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August 2019

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15" 3 HP PLANER WITH SPIRAL CUTTERHEAD

- Motor: 3 HP, 240V, 15A, single-phase
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- Maximum stock thickness: 6-1/8"
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- Pedestal-mounted control panel
- Magnetic switch with overload protection
- 2-Speed, chain-driven, automatic feed rollers—16 & 20 FPM
- Ball bearing return rollers
- Precision-ground, cast iron table and extension wings
- Table size with extension wings: 15" x 48"
- Dust port: 4"
- CSA Certified
- Approximate shipping weight: 581 lbs.



W1863 15" 3 HP Planer w/ Spiral Cutterhead

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.



W1812 7" 2 HP Planer Moulder w/ Stand

D3393 Elliptical Jig for W1812

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18" 1 1/2 HP OPEN-END DRUM SANDER W/VARIABLE-SPEED FEED

- Sanding motor: 1 1/2 HP, 120V, single-phase, 13 Amps
- Sandpaper speed: 2600, 3400 FPM
- Conveyor feed rate: 0-12 FPM
- Max. stock dimensions: 36" wide x 4 1/2" thick
- Min. board length: 6"
- Min. board thickness: 1/8"
- Sanding drum size: 4"
- Dust port: 4"
- 18" x 44 1/2" abrasive conveyor belt
- Uses 3" wide sandpaper roll
- Includes 100-grit sandpaper
- Overall size: 50" H x 35 1/2" W x 22 1/2" D
- Approx. shipping weight: 235 lbs.



W1854 18" 1 1/2 HP Drum Sander

13" 3/4 HP OSCILLATING DRILL PRESSES

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



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



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A PATENT WAS ISSUED
AS A RESULT OF ITS
AMAZING TECHNOLOGY



W1668
Bench-Top
Model

W1848
Floor Model

New



38"

63"

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

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

KNIFE BELT SANDER/BUFFER

- Motor: 1 HP, 110V, 14A, 1725 RPM
- Belt size: 2" x 72"-76" range
- Belt speed: 4500 FPM
- Left arbor: 1" x 8 1/2" extension with 5/8" arbor
- Height with belt arm horizontal: 11 1/2"
- Height with belt arm vertical: 37"
- Overall width: 29 1/2"
- Cast-iron body
- All ball bearing construction
- Approx. shipping weight: 113 lbs.



W1843 Knife Belt Sander/Buffer

16" VARIABLE-SPEED SCROLL SAW

- Motor: 1/8 HP, 120V, 1.2A
- Variable speed motor
- Blade speed: 550-1650 SPM
- Max. cutting thickness: 2"
- Max. cutting width: 16"
- Cast-iron table
- Blade stroke: 3/4"
- Approx. shipping weight: 40 lbs.



Cast-Iron
Construction

Large 45°
Tilt Table



W1713 16" Variable Speed Scroll Saw

10" 2 HP OPEN STAND HYBRID TABLE SAW

- Motor: 2 HP, 120V/240V, single-phase (prewired for 120V)
- Motor Amps: 15A at 120V, 7.5A at 240V
- Enclosed cabinet bottom with 4" dust port
- Precision-ground cast-iron table with steel wing measures 40-1/4" x 27"
- Rip capacity: 30" to right, 15" to left
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BLOGS



Over the Workbench

Talkin' shop with former editor A.J. Hamler



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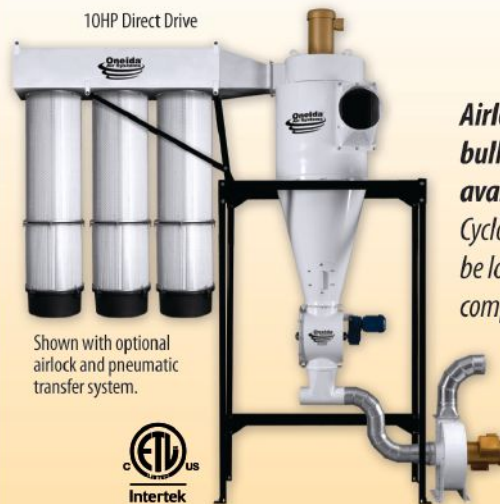
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TAKING STOCK

with TOD RIGGIO

Mayer joins Felder Group; Atlantic Plywood expands

Mayer, a manufacturer of beam/panel saws and special application saws, has joined the Felder Group from Austria. Over the next year the Felder Group will establish new systems and procedures to support Mayer customers all over the world, the company announced.

"In the U.S.A. especially we have many happy Mayer machine owners and we want to help them by taking that experience to the next level. It will take time but we will start increasing our service network for the Mayer machinery and also look into stocking more spares and parts in the U.S. This has been a problem over the years but with time and some serious effort from our side we will put service in place that Mayer customers can trust," Ruan du Toit, CEO of Felder Group USA, said in a statement.

Consolidation

Balanced Enterprise Solutions, parent company of machinery brands Ritter Machinery, Evans Machinery and Evans Midwest, announced the company is changing the name of the business to Choice Machinery Group, effective July 1.

Choice Machinery Group will be the parent organization under which the Evans Machinery, Evans Midwest and Ritter Machinery brands will be built.

"The past few years at Balanced Enterprise Solutions have been marked by significant growth in both product lines and offerings," Don Mulder, president of Choice Machinery Group, said in a statement.

"These exciting changes have compelled us to change our company name to a name that better explains who we are and sets us up for continued growth moving forward."

Expansion

Atlantic Plywood, a wholesale supplier of hardwood plywood and panel products on the East Coast, is expanding its business model into the Midwest with a select product mix that includes Columbia Forest Products, ATI Decorative Laminates, Rehau, Knape & Vogt, Century Components, and Mirka Abrasives.

Atlantic Plywood is a wholly-owned subsidiary of Parksite, which has a 125,000-sq.-ft. distribution facility in Bolingbrook, Ill.

"We consider this new location a monumental step in our growth," Marty Wojick, vice president of sales at Atlantic Plywood, said in a statement. "Our commitment to providing the highest quality products, combined with our mission to deliver outstanding service, has earned our company the excellent reputation it holds today in the Northeast. We are confident we can expand the business model we have created over the last 45 years to a new customer base in the Midwest."

Addition

IMA Schelling Group USA recently announced a new California-based support hub to provide faster and more efficient response for its West Coast customers.

"The establishment of our new California office represents a fantastic opportunity for IMA Schelling Group USA and our West Coast customers," explained Byron Salmon, the company's British Columbia and West Coast sales manager, said in a statement. "Being able to respond to sales and service needs more quickly and efficiently means we can help them reduce downtime and delays that could affect their productivity and profitability." **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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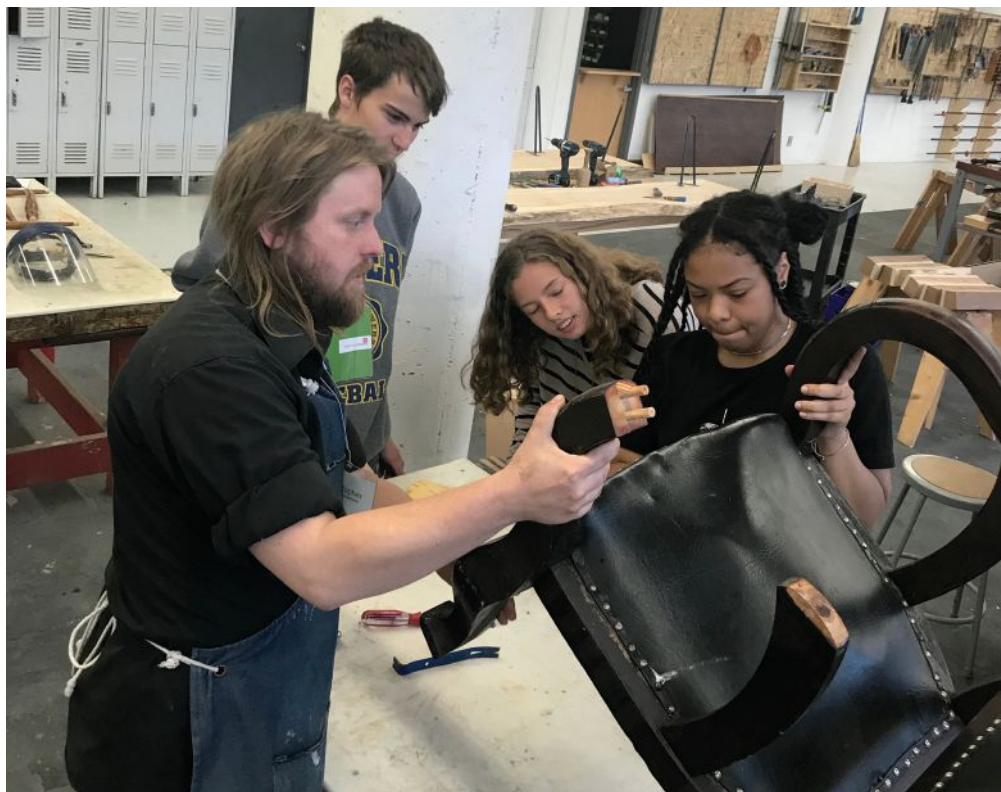


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NEWS DESK



Students from the Milwaukee Art Museum's Teen Internship Program construct a chair during the conference's Craft for a Greater Good project.

Furniture Society hosts a throwback conference

By Jennifer Hicks

The Furniture Society held its annual conference in partnership with the Milwaukee Institute of Art and Design, June 19-22, in Milwaukee. The conference centered around the importance of research to gain inspiration in studio furniture making.

About 200 attendees explored related topics through artist presentations, panel discussions, workshops, and exhibitions.

"People came together in a way, from what I've been told, that hadn't happened in years. It felt very akin to the early days of The Furniture Society which was really community focused," says Monica Hampton, the society's new executive director.

"We had this opportunity with [MIAD] to actually partner with them rather than just rent a space. They have a furniture minor and are looking to grow the program into a furniture major, so to have all of these furniture makers from all over the country, and abroad, was a great opportunity us and for their faculty and staff."

The conference also featured a collaborative project. "MIAD has a relationship with the museum which has a teen program for youths in the Milwaukee area. We worked with the teens during the conference to build benches for the Victory Over Violence Park in Milwaukee," says Hampton.

For more, visit www.furnsoc.org. 

CMA sets agenda for 2020 conference

By Jennifer Hicks

The Cabinet Makers Association has scheduled its second national conference for Mar. 4-6, 2020 in St. Charles, Ill., which will feature a keynote address by Guy Bucey, COO of the furniture manufacture Inova.

Bucey will speak about becoming an effective leader.

"At Inova, we put a lot of focus on our leadership — we want to be mentors and teachers and not just people who are telling other people what to do. The exact term we use is 'servant' leadership," explains Bucey. "We're always working to cultivate, train, and teach other employees."



Guy Bucey

Given the year of the event, the theme of the conference will be "2020 Vision: a Clear View of the Woodworking Conference". Educational sessions will focus on the following three sight lines, according to the CMA:

"Hindsight – looking into the rearview mirror to see where we have been; Peripheral Vision – checking the blind spot to see what's happening around us; and Looking Ahead – shifting gears to accelerate forward."

Plant tours are also on the agenda, including planned visits to Exclusive Woodworking in Waukegan, Ill., and Closet Works/Plus Closets and Elmhurst, Ill.

For more, visit www.cabinetmakers.org. 

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SA+C names Brigitte Martin executive director

By Jennifer Hicks

Brigitte Martin will be the new executive director of the Society of Arts & Crafts (SA+C), a Boston-based non-profit organization that strives to encourage the creation, collection and promotion of the work of contemporary craft artists and to advance public appreciation of fine craft. She will assume her new role Mar. 1, 2020.

Martin is an experienced leader in the craft industry. She most recently held the title of executive director of The Furniture Society, a non-profit educational organization working to advance the art of furniture making, and was board president of the Society of North American Goldsmiths.

She is also well-known to international crafting communities for founding and managing the Crafthaus website, an online community that supports and provides services to craft artists in all disciplines, as well as for organizing national Craft Think Tank events, and serving as editor-at-large for American Craft magazine.

SA+C board president Jennifer Rayburn says the board was familiar with Martin because of her long career in the craft industry.

"When we interviewed Brigitte, we were impressed by her analytical and thoughtful knowledge of craft, its place in society and its potential. She's visionary in outlining opportunities to expand the reach of craft, which dovetails perfectly with the Society of Arts + Crafts' mission of education. With our new home in the Seaport District, we're no longer a little walk-in gallery. We are a serious organization with intentions to grow," Rayburn said in a statement.

In an interview with Woodshop News, Martin says the furniture field, like all art and craft fields, is diverse, and the makers and interests are highly individual, as they should be.

"As far as the current state of affairs is concerned, I will say this: contrary to popular perception of who is traditionally drawn to furniture-making, i.e. white males, there are actu-



Brigitte Martin

ally a fairly large number of young women and non-binary identifying people who have entered the field over the last number of years. I was pleasantly surprised following that development not only via social media but also seeing it displayed at a recent Furniture Society conference," says Martin.

"I find that trend refreshing and look forward to what it will add to the field in terms of new design, and the topics that will be explored on the academic end. Inclusion is always a good thing in my opinion."

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

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Housing report documents production shortfall

With the nation's economy on sound footing and incomes on the rise, the number of people forming households in the United States has finally returned to a more normal pace. However, housing production has not, according to the 2019 State of the Nation's Housing report from the Harvard Joint Center for Housing Studies.

The report, released June 25, documents how the housing shortfall is keeping pressure on house prices and rents, eroding affordability for modest-income households in many markets.

Center researchers found that household growth is now back from post-recession lows, but new home construction remains depressed, with additions to supply barely keeping pace with the number of new households. Several factors may be contributing to the slow construction recovery, including excess supply following the housing boom and persistent labor shortages, according to the center.

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

LPI celebrates its 25th anniversary

Laser Product Industries is marking 25 years of digital measuring solutions for companies in stone and various other industries. Founded by Dan Louis in 1994, LPI was created on the premise of helping people out by making their jobs easier, understanding how cumbersome it was to measure countertops, cabinets, and rooms in general, according to the company.

"I was fortunate enough to have the resources to engineer a few solutions that people liked and were beneficial for their business," Louis said in a statement. CEO and owner of LPI. "I've always said the company exists for the benefit of the people, meaning not only our customers, but also our employees, many of whom have been with the company for more than 10 years. I wanted a place where hardworking Americans could have a good career and support their families."

The first product developed by Louis for the company was the SL-24 Laser Square, which allowed installers to execute perfect 90- or 45-degree tile layouts. A few years later, he introduced the GS-28 and GS-40 Saw Laser a few years later that mounted on bridge saws and CNC equipment to create a visible laser guideline for precise cuts.

In 2004, Louis introduced the industry's first laser templator, the LT-55, to digitally measure countertops and cabinets, add elements such as overhangs, edge styles and backsplashes, and produce a digital template ready for fabrication.

The company introduced the LT-2D3D Laser Templator in 2013 with an improved 2D Laser Templator software and a new 3D Laser TemplatePro software.

For more, visit <https://laserproductsus.com>.

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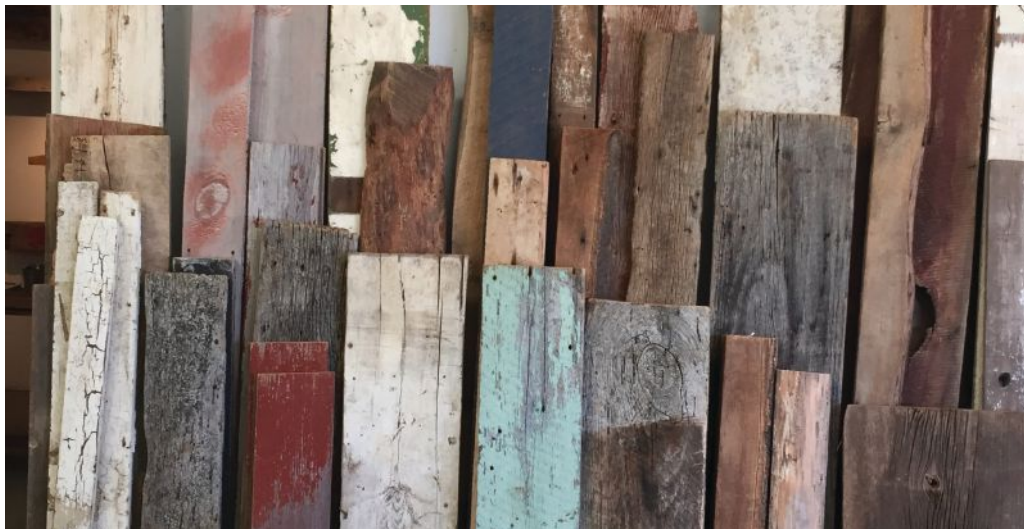
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High demand continues for rustic and reclaimed

By Jennifer Hicks

There's something about that seemingly 'less than perfect' design look that's causing so many people to bring weather-worn, rough-hewn and uniquely marked or lower grade woods indoors. The rustic trend, to give it a name, has been gaining popularity for the past couple of years, and according to lumber suppliers interviewed by Woodshop News, it's likely here to stay for quite some time.

Carl Mahlstedt of Goosebay Sawmill & Lumber in Chinchester, N.H. sees all sorts of examples in the rustic category, often inspired

by media savvy designers.

"The live edge look is more for tables or shelves, and the reclaimed look you can build cabinets, or use it for sliding doors or accent walls. It seems like this trend is up and everybody is climbing on board right now. All the shows on HGTV and Instagram and what not definitely make it more popular," says Mahlstedt.

"I'm cutting more live edge than in the past. It seems like the live edge has been popular for a while now, and a majority of what we sell in that are pine or a lower value wood like

poplar or cottonwood. But we also sell cherry, walnut and maple with a live edge."

There's no real way to categorize materials with that natural raw flair, says Scott Limone of Keiver-Willard Lumber in Newburyport, Mass. The facility moves plenty of rustic white oak and hickory, as well as reclaimed barnwood. It's difficult to offer a representative sample of these, however, compared to selling higher grades.

"The thing about it is everyone has their own interpretation of what rustic is to them. Some people want small tight knots and mineral streaks, and some want big knots with the holes they fill in with a black epoxy and sand it down for floors. It's open to interpretation, so when quoting a price we have to interview them," says Limone.

Rob Lamoureaux of Parkerville Wood Products in Manchester, Conn. says customers are often attempting to bring an outdoorsy look inside.

"We're seeing more than in the past for sure. It's a specific look. That live bark edge instead of having something milled and clean. It has a lot more feature quality than a nice clean piece of wood; it has character. It depends on the personal taste of the individual. Some people don't like it," says Lamoureaux.

He's seen rustic material used for flooring, furniture, tabletops and accent walls, particularly in restaurants and bars. One unique offering - maple logs tapped for syrup - is suddenly in demand.

"We blank out those tap areas separately and people like the feature of it. There's a distinct mineral deposit around the tap area that darkens the wood." **W**

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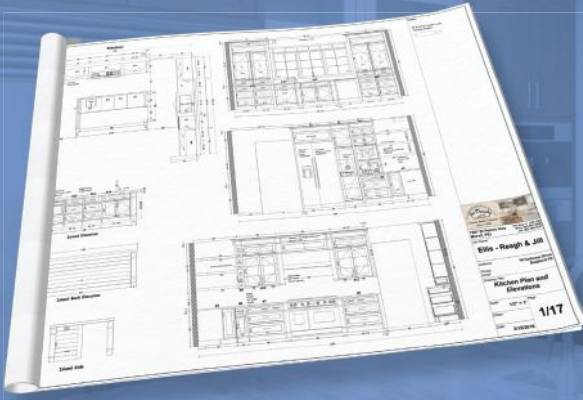
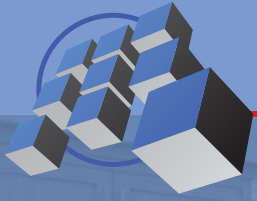
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The Supercell with a 35-gallon waste drum in a shop application.

Oneida Air introduces Supercell dust collector

By Jennifer Hicks

Oneida Air Systems presents its new wall-mounted Supercell dust collector with HEPA filtration. Company president Robert Witter says the collector's compact design and high suction power give it the versatility to adapt to today's wide range of machines on the market - from portable, benchtop tools, like a table saw, to a stationary lunchbox planer or even a small CNC router.

"The Supercell is the first and only dust collector on the market that combines incredibly high-pressure suction with high volume air movement to effectively collect dust through ports ranging all the way from 1" to 5". It's the only dust collection system most smaller woodworking shops will need," says Witter.

The collector can support up to 100 feet of

industrial hose or ducting, including small diameter ducting due to its great amount of static pressure, according to Witter.

"With the Supercell, a 4" duct can be run around the perimeter of the shop with plug-and-play connections wherever the tools are located or are frequently used. Also, because the Supercell operates at such high pressure, it can accommodate simultaneous operation of up to three tools with 1" to 2.5" ports."

The Supercell is available with 14-, 35- or 55-gallon drum options. All three packages include the collector, waste container, HEPA filter, steel wall mounting bracket, magnetic starter, wireless remote, liner bag gripping system, and ducting kit. It has a base price of \$2,395 with a 14-gallon drum.

For more, visit www.oneida-air.com. 

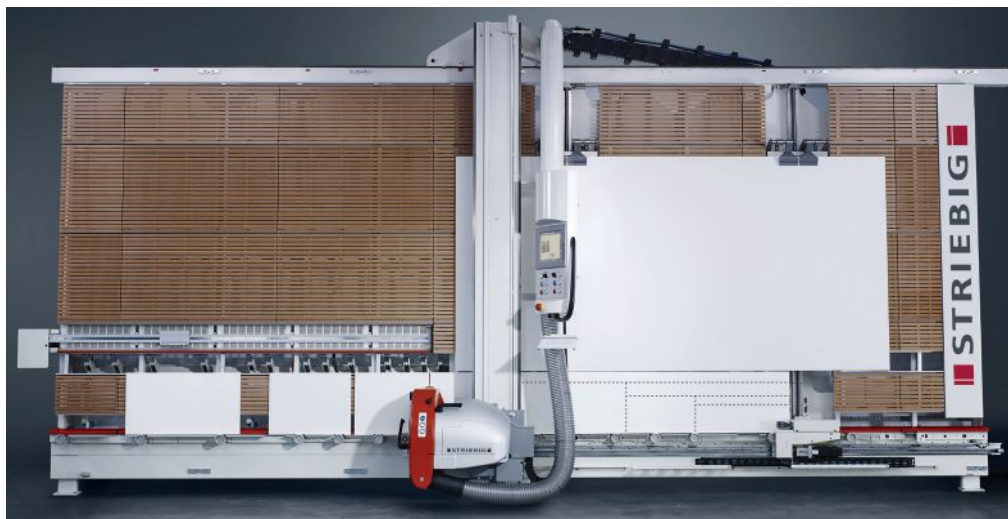


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Striebig 4D provides screen-to-machine processing

By Jennifer Hicks

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Striebig's new 4D vertical panel saw, recently introduced to the North American market and available from Colonial Saw, can be tailored to a shop's needs with options such as a panel raising/lower device, panel optimization program, programmable panel feeder, label printer, and more.

The saw, powered by a 7.5-hp, 220-volt, 3-phase motor, operates in manual or automatic (CNC) modes. In CNC mode, the operator simply programs the functions on the 12" color touchscreen and the saw does the rest.

"It brings us into the world of screen-to-machine processing where you can make a cut list and cut plan in an office then send it to the machine where the operator can pull it up and walk right through the whole process," says Striebig product manager Dave Bull.

Programmable lifting and pushing devices are popular options for those using CNC mode. They can reduce labor by suspending material as needed to create fully cut parts on all sides rather than having to take down and reload parts for further processing, according to Bull.

"The lifter and pusher make it so the machine can process parts in such a way that the operator doesn't have to or seldom has to reintroduce parts back onto the saw for a finished cut."

With pneumatic assistance, the unit plunges automatically into the panel with a 300 mm (11-7/8") HFG (hollow face) carbide saw blade. Feed speeds can be adjusted between 10 and 25 m/min.

Other features include a TRK dust extraction system, a freely selectable saw cycle, panel end recognition, constant return speed of the saw unit, operating time counter and DMS digital measuring system.

Pricing starts at \$100,000.

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- Max. static pressure: 10.9"
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- Max. board width: 43"
- Max. board thickness: 6"
- Min. board length: 14"
- Min. board thickness: ¾"
- Front drum surface speed: 3500 FPM
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- Conveyor speed: 14–60 FPM
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- Dust ports: 10
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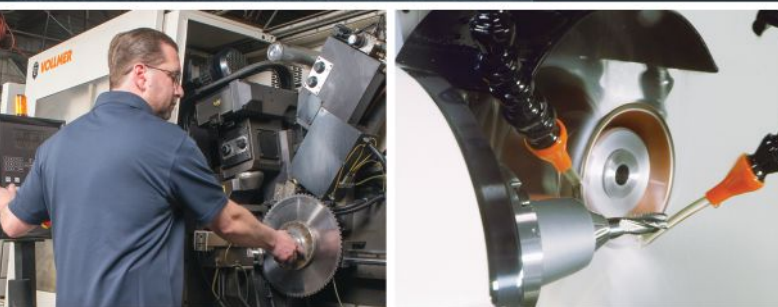
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TOOLS & TECHNIQUES



Updated PantoRouter offers new templates

By Jennifer Hicks

The PantoRouter joinery machine has been updated with an array of new features since its first launch in 2015, giving end-users even more precision and flexibility in making mortise and tenons, box joints and dovetails, according to the manufacturer.

The PantoRouter is a template-guided, horizontally held router jig that uses a pantograph mechanism to guide the router's movement, keeping the operator's hands well away from the tooling. It is ideal for shops of all sizes, including high production commercial shops for tenons on long pieces, small specialty runs and rapid prototyping, according to Wood-Craft Solutions LLC, manufacturer and distributor of PantoRouter in North and South America, Australia and New Zealand.

Mac Sheldon, president of WoodCraft Solutions, says the new design has many new templates to accommodate the tool's micro-adjustable system. "We are in the national and international patent process for our tapered templates and have 18 points accepted so far. Our new series of templates allows the operator to make 1" to 3" wide by 1/4" to 1" thick mortise and tenons," he says.

A new variably spaced or fixed space dovetail template system allows operators to quickly space an array of cuts by dropping a pin in any center hole.

"A really cool feature of both the variably spaced dovetail and the variably spaced/fixed base box joint templates is that if you wanted to build a box and glue the top and bottom in, you have all six sides done, then take it to the table saw and cut the lid off," says Sheldon.

"You can do that by spacing either dovetail or box joint templates to allow for the thickness of the saw kerf. That way, when it's put back together, it's all exactly the same even spacing as your box joints or your dovetails, so its seamless when put back together."

A new depth gauge allows for the actual workpiece to determine the depth of cut so there's no need to measure. A new template holder has a center scribe line and centering hole making it easier to center on a workpiece. A new centering scale fence allows for measurement in either standard or metric sizes. The new model also has a cast aluminum base, side supports and pantograph mechanism for enhanced durability.

Standard features include a dust collection hood with spindle lock button accessible for single-wrench bit changes.

The updated model sells for \$1,849 with a router motor, carbide bits, clamps and complete set of templates.

For more, visit www.pantorouter.com. 



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Uneeda's Ekasilk Plus abrasive fits the profile

By Jennifer Hicks

Uneeda introduces Ekasilk Plus, a line of abrasive sponges for orbital sanders that can reach difficult areas and stand up to plenty of use, according to the company.

"The laminated and flexible abrasive layer is unique in its genre. It won't tear and bends with your workpiece. It offers a cooler sanding experience as it won't load as quickly as other similar products or conventional sandpaper," says Uneeda's marketing manager, Alain Boppert.

"Plus, the foam (backer) gives extra height providing additional flexibility on contours and will match the exact shape of the profile."

Ekasilk Plus comes in 3" x 4" and 3-2/3" x 7" pads, as well as 3", 5" and 6" discs in five different grades - Coarse, Medium, Fine, Very Fine and Superfine - and 5mm, 10mm and 1/2" thicknesses.

For more, visit www.uneeda.com. 



New leadership team for the CMA

Chris Dehmer of Dark Horse Woodworking in Atlanta is the newly appointed president of the Cabinet Makers Association.

Other officers, serving from July 1, 2019 to June 30, 2020, are vice president James Fox of Fox Woodworking in Phoenixville, Pa.; treasurer Matt Wehner of Custom Cabinets by Design in Springfield, Mo.; and secretary Brian Clancy of Clancy Woodworking in Sherman, Conn.

Past president Leland Thomasset will serve as a member-at-large along with Ken Kumph of Premier Builders (Georgetown, Mass.) and Monika Soos of Sofo Kitchens (Maple Ridge, B.C.). Exiting the board is Matt Krig of Northland Woodworks (Blaine, Minn.).

NBMDA welcomes new member companies

The North American Building Material Distribution Association is pleased to welcome 17 new supplier members and three new allied members who have recently joined the association.

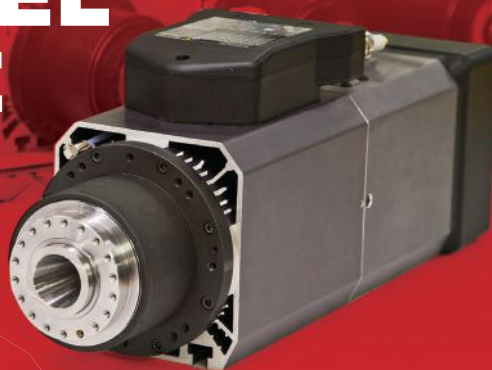
New supplier members are Aris-tech Surfaces LLC; Egger Wood Products; Flexible Materials Inc.; Helmitin Inc.; Hutton Forest Products; InterGlobal Forest; Interstella Forest Products; King Slide Works Co. Ltd.; Kitchen Kompact Inc.; Manthei Veneer; Ontario Plywood; Plummer Forest Products; Plywood Source; Rincomatic; Swiss Krono AG; Teknaform Inc., and Uneeda Enterprises Inc.

New allied members are Acuity Insurance; Epicor, and VersaPay.

"We are excited to see the continued growth in our organization's membership," executive director Kevin Gammonley said in a statement. "These new members continue to enhance the value that NBMDA provides through an expanded network of members across North America and the opportunity for new business connections."

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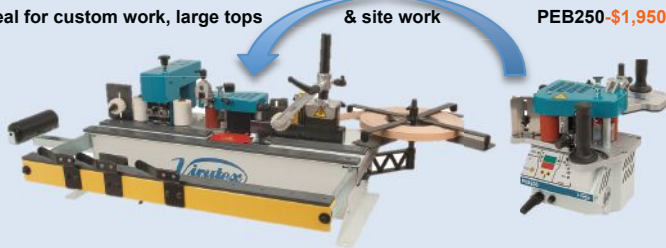


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Raymond adds two new Soft-Starters

By Jennifer Hicks

Raymond Innovations, a manufacturer of single-phase, plug-and-play aftermarket Soft-Starters, has recently introduced two new models for 120-volt applications, the C10 and GS10.

The models are designed to provide a more gradual startup to high-torque, motor-driven devices, providing up to a 98 percent reduction of inrush current. In addition to increasing workshop comfort and safety, they can help extend the life of equipment and stop nuisance breaker tripping, according to the company.

Product inventor and company president Will Hansen is a hobbyist woodworker who really wanted to improve on these issues, and



Raymond's aftermarket Soft-Starters provide a more gradual startup for high-torque motors.

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first developed the original Soft-Starter model A10 in 2016.

"It's the AC motor starting that causes a large inrush current surge that can cause problems like overloaded circuitry and light dimming. How it all started was I didn't like the uncomfortable feeling of the equipment starting out with a bang and the mechanical and electrical stress that can be caused by that. I knew there just had to be a better way," says Hansen.

The C10 Soft-Starter uses a varying resistor to absorb the surge and a new forced air-cooling system to dissipate the heat. The model sells for \$49.99.

"There are some limitations with (the C10) because of the cool down requirement. There is a frequency of use limitation depending on how you are going to use it and what you are going to use it with. It might not be adequate to start every single time. For example, with the frequent use of a miter saw when you're doing back to back cuts. This requires a little time to cool down," says Hansen.

The GS10 sells for \$94.99 and features a software-controlled ramping sequence.

For more, visit www.thesoftstarter.com.

ASID introduces Advocate by Design fund

The American Society of Interior Designers has established the Advocate by Design (AxD) Fund, a political education fund that aims to strengthen the design industry's policy decision making.

For more, visit www.asid.org.

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THE CUTTING EDGE

with JOHN ENGLISH

Robots are a good fit for mid-sized shops

It's tough living on the cusp.

How does one decide whether a business is mature enough to justify moving into robotics? This is a big commitment that goes far beyond just adding a new machine. The decision depends on so many factors, several of which are external while others ride on internal values such as cashflow, personnel and local infrastructure.

The external ones are completely beyond our control, so we can only react or plan for them. For example, on June 19, the Federal Reserve surprised many analysts by declining to raise interest rates, while signaling that it may

even consider a cut soon because of a slowing U.S. economy. Does that make a stronger or weaker case for investing right now in a robot? If housing starts sag, or interest rates fall or inflation kicks in, do any of those factors make this a better or worse time to borrow and buy?

Another cusp-related reality is that this isn't just a numbers decision, because not everything fits neatly on a spreadsheet. For example, people. If a shop has the right personnel in place already who are tech savvy, knowledgeable and innovative, that can change the equation. Hiring and training are

huge drains on a shop's cashflow and productivity, especially if the entire crew has to learn how to best use and incorporate brand-new technology.

The shop's existing infrastructure is an essential ingredient, too. Adding a robot in reality means adding a complete robotic cell, and the shop needs to consider physical space, power, dust collection, infeed and outfeed accommodations, and a host of other aspects beyond just the price tag on the machine.

Along with all those questions, a woodshop manager also needs to realistically evaluate the upside. And that can be, well, huge. SCM Group (scmgroupp.com), based in Michigan, recognizes that dichotomy. The company has spent a great deal of time and effort over the last year or so creating the Smart & Human Factory. What it is, in essence, is an event that marries state-of-the-art digital and automation systems with collaborative robots. It lets woodshop owners and managers witness, in real-time, a new model of interaction between humans, robots and machines. This occurs in open, safe cells where four different types of cabinets are produced. One of the facets that SCM highlights is that operators are freed from repetitive and low added-value activities, which goes right back to that question of having the correct personnel in-house. When robotic arms initially became a realistic option, bean counters everywhere immediately thought that robots might simply replace hired labor and benefit the bottom line. And indeed, they can certainly do that. But rather than restricting their impact to the shop's existing parameters, the challenge here is to see how this new technology can change some fundamentals.

Fluidity, for example, is one facet of robotics that sets them apart. Most woodworking machines are stationary, and we feed raw materials to them. A basic example is the act of sliding sheet goods through a table saw. Some of our more advanced machines incorporate materials handling, which means they can feed themselves. For example, we might drop a pile of MDF on the infeed side of a CNC router. But from there, the machine can only slide the material in place, lock it down and then machine along dedicated axes.

Robots are different. They are fluid, flexible and almost human in their span of movement. They can twist and turn at high speed, align and reset material, perform intelligent assessments and corrections, and interpret reports. They are not yet fully intelligent, but that's now just a matter of degree. Within the confines of set tasks, they can be made aware of almost all eventualities and responses. That is, we can teach them enough to allow them to choose among options and make the most logical choices.



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So, how can that agility be incorporated into existing processes, or generate new ones? Most shops begin with the realization that a robot could do a single task, but it doesn't take long to begin to see myriad opportunities. For example, Fanuc America Corp. (fanucamerica.com) in Rochester Hills, Mich. supplies robotics to woodshops for a wide range of tasks. Its machines are used for assembly, dispensing and sealing, machine tending, material removal, painting, coating and parts transferring.

Robots in production

Cabinet shops have seen an evolution over the past few years, where more and more custom shops are using outsourced suppliers to make components, and often entire kitchens. As robots become more advanced and more affordable, medium-sized shops in particular are going to be presented with a new choice. Robots will begin to open the door to bringing much of that production back in-house. Working three shifts a day if needs be, they can currently maximize the output from other machines, in particular CNC milling.

But robots are also beginning to take over a large part of the assembly and finishing processes, too. And because they are so versatile, furniture makers are rapidly discovering that they work extremely well at producing small batch, complex assemblies that heretofore were the exclusive province of highly skilled people. Take away the concept of working within the confines of three, four or five CNC axes, and you can build almost anything. While large shops often have a hard time responding to change (that is, their processes often don't lend themselves as easily to one-off or short production runs), and small shops simply can't afford the equipment, robots can be the perfect solution for medium-sized shops.

There's another take on skilled labor, too. One highly trained operator who is teamed with a handful of robots can do the work of a whole team of other highly trained employees who are using conventional milling and assembly solutions. In today's job market, where skilled labor is becoming increasingly difficult to find, this concept may well be a light at the end of the tunnel. Is the new solution going to be one human, several robots and state-of-the-art materials handling and routing?

At the Ligna show in Hanover, Germany this May, Biesse explored that solution. The company had a 65,000-sq.-ft. exhibit space dedicated to illustrating that the future of Industry 4.0 is now. The theme was "a winning alliance between man and robot". There were three automated processing solutions on display, the first of which could produce up to 1,500 panels per shift and deliver a complete kitchen conceived by Cubo Design. Next was

a collaboration with Italian designer Lago, which concentrated on furniture – more specifically, living and sleeping projects that combined "ideas in flexibility with regards to sectioning and robot-assisted machines". And the third demonstration, a collaboration with BMT Bagni, was for bath furniture and shop fittings. This latter focused on integrating machines with additional automatic systems, robots and software. That fitted well into one of Biesse's goals at Ligna, which was to show smaller (as in mid-sized rather than large scale) woodshops how they can be transformed into smart factories. To that end, the company presented its ROS (Robotically Operated System) integrated robots for handling panels and providing support for sectioning, boring, smoothing and CNC machines.

CMA Spray Robotics (cmarobot.it) has been in business for 26 years and is a world leader in the field of automatic spray equipment, imported by Robotic Solutions (machinesolution-llc.com). The Italian manufacturer designs and installs a wide range of robotic equipment, and supplies software for self-learning, point-to-point, offline and auto-generation. CMA also manufactures full turn-key spray systems for the wood industry. Robotic Solutions was formed in 2017 as a system partner for Kuka Robotics in Germany, and offers stationary, autonomous mobile, and collaborative robots. Applications include machine tending, palletizing, part-flipping, sanding, transporting parts, and assembly.

Collaborators

There's an interesting two-minute video from Rethink Robotics (youtu.be/o3cb3iC-mQz8) about how a Massachusetts furniture manufacturer, Moduform, has incorporated a single robotic arm called Sawyer into its parts processing. The company builds casework for institutions (colleges, hospitals and the like), and it has seasonal labor requirements that couldn't be easily filled. So, it deployed a collaborative robot to pick up the slack. A mid-sized woodshop contemplating such a solution will appreciate some of the insights offered by CEO Josh Weissman.

That term 'collaborative' is interesting. Also known as cobots, or co-robots, it refers to robots that physically work with and alongside human workers in a cell, and do so safely. Up until a few years ago, most industrial robots were autonomous. That is, they were isolated from people and given set repetitive tasks. This new generation of cobots is distinguished by characteristics such as small size, smaller investment levels, extreme dexterity, and safe housings. They can be taught by demos instead of having endless lines of code written. That makes them easier and less expensive to integrate into the production line. [!\[\]\(a30b5314efefb0416f322d92d9011828_img.jpg\)](#)



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The bigger they are, the harder they fall

What you see on the outside is not always what is on the inside. The Mpemba Effect, named after Erasto Mpemba, a process in which hot water can freeze faster than cold water, demonstrates how simple logic does not always reflect the truth.

When running a business or just simply building things for other people, the majority of the process is based on logic. Although you still need a creative, right-side-of-the-brain approach to build, the cognitive exercise is largely dominated by practical decisions. For

instance, material choices, pricing decisions and establishing a schedule aren't typically thought of as being creative tasks, but rather the mundane things required to do what it is that you do.

When I look at a piece of art or a finely crafted object, my first brain impulse is to marvel at the creative genius it takes to make something so beautiful. And even though I know enough about creating things, I'm still lured into thinking that to be an artist is something magical. It's part that, but really more about hard work than anything else.

Like Thomas Edison said, "Genius is 1 percent inspiration and 99 percent perspiration". The things that we see are not always what they appear to be, and most certainly are not created as simply as one might think.

David and Goliath

I can't help but think of the story of David and Goliath when analyzing how the principles of the Mpemba Effect apply to my work. Goliath was the giant Philistine sent out to taunt Israel's army during a wartime standoff. Because of the fear and intimidation of his imposing stature, no opposing soldier was willing to take on his challenge of a one-on-one combat. Except for an unlikely shepherd, David.

What the giant didn't know – or anyone else for that matter – was the accuracy and violent nature of the sling David used to take him down. It's understood from ancient battles that in the hands of an experienced user, a rock from the sling could travel over 100 mph and be accurate at a distance of 200 yards. In other words, even though he was small and had a less intimidating weapon, David actually had the advantage.

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How? He was an experienced user and confident in his ability. He didn't look at the obvious stature advantage his opponent had in a hand-to-hand combat scenario, but rather relied on his own special skill to deliver a small projectile with pinpoint accuracy.

Many giants throughout history have been known to have acromegaly, a disorder in which the pituitary gland produces too much growth hormone (it also has a negative effect on eyesight). It's believed from the historical record that Goliath was a prime candidate for this disorder and suffered from poor eyesight, which would have put him at a huge, albeit unknown disadvantage. Again, David exploited a fact that was not determined by simply looking or observing the obvious.

Giants in business

Readers of this fine journal are most likely not a giant of industry. Multi-billion-dollar corporations dominate the landscape of our country and demand the consumer to bow down to their product, services and way of doing things. Because many of them hold monopolistic type power in the marketplace, small business often feels like there is no hope to go beyond the mere scraps left behind to feed on. Nonetheless, these big boys have a weakness. But it's up to you to find them.

No one is better suited to the task of bringing down a giant than the one who is on the front lines of their own marketplace niche. Don't spend your time thinking about how powerful they are, but rather how your gift, when diligently honed, is no match for their

all-encompassing reach over the very things you're selling in competition.

For instance, a dozen or so years ago, I was referred to a client that needed new hardware put on their front door. Although small tasks like this are sometimes not worth the trouble, I knew my skillset could make it profitable. I also knew that the bigger contractors wouldn't even sniff at this project because of its insignificant ability to produce their needed profit margin.

Focusing on what I do best (taking on specialty projects other shops can't make money at), I set up a meeting with the client. They showed me the door (a very old, original pre-WW II entry system) and the hardware they wanted installed (very expensive custom forgings worth three times the cost of an expensive new door). I suggested replacing the beat up, many-times-modified door with a new one but was told of the attachment they held for their old friend. I accepted the project and felt somewhat guilty for the amount of money we needed to charge in order to completely rebuild the door to accommodate the new hardware system. Elated with how my small company handled the project, I have since been rewarded with several lucrative jobs from this client.

In conclusion

Things are not always what they appear to be on the outside. Small businesses are constantly being judged unfairly because of size, even though they often bring some of the best talent to the marketplace without all the unneeded fluff and red tape.

Bigger is not better. Bigger just means you've found a way to exploit a certain market. Better means there is a more excellent, effective or efficient way of doing things. You don't need to be big to achieve that. In fact, the bigger you become the harder it is to be better, based on the definition above. Take pride in what you do, and the things you're gifted in.

Although it came from the Communist Manifesto, the phrase, "Workers of the world unite", rings true for small business. As an independent craftsman or artist you can do great things if you focus on and hone your specialty.

And don't be intimidated by the things big business has "already taken care of", but rather unite with other like-minded entrepreneurs to bring down the taunting giant that is taking your work.

David Getts is a certified kitchen designer and owner of David Getts Designer Builder Inc. in Seattle. 



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Timesavers LLC adds new Regional Sales Manager

Global manufacturer Timesavers LLC names Robert Tate as Regional Sales Manager. In his new role, Tate will expand engagement with key dealers to support Timesavers and Dubois product lines for the woodworking industry.

Prior to joining Timesavers, Tate was responsible for building a U.S. sales organization and dealer network for Putsch Panel Processing Division.

"Robert brings a wealth of knowledge of the industry and great relationships with many of our dealer partners," according to Brent Fischmann, Timesavers Vice President of Sales & Marketing.

Tate will be based in Greenville, S.C. and will focus on developing key markets in the Southeast.



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SPECIFICATIONS:

- Laser type: Sealed CO2 laser tube
- Laser power: 100W (G0873), 150W (G0874)
- Cutting area: 23" x 35" (G0873), 51" x 35" (G0874)
- Cutting speed: 0-1200 in./min (G0873), 0-945 in./min. (G0874)
- Resetting position accuracy: $\pm 0.002"$ (G0873), ± 0.05 mm (G0874)
- Power requirement: 110V/220V, 60Hz
- Laser focus: Automatic
- Worktable adjustment: Automatic
- Min. shaping character: 0.04" x 0.04"
- Work table: motorized up and down table

- (G0873), 7" lift platform (G0874)
- Driving system: Stepper
- Cooling system: water cooling and protection system (G0873), closed-loop (G0874)
- Includes: Extraction fan, air exhaust hose, water cooler, honeycomb table, air pump, laser tube, and design software
- Overall size: 54" x 43" x 44" (G0873), 74" x 61" x 42" (G0874)
- Approx. shipping weight: 485 lbs (G0873), 1288 lbs (G0874)



G0873 shown

100W, 23" x 35"

G0873 Only \$7495⁰⁰



150W, 35" x 51"

G0874 Only \$8750⁰⁰

HEAVY-DUTY MORTISER WITH STAND

- Motor: 1½ HP, 110V/220V, single-phase, TEFC, 1725 RPM, prewired 110V
- Amps: 14A at 110V, 7A at 220V
- Table size: 19" x 12½"
- Vertical spindle travel: 9"
- Head vertical travel: 3"
- Table longitudinal travel: 14½"
- Table cross travel: 3"
- Column tilt: $\pm 30^\circ$
- Fence angle: 0-30°
- Chisel capacity: ¼"-1½"
- Maximum chisel stroke: 6¼"
- Maximum workpiece width: 9"
- Chuck capacity: ½"
- Collar size: ⅝" and ¾"

- Spindle speed: 1725 RPM
- Overall size: 36"W x 24"D x 71"H
- Approximate shipping weight: 356 lbs.

71" TALL



G0448 \$1675⁰⁰ Sale \$1395⁰⁰



5 HP 21" SUPER HEAVY-DUTY BANDSAW WITH TILTING GEARED TABLE AND MOTOR BRAKE

- Motor: 5 HP, 230V, single-phase, 22A
- Throat capacity: 20"
- Height capacity: 14¼"
- Table size: 29½" x 20¾" x 1½"
- Table tilt: 5° L, 45° R
- Standard blade length: 165"
- Blade widths: ¼"-1¾"
- Blade speed: 4600 FPM
- Quick-change blade release/tensioner
- Micro-adjusting rack & pinion table tilt
- Cast-iron wheels with polyurethane tires
- Includes 1" blade
- Overall size: 39½" W x 28½" D x 78" H
- Approx. shipping weight: 684 lbs.

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G0531B \$2450⁰⁰ Sale \$2195⁰⁰



10 HP INDUSTRIAL DUST COLLECTOR

- Motor: 10 HP, 220V/440V*, 3-phase, TEFC
- Amps: 30A at 220V, 15A at 440V
- Air suction capacity: 5360 CFM
- Static pressure: 17.9"
- Intake port with manifold: 4" x (5) holes
- Intake port without manifold: 10"
- Impeller: 17" balanced steel, radial fin
- Upper bag size (x 4): 23½" x 70"
- Lower bag size (x 4): 23½" x 54"
- Collection bag capacity: 48 cubic feet
- Bag filtration: 2.5 micron
- Number of collection bags: 4
- Overall dimensions: 61" W x 61" D x 134" H
- Approx. shipping weight: 472 lbs.

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G0673 \$1995⁰⁰ Sale \$1595⁰⁰



PROFESSIONAL SPINDLE SHAPERS

- Motor: 5 HP, 220V, single-phase, TEFC (G5912Z) or 7½ HP, 220V/ 440V*, 3-phase, TEFC (G7214Z)
- Table size: 35½" x 28"
- Spindle sizes: ¾", 1", 1¼"
- Spindle speeds: 3600, 5100, 8000, 10,000 RPM
- Spindle travel: 3¼"
- Max. cutter dia.: 5½"
- Approx. shipping weight: 604 lbs (G5912Z), 613 lbs. (G7214Z)

G5912Z
SHOWN



5 HP, SINGLE-PHASE

G5912Z \$2995⁰⁰ Sale \$2695⁰⁰

7½ HP, 3-PHASE

G7214Z \$2995⁰⁰ Sale \$2595⁰⁰



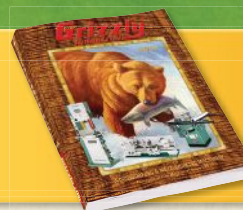
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- Motor: 5 HP, 220V, single-phase, 25A
- Sliding table: 35 1/2" W x 13 1/4" D
- Sliding table travel: 21 1/8"
- Table fence: 39 1/2" extruded aluminum with adjustable stop
- Cast iron miter gauge with 60° angle capability in two directions
- All other specifications same as the G5912Z
- Approx. shipping weight: 757 lbs.



G8621 ~~\$3695.00~~ Sale **\$3295.00**



14" SLIDING TABLE SAW WITH DIGITAL FENCE

- Main motor: 10 HP, 220V/440V*, 3-phase, 26A/13A
- Scoring motor: 1 HP
- Main blade size: 14"
- Main blade tilt: 0-45°
- Depth of cut at 90°: 4"
- Depth of cut at 45°: 2 3/4"
- Main blade speed: 3000, 4000, 5000 RPM
- Main blade arbor: 1"
- Scoring blade size: 120mm (4 3/4")
- Scoring blade arbor: 20mm
- Scoring blade speed: 8000 RPM
- Scoring blade tilt: 0-45°
- Sliding table size: 15 5/8" x 126"
- Maximum rip capacity: 51 1/2"
- Length of crosscut: 126"
- Overall size: 132" W x 155 3/4" D x 65 1/4" H
- Approx. shipping weight: 2176 lbs.

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G0853 Only **\$12,500.00**



AUTOMATIC EDGE BANDER

- Required power supply: 30A, 220V, single-phase, 60 Hz
- Feed motor: 3/4 HP
- Glue spindle motor: 1/8 HP
- Flush trim motor: 3/4 HP
- Heating element: 1135W
- Table size: 10 1/2" W x 69 1/4" L
- Min. panel dimensions: 4 3/4" W x 11" L
- Panel thickness: 1/2" - 1 1/4"
- Tape thickness: 0.5mm - 2.0mm
- Air requirement: 6 SCFM @ 100 PSI
- Glue pot capacity: 34 oz.
- Edgebanding coil capacity: 31 1/2"
- Panel feed speed: 16 FPM
- Approx. shipping weight: 770 lbs.



G0854 Only **\$7500.00**



12" SLIDING TABLE SAW WITH SCORING BLADE MOTOR

- Main motor: 7 1/2 HP TEFC, 220V/440V*, 3-phase, prewired for 220V
- Scoring motor: 1 HP TEFC, 220V/440V*, 3-phase
- Main table size: 35 1/4" x 21 1/2"
- Main blade size: 12", Arbor: 1", Tilt: 0-45°
- Depth of cut @ 90°: 3 1/8", @ 45°: 2 3/8"
- Scoring blade size: 4 3/4", Arbor: 20mm, Speed: 8000 RPM
- Scoring blade tilt: 0-45°
- Sliding table size: 126" x 14"
- Approx. shipping weight: 1468 lbs.



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THE ULTIMATE 16" JOINTERS

- Motor: 5 HP, 220V, single-phase, 25A (G9953ZX); 5 HP, 220V/440V*, 3-phase, 14A/7A (G9953ZXF)
- Precision-ground cast iron table size: 16 1/4" x 99 1/4"
- Cutterhead speed: 5000 RPM
- Max. depth of cut: 5/8"
- Bevel jointing: 0-45° L/R
- Center mounted fence: 6 1/8" x 43 1/4"
- Approx. shipping weight: 1742 lbs. (G9953ZXF), 1719 lbs. (G9953ZX)



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25" EXTREME-DUTY PLANNER WITH SPIRAL CUTTERHEAD

- Cutterhead motor: 15 HP, 230V/460V*, 3-phase, 37A/18.5A
- Table elevation motor: 1/2 HP, TEFC, 2.4A/1.2A
- Max. cutting width: 25"
- Max. cutting depth: 1/4"
- Max. stock thickness: 9"
- Min. stock thickness: 1/4"
- Feed rate: 20, 25, 30 FPM
- Speed: 4900 RPM
- Min. stock length: 10"
- Approx. shipping weight: 2054 lbs.



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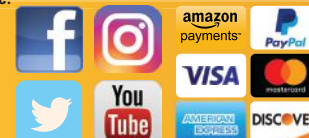
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CHANGING WITH THE TIMES

THE WATKINS CABINET CO., ESTABLISHED IN 1952,
IS FINDING NEW WAYS TO GROW ITS CUSTOMER BASE

BINET CO. INC.



BY JENNIFER HICKS

Watkins Cabinet Co. in Dickerson, Md. has installed thousands of custom kitchens, vanities, bookcases, bars and more over six decades. The shop “manufactures customer happiness”, according to its marketing, so the goal of end-user satisfaction is clear.

Company founder Wilbur “Buster” Watkins, now deceased, set out in 1952 to build the biggest and best custom cabinet business in the area. His daughter Joan Watkins, who joined the family business in 1981, tells the story of how it grew to what it is today.

“Dad used to go around door to door on contractors’ sites looking for places to sell kitchens, and that’s how he got started. His dad had gotten him into sheet metal working, but he really loved wood and that was his love in high school.

“He came home tired. He was working all day and mom did the bookkeeping, so she was working at night.”

Joan is one of the couple’s seven children involved with the business at some point. She now runs the business with her brother Frank Watkins and sister Gerri Watkins.





The team at Watkins Cabinet Co. includes Rudy Day, Rick Thomas and Frank Watkins (pictured on opposite page), finishers and assemblers.

Quick expansion

The shop opened on the family's property in Germantown, Md., starting in the basement before moving to the garage.

"It eventually evolved from just working for a few builders building those simple things. Then things started getting a little more complicated and people needed more custom work," says Joan.

In 1967, Buster and his 10 employees outgrew the garage, so he built a 16,000-sq.-ft. shop with offices and a showroom.

The shop currently has 14 employees and a rather concentrated customer base within a 15-mile radius. Dickerson is an unincorporated community in Montgomery County, northwest of Washington D.C., 60 miles from Baltimore, and near the state lines of Virginia and West Virginia. The shop focuses almost entirely on residential work.

"We mostly do work for individual homeowners now and it also evolved from working in new construction to remodeling. It was a real mix back in the '80s" says Joan.

The shop's customers favor traditional raised panel and flat Shaker transitional styles of cabinetry, constructed with mortise and tenon joinery and mitered corners. The current finishing trend is white and gray paints.

New marketing approach

Word of mouth and a great reputation have served the shop well over the years. But the Watkins are updating their marketing efforts to bring a better return.

"For many years we relied on word of mouth, neighbors and friends to share our name. We are starting to advertise now because we found the market around here has changed. It's very mobile, so people don't have the people to people connections they used to have. You might not have that same neighbor for 30 years, so you don't know who to ask.

"We still get some word of mouth inquiries, but we're finding that a lot of people don't even know that we're here, even local people. So, we started advertising and did our first home show earlier this year. We also hired someone to work on social media promotions," says Joan.

The shop recently merged with KWC Inc., a kitchen and bath remodeling company in nearby Damascus, Md., founded in 1976 by Ken Watkins (son of Buster) and his wife, Kathy.

"In addition to the custom cabinets manufactured on site at Watkins Cabinet, we will offer some of the stock cabinet lines Ken has been

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using. In many cases this will lead to shorter lead time and a lower price point for customers who do not need the extra value of custom cabinetry," says Joan.

The shop is also bidding farewell to in-house designer J. Rudell "Rudy" Day, who is retiring this summer after 62 years with the company.

Watkins produces an average of 40 to 50 kitchens annually with a lot of bath vanities in between. The current backlog is about six to eight weeks, which is good, but far lower than the six to eight months it used to be, when customers had to wait just to get an appointment.

"October 2007 is when I noticed the phones were not ringing like they should have been, and it went down from there. The spring of 2009 was the first time we had to lay people off," says Joan.

"We had enough cash reserves to get by. We contacted builders but

everybody was hurting. If they had something, they brought it to us but it was very difficult. To have weeks on the schedule with nothing on it was pretty devastating."

Several of the custom shops in the area went out of business. That eliminated some of Watkins' competition, although there really wasn't much to begin with.

"Things have picked up some but not as much as we'd like. That's why a year or so ago we started looking at what we need to do as far as marketing and a business plan. We'd like to see a higher volume. We know we are capable of doing that. We'd like to hire more employees and update machinery.

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THE FINISHING TOUCH

Compiled by BHSW Inc.



Nothing says quality more than special touches that a cabinet shop or furniture builder can add to a project. Going above and beyond will encourage good customers to return, and often bring their friends. That commitment to perfection is what is allowing Osborne Wood Products to celebrate forty years of supplying shops with decorative hardware and unique components. Working in wood, metal and acrylic, the company has created a catalog of some 1,500 products such as corbels, balusters, table legs and moldings.

Another world class manufacturer, Milesi Wood Coatings, has recently become the first manufacturer of its kind to launch Block Chain Addition (BCA). This is a cutting edge, unique, patent-pending cure chemistry that concentrates the finest characteristics of pre-catalyzed and post-catalyzed polyurethane, acrylic and ureic finishes in a single technology.

California's Accuride is a global leader, too, and its engineers have developed two new slides for commercial casework that add the perfect finishing touch to drawers. One of them, the 3160EC, is designed to support today's larger compo-

nents – it will carry drawers up to a full 60" wide!

Another major advance in hardware comes from Create-A-Bed, which has developed an adjustable mechanism that lets the builder/installer, and even the end user, adjust tension... without even moving the mattress.

Fine tuning is also the aim of AcromaPro's new Bernyl™ line of products for formaldehyde free finishing. They make it easier for woodshops to achieve indoor air quality improvements using existing processes and equipment. And that's a finishing touch that has special appeal to consumers in today's furniture and cabinet markets.

M.L. Campbell's new CODA™ Interior Hybrid Polyurethane ensures an exceptional quality finish with scratch, mar, and chemical resistance that rivals traditional polyurethanes.

And Sherwin Williams has developed the new Color Express™ System to help woodshops deliver precise color, on demand, for the perfect finishing touch to any job.

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Osborne Wood Products Celebrates 40th Anniversary



This year, Osborne Wood Products celebrates forty years of supplying the remodeling, cabinetry and furniture trades with high-quality, unfinished decorative wood, acrylic, and industrial components, as well as hardware.

Osborne Wood's humble origins trace back four decades to when Leon and Janice Osborne began manufacturing wood furniture compo-

nents in their garage and selling them through a local country co-op. Since those days, the company's offerings have grown substantially. And today, it occupies a cutting-edge, 80,000 square-foot manufacturing and distribution facility in Toccoa, Georgia that is fully equipped with state-of-the-art CNC woodworking equipment.

As a family-owned business, Osborne separates itself from the competition with a culture of caring for each customer. This is evident in the high level of personal assistance and customer support provided.

"It gives me great pride to join Osborne Wood employees, clients and business partners in celebrating the company's 40th anniversary," says CEO Leon Osborne. "We have come

a long way since we started the business, and I look forward to building on our tradition of innovation and excellence for years to come."

Osborne offers over 1,500 SKUs through OsborneWood.com, with some components available in up to 15 wood species. Customers can quickly, conveniently and securely order island posts, table legs, corbels, moldings, cabinet feet, furniture feet, pilasters, on-lays, chair legs, vanity legs, table slides, table aprons/bases and furniture kits, as well as other wood and metal decorative components.



Osborne is efficient: 92% of shipments are executed same day! Volume discounts are available to the trade and hobbyists alike. Products are offered in hard maple, walnut, red birch, hickory, and mahogany as well as traditional oak, cherry, soft maple, alder and pine. Osborne Wood Products also specializes in custom millwork services for unique project needs, and custom quotes are provided free of charge.

Osborne's Trade Partner Program for professional woodworkers requires no joining fee, and it immediately benefits customers with an introductory discount that increases dramatically as the volume of annual purchases grows. While there are no requirements for minimum orders, volume orders are eligible for deep discounts.

"I sincerely thank the many people who have trusted us with their business over the years," says Mr. Osborne. "We don't take our responsibility lightly, and we're honored that you continue to choose us for your wood component needs".

Your Source for Metal and Acrylic Furniture Components

Osborne Wood's comprehensive, easy-to-navigate online store provides detailed information on sleek and contemporary acrylic and metal furniture components that complement today's modern designs.



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Osborne Wood Products, Inc.

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Formaldehyde-Free Finishing with AcromaPro®

In the building and consumer product markets, indoor air quality concerns are increasingly driving regulatory action and consumer preferences. Wood products finishers are being asked to meet these evolving demands without affecting the finish performance their customers have come to expect.

The AcromaPro® Bernyl™ line of products for formaldehyde free finishing makes it easier for shops to balance indoor air quality improvements with existing process and performance standards. These formaldehyde-free coatings can help woodworkers meet the requirements of BIFMA (Business & Institutional Furniture Manufacturers Association) and LEED IAQ (Leadership in Energy and Environmental Design/ Indoor Air Quality) certifications, eliminate formaldehyde from their environment, and reduce odor sensitivity.

There are many benefits of formaldehyde-free coatings technology, not least of which is improved indoor air quality. Formaldehyde-free finishes offer woodworkers two simultaneous air quality advantages. They don't contain the strong odor of formaldehyde during the finishing process, which improves the working environment of finishing personnel during finishing and curing. And they also don't contain the residual formaldehyde odor that often causes complaints from customers during unpacking and installation of wood products.

AcromaPro's Bernyl products also entail no additional equipment expense. These finishes work well with standard spray equipment. A woodworker can easily place formaldehyde-free finishes in an existing line without having to buy new equipment. Their coatings partner can also provide guidance on spray techniques to help make sure the proper millage is achieved, and reduce overspray to save additional dollars.

Bernyl formaldehyde-free coatings respect environmental standards. A product's ability to meet LEED-IAQ and BIFMA standards can be a major consideration for customers. The use of environmentally conscious products such as formaldehyde-free finishes can help businesses accumulate LEED points, which may be an integral piece of their own sustainability goals.

These formaldehyde-free coatings also have increased customer appeal. With a growing consumer focus on sustainability, the demand for residential and commercial construction materials that are environmentally friendly is on the rise. Finishers who in-

clude formaldehyde-free finishes as a potential option are well positioned to capitalize on this growing demand.

AcromaPro's Bernyl™ formaldehyde-free high-performance products are drop-in replacements to current acid cure coating systems. This complete line of catalyzed, formaldehyde-free solutions is equipped with a wide range of protective pigmented and clear coatings, lacquers, sealers, and conversion varnishes. These meet increased indoor air quality concerns, and help woodshops meet their sustainability goals.



AcromaPro

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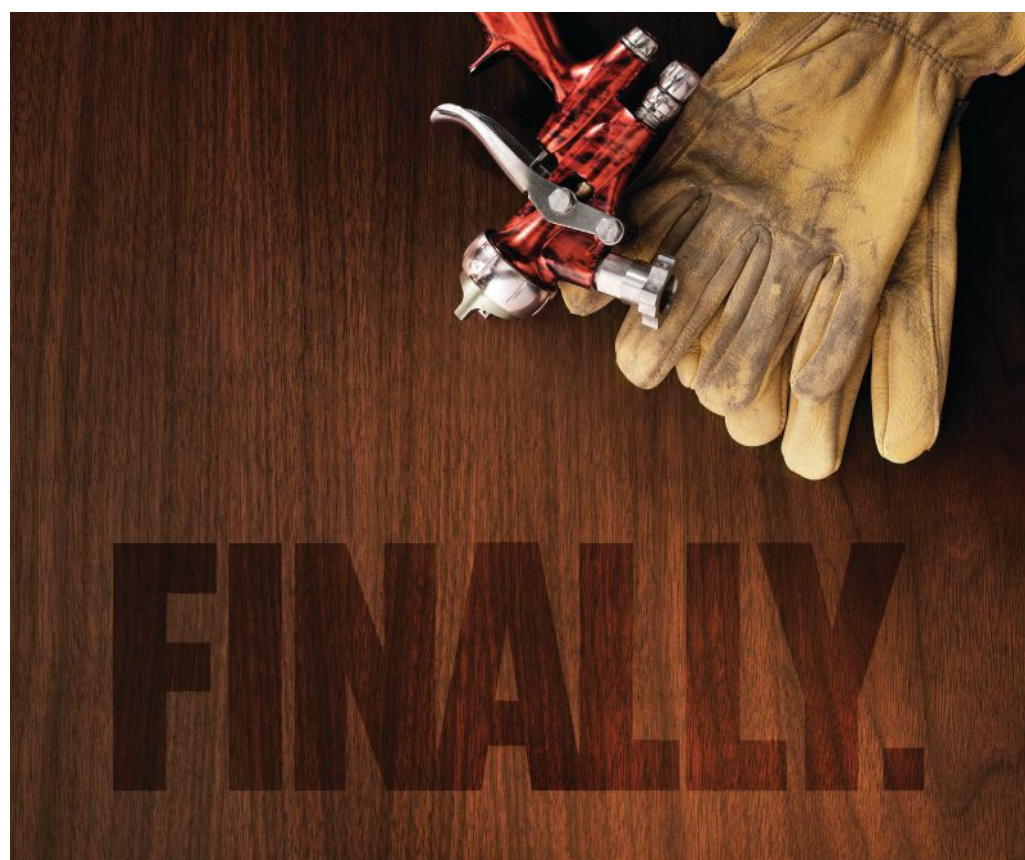
M.L. Campbell® offers a wide range of products, each of which has its own unique advantages, yet they are all specially formulated to work together to meet the toughest finishing needs. The company's Wood Finishing Systems are designed to provide woodshops with every product needed to produce high-quality, professional wood finishing across multiple technology platforms.

When it comes to selecting the right M.L. Campbell product, a complete line of stains, sealers, and primers serves as an important foundation to exceptional topcoats. And the



unique system is highlighted by a full selection of excellent clear and pigmented topcoat finishes that ensure the highest levels of ease, flexibility, and durability.

The company's trusted, market-leading products have been used for decades by prominent wood finishers throughout North America. But M.L. Campbell is always innovating. CODA™ Interior Hybrid Polyurethane is the latest addition to its polyurethane offering. This unique hybrid technology ensures an exceptional quality finish with scratch, mar, and chemical resistance that rivals traditional polyurethanes. This unique alkyd/acrylic hybrid technology resists yellowing and has excellent long-term color stability.



CODA™ THE CHEMISTRY THAT CONCLUDES YOUR SEARCH.

We put everything into this formula. So you can get everything out of it. CODA 2K Hybrid Polyurethane delivers unique technology, giving you a professional finish with exceptional long-term color stability, chemical resistance, and dry times compared to traditional polyurethanes. **The finish you've been waiting for.**

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In an environment where time and productivity efficiencies mean so much to the bottom line, CODA can help. With fast drying times, CODA can save a woodshop time and help speed up production. It's also easy to use – there's just one simple-to-remember 10:1 mix ratio for all products in the CODA line, and a pot life of up to four hours.

CODA is available in primers, sealers, tintable pigmented and interior clear, with a full range of sheens. This simple combination makes CODA the perfect choice for use on bar tops, conference room tables, cabinets, furniture, millwork or any other interior wood surface that requires a hard and durable finish.

CODA is the next generation in performance – the finish you've been waiting for.



M.L. Campbell

Website: mlcampbell.com/coda

E-mail: marketing@mlcampbell.com

Phone: (800) 364-1359

Building - and Adjusting - a Murphy Bed Just Got a Whole Lot Easier!

The Adjustable Murphy Bed Mechanism from Create-A-Bed® is a state-of-the-art piston lift system that comes with a step-by-step construction/assembly DVD. It also includes illustrated instruction booklets that include all the cut sheets, bills of materials and templates you'll need.



Made in the USA, the unique, patented mechanism can be adjusted quickly and simply – even after a bed has been installed, and without changing hardware locations. That means the customer can easily adjust a Murphy bed that's too heavy or light. With old fashioned hardware, that used to mean taking everything apart to add or remove bulky, hazardous metal springs. But now, thanks to Create-A-Bed's patented mechanism, a murphy bed can be adjusted in seconds. Your customer won't even need to move the mattress!

The Adjustable Murphy Bed Mechanism is designed to meet the needs of furniture and closet manufacturers, cabinetmakers and remodelers. All of the hardware mounting positions have been standardized. The state-of-the-art gas spring mechanism and heavy-duty, commercial-grade, American-made components are economically priced and feature a lifetime warranty.

The instructions include cut sheets, bills of materials and templates. Create-A-Bed's system uses a mattress up to 12 inches thick, has optional light kits, and is completely contained within a cabinet that attaches to the wall. The panel bed design eliminates bi-fold doors, and pistons can be replaced in seconds if needed. The bed can also be moved easily, without leaving permanent floor damage or holes in a carpet.

Murphy bed demand has grown because living spaces are becoming smaller

can-made components are economically priced and feature a lifetime warranty.



and more expensive, while at the same time the need for home offices and multi-purpose rooms is increasing. Now, adding this finishing touch to a woodshop's catalog has never been easier.

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Murphy Bed Mechanisms



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- **Standardized mounting position...** mechanism hardware mounts in the same position on EVERY bed
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- **Gas springs** can be replaced in seconds without disassembling murphy bed
- **Limited Lifetime Warranty** on all mechanism components
- **Protected** by U.S. Utility Patents #8,850,637 & #8,898,831
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BCA Will Change the Way You Finish

Milesi Wood Coatings is a brand of IVM Chemicals SRL, which is one of the largest and most influential wood coatings manufacturers in the world. Based in Milan, Italy, IVM has North American offices in Charlotte, N.C.

Milesi has just become the first manufacturer in the world to launch Block Chain Addition (BCA), a revolutionary technology that marks the beginning of a new chapter in the history of wood coatings

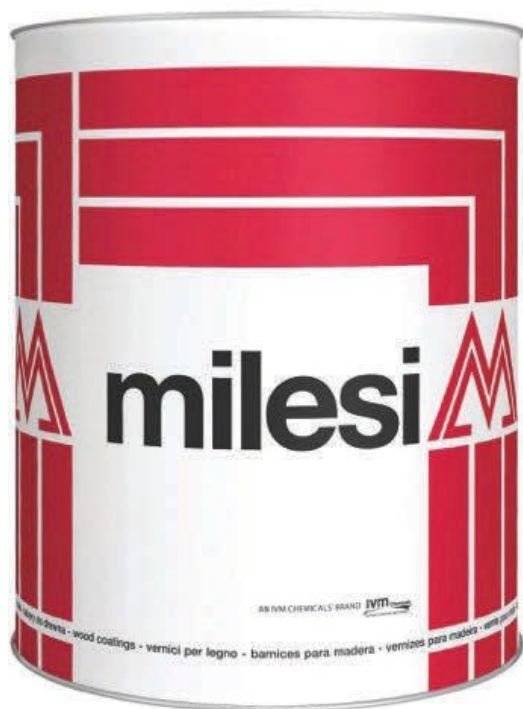
Generating unprecedented competitive advantages, BCA is a cutting edge, unique, patent-pending cure chemistry that could only be achieved by Milesi and IVM. For the first time ever, it concentrates the finest characteristics of pre-catalyzed and post-catalyzed polyurethane,

acrylic and ureic finishes in a single technology. The result boosts their performance, and offers the market some previously unthinkable functional properties. Surpassing today's maximum performance standards, BCA has characteristics that exceed all expectations in terms of surface hardness, resistance to abrasion, yellowing caused by light, and stains caused by liquids. Additionally, the product offers very fast drying times and long pot life, to

ensure extremely easy use without sacrificing great aesthetic results.

This superior performance comes with a rigorously green approach, which is one of the main characteristics of the Milesi brand. BCA products contain no aromatic compounds, isocyanates or formaldehyde, and these don't develop during use of the coatings. The groundwork for BCA, whose name comes from the process that allows film curing, is the result of a resin never previously deployed in the wood coatings market. It is also a reflection of the constant research of new raw materials that is conducted by IVM Chemicals as part of its commitment to ongoing innovations.

The key features of BCA are no off-gassing, aromatics, formaldehyde or isocyanate. It is HAPS free, and offers both open grain and high build systems. It is water-white (non-yellowing), extremely flexible and hard, chemically resistant and has a lot pot life (72 hours). It also has quick drying and stacking times.



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BCA is a revolutionary technology in wood coatings, able to concentrate the best features of polyurethane, acrylic, pre-catalyzed and post-catalyzed coatings, delivering functional **performance characteristics previously unachievable.**

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Look No Further for That Final Touch

Accuride, a global leader in movement technology, has crafted a new family of innovative solutions for commercial-grade woodwork—the 3135EC and 3160EC Undermount Slides.

The 3135EC offers the perfect blend of sleek appearance and smooth action for upscale cabinetry projects. The concealed full extension slide has a fluid damper that resists slamming without bounce-back, and precision adjustment for exquisite mechanics. It rides on ball bearing and polymer rollers, and fits both 1/2" and 5/8" drawer sides. Available in even lengths from 12" to 28" and also 15" and 21", it supports loads of up to 100 lbs. and is compatible with drawers up to 30" wide. There's a front lever disconnect for easy drawer removal and reinsertion, and Accuride's next generation Easy-Close (EC) action brings the drawer

to a smooth, gentle close every time. Behind the scenes, new lower spacer clips provide lateral support and reduce migration and side-to-side movement, and the slides also have easy-adjust cams for frontal adjustment. The 3135EC is ADA-compliant, with less than 5 lbs. of pull-force needed to open the drawer.

Another original concept in this series, the new 3160EC slide supports drawers from 31" to 40" wide – and an optional stabilizer kit allows it to handle ultra-wide drawers up to an incredible 60" wide! The kit (item PN 4180-0753-XE) keeps extra-wide drawers synchronized with minimal racking or drawer sagging. This improves stability, and prevents unwanted side-to-side movement when closing or opening drawers. Also rated for up to 100 lbs. the 3160EC is the perfect movement solution for larger projects such as boutiques,

upscale residences and fine galleries. Both models include traditional and 32mm hole patterns, and slotted holes for lateral drawer adjustment during installation. The 3135EC allows vertical, horizontal, and front-to-back drawer front adjustment, and a quarter-turn cam lock secures the drawer in position after adjustment. The 3160EC carries all the great features of the 3135EC such as flawless movement and

superior soft-close action. Fully concealed, it too has easy-to-use lever disconnects.

Accuride has been developing original, innovative products for over half a century and the company takes pride in its role as a leader in movement solutions. The 3100 Series slides exemplify those values with their advanced, rack-free suspension system and convenient cam-adjust. Both of these slides are certified by the Architectural Woodwork Institute (AWI) and the Builders Hardware Manufacturers Association (BHMA), and woodworkers can now find them quickly and easily in Accuride's new online store. While there, take a look at some of the clever accessories that make installation of the 3100 Series easier and faster, such as a drilling jig, face frame brackets and even a tool kit that includes everything a craftsman needs to complete an install. Both the 3135EC and 3160EC come with a limited lifetime warranty.



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Sherwin-Williams Color Express™

Precise Color – On Demand.

From moody grays to invigorating blues, choosing color is an immersive and emotional experience for consumers, and it's a key influencer when it comes to their purchasing behavior. In today's age of customization and personalization, the ability to meet a consumer's needs for custom color, both quickly and accurately, is more important to your business than ever. That's why Sherwin Williams has developed the Color Express™ System to help you deliver precise color, on demand.



The system is comprised of product bases, dispensing equipment and inspirational color tools that give a woodshop the capability to provide custom color exceptionally well, while simultaneously elevating its color position.

With Color Express, a shop can deliver color to consumers with short lead times and high degrees of accuracy through repeatable automated dispensing. With access to thousands of colors from the Sherwin-Williams Color Snap® fan deck, and trend forecasts from the experts at the company's Global Color & Design Center, a woodworker can now leverage color like never before to sell more product and help increase the business' profitability.

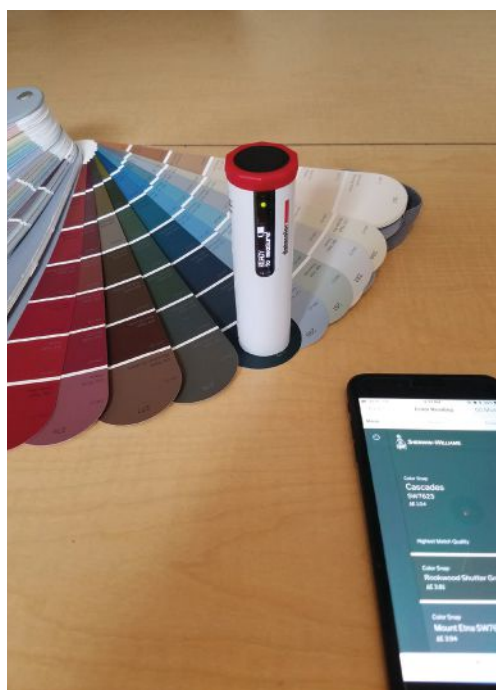
The Color Express System delivers repeatable and accurate colors through onsite automated dispensing, with three key components: a consistent base system, a set of highly-controlled universal colorants, and optimal dispensing equipment. The color delivery components within the Color Express System are thoroughly tested to ensure the highest-quality finishes in colors matched to the Sherwin-Williams fan deck.

The Color Express product lineup includes wood finishes that have been selected based on strong performance and repeatability, and it is matched to thousands of colors from the industry standard Sherwin-Williams fan deck.

SHER-WOOD® HB Pigmented Conversion Varnish is a high build, high solids, high performance catalyzed varnish designed for finishing interior wood products such as kitchen cabinets or furniture. This allows for fast build and excellent sag resistance, when used on hanging lines or flat lines. This product features an eight-hour pot life and meets all KCMA test requirements when used as a self-seal system, or over a catalyzed vinyl or varnish primer/surfacer.

SHER-WOOD® Color Express™ Precat is a fast-drying, high performance, pre-catalyzed lacquer designed for the general interior wood finishing market. After catalyzation, it provides three months of working pot life. This product meets all KCMA test requirements when used as a self-seal system, or over a catalyzed vinyl or lacquer primer such as the SHER-WOOD® White Vinyl Sealer (P63W2 or SHER-WOOD® Precat Primer Surfacer – E63W30).

And SHER-WOOD® Color Express™ 275 Varnish is a high-performance catalyzed varnish that meets strict VOC emission requirements of <275 grams/liter. After catalyzing, this product has an eight-hour working pot life. This is a great choice for kitchen cabinets, furniture and general interior wood finishing. It meets all KCMA test requirements when used as a self-seal system, or over the SHER-WOOD 5421W Universal Primer.



Color delivery starts with inspiration, and Sherwin Williams' comprehensive set of Color Express™ color tools give your customers a seamless path from inspiration to delivery. It all starts with access to the full array of Sherwin-Williams fan deck colors. That is bolstered by industry-focused color forecasts developed by the color and design experts at our Global Color & Design Center, and digital tools such as an online color visualizer and the blue-tooth enabled portable Color ReaderPro color matching tool, designed to ease the decision-making process.

To learn more about how to take your color offering to the next level, visit Sherwin-Williams online.



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ONE PIECE AT A TIME

THERE ARE MANY OPTIONS FOR A SHOP TO
UPGRADE ITS DIGITAL FABRICATION
EQUIPMENT RATHER THAN REPLACING IT
BY JOHN ENGLISH



Back in the 1970s, Johnny Cash had a hit song called “One Piece at a Time”. The song is about an assembly line worker in a Cadillac factory who stole enough parts over the years to build himself a complete car. Before he became a country singer, Cash had actually worked at a car factory in Detroit. While we’re not recommending that employees at CNC manufacturing facilities follow his example, it is possible – and often advisable – to update many aspects of an older router rather than replacing the entire machine. A shop can bring it up to date, one piece at a time.

Adding options and upgrading elements such as the control panel, servo motors, spindle, vacuum table and toolholders all represent substantial investments. They make sense when the CNC is large enough to handle the tasks being set for it, and rugged enough to go another hundred thousand miles. Size refers to both the bed and the travel, both of which need to be able to accommodate the kinds of work the shop now handles. While the cost of a new machine has certainly come down a bit over the years, the basic form (essentially, the parts that don’t move) hasn’t changed much. But almost everything that does move has evolved, and some components have come a long, long way.

Along with building brand new, state-of-the-art systems, Indiana-based Thermwood (thermwood.com) has been rebuilding and upgrading CNC routers for several decades. The company explains that “the process of upgrading a CNC router will vary with [the] extent of the upgrade. If the control system and drives are being replaced, the machine may need to be shipped to Thermwood for the work to be performed.

If a Universal Vacuum Table is being added, the components can be shipped to the customer, who can generally install [them] without additional help. When the machine is shipped to Thermwood for control and drive replacement, we can laser calibrate each axis. In many cases this results in a machine which is more accurate than when it was new.”

Keeping control

The heart and soul of many CNC upgrades is the control panel. A good example of what’s possible here is the newest Anderson America (andersonamerica.com) panel, which the company calls the Anderson Group Machine Virtual Panel, or AGMVP. It can easily and quickly load programs or worklists from a local disk, a removable storage device or online Cloud storage, using a familiar Windows interface. AGMVP runs on Windows 10 or Windows 7 and is compatible with Fanuc’s Oi-Model F and Fanuc 31i control systems.

CNC routers that include automated loading or automatic off-loading pusher/sweeper devices can now include Anderson’s WorkList software that offers better production and workflow management. Using it, lists of individual program files can be loaded all at once and executed sequentially, with on-screen status, sheet count and count-down functions. The tool lengths, diameters, locations and number offsets are easy to set up, review and change. When combined with a standard automatic tool length measurement device, mistakes and crashes are minimized, and often eliminated. The operator can also graphically see and control the status of vacuum zones, working fields,

and even twin tables or additional peripherals, plus spindles and heads such as multi-drill blocks. The software also makes it easy to visually inspect, verify, and quickly edit tool diameter compensation and G54-G59 work coordinates. There are 48 extended work coordinates on 3- and 4-axis machines, and 200 on 5-axis machines. Plus, the operator can configure custom buttons for commonly repeated functions or programs such as facing a spoil board or fixture, routine maintenance or cleaning, spindle warm up, and start-up or shut-down procedures.

Given the nature of this technology, it's no surprise that most CNC manufacturers offer occasional control panel upgrades. For example, woodshops with a Techno LC Series, RG, Pro Series, Gantry III, Patriot or Servo DaVinci machine can now upgrade their controller to a version that has no PCI card requirements or short SCSI cables. The new panel is compatible with Windows 8 and higher, includes a real-time preview and has a real-time 3D toolpath display and G-code listing view. The company (technocnc.com) says it's "a simple package and an easy upgrade".

Innovation for small shops

NextWave Automation (nextwaveautomation.com) caters to smaller shops and prototype builders. While some of its machines work well for short-run production, their real value lies in their versatility. They don't require a great investment, and they can be almost endlessly upgraded to meet new challenges. Among the company's more recent innovations are a mini fourth axis system that runs about \$500; 2- and 7-watt laser modules that turn CNC routers into engravers; a Plexiglas and aluminum machine enclosure that enhances safety, reduces dust and minimizes machine noise; and the 3D Digital Duplicator that attaches to the router and traces objects down to 0.001" detail, allowing the user to import image data for replicating objects, shapes and patterns.

Legacy Woodworking Machinery (lwmcnc.com) has added two new table sizes to its Maverick machine. The Maverick allows a woodworker to instantly move from 3-axis machining to 5-axis turning to 4-axis vertical machining, and it's now available in both 3x5 and 4x8 models.

Woodworkers often think of C.R. Onsrud (cronsrud.com) as an industrial-scale CNC manufacturer. And indeed it is, with machines placed in some of the largest manufacturing facilities around the world. But the North Carolina company also caters to small- and medium-sized shops, offering them a tailor-made solution rather than an off-the-shelf, stock machine. The entry-level M Series, for example, boasts rigid frame construction, highly responsive drive mechanisms, and many more of the top-end features one might expect to find on bigger models. The idea here is that this moving gantry machine can grow along with a shop's requirements, making it a viable option for a smaller new work cell.

Komo Machine (komo.com) in Lakewood, N.J. offers several series of CNCs, among which is the Flex. They come in moving single table, twin table or moving gantry configurations, and all feature a side-mounted tool changer. And they come with a lot of optional upgrades, including a tooling package, vacuum pumps, boring blocks, aggregate heads, automatic material handling, a dual screen, mist cooling, a C axis for aggregates, and an aluminum table with a universal grid and integrated pop-up roller balls.

Safety concerns

Felder Group's safeSpace (felder-group.com) is essentially an office cubicle for a CNC. Designed to work with the company's H350, H300 and H200 machining centers, it "massively" increases working safety, according to Felder. The safeSpace has a large monitor on the outside that delivers an immediate status overview as jobs are being processed. A 10' wide door makes loading and unloading easy, and huge windows

in the door let the operator see what's going on inside.

Holding parts on the worktable securely and safely has come a long way, too, and this is one of the easier facets of CNC milling to upgrade. For example, Busch LLC (buschvacuum.com) in Virginia Beach, Va. offers the energy-efficient and low-maintenance Mink claw vacuum pumps, which are used for clamping components for processing. And Better Vacuum Cups in Chino Hills, Calif. is constantly updating its catalog of vacuum cups for both standard and nested based router tables.

Most manufacturers offer a range of options when it comes to clamping. A good example is Weinig's Holz-Her division (holzherusa.com) which publishes a handy chart on its panel processing webpage that lists all of the options for its Nextec CNC machines, including workpiece clamping. The chart also lists tool changers, drilling heads and a host of other choices available, even software packages.

Perhaps the most encouraging, and certainly the most exciting innovation in woodworking over the past five years has been the evolution of robots. Biesse (biesse.com) has developed the Robotically Operated System (ROS), which is a perfect example of how robots can upgrade CNC operations. These incredibly versatile, fluid and strong robotic arms can customize loading and unloading cells, and be seamlessly integrated with CNC, sizing, boring, edgbanding and sanding machines. They make a work cell more efficient, more productive and less likely to have problems, while at the same time reducing idle time and the risk of material damage. Thanks to their compact size, strength and ability to turn and twist, they can move and rotate panels and thereby automate the machine loading/unloading processes. That frees the operators to carry out other added value tasks.

Change is good

Few upgrades deliver results as quickly as upgrading the machine's ability to carry and change tools. Benz Inc. (benzttooling.com) has recently updated its options with the Hybrix, a rotating tool carrier magazine with a fixed housing. This is a hybrid of a magazine and a turret, and as such it offers several advantages. For a start, it delivers 30 percent higher power density than a tool turret alone. There are higher limiting speeds (approximately 40 percent), plus more precision and flexibility. On top of that, this upgrade is both cost-effective and space-saving, and even a little more energy efficient. There's less moving mass when it's rotating, fewer roller bearings, and any pitch errors are irrelevant. It offers the option of minimum quantity lubrication (MQL) and cooling lubricant (CL) without any restrictions. There's process optimization, thanks to a high degree of automation, and customer-specific adaptations are possible for shops doing unusual milling. The technology is suitable for all machine types, plus versions in a star (single-row, multi-row) or crown design are possible, according to the company.

Castaly Machinery (castaly-cncmachine.com) in La Puente, Calif. says it "can assist in new product development or modifying an existing machine to suit your custom needs". A good example is Castaly's relatively inexpensive rotary axis lathe add-on for a CNC router. This simple to set up component can add lots of new abilities to a small- or medium-sized shop, including the capacity to turn, carve and cut in the round.

ShopBot Tools (shopbottools.com) has just launched the new Desktop Max ATC, which is its larger desktop tool but with an automatic tool changer (ATC). A tool changer can reduce production time by quickly and robotically changing cutters between tool paths, eliminating the need to change and zero tools individually. The Desktop Max has a 36" x 24" work area and is available with an aluminum tool deck or a universal vacuum hold down deck.

CNC operations can also be upgraded by a new take on CAD/CAM, according to the engineers at Cim-Tech. The company's founders realized that a CNC machine was only as good as a woodworker's ability

to program it. They decided that Computer Integrated Manufacturing (CIM) was needed to bridge the gap between CAD and CAM. CIM provides for a seamless solution with a common interface for design and manufacturing. For example, the Router-CIM program has an all-in-one screen for tool path parameters that is easy to learn, and use. It organizes all of the machining parameters into one easy-to-use interface, which is set up and saved as 'knowledge'. The information is easily archived and can be transferred from one computer to another. From there, the program offers a number of unique upgrades to standard machining that can be seen at cim-tech.com.

Another great development over the past few years is upgraded service that is possible thanks to advances in other industries, most notably wireless communication. Hendrick Mfg. in Salem, Mass. (hendrick-manufacturing.com) is a prime example. The company offers an array of remote access and diagnostic tools to keep its customers up and running. Its CNC routers and computerized panel saws come standard with technology that allows the Hendrick's technical team to dial in to a woodshop's system and troubleshoot, adjust parameters and resolve conflicts from a remote location.

Other considerations

Sometimes upgrading an existing machine isn't the best way forward, but new stock machines don't quite check all the boxes either. In that case, a shop might want to look at choosing among the various options to create a custom CNC. Most manufacturers offer this.

For example, Laguna Tools in Irvine, Calif. (lagunatools.com) has created a family of CNCs that run the gamut from desktop to high production, and each machine can be fitted with options to fulfill multiple or very specific applications. The entry-level Swift machines are avail-

able with an optional upgrade to a 4-hp quick change spindle and vacuum tables in various sizes, while the top of the line Multi-Tool routers come with the option of multiple heads. That means they can house a router, oscillating knife, tangential knife, Laguna Vision System, creasing wheels, and other upgrades and options.

NewCNC (newcnc.com) offers a customizable package where the shop can configure a table, choose a spindle from 12.6 to 22 hp (HSK 63), configure a changer that handles up to 26 different tools, and include up to a 9-spindle head. Other custom choices might include C-axis, rotary axis, aggregates, and Z axis clearances.

Diversified Machine Systems (dmscncrouters.com) is another very responsive manufacturer that can create a machine that is completely customized to specific needs. Its Freedom Machine Tool division supplies CNC machining solutions in 4x4, 4x8 and 5x10 configurations. Upgrades here include equipping the 4x8 platform with a Rotary Axis CNC Router, which is a perfect tool for a woodworking shop that is looking to expand their capabilities by adding turned components. And an upgrade on the standard 5x10 to a 5x10 Plus offers up to 15" in Z travel, which is made possible by switching out to a heavier and larger bridge.

Shops that are getting into sign making or working with new, thin materials such as foam might want to take a look at Donek Tools' drag knife (donektools.com). It fits into a CNC router or spindle collet and uses a utility knife blade.

If your upgrade is just to replace a worn-out part with a new one, don't despair. There are suppliers out there for that, too. For example, Atlantic Machinery in New Milford, Conn. (atlanticmach.com) stocks parts for 17 different CNC brands. And CNC Warehouse in Houston (cnc-warehouse.com) offers a huge parts inventory. [W](#)

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MORE CLAMPS

WOODWORKERS CAN NEVER HAVE ENOUGH AND THERE'S PLENTY OF NEW
GENERALPURPOSE AND SPECIALTY CLAMPS AVAILABLE

BY JOHN ENGLISH

Some of us go to the woodshop to get away from pressure and stress, but as soon as we reach for a clamp, well...

Applying pressure accurately can take experience, training, planning and, of course, the right clamps. There are lots to choose from including pipe, bar, F, beam, parallel, trigger (pistol grip), spring, C, bench, toggle, pinch dogs and hand-screws, to name a few. There are general purpose and specialty clamps, plus a truckload of accessories and jigs to go with them. There are clamps that work best for dry fits, or glue-ups, or panel making.

In fact, there are so many options that the only way to see what's new or unusual is perhaps to run through the brands alphabetically.

Dogs and gears

Armor Tool in San Diego (armor-tool.com) has created a family of dog clamps that work with the standard 3/4" round bench dog holes in a woodworking bench. These are very sturdy devices that either push down (toggle) or sideways (inline) to hold parts in place while they are being worked. In addition to the clamps, Armor has developed several short fences that anchor parts so the clamps can exert pressure.

Bessey Tools North America raised a lot of eyebrows lately with the introduction of its new GearKlamp. This unique tool offers a more compact solution than the classic bar clamp. Broad movements are done with a quick-adjust button (just push it with your thumb), and fine action is completed by turning the handle. A geared mechanism on the sliding bar transforms each rotation of the handle into more pressure on the jaws. That lets the clamp work in tight spaces. It's also tough, with a profiled rail made of tempered, burnished steel. The soft pad can be removed to clamp oddly shaped objects. The GearKlamp comes in four lengths (6", 12", 18" and 24") with a throat depth of 2-3/8" and an everyday clamping force of 450 lbs.

Bessey has also recently updated its popular K Body parallel clamp.

The new Revo version is designed to clamp at 90 degrees to the rail, with very large clamping surfaces. The handle includes a steel socket that lets a woodworker apply clamping force using a hex key, which is particularly helpful for those with wrist strength issues.

Bora Tool in Troy, Mich. is part of Affinity Tools, and the company offers a number of spring, pistol and parallel clamps. Bora also makes three lever clamps (6", 12" and 24") that are light duty (330 lbs. of pressure) and very responsive, so they're ideal for dry assembling projects to take measurements or mark parts for joinery. The large lever is also easier for sore hands to handle.

Woodshops that are edge-gluing panels might want to take a look at the family of flat panel clamps from Damstom (damstom.com). Made in Canada and sold through Rockler, they deliver perfectly flat panels by using two straight, parallel rails to firmly sandwich the boards.

DeWalt (dewalt.com) offers a pretty decent catalog of clamps that includes bar, angle, pipe, band and trigger versions. There's an interesting 90-degree angle clamp (DWHT83853) that is ideal for face frames, picture frames, drawers and other glued-up assemblies. It can mount to the workbench and handle different thicknesses of materials.

California-based De-StaCo (destacoclampstore.com) offers a complete selection of manually and pneumatically operated toggle-style clamps that are ideal for building jigs and fixtures. The company sells directly through its online store.

A little-known clamp manufacturer, Dubuque Clamp Works in Iowa doesn't even have a website but woodworkers have been praising its quality hand-screws for more than 40 years. They're available through Infinity Cutting Tools (infinitytools.com) and retailers such as Amazon. Look for the name Miro-Moose.

Some specialty clamps

Festool fans will be pleased to know that the company (festoolusa.com) makes a couple of different clamps, primarily for holding work on the

(From top) Bessey's K Body and GearKlamp ;
 Tektton's ratcheting pistol grip clamp,
 and Woodpecker's Box Clamps.

bench while it is being machined. The Festool Quick Clamp (FS-HZ 160) has a ratcheting mechanism and was initially designed to complement the company's saw guide system. It works with holes and channels on the Festool MFT Multifunction Table and can also fit the bottom T-slot of the FS Guide Rails. Festool also makes the VAC SYS, a pneumatic clamp that holds non-porous material for machining and finishing, while protecting delicate surfaces from clamp damage. Each clamping module is equipped with a suction base that adheres to nonporous surfaces with a quick release valve, and it can adapt to many surface sizes based on interchangeable vacuum cups.

General Tools makes a handy pocket screw clamping kit for small woodshops that occasionally make five-part doors and face frames. Called the Face Frame Jig System X2, it lets a woodworker clamp, drill and assemble frames and doors using just one simple setup. It handles stock up to 2" wide and 1" thick.

Groz Engineering in Haryana, India (groz-tools.com) is primarily known for metalworking tools and vises. The company recently introduced a line of woodworking clamps called Kwik Clamps that are easy and fast to adjust. They have an I-beam rail that minimizes flexing and has serrations that engage with a hardened steel insert in the moving jaw to eliminate slippage. Four hardened rollers in the moving head maintain a constant 90-degree angle under load, so the clamp heads remain parallel to each other. The jaws are encased in non-marring, glue resistant polypropylene. Groz makes a matching little stand that holds the clamps on edge so four of them can be used to glue up a square or rectangular assembly.

Irwin (irwin.com) recently added half a dozen new vise grip pliers to its clamp line, and one in particular may be of special interest to woodworkers. The new Fast Release Locking Clamp with Swivel Pads is an update on a shop-tested original. This model has a 20 percent reduction in required hand span, so it fits more hand sizes and delivers more control and less strain. Its swivel pads hold tapered work and delicate materials while reducing damage to the work surface, and a hex key adjusting screw tightens the jaws to adjust pressure, providing a more controlled release.

Jet (jettools.com) has a good selection of parallel clamps and has recently added a kit (70411) that is ideal for drawer assembly. It includes two 24" and two 40" clamps, a framing block kit and a bench dog set.

Jorgensen's Pony brand (ponyjorgensen.com) began with a hand-screw back in 1903. Among the company's newer offerings are Gear Clamps, which are ideal for projects that require constant use of clamping and unclamping. A distinctive power bar design delivers rapid action, and a handy quick-release button allows for the instant release of clamping pressure. Jorgensen also makes the Pony Cabinet Claw, which is indispensable for one-man shops where an extra hand is needed during cabinet assembly.

Keter (keter.com) makes an interesting line of clamping, folding jobsite workbenches.

And Kreg Tool (kregtool.com) offers everything from clamp tables to bar and toggle clamps. One of that company's recent additions is the In-Line Clamp, a low-profile bench dog with a dial that ap-





Hand-screw clamps from Dubuque Clamp Works.

corners and pivoting, self-adjusting jaws that align to any angle, even circles and ovals. The basic package includes a 23' steel banding reel, four quick release corners and four pivoting jaw inserts.

Proprietary products

In addition to carrying a huge catalog of everyone else's products, Rockler Woodworking and Hardware (rockler.com) also makes about 150 proprietary clamps. These include the Sure-Foot Plus, which comes in both round pipe and rectangular bar versions with feet that won't roll around the workbench. Another interesting device is the Drawer Front Installation Clamp that have dual clamp heads and micro-adjustable stops. Their thin frame profile lets a woodworker close the drawer while the clamp is still on, making it easy to check the alignment with adjoining drawer faces. Once the micro-adjusters are set, a cabinetmaker can work through a stack of drawers in no time flat.

Anyone looking at work-holding options should stop by the Sjöbergs website (sjobergs.se/en). This Swedish company makes some of the world's best production workbenches, and also makes a few interesting accessories.

Another really clever product, designed for finish carpenters who are installing crown, is the Crown Molding Hanger from Smithline Products (crownhanger.com). You tap in a couple of roofing nails in an area where the molding will eventually hide the holes, hang the clamps on the nails, and then lay the molding in the clamps. Then you can adjust the angle and snug the molding against the wall and ceiling.

Speedjaw clamps are available through retailers such as Lowes and

plies pressure from the side, rather than from overhead. That keeps the clamp out of the way as you work. It pops into any 3/4" hole in a benchtop and delivers up to 250 lbs. of pressure.

MLCS Woodworking (mlcswoodworking.com) has a number of specialized clamps including the Merle Band Clamp that has quick release

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Jorgensen's Gear Clamp and Pony Cabinet Claws.

Walmart. They are adjustable locking hand clamps with a quick release mechanism, and they're great for holding parts together for marking and measuring.

Stanley Tools (stanleytools.com) offers the 2x4 clamp (STHT83166) that can use any jobsite 2x4 to create an instant 400 lb. clamp. They even have feet, so they stand upright. They can be used to assemble banks of cabinets, windows and other architectural elements, and even hold some stick-built walls in place while they're being secured.

Tekton (tekton.com) makes a number of basic, affordable clamps including a family of ratcheting pistol grips in lengths from 6" to 42". They are widely distributed and available online.

Ohio-based Woodpeckers (woodpeck.com) has developed a number of specialty solutions for clamping boxes, drawers and miters. The BC4-M2 Box Clamp will set parts at exactly 90 degrees, and it's ideal for assembling bookcases and other complex projects. Just position the clamp in a corner, give the knob or bolt a twist and equal pressure is applied to both parts while instantly squaring the joint. It's that simple. There's also a new easy setup feature that has stock thickness dimensions called out on the clamp body, so a woodworker can quickly adjust the Box Clamps to fit specific stock dimensions in seconds.

Woodcraft (woodcraft.com) carries a whole catalog of WoodRiver brand clamps and work-holding devices, many of which are clever



responses to various woodshop challenges. Among them are the corner band clamp, the Quick Gear and the curiously shaped Q-Lever. The device locks with a ratchet arm that has a quick release, a type of mechanism that allows use of the whole force of the lever when gripping a blank, without slipping.

And Yost Vises of Holland, Mich. (yostvises.com), founded in 1908, makes bar, parallel, angle, drill press, F and C clamps. [W](http://www.woodgarden.com)

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►► **MILWAUKEE TOOL** unveiled a new M18 Fuel 7-1/4" rear-handle circular saw (above) at its annual media event in June. Features include cast magnesium construction, an electric brake, a LED work light, and a rafter hook. Milwaukee also offers two new solutions for its Pack-out Modular Storage System, the Dolly and Mounting Plate. For more information, visit www.milwaukeetool.com.



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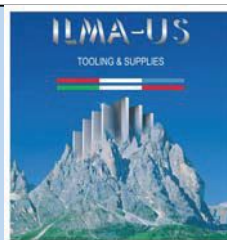
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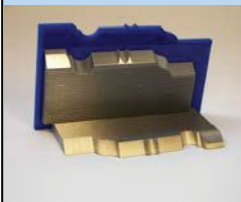
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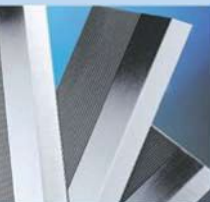
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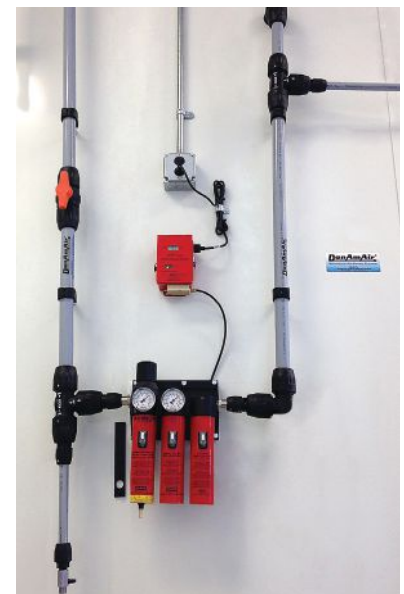
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Wisconsin makers featured in home exhibit

By Jennifer Hicks

“H andmade for Home: The Craft of Contemporary Design” featured at the Museum of Wisconsin Art (MOWA) in West Bend, Wis. earlier this year, featured the work of nearly 30 of Wisconsin’s top contemporary artists and designers who create sophisticated, functional objects for the home.

The exhibition, which ran from March 30 through May 19, celebrated the tradition of handmade one-of-a-kind pieces as well as new methods of customized design and production.

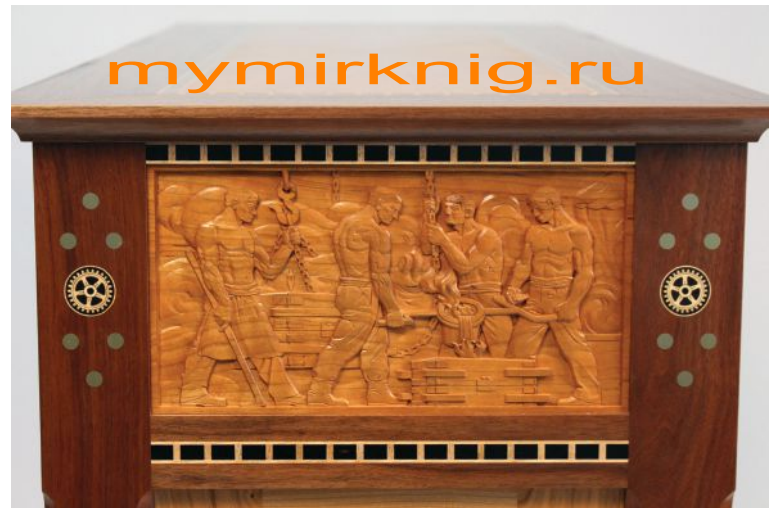
The exhibit featured furniture makers Reid Eric Anderson, Patrick Burke, Tom Loeser, Charles Radtke, and Randy Sahli. Maggie Jo Sanderson, a senior at the Milwaukee Institute of Art and Design, won the exhibit’s newcomer award for a sleek contemporary desk design.

For more, visit www.wisconsinart.org.

Theme announced

The theme for the 26th annual juried woodworking contest at the Wharton Esherick Museum in Malvern, Pa. is “Lighting.” A jury will select certain pieces to be put on display in the visitor center gallery from Sept. 8 to Dec. 29.

According to the museum, Esherick, an esteemed woodworker, integrated lighting into his work such as in his 1958 Cabinet Desk which



features lights that turn on when a drawer is pulled open, or the light-activating closet and cabinet doors throughout the Studio. He created lamps whose sculptural forms emphasize the contrast between light and dark, casting bold shadows across the room.

“As the exhibition aims to celebrate innovative approaches to lighting, jurors will consider indoor and outdoor lighting of all kinds – functional, sculptural and conceptual,” the museum explained.

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

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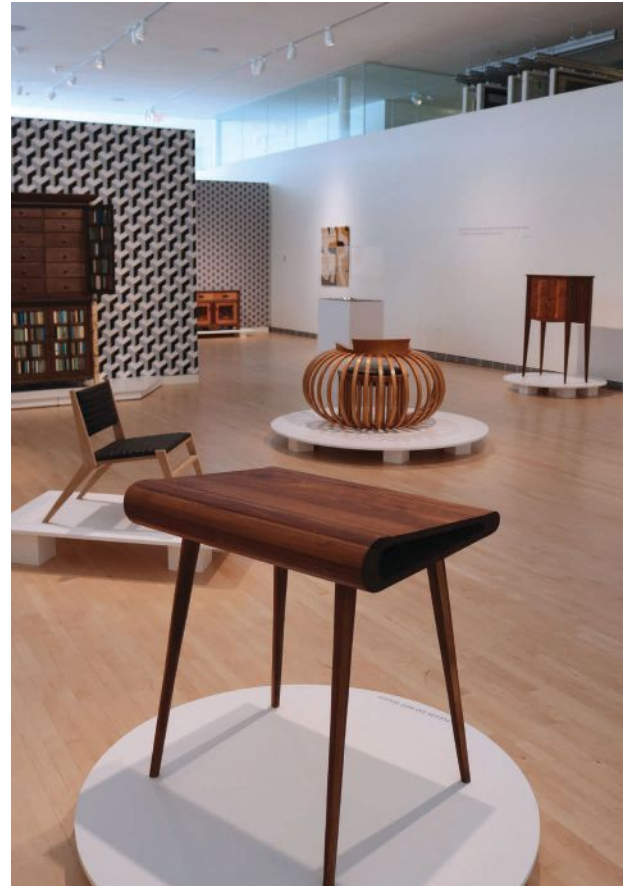
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Furniture featured in the "Handmade for Home: The Craft of Contemporary Design" exhibit, held Mar. 30 to May 19 at the Museum of Wisconsin Art in West Bend, Wis.



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CALENDAR

CALIFORNIA

Monthly — Society of Wood Manufacturing, a chapter of AWFS consisting of educators, manufacturers, hardware and industrial suppliers, and machinery dealers, meets during the second week of each month. For location and dates, visit www.awvla.com.

FLORIDA

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

GEORGIA

Oct. 16-17 — Wood Products Manufacturers Association's 90th annual meeting featuring panel discussions, networking opportunities and plant tours. Location: Perry Lane Hotel in Savannah. www.wpma.org

LOUISIANA

Sept. 23-26 — Wood Components Manufacturers Association Fall Conference. Location: Astor Crowne Plaza, New Orleans. For more, visit www.wcma.com.

MASSACHUSETTS

Sept. 30 – Oct. 2 — Woodworking Machinery Manufacturers of America Regional Networking Meeting. Location: Hotel Commonwealth in Boston. www.wmma.org

NEW YORK

Monthly — The Woodworkers of Central New York hold meetings on the first Thursday of each month at 6:30 p.m. at the Belgium Cold Springs Fire Department in Baldwinsville. www.woodcny.org

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

NORTH CAROLINA

Monthly — Triangle Woodworkers Association meetings held on the third Tuesday of each month at 7 p.m. at Klingspor's Woodworking Shop in MacGregor Village in Cary. www.trianglewoodworkers.com

Oct. 19-23 — High Point Market Fall Market. Furnishings industry trade show featuring over 2,000 exhibitors with thousands of new products in over 180 buildings throughout High Point. For more information, visit www.highpointmarket.org.

PENNSYLVANIA

Oct. 4-6 — Philadelphia Furniture Show featuring over 50 exhibitors of handcrafted furniture and furnishings. Location: 23rd St. Armory in Philadelphia. For more information, visit www.philadelphiafurnitureshow.com.

RHODE ISLAND

Nov. 8-10 — 24th annual Fine Furnishings Show. Offering handmade furniture, accessories and fine art. Location: WaterFire Arts Center in Providence. For more information, visit www.finefurnishingsshows.com.

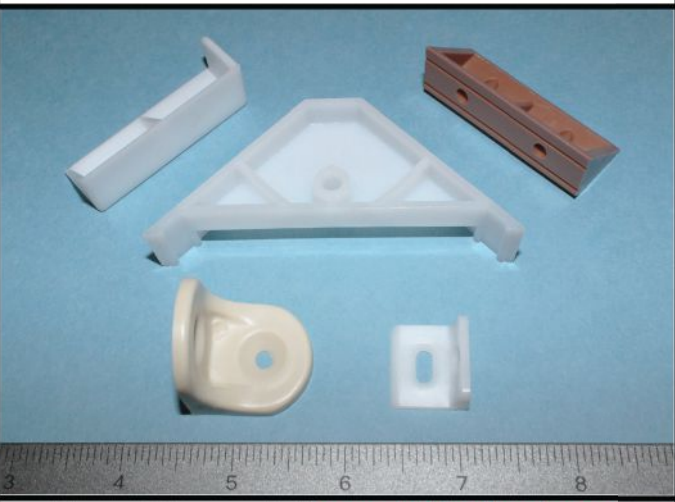
TENNESSEE

Nov. 10-12 — Specialty Tools and Distributors Association's (STAFDA) 43rd annual convention and trade show featuring top companies and leaders in the construction industrial supply chain. Location: Music City Center, Nashville. www.stafda.org

WYOMING

Sept. 5-8 — Western Design Conference. Annual exhibition and sale featuring handmade western style furniture, fashion and home accessories. Location: Snow King Center in Jackson. For more information, visit www.westerndesignconference.com. **W**


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Winning entries include (clockwise from top left) the Del Mar Civic Center (Del Mar, Calif); Thompson Exhibition Building (Mystic, Conn.); Carbon 12 (Portland, Ore.), and Blue Ridge Orthodontics (Asheville, N.C.).

Awards recognize wood building design

Having recently announced the winners of its 2019 Wood Design Awards, WoodWorks Wood Products Council has issued a call for nominations for the 2020 Wood Design Awards.

The council is a D.C.-based nonprofit organization that provides education and free technical support related to the design and construction of commercial and multi-family wood buildings in the U.S. The awards celebrate innovation and excellence in commercial and multi-family wood building design across the U.S.

The awards are an opportunity to recognize building designers for their skill in and ingenuity, and to showcase projects that demonstrate the attributes of wood that make it so appealing, according to WoodWorks president and CEO Jennifer Cover.

"I've heard people call it a wood revolution but whatever the term, this year's nominees seem to reflect genuine interest in maximizing the potential of wood building design in this country," Cover said in a statement.

"At one end of the spectrum, winners include an eight-story apartment building, which exemplifies the interest we're seeing in taller wood structures. At the other end, an adaptive re-use project that includes original wood framing from the 1880s. As always, it's interesting to read the motivations for using wood – from innovation and a more sustainable built environment, which often go hand in hand, to resilience, economics and the desire for a modern, exposed wood aesthetic. Once again, a common thread is that this year's winning projects showcase the use of wood in all its versatile glory."

The entry deadline for the 2020 competition is Sept. 30. Nominations will be judged by an independent jury of design and building professionals. Program rules, category descriptions, and nomination information are available on the WoodWorks website at www.woodworks.org.

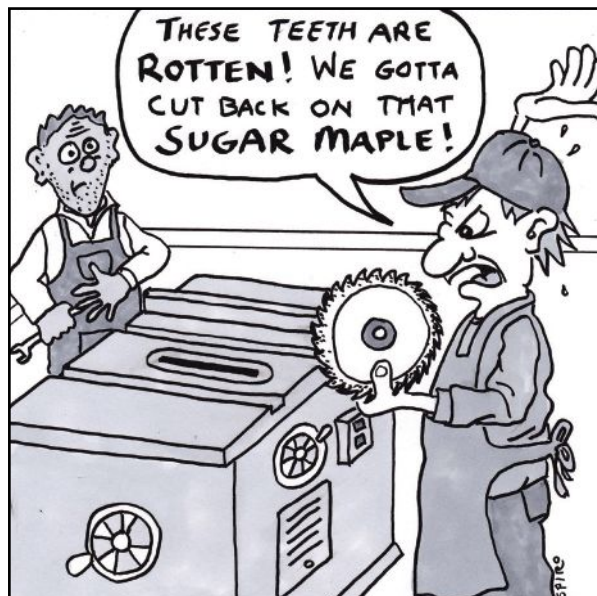
Special consideration will be given to recently completed buildings, projects that utilize wood as a dominant structural element, and designs that exemplify new opportunities for wood construction.

Entry categories include Multi-Family Wood Design; Commercial Wood Design Wood in Schools; Institutional Wood Design; Green Building with Wood; Beauty of Wood; Wood in Government Buildings, and Durable & Adaptable Wood Structures. www.woodworks.org



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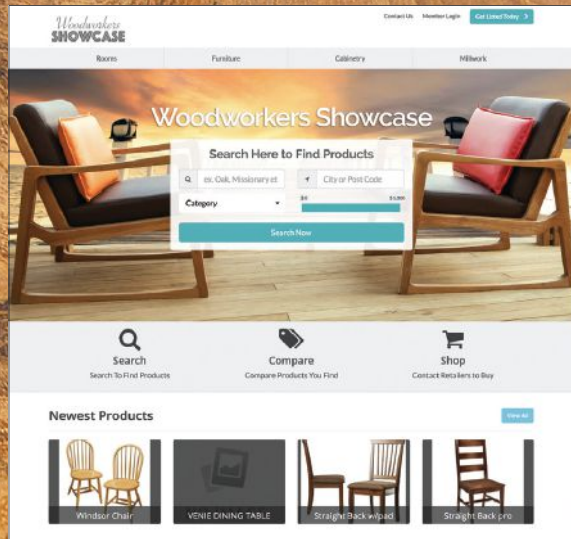
Rough humor by Steve Spiro



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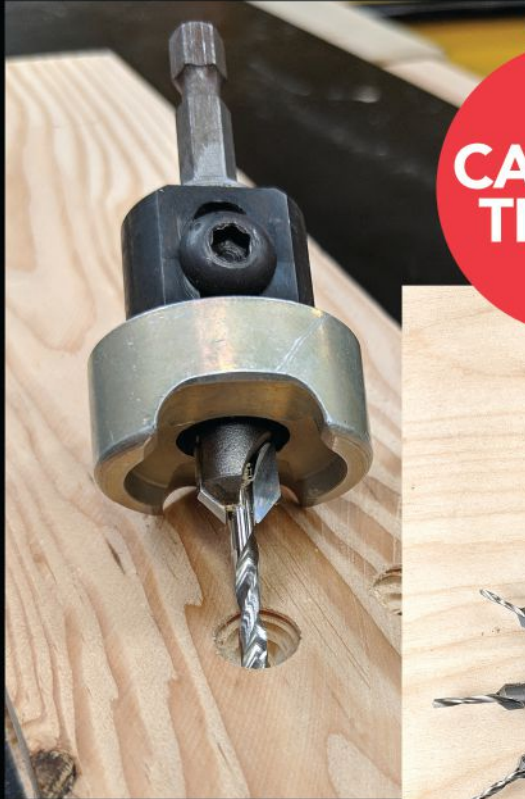
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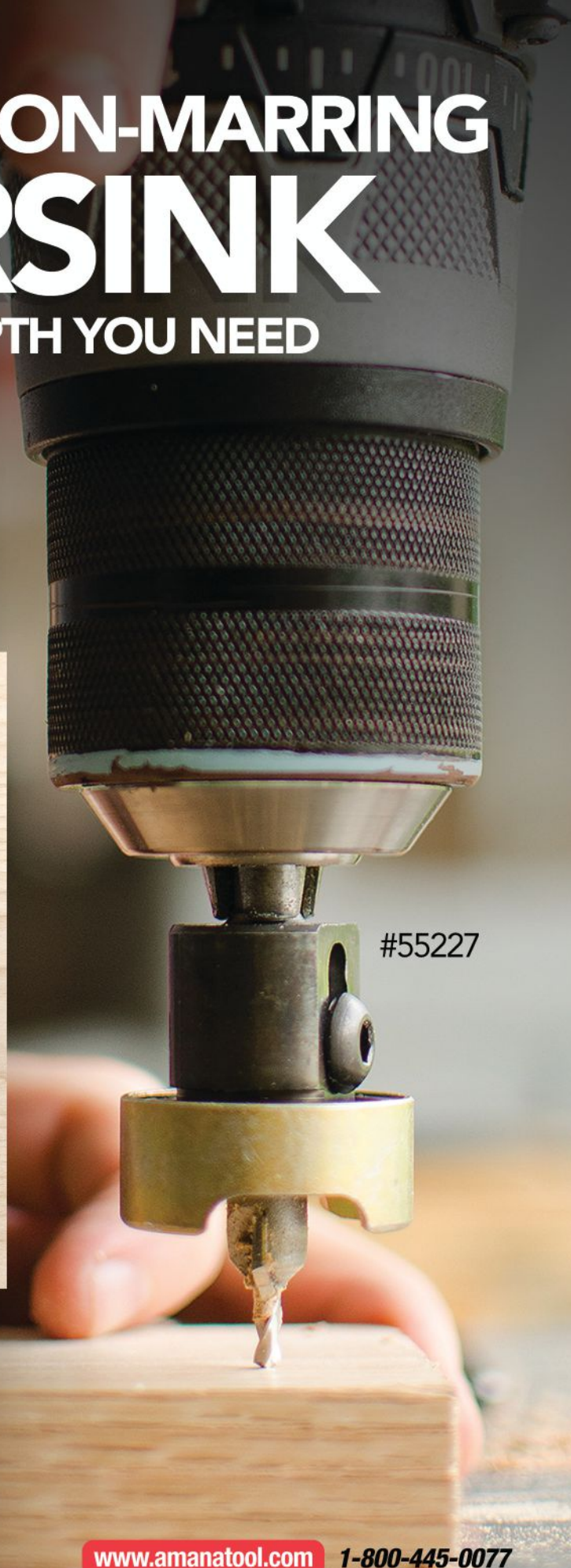
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