspiring to watch him use the Fab Lab to turn his STEM

education and passion into an award-winning business venture," Suncoast Science Center executive director Ping Faulhaber said in a statement. "Our mission is to provide young innovators, like Nick, the resources and support they need to turn their dreams into reality."

For more, visit www.terraform-design.com. [W](#)

World of Wood convention set for San Francisco

By Jennifer Hicks

The World of Wood convention, hosted by the International Wood Products Association, is scheduled for April 5-7 at Hotel Nikko in San Francisco. The 61st annual event, which is expected to draw more than 300 industry professionals, will offer opportunities to interact with speakers and panelists with expertise in regulatory compliance, market intelligence and corporate branding.

IWPA president Bronson Newburger, of Clarke Veneers and Plywood, says shifting political winds could impact growth prospects for the global wood products market in 2017 and that companies ought to keep abreast of market developments that will have a direct impact on profitability.

"World of Wood is the one North American event that brings together leaders from every segment of the global wood products supply chain. The information my staff and I take away each year is critical to our business. As the current IWPA president, I look forward to welcoming attendees from all over the world in beautiful San Francisco," Newburger says.

Attendees include importers, U.S. manufacturers, exporters, wholesalers, offshore suppliers and service providers to the global wood products industry from nearly 30 countries.

Marc Chandler, global head of currency strategy for financial services firm Brown Brothers Harriman, is scheduled to give the keynote address. He will discuss how the currency trends will impact the global wood products market.

There will also be discussions on a new petition, initiated with the International Trade Commission and Department of Commerce, which could result in higher duties on plywood products imported from China.

As part of its pre-convention events, the IWPA will offer a compliance course, "Seeing the Forest and the Trees," designed to help wood trade professionals establish standard operating procedures to comply with the Lacey Act.

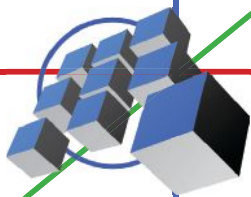
For more, visit www.iwpaawood.org. [W](#)

Nick O'Donnell's "Terraform Chair."



The award was developed in 2015 by Florida Gov. Rick Scott to recognize students, college graduates and young entrepreneurs who excel in the workplace and create innovative ideas in Florida.

O'Donnell has a membership at the Suncoast Science Center in Sarasota, Fla. where he accesses 3-D CAD software, algorithmic



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High school nurse wins Woodcraft sweepstakes



Gigi Branch won a Woodcraft sweepstakes to visit Jory Brigham's California workshop.

By Jennifer Hicks

Gigi Branch, a high school nurse from San Antonio is the grand-prize winner in the "The Jory Brigham Experience" sweepstakes sponsored by Woodcraft, Jory Brigham and SawStop. Her name was randomly selected from 24,422 entries received from Oct. 1 through Nov. 30, 2016.

Branch is entitled to participate, along with a companion, in a three-day training class with Brigham, a third-generation professional furniture maker, at his California shop. She will receive the custom furniture piece made in the class, a SawStop Professional saw and a collection of tools and accessories valued at more than \$1,000.

Branch is scheduled to take the class in June, when Brigham will be teaching end table construction. She describes herself as an occasional hobbyist woodworker.

"I used to do a lot of stuff with my dad growing up. I started when I was about 10 or 12 helping. Dad was really good at wood-working. He built a lot of our furniture," Branch says.

"I haven't done a lot of woodworking lately since I moved from a house to an apartment, but I love doing it. I built some end tables and cabinets in my old house. I also built a huge outdoor table that seated 20 people, but I couldn't bring it with me when I moved."

For more, visit www.woodcraft.com and www.jorybrigham.com. **W**

Housing needs will change as population ages

By 2035, more than one in five people in the U.S. will be aged 65 and older and one in three households will be headed by someone in that age group, according to recent report from the Harvard Joint Center for Housing Studies.

This growth, the report notes, will increase the demand for affordable, accessible housing that is well connected to services beyond what current supply can meet.

"The housing implications of this surge in the older adult population are many and call for innovative approaches to respond to growing need for housing that is affordable, accessible and linked to supportive services that will grow exponentially over the next two decades," Chris Herbert, the center's managing director, said in a statement.

For more, visit www.jchs.harvard.edu.

XYZ updates CNCRouterShop.com

XYZ International, a manufacturer of CNC router and knife cutting systems, redesigned its flagship e-commerce site.

CNCRouterShop.com was updated to offer users with a fresh, interactive and easy to navigate shopping experience, according to the company.

"The website is a one-stop shop that provides access anytime to thousands of XYZ's premium CNC router tooling, parts and consumables," the company said in a statement. "Software, along with tooling and service information, is also available online."

Each month the website will highlight new products and services. Other features include next day delivery for shops requiring rapid restocking, a special offers section offering items at reduced costs, and customer care.

For more, visit www.cncrouterShop.com.

Registration begins for WIC 2017

Registration is open for the 2017 Woodworking Industry Conference, scheduled for Apr. 25-28 at the Omni Rancho Las Palmas Resort in Rancho Mirage, Calif.

WIC, sponsored by the Woodworking Machinery Industry Association and Wood Machinery Manufacturers of America, offers opportunities for business development, professional and personal networking, and education about wood industry issues.

For more, visit www.wmia.org and www.wmma.org.

NBMMA welcomes new member companies

The North American Material Distribution Association, representing wholesale distributors of specialty building materials, kitchen and bath products and woodworking materials in North America, has added five new distributor and supplier members.

The new distributor members are Jutras Distribution Internationale, an importer of wood and decorative panels based in Longueuil, Quebec, and the UCS Forest Group, which offers lumber management and spe-

cialty wood solutions through its four companies in the United States and Canada.

New supplier members are Weyerhaeuser MDF, producer of medium and high-density fiberboard; CoverUSA, a Chicago distributor of melamine panels, MDF board, flooring and porcelain slabs, and Pol-Kres Edwood, a Polish manufacturer of solid wood panels, kitchen worktops and furniture components.

"We are thrilled to see the continued growth in our organization's membership in the second half of 2016," Kevin Gammonley, the trade group's executive vice president, said in a statement. "The addition of these five new companies further enriches the value that NBMMA's community provides through an expanded network of members and the opportunity to generate new partnerships."

For more, visit www.nbmda.org.

Stiles to host Executive Briefing Conference

The 2017 Executive Briefing Conference, hosted by Stiles Machinery, is scheduled for Apr. 23-25 in Detroit.

The conference will feature speaker presentations, manufacturing tours, networking opportunities with industry peers, and informational briefings focused on providing best business practices and solutions to common manufacturing challenges.

It will be held at the Westin Book Cadillac Hotel.

For more, visit www.executivebriefingconference.com.



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- Max. rabbeting capacity: 1/2"
- Table size: 8" x 76 1/2"
- Infeed table size: 8" x 43 3/8"
- Cutterhead dia.: 3 3/16" (G0490), 3 3/8" (G0490X)
- Cutterhead speed: 4800 RPM
- Cutterhead knives: 4 HSS, 8" x 3/4" x 1/8" (G0490)
- 40 inserts (G0490X)
- Approx. shipping weight: 562 lbs.

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- Spindle speeds: 7,000 and 10,000 RPM
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- Approx. shipping weight: 392 lbs.



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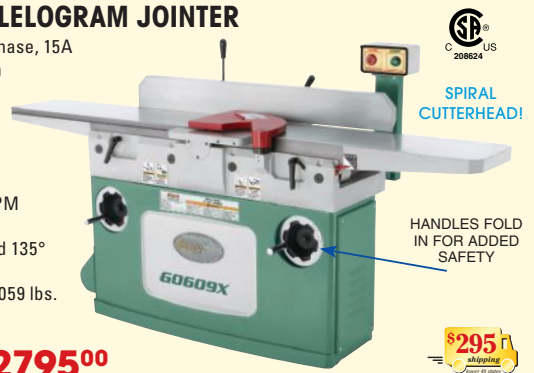
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- Cutterhead dia.: 3 3/4"
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- Spindle speeds: 3600, 5100, 8000, and 10,000 RPM
- Spindle capacity under nut: 5 5/8" (1 1/4" spindle)
- Max. cutter dia.: 5 5/8"
- Overall size: 39" L x 35 1/2" W x 43"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

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- Intake hole size: 10" w/ 8" adapter
- Suction capacity: 2184 CFM @ 1.9" SP
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- Overall size: 63" W x 56 5/8" D x 111 1/2" H
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G0442HEP ONLY \$3725⁰⁰

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White oak dealers see red-hot sales volume

By Jennifer Hicks

With all that white oak has to offer, hardwood dealers are not surprised

that the durable wood species is extremely popular these days. Those interviewed by Woodshop News report sales are strong and demand is high.

Scott Roberts of Roberts Plywood in Deer Park, N.Y., is confident the trend for white oak will last for quite a while.

"White oak is hot. I can say that with a lot of enthusiasm. I'm stocking flat-cut FAS, character-grade, rift, quartered, European, live-edge slabs and fumed versions. There's really so much to offer. On my Instagram I did 'Oaktober,' and there were 30 different things I showed off on white oak," Roberts says.

"I think the color is in vogue and it stains well. I've seen it stained plain clear or with an oil finish. There are so many processes to achieve different colors and appearances. Some in the design community are taking white oak and making it gray for cabinetry, furniture and flooring."

Terry Baird of Baird Brothers Sawmill in Canfield, Ohio, says white oak flooring sales have increased because of the wood's high density and attractive uniform color. But supply can be a problem.

"It's hard to obtain," Baird says. "The staves market for wine and whisky barrels has dried up the supply of the better white oak logs."

Scott Limone of Keiver-Willard Lumber in Newburyport, Mass., says prices have skyrocketed, particularly for rift and quartersawn.

"The demand for the rift is definitely really high. For that and quartersawn, demand has gone way up. The plain sawn is about the same, but even the cost of that keeps climbing," Limone says.

White oak (FAS 4/4, flat cut) retails for about \$4.25/bf. A wholesale order (minimum of 1,000 bf) sells for about \$3/bf. [W](#)

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TOOLS & TECHNIQUES

Stiles offers two new Ironwood sanders

By Jennifer Hicks

Stiles Machinery recently expanded its line of wide-belt sanding solutions to the solid-wood market through its Ironwood brand. New single-head models include the 37" S113K and 43" S114K, described as robust, entry-level machines that will quickly pay for themselves, according to product manager Aaron Brink.

The Ironwood series also features double- (model S124RK) and triple- (S134MRK) head sanders, available with planer heads, contact drums or combination heads, and widths from 24" to 52".



The Ironwood 43" S114K wide belt sander.

"Ironwood sanders provide tremendous value to reduce labor costs and save shops money," Brink says. "With Ironwood sanders, we focused on robust quality, simple controls and ease of operation to ensure customers don't feel intimidated or need any special training to learn how to effectively and productively use the machines."

For more, visit www.stilesmachinery.com. 



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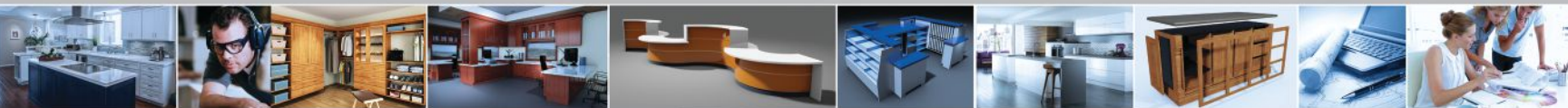
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Festool debuts new saws and sanders

By Jennifer Hicks

Festool recently introduced two carpentry saws — the HK (corded) and HKC (18-volt cordless) models — with guide rail options and other

performance features for accurate and splinter-free cutting.

Product manager Rick Bush says the saws were created to meet the needs of customers seeking to process sheet goods without taking all of their work to a table or miter saw.

Festool's carpentry saws.



"These are more job-site ready," Bush says. "With these two saws, you can make exact and repeated cuts anywhere because the track can stay connected to the saw when you move it. You don't have to take the material to the tool or to a setup on a job site."

The HK and HKC saws use 6-1/4" blades and have plunge-cutting features. They have a riving knife that automatically retracts when used with Festool's FSK and FS guide rails.

As stand-alone tools, the HKC sells for \$375 and the HK costs \$440. The cordless saw can be purchased with two batteries for \$570. Both saws are available in kits that include FSK 420 guide rails.

Festool also introduced two 250-watt orbital sanders, models DTS 400 REQ and RTS 400 REQ, each weighing about 2.5 lbs. They boast a 25 percent power over Festool's previous models, according to the company.



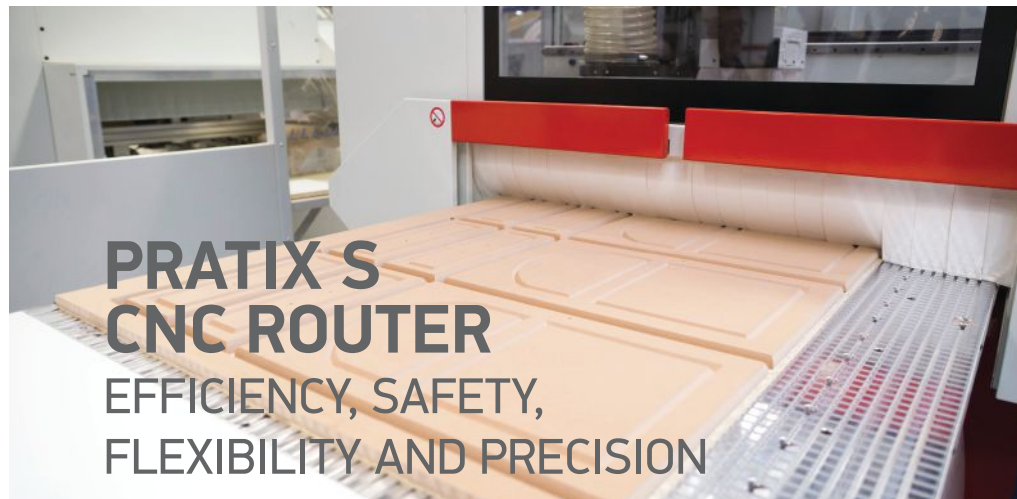
The delta-shaped and rectangular sanders.

Busch says the new sanders were designed with the goals of minimizing user fatigue and increasing their functions. "A lot of times you need a sanding tool that can adapt to different edges. We have a couple of different shapes, a rectangular and a delta, which is somewhat triangular. They both feature a new pad protector, which helps to minimize pad damage and protect adjacent surfaces for superior results."

Other new features include an improved handle, bayonet-style dust port connection and an optional, reusable long-life filter bag. Both sanders offer a variable speed range of 6,000 to 12,000 rpm and a sanding stroke of 2mm, according to the company.

Either model retails for about \$260.

For more, visit www.festoolusa.com. 



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Empire Level debuts self-calibrating level series

By Jennifer Hicks

Empire Level, a division of Milwaukee Tool, introduced the new e105 Series auto-calibrated True Blue Digital Box Levels in January.

The series features six levels, available in 16", 24", 48" and 72" lengths. There are magnetic and non-magnetic versions to choose from.

"Whether the user is double checking that an angle is within code before an inspection,

or using the audible indication for hands-free operation, a digital level is in almost every professional's arsenal of tools because of their incredible versatility and accuracy," Empire Level senior vice president and general manager Rick Gray said in a statement.

They feature seven measuring display modes, including in degrees, tenths of an inch, and hundreds of an inch. There are also rough-in and inspect modes, helpful for code-specific applications such as ADA ramps or entrances.

Traditional liquid vials are incorporated.

All levels feature an audio indicator that sounds a continuous tone when level, dual backlit displays and a hold function that allows the user to lock measurements in position for verification.

The levels run on AA batteries and are IP65 rated for dust and water protection. A lifetime warranty backs the frame and vials.

Prices for the e105 series range from \$99 to \$199.

For more, visit www.empirelevel.com. 

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Casadei-Busellato improves panel supports

By Jennifer Hicks

As part of its ongoing product development to make CNC machining faster and more efficient for its customers, Casadei-Busellato has been improving its motorized servo setup panel processing systems since their debut in 2007. The most recent upgrade improves function and automation capabilities on multi-axis machines.

"We used to just offer a servo setup with a column, but now our servo system controls pods and rails and is so much more technical with its ability to move pods back and forth and maintain accuracy," product manager Arthur Ross says.

"And our new motorized IMC panel supports ensure high-quality processing and increase production capacity due to their high-speed functions that allow quick setup of the working table."

The panel supports are available as an option with most of the company's CNC machines at the time of purchase, including the company's new 5-axis Jet Optima T5 CNC.



"The systems with moving pods are available on most of our models, but what makes them cool now is that they're now available on

our 5-axis machine and our nearest competitor is \$30,000 more," Ross adds.

For more, visit www.casadei-busellato.com. [W](#)



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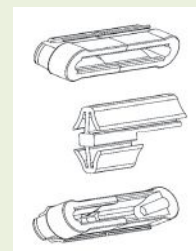
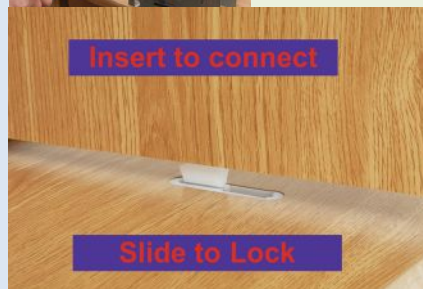


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On-site obstacles don't have to cost time and tools

New innovations are allowing woodworkers better access and theft prevention on their job sites

By John English

Working on a remote site, the chief concern is usually portability. Whether installing trim, millwork or cabinetry, the tools have to be hauled there and back. But woodworkers often have to overcome other obstacles, too, including inadequate light, dust containment, minimizing noise or even just taking up as little physical space as possible. And there's always a security issue with leaving tools on site. They tend to grow legs.

With those parameters in mind, here's a look at some innovative tools that can make life a little easier — and safer — for trim carpenters and cabinet installers.

Light it up

Cabinet installations, especially in new con-



LED lights on a hat from Harbor Freight.



Stanley's Satellite worklight.

struction, often take place before the kitchen's permanent lighting fixtures are hooked up, so the woodworker might have to rely on worklights. That's fine for an overall view, but working the fine details requires very focused illumination. Decent lighting can be the differ-

ence between a sloppy or perfect miter.

The emergence of LED lamps has provided some interesting solutions here and most of the major tool manufacturers have come up with lithium-ion battery-pack versions. But for something small, light and very inexpensive, how

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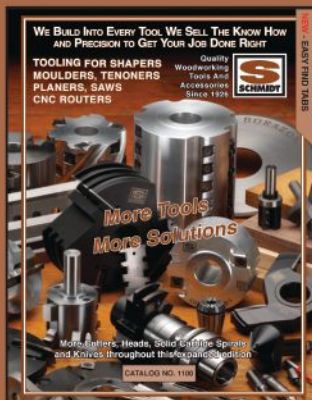
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TOOLS & TECHNIQUES

The Light Mine.



about a light that clips onto the brim of a standard baseball cap? There are many on the market and one version offered by Harbor Freight Tools (Item No. 65288, \$4.99, at harborfreight.com) runs for about 10 hours on the included pair of replaceable lithium-ion batteries.

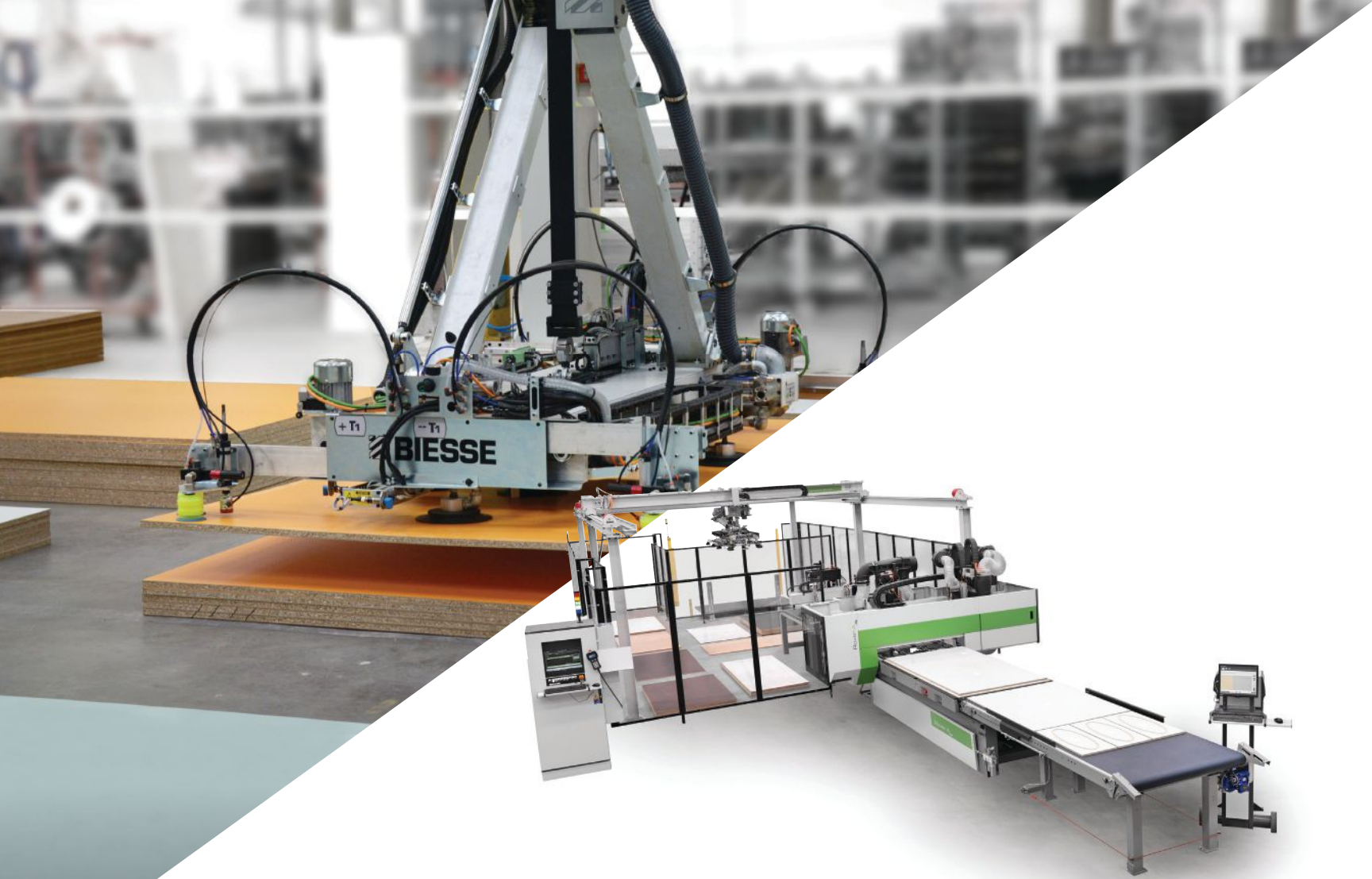
If you'd prefer not to buy batteries or wear a cap, there's the Satellite rechargeable LED worklight from Stanley Tools (item SAT5S at stanley-tools.com). It fits in a pocket, has a pivoting head, delivers 500 lumens through three folding lights and a fixed one, and runs for about 12 hours on a charge.

Or for more illumination in awkward spaces, check out the hands-free Flexit light from Thingamejigtools.com that can bend like a sheet of paper, wrap around tubes and pipes, push into tight corners or even magnetically fasten to metal objects. Batteries are included and there are three adjustable LED light functions (low, medium, high) that allow a woodworker to shape and direct just the right amount of light inside, say, a corner base. Another very strange and innovative lamp from the same website is the Light Mine, which is about the size of a baseball and contains several white and red LED lights. The white ones are worklights and have high and low settings, and the red ones can be used as a flashing beacon or night-vision light. Rare-earth magnets attach and aim the light and built-in posts act as tripods and quad-pods to position the light on non-magnetic surfaces.

Tool or toy?

Technology is entering the woodshop in myriad ways, one of the most interesting being virtual reality. Several CAD companies are working on allowing builders, installers and even clients to virtually tour completed kitchen installs before a single board has been planed. The difference between this and 3-D rendering is that it's more lifelike, can integrate site photos and will be experienced on low-cost VR helmet and goggle viewers. This option will become much more widely available in the next year or two. A shop foreman will be able to walk through the entire job with the installer before the cabinets are even loaded on the truck and the installer will be able to make more comprehensive lists of everything that will be needed on-site and avoid some unnecessary trips back to the shop.

VR takes 3-D rendering to a new level and even Ikea is exploring the possibilities: last April, the company launched a pilot virtual-reality app, which is intended to solicit consumer feedback to help make it



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Rockwell's JawHorse.

more comfortable and real. Lowe's has also been working on a VR app. One resource for keeping up to date on virtual reality for installers and builders is cad-vr.com, and a couple of British firms, nexuscad.com and vrpro.co.uk, also seem to be making some progress.

Handy helpers

Custom installers will definitely want to take a quick look at Thingamejigtools.com's scribing tool. This is a small, cast-aluminum triangular hand tool with adjustable blades that can scribe an edge right into the corner. And because the blade is positioned at a fixed height, an installer can go back and retrace lines without any shifting. Plus, a protective

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“We love our Techno HDS Series CNC Router. It has improved our production in so many ways. The speed in which we can produce our furniture has dramatically reduced our delivery times and lets us plan our production very accurately. The CNC has improved our material yields increasing our profits and has limited shop personnel cutting errors. Thanks Techno CNC for such a great, reliable machine!”

*Base price shown without vacuum pump or installation and training.



The Flexit worklight.



Thingamejig's scribing tool.

footpad prevents any marking of walls. It comes with three blades, a case and instructions for \$75.

Magnogrip.com is another great site for installers. This company offers a good selection of magnetic wristbands and gloves that will hang onto screwdriver inserts, pilot bits, screws and even finish nails. Whether you're up a ladder or under a cabinet, it's really nice to have everything you need at hand.

Another holding device that has been around for a while was designed specifically for job sites. The JawHorse from Rockwell (*rockwelltools.com*) is a combination three-legged sawhorse and bench vise that folds up for transport. A woodworker can lock just about any workpiece into the huge jaws with a single pump of the hands-free foot-pedal. This is all steel construction and it can grab a full 4' x 8' sheet.

Bringing large tools to the job site has always been a challenge and through the years carpenters and installers have used Shopsmith work centers, the PCW from Rolling Trades and a number of other portable solutions. But the engineers at ShopBot (*handibot.com*) rolled most of those functions into a completely portable CNC

ShopBot's
HandiBot.



router that can cut, shape, profile, mill and even do some joinery on site. Though it's no bigger than a breadbox, it can handle work on a full sheet of plywood. The HandiBot Smart Power Tool can be run from any Wi-Fi-enabled

device — a Mac or PC computer, an Android or iOS phone, or any tablet.

Finish carpenters and installers have long been familiar with TigerStop and its SawGear job-site-oriented stop system. This is a com-

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MagnoGrip's magnetic wristband.



A trail cam available from Dick's Sporting Goods.

plete workstation that transforms a miter saw into a high-volume and extremely accurate production station. The stop is automated and programmable, so a woodworker only has to use the tape measure on the wall. Saw-

Gear will do the math from there, including working out compound angles for cuts in crown molding. It pretty much eliminates bad cuts, totes easily on site and has a very fast learning curve.

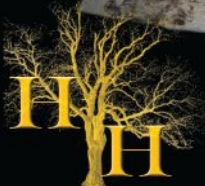
Job-site security

A startling number of tools are stolen from job sites and most of them are taken during the night from what seemed like a secure location. Locking up everything

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in a trailer on site is the ideal solution and some carpenters have made an art form of outfitting custom trailers. Ron Paulk (paulkhomes.com) is a Washington state home builder who has perfected that art. He has also developed a superb portable job-site workbench that offers a full 4' x 8' worktop and can be set up by one person in three or four minutes. It accommodates a router table and table saw and full plans are available on the website. Take a look at Paulk's miter saw stand while you're there.

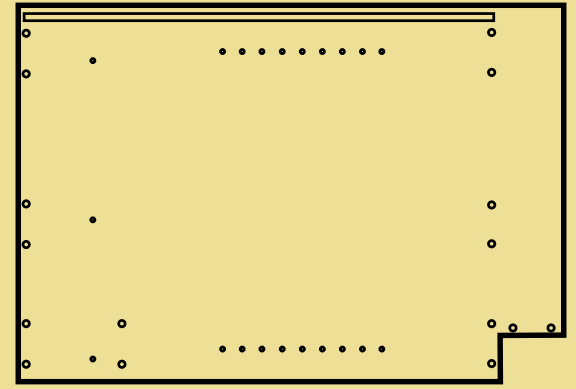
Trail cams can also help secure a job site.

These are simple cameras with night vision that are activated by a built-in motion detector. Hunters use them to see what's walking by the deer stand at night, so it's no surprise that Dick's Sporting Goods (dickssportinggoods.com) stocks a large variety. They run from \$50 to \$550 and there are a number of simple devices available to mount them so they can be lined up on doorways or toolboxes on the job site. Many will text an image to your phone as soon as motion is detected and that can give an installer enough time to call police and prevent a theft.

If money is no object, an Italian company has just come up with a very cool portable garage called the GazeBox (gazebox.net). It was designed to provide protection for a single car, but could be mounted on a flatbed trailer and would offer a daylight workshop undercover on site. The largest model is about 11' x 23'. The ends open up to handle long stock on a miter saw and there's a side door that can be used in inclement weather. [W](#)



GazeBox garages (top) and Paulk's portable workbench.



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FINISHING

with GREG WILLIAMS

Adding age and allure through the finishing process

A professional associate of mine wants to make a copy of a classic sofa. The original has endured normal wear and tear, leaving a patina the owner describes as “warm and golden brown, soft and smooth, light-reflecting, but not glossy, inviting a touch of the hand as much as the view of the eye.”

I don’t think that I can buy that in a can.

I know that “patina” means different things to different people, crafts and practices, ranging from the sum of all influences altering the appearance of an object or surface to a more limited effect of a particular procedure altering one or more of the aspects of appearance, such as color, sheen, depth, pattern of shading or highlighting.

For purposes here, I’ll try to stick with what the finisher and the customer might agree on when attempting to finish or refinish an antique, reproduction or brazenly new piece of furniture that has an enhanced appearance of age and use.

Aged, but well-maintained

My associate has decided not to try to reproduce the sofa so that it looks like the original when it was first built and finished, but to incorporate techniques that as closely as possible resemble that use and aging that could have affected the look and feel of the original over its lifespan if it had been properly maintained.

He might put physical distress marks in the wood to simulate worn edges, scratches around a pull or small nicks in heavy wear areas, and will almost certainly sand sharp edges that would get worn down from use.

Starting with the wood itself, he will seek to create the color that the wood would acquire as it oxidized, darkening or fading from exposure to light. If the wood is too dark, bleaching might be necessary, followed by an application of dye to start developing the desired color without covering up the wood with pigment. Other chemicals can be used to shift the color of specific woods.

He will use a pigmented stain over the dye stain, applied so that a subtle pattern em-

phasizing the figure of the wood shows up, but doesn’t overpower or hide the wood. He might use a washcoat of sealer to mitigate the adhesion of the pigment to the wood or apply the pigmented stain directly onto the wood, which will allow a greater “bite” to the wood.

Other tips and tricks

He will also select products and techniques to introduce the character of the piece such as:

Shading or toning: Most finishers use these terms to indicate an addition of color, usually in a coating material such as a spray-applied transparent or semitransparent mixture of dye or pigment and lacquer. There is much disagreement about the difference between shading and toning. I will avoid that for this article. Whatever the term used, the process subtly alters the color.

Glaze: Glaze can be thought of as a product as well as a process. The product is usually a liquid or paste colored with a pigment, which can be applied over a coating or sealer rather than to the bare wood. It can be wiped off selectively, leaving only a haze of color, or left “hanging” in low places in the surface such as scratches, dents, holes, the lower parts of the profile of moldings, carvings or other surface detail.

Crackle (craquelure): Special crackle lacquer can be used to create a pattern of fine cracks similar to those formed in old paint as it dries and shrinks over time. A dark glaze applied over this textured surface will emphasize that pattern.

Tinted topcoat: All of the clear coating material (lacquer, shellac, varnish) can be tinted with pigment or dye to provide a transparent layer or layers of color at various levels in the coating build. Most of the clear coatings have some color, from a pale yellow to darker amber or golden tones. Shellac and lacquer especially add depth to a finish and are considered softer or warmer than a water-clear coating such as acrylic.

Sand through: Abrasively removing some portion of the finish to reveal layers of finish closer to the wood, simulating wear can add interest to a piece, but it is easy to over-

do. The effect should be natural-looking and should not appear as recent damage.

Break through: This technique involves using two or more different colors of paint. Once one coat has dried, a dab or smear of paste wax or Vaseline is added to prevent portions of the next coat — usually a different color — from adhering well. When the last coat has dried, it's scraped with a putty knife to simulate a flaked or peeling finish.

Dusty wax: This combination of mineral spirits, paste wax and a powdered solid such as pumice is used much like a glaze to achieve a dusty, dirty and old look in the finish. It can be used over a fairly glossy topcoat and buffed to a lower sheen. This technique is often used on picture frames and furniture. Finding premixed dusty wax can be difficult, but it is easy to make.

Dry brush: Glaze or paint can be applied with a soft full brush with very little color on the bristles. Unlike a glaze technique calling for coverage of a general area followed by wiping off most of the applied color, this technique applies color very sparingly, not wet enough to flow at all. **W**

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

Keystone offers 'color of the year'

Keystone Wood Specialties offers "Greenery," the Pantone Color Institute's color of the year for 2017.

Greenery is symbolic of new beginnings, according to PCI, a color consulting service.

"Greenery is a fresh and zesty yellow-green shade that evokes the first days of spring when nature's greens revive, restore and renew. Illustrative of flourishing foliage and the lushness of the great outdoors, the fortifying attributes of Greenery signals consumers to take a deep breath, oxygenate and reinvigorate," states PCI.

Customers can also choose from Keystone's list of other stains, paints and glaze combinations. Keystone will also custom color match.

For more, visit www.keystonewood.com.

Making a Tiny Table for a Tiny House on the ShopBot Desktop MAX



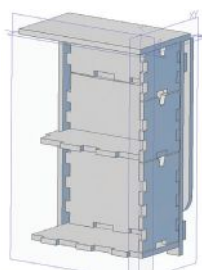
2' x 4' sheets of spruce fit easily on the Desktop MAX



Sanded and all ready for staining (light walnut color)



Both Brian and his friend were thrilled with the result



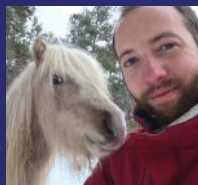
Necessity being the mother of invention, Brian Owen recently helped solve the problem of furnishing a friend's backyard cabin with a table.

His friend described the specs dictated by the small home: "No deeper than a computer desk, long enough to seat four friends, but not so long that I can't get by to get to my bed; drawers for hiding things that my infant grandson shouldn't be grabbing; enough space to fit my wheelchair under the table."

"I recalled a table that I'd seen in a children's furniture store, a short table with two drop-leaf ends that could be folded up and tucked into a corner for easy storage.

I took the drop-leaf idea and decided to add stability by substituting the normal pull out support with a swing out table leg."

Who: Brian Owen
Where: Durham, NC
Tool: ShopBot Desktop MAX



Brian Owen and Spirit

Read Brian's story about his process at ShopBotBlog.com



ShopBot Desktop MAX tool bed: 36" x 24"

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THE CUTTING EDGE

with R.W. LEE

Lead by example as you integrate CNC systems

Nothing sells a CNC machine like a live demonstration. Customers gather around and marvel at the precise movements, instead of focusing on the software that makes the machine do its magic.

Some of today's CNC machines come with software that requires very little, if any, programming by the user, who simply makes choices on a touchscreen control. These machines generally perform one task that tends to be repetitive.

At the other end of the market is the multi-axis CNC router, which needs at least two

types of software to operate.

The first is a computer-aided design (CAD) program that generates the designs that precede a simple task, like cutting sheet goods, to the more complex, like designing an entire kitchen while simultaneously optimizing materials. The other is computer-aided machine (CAM) software that generates the step-and-direction files that control the CNC's toolpaths. It is common for CAD and CAM to come as one integrated package that simplifies learning and use.

At either end of the spectrum, a shop will get a machine that improves production and

lessens its demands on physical labor. But the onus falls on the operator, who is suddenly tasked with getting a return on the biggest investment that most small- to mid-sized shops will ever make.

And this brings up the age-old question: Where am I going to find capable operators?

The first person should be the shop's owner and I can hear the grumbles. You already wear too many hats — boss, bookkeeper, salesman, etc. — but what are you going to do if an operator calls in sick or quits?

Learning software does not have to happen at once and should start when considering the options. You should be familiar with operating the software first, since it is at the core of the CNC machine's operations. Most providers offer classes and online learning opportunities.

Most of us learn faster in classrooms without distractions. I've found that online courses require more discipline and time to complete.

Most shops will find their first operator from their existing staff. Again, this person will have to be trained in advance, but you'll end up with an employee with a much better understanding of workflow processes.

Shop owners often make the mistake of only

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considering younger workers as operators. While they might demonstrate considerable skill at operating a smartphone, this doesn't necessarily translate to operating CAD/CAM software and automation processes.

Remember, the shop owner is a leader

and one of the best ways to lead is by example. If a shop owner is willing to learn and use sophisticated technology, both software and machinery, then chances are that existing employees, at least the loyal ones and those who are forward-thinking, will follow the example. **W**

Thompson Mahogany hires two salesmen

Thompson Mahogany Co. announced the hiring of Tom Hibdon and Tim McGill as national sales executives.

Hibdon has been in the import and domestic hardwood industry for over 28 years. His career started with his father's company, Hibdon Hardwoods Inc. in St Louis. He then qualified as a NHLA grader and has since held management positions with Thomas and Proetz, Craig Lumber Corp., Hood Industries, Sitco and AHC Craig Imports.

McGill is a graduate of North Carolina State and has over 20 years in import marketing for EAC Trading, DLH Trading and Inter-Continental Hardwoods.

"Tim and Tom's positions as national sales executives, when combined with other recent moves, will help Thompson Mahogany to grow and prosper into the future," Wayne Rogers, president and CEO of East Teak Fine Hardwoods, the parent company of Thompson Mahogany, said in a statement.

For more, visit <http://thompsonmahogany.com>.

Vauth-Sagel adds two showrooms

Vauth-Sagel, an international supplier of innovative storage systems for the kitchen and furniture industry, has opened showrooms in Hong Kong and Moscow.

"With our new showrooms in Hong Kong and Moscow, we will continue to expand our international presence," Claus Sagel, the company's managing director, said in a statement.

"In keeping with the company credo, 'Think global – act local', we intend to be represented in key markets with our own teams and showrooms in order to liaise even more directly and intensively with our customers. For us, the showrooms are the first step towards gradually increasing the awareness of our brand in these very important regions."

For more, visit www.vauth-sagel.com.

One-stop shopping option from cabinet supplier

Cabinets Quick announced the launch of its new Modular Cabinet Catalog, which allows customers to price and select custom cabinet configurations.

The company's commercial-grade cabinets come flat-stacked or assembled and feature confirmat construction, drawer boxes and Blum hardware.

"Customers can now easily quote using a selection of the most commonly used materials for both cabinet cases as well as drawer box construction. Work ranging from economical installations to high-end projects can now be quoted from one catalog," the company said in a statement.

For more, visit www.cabinetsquick.com.

New product catalog from Vortex Tool

Vortex Tool Co. has released an expanded new catalog with over 100 pages of products.

The catalog is divided into four sections: wood tooling, plastic tooling, insert tooling and machine tool accessories.

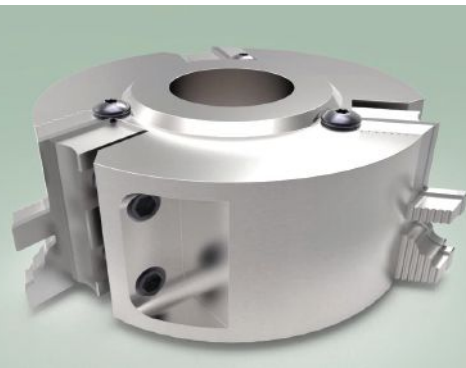
The catalog features several new series of tools and contains technical information that can be used to calculate feeds and speeds for programming CNC machines.

For more, visit www.vortextool.com.



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- Table tilt: 45° R, 15° L
- Floor-to-table height: 44"
- Cutting capacity/throat: 13½"
- Max. cutting height: 6"
- Blade size: 92½" to 93½" L (1⅞" to ¾" W)
- Precision-ground cast-iron table size: 20½" x 14" x 1½"
- Overall size: 30" W x 26" D x 67¼"
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- Amps: 15A at 110V, 7.5A at 220V
- Table size: 21¾" L x 16⅞" 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" (1⅞" to ¾" W)
- Blade speed: 2820 FPM
- Footprint: 24" L x 18" W
- Overall size: 29" W x 32½" D x 76" H
- Approx. shipping weight: 388 lbs.

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- Precision-ground cast-iron table size: 23⅝" x 17¼" x 1½" thick
- Table tilt: 5° L, 45° R
- Floor-to-table height: 37½"
- Max. cutting width: 16¼" L of blade
- Max. cutting height: 12"
- Blade size: 131½" long • Blade width: ⅞"–1"
- Blade speeds: 1700 and 3500 FPM
- Overall size: 32" W x 32" D x 73" H
- Footprint: 27" L x 17 ¾" W
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- Motor: 2 HP, 120V/240V, prewired 120V, single-phase
- 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: ⅝"
- Arbor speed: 3450 RPM
- Max. depth of cut: @ 90° 3¼", 45° 2¼"
- Rip capacity: 30" R, 15" L
- Overall size: 57¼" W x 37½" D x 35⅜" H
- Footprint: 21" L x 19½" W
- Approx. shipping weight: 330 lbs.



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10" LEFT-TILTING SUPER HEAVY-DUTY TABLE SAW W/ RIVING KNIFE

- Motor: 3 HP, 240V, single-phase, 14A, 3450 RPM • Cutting capacity: 8" L, 26" R
- Max. depth of cut: @ 90° 3, 45° 2⅞" • Footprint: 20½" x 20½"
- Precision-ground cast-iron table w/ wings measures: 40" W x 27" D
- Approx. shipping weight: 508 lbs.



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12" COMPACT SLIDING TABLE SAW

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- Full load amps: 20A/10A • Main blade size: 12" • Main blade speed: 4000 RPM
- Depth of cut: @ 90° 3½", @ 45° 2½" • Scoring blade size: 4¾" (120mm)
- Sliding table size: 63" x 12⅞" • Scoring blade speed: 8000 RPM
- Max. rip capacity: 33" • Length of crosscut: 63"
- Max. capacity of crosscut fence: 73¼"
- Footprint: 45" x 35"
- Approx. shipping weight: 996 lbs.



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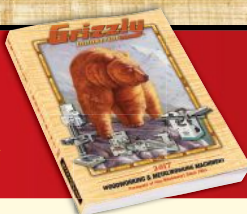
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12" COMBINATION JOINTER/PLANER W/ CARBIDE INSERT SPIRAL CUTTERHEAD



- Motor: 5 HP, 220V, single-phase, 25A • Jointer table size: 14" x 59 1/2"
- Cutterhead diameter: 3 1/8" • Cutterhead speed: 5034 RPM
- Cutterhead: Spiral, 32 inserts • Cutterhead insert size: 15 x 15 x 2.5mm
- Max. jointer depth of cut: 1/8" • Max. width of cut: 12"
- Floor-to-table height (Jointer): 35 1/2"
- Fence: 6" x 51 1/4"
- Bevel jointing: 0–45°
- 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 3/8"
- Overall size: 67 1/2" W x 41 1/2" H x 24" D
- Footprint: 26" L x 19 1/2" W
- Approx. shipping weight: 704 lbs.



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G0634XP ONLY \$2550⁰⁰

COMBINATION JOINTER/PLANER W/ FIXED TABLES



- Motor: 2 HP, 120V/240V, single-phase, 15A/7.5A
- Jointer table size: 7 3/8" x 45 7/8"
- Cutterhead knives: 3 HSS-Single sided
- Knife size: 6 1/4" x 9 1/16" x 1/8"
- Cutterhead diameter: 2 7/16"
- Cutterhead speed: 5400 RPM
- Max. planing height: 6"
- Planer feed rate: 11 & 22 FPM
- Planer table size: 19 1/4" x 14 1/8"
- Fence: 4 3/4" x 41 7/8"
- Bevel jointing: 0–45° L/R
- Overall dimensions: 46" W x 33" D x 46 1/2" H
- Approx. shipping weight: 418 lbs.



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Pair of Safety
Push Blocks

\$169
shipping
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G0809 ONLY \$2995⁰⁰

15" PLANERS

- Motor: 3 HP, 220V, 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 7/8" H
- Approx. shipping weight: 675 lbs.



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3-KNIFE CUTTERHEAD

G0453 ONLY \$1250⁰⁰

SPIRAL CUTTERHEAD

G0453Z ONLY \$1795⁰⁰

Z-SERIES

24" PROFESSIONAL PLANERS

Z-SERIES

- 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: 8"
- Max. cutting depth: 1/8"
- Feed rate: 17–26 FPM
- Cutterhead speed: 5200 RPM
- Approx. shipping weight: 1130 lbs.



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- Motor: 5 HP, 240V, single-phase, 19A
- Max. cutting width: 20"
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- 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 7/8" H
- Approx. shipping weight: 932 lbs.



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SPIRAL CUTTERHEAD

G0454Z \$2575⁰⁰ SALE \$2195⁰⁰

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- 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)
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ONE-STOP SHOP

M.R. BREWER IN PORTLAND, MAINE, HAS DESIGN, CONSTRUCTION AND MILLWORK SERVICES UNDER ONE ROOF

By Jennifer Hicks

When Malcolm “Rusty” Brewer started a small wood-working company in 1987, he never dreamed it would grow to what it is today.

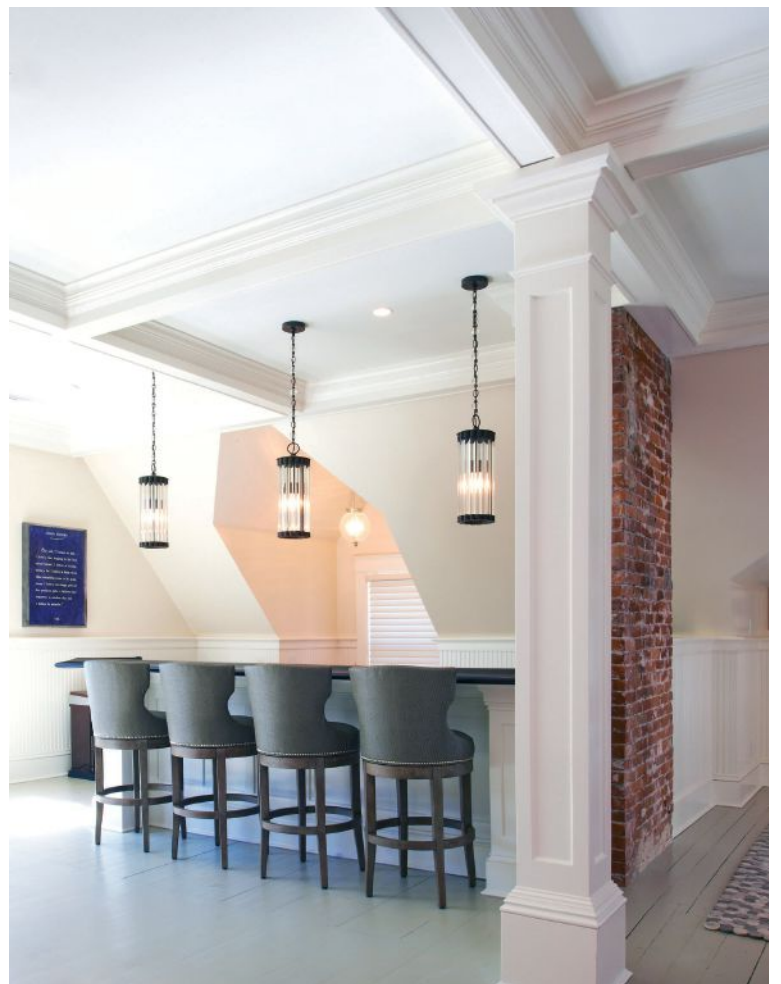
“Did I have a plan to build a big business? No. If I had been better at business, I’d be a lot further ahead,” Brewer says. “But I wasn’t driven by the money; I was driven by the work. You have to love what you do. If you don’t love it, you’re not going to be successful.”

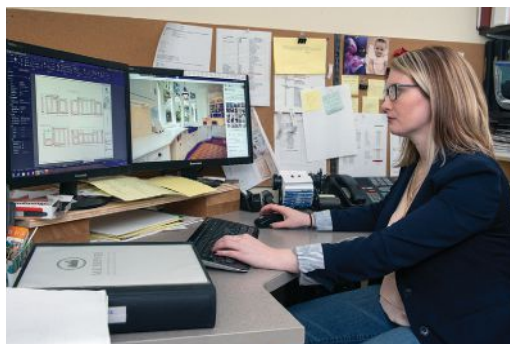
His company, M.R. Brewer in Portland, Maine, caters to several markets, starting with residential and commercial construction. There’s also an interior and exterior millwork division, supported by an in-house design department and custom fabrication shop. As Brewer nears retirement, sons Matt and Jeff Brewer are taking the reins of the 25-person team.

“Most of our customers come to see us for a kitchen or library and realize we not only provide the cabinets, but can do the complete construction project for them. It’s kind of a nice feature to be a one-stop shop where people know they’re not dealing with multiple contractors from multiple trades,” Matt Brewer says.



(Top left) Jeff, Rusty, Matt and Pat Brewer, and some completed projects.





Scott Haskell at the shop's CNC (top); designer Tavia Douglass; Jeff Brewer in the sharpening room, and Tad Zimmerman and Keyvan Misaghian.

The beginnings

Prior to '87, Rusty ran another big cabinet shop near the Portland area for many years. But when he wasn't given what he said he was promised — a 50 percent ownership share — Rusty quit to go into business for himself. With three children at the time and no gainful employment to rely on, the pressure was on. He employed a friend, Richard Beaudoin, as his business partner and they started building bookcases in a barn.

Within that first year, they rented a shop space in the basement of a Portland warehouse and hired 12 employees. Beaudoin had a turnkey commercial construction company of his own that he merged with the business and ran that while Rusty focused on millwork and cabinetry. Rusty's wife, Patricia Brewer, managed the books.

Bursting at the seams, the company moved to its current 12,000-sq.-ft. facility in 1994 at a former Portland lumberyard. After Beaudoin's retirement in 1997, Rusty decided it was in his best interest to keep the construction end running. Meanwhile, his sons were making their way

in the industry. Mike Brewer got a construction management degree and went to work for HE Sargent Inc. in Enfield, Maine, in 2001 until 2003 when his father asked him to come work for him. Jeff Brewer joined the family business in 1997 after getting out of the military. Jeff is skilled at running the shop floor, while Matt is better at project management, true complements to one another, according to Rusty.

Changing direction

In the early years, most projects consisted of small commercial jobs for offices in downtown Portland. In the late '90s, the whole direction of the business changed when Rusty began a business relationship with a Portland realtor who had ties to high-end homeowners.

The client base is fairly local and generally consists of the greater Portland area up to Rockport, and reaches down to Worcester, Mass., Boston and Cape Cod. About 90 percent of the millwork services are for residential homes located in coastal areas such as Portland and Cape Elizabeth.

PHOTOS: MICHAEL GORDON

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"In the millwork shop we do a lot of commercial work as far as office furniture repair, office countertop repair and on-site furniture repair, but a majority of our work is primarily residential," Matt says.

"The millwork side of the company complements the construction end because anything that requires construction will usually guarantee that job. It also allows us to be able to do things that other construction companies

can't do such as replicate existing moldings and other woodworking details on houses and things like that. We like to think of ourselves as experts at remodeling old homes. That's really where our strongest capabilities are."

Rusty, who grew up in Portland, says the population is ever-increasing in Southern Maine, which is making it seem like a suburb of Boston, thanks to the diversity of the seasons, clean air and location close to the ocean and mountains. He foresees an abundance of work in the future.

Never say never

Rusty and his sons have invested in all of the necessary equipment, technology and peo-

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M.J. Wilder in the cabinet shop.



The majority of the shop's millwork is for residential projects.

ple to build and renovate homes with custom cabinetry and millwork and they make it a point to accommodate all types of requests.

"With new products coming out and new equipment coming out, we try to stay ahead of the curve on trends. You need to know what the new products are before your clients tell you. You need to educate them first.

"We have the capability of producing anything. We've done custom windows and doors, coffered ceilings and, two years ago, we built a timberframe house in our shop," Jeff says.

"One day we'll be doing a high-gloss finish on a very modern cabinet. The next day we could be doing a beaded inset face frame for a traditional kitchen. It's very random," Matt adds. "We see lots of painted kitchens, lots of natural wood, Shaker-style beaded inset frames with flat panel doors. Some customers want that modern look, though. Younger clients want the modern farmhouse look. It really depends on the client. We base our designs on their needs."

Two years ago, the company hired an interior designer named Tavia Douglass, who creates CAD designs for the shop floor, deals with color and material selection and works with plumbing and electrical specs.

"Before it was just Rusty doing designs on paper. Then when we got the CNC we had a draftsman that did CAD drawings from Rusty's work. Now it's much more organized with our in-house designer. She is the first point of contact for a client," Matt says.

Another new hire, Chris Philbrook, has been increasing the company's marketing efforts and developing its website. He's also been involved with writing a succession plan for Matt and Jeff to take over when their father retires. That step will leave the brothers some key decisions to mull over.

"We've been talking over the past few months about how we need to make a decision if we're going to expand or not because we have enough work coming up that could warrant us to expand," Matt says. "We've been blessed with work and have work lined up through the winter. We are at maximum capacity right now and we have room to expand, but we want to see what the payback will be first."

Jeff adds that the two plan to continue their focus in the residential market to stay competitive.

"There are a lot of bigger millwork shops around here that are on the commercial side of things. I think in the millwork field if you're going to get into the commercial side, it's a huge investment. You have to have a lot of square footage for a shop. It's very competitive and it's very tough to get down to that price point the larger shops are at. So from our standpoint, we like to have our guys more focused on the craftsmanship and the detailed work in the residential buildings," he says. [W](#)

Contact: M.R. Brewer, 91 Bell St., Portland, ME 04103. Tel: 207-797-7534. www.mrbrewer.com

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CLAMPS

FROM HELPFUL TO NECESSARY,
THESE WORKSHOP CLAMPS WILL HELP YOU LOCK DOWN PROJECT MATERIALS ON THE JOB

By John English

An object at rest will remain at rest unless acted on by an unbalanced force. Isaac Newton figured that out more than three centuries ago and his laws of motion are still the foundation of modern physics. In the woodshop, we can use mechanical, vacuum or pneumatic devices to create Newton's "unbalanced forces." It sounds complex, especially because some of the most useful clamps and holding devices that a woodworker uses are unbelievably simple.

Here's a quick look at a few of the new (and some not-so-new) clever clamps that any woodshop might find helpful, plus a handful that are pretty much indispensable.

About five years ago, a family-run business based in Anaheim, Calif., posted a short video on YouTube. It's still online and shows the ways in which the Blokkz (blokkz.com) clamping device can be used to apply tension to tricky glue joints — pretty much anything that isn't 90 degrees. Now, the company is offering its Universal Clamping Block in a kit that includes eight blocks, a variety of rubber pads and shims, and even a way to convert the device into a tool hold-down for use on drill presses and other equipment. It's heaven-sent when working on corner cabinets and other multisided projects. The kit is widely available, inexpensive and small enough to pop in a shop apron pocket or take along for job-site clamping.

Bessey's edge-gluing clamps (besseytools.com) slip onto the edge of a panel or door and then grab the surface with a couple of cams so pressure can be applied to the tape (banding) via a thumbscrew. There are two models to accommodate differing shelf thicknesses (the KF2 and KF4) and both work really well on those tricky inside concave curves.

Another edge gripper, the Jorgensen Casework Claw came out in 2013 and has recently been released in a two-pack set (item No. 8540 at ponytools.com). The device aligns parts and holds them in two directions at 90 degrees to each other, so it's ideal for holding box or drawer parts together while assembling. It can also be used when clamping a couple of panels together and is small enough to go to an install if needed. A similar product, the Cabinetry Clamp (BES8511), is available from Bessey.

Stanley's 2x4 clamp (model STHT83166 at stanleytools.com) allows an installer to create a bar clamp on site that's as long as the longest 2x4 on

the job. It fits in a toolbox and lets you clamp a whole wall of cabinets tightly together: just screw a few studs to each other and there's really no limit to its length. It delivers 400 lbs. of force — more than enough to hold a few wall or base units in place while they're secured — and can bring up to 850 lbs. to bear when the heads are actually bolted to the studs, rather than using the threaded handles (there are holes pre-drilled for bolts).

Accessorize

Sometimes it's not so much the clamp as the accessories that affect the way we work. Irwin Tools (irwin.com) has developed several interesting



Armor Tool manufactures a number of small clamps, including one with dial-up pressure. The company also makes fences that fit bench-dog holes.

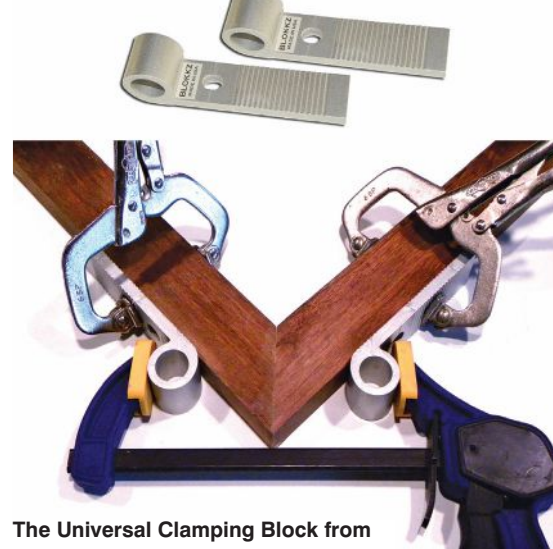




For CNC and other applications, this simple but sturdy aluminum clamp from Axiom slides in a T-slot.



Kreg's new clamping table holds stiles and rails or other parts at a true 90 degrees for pocket-hole drilling and other operations.



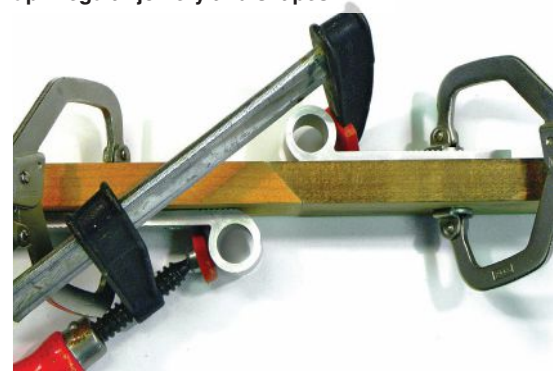
The Universal Clamping Block from Blokkz allows a woodworker to glue up irregular joinery and shapes.

ones for its basic bar clamps, including the Quick-Grip hold-down fixture. This attaches to the underside of a workbench and converts the standard one-handed bar clamp into a hold-down. The company also makes a corner clamp accessory that lets a one-handed bar clamp handle 90-degree angles (great for assembling drawers) and a very simple coupler that allows a woodworker to connect two clamps to create a longer one.

Another innovative clamp supplier is Armor Tools, which is widely distributed through catalogs and online resources such as Kling-spor's Woodworking Shop (woodworkingshop.com). The company's Horizontal Dog Clamp pops into a 3/4" bench-dog hole and has a 7.5" peg so it can lock fairly thick stock to the workbench, using easily adjustable pressure

(25 to 400 lbs.). That allows sign-makers and other specialty woodworkers to clamp and hold materials such as foam and plastic for routing or shaping. The clamp is part of an entire system that uses fences and clamps together and offers a lot of clamping versatility. It's very quick, reducing setup time, and many of the clamps are auto-adjusting. The fences use pegs that pop into dog holes and these are adjustable to fit most benches.

The Cam Clamp mechanism from Lee Valley (item No. 05J51.01 at leevalley.com) can also use dog holes to grasp and hold work to the bench. In fact, it can be used with any 1/4"-20 threaded bolt to create a hold-down, including carriage and T-bolts. One of the best jig mechanisms around, this inexpensive (about



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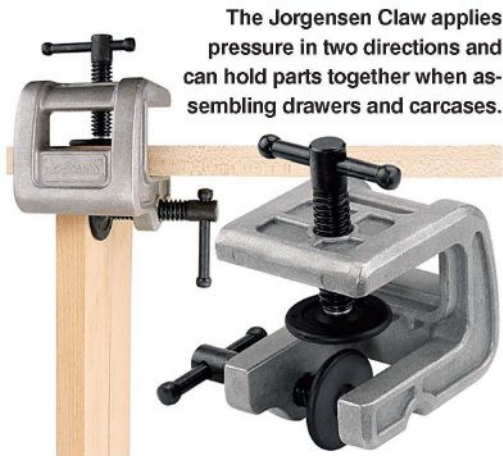


\$5) cam clamp can exert as much as 400 lbs. of force using only a thumb and forefinger to operate the handle. It makes quick work of clamping and releasing jigs and fixtures, especially when doing repetitive work.

Clamping jigs and stations

Woodshops that use biscuits to assemble casework know how tricky holding everything can be when milling slots. Versidex (versidex.com) makes a very impressive plate-joiner indexing and clamping system. Way more than just a clamp, the system delivers dust-free, extremely accurate joinery with no mechanical pressure. It uses pneumatics to hold parts in place. Next month, the company will introduce two new models, the Mini 25 and the Mini 31. These have all of the features of the full-sized models, but are much smaller in size and price. The Mini 25 will handle 95 percent of kitchen cabinet sizes, up to 24.5" deep. The Mini 31 will also do that, plus it will handle mortises into the front edges of panels up to 30.5". It works with Lamello's Zeta P-2 joiner, which can accommodate snap on face frames using the Tenso-14 connector or regular biscuits.

Using pneumatics and vacuum to hold parts offers a number of advantages, not least of which is that there are no bar clamps in the way when milling. Vacuums also lend themselves to some very custom work, where



The Jorgensen Claw applies pressure in two directions and can hold parts together when assembling drawers and carcasses.

shaped and even carved parts can be assembled and glued without damage. A woodshop looking to build such a custom system can get all the parts and a lot of advice from companies that use the technology to build veneer presses. For example, Vac-U-Clamp (vac-u-clamp.com) offers manifolds, foot pedals, hoses, pumps and even an array of specialty adhesives. And Quality Vacuum Products (qualityvak.com) has some new Ped-Vak kits that include everything a shop needs to create a foot-operated vacuum clamp. The company has also just introduced a new clamping stand with a foot switch.

VacuumTables.com is a supplier of vacuum



Bessey's edge-gluing clamp that makes quick work of installing solid edgebands.



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The VAC SYS from Festool (two shown) is an infinitely adjustable work holder that protects delicate surfaces and allows great access to edges.

hold-down and floatation tables and the company caters in particular to CNC work holding.

Kreg (kregtool.com) recently released its new Clamp Table and Steel Stand Combo, which is a clamping station with two T-tracks (called Clamp Traks) located along a couple of adjacent edges so they form an L. This lets a woodworker hold all kinds of parts from face frames to door stiles and rails in position. Designed to accommodate pocket joinery, the station is ideal for lots of other applications where parts need to be clamped perfectly square to each other.

Axiom (axiompprecision.com) makes a really nice hold-down that sells for \$19 a pair. Based

on a 5/16" T-bolt that slides into extruded table T-slots, it's long enough to capture nearly any material up to 3" thick. The clamping arm is aluminum and 1-1/8" wide by 5-1/4" long and it's anodized to avoid marks on materials.

Gluing up panels hasn't changed much through the years. The clamp beds have become a bit bigger and some of the pipe clamps have evolved into electronic or pneumatic vises. But the principle remains the same: keep the parts flat and apply even pressure. Rangate (rangate.com) offers some interesting clamping stations from the German company Barth. These multipress units feature a perforated plate on the clamping surface, which is perfect for arched

or angled pieces that require special support. And if a shop adds some optional rack-and-pinion peg units, then no shape is too eccentric to clamp securely. One nice thing about Barth products is that a woodshop can gradually build up its equipment as needed, adding different-sized clamping stations that can swap and switch accessories.

For shops that aren't quite sure whether to go with new or used when it comes to clamp tables, Ron Boose can probably help. Based in Hughesville, Pa., his RT Machine Co. supplies both new and secondhand panel clamps plus clamp racks/carriers and a vast variety of other machines to woodshops. In fact the company, which was founded in 1999, is now one of the largest industrial woodworking machinery dealers in North America. Other top-of-the-line clamping station suppliers include Castle (castleusa.com), Dotul (dotul.com), Stiles Machinery (stilesmachinery.com), SCM Group North America (<http://www.scmgroupna.com/en>), Doucet (doucetinc.com) and Silver (silvermachineinc.com).

One last thought: one of the most intriguing new clamping solutions is Festool's VAC SYS. Well worth a look (VAC SYS SE 2 on festool.com), it will clamp parts for machining and finishing edges, while protecting surfaces from marring. It's equipped with a suction base that adheres to non-porous surfaces. **W**



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CNC EXPANSION: NOW OR NEVER?

If your shop can afford an upgrade, new machines provide certainty in an uncertain marketplace

By John English

The larger a woodshop gets, the more important both volume and speed become. Upgraded CNC capacity allows a shop to handle more projects and even run a few simultaneously. That, in turn, provides an opportunity to take greater advantage of economies of scale, such as fewer setups and tool changes. Improved load/unload speeds can also have a significant effect on efficiency, as does multifunctionality where a single workstation can perform several tasks.

Better machines usually mean fewer defects, too. These concepts are at the core of lean manufacturing, where a company strives to eliminate waste while maximizing the value that a customer receives.

An old adage says that one has to spend money to make money. Once the decision has been made to invest in bigger and better CNC capabilities, spending wisely depends on two things: number crunching and knowledge. Deciding how much to invest can be complicated. Spreadsheets might be able to deliver a cost-benefit analysis based on current data and predictions, but they can't accurately project long-term variables such as consumer taste trends, the availability and composition of future materials, the emergence of new technologies or even future government and environmental legislation. Any one of those factors can seriously affect the return on investment in CNC technology and, the larger the shop, the larger the potential impact.

The knowledge factor is a little easier. Knowing what's new is important and knowing what's tried-and-true is vital. With that in mind, here's a look at what the industry is offering to woodshops.

In the news

One of the biggest challenges facing a woodshop in terms of CNC expansion is where and how to store parts for fluid workflow. A new panel storage system from Holz-Her USA (weinig.com/de) addresses exactly that. The Store-Master provides a completely automated and intelligent material-handling process as well as a highly efficient method of storage space. It's available in a series of standard sizes to fit both medium and larger shops or it can be customized to meet pretty much any existing floor space. The Store-Master can be used as a standalone storage system or integrated into automated loading for nested based routers.

For shops that need big CNC capabilities in a very small footprint, Holz-Her also just released the Connect package for its 7405 vertical machining center. This allows pockets and grooves to be cut for connectors such as the P-System Connector from Lamello. A shop can now cut pockets for these and other connectors on all four edges as well as in the X and Y directions. For this purpose Holz-Her added an additional (seventh) tool changer location as well as a matching programming macro.

For shops that work with LockDowel connectors, Laguna Tools (lagunatools.com) offers its SmartShop LD4 dowel boring and inserting machine that works in tandem with a CNC. It drills and inserts LockDowel's glue-less, invisible H-clips and spring pins in milled parts to create joinery for cabinets, drawer boxes, closets, desks, solid-wood furniture and many other applications.

NexTech Machinery (nexttechmachinery.com) in Cornelius, N.C., recently

introduced its new R400 moving gantry CNC router. This machine was designed with the specific goal of improving efficiency while reducing work in progress. It does that by eliminating downtime and adding different levels of automation for the loading and removal of finished parts. The R400 also offers remote diagnostics and label printing. It comes with a 12-hp HSD spindle, a HSK 63F tool holder and one of four table options — two at 49" x 97" and one each at 61" x 121" and 61" x 149".

Biesse America (biesse.com) uploaded a new video on YouTube about the Rover Gold G pod-and-rail processing center. It has a comprehensive parts locking system and built-in lifting bars to load large panels. There's a wide choice of vacuum modules with integrated rotation abilities that provides abundant ways to lock parts in position and there's an auxiliary vacuum outlet for custom jigs. The Rover Gold G comes with a remote control pad and automated dust collection. Movement along the axes is on precision guides with rack-and-pinion transmission. There's a 6 kW horizontal motor with a double outlet and a liquid cooling unit for the spindle. The BH17 boring head has independent spindles, the revolving tool-changer has 16 positions and the machine has an automatic centralized lube system.

Investment levels

It's easy to imagine what a new CNC setup might do for a woodshop, both now and down the road. On the other end of that spectrum, however, is the need to justify a budget. There's a delicate balance between meeting today's needs and opening the road to future potential. What exactly does a CNC center need to do right now as opposed to what it can grow into in the future? Somewhere there's a point where a woodshop decides how much to spend on either machine hours or man-hours. That level of automation depends heavily on many factors, including the direction the shop is taking, the scale and nature of new

projects, the predicted health of the construction industry and, perhaps most pivotal, the work habits and skills of employees and owners.

The decision process begins with learning what's available. Manufacturers do their best to present as many options as possible and constantly updatable websites are far more efficient at that than once-a-year print catalogs used to be. New from C.R. Onsrud (cronsrud.com), for example, is an online, interactive catalog of more than 60 pages that showcases the company's American-made CNC centers.

Anderson America Corp. (andersonamerica.com) also offers a comprehensive online catalog. The company announced in early 2016 that it was handing over distribution and support of its Omnitech line of CNC routers to Giben America (now at omnitech-systems.com), and is now concentrating more on 5-axes technology.

Many of the larger manufacturers and suppliers handle trade-ins and if a CNC is its own brand it will often recondition and upgrade the machine before sending it out for resale. For example, Nr. 1 Maschinenmarkt (number-1-mm.com) belongs to the Felder group of companies and it has three U.S. locations, two of which are in California and one in Texas. The parent company, Felder Group USA (feldergroupusa.com) offers a baker's dozen of Format 4 brand CNC centers for larger woodshops, ranging from the compact C-Express 920 classic all the way up to the H500, which is a 5-axis, 12 kW unit that can deliver four-sided door and window processing with automatic delivery.

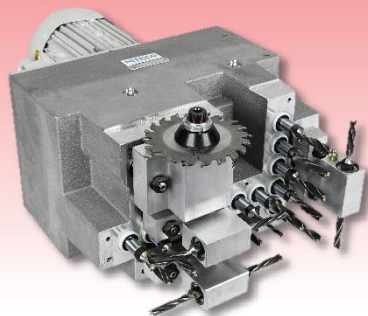
Hermance Machine Co. (hermance.com), based in Williamsport, Pa., has been selling new and used industrial machinery since 1902. Another good resource for used equipment is RT Machine Co. (rtmachine.com) in Hughesville, Pa. Global Sales Group (useddoormachines.com) distributes several lines of woodworking equipment including some used machines.

Budget-minded buyers that only need three axes might also want to take

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a look at the Patriot 5x10 from Colorado-based Freedom Machine Tool (freedomcnc.com). The moving gantry machine offers a full 60" x 120" table and has a 7" Z-axis range. And ShopSabre (shopsabre.com) offers the IS series in table sizes up to 5' x 10' and 6' x 12' and has a tube steel gantry and bridge with ball screw drive (as opposed to rack and pinion). Freedom's parent company, Diversified Machine Systems (dm-scncrouters.com), is a manufacturer of 3- and 5-axis CNC routers and machining centers.

Hendrick Mfg. (hendrickmanufacturing.com) offers three families of CNC routers — the entry level HLD, mid-sized HSR and heavy-duty HHD that come in both 3- and 5-axis configurations.

Custom builds

Most manufacturers can tweak a CNC con-

figuration to match a woodshop's unique requirements. A shop building fireplace surrounds will have different requirements than, say, one making medical casework. For cabinet and furniture builders with very specific needs, some CNC suppliers can offer a high level of customization. Limtech Ind. (limtechindustries.com) understands that. With a showroom in Gastonia, N.C., and manufacturing in Asia, Limtech offers three levels of CNC platform to US customers. Each of these can be designed and configured to very exacting specifications. The company's Pegasus series is the largest format and is fully customizable in terms of table size, spindle, tool changer and Z-stroke configurations.

SCM Group North America (scmgrouppna.com) offers an extraordinary range of CNC options for larger woodshops. Beyond six SCM brand

machines designed for nested panel and furniture work, the company also supplies the extensive Routech (primarily for millwork components) and Morbidelli (furniture-oriented) lines. The company also supplies a vast array of other large equipment, which might mean one-stop shopping when a woodshop is looking at expanding where its CNC advances need to be integrated into a larger system that includes more operations than panel processing.

The same is true of Stiles Machinery (stiles-machinery.com), which not only handles Belotti, Weeke and Heian CNC routers and milling centers, but also distributes almost 60 other familiar woodshop machinery brands. Having expertise available that can match components in a system is a boon, especially when a woodshop needs the flexibility to switch quickly between furniture and casework.

Some larger shops don't need that adaptability and might want to streamline within the confines of a single brand. For example, companies that specialize in custom window and door manufacturing might want to take a look at four dedicated machining centers from Soukup America (soukupamerica.com).

For shops looking at manufacturing cabinet doors in-house, Voorwood (voorwood.com) builds CNC milling/sanding machines in the USA and ships worldwide. In business for more than half a century, Voorwood was founded by woodworkers and still relies on them for design input.

Affordable innovation

ShopBot (shopbottools.com), based in Durham, N.C., enjoys a very solid reputation for innovation and the company offers several larger CNC gantry tools in its PRS Alpha series. These come in a variety of bed sizes, including 8' x 4', 8' x 5', 10' x 5' and 12' x 5'. The PRS Alpha series deliver rapid transit speeds of 1,800 inches per minute and cutting speeds of up to 600 ipm. These machines are easy to configure, re-configure, learn and use.

The Venture Plus CNC router from Techno CNC Systems (technocnc.com) is a versatile CNC router designed for demanding applications that require high throughput. It includes an eight-head rotary tool changer that moves with the machine while the gantry travels. The use of a carousel speeds up tool changes and the gantry is constructed of tubular steel with reinforcing ribs welded throughout the length of the column. The Venture Plus Series machine comes standard with a 12-hp HSD high-frequency automatic tool changer. This precision spindle requires no maintenance, uses industry standard ER collets and ISO 30 tool holders, has fully programmable speeds from 6,000 to 24,000 rpm and comes complete with a pneumatically retractable vacuum hood. It also includes an automatic tool calibration touch-off pad, which makes quick and easy

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The Cut Center from Thermwood Corp. (thermwood.com) doesn't require operators to learn complex programming and it is so easy to use that it walks an employee through every step of the process when making cabinets, closets, furniture, doors, drawers and more. The woodworker simply tells the machine what to make via a touchscreen interface and it goes to work without any programming. Plus, a woodshop can operate the system as a CNC router in the traditional manner, too, and run programs that have been generated with virtually any CNC software.

Ontario-based Silver Machine Inc. (silver-machineinc.com), also known as Golden Hill Woodworking Machinery Ltd., offers four CNC centers suited to larger or growing woodshops. These are manufactured in Asia, using primarily European parts. The company also imports a wide array of other woodworking machinery.

SNX Technologies (snxtechnologies.com) is now distributing its new nVentor series of 3-axis CNC routers that offer nested base, vacuum pod or pendulum-processing technologies. The SNX 512A delivers fast and efficient pendulum processing on two table work zones or instantly switches over to full nested-based production on a single large 5x12 workspace.

For shops looking at upgrading to CNC-based dovetail drawer manufacturing, Macoser Woodworking Machinery (macoser.com) is the sole importer in the U.S. for 18 models of Omece dovetailing, gluing, clamping and hot stamping machinery.

Ontario's XYZ International (xyz.com) is a leading global manufacturer of CNC router systems and CNC knife systems. It's Pacer series offers table widths from 60" to 103" and lengths from 48" to 20 feet. Helical rack and servo drives are standard.

The Sidewinder XPR from California's CNC Factory (cncfactory.com) has an eight-beam, crossed-braced frame and weighs 4,200 lbs. It has a rotary eight-tool carousel (upgradable to 24) that delivers tool changes in less than eight seconds and cutting speeds of more than 1,400 ipm with rapid travel of 2,200 ipm. The company's new SXPR is available with robotic unloading; a 12-hp, air-cooled spindle and Syntec control center.

Jenkins Systems & Service (jenkins-systems.com) in Sheboygan, Wis., offers a variety of CNC-based shaping, sanding and machining centers designed to handle trimming, contouring, drilling, angular gain, corner rounding, coping, sanding, notching, tenoning and haunching.

Komo Machine (komo.com) designs and manufactures an entire line of CNC routers and

machining centers, all made in the USA. In business since 1966, the company's four CNC lines cater to every size of woodshop.

Italy's Masterwood CNC (masterwood.com) has been producing woodworking machines for more than 50 years and its website currently lists 18 CNC center options, including some 5-axis nesting units.

New CNC is based in Holland, Mich., and offers a number of machining centers and lines including pod and rail, 5-axis, AL/UL (auto load and unload), plus its Motion, Sharp, Smart and Talent series. The company also builds custom configurations.

Parting thoughts

Investment levels require an educated guess that must be tempered by experience. Upgrading can be a gamble and one good way to hedge that bet is to find other shops that have recently taken a similar step and ask how it worked. Trade associations are a good way to find peers in other geographical markets: these usually won't be direct competitors and, as such, could be more willing to share an accurate assessment of results. Larger trade shows are also a good way to meet other shop owners and managers and CNC manufacturers will normally introduce a potential client to several existing ones. **W**

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►► **PRECISION SETUP BLOCKS** from Infinity Cutting Tools take the guesswork out of setting router bit heights, fence locations, and table saw blade, according to the woodworking tool distributor. A set includes seven 4"-long blocks in thicknesses of 1/16", 3/32", 1/8", 3/16", 1/4", 1/2", and 3/4", providing a range of measurement from 1/16" through 1-31/32". Also included is a 1-2-3 block to provide additional capacity (1", 2", or 3") for tool setups. The setup blocks are 4" long x 3/4" wide. The set sells for \$99. For more, visit www.infinitytools.com.



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the cost and effort for cabinet software...good thing you have nothing else to do.

When you consider everything, that cheap router isn't so cheap after all. In fact, to match a Thermwood Cut Center they would have to pay YOU to use their router.

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- Donovan Mumma - GM - Byrne Custom Woodworking - Lenexa, KS

▼ **HARDWARE RESOURCES**, expanded its cabinet organizer collection with a new base cabinet called the 'No Wiggle' pull-out. The patent-pending top-mounting bracket of the organizer eliminates side-to-side movement and sag, yet is hidden under the first shelf for a clean look that is easily integrated into kitchen designs, according to the company. The pullout is available in four widths and one standard height. For more, visit www.hardwareresources.com.



▶▶ **HITACHI POWER TOOLS** introduces a 10-gallon reserve air tank to power multiple nailers over an extended distance from the compressor. The tank, model UA3810AB, is sold with a complete set of fittings and accessories needed for use straight out of the box, according to the company. It retails for \$139. For more, visit www.hitachipowertools.com.



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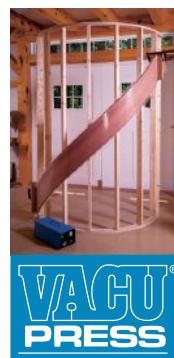


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◀ **DURA SUPREME** added the Toe Space Drawer, which can be installed in the toe space of any straight cabinet for additional storage. A touch-latch mechanism is included so that a simple touch of the toe will open the drawer, according to the company. For more, visit www.durasupreme.com.

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Lloyd Wright exhibits celebrate 150 years since his birth

Juried exhibition under way at the Messler Gallery in Maine

By Jennifer Hicks

Frank Lloyd Wright's work will be featured in two museum exhibits beginning this summer to mark the 150th anniversary of the architect's birth.

New York's Museum of Modern Art will present "Frank Lloyd Wright at 150: Unpacking the Archive", from June 12 to Oct. 1, a collection of 450 works made from the 1890s through the 1950s, including architectural drawings, models, building fragments, films, television broadcasts, print media, furniture, tableware, textiles, paintings, photographs and scrapbooks, along with a number of works that have rarely or never been publicly exhibited.

"Structured as an anthology rather than a comprehensive, monographic presentation of Wright's work, the exhibition is divided into 12 sections, each of which investigates a key

object or cluster of objects from the Frank Lloyd Wright Archive, interpreting and contextualizing it, and juxtaposing it with other works from the archive, from MoMA, or from outside collections. The exhibition seeks to open up Wright's work to critical inquiry and debate and to introduce experts and general audiences alike to new angles and interpretations of this extraordinary architect," the museum said in a statement.

The Milwaukee Art Museum will present "Frank Lloyd Wright: Buildings for the Prairie" from July 28 to Oct. 15, featuring furniture, stained glass and textile drawings from Wright's Wasmuth Portfolio, a monograph of the architect's best buildings from 1893 to 1909 that introduced his work to European contemporaries.

At the Messler

A juried exhibition of work by Center for Furniture Craftsmanship alumni and fellows opened in January at the Messler Gallery in Rockport, Maine.

The 21 pieces on display, selected from 70 submissions, included a variety of handcrafted wood items from curved benches and seductive spoons and sculptural tables.

The exhibitors are participants in the center's workshop, furniture-intensive, turning-



Karina Steele's "Assorted Spoons."

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intensive, nine-month comprehensive or fellowship programs.

They are Kendrick Anderson (Atlanta); Eric Asche (Durango, Iowa); Nils Berg (Boston); Judy Bonzi, Andy Messa and Michaela Stone (Rockport); Shannon Bowser and Kate Casey (Brooklyn, N.Y.); Michael Danchak (Durham, Conn.); Owain Harris (Deerfield, N.H.); Mary Ellen Hitt (Morrill, Maine); Yuri Kobayashi,

Libby Schrum and Karina Steele (Camden, Maine); Mike Korsak (Pittsburgh); Bowen Liu (Rochester, N.Y.); Sarah Marriage (Baltimore); Jack Mauch (Cambridge, Mass.); Marcus Soto (Stone Ridge, N.Y.); Laurie Sproul (Canton, Maine), and Leslie Webb (Georgetown, Texas).

Jurors were turned Mark Gardner (Saluda, N.C.), Anissa Kapsales, associate editor at Fine Woodworking magazine, and furniture de-

signer Sarah Kay (London). [W](#)

Contacts:

Center for Furniture Craftsmanship, 25 Mill St., Rockport, ME 04856. Tel: 207-594-5611. www.woodschooll.org

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CALENDAR

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

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

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

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

— Compiled by Jennifer Hicks

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 Bur-

bank Boulevard in Encino. www.sfvw.org

April 26-28 — Woodworking Industry Conference. Annual event, open to members of the Wood Machinery Manufacturers Association, Wood Machinery Industry Association and other trade groups, focuses on business development, networking and education. Location: Omni Rancho Las Palmas Resort & Spa, Palm Springs. For more, visit www.wmia.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. For information, visit www.tampawoodcrafters.org.

March 17-19 — Woodworking Show at Tampa, offering tools and machinery for sale,

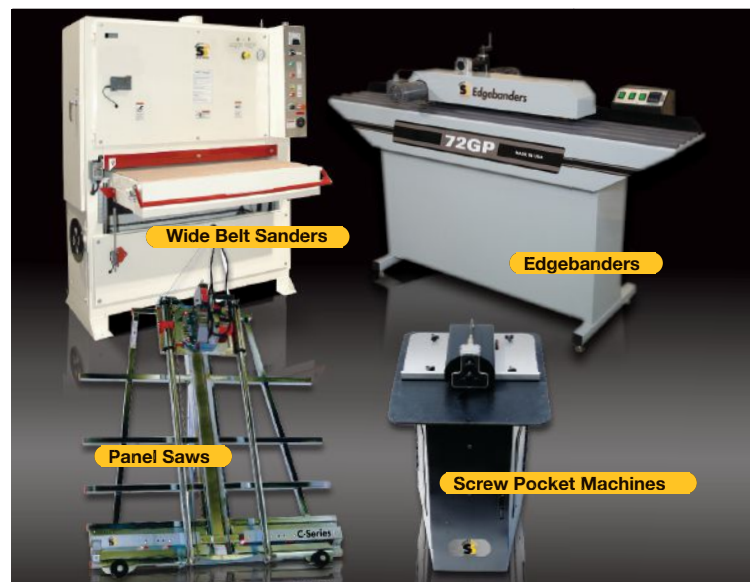
hands-on demos and skill training seminars. Location: Florida State Fair Entertainment Hall. www.thewoodworkingshows.com

GEORGIA

March 10-12 — Southern States Woodturning Symposium. Scheduled demonstrators include Stuart Moritmer, Dixie Biggs, Dennis Pallus and Windsor chair maker Greg Pennington. Other events include a gallery, trade show and auction. Location: Clarence Brown Conference Center in Cartersville. www.southernstatessymposium.com

March 17-19 — American Craft Show Atlanta. A three-day celebration of hand-made work featuring more than 225 top artists of furniture, home décor, jewelry and other custom items. Location: Cobb Galleria in Atlanta. www.craftcouncil.org

March 31-April 2 — Woodworking Show at Atlanta, offering tools and machinery for sale, hands-on demos and skill training seminars. Location: Cobb Galleria. www.thewoodworkingshows.com



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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

Feb. 24-26 — American Craft Show Baltimore. A three-day celebration of hand-made work featuring more than 650 top artists of furniture, home décor, jewelry and other custom items. Location: Baltimore Convention Center. www.craftcouncil.org

MASSACHUSETTS

March 24-26 — Paradise City Marlborough. Celebrating its 20th year, the juried arts festival features fine furniture and other hand-made items by over 175 exhibitors. Location: Royal Plaza Trade Center in Marlborough. www.paradisecityarts.com

MICHIGAN

April 23-25 — Executive Briefing Conference

hosted by Stiles Machinery. Hear from company leaders with knowledge, strategies and forward-thinking attitudes for manufacturing success in today's economy. Location: Westin Book Cadillac Hotel, Detroit. www.stilesmachinery.com

MINNESOTA

April 7-9 — American Craft Show Saint Paul. A three-day celebration of hand-made work featuring more than 225 top artists of furniture, home décor, jewelry and other custom items. Location: Saint Paul RiverCentre. www.craftcouncil.org

NEW YORK

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

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

PENNSYLVANIA

March 31-April 2 — Philadelphia Invitational Furniture Show. Annual curated show featuring handmade artisan furniture and furnishings. Now accepting exhibitor applications. Location: 23rd St. Armory, Philadelphia. www.philadelphiafurnitureshow.com

SOUTH DAKOTA

Monthly — The South Dakota Woodworkers Guild meets the last Thursday of every month (except August) at various members' shops. The club has hand tool and woodturning groups. www.sdwoodworker.org

WISCONSIN

Sept. 15-17 — 12th annual Fine Furnishings Wisconsin Show, featuring handcrafted furniture and accessories. Location: Mueller Building in Hart Park, Wauwatosa. www.finefurnishingshows.com

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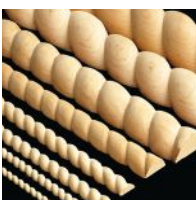
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The screenshot shows the Woodshop News Resource Guide website. At the top, it says "WOODSHOP NEWS" with the tagline "Shaping the Successful Shop". There are navigation tabs: Home, Listings, Events, Classifieds, Articles, Deals, Advertise With Us, Contact Us, and Woodshop News. A search bar is prominent with fields for "Keyword", "Where" (Address, City, State or Zip Code), "Match" (exact match, any word, all words), "Category" (Select a Category), "Location" (Select a Country), and "Zipcode". A "Search" button and an "Advanced Search" link are also present. Below the search bar, there are sections for "Browse by Category" (listing Abrasives, Accessories, Adhesives, Bits Blades and Cutters, Books, Literature and..., Clamps, Vise and Holdi..., Classes, Schools, Trad...) and "Featured Listings" (highlighting MultiCam, Inc. and ShopBot Tools, Inc.). A "Sign in" section is on the right with fields for "E-mail" and "Password".

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Wheat Fields, a frame by Richard Spillman, won the Members' Choice award in 2016.



Jellyfish Wall Cabinet, by Jay T. Scott, was Best of Show in 2014.

Esherick contest challenges creativity

The annual thematic woodworking competition held at the Wharton Esherick Museum in Malvern, Pa., is designed to foster inspiration in the minds of artists.

Now in its 24th year, entries are being accepted for the 2017 Wharton Esherick Museum Woodworking Competition and Exhibition, featuring the theme, "Creative and Imaginative Vessels." The idea is based on an intricate mug Esherick carved out of oak in 1927. Esherick (1887-1970) was a sculptor who worked primarily in wood, extending forms to furniture, furnishings, buildings and more. His hilltop studio was named a National Historic Landmark for Architecture and features more than 300 of his works on display.

Museum executive director Julie Gannaway says that the purpose of the competition is to encourage resourceful and innovative thinking that will result in objects that surprise and delight.

"When we involve contemporary artists we see it as strengthening Esherick's legacy and as an organization we're focused on incorporating contemporary artists, so that the studio becomes less of something that happened and more of something that continues to happen and that artists are looking at Esherick's indelible creative space here as source material," Gannaway says.

The pieces must be functional, primarily made of wood, new creations and non-traditional pieces.

A jury, including museum curator Laura Heemer and Albert LeCoff, president of Philadelphia's Center for Wood in Art, will select pieces to exhibit at the museum from September through December.

The entry deadline is July 1.

For more, visit www.whartonesherickmuseum.org. [W](#)

— Jennifer Hicks



Poppy Vase, by Seth Rolland, won Best of Show in 2015, and Matt Keim's birdhouse (right) from the 2013 contest.



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