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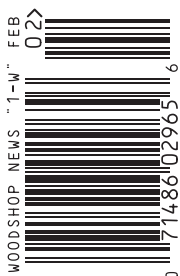
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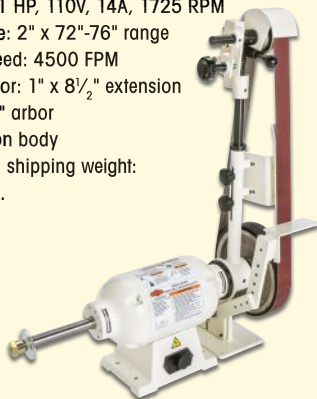
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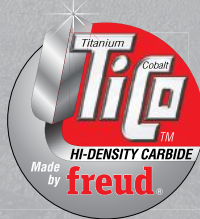
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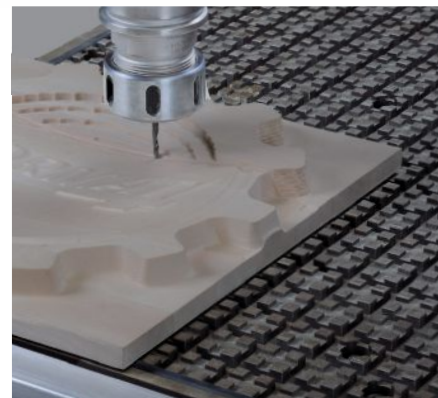
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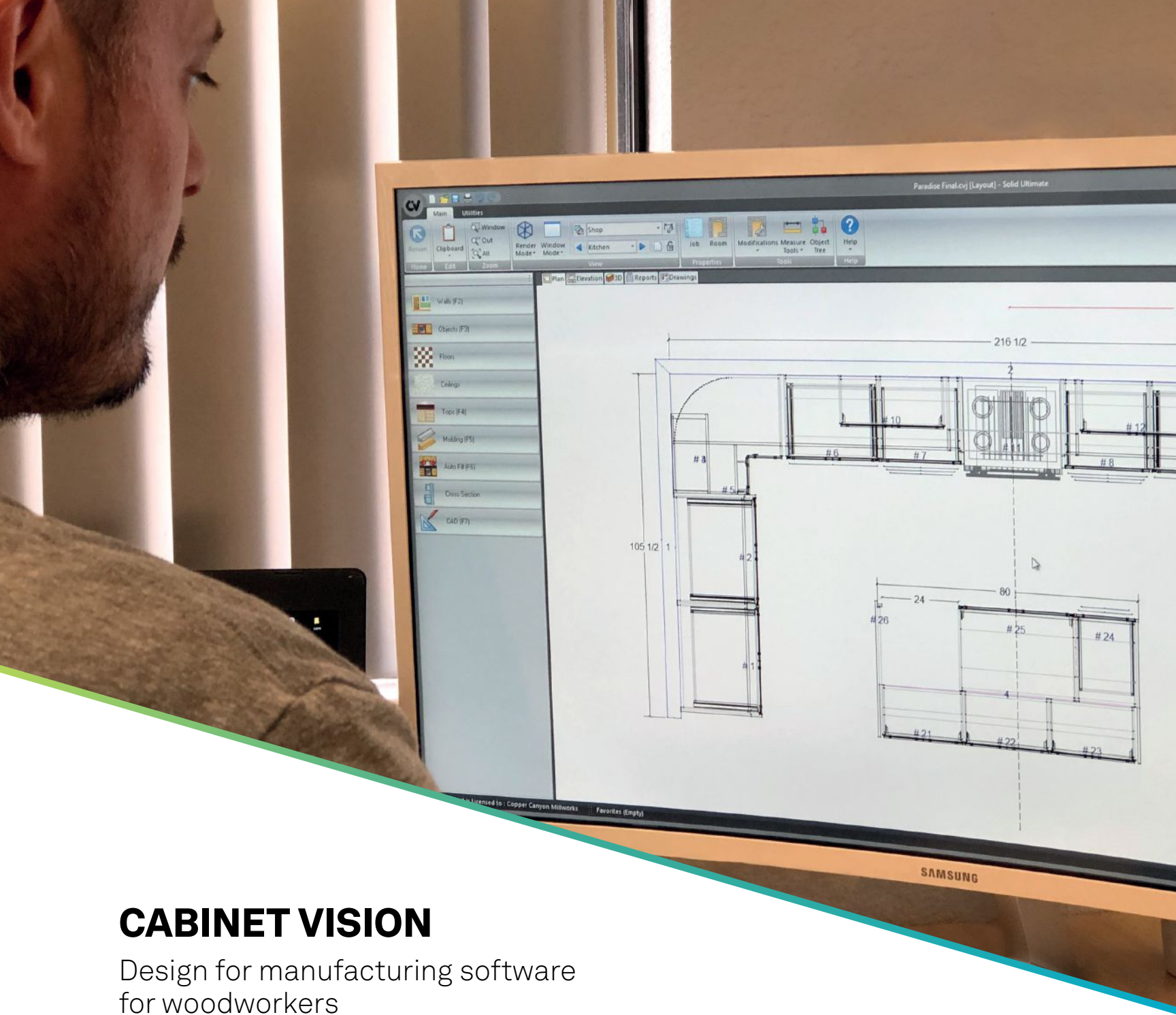
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BLOGS



Over the Workbench

Talkin' shop with former editor A.J. Hamler



This Business about Woodworking

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

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TAKING STOCK

with TOD RIGGIO

Changes at Grizzly; Reader guilts editor

Wishes for a happy semi-retirement to Shiraz Balolia, the founder of Grizzly Industrial.

The company recently announced the promotion of Robert McCoy to Balolia's role as president.

"Shiraz is and was a consummate businessman who operates with fairness and integrity for his employees, vendors and customers," McCoy, a 30-year veteran with the company, said in a statement. "His legacy is one of hard work, dedication and innovation, and he created opportunities for countless individuals and families through his business ventures."

Balolia started Grizzly Industrial in the spring of 1983 after his hobby of refurbishing and selling metal lathes took off. He discovered a great demand for quality machinery at an affordable price, so he developed relationships with factories overseas and began to import new machines under the Grizzly name. In those early years, Balolia did it all, from accounting, to marketing, to cleaning the floors, to delivering machines in person to customers, in his Volkswagen van, according to the company.

Over the next 37 years, Balolia successfully built Grizzly from a one-employee operation, to the first tool and machinery company with its own website (*grizzly.com*), to a huge business with nine-figure sales, employing over 300 people in multiple showrooms and warehouses in the U.S. and in company offices in Taiwan and China. Grizzly now has the largest selection of woodworking and metalworking machinery under one brand in the world and remains the only direct-to-consumer industrial machinery company in the United States.

In his new role as Grizzly's chairman and

CEO, Balolia will be able to maintain a flexible schedule that will allow him to spend time with family, enjoy his hobbies, and reflect on the life he built and the lives he improved along the way, the company said.

What was I thinking?

In last month's Taking Stock, I irked one reader with my decision to select white painted cabinets for my kitchen remodel.

He wrote, "The price of our native hardwoods is way down ... because of the latest trend in white kitchen cabinets. You don't need oak, ash, or cherry for white cabinets. Sawmills and loggers are in a really bad way around here. Some will go out of business. I would hope you would extol the beauty and warmth of natural finish, native hardwoods that support local forest-based economies. Besides, white cabinets show fingerprints!"

Yes, they do, and for the record, please buy from your local sawmills. I'm rethinking my decision.

New parts facility

IMA Schelling is expanding its logistics capacity with the construction of a new central warehouse at its headquarters in Lübbecke, North Rhine-Westphalia, Germany.

"The expansion of the logistics center will enable us to increase efficiencies to better serve our customers," explained Dietrich Warkentin, head of materials management for IMA Schelling Germany. "In the near future, machine parts, small parts and complete assemblies will be available for production."

The new 43,000-sq.-ft. central warehouse will have enough capacity for about 5,000 pallets and 16 lifts. It is scheduled for completion by August 2020. **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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Canada Post Return Address undeliverable to:

APC-PLI, P.O. Box 503, RPO West Beaver Creek,

Richmond Hill, ON L4B 4R6

Canada Post Publication Mail Agreement No 40624074

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

Vol. XXXIV, No. 3, is published monthly by Cruz Bay Publishing, Inc., an Active Interest Media company. The known office of publication is: 10 Bokum Road, Essex, CT 06426. \$21.95 for one year; \$35.95 for two years (Canadian subscribers add \$12 per year for postage; U.S. funds; foreign subscribers add \$14 per year for postage; U.S. funds). Periodicals postage paid at Essex, CT, and additional mailing offices. **Postmaster:** Send address changes to WOODSHOP NEWS, PO Box 37274, Boone, IA 50037-0274. Printed in the U.S.A.

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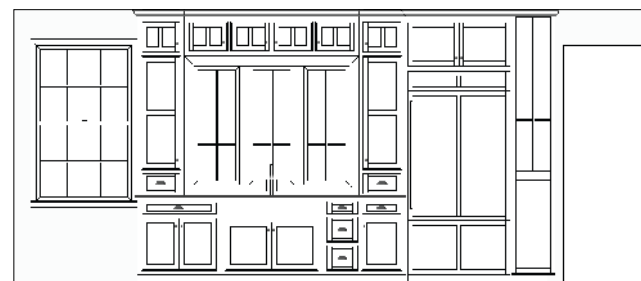
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Novo's experts predict 2020 design trends

By Jennifer Hicks

More consumers will opt to encompass both wood and metal for interior accents within the home in 2020 – at least, that's the prediction from experts from companies within the Novo Building Products network who are focusing on the latest design trends.

Novo is the parent company of several manufacturers and distributors of moldings, stair parts, doors and special millwork

Keith Early, vice president of marketing and new product development at Ornamental Mouldings & Millwork in Archdale, N.C., believes the current rustic farmhouse design trend will evolve into a modern farmhouse trend in 2020.

"Some of the more rustic elements, like unfinished barnwood, will give way to accent walls with more refined white oak and maple woods in the coming year," says Early. "These woods still boast natural aesthetics, but they're a bit

softer and cleaner in appearance."

Early also predicts that accent walls will remain a strong trend in 2020, but with less barnwood and shiplap. "We believe there will be more board and baton, darker paints and wallpaper used as accent walls in the home," says Early.

Another company expert from L.J. Smith Stair Systems in Bowerston, Ohio predicts the mix of iron and wood preference that rose in popularity last year will continue into 2020.



"We're seeing Craftsman stairway styles desired in many markets throughout the country," says Kelly Miller, director of market development for L.J. Smith Stair Systems. "However, other markets are seeing modern styles, such as panels, cables and tubing that are being specified by many high-end builders. That sleekness on a stair system can be 'softened' in a room with wooden accents."

For more, visit www.ornamental.com or www.ljsmith.com. 

World of Wood set for April

By Jennifer Hicks

The International Wood Products Association is prepared to examine the landscape of global wood trade at the 2020 World of Wood Convention, scheduled for April 1-3 at the Hyatt Regency in Savannah, Ga. Over 300 attendees from over 25 countries are expected at this 64th annual networking event for wood industry professionals.

The agenda includes programs that will take a fresh look at changing industry regulations and the latest policy and market developments that have a direct impact on sourcing and sales. Attendees will have the opportunity to network with speakers and panelists presenting the latest updates on these issues.

"World of Wood is the one event each year that brings together every segment of our industry," IWPA president Kenny MacMaster of Argo Fine Imports said in a statement. "It is an invaluable opportunity to meet with potential customers and suppliers and learn about industry developments that will impact my business in the coming months and years."

Attendees will include importers, U.S. manufacturers, wholesalers, offshore suppliers, and service providers to the industry.

For registration information, visit www.iwpawood.org. 



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New home sales trend higher in November

By Jennifer Hicks

The National Association of Home Builders reported in December that sales of newly built, single-family homes increased 1.3 percent to a seasonally adjusted annual rate of 719,000 units in November 2019, off a downwardly revised October reading, according to data from the U.S. Department of Housing and Urban Development and Census Bureau.

NAHB chairman Greg Ugalde notes the numbers are a sign that new home sales are on an upward path, as this was the fourth consecutive month that sales topped 700,000.

"Fueled by the limited number of resales available for purchase, low interest rates and low unemployment, new home sales are finishing the year strong," says Ugalde, who is also a home builder and developer from Torrington, Conn.



**National Association
of Home Builders**

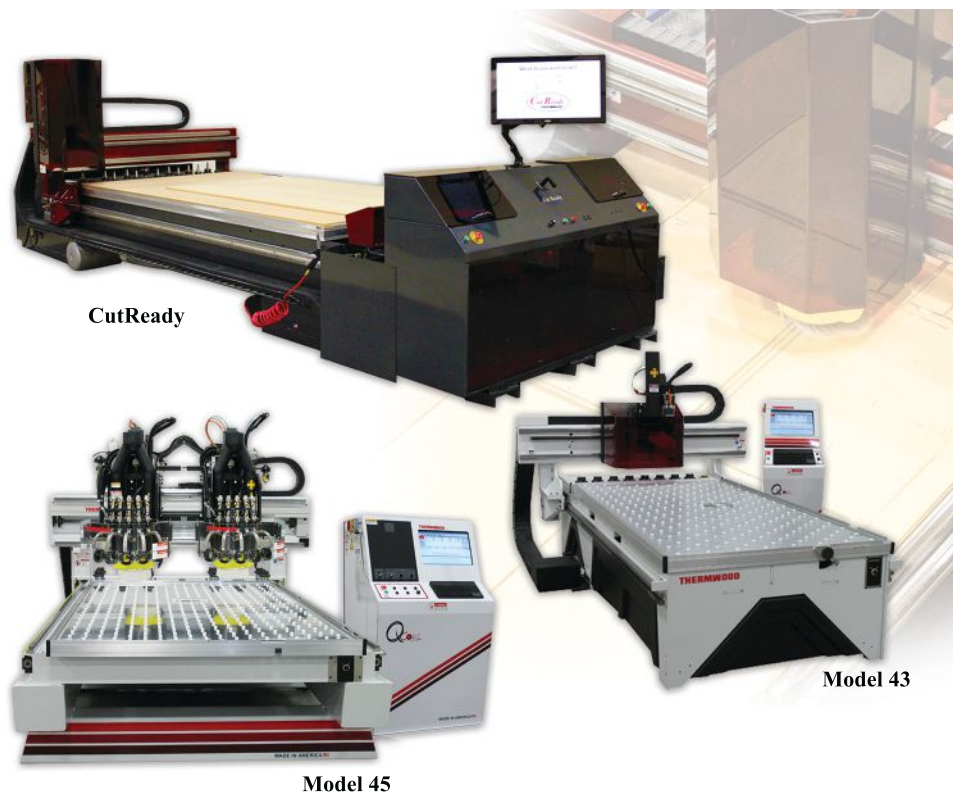
rington, Conn.

"With almost all the 2019 data in, the housing rebound continued through second half of the year," NAHB chief economist Robert Dietz said in a statement. "New home sales are running 10 percent higher than in 2018, and high levels of builder confidence point to production gains going into 2020."

A new home sale occurs when a sales contract is signed, or a deposit is accepted. The home can be in any stage of construction: not yet started, under construction or completed. In addition to adjusting for seasonal effects, the November reading of 719,000 units is the number of homes that would sell if this pace continued for the next 12 months.

Regionally, and on a year-to-date basis, new home sales are 14.5 percent higher in the South and 12 percent higher in the West. Sales are down 10.4 percent in the Northeast and 7.6 percent in the Midwest.

For more, visit www.nahb.org. 



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New woodworking school opens in Maine

William Francis Brown, a long-time member of the Society of American Period Furniture Makers, is starting a new woodworking, furniture making and carving school, The Maine Coast Workshop, in Camden Maine.

The focus will be 18th-century woodworking projects, hand-tool techniques, and classical carving.

Instructors for 2020 include British author, former Fine Woodworking editor, and hand-tool expert Graham Blackburn; Russian carver Alexander Grabovetskiy, Peter McKenna, owner of the Nautical Arts Workshop in Deep River, Conn.; SAPFM Cartouche winners Ray Journigan and Alf Sharp, and Matt Kenney.

For more, visit www.maine coast workshop.com.

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Get a stash of ash before it's too late

By Jennifer Hicks

Despite numerous quarantines and regulations throughout affected areas in recent years, the Emerald Ash Borer (EAB) has been difficult if not impossible to control, and lumber suppliers interviewed by Woodshop News believe availability concerns will continue to increase.

Bob Laurie of L.L. Johnson Lumber Mfg. Co. in Charlotte, Mich. says ash lumber is selling, but there will be less and less of it over time because most of the trees have died in his state, where the EAB was detected in 2002.

"We're still able to buy loads of ash but I'm not sure how much longer it will last. The EAB is working its way south but there still seems to be plenty down there," says Laurie. "They try to cut the trees even when they die up to a certain point until they start rotting. Right now, we still get it. We just know that it won't be around long."

The EAB is a wood-boring pest native to Asia that is responsible for destroying tens of millions of ash trees in at least 35 states, according to the U.S. Department of Agriculture's Animal and Plant Health Inspection Service.

Laurie says customers can select a thermally modified ash product, which prolongs the life of existing lumber by making it resistant to the EAB.

"We can have it taken to a kiln where they cook all of the sugars and such out of the wood so there's nothing in there that the bugs desire. So, you can use it outdoors where just normal kiln-dried ash won't last very long. The wood becomes a little more brittle when modified so it's used for outdoor furniture, decking and things like that," he adds.

Skip Kise of Good Hope Hardwoods in Landenberg, Pa. says ash is still a steady seller and is considered a nice alternative to white oak. He primarily buys ash logs to sell as slabs for tables, benches, bar tops and headboards. While availability isn't an immediate concern, he also believes it's only a matter of time.

"It's not going to be long until you can't get ash anymore. It's wiped it out in a lot of places already. If the bug has wings, you can't stop it no matter what you do. If you quarantine it, it just flies to another area," says Kise.

Greg Engle of Certainly Wood, a veneer supplier in East Aurora, N.Y., suggests European ash as a fine substitute.

"The European ash trees are a little larger and the color is a little whiter than the domestic ash," says Engle. "Some of our suppliers in Europe are starting to hear from their log sources that they're having similar issues as we are in the states with the EAB.



But they're nowhere near where we are in the U.S. with regards to restrictions and transporting logs.

"Most of what we're selling ash veneer for is its bending properties. So, quite often we're sourcing it out in thickness of about 1.5mm which is about 1/16". It's a really nice veneer to use when you're doing bent lamination work. It bends well like rift white oak but when people want something that's not oak, something a little brighter, then ash fits right in." **W**

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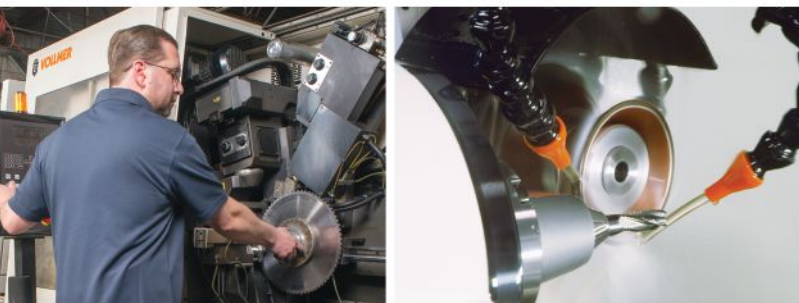
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TOOLS & TECHNIQUES



Belfab adds RG Series

By Jennifer Hicks

Stiles Machinery, a distributor Belfab machines, announces the new Belfab RG Series enclosed-type dust collector featuring a 1,500 to 5,000 CFM capacity for woodshops of various production outputs. The machine was designed with a strong focus on fire prevention and meets stringent North American safety regulations, according to the company.

Stiles product manager Jason Scheerhoorn says the RG unit is the first of its kind to implement three key fire suppression measures: spark detection, deluge flooding and flameless venting.

It's ideal for those who prefer an indoor dust collection system or can't accommodate an outside dust collector due to regulations or space restrictions, he says.

"The main idea behind this machine is that while wide belt sanders and molders are very common machines in our industry, the NFPA (National Fire Protection Association) regulations require that those machines are connected to outside dust collectors. Or, they can be connected to inside dust collectors, if those inside units have the appropriate safety technology, which is the spark detection and extinguishing that this RG unit has," says Scheerhoorn.

A variable-speed drive motor helps maintain the proper CFM draw. CFM data can be entered into the digital interface that offers real-time monitoring and display's the dust collector's performance diagnostics. "With this machine you can enter your CFM need into the computer and the drive system will wind up or wind down the motor to make sure it always pulls that exact CFM you need, up to 5,000 CFM," adds Scheerhoorn.

It also features Belfab's patented 14-cu.-ft. plastic tilt truck dust disposal system. A hinged cover and access doors provide easy maintenance to the filter bags and fan motor and can be equipped with wireless communication options. The Belfab RG starts at \$56,000.

For more, visit www.stilesmachinery.com. 



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Festool debuts new Kapex

By Jennifer Hicks

Festool USA has unveiled the new KS 120 REB Kapex, a compact and lightweight compound sliding miter saw at only 47 pounds. With a locking head and two handles for center-of-gravity ergonomics, it can be easily transported from the workshop to the jobsite, according to the company.

The saw features adjustable dual-line lasers and a rail-forward design which is set wide apart to reduce head play and increase precision for smooth, exact cuts.

"Unlike any other sliding compound miter saw, the KS 120 is equipped with a proprietary cutting position that allows for a greater depth of cut — up to 6-5/8" molding in the nested position — without using a larger blade, rivaling the cuts of many 12" miter saws," Rick Bush, Festool USA's vice president of marketing, said in a statement.

"When combined with Festool's renowned dust-extraction system, the KS 120 captures 91 percent of particulate from the work-site, making the work precise and efficient."

Other features include Festool's FastFix blade change system.

The KS 120 sells for \$1,475.

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

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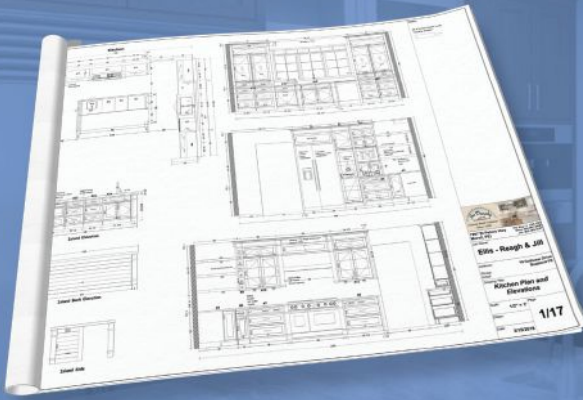
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Lignia: A 'hardwood' made from softwood

By Jennifer Hicks

As new modified lumber sources emerge in the marketplace due to sustainability concerns, one the options is Lignia, a material made from sustainable stocks of fast-growing softwoods from FSC-managed plantations. Aside from furniture and cabinetry, its strength and durability make it suitable for flooring, decking, siding and other outdoor applications, says the company.

Manufactured in Wales, Lignia was introduced to the U.S. in 2019. The modification process starts with plantation-grown radiata pine (*Pinus radiata*) that is made into a material featuring the properties of hardwoods, ultimately leading to a reduction in harvesting slow-growing hardwood trees.



Lignia is a modified, sustainable timber product boasting strength and durability, says the company.

"What we do is we take very fast growing FSC well-managed plantation softwood and put it through our process which delivers a hardwood once the process is completed. It has the hardness of hardwoods such as red oak, hard maple and in some cases, teak. It's a sustainable hardwood that has a beautiful, honey-brown rich color," says product manager Lisa Ayala.

Lignia comes with a 50-year warranty against rot and fungal decay in above-ground applications. Ayala says accelerated tests have proven certain fungi and rot won't attach itself as it does to other woods. A variety of glues and finishes including stains, varnishes, paint and more can be safely used on it as well.

"Lignia isn't as dry as some of the other wood modifications, so there's around five to eight percent moisture content. Often when the moisture is less than five percent, some of these coatings won't adhere very well because the wood is too dry. We seem to be in a nice spot where it's not too moist and not too dry and works really well with glues and coatings," says Ayala.

The company also offers Lignia Fire, which has the same look and performance of Lignia with a fire retardancy rating, and quartersawn Lignia Yacht for boat decking that resembles teak.

For more, visit www.lignia.com. 



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The screenshot shows the Woodshop News Resource Guide website. At the top, there's a navigation bar with links: Home, Listings, Events, Classifieds, Articles, Deals, Advertise With Us, Contact Us, and Woodshop News. Below this is a search section with a 'Keyword' field (placeholder: 'type a keyword'), a 'Where' field (placeholder: 'Address, City, State or Zip Code'), and a 'Search' button. There are also filters for 'Match' (exact match, any word, all words), 'Category' (a dropdown menu), 'Location' (a dropdown menu), and 'Zipcode' (a text field). Below the search section, there's a 'Browse by Category' list on the left, including Abrasives (73), Accessories (47), Adhesives (41), Bits Blades and Cutters (101), Books, Literature and ... (27), Clamps, Vise and Holdi... (28), and Classes, Schools, Trad... (26). In the center, there's a 'Featured Listings' section with three featured companies: MultiCam, Inc. (CNC Cutting Solutions), ShopBot Tools, Inc. (CNC Equipment & Services, Computers and Software), and FESTOOL USA (Abrasives, Accessories, Bits Blades and Cutters, Fasteners, Machinery, Power and Hand). On the right, there's a 'Sign in' section with a 'Sign in with Directory Account' button, an 'E-mail' field, a 'Password' field, and a 'Sign me in automatically' checkbox.

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KGS-GMC 400 manual model.

Atlantic Machinery adds GMC vertical saws

By Jennifer Hicks

Atlantic Machinery recently became the exclusive North American importer and distributor of the Italian-made GMC vertical panel saws, including the 5' x 10' KGS-GMC 300 and 6' x 12' KGS-GMC 400.

In addition to labor reduction and space-saving capabilities inherent to all vertical panel saws, GMC saws offer many additional benefits with their unique designs and features, according to Atlantic. Built with one-piece welded frames, they are available in a variety of manual, automatic and electronically programmable models.

"One of the main selling features of these machines, in addition to the welded steel frame, is that they use a true split scoring blade – 110mm in diameter – versus a knife for scoring. A knife is somewhat effective on laminate and melamine, but not on other material like MDF or veneer," says Riccardo Azzoni, president of Atlantic Machinery.

"All of the GMC models come with a movable grid. So, if the position of the blade were to be exactly in line with one of the horizontal slats, the grid will shift upward so the blade won't cut into the support. The movable grids are available in three types. The mechanical style comes standard with every model, but there are also pneumatic and electrical upgrade options available."

The KGS-GMC 400 can also be upgraded with an electronically controlled MFP full panel back grid support, ideal for working with small parts that could otherwise fall between slats on a conventional grid. Azzoni says this feature also reduces dust emissions by about 30 percent.

Dual metric and English measurement scales are another standard feature. Electronic digital measuring devices for vertical and horizontal cutting are offered as an upgrade.

The KGS-GMC 300 starts at \$19,000, and the KGS-GMC 400 at \$26,000.

For more, visit www.atlanticmach.com. 



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PRO SHOP

with DAVID GETTS

The good, bad and ugly of meeting with clients

Meetings are generally a good thing, otherwise there probably wouldn't be so many of them. They provide an opportunity to share ideas, convey information, and agree on a plan of action. However great the potential a meeting may have, there is also an opposing force that can actually make meetings disruptive and counterproductive. How do you distinguish between the two, and what steps can be taken to ensure the meetings you have are productive?

I'm involved in dozens of meetings each year. Most are positive, but there are always a few stragglers that creep in that are so bad you never want to have another get-together.

Good meetings have a conductor orchestrating the content and tempo of information. They are informative and provide you with the tools for directing future steps in your project. Bad meetings often do not supply the correct information or produce the vital results needed to keep things on track. Bad assemblages can creep up on you. You may go through an entire meeting thinking it's properly paced only to find out in the end that it was counterproductive. Typically, either the information was not relevant, or the content got too far off topic.

A very bad meeting

About a year ago, I was working on a kitchen island for a multi-phase project that got rolled into one big job. Although everyone meant well in the beginning, my client quickly became overwhelmed with the onslaught of decisions and cost overruns (so much for doing it all at once). Recognizing early on that client meetings were going to be a crucial step in managing this fast track job, I made it my ambition to keep the lines of communication open. We met every week to cover the progress of the project. I was diligent about keeping the meetings short through thoroughness and being concise.

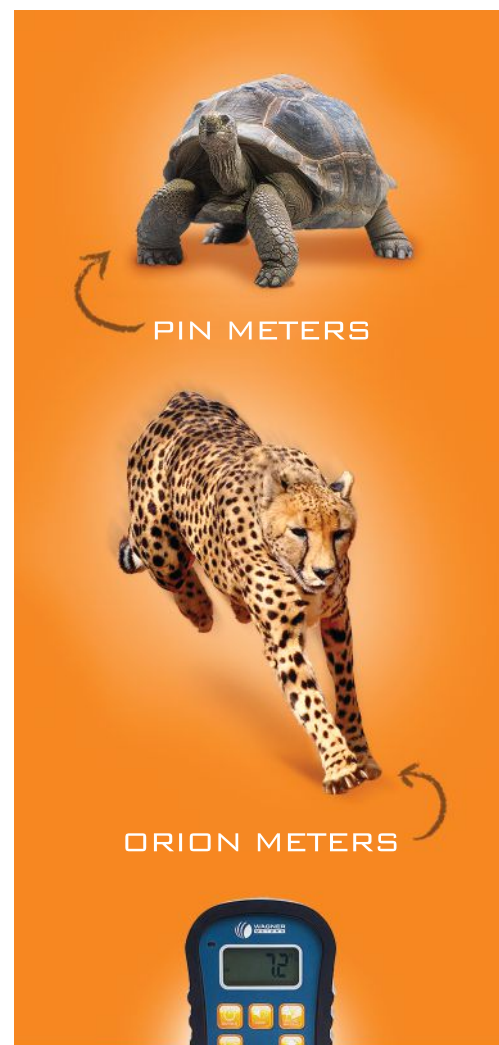
Up to this point, all our meetings were positive. Even though everything wasn't going as

planned, everyone was informed and on the same page towards our goal of completion. Some weeks had so much information and so little time to discuss issues that we began to handle the vast majority of overflow through an electronically shared job correspondence document. When we were about halfway through the project, I realized things were still falling through the cracks. The client began responding to my emails with a passive-aggressive tone that was eroding our relationship to the point of eminent disaster.

I directed the content towards the issues we were dealing with on the project to which the client responded, 'I just want it done.' At this point I knew they were beyond reasoning and I wanted it done, too.

After a half-dozen negatively charged emails, I set up a meeting for the end of the week. I knew they were frustrated with an imagined lack of progress so hashing things out became top priority. Anytime you have the opportunity to clear the air with a client, take it! Nothing eats like a cancer on a job more than lack of communication with the people you're doing work for. But these types of meetings have a high probability of turning volatile, so it was scheduled without the crew on site. That way the client could feel more comfortable hashing things out. The last thing you want to do in a meeting is to create an atmosphere where participants cannot voice their true feelings.

I started the meeting by being very direct in addressing the previously voiced concerns of



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the client. Rather than reacting with a common response that would embellish the concern, the client simply stated, "I just want it done". I then directed the content towards the issues we were dealing with on the project (weather, subcontractor delays, etc.) to which the client responded, "I just want it done". At this point I knew they were beyond reasoning and I wanted it done, too.

I reminded them that they changed the scope of the project by doubling the amount of work originally contracted, and as the signed Change Orders explained, the added work both increased the cost and amount of time to complete the project. This opened a flood gate of accusations of poor time management, but never an acknowledgment that the time increase was a direct result of the added work (not to mention weather delays caused from a record-breaking snowstorm). After listening to the two-minute rant, it was followed by, "I just want it done", and the meeting was over.

What I learned

The client had pre-determined that I was the source of their problem, and there was no reasoning with them whatsoever. I was able to nurse the job through completion, got paid in full, but never felt like we completed the project successfully because the client was obviously unhappy. After debriefing my team, we realized that the client was never

happy from the beginning. The workmanship was top notch and the entire team acted professionally; we were simply dealing with someone who could not be pleased.

The most important thing I took from that failed meeting is that I had relied too much on emails and electronic documentation. Had I kept up the in-person meetings the clients' concerns may have been better met. Longer or more frequent meetings would not have changed their attitude towards our company or the job, but it certainly would have kept a tighter control on their emotions regarding the many changes. Use the electronic paper trail as much as possible, but don't let it take the place of a good, well organized face-to-face meeting.

I think we all agree that client/business meetings are essential. One-on-one contact is often the best way to keep everyone on the same page. However, you must establish a well-defined agenda to keep things on track. Meetings should be concise and kept as short as possible. Once a meeting gets off track, people have a tendency to lose their mojo not only for the meeting, but for the actual work that needs to be done after the meeting.

Remember, the meeting is supposed to support the work, not the other way around.

David Getts is a certified kitchen designer and owner of David Getts Designer Builder Inc. in Seattle. [W](#)

KCD Software supporting WCA's efforts

KCD Software, a design-to-manufacture software provider for the cabinet and closet markets, recently signed on as a Gold Sponsor of the Woodwork Career Alliance of North America.

The not-for-profit WCA works with high school and postsecondary woodworking programs to help them develop skills-based curricula. WCA also provides tools to wood product manufacturers to develop employee training programs.

The Gold Sponsorship program supports the not-for-profit WCA's mission to elevate the woodworking profession to youth and job seekers, support workforce development through the creation of skill standards, and create career paths based on its credentialing Passport program recognized throughout the United States and Canada. WCA credentials now encompass measurable skill standards for more than 300 woodworking machines and operations ranging from accurately reading a tape measure through operating a CNC router.

"We greatly appreciate and welcome the support of KCD Software as a Gold Sponsor," Scott Nelson, president of the WCA, said in a statement. "With the help of our sponsors we have continued to increase industry awareness and use of the WCA skill standards and Passport program. These are important tools that schools can adopt to shape their woodshop programs and that woodworking companies of all sizes can use to recruit, train and retain great employees."

"KCD Software is pleased to pledge its support to help the WCA develop and grow a skilled woodworking workforce," added Tara Murphy, co-owner of KCD Software. "We recognize that the skilled worker shortage in our industry is a universal problem. We applaud the WCA for developing programs that promote the woodworking profession and create career opportunities."

For more, visit www.woodworkcareer.org.



THE CUTTING EDGE

with JOHN ENGLISH

The future is now for robotics in the shop

Two years ago, a team from MIT's Computer Science and Artificial Intelligence Laboratory announced the creation of AutoSaw that uses a modified Roomba vacuum with a jigsaw to cut plywood and two Kuka robotic arms (youBots) to lift boards, place them on a miter saw and make cuts. Then we learned about Spatial Timber Assemblies, an innovative robotic prefabrication process for timber frame modules developed by the Swiss National Centre of Competence in Research.

We're seeing an evolution of robotics from theory to practice that seems to be following a route similar to that taken over the past three

decades by the wood industry in its adoption of CNC technology.

Robots in the cabinet spray booth and assembly line have already learned much from automotive manufacturing, and they are also being developed specifically for the wood industry to handle sheet stock, molding, casework and millwork components. One of the remarkable aspects of the technology is that it doesn't always come from a large corporate background. There are a lot of players that include visionary small companies, schools, online groups and hands-on craftsmen. Between them they are beginning to deliver simple, inexpensive

solutions for small shops, and larger more complex systems for industrial concerns. But the diversity makes it difficult to see who's who in this field. Knowing who is out there, and what they're doing makes it a lot easier for a woodshop to begin the journey into robotics.

Automatech Robotik (automatechrobotik.com) has spent the past 18 years creating robotic cells across North America for cutting, processing, sanding, painting, palletizing and CNC machine feeding. It has posted a number of videos at wood-workingrobot.com that include several case studies of shops whose needs were met by the addition of robots. There are other videos of specific tasks such as labeling, cabinetmaking, sanding and finishing. For example, the video titled "Robotic Cell for Furniture industry" shows how robotic arms are being used in solid wood drawer production and component processing in MDF and particleboard. The processes include drilling, cutting, machining, edgebanding and sanding.

Robotic Solutions (roboticsolutions.net) creates robotic responses for challenges in the wood and composite industries. A dealer for the Kuka models used by MIT, it is also the exclusive U.S. importer of CMA spray robotics from Italy. The company sets up all of the cells that it provides through an Indiana facility where systems are tested and approved before going online at a woodshop.

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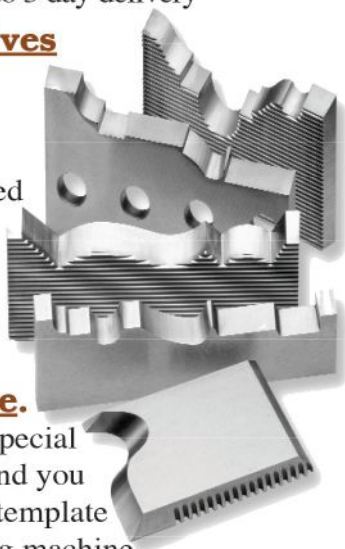
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Learning the ropes

In 2017, the University of Applied Arts in Vienna, Austria published "Robotic Woodcraft", available at roboticwoodcraft.com, a well-illustrated treatise on how we can use robots in our industry. Rather than considering them to be just fabrication machines that make up the last part of a design-to-production workflow, the university looks at treating them as "integral design tools and multifunctional interfaces that allow us to move from a digital environment into physical space." That, of course, is exactly what the teams at MIT and NCCR are now doing, moving from CAD (designer-controlled) to interpretative intelligence where the machine 'learns'.

One way that woodshops can position themselves properly for the robotic evolution is to recruit trained personnel. To that end, technical colleges are increasingly offering relevant courses. For example, Motlow State community College in McMinnville, Tenn. is now the first two-year college in that state to offer specialized training in both mechatronics (combining electrical and mechanical systems), and robotics. The college is home to a state-of-the-art Automation & Robotics Training Center where it offers a two-year Associate of Applied Science mechatronics degree with a concentration in robotics. There are also short-term courses on specific robot brands such as Fanuc America, Yaskawa Motoman, and ABB.

Fanuc recently introduced a new national certification for Robot Operations, Programming and Integrated Vision. This represents an 18-month initiative that brought together experts from industry, automation systems, advisors and instructors from high school, community colleges, and universities - all focused on preparing a pipeline of talent with the core competencies and skills for today's manufacturing industry. With these challenging and thorough national certification assessments, students and workers are going to be able to document their knowledge and fill high demand, high paying career opportunities in robotics and advanced manufacturing. The skills and knowledge required to obtain these new national certifications are being delivered through a network of secondary and post-secondary schools and training institutions.

Plug and play

For now, woodshops are increasingly adding collaborative robots (cobots) that are designed to safely share workstations with humans, and sense where the human is so as to avoid contact and potential injury. The numbers are impressive - about 30,000 industrial robots are being added each year in the U.S. alone, and the rate is increasing at more than 7 percent annually. Cobots currently spray coatings, sort parts, place components, load/unload machines and perform many mundane tasks that release employees who can be better used elsewhere. Suppliers are streamlining task potential so that new units can be inserted immediately into processes.

For example, Quebec-based Robotiq says its goal is to simplify collaborative robot applications, so that factories can start production faster. The company (robotiq.com), also exemplifies the global nature of this technological revolution. It has a presence in both Canada and France, and its team works with a global network of connected robot experts with the intention of supporting local manufacturers.

Another resource is Universal Robots of Odense, Denmark, which has U.S. offices in Massachusetts, Michigan, California, New York and Texas (universal-robots.com). A supplier of collaborative robots, the company says that moving one of its robot arms to new processes is fast and easy, and provides the ability to automate almost any manual task. The literature goes on to say that "production and distribution of furniture and equipment is labor-intensive, tedious, and physically stressful. Material handling of heavy furniture is one of the main robotic applications to avoid physical burdens for your workers." And robotic arms

are also highly accurate with impressive repeatability, so they help improve the fit and finish of parts while simultaneously speeding up the manufacturing process.

Cobots are just beginning to take on more complex sequences that might include, for example, relating tasks such as drilling, joinery or shaping. And the latest advances suggest that these tasks will not necessarily have to take place within the confines of an assembly line. If they can work in free space, then they can be used to customize. Imagine a series of hardwood fireplace surrounds where each one has a different carving on its face, or each is sized to fit a customer's specs rather than all having uniform dimensions as they come off the line.

The Biesse Group (biesse.com) has invested heavily in bringing intelligent robotics to the woodshop, and the company leads the way in the customization of loading and unloading cells. Its units are seamlessly integrated with CNC, sizing, boring, edgebanding and sanding machines. The Biesse ROS (Robotically Operated System) offers optimum integration with the manufacturer's entire range of woodworking equipment from machining centers to panel saws, boring machines and sanding. Robots are extremely adaptable, and most are easy to switch from one area of production to another.

This technology is advancing exponentially and is no longer experimental. It is now proven to be reliable. The physicality (the ways in which arms can move or grasp) has made impressive advances over the past two or three years, and the emergence of logistical learning software – the ability to self-teach – is becoming a very real component.

As Biesse and other manufacturers are proving, robots are no longer just machines. Now, they can put other machines to work. **W**

Thermwood announces several promotions

Thermwood is celebrating its 50th anniversary and experiencing unprecedented growth, much of it attributed to the success of its new large-scale LSAM additive manufacturing systems, according to the company.

"(LSAM) are industrial-sized 3D printers, some capable of printing composite parts up to 40' long and weighing several tons. These machines are currently producing large composite structures from the chassis of an autonomous urban bus to tooling for the production of the interior of modern jet aircraft. These systems are transforming the company, resulting in structural management changes and new advancement opportunities," the company said in a statement.

The company has promoted Jason Susnjara to executive vice president. Susnjara has been with Thermwood since 1995 and has held numerous positions, most recently as vice president of Marketing. He is also on Thermwood's board of directors.

In this new position he will oversee and manage Thermwood's technology, engineering, manufacturing and marketing operations. Thermwood operates a complex manufacturing operation, building some of the most technically sophisticated industrial products built today. In his new position Jason will manage the operation and expansion of these activities to support ongoing growth.

Thermwood has also promoted Brian Smiddy to vice president of product development, Larry Epplin to vice president of software development, Duane Marrett to vice president of marketing, and John Fuquay to the manager of engineering.

For more, visit www.thermwood.com.



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- Motor: 13.5 HP Briggs and Stratton® gas engine
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- Blade size: 1" x 144"
- Wheel diameter: 19"

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ULTIMATE 17" BANDSAW

- Motor: 5 HP, 230V, single-phase, 60 Hz, 1725 RPM, 22A, TEFC
- Table size: 25 $\frac{1}{2}$ " x 21" x 2"
- Table tilt: 5° L, 45° R
• Floor-to-table height: 35 $\frac{1}{2}$ "
- Cutting capacity/throat: 16 $\frac{1}{2}$ "
- Maximum cutting height: 16"
- Blade size range: 162"
- Blade widths: $\frac{1}{8}$ " - $\frac{13}{8}$ "
- Blade speed: 4500 FPM
- Resaw fence size: 6" H x 23" L
- Overall size: 35 $\frac{1}{4}$ " W x 33 $\frac{3}{4}$ " D x 78 $\frac{1}{8}$ " H
- Approx. shipping weight: 784 lbs. (G0636X)

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- Motor: 5 HP, 220V, single-phase or 7 $\frac{1}{2}$ HP, 220V/440V*, 3-phase
- Precision-ground cast-iron table size: 33 $\frac{1}{2}$ " x 23 $\frac{3}{8}$ " x 2"
- Table tilts 45° for bevel cuts
- Floor-to-table height: 34 $\frac{1}{2}$ "
- Cutting capacity/throat: 24 $\frac{1}{2}$ "
- Maximum cutting height: 16 $\frac{1}{4}$ "
- Blade size: 180" L ($\frac{1}{4}$ " - $1\frac{1}{2}$ " W)
- Blade speed: 5300 FPM
- Shielded and permanently lubricated bearings
- Overall size: 48" W x 32" D x 83 $\frac{1}{2}$ " H
- Approx. shipping weight: 951 lbs. (G0568), 962 lbs. (G0569)

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16 $\frac{1}{2}$ " DOVETAIL MACHINE

- Motor: 1 HP, 110V/220V, single-phase, prewired 220V
- Table size: 24" x 7 $\frac{3}{4}$ "
- Floor-to-table height: 46 $\frac{1}{16}$ "
- Number of spindles: 1
- Spindle speed: 18,500 RPM
- Dovetail bit size: 10° angle x $\frac{5}{8}$ " L
- Dovetail shank diameter: $\frac{1}{2}$ " (12mm)
- Max. dovetail height: $\frac{3}{4}$ "
- Minimum dovetail height: $\frac{3}{16}$ "
- Max. thickness: 2 $\frac{3}{8}$ "
- Minimum thickness: $\frac{1}{32}$ "
- Max. stock size: 59" L x 16 $\frac{1}{2}$ " W
- Minimum stock size: 7 $\frac{1}{8}$ " L x 2 $\frac{3}{8}$ " W
- Overall size: 38 $\frac{3}{8}$ " W x 26 $\frac{1}{2}$ " D x 56 $\frac{3}{8}$ " H
- Approx. shipping weight: 539 lbs.

**EXTREME
SERIES**



G0611X ONLY \$3995⁰⁰



21-SPINDLE LINE BORING MACHINE

- Motor: 2 HP, 110V/220V, prewired 220V, single-phase, 20.8A/10.4A
- Air requirement: 70 PSI
- Table size: 43 $\frac{3}{8}$ " W x 15 $\frac{3}{4}$ " D
- Floor-to-table height: 33 $\frac{1}{4}$ "
- Spindle travel: 3 $\frac{3}{8}$ "
- Max. stock width: 8"
- Number of spindles on boring head: 21 (10 left and 11 right)
- Distance between spindle centers: 32mm
- Shank size: 10mm
- Fence length: 74 $\frac{3}{4}$ "
- Stroke operation: Pneumatic
- Overall size: 75" W x 28 $\frac{3}{8}$ " D x 58 $\frac{3}{8}$ " H
- Footprint: 36 $\frac{1}{4}$ " x 28 $\frac{3}{4}$ "
- Approx. shipping weight: 514 lbs.



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- Motor: 5 HP, 220V, single-phase, 18A
- Table size: 39 1/2" x 31 1/2"
- Table counterbore: 5 1/2" dia. x 5/8" deep
- Floor-to-table height: 35 1/4"
- Spindle travel: 4"
- Spindle sizes: 3/4" dia. x 3 3/8" and 1 1/4" dia. x 5 1/8"
- Spindle openings: 2 1/2", 4 1/2", 5 1/4", 7"
- Maximum cutter height: 5 5/8"
- Maximum cutter diameter: 7"
- Spindle speeds: 5,000, 7,000 and 10,000 RPM
- Certified to UL & CSA standards
- Overall size: 39 1/2" L x 35 1/2" W x 50 1/2" H
- Approximate shipping weight: 812 lbs.

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G0900 ONLY \$2995⁰⁰



24" PROFESSIONAL PLANERS

- Cutterhead motor: 5 HP, 220V, single-phase (G5851Z), or 7 1/2 HP, 220V/440V*, 3-phase (G7213Z)
- Feed motor: 2 HP
- Max. stock thickness: 7"
- Max. cutting depth: 1/2"
- Feed rate: 17-26 FPM
- Speed: 5200 RPM
- Approx. shipping weight: 1126 lbs. (G5851Z), 1130 lbs. (G7213Z)

SERIES



**SINGLE PHASE
G5851Z ONLY \$5250⁰⁰**

**3-PHASE
G7213Z ONLY \$5395⁰⁰**



G5851Z
SHOWN

STRAIGHT LINE RIP SAW

- Main motor: 15 HP, 220V/440V*, 3-phase, 44A/22A
- Feed motor: 2 HP, 220V/440V*, 3-phase, 6A/3A
- Table size: 53" x 37"
- Floor-to-table height: 32 1/4"
- Maximum cutting thickness: 3 3/8"
- Minimum cutting length: 8" (with included hold-down roller kit)
- Feed speed (variable): 30-112 FPM
- Saw blade diameter: 10"-12"
- Maximum cutting width: 18"
- Arbor diameter: 1"
- Spindle speed: 4500 RPM
- Dust port diameter: 4"
- Overall dimensions: 61 1/4" W x 43 1/2" D x 80 1/2" H
- Approx. shipping weight: 2243 lbs.

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G0524 ONLY \$9750⁰⁰



INDUSTRIAL-DUTY TILTING SPINDLE SHAPER

- Motor: 7 1/2 HP, 220V/440V*, prewired 220V, 3-phase, 3450 RPM, 20A/10A
- Spindle travel: 6 1/8"
- Spindle tilt: -5 to +45°
- Spindle size: 1 1/2"
- Spindle length: 7"
- Spindle speeds: 3900, 5000, 7200, and 9400 RPM
- Maximum cutter diameter: 10"
- Precision-ground cast iron table size: 47 1/4" x 35 1/2"
- Fence: wood, independently adjustable
- Footprint: 33" L x 29 1/2" W
- Approx. shipping weight: 1096 lbs.

**EXTREME
SERIES**



G0608X ONLY \$4850⁰⁰



12" SLIDING TABLE SAW WITH INDEPENDENTLY-POWERED SCORING BLADE

- Main motor: 7 1/2 HP, 220V/440V*, 3-phase, prewired for 220V, 20A/10A
- Main table size: 35 1/2" x 21 1/2"
- Sliding table size: 126" x 14"
- Rip capacity with standard rip fence: 49 3/4"
- Max. crosscut width with crosscut fence: 126"
- Max. depth of cut: 3 1/16" @ 90°, 2 3/8" @ 45°
- Main blade arbor: 1"
- Scoring blade arbor: 20mm
- Overall size: 139" W x 133" D x 45" H
- Approx. shipping weight: 1498 lbs.



G0699 ONLY \$6995⁰⁰



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AUTOMATIC EDGE BANDER

- Required power supply: 30A, 220V, single-phase, 60 Hz
- Feed motor: 3/4 HP
- Glue spindle motor: 1/2 HP
- End trim motor: 1/2 HP
- Flush trim motor: 3/4 HP
- Buffering motor: 1/4 HP
- Heating element: 1455W
- Table size: 10 1/2" W x 78 3/4" L
- Min. panel dimensions: 4 3/4" W x 9 1/2" L
- Compressed air required: 100 PSI
- Glue pot capacity: 34 oz
- Roller width: 3 3/8"
- Roller diameter: 3/16"
- Edgebanding coil capacity: 31 1/2"
- Approx. shipping weight: 875 lbs.



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SURROUNDED BY COLLEGES AND IMMUNE FROM MAJOR SWINGS IN THE ECONOMY, FROM THE HEART CABINETRY CONTINUES TO GROW IN UPSTATE NEW YORK

BY JENNIFER HICKS

Eric Criscitello has found Potsdam, N.Y. to be a great place to run his custom woodworking business, From the Heart Cabinetry. Only a few miles south of the Canadian border, the town is home to a tight-knit community where everyone knows one another. It's also proven to be a great place to raise a family, another reason the father of 10 children enjoys it so much.

Originally from Southington, Conn., Criscitello moved to upstate New York with his family as a young child. His parents yearned for a peaceful, rural lifestyle and relocated to the nearby Hopkinton area. There, his father Richard started the company.

"We were in the city in Connecticut and it was very busy. My dad couldn't believe you could buy so much land up here. So, we moved to a 30-acre lot way out in the woods and built a house and other buildings – it was just amazing. He wanted to get away from that urban setting. He loved woodworking and was a real hands-on type of guy, a machinist for years, so in 1988 he started

From the Heart Cabinetry," Criscitello explains.

Criscitello joined his father in 1992 after graduating Parishville-Hopkinton High School where he'd completed an apprenticeship that let him work in the family business for credit. Fast forward to today, he now operates the turnkey company out of a 12,000-sq.-ft. facility with six full-time employees and one part-timer.

RAPID GROWTH

While his father initially produced about five custom kitchens a year for local clients, Criscitello's presence helped pick up the pace. Soon enough they outgrew the 1,000-sq.-ft. garage shop.

"Three years after I joined, we had to build a shop because we were growing. We had to build about 10 kitchens a year. That's when we built our original shop down the road from this place," he says of the former 2,400-sq.-ft. building on the main road through Potsdam. "From there we really saw exponential growth. We were out in the com-



Ron Kilgore (top) on the shop's SCM Minimax me25 edgebander and Tim Criscitello aligning the knives on a toolhead for its Weinig Unimat 218 molder/shaper.



munity with a bigger shop."

By 2007, his father retired and Criscitello took over. The four-man operation continued to grow, focusing on residential kitchens and casework and a few commercial projects. When the economy crashed in the following years, they received an influx of work from nearby colleges.

"There are four colleges in the area: Clarkson University, St. Lawrence University, and SUNY (State University of New York) at Potsdam and Canton. From 2008 on we had booming years because of the schools. So many

people who got laid off went back to school and we did dorm rooms, locker rooms, cafeterias and more."

The school jobs opened the floodgates for more commercial work, but in time, the shop was again left with a space dilemma.

"We were definitely turning away work. We completely stopped doing anything commercial because our residential kitchens were so big for us."

In 2015, Criscitello began renting storage space in what would become their current shop, a large warehouse owned by the St.

Lawrence County Industrial Development Agency. At 12,000 sq. ft., with 22' ceilings and a mezzanine, it was quite appealing.

"They had built it in 2005 but it didn't get much use. I rented out a 1,000-sq.-ft. corner of it for storage for built kitchens and raw products. But I was driving eight miles back and forth each day to get materials and that became inefficient. I knew something had to change. So, I approached the IDA and said I'd love to buy this building," says Criscitello, who finalized the purchase in 2018.

The shop, office and showroom occupy a combined 7,000 sq. ft. of the monstrous building equipped with a Laguna CNC router, Weinig molder, Cantek rip saw, and spray booth. And there's room for growth.

DIVERSIFIED SERVICES

With the new space, the company now does about 10 commercial jobs per year for schools, hospitals, and other businesses and produces around 50-60 kitchens annually.

The market is generally within a 30-mile radius of Potsdam, with Ogdensburg to the west, Malone to the east, Canton to the south, and Canada to the north. Installers travel occasionally to surrounding states for repeat customers, many with second homes.

"Canton and Potsdam are our bread and butter," says Criscitello, adding that his client's average residential home value is around \$250,000. Jobs range from small renovations to complete remodels in multi-million-dollar homes. "Last summer we did a house with \$200,000 worth of casework and we have done a 10,000-sq.-ft house on the golf course in Potsdam with \$300,000 worth of work."

Winter months are harsh, but the company remains just as busy as any other part of the year.

"It's very cold and there's lots of snow, but it doesn't slow things down. Because of that, all the building gets delayed until spring and summer, so now we're inside homes and doing renovations for the most part."

Criscitello sees a trend in home storage updates, particularly built-in cabinetry for mudrooms and laundry rooms.

"Instead of hiding things in the basement, I see people put more into their homes to make them more efficient and pretty. We also do a lot of updates to entryways. It's cold up here and people need places for their coats and hockey bags."

A TEAM EFFORT

All work is done in-house from design and processing raw materials to installation, including granite countertops. Criscitello, who does CAD designs and estimates, says he has

great staff of truly skilled craftsmen. His family helps quite a bit, too.

"My son Tim and my wife are my business partners. My daughter Emily does office managing part time, and I also have another son interested in coming in."

His children, which include two sets of twins, range in age from seven to 22. Criscitello likes knowing they're exposed to such a practical business, regardless of their future career choices.

"Right now, my teenagers always come in after school and do things. They're always organizing the shop, moving things around, it's great. I tell them, 'You don't have to be a cabinetmaker. You can do anything you want. But this will benefit your life because everyone is going to own a home, everyone's going to have a kitchen in their life, so having a background in that is super handy.'"

Being one of the few cabinetmakers in the area of this size, Criscitello doesn't have much competition. He doesn't advertise.

"Instead of putting money into marketing, we try to focus on putting money into people's cabinetry and kitchens and upgrading them. If they really wanted a certain counter-



Eric Criscitello (right) and finisher Chris Weems consult on stain color matching.

top or door style that costs them a little more, we give it to them."

STAYING ON TRACK

The company's annual gross is about \$1.2 million. Criscitello wants to keep growing and increase the commercial projects.

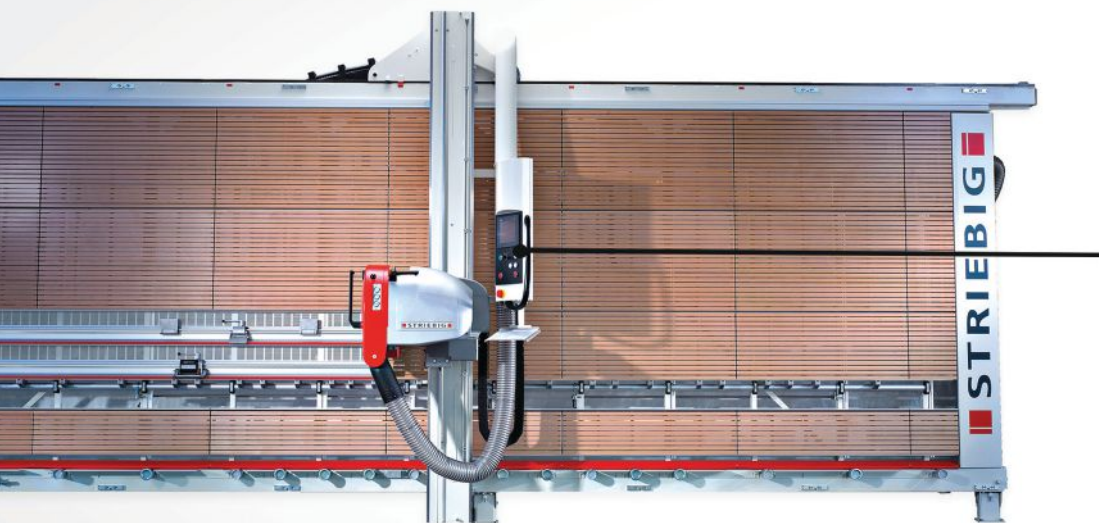
"We're growing every year. Also, because we're in a rural area, we don't get the lows,

but we don't get the highs of big building spurts either. There are no big dips. We're protected with a relatively stable economy," he says.

He values his father's advice in many respects such as not going into debt or getting in over his head. They were always key principles, along with providing outstanding customer service.

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STRIBIG



A cherry stained walnut bar (above) and custom kitchen from From the Heart's extensive portfolio.



"One of the things I think makes us successful today is my dad really instituted a great role model for us. He said our customers are really important. I know a lot of people say that in marketing with the 'customer is always right' catch phrases, but my dad really meant it. He built relationships with customers."

Criscitello does well continuing those relationships and building new ones. He says he plans to continue his role for many years until Tim takes over one day.

"I love my job. I wake up in the morning ready to go. I'm probably not the best cabinet-maker in the world, and I'm probably not the best businessman in the world, but if you give me a task, within 10 minutes I'm going to have the easiest way to do it, the best way. That's the way my brain works, I'm an efficiency

guy. I like to figure out how to operate so we can put out a great product and put it out as quickly and efficiently as we can."

Contact: From the Heart Cabinetry, 6 Pioneer Dr., Potsdam, NY 13676. Tel: 315-268-0713. www.fthcabinetry.com 



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SERIOUS SOLUTIONS

A deep dive into the digital fabrication marketplace for high-volume shops

By John English



Large-scale routing involves a lot more than just the ability to cut parts from sheet stock. Material handling is just as essential a part of the process as tool-changing, nesting or robotics. The industry's shortage of highly qualified operators is a factor, too, but as controllers get more user-friendly that learning curve may be shortening a bit.

All of these considerations are critical, but so are several aspects of the machines themselves. Does the unit being considered have enough power in the spindle, or speed in both movement and cutting? Are there enough axes and aggregate options to handle a shop's needs, especially in custom work that goes beyond basic boxes? What work fixturing is available, and what infrastructure will be needed in the shop in terms of power for vacuums and space for the machine itself. Footprints and dust collection may be issues, or work cell layouts and flow. It's not just a matter of looking at machine specs. Plus, financing and resale value need to be considered.

Choosing a CNC for serious production is a very serious process.

The decision needs to begin by narrowing down the field of potential suppliers. Step one is to find a reputable dealer – one that offers great support in installation, comprehensive training, and also ongoing help with both maintenance and operation.

LARGE CATALOGS

Stiles Machinery in Grand Rapids, Mich. is home to more than two dozen Homag CNC machining centers. While its website (stilesmachinery.com) is a good starting point, a shop faced with such a wide array of choices might want to directly contact a salesperson at the outset for guidance. The range covers every possible configuration and option, including nested-based CNC routers, CNC vertical drilling machines, flat- and twin-table machines, and much more. Even a basic machine can become something else when options are added. For example, the Centateq N-800 from Stiles is a machining center that can be transformed by automated material handling.

Anderson America also offers a healthy catalog of CNCs for larger



TechnoCNC's Venture Plus.

woodshops. Based in Pineville, N.C. (andersonamerica.com), the company offers several series of panel processing machines including Stratos Pro, Selexx Plus and Andimaxx. The company recently introduced its new MLS (multi-bunk loader system), which is designed to load a full sheet of manmade material, chosen from either two, four, or six available pre-staged bundles of materials. This is done using the same control system as operates the CNC router, and the design allows for the loading of full bunks of material up to 48" tall. It lifts (rather than drags) the panel and places it on the staging conveyor, and loading can be done from either side of the machine.

The SCM Group shows 37 CNC machining centers in its online catalog. A truly global supplier, its North American division (scmgroupp.com) has locations in Georgia, California and North Carolina. Again, this is an offering of such breath that professional sales help is needed just to navigate the options. There are machines for tasks such as drilling, routing or edgbanding, and all sorts of combinations of functions. Among them is the Accord NST, which is a family of CNC machining centers that are integrated with automatic loading and unloading systems so they can be controlled by a single operator. Its Prisma machining heads, with five interpolating axes, are designed for heavy duty profiling. When nesting, its integrated vacuum and T-grooves make quick work

of fixturing. And its Maestro software, with modules for different applications, delivers simple and intuitive programming.

Another Italian manufacturer, Casadei-Busellato (casadeibusellato.com) recently signed a deal that made JKL Machinery in Brighton, Mich. its sole importer. Among the company's offerings for large shop CNCs is the Jet Master RT, which comes in a standard (146" in the X axis) or XL (217" in X) version. Dubbed by the company as "the new frontier of nesting", the machine has a 9.5 kW standard spindle for the 3/4 axis, with the option of upgrading to 15 kW. On the 5-axis, the choice is either 10 kW or 12 kW. It has a phenolic table, innovative fixing methods, and rear rotating tool changers with 16 or 24 positions. There's a tool depth pre-setting unit for quick set-ups, built-in panel thickness measuring, and Genesis Evolution software installed on a Microsoft operating system that gives real time control of the machine with a 3D display of the working table for easy programming. The Jet Master also comes with Jet CAD software.

ROBOTS AND OTHER OPTIONS

Biesse America (biesse.com) is located in Charlotte, N.C. Among the new members of its Rover line is the Rover A 12/15 processing center, which comes with a 5-axis operating head and a 13 kW HSD spindle that has 360-degree continuous rotation on the vertical and horizontal axes. It has safety features such

as the new Full Bumper, which allows the operator safe access from any side. And because Biesse is among the industry leaders in robotics, the Rover A can take advantage of the company's ROS program to add robots to both production and handling (loading and unloading). There's also an advanced and very ergonomic motorized/manual clamping system that uses linear sensors in the table and collision control software to avoid mistakes, and gives immediate feedback on positioning. The Rover A can also become a complete system with the addition of Synchro, which is an automated cell (no operator required) for machining a batch of panels or doors. And the Rover A Smart FT is the new high-performance CNC machining center designed for nesting with its compact gantry structure.

Another company with a huge catalog, C.R. Onsrud (cronsrud.com) in Troutman, N.C. offers almost 50 standard models of 3-, 4-, and 5-axis CNC routers, mills and machining centers. They come in cast-iron fixed bridge, twin table, single table and steel frame moving gantry designs. Most include 12-position tool changers, high grade off-the-shelf standard components (easy to replace), and 24/7 tech-support. All of C.R. Onsrud's routers can be customized through a full menu of standard options including multi-spindle drills, aggregate ability, rotational C-axis, 5-axis, and dual process configurations.

Felder Group USA (felder-group.com) is headquartered in New Castle, Del. and also has locations in Texas, North Carolina, Colorado and California. It offers 22 CNC machining centers, including the Profit H500 16.56 s-motion. This is a 5 axes machine that has 18 independent drilling spindles and an integrated grooving saw aggregate. Some of that European engineering shows up in the details, such as loading supports that help with large or heavy parts, which reduces the need for a second operator. Or the ability to use templates so that complex shapes that don't quite work with vacuum pods can be secured. And there are special stops that help place and process sheets that have a veneer or laminate overhang. Plus, one can deactivate consoles individually, so that it's possible to shape solid wood parts without releasing the entire vacuum that is holding the workpiece. And Felder creates both the software and the machine.

For large production needs with a single operator, CNC Factory (cncfactory.com) in Santa Anna, Calif. has recently introduced the Python XPR, which hits all the buttons for case-work shops. It has a 12-hp HSD air-cooled spindle, 12-tool rotary tool-changer, direct



Komo Machine's 510 Xtreme.

helical rack and pinion gearing, a dual-layer, high-flow vacuum system, the option to run in either manual or robotic mode, and robotic loading/unloading and material alignment. It travels at over 1,800 IPM and will handle up to 50 sheets at the touch of a button. The company invites prospective buyers to spend a day at the factory to see the CNC router line up, investigate software solutions, draw, create, and even manufacture parts.

Also available in a 4' x 8' configuration, the 5' x 10' Pro-510 moving gantry model from Castaly Machine (castaly-cncmachine.com) in La Puente, Calif. comes with automatic loading and unloading and an eight-tool changer. There is also a rotary axis/lathe option for shops that need to turn columns or posts. Accurate to 1/1000", the system uses a scissors lift for infeed and a conveyor for outfeed. The vacuum table has six zones, and the spindle is an HSD 12.8-hp, air-cooled unit. The actual work area is 63" x 126" and 7-3/4" in Z. Castaly offers eight CNC routers in all.

CUSTOM SOLUTIONS

Dale, Ind. is home to Thermwood Corp. (thermwood.com), which offers a vast range of CNCs including four 3-axis nested based machines, a couple of 3-axis frame builders, six 3-axis multi-purpose routers, a 3-axis auto-processor, and a family of four 5-axis machines. There are numerous configurations on almost every model, from table size to spindle power and many other variables. Thermwood is the oldest manufacturer of 3- and 5 axis high-speed machining centers, and among its

offerings are five nested based machines. One of those is the Multipurpose 45, available with either single or dual spindles with an optional rotary axis. Its standard 12-hp HSD spindle can be upgraded to an 18-hp unit.

The 7000 Series (shown on Page 35) from MultiCam Inc. in Dallas (multicam.com) can handle a 20-hp spindle and tables up to 10' x 50'. It has great speed (up to 2,200 IPM), and a rapid traverse rate of 3,000 IPM (the rate at which the gantry and spindle move between cuts). Thanks to a heavy steel frame, it also delivers repeatability at 1/1000" for superior consistency. Very customizable, it has lots of memory on board.

CNC Warehouse LLC in Houston (cnc-warehouse.com) offers both 4- and 5-axis routers, and builds to spec. The 4-axis 5198-4AS has a standard working area of 51" x 98", but that is customizable. The standard spindle is a 9KW HSD variable speed, air-cooled unit. It is compatible with Vectric V-carve/Aspire, Type3, Artcut, ArtCAM and masterCAM software. The company's 5-axis machines provide a fully articulated spindle that can carve or cut the most detailed products.

The new Nextec from Weinig's Holz-Her division (weinig.com) is available in a flexible 5-axis Classic version. According to the company, "the intelligent Nextec software automatically generates all CNC processing programs, parts and material lists as well as the optimum nesting pattern for the workpieces. All you have to do is place the unfinished panel on the machine, and the Nextec CNC does everything else." The 7735 model in this

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CAMaster's Cobra Elite CR-612.

line is available with an automatic pusher and conveyor belt, a lifting table and infeed roller conveyors, and integration with an automatic panel storage system.

The Canadian supplier Akhurst Machinery Ltd. (akhurst.com) has U.S. offices in Blaine, Wash. and among its catalog offerings is Anderson's Omnitech Selexx/Pal. This is a full line nesting solution that adds fully automated labeling, loading and offloading capabilities. Available as both a complete line or in customized sections, it can be custom configured. There's an automatic scissor lift table with 3-ton loadbearing capacity, a dust gate to remove debris from the bottom of the processed sheet, automatic conveyor table for off-loading finished parts, and optional automatic part labeling.

New CNC (newcnc.com) in Holland, Mich. and offers a 5-axis router that has a user-friendly OSAI operator interface, a 20-spindle drill block and 12 horizontal, eight vertical boring unit. The company also builds custom machines from 12.6- to 22-hp (HSK 63), and with changers up to 26 tools. Other options include C-axis, rotary axis and aggregates. New CNC also offers ALUL (auto load, unload) for its 4' x 8' and 6' x 12' tables. And its Accel III CNC Router features automatic clean sweep technology, where the router pushes finished material to the unload table, before cleaning and preparing for the next sheet. This company also makes the Talent T3, which is designed for cabinetmaking and has optional auto load and unload attachments.

MANY AXES

Hendrick Mfg. in Salem, Mass. (hendrick-manufacturing.com) offers three 3-axis and two 5-axis machines, the HSR-V and the HHD-V. The former is available in single (gantry) or twin (moving) table configurations and has real time tool center point rotation and all five axes are fully synchronized. That means it can work on 3D curved surfaces. The HHD-V Series 5-axis CNC router is Hendrick's top of the line model for high volume processing.

Laguna Tools (lagunatools.com) offers a range of CNC routers including its top-of-the-line SmartShop III +2 Axis machine. It delivers multiple cutting angles and compound machining within a solid, compact platform. A heavy one-piece steel frame is matched with a Fanuc industrial control. Depending on the application, a customer can choose from several 5-axis head options from HSD to fit specific needs. It has a standard eight-position automatic rotary tool changer and can be ordered with 12", 24" or 36" of gantry clearance.

The Pegasus series from Limtech Industries (limtechindustries.com) in Gastonia, N.C. is the company's heaviest duty machine. This is a 3-axis machine with a large frame construction and unlimited custom options. It comes with a Fanuc controller including monitor/keypad, servos, drivers and amplifiers, that are all backed by a two-year warranty. Standard tables are 4' x 8', 5' x 10' and 5' x 12' with custom sizing available. The 10-hp, two-stage vacuum table is phenolic and has zones

in the larger tables. The standard spindle is a 12-hp HSD.

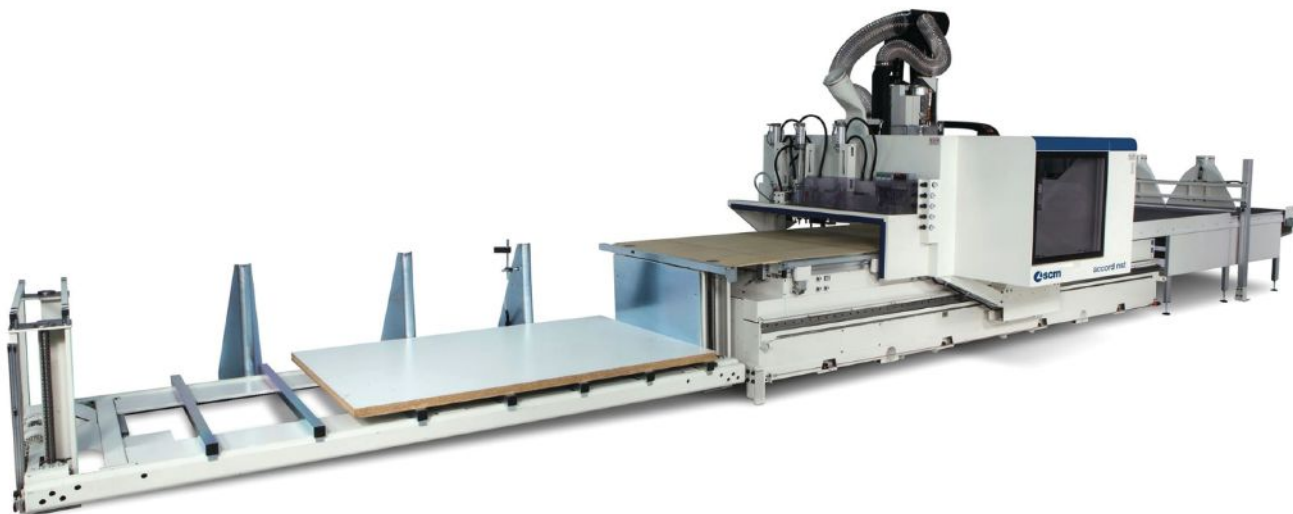
All of the 5-axis CNC machines made by Diversified Machine Systems in Colorado Springs, Colo. (dmscncrouters.com) feature a stress-relieved steel frame that is completely fabricated and assembled in-house. And each comes standard with a Fagor controller and corresponding drive system. DMS makes 3- and 5-axis CNCs in many industrial configurations, including models with moving tables, overhead gantries, large format, open and enclosed, dual cell, plus medium and heavy-duty versions. For example, the D5E is an ideal choice for companies looking to have a high-precision 5-axis CNC without a large footprint. Its enclosed design keeps debris inside the machine, and not on the shop floor.

While all of the CNC routers from XYZ Automation (xyz.com) come with a host of optional features, the company's Infinite series is the most customizable. It offers virtually any width or length (from 28" to 128" wide and 48" to over 50' long), and an endless list of options that make it the company's most popular option for sign-making and woodworking. The Infinite can handle one-off, small batch production as well as high volume and high productivity. Woodshops can choose from manual, quick-release, high-power and high-speed spindles for optimum processing of rigid sheet materials. Vacuum zones can be switched with manual valves or automatically by the machine controller, and there's an automatic tool length sensor for accurate and consistent cut depths.

HEAVY DUTY

The Cobra Elite CR-612 from CAMaster (camaster.com) has a work area of 73" x 145" and is available in configurations up to 16 hp. It has an all-steel frame, steel gantry, and brushless digital AC servo drive system. It also comes with a two-year warranty and lifetime technical support. Some of the customizable aspects of this machine are the automatic tool changer, extended gantry heights, drills banks, vacuum tables, vacuum pod systems and aggregate heads.

The new Venture Plus from Techno CNC Systems (technocnc.com) is "an affordably priced, high powered, versatile and rugged CNC router designed for demanding applications that require high throughput," according to the company. There's a standard 5" x 10" platform, but custom sizes are available. The stock equipment is a 12-hp HSD automatic tool changer spindle with an eight-position tool rack. It has brushless



SCM's Accord NST.

stepper drive motors, automatic tool calibration and zero recording in Z. There's a four-zone vacuum table and an easy to use hand-held controller. The Venture Plus has open architecture so it works with all industry standard CAD/CAM software.

The Xtreme 5 Axis Series of CNC machining centers from Komo Machine (komo.com) has been developed specifically for the customer who requires maximum Z travel (24"). It features a moving table configuration and a four-

pole, 11.7-hp HSK 63F liquid-cooled spindle. Komo offers a complete selection of machining centers (15 in all), and usually has some pre-owned stock on hand, too.

The Renegade from Legacy Woodworking Machinery (lwmcnc.com) is built in Springville, Utah and is of special interest to woodshops that need to turn large objects. It comes with a 4' x 8' flat table with vacuum, and a rotary capacity of 92" x 10" diameter. The controller is quite advanced, and an available dust mani-

fold keeps the workspace clean.

The VR10 is a 5' x 10' 4-axis machine from Velox (veloxcncrouters.com) that is assembled and tested in the Liboon Group's facility in Orange, Calif. The standard equipment is a 4.5-hp Tekno spindle, and the travel is 64" x 122" x 8". A 7-hp vacuum table is available.

And Woodshops looking for CNC machines that are dedicated to specific tasks such as sanding, mitering, and tenoning might want to visit Voorwood's website (voorwood.com). [W](#)

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Small, Medium Or Large?

Edgebanders come in all shapes and sizes with different capabilities and features, so the buying process should begin with some basic considerations

By John English

It's both a blessing and a curse that there are so many edgebander manufacturers. It means that there are lots of options, but also that there's lots of research to do before making a purchase. While machines and functions may vary, Stiles Machinery (stilesmachinery.com) reminds shop owners that there are some basic considerations when choosing an edge processing machine. The first is to know which kind of tape will be used (PVC, ABS, PP, PMMA, wood veneer or melamine). After that, a shop owner needs to consider the feed speed, the edge capacity and the production speed.

The variety of edgebanders offered by Stiles ranges from simple gluing machines to ones that sand, shape, cut, and apply an assortment of edge treatments using a variety of application methods. They range from stand-alone units for small- to medium-sized shops, through mid-grade machines with a variety of options, and on to high-performance

machines for optimum quality at very high production speeds. The company's catalog includes machines for hard profiles, soft-form continuous strips on a contoured edge, and ones that can post-form a banded profile. There are machines specifically designed for contour forming, such as an all-in-one bander for multiple shapes and sizes. In addition, application technology in edge processing has evolved to include a variety of adhesives types and the latest in application methods, including compressed hot air and laser systems that melt the surface of the edgebanding with optimum adhesion for a seamless look.

Even if a shop zeroes in on one manufacturer, most of these offer a number of machines with standard features or optional upgrades. So, working with a knowledgeable salesperson is essential.

Felder Group USA (felder-group.com) offers 17 options for edgebanding, from the benchtop ERM 1050 to the Format 4 Tempora F800. The

latter is an industrial solution that incorporates a wide range of customer specific options, and the support and financing for which Felder is known. There's Bluetooth-based digital thickness measuring, air-motion for perfect laser joints, an air-cushioned table for gentle material handling, a Smartouch control unit, an infrared parts warmer, a fast-heating glue applicator, and a nesting package that handles cup hinge holes and even surfaces with acute angles.

Seven edgebanding options from Castaly Industries (*castaly-cncmachine.com*) are designed to meet the needs of small- to medium-sized shops. There's a trimmer, a trimmer and polisher, and five edgebanders. The most affordable option is the EB-1SC that can handle straight or curved edges, has variable speed and a couple of thermos control systems to protect the motor and gluing applicator. It also has an electric counter or position limit switch for an automatic pneumatic end guillotine. And at the other end of the scale, Castaly offers the EB-J4, which is a full-option machine that includes automatic feeding for rough trimming, end trimming, gluing, pre-milling, buffing, scraping and fine trimming. The J4 also has a pressure beam mounted on two heavy cast columns with mechanical digital readout for thickness adjustment, and an outrigger support for wider work pieces. There's a cutterhead with two independent



SCM Stefani-60.

high frequency, inverter driven motors to round the corners and edges automatically, and a polishing unit that applies the finest finish surfacing process on top and bottom edges.

Biesse America (*biesse.com*) offers a full range that runs from the small-shop Akron 1100 to the Stream B MDS, which delivers single-sided squaring and banding for the largest operations. The Akron is equipped with HSD electro-spindles, a 7" touch-screen control panel, and a removable glue bowl. This machine also comes in 1300 and 1400 models for larger capacities. The mid-range Stream A machines handle a huge amount of work but are also highly configurable.

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Laguna's Bandit Series.

SCM Group offers a banding solution for every shop size. The company includes almost two dozen options, almost all of which can be customized. There's a baker's dozen of Stefani models that cater to high-volume needs, and families of Olympic and Minimax models for small- to medium-sized shops. For example, the Minimax me 20 is a small, single-phase bander that has 2mm tooling along with a glue pot, guillotine end cutting, and a scraper. And the Stefani 60 is an industrial-scale solution for the production of components for narrow, long furniture items such as drawers, fill-in strips, skirting boards, small shelves, etc. SCM can also help shops set up cells with automatic feed and return conveyors.

Holz-Her (holzherusa.com) offers LTronic, a new laser edging unit that offers impressive speed and cost efficiency.

JKL Machinery in Brighton, Mich. is the exclusive importer for Casadei-Busellato (casadei-busellato.com), which manufactures eight edgebanders. The smallest (the ALA 10) is a manual machine with a glue pot and a foot operated control. From there, the range grows through two more ALA machines and four Flexa models to the industrial strength Flexa 607. Among the newer options are the Flexa 27 and 47. The former is aimed at small shops that process a lot of work, while the latter can apply up to 6mm solid wood edging on panels with a maximum thickness of 60mm.

IMA Schelling Group (imaschelling.us) offers four industrial banders that "are constructed with a solid, rigid, fabricated base frame and a



SCM Minimax Me 20.

double-joined, V-belt, electronically adjusted top-pressure track that optimizes and gently guides short components and sensitive surfaces," according to the company. Shops considering a bander might also be interested in IMA's panel support device that has program-controlled feed speed and centralized lubrication of the feed chain. It features multi-profile technology with automatic profile change capabilities, a 19"-wide touchscreen controller, and optional Imalux (laser) jointless edge processing.

Small to mid-sized choices

For smaller shops, Grizzly Industrial (grizzly.com) recently introduced the G0854 compact automatic edgebander for \$7,500. It handles panels from 1/2" to 1-3/4" thick and tape from 0.5 to 2.0mm thick.

The Bandit Series from Laguna Tools (lagunatools.com) answers the core needs of most woodshops. There's the Bandit 3/2 that includes end, top and bottom trimming plus buffing, a hot melt glue system and up to 2mm tape capacity, all starting at \$10,999 (as of Dec. 2019). An upgrade to the muscular Bandit 4 will give a shop dual motor end trimming along with buffing and scraping capabilities, plus tape capacities up to 3mm. And the top of the line Bandit 5 adds pre-milling and corner rounding.

The Brazilian manufacturer Inmes (inmes.com) offers two versions of its basic 3-phase IC-1000 electronic edgebander. These are small machines that allow gluing of panels up to 77mm thick, and they have a standby mode that lowers the glue pot temperature after 15 minutes of non-use. There's an easy to operate control panel on the front of each machine. The IC-1000 has a manual cutter system. The IC-1000 Plus includes a quick-change system for the glue pot, so it can be switched between different glue types.

Sauk Rapids, Minn. is home to SNX Technologies (snxtechnologies.com) which develops and manufactures SNX nVision contour banders in-house. Options for the company's newest machines include a quick-change glue pot system, an enhanced PLC controller that has faster setup and production settings, and updated trimmer chip vortex. The SNX SYSTEM2 G3 features an extended base frame to accommodate more area for banding and trimming at the same time. SNX also offers the Excel-Edge line of chemicals for cleaning surfaces and machines.

Four Bi-Matic brand machines from Martin Woodworking (martin-usa.com) cover the gamut from small to light industrial. The Prima 3.2.C is an entry-level bander that can handle tape up to 3mm. It also has a trim saw, top and bottom milling stations, and a glue scraper. The top of the line Prima 7.3-r.a. is a hot melt and hot air (laser/hot air tape) machine.

The EB200 is NexTech's (nexttechmachinery.com) entry-level edgebander that features a simple, straightforward setup and heavy-duty, well-engineered components. In the middle of the line-up, the EB300 series is scalable, allowing the addition of machining units such as pre-milling, additional top and bottom trimming units, and scraping units. Precision horizontal and/or vertical grooving may also be added. And at the top of the line is the EB400 which has a standard corner-rounding application, and options that include pre-milling, additional top and bottom trimming, and scraping. These machines can be seen in person at the new NexTech showroom in Cornelius, N.C.

Safety Speed Mfg. (safetyspeed.com) offers a couple of small-shop hot air edgebanders, the 60HA and 72GP. The numbers in the names describe the table length. They have electronic variable speed control, digital temperature control, electromagnetic end cutters, and an edge trim system.

Portable units

The KA 65 Contura edgebander from Festool USA (festoolusa.com) comes as a tool only, or as a start-up set with multiple accessories and supplies. Shops with floor model banders will probably switch a lot of jobs to the Contura because of its ability to work curves, small parts and bevells. It has dual speeds and a patented hot melt glue adhesive system that's thermally isolated, so no more burns. Festool also offers an optional bench mount.

The 8850 from Oliver Machinery (olivermachinery.net) is a portable unit than can handle veneer, melamine, PVC and ABS, and can be used on straight or contoured edges down to a 1" radius. It can also handle bevells from 75 to 90 degrees, and the tape width capacity is 10 to 45mm. It



Grizzly's compact automatic edgebander, model G0854.

has a digital temperature readout and a large capacity glue pot.

Grizzly offers the G7910, a bare-bones tool that works on straight and shaped pieces. It has adjustable clamping pressure and can be used with pre-glued PVC, melamine and wood veneer. The maximum tape width is 2", and there are two temperature settings. Or shops can step up to the G0825, which has a glue pot and can be table mounted. It doesn't trim, but Grizzly makes a trim router (T1188) and a dual end cutter (T1189).

The Le-matic portable edgebander is available from Stiles Machinery.

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NexTech EB400.

Resources

As materials change and machines add more capabilities, edgebander operators need more custom gluing options. Those come from companies such as DC Distributing (dc-dist.com), which is one of the largest suppliers of edgebanding and related products in the United States. Its inventory includes such brands as Canplast, Rehau and Doellken, and services such as slitting and pre-gluing.

Edge Co. (edgecoinc.com) carries a huge inventory of edgebanding that includes PVC, plywood veneer, acrylic, ABS, peel and stick, iron-on,

pre-finished plywood, melamine, polyester, metal and paintable tapes. The company also offers glue pellets, cartridges and both two-ply and paper-backed veneer sheets.

Doucet (doucetinc.com) offers parts feeders and low-cost return conveyors.

Richelieu Hardware has a huge catalog of tapes plus a small Makswa floor machine and a light-duty portable bander.

Eurowood Machinery (eurowoodmachinery.com) is a leading importer and supplier of European machinery and replacement parts. [W](#)

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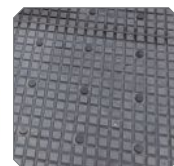
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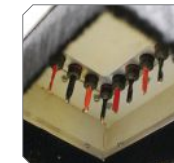
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Award-winning pieces from the 2019 Northern Woods Exhibition included (clockwise from left) a dresser by Yana Frank, “Cedar Spirits” by Craig Johnson (Best in Show), dining chair by Steve McLoon, and Prairie-style high table by David Thompson.

Northern Woods will feature Minnesota’s best

By Jennifer Hicks

The Minnesota Woodworkers Guild is currently preparing for its 2020 Northern Woods Exhibition, scheduled for April 23-26 at the Eden Prairie Center in Eden Prairie, Minn.

Last year’s show featured a record 71 pieces from 55 makers.

“The primary purpose of the show is to provide a forum for guild members to display and discuss their work. It allows the community to see high quality work and talk to the

makers,” says guild member Tony Kubalak.

The show presents awards in 15 categories. For more, visit www.mnwwg.org.

Hawaii exhibit

“The Woodworker’s Journey: Concept to Creation”, presented by the Maui Arts & Cultural Center, opened Jan. 7 and will run through Feb. 23 at the Schaefer International Gallery in Kahului, Hawaii.

It will include work from a select group of

25 artists who were each invited to make one new piece for the exhibition.

Design guidelines permitted the work to be utilitarian or conceptual, with a refined conventional appeal or freeform fusion approach, using wood as the primary material.

The 50th state is well represented by Joel Bright, Robert Butts, Marcus Castaing, Shaun Fleming, Mats Fogelvik, Tai Lake, Peter Naramore, Michael Patrick Smith, Ricardo Vasquez of Hawaii, and Alan Wilkinson.

Other exhibitors include Roger Asay and Rebecca Davis of Ariz.; Michael Cullen, Wendy Maruyama, Paul Schurch and Koji Tanaka of Calif.; Kristin LeVier of Idaho; Katie Hudnall of Ind.; Yuri Kobayashi of Maine; Ted Lott of Mich.; Dean Pulver of N.M.; Andy Buck of N.Y.; Miriam Carpenter of Pa.; Hank Gilpin of R.I., and Craig Nutt of Tenn.

For more, visit www.mauiarts.org. [W](https://www.wikipedia.org)

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◀ **FESTOOL USA** is introducing the new Vecturo OSC 18, an 18-volt cordless oscillating tool featuring the company's EC-TEC brushless motor, variable-speed settings and StarlockMax tool holder. The OSC is designed to be used with a Festool-exclusive plunge base and depth stop for guidance and control. The plunge base also is designed with dust extraction for a nearly dust-free worksite. In addition, the ergonomic housing of the OSC 18 complements the shock-absorption achieved by isolating the tool's motor and the drive mechanism for virtually vibration-free comfort on the jobsite, according to the company. For more, visit www.festoolusa.com.

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◀ **DURA SUPREME CABINETRY** has added additional shiplap inspired options to its product offerings. The new introductions include new V-Groove Ends, V-Groove Backs, and V-Groove Panels that coordinate with the new Carson V-Groove door style. Carson V-Groove is a Shaker-style door with a beveled inside edge profile. For more, visit www.durasupreme.com.

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▲ **GRIZZLY INDUSTRIAL** introduces a 28" portable sawmill, model G0901, powered by a 13-1/2-hp Briggs & Stratton gas engine. It can mill logs up to 28" in diameter and 22" wide, and offers a maximum cut thickness of 6", according to Grizzly. It features a modular track system for varying length requirements, leveling feet, and adjustable work stops. The sawmill weighs 838 lbs. and sells for \$5,500 with a one-year warranty. For more, visit www.grizzly.com.

▼ **HARVEY INDUSTRIES** an OEM manufacturer, is introducing its new Ambassador line of wood-working machines at factory direct prices. The initial launch includes 10" table saws and a 14" band saw. For more, visit www.harveywoodworking.com.



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CALENDAR

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

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

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

— Compiled by Jennifer Hicks

CALIFORNIA

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

Monthly — Society of Wood Manufacturers, 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.awfs.org.

FLORIDA

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

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

GEORGIA

Apr. 1-3 — 64th World of Wood Convention by the International Wood Products Association, featuring industry speakers, exhibitors and other events. Location: Hyatt Regency Savannah. www.iwparwood.org

Aug. 25-28 — International Woodworking Fair. Location: Georgia World Congress Center in Atlanta. www.iwfatlanta.com

ILLINOIS

Mar. 4-6 — Cabinet Makers Association National Conference – 2020 Vision: A Clear View of the Woodworking Industry. Inspira-

tional industry event featuring educational sessions, plant tours and networking opportunities. Location: Q Center at St. Charles. www.cabinetmakers.org

IWF opens registration

Registration has opened for the 2020 International Woodworking Fair, scheduled for Aug. 25-28 at the Georgia World Congress Center in Atlanta.

The IWF is North America's largest and most complete woodworking trade show and conference and a global product resource showcasing the world's top manufacturers.

This year's fair is expected to be the largest ever, incorporating Halls A, B and C at the Congress Center for the first time since 2008, according to the IWF.

For more, visit www.iwfatlanta.com.

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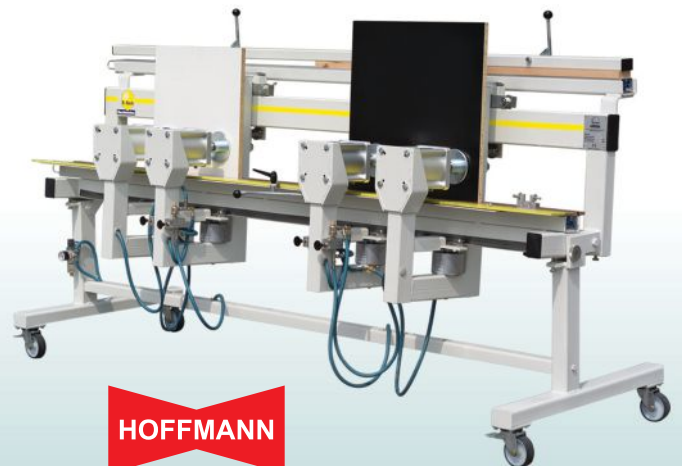
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MARYLAND

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

MASSACHUSETTS

March 20-22 — Paradise City Arts Festival Marlborough. Juried mixed media craft show featuring 175 exhibitors from throughout the country. Location: Royal Plaza Trade Center in Marlborough. www.paradisecityarts.com

May 23-25 — Paradise City Arts Festival Northampton. Juried mixed media craft show featuring 230 exhibitors from throughout the country. Location: Three Country Fairgrounds in Northampton. www.paradisecityarts.com

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

June 17-20 — The Furniture Society's annual conference, FS20: Building Place, Shaping Identity and Creating Community, will focus on how furniture is used to foster communities and strengthen the community of furniture making. Location: UNC Asheville and STEAM Studio in Asheville. www.furnsoc.org

SOUTH CAROLINA

May 5-8 — 2020 Woodworking Industry Conference. Jointly sponsored by the Woodworking Machinery Industry Association and Wood Machinery Manufacturers of America, the event features business development sessions, professional and personal networking opportunities, and more. Location: Wild Dunes Resort in Charleston www.woodworkingindustryconference.com

SOUTH DAKOTA

Monthly — The South Dakota Woodwork-

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

VIRGINIA

June 26-29 — Society of American Period Furniture Makers Mid-Year Conference. Held in conjunction with the University of Mary Washington Center for Historic Preservation in Fredericksburg. www.sapfm.org 

Save the date for CeflaLive

CeflaLive, an opportunity to network, train and learn from finishing experts, is scheduled for Apr. 22-23 in Charlotte, N.C.

"Solely dedicated to finishing techniques and technologies relevant in North America, Cefla's finishing engineers, technicians and other seasoned professionals will be on hand during live demonstrations, break-out sessions, training exercises, and networking activities," Cefla explained in a statement.

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Mail to: Calendar,
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Fax to: Calendar, 860-767-0642
E-mail: j.hicks@woodshopnews.com
Subject: Calendar Item

**The events are also listed at no charge on the Internet:
www.woodshopnews.com**

Be sure to include: event name, date, location, sponsor, contact name and telephone number, and Web Site URL if applicable.

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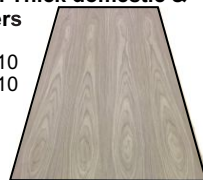
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The Thomas William Furniture collection (clockwise, from left) includes this solid cherry table with wenge accents, tall cherry display cabinet, and tiger maple side cabinet.

Three straight

Furniture maker Thomas Dumke of Thomas William Furniture in Oconomowoc, Wis. has once again been selected to exhibit at the 38th annual Smithsonian Craft Show, scheduled for April 23-26 at the National Building Museum in Washington, D.C. Dumke attended in 2017 and 2019 as well.

"I am excited and honored to be accepted into the prestigious Smithsonian Craft Show, this is my third time," says Dumke. "There are many fine crafts people who apply to this show."

Dumke, who will exhibit his 2020 collection, is one of the 121 fine-art craft artists chosen from more than 1,000 applications. Artists in various medium categories were selected to participate throughout a highly competitive jury review process by a experts in the visual arts.

Dumke makes Shaker inspired solid wood furniture that is described as traditional with a modern flair. He also is influenced with a deep respect for the furniture craftsmen of the 17th and 18th centuries.

"Their knowledge of form, balance, joinery and of wood movement is evident in the pieces of fine furniture that still exist today," he says.

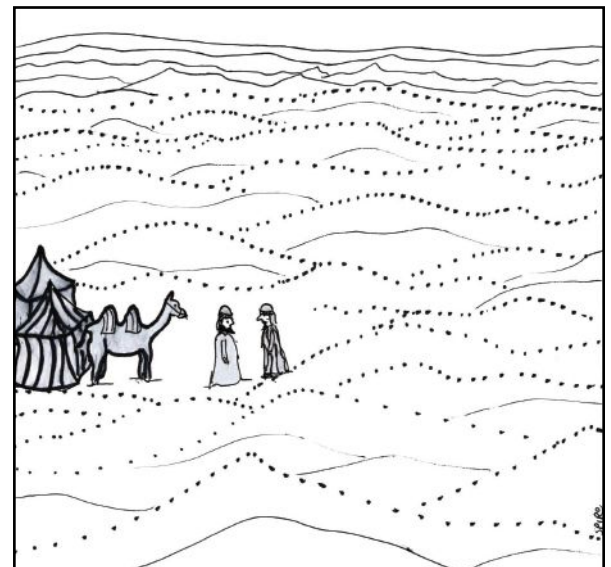
The artist categories include furniture, wood, glass, jewelry, leather, metal, mixed media, basketry, ceramics, decorative fibers, paper and wearable.

Other furniture exhibitors include Martin Zelonky, Christina Vincent, Thomas Throop, John Spivey, Paul Monfredo, Nancy McCormick, Roy Livingston, Richard Judd, Robert and Torr Erickson, Kevin Costello, and John Cameron.

For more, visit www.thomaswilliamfurniture.com and www.smithsoniancraftshow.org. [W](#)

60 Grit

Rough humor by Steve Spiro

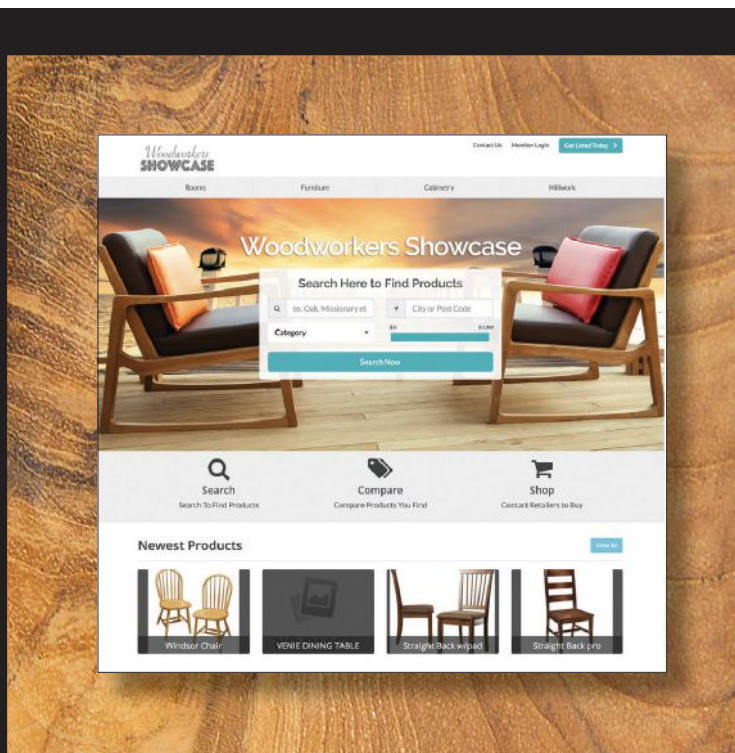


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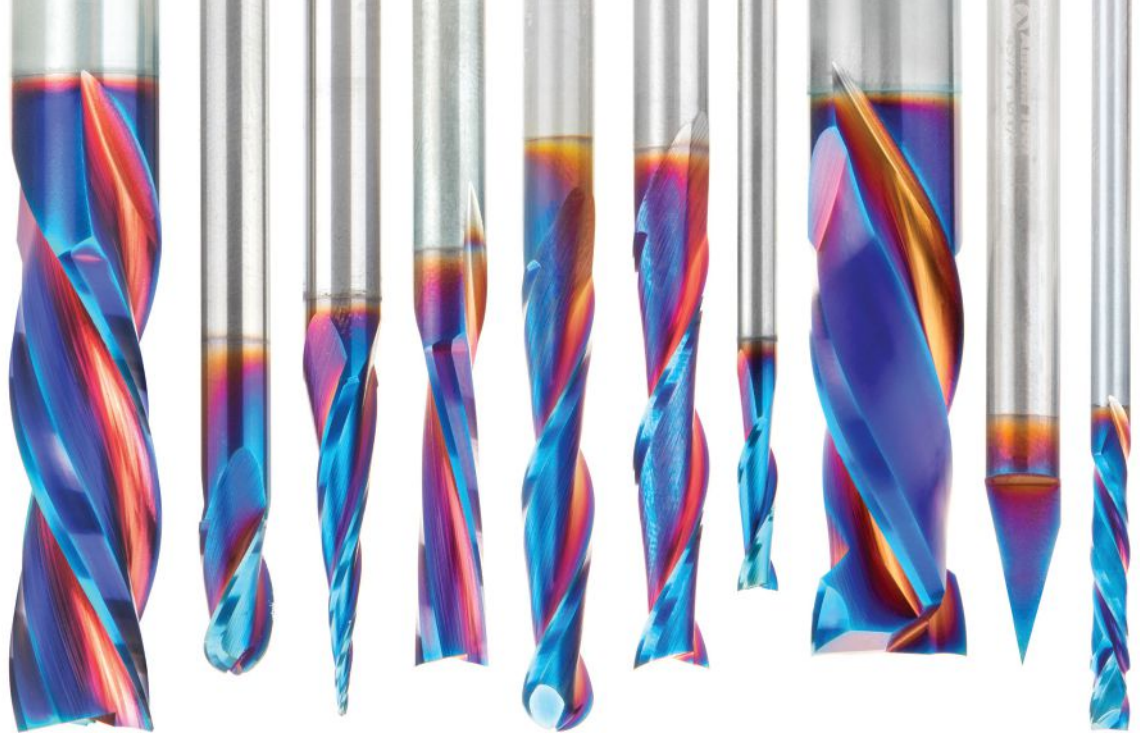
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