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May 2019

Reach me at the beach

Maynard Esender's shop
caters to the coastline
along southern Delaware

Catching up with CNC software

Shopping for the shop

There's value in writing a business plan

NEW TOOLS

- DeWalt Atomic Compact Series
- Felder safety technology
- Kreg track saw
- Weinig EasyStop

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15" 3 HP PLANER WITH SPIRAL CUTTERHEAD

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



W1863 15" 3 HP Planer w/ Spiral Cutterhead

7" 2 HP PLANER MOULDER W/ STAND

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



PATENT OWNED BY
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W1812 7" 2 HP Planer Moulder w/ Stand

D3393 Elliptical Jig for W1812

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

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



W1854 18" 1 1/2 HP Drum Sander

13" 3/4 HP OSCILLATING DRILL PRESSES

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



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



Includes sanding drums

A PATENT WAS ISSUED
AS A RESULT OF ITS
AMAZING TECHNOLOGY



W1668
Bench-Top
Model



W1848
Floor Model



New

38"

63"

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

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

KNIFE BELT SANDER/BUFFER

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



W1843 Knife Belt Sander/Buffer

16" VARIABLE-SPEED SCROLL SAW

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



Cast-Iron
Construction

Large 45°
Tilt Table



W1713 16" Variable Speed Scroll Saw

10" 2 HP OPEN STAND HYBRID TABLE SAW

- Motor: 2 HP, 120V/240V, single-phase (prewired for 120V)
- Motor Amps: 15A at 120V, 7.5A at 240V
- Enclosed cabinet bottom with 4" dust port
- Precision-ground cast-iron table with steel wing measures 40-1/4" x 27"
- Rip capacity: 30" to right, 15" to left
- Includes a 10" x 40-tooth carbide-tipped blade, standard and dado table inserts, miter gauge, push stick, and arbor wrenches
- Weight: 243 lbs.



W1837 10" Hybrid Table Saw With Extension Table

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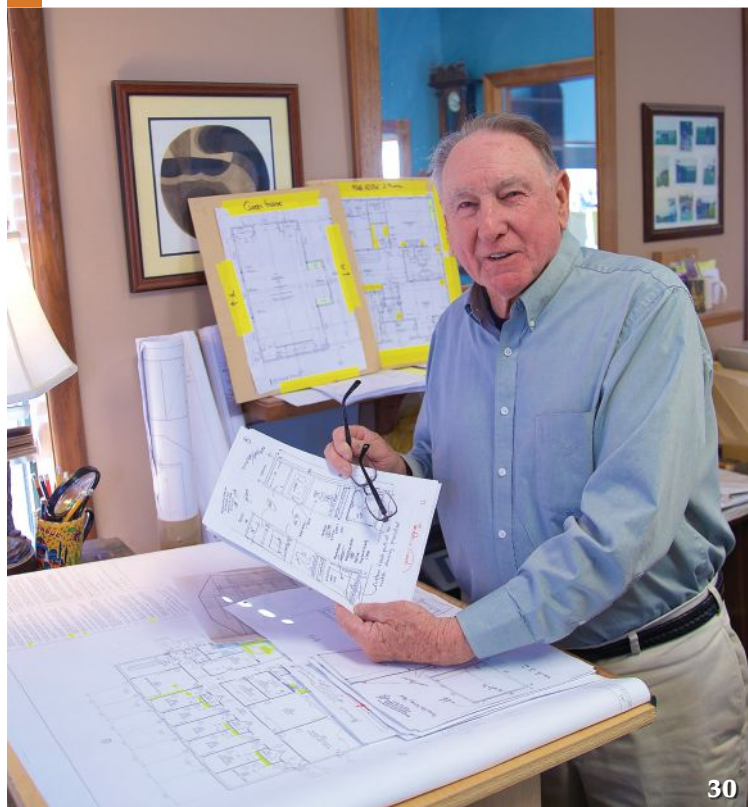
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PHOTOS: JOHN TROHAREUX PLUS (TOP, COVER)

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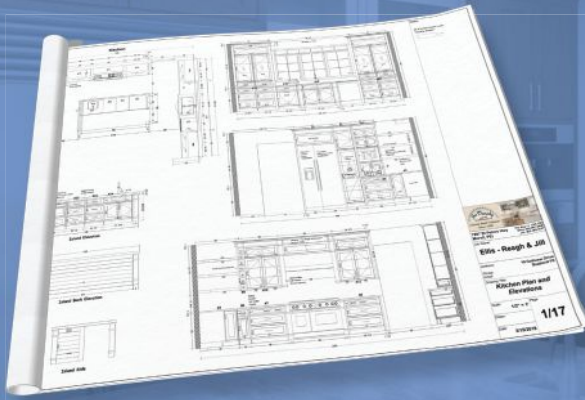
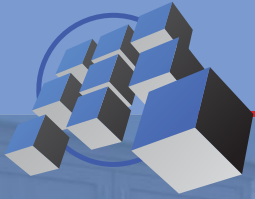
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BLOGS



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

AWFS call for entries; IWF remains in 'Fastest 50'

The Association of Woodworking & Furnishings Suppliers is seeking entries from its 2019 exhibitors for the Visionary New Product Awards and Showcase that will be featured at the AWFS Fair, July 17-20, in Las Vegas.

Product categories include: Industry 4.0; Machinery Over \$50,000; Machinery Under \$50,000; Power Tools; Hardware; Components; Tooling; Software; Raw Materials; and Plastics Machinery/Supplies.

All entries must be received by May 24 and all products must be submitted through the designated Visionary New Product website at <https://visionaryaward.artcall.org>.

AkzoNobel invests

AkzoNobel is making a multimillion-dollar investment to its wood coatings facility in High Point, N.C., to further strengthen the company's marketing position in the U.S.

It will include the addition of automatic dosing unit technology to produce paint more efficiently, a new raw materials warehouse, research lab and technical application center, according to the company.

Construction is due to begin in April 2019, with rolling projects expected to be completed by 2020.

"This is a significant investment, which will further enable us to meet and exceed our customers' expectations," AkzoNobel CEO Thierry Vanlancker said in a statement. "The U.S. is a key market for our wood coatings business, and our customers trust us to deliver world-class products and services."

IWF four-peats

The International Woodworking Fair has been named one of the Tradeshow Executive's Magazine "Fastest 50" for exhibit space in

2018. IWF is also honored for the next 50 in attendance and a Gold 100 tradeshow.

"We are honored to be acknowledged as one of the Fastest 50 shows in the tradeshow industry. Tradeshow Executive Magazine has now recognized IWF for Fastest 50 Shows 2012, 2014, 2016 and 2018," Brian Donahue, chairman of IWF 2020, said in a statement.

"We are excited about IWF 2020 as we will occupy three buildings as well as the expansion hall at the Georgia World Congress Center making IWF 2020 the largest since 2006."

IWF will take place Aug. 25-28, 2020.

NWFA University honored

The National Wood Flooring Association has received a Silver Award for its online learning platform, NWFA University, for the second consecutive year in the 2018 Association Trends All Media Contest.

The award was presented in the e-Learning & Live Training category. This category recognizes associations that have successfully implemented an online learning platform.

"Our members have completely embraced NWFA University," Stephanie Owen, the association's Education and Member Engagement Director, said in a statement. "Our goal when developing the platform was to engage an entirely new audience of users to educate them about the technical aspects of using wood as a flooring material."

"The courses are brief and very targeted, making them easy to complete in short bursts of time. They're also convenient. They can be completed at the user's own pace, and can be accessed from a PC, tablet, or smart phone, which makes them easy to fit into a busy work and family life. We're looking forward to expanding the platform to provide even more learning opportunities." **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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- Max. airflow: 868CFM
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- Motor: 3 HP, 220V, 3450 RPM, 18A
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- Impeller: 15" welded steel
- Collection drum size: 55 gallons, max. capacity: 35 gallons
- Suction capacity: 1941 CFM @ 2.6" SP
- Max. airflow: 1941 CFM
- Max. static pressure: 11.0"
- Approx. shipping weight: 419 lbs.



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37" 10 HP WIDE-BELT SANDER

- Sanding motor: 10 HP, 220V, single-phase, 50A
- Conveyor motor: 1 HP, 7A
- Table lift motor: ¼ HP, 3A
- Type: Platen
- Footprint: 19" x 51½"
- Maximum board width: 36½"
- Maximum board thickness: 2"
- Minimum board length: 14"
- Minimum board thickness: ¼"
- Front drum surface speed: 2600 FPM
- Conveyor speed: 15–49 FPM
- Air requirement: 57–75 PSI, 7 CFM
- Sanding belt size: 37" W x 60"
- Overall width: 53"
- Overall height: 69½"
- Overall depth: 49½"
- Approx. shipping weight: 1818 lbs.



G0571 Only \$11,950⁰⁰

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- Intake hole size: 7"
- Impeller: 13" welded steel
- Collection drum size: 35 gallons, max. capacity: 20 gallons
- Suction capacity: 1023 CFM @ 2.6" SP
- Max. airflow: 1023 CFM
- Max. static pressure: 10.9"
- Approx. shipping weight: 397 lbs.



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- Conveyor motor: 1 HP, 3.4A/1.7A
- Table lift motor: ¼ HP, 1.2A/0.6A
- Type: Single Drum
- Footprint: 39¾" x 19½"
- Max. board width: 24"
- Max. board thickness: 6"
- Min. board length: 10"
- Min. board thickness: ⅛"
- Conveyor speed: 15–49 FPM
- Sanding belt size: 25" W x 60"
- Overall width: 40"
- Overall height: 72"
- Overall depth: 50"
- Approx. shipping weight: 1518 lbs.



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- Maximum board width: 43"
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- Minimum board length: 14"
- Minimum board thickness: ⅜"
- Front drum surface speed: 3500 FPM
- Rear drum surface speed: 2600 FPM
- Conveyor speed: 14–60 FPM
- Sanding belt size: 43" x 60"
- Air requirement: 57–75 PSI, 12.3 CFM
- Overall width: 63½"
- Overall height: 72½"
- Overall depth: 60½"
- Dust ports: 10
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NEWS DESK

AWFS will be bigger with more variety

By Jennifer Hicks

The 2019 AWFS Fair is only a few months away and the producer is promising something for everyone. It will take place July 17-20 at the Las Vegas Convention Center and is shaping up to be the largest fair in over a decade.

"This is going to be our largest show since 2007," says Angelo Gangone, executive vice president of the AWFS. "Right now, we're also excited about the fact that we've got over 90 exhibitors that have never been in our show, and quite a few that haven't been in our show for several show cycles that are coming back."

Exhibitors will offer a first look at some of the latest woodworking machinery, hardware, tooling, components, power tools, lumber and more for furniture, cabinet and architectural millwork shops of all sizes.

Gangone says that two crowd favorites, the Industry 4.0 and Visionary new product showcases, will be in a more prominent loca-

tion this year. Rather than inside the exhibit hall, they will be in the grand lobby of the Convention Center.

While the show will feature plenty of digital fabrication machinery designed to increase production and decrease costs, Gangone emphasizes that all types of woodworking audiences are considered during the planning stages.

"We understand that with some of the smaller shops, they will go to this show but think it's really for bigger shops and that's not necessarily the case. We have something for shops of all sizes," says Gangone.

"We like to think of this is where the woodworking community meets and whether you're a one-man shop or a huge production facility, you are part of the community."

Other highlights include networking events, the Fresh Wood student design and Turning to the Future student competitions, Wood-



work Career Alliance skill evaluator training, and the Closet and Storage Pavilion.

And if that's not enough, attendees can choose from over 50 educational seminars in the Fair's College of Woodworking Knowledge program, which will have an emphasis on career and technical education.

"We have a new track called Culture and Workforce, but a lot of the sessions outside of that track are addressing that in different ways," says AWFS education and conference director Adria Salvatore. "We're really trying to empower attendees and companies in the industry to assess and really look at how they do business and how they can move forward and attract more workers."

For information, visit <http://awfsfair.org>. 

U.S. cabinetmakers take on China

By Jennifer Hicks

The American Kitchen Cabinet Alliance and its individual members filed a petition with the U.S. International Trade Commission and the U.S. Department of Commerce on March 6, alleging that the domestic cabinet industry is materially injured or threatened by reason of dumped and subsidized imports from China.

The alliance – which include Dura Supreme Cabinetry, American Woodmark Corp. and MasterBrand Cabinets Inc. – allege \$2 billion to \$4 billion in harm to the U.S. industry, which the group says accounts for about 250,000 direct and indirect jobs.

Chinese imports of kitchen cabinets into the

United States are up by more than 75 percent since 2015 and threaten this \$9.5 billion American industry, according to the AKCA.

"China has manipulated global production and captured a large and growing portion of the market, manufacturing dumped and subsidized products, and has taken jobs away from hardworking Americans," Tim Brightbill, chief counsel for the alliance, said in a statement.

"Today's filing at Commerce and the ITC demonstrates an important first step in stopping the surge of dumped and subsidized Chinese cabinet products coming into the United States."

The AKCA is calling on the Trump administration and congressional allies to join in the fight against unfair Chinese cheating and to create a level playing field for American kitchen cabinet workers.

Other members of the alliance include AC-Products Inc., Bellmont Cabinet Co., Bertch Cabinet Mfg., The Corsi Group, Crystal Cabinet Works Inc., Jim Bishop Cabinets Inc., Kitchen Kompact Inc., Koch & Co. Inc., Kountry Wood Products LLC, Lanz Cabinets Inc., Leedo Cabinetry, Marsh Furniture Co., Master WoodCraft Cabinetry LLC, Nation's Cabinetry, Showplace Wood Products Inc., Smart Cabinetry, Tru Cabinetry, Wellborn Cabinet Inc., Wellborn Forest Products Inc., Woodland Cabinetry Inc., Woodmont Cabinetry, and W. W. Wood Products Inc.

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Skilled labor shortage addressed at KBIS

By Jennifer Hicks

Through an event called #NextUp, the National Kitchen & Bath Association put a major focus on the need for skilled labor in the design and construction industry at the recent Kitchen and Bath Industry Show (KBIS) in Las Vegas.

"The kitchen and bath industry's growth trajectory, coupled with the labor shortages we're seeing in the economy, gives us an ideal

opportunity to educate the next generation on the many lucrative and creative opportunities we have in this market," Bill Darcy, CEO of the NKBA, said in a statement.

"The NKBA #NextUp program at KBIS provided an ideal opportunity for us to directly engage with local Las Vegas high school students while connecting them with kitchen and bath professionals so they can gain insight into



Karl Champley

how they might want to consider structuring their own paths."

NKBA members invited and hosted 150 high school students from the local Clark County School District. The students were given opportunities to ask professionals what drives them, how they chose their careers and what advice they could provide.

A panel of industry professionals shared stories of their own journeys and career paths. The panel was led by Karl Champley, an Australian master builder and current guest on "Ellen's Design Challenge".

"This was an amazing opportunity for our students and teachers. They couldn't stop talking about interacting with such highly-regarded industry professionals and were in awe after touring the trade show floor," says Craig Brockett, the district's Work-Based Learning administrator.

"We hope this experience motivates students to become the next generation of designers, fabricators, and builders. We can't thank NKBA enough for organizing this event and we look forward to growing this partnership."

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

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Blickle opens new facility

Blickle, a manufacturer of wheels and casters, has taken occupancy of its new 62,491-sq.-ft. facility in Newnan, Ga.

"The building, designed and built specifically for Blickle, represents the completion of Phase One of the company's U.S. Headquarter Campus," the company said in a statement. "The 19.5-acre site has been developed and prepped with utilities in place for future expansion. Provisions for a railway spur to service the facility have also been made.

"All U.S. operations will be managed from the facility including engineering, custom manufacturing, sales, customer service, product testing, customer and distributor training as well as shipping."

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Cherry takes a back seat to walnut and oak

By Jennifer Hicks

Believe it or not, cherry's classic look has fallen out of favor with the interior design crowd. They don't want red, according to hardwood and veneer suppliers interviewed by Woodshop News.

Bill Brittingham of Crown Veneer in West Grove, Pa., a seller of veneer and hardwood, says cherry sales are way down at his facility, noting the strong influence architects and designers have in steering consumers towards one color or another.

"Cherry sales, from a standpoint of ten years ago, are down about 85 percent. All wood veneers and such you can lump them into tile, glass and everything else. What happens is the design community goes from one color to the next roughly ten years at a time. Today it's walnut and white oak. In former times it was all cherry with a little bit of walnut and a little bit of white oak," says Brittingham.

"Red, for right now, seems to be out. That includes the exotic species like the makores, sapeles and mahoganies."

Ken Burtch of The Hardwood Connection in Sycamore, Ill., says cherry is alive and well, at least in his region. He believes that the export market is affecting suppliers where sales are down.

"Cherry is still one of our top sellers," says Burtch, "We're selling to the average woodworker in our region. We're not worried about the global situation. We're still using cherry. We're not the sawmill, we don't buy the logs, but from what I'm aware of, the folks overseas aren't buying the logs so much, so our mills are able to saw better logs."

As a woodworker, Burtch is partial to the species.

"Cherry is medium-density, closed-grain hardwood that really doesn't need any stain if you select it properly, just an oil-based finish. It just darkens naturally over time to that beautiful warm cherry color everybody likes."

Steve Gebhardt of Steve's Hardwoods, a hardwood retailer in Bucyrus, Ohio, first observed a drop in cherry sales about a year and a half ago.

"I don't know why. If we could figure that out, we'd be rich. Things go in trends. Before Christmas I was doing all live-edge tables in walnut, now everybody all of a sudden wants floating shelves. I haven't done a floating shelf in years and that's all I've been doing," says Gebhardt.

"I deal with the Amish sawmills, and last September, they were trying to get all of their cherry sawed up and get into their summer contracts because the green prices were crashing. A lot of that's your export market, it really drives what's hot and what's not and what's selling. The Chinese are consuming our red oak, and they like our walnut and white oak." **W**

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TOOLS & TECHNIQUES

DeWalt adds Atomic Compact Series

By Jennifer Hicks

DeWalt will be rolling out six new cordless tools as part of its new Atomic Compact Series throughout 2019 and 2020. The drills, saws and other tools, which will add to the company's 20-volt Max cordless system, combine performance and durability in a compact format, the company says.

"The Atomic Compact Series is a great way for the emerging general contractor to begin to invest or expand in the 200-plus products offered through the DeWalt 20-volt system," says Jeremy Torok, the company's vice president of marketing.

"For woodworkers and cabinetmakers specifically, the small footprint of each tool is a



Lightweight and optimized for use in tight spaces, the Atomic Compact Series adds to DeWalt's 20-volt Max line.

major benefit, providing access to tight spaces. In addition, each tool in the Atomic Compact Series is lightweight and easy to use over long periods of time."

A drill/driver (model DCD708B) and impact driver (CDF809B) will be available this spring, each selling as a kit with two batteries for \$159 or as a bare tool for \$119.

A circular saw (DCS571B), oscillating multi-tool (DCS354B) and hammer drill/driver (DCD709B) will be available in the fall. A reciprocating saw (DCS369) will follow in early 2020, according to DeWalt.

All of the new tools feature brushless motors. For more, visit www.dewalt.com. [W](#)

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Felder to unveil safety technology at LIGNA

By Jennifer Hicks

The Felder Group, a manufacturer of woodworking machinery, will introduce saw safety technology at the LIGNA 2019 trade fair, May 27-31, In Hanover, Germany.

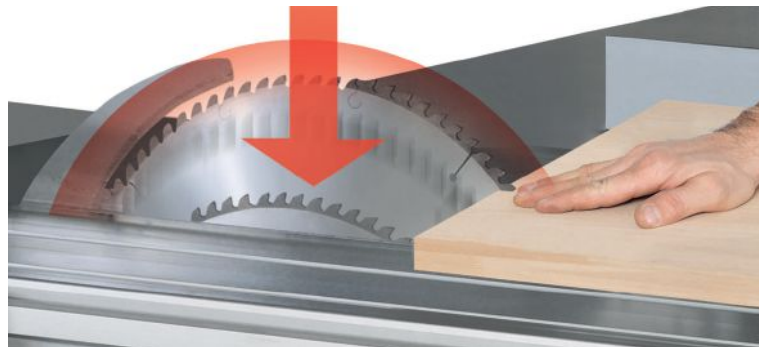
With the company's Preventative Contact System, the saw blade serves as a sensor surrounded by an invisible 'curtain' that detects a human body's magnetic field. Upon detection of an unexpected, fast approach within the saw blade area, PCS triggers the safety mechanism, lowering the blade. The safety environment surrounds the saw blade and protects against access from all directions, according to Felder.

"When the risk of an accident is detected, the PCS triggers, at the speed of light, the lowering of the saw blade under the saw table. The functionality based on the electro-magnetic law of repulsion allows for an all-time extremely short response time of a few milliseconds," says Robert Tratter, head of R&D at the Felder Group.

The PCS system will be offered with the Format-4 Kappa 550 sliding table panel saw in the European market.

"The system is amazing. No one else has anything comparable to the system. It acts without being touched, it drops down at light speed without causing any damage, and the customer is able to restart the machine right away," adds Tratter.

For more, visit www.felder-group.com. [W](#)



Upon detection of an unexpected fast approach within the saw blade area, Felder's PCS triggers the safety mechanism, lowering the blade, to protect against access from all directions.

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TOOLS & TECHNIQUES



Kreg combines track saw with project table

By Jennifer Hicks

Kreg Tool has introduced the Adaptive Cutting System, a track saw and table system that adjusts to a variety of cutting needs.

The key highlight is how it combines the advantages of guided cutting with a project table that supports and positions materials precisely, the company explains. This allows for cross, rip and miter cuts, or panel processing.

"Our idea was to try to come up with an alternative way, other than having to go from table saw to miter saw, etc., to be able to handle cutting sheet goods and solid wood in a way that would be portable and safe," says Kreg's Dave Stone.

"That's why we started with a track guided plunge saw. But where it really comes in is having the project table that has the built-in measuring systems and the workpiece supports and stops."

Kreg includes the saw, 62" guide track and table in a Master Kit that sells for about \$900.

For more, visit www.kregtool.com.



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Weinig's EasyStop increases efficiency and precision

By Jennifer Hicks

Weinig's EasyStop is a linear positioning system that allows complete flexibility while ensuring precision, power and quickness, according to the company. The tool can be used in a variety of work stations where a measurement is needed, including chop saws, bandsaws, radial arm saws, drill presses and more.

"It reduces the inaccuracy of tape measures by using a digital stop. If you want 32", you don't need to get your tape measure out to manually move your jig or fixture, you just punch it in and it goes to 32", with 1mm accuracy," explains Weinig's Heath Magsig.

"The other nice thing about it is it has full optimization. This will cut automatically if you just tell it the length of the material. It will give you less waste and a better yield."



Weinig's EasyStop can position even the heaviest loads with unmatched accuracy reducing a shop's handling costs and providing a safer and more efficient work environment, the company says.

The system is controlled through the Opti-Com 7" touch screen that shows all relevant information at a glance and is quite easy to learn, regardless of the operator's CNC skill level, according to the company.

In the Active Workpiece Transport mode, EasyStop automatically reads from a cutlist and positions the stock for accurate cuts at the required lengths. Thus, there's no need for the operator to input dimensions.

The Stop System operating mode replaces time consuming one-off manual stop positioning. The workflow remains the same as the operator only needs to enter the desired position, align the workpieces against the stop and machine the workpiece, according to the company.

The system also has the MillVision shop managing software to create and complete workpiece flow across multiple machines and processes.

Weinig offers an in-feed metal table option.

The EasyStop is available in 5', 11', 13' and 17.8' travel lengths with prices ranging from \$9,990 to \$11,090.

For more, visit www.weinigusa.com. 

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PRO SHOP

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Create a road map to success by writing a business plan

I know a lot of woodshop owners that started off as a one-man business. They printed business cards, had their brother-in-law create a website, got a second phone line installed, and were on their way. Then they got a big job and hired help. Bigger jobs required more employees, and because the machine needed constant feeding, finding the next job became the priority.

Okay, so maybe this is my story, except I started before the Internet. Is my age showing?

But if you recognize yourself in this story, now is the time to take a step back and think about one, three, five and ten years down the road, evaluate your successes and failures, and write a business plan.

Buckle up

Think of a business plan as preparing for a cross-country drive. Would you leave without having a route or knowing how long the trip will take? Hopefully not.

A good business plan lays out where you are today and where you want to go. As with most cross-country drives, they don't always go exactly the way you expect, so your plan needs to be flexible and get revised along the way.

A business plan also describes your company, what it sells, its market and goals. It typically contains a market analysis; the operational and management structure; the company's financial status, and marketing strategies. It often required with a loan application.

A business plan should be referenced and revised as your business grows.

Here's a breakdown some of essential elements:

Executive summary: This is an overview of what your business makes and sells; the ownership structure and history; the mission statement, and future goals. If seeking a loan, include growth milestones and financial information.

Market analysis: Describe the demographics of your market, explain your target market, and provide details about the competition. Include pricing data, discounting campaigns and sales strategies. Also, include any regulatory issues you may confront and operational costs necessary for compliance. Other perti-

nent topics to explore: Are you strictly local? Do you want to grow into a larger region? Would you do business across state lines? Take the time to investigate similar shops and learn what they're doing differently.

Organization and management: Describe your company's organizational structure, providing ownership roles and management team profiles. Putting this information down on paper will help when you need to replace or hire new employees. It's also critical to have a written agreement pertaining to any partners, including defined roles, compensation and exit procedures. And do this while you're all still friends.

Service, product lines: Describe what you provide to customers and review which jobs or products are the most profitable or cost effective. Determine the product life cycle and analyze areas for improvement. Also, factor in research and development costs regarding materials and processes.

Sales structure: Describe the sales process, including lead generation and average time spent from start to finish. Analyze for areas of improvement and explore marketing strategies to support your sales process.

On to marketing

Prepare a formal marketing plan that identifies your customers, states your primary message and how it is disseminated. Remember, marketing is not sales; it's about selling to the masses.

There are a number of components to include in your marketing plan:

Branding: Defines who you are and what you sell. Your branding should be designed to attract a certain clientele and incorporate the look and feel of your business. Your brand should be expressed consistently using the same colors and fonts in your logo, business cards, stationery, website, brochures, etc. Unless your brother-in-law is also a graphic artist, strongly consider hiring a branding professional.

Messages: Establish one or two primary messages.

Continued on Page 27

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with R.W. LEE

How to choose a printer

Is it for shop drawings or to impress a customer?

Remember blueprints? Some of you younger readers probably don't, but for over a century they were the principal specification drawings used in

the construction and woodworking industries.

Introduced by Sir John Herschel in 1842, a blueprint is a reproduction of a technical drawing onto light sensitive paper. You ended

up with the white lines of the drawing against a dark blue background.

Whiteprints came about in the 1940s, made using a process known as diazo which used a newer form of light sensitive paper and chemicals that were simpler and less toxic. This process left the background white and the lines blue or black. It was a faster and less expensive process but required the use of an ammonia-based chemical. The smell did not go over well.

In the early 2000's, faster ink pen-based printer/plotters came about to keep up with the speed of CAD drawing. Then the technology of the xerographic printing process found its way into copiers that could produce full-sized prints, up to 48" wide x 36" high.

For woodshops to effectively use CAD-based drawing programs, a plan-sized printer/plotter, known as wide-format printers, are appropriate. But the choices are many, including inkjet, laser and LED models. They are also available as combined scanners and copiers, and with numerous accessories to increase productivity. Prices range from reasonable to mind boggling.

As you begin the buying process, start by examining what is needed for in-house and selling purposes. Black line prints are adequate for shop use, but customers will be more impressed with color printing.

Also consider if your CAD software requires a specialized print driver, which means the computer and printer can talk to each other, and whether your shop uses a WiFi connection, an option on some wide-format printers.

Support and service is also important. Fortunately, most major manufacturers produce dependable wide-format printers and can solve most problems over the telephone.

Inkjet wide-format printers are the least expensive option out of the box. It's a mature technology, responsible for countless sets of plans. They are available with four, six or eight color cartridges. The catch is the high cost of the replacement cartridges, which is where the printer manufacturers make their money.

Laser wide-format printers are another mature technology. They have high upfront and replacement cartridge costs, but the print quality is excellent and the cost per page – compared to inkjet printers – is significantly less.

LED wide-format printers have the greatest life span. The technology incorporates a semiconductor light source that emits light when current flows through it. Thus, there are fewer moving parts and no filaments to replace. They also have the advantage of producing a higher dots-per-inch (DPI) output, which translates to a very high-quality color print.

Laser and LED wide-format printers have the capability to scan, copy, store multiple paper rolls, and send DXF files. **W**

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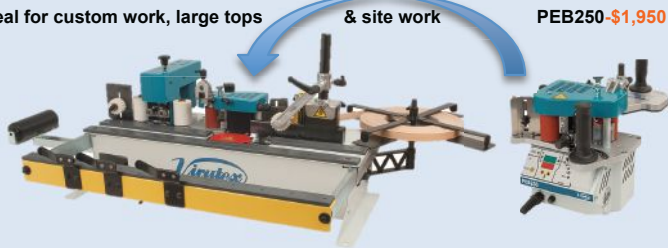


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FINISHING

with BOB FLEXNER

Not lost in translation

Though British finishing terminology can differ significantly from our terminology, we're still speaking the same language

For the last 25 years or so I have been what's known as a freelance writer. Freelance means that I make my living by taking on various jobs wherever I can find them. I don't have just one job working for a company that provides me with a paycheck.

Explaining this makes me realize that I was actually a freelance woodworker before I became a freelance writer, even though I've never seen those two words put together before. I worked alone doing woodworking and restoration and took on all sorts of jobs to provide an income.

I have done the same as a writer. One of the most interesting and different jobs was some years ago working for a British publisher translating British woodworking and finishing books into American English.

You may have heard the expression: England and the U.S. are two countries separated by a common language. There are many examples of this. I'm sure you know that soccer here is football over there. Other examples include, an apartment here is a flat there. A cookie is a biscuit. Vacation is a holiday. And so on.

Finishing

Well, the same language differences exist in woodworking and finishing. Specifically, when it comes to finishing, probably the most common are the terms having to do with French polishing. This is probably due to how much of the early instructions for performing this application technique were actually written by British French polishers. In fact, even the term French polishing is that way because the technique is thought to have been invented in France and then transmitted to the U.K. through Holland.

I remember reading some of these instructions in my early days. French polishing is, of course, a technique for rubbing shellac onto a surface using a balled up cloth. The solvent we were told to use was methylated spirits. So like many others who misunderstood this term, I dutifully went to the paint store and bought a can of methanol, that is, methyl alcohol, because that's what methylated sounded like to me.

But methylated spirits is ethyl alcohol (spirits – the stuff we drink) that has been made poisonous by the addition of some methanol. So methylated spirits is our denatured alcohol. Methanol works well, of course, but it is quite poisonous, and you shouldn't be standing over it for a long time breathing in the fumes.

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Other French polishing terms adopted from the British include, rubber, which is British for pad (the shellac is rubbed onto the surface, so the pad becomes a rubber), wadding, which is cloth or batting, used to make the pad, and charge, as in charge the rubber, which means to add more thinned shellac, or load the pad.

Here are some more British finishing terms and how they translate into American English: Emulsion paint (latex paint); wire wool (steel wool); white spirit (mineral spirits); pencil brush (an artist's brush); mop (a round brush); liming (pickling), and atomizer (an airbrush).

Finally, I want to mention melamine, which has been sold here to woodturners. It is what we call, pre-catalyzed lacquer. The term, melamine, comes from one of the main resins used to make this finish.

Here's how I determined that melamine was pre-cat. A woodturner came by my shop one day with his container of melamine wanting to know what it was. First, I knew that melamine formaldehyde was a primary ingredient in catalyzed lacquer, so I had a head start.

But the way I tested was to apply some to a board. It dried very rapidly and it smelled like lacquer. So when dry I dabbed on some lacquer thinner. It didn't soften or remove the finish. The finish was resistant to lacquer thinner, so it couldn't be nitrocellulose lacquer. Also, it came in one part; there was no second part to add, so it couldn't be a post-catalyzed lacquer. It had to be pre-cat.

Woodworking

Most of the books I translated were woodworking books, and there are a lot of British terms having to do with various categories of woodworking. Subjects included Boxes, Children's Toys, Children's Furniture, Woodcarving, Bird Houses and a Complete Woodworking Course. You can get a feel for the market

PRO SHOP from Page 23

Elevator speech: Prepare a response to "what do you do" that can be delivered in 30 seconds or less. Your response should create interest and encourage more discussion. Write out your speech and practice.

High quality images: Hire a professional photographer to assemble your portfolio and always have it available for viewing, preferably on a phone or tablet.

Website development: Hire a designer to create your website using your brand and messaging. Include testimonials and images from your portfolio. Website design can be a do-it-yourself project but it's not necessary to reinvent the wheel. Wix, for example, is a super easy platform.

Publicity: Think about the publications (both online and print) that your customers

this publisher was targeting in the U.S.

The most common British term you might have come across is timber for a board or wood. Or cramps for clamps. A lot of the British terms sort of struck my funny bone. They made sense when I thought a little about the words used, but they caused me to smile. For example, a spanner is a wrench. Well, yeah, it spans the bolt or whatever. So it's a spanner. It makes more sense than a wrench.

Another similar example is a cross-head screwdriver. That's a Phillips screwdriver. Cross-head makes total sense. As does impact adhesive (contact cement).

Here are some more: Nesting box (bird-house); wheel brace (the brace in a brace and bit); pillar drill (a drill press); multi-ply (plywood), and scalpel (craft knife).

A few terms that I thought most Americans wouldn't understand I changed. But these terms have since become so common I would leave them now. Here are a few examples: DIY, for do-it-yourself; proud, as in leaving the pin proud. I translated it as protruding. Another is tin for can. I think most people would understand tin.

Anyway, it was an interesting experience. Freelancing, whether writing or in a shop can often be fun and challenging. In this case, the publisher would send me a manuscript by Fed Ex, along with a typical publisher plea to turn it around as fast as I could. I would mark it up and return it by Fed Ex. Now, of course, it would all be done online.

The British terms were not always obvious. Many times I had to use the context to figure out what was being referred to. If you happened to buy one of these books, I hope it all made sense to you.

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

read and pitch a story idea to an editor or reporter. It has to be newsworthy. Did you just make something that is unique and different? Are you using new materials or a new machine? Even a new hire is worth a mention in the local paper because readers will see that your business is growing. Share any publicity through social media.

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- Feed motor: 2 HP, 240V, 3-phase, 6.1A
- Table elevation motor: 1/2 HP, 240V, 1.6A
- Table size: 18" x 102"
- Max. cutting width: 18"
- Max. stock thickness: 8"
- Max. cutting depth: 3/8"
- Min. stock thickness: 1/2"
- Min. stock length: 12"
- Feed rate: 26-72 FPM
- Cutterhead speed: 4000 RPM
- Cutterhead diameter: 5 1/2"
- Overall size: 106"L x 37"W x 67"H
- Footprint: 74 1/2"L x 27"W
- Approx. shipping weight: 6614 lbs.

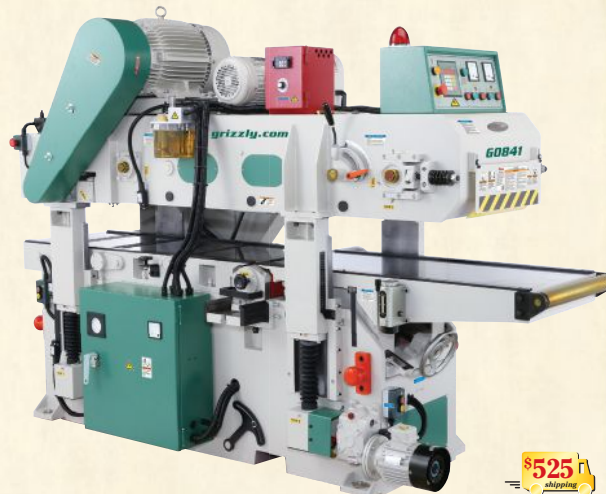
FEATURES:

- Table equipped with five rollers for greater feeding efficiency
- Motor employs Y-D start
- Feed chain is automatically lubricated
- Belts on bottom cutterhead are easily changed
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- Table size: 19" x 12 1/2"
- Vertical spindle travel: 9"
- Head vertical travel: 3"
- Table longitudinal travel: 14 1/2"
- Table cross travel: 3"
- Column tilt: ±30°
- Fence angle: 0-30°
- Chisel capacity: 1/4"-1 1/2"
- Maximum chisel stroke: 6 1/4"
- Maximum workpiece width: 9"
- Chuck capacity: 1/2"
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- Spindle speed: 1725 RPM
- Overall size: 36"W x 24"D x 71"H
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- Table tilt: 5° L, 45° R
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- Blade widths: 1/4"-1 3/8"
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- Intake port without manifold: 10"
- Impeller: 17" balanced steel, radial fin
- Upper bag size (x 4): 23 3/8" x 70"
- Lower bag size (x 4): 23 3/8" x 54"
- Collection bag capacity: 48 cubic feet
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- Spindle sizes: 3/4", 1", 1 1/4"
- Spindle speeds: 3600, 5100, 8000, 10,000 RPM
- Spindle travel: 3/4"
- Max. cutter dia.: 5 1/8"
- Approx. shipping weight: 604 lbs (G5912Z), 613 lbs. (G7214Z)

G5912Z
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7 1/2 HP, 3-PHASE

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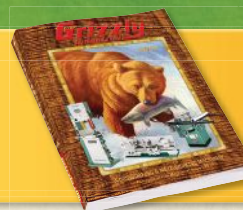
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- Main blade tilt: 0-45°
- Depth of cut at 90°: 4"
- Depth of cut at 45°: 2¾"
- Main blade speed: 3000, 4000, 5000 RPM
- Main blade arbor: 1"
- Scoring blade size: 120mm (4¾")
- Scoring blade arbor: 20mm
- Scoring blade speed: 8000 RPM
- Scoring blade tilt: 0-45°
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- Table size: 10½" W x 69¼" L
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- Main blade size: 12", Arbor: 1", Tilt: 0-45°
- Depth of cut @ 90°: 3½", @ 45°: 2¾"
- Scoring blade size: 4¾", Arbor: 20mm, Speed: 8000 RPM
- Scoring blade tilt: 0-45°
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- Max. depth of cut: ¾"
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- Max. cutting width: 25"
- Max. cutting depth: ¼"
- Max. stock thickness: 9"
- Min. stock thickness: ¼"
- Feed rate: 20, 25, 30 FPM
- Speed: 4900 RPM
- Min. stock length: 10"
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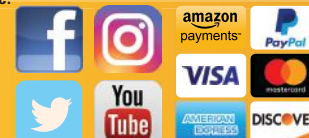
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REACH ME AT THE BEACH



Frankford Custom Woodworking in southern Delaware serves a primary market of vacation homes and businesses along a 25-mile stretch of coastal communities.

By Jennifer Hicks

Maynard Esender, owner of Frankford Custom Woodworking in Frankford, Del., has the right business in the right place, and has earned an excellent reputation for his high-end custom cabinetry over the past 30 years. His company is located close to the Delaware and Maryland shores where high-end homes and resorts require plenty of cabinetry and commercial casework.

"There are some bad spots in the United States, but this is not one of them. We got affected pretty bad by 2008, but we managed to stay in business. It got a little scary. But the economy in this area is booming in many different areas," says Esender.

"I would credit it greatly to the track home builders, who build homes that look nice when you walk in but after you've been there a while you see the need for bookcases and entertainment centers like the model homes have."

The company also specializes in closet work, gracing those spacious walk-in closets with hardwood shelving to replace wire racks. Additionally, it carries a line of manufactured cabinets allowing for a full range of offerings for all types of buyers.

Today, Esender maintains an average of seven employees in his spacious 10,000-sq.-ft. shop.

PHOTOS: JOHN TROHAREUX PLUS



Rob Harbaugh (lower left) is a 12-year veteran of the shop; Shannon Cole (above and opposite page) is the newest team member.

Bartending to building

Esender started his business like many a woodworker – he fell into it. Originally from Baltimore, he visited Ocean City, Md., over summer vacations, often staying with family members at their beach homes. He tried a little college at the University of Baltimore but by his early 20s, beach life beckoned. He moved to Ocean City in 1962 and worked around the clock tending bar and waiting tables. The only downfall was the off-season.

“I loved it, but nobody would hire you for a real job in the winter knowing you would go back to tending bar and waiting tables in the summer. That’s where all the fun and money was,” he says.

“You couldn’t get a job in a grocery store or do office sales, so the only choices you had were you could be a commercial fisherman,

which paid well but the working conditions are rough, or in construction, which wasn’t good money but it was on dry land. I took the latter and managed to become a halfway decent carpenter. By 1962, I was a year-round resident of this area.”

By 1981, at age 38, he’d refined his woodworking and finishing skills while simultaneously working for and operating several bars and restaurants. He decided it was time to start his own business, which began in a shed in his backyard.

“I was a trim carpenter in the late 70s, and when I got married and started thinking about a family, I opened up my own shop. Then I moved from Ocean City to Frankford because it was very affordable and near a good market. My market is the beach.”

The shop’s primary market ranges from Lewes, Del., to Ocean City, only about 25 miles apart.

“Lewes is a relatively small town with some restaurants and shopping. It’s a debarkation point of the peninsula for the Cape May-Lewes ferry. There’s a lot happening near the Rehoboth and Dewey beaches. Bethany Beach is nearby and Ocean City’s population probably swells to 275,000 in the summer.

“This location is one of the things that got us through the recession. The phones really start ringing as we get closer to summer.”

The breakdown of residential and commercial work is about 50/50. The shop often works with large developers, prominent builders and general contracting firms, as well as individual homeowners. Work ranges from a small kitchen renovation to an entire hotel lobby.

Local design tastes range considerably. Esender describes the current trend as “anything original”. One day a customer will spec laminates. The next day a customer might show up with a tree.

“I go with the flow. I really do. We’re working on an oceanfront house right now north of Bethany Beach that is being designed by an



architect in Washington D.C.”

The shop is enjoying a two-month backlog before the summer rush. Competition is not a major concern.

“There are three or four shops around that do this kind of work. In this area I’m probably the biggest. There are two pretty good-sized ones in Salisbury which is 30 miles inland and there’s one in Easton, Md. There’s a lot of big money in Easton, and that shop serves that area.”

In the future

Esender foresees business will continue on a positive note in the years ahead. While heaps of regular annual vacationers visit from Washington, Baltimore, Philadelphia and beyond, another group is contributing to the area’s sound economy.

“This particular area is attracting a lot of retirees. You can retire in a relatively comfortably climate, though it did drop to single digits here in January a couple of times. If you’re from Washington, Baltimore, Philly or even Harrisburg, Pennsylvania, you can get home to see the grandkids’ high school play or football game, or the family can come down to spend the weekend. If you retire to Florida, you don’t see the family that often.”

Esender has one child, Graham, who works in Hong Kong. The succession plan, for now, is to take a step back and let his employees take over.

“A couple of us have been talking about our next big move now that the economy and our books have stabilized. We will be looking into purchasing a CNC machine and a larger, more efficient edgebander. Really, I think the outlook for the next five to ten years is quite good. I really do.”

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SHOPPING FOR THE SHOP



Enhance your current machinery with these products aimed at improving function and productivity

By John English

Small- and medium-sized woodshops face a challenge. They don't process enough volume to justify some of the latest cutting-edge technology, but they still need to remain efficient, versatile and competitive. Adapting existing machinery for new purposes and tasks is the most logical and viable option.

Take, for example, the basic table saw. It doesn't take much to turn it into a horizontal panel saw, just by adding a sliding crosscut table. For shops running SawStop equipment (sawstop.com), the company offers sliding tables that match the company's contractor, professional and industrial saws for easy, repeatable and accurate full sheet (4x8) processing.

The table is made of T6 aircraft-grade aluminum, with a black anodized coating that allows product to slide easily, and installing it is a simple task using pre-drilled holes. The bearings are large and smooth, so they can handle heavy loads. The fence angle can be adjusted from 60 degrees left or right with a twist of a single, large knurled knob. An extension slides out of the end of the fence to provide a stop that's a full 58" from the blade, and it comes complete with heavy duty flip stops. The miter gauge holding the fence is huge and has markings that are easy to see and read – the adjustable scale even has a

Grizzly's T10223 sliding table saw attachment.



The Bench Dog router table, available from Rockler.

built-in magnifying glass. The table is set up for quickly adding sacrificial fences, and the miter gauge can be locked in any position along its travel for repeat cuts.

For shops on a stricter budget, Grizzly's T10223 sliding table attachment mirrors many of the features of the SawStop table at about half the cost (online at grizzly.com). The unit installs on most saws (not just Grizzly brands) that have 27" deep tables.

I've had a Canadian-built Excalibur sliding table attached to an industrial saw for more than a decade and have found it to be both reliable and accurate. Made by General International (general.ca), the table is very large and handles full sheets easily. It rides on 14 sealed steel bearing rollers and fits most 10" to 14" saws.

Beyond cost (most units run between about \$750 and \$2,000), other considerations when upgrading a table saw with a slider are floor space and maneuverability. The extension table eats up a lot of room and may interfere with traffic flow in the shop. So, a little rearranging may be in order. And take a good look at how easy or difficult it is to remove the fence when it's not needed.

Saw-mounted router tables

Adding a router table to a table saw has two big advantages. It saves floor space, as the new enhancement usually just replaces a saw wing

or attaches to the edge of the existing machine, and it can often share the table saw's existing fence system. However, there is one big potential drawback, especially for woodshops that use the table saw to build casework. You can't always use both machines (table saw and router table) simultaneously.

You may find that the setup you just spent 20 minutes perfecting for the router table needs to be taken down because a sheet of plywood crossing the saw won't fit. On a left-tilt saw, it's advisable to attach the router table to the right-hand end of the saw to minimize conflict. One solution here is to involve a local machine shop and make the router table hinged, so that it just drops out of the way if necessary, without having to take down the setup.

Rockler (rockler.com) offers an add-on router table in its Bench Dog line. Grizzly's version, the T10222, is more robust (about 70 lbs.) and features an industrial fence system.

Inkra Precision Tools (incra.com) offers four models designed to complement the company's TS-LS and TS-III aftermarket table saw fence systems, and all include the TS Router Table Support Kit with four brackets and two table stiffeners. The brackets can be positioned anywhere along the fence rail and they are vertically adjustable.

Peachtree offers a cast-iron router wing (item No. 3040 at ptreusa.com) that has a lift-out router table insert. It can be purchased with or



Excalibur's sliding table attachment.

without a fence, so some users will elect to share the saw's fence for routing. And MLCS (mlcswoodworking.com) offers three configurations of its extension cast-iron router tabletop and fence, including options for an aluminum, a phenolic or no insert plate.

Most of these manufactured table saw router kits can be outfitted with various lift kits for raising and lowering the cutter either electronically or manually.

Baileigh Industrial (Baileigh.com) offers a single machine that combines all three functions – a table saw, sliding table and router table – for \$4,095 in a small footprint. The model TS-1020WS includes a 3-hp, 220-volt, single-phase motor and a cast-iron tabletop.

If the shop is building five-part doors and face frames, Tigerstop (tigerstop.com) offers a large catalog of stop gauge and material positioning systems for rapid, precise positioning of parts on a miter saw. Adding a manual or electronic stop, especially one with repeatability for more than one length of material, can dramatically improve yield and productivity while reducing scrap waste and labor costs.

Mortising and other attachments

Furniture builders, more than cabinetmakers, sometimes find themselves chopping mortise and tenon joinery for a project, but not often enough to invest in a dedicated machine that eats up cash and floor or benchtop space. One traditional tool enhancement here is a mortising attachment for the drill press that uses that tool's action to deliver fairly respectable results. But be warned that they are intended for fairly rugged presses. The chopping action can play havoc with an undernourished quill and leave you with a wobbly drill press.

The Home Depot and Lowes both carry a kit from Delta that includes four popular mortising chisels and bits for a little over \$100. Northern Tool offers a budget version from Irontron for about half that. Grizzly's H7789 sells for \$118. If the shop has a spare drill press that can be set up and left that way, these kits can make a lot of sense.

One of the handiest tool enhancements in any woodshop is a large diameter disc sander that works on a table saw. This is especially true if the shop has a portable saw that is usually only used for installation work, so it can be left set up to sand. Woodcraft (woodcraft.com) offers the WoodRiver 10" table saw sanding disc mounting plate (item No. 129272, \$23), and it takes full advantage of the saw's miter gauge and tilting arbor to sand angled edges with precision.



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The TS-1020WS multi-function machine from Baileigh Industrial (left) and Peachtree's cast-iron router wing.

One of the smartest tool enhancements in any woodshop is an automatic blast gate system for dust collection. For larger shops and industrial manufacturers, EcoGate has this well covered. But for small professional and dedicated hobbyist shops, there's an affordable alternative. GrnGate (grngate.com) offers a system where a woodworker starts a machine, completes a task and turns the machine off without ever thinking about dust collection. A sensor detects when the machine is started and that opens the tool's associated blast gate. This in turn starts the central collector. When the tool is turned off, the gate closes.

The company offers a three-gate Starter System that contains three 4" blast gates, three sensors, a system controller and all the necessary cables for \$395.

The bottom line is that the woodworking industry is awash with great ideas for shop tooling, jigs, fixtures and new ways to get the most out of existing machinery. People who build things are naturally inventive, so there's probably a solution out there somewhere on Google or YouTube for your latest challenge, whim or desire for tool enhancement. Half the fun is finding it. [W](#)

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COMPLIANT & USER FRIENDLY

The latest trends in new finishing equipment also include reduced pressure, enhanced atomization and improved ergonomics

By John English



The finishes being used on casework and furniture have undergone a major metamorphosis over the past decade or so, as technology both leads and follows aesthetic trends. It leads by offering new solutions such as enhanced UV coatings and environmentally sound sealers and topcoats, and it follows as the market continues to move away from traditional wood stains and clear coatings toward solid colors and lower maintenance solutions.

One thing doesn't change – woodshops still have to find the best way to apply coatings.

REDUCING PRESSURE

One of those ways is a trend toward reduced pressure (RP) equipment, which is in part a solution being adopted by manufacturers to meet a federal EPA mandate on emissions. These new guns have redesigned spray heads that also accommodate the latest EU rules on VOCs regarding the relationship be-

tween pressure and overspray. Requiring high transfer efficiency ratings, they are known in the industry as 'compliant' guns.

RP seems to be especially well-suited for urethanes and high solid materials. These guns can deliver product faster than traditional HVLP setups while they consume about half the air volume, and there seems to be a consensus that they deliver a better quality clearcoat. They are



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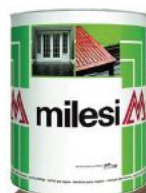
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The SATAjet X 5500 RP (opposite page) and WS-400 Evotech from Anest Iwata.

also suitable for applying base coats, although many shops report that they have stayed with the HVLP gun for that because of lower overspray, and also for spraying waterborne product. Some users, especially automobile painters, say that they tend to push the PSI settings up a little over the recommendations for RP guns, and this tends to reduce or eliminate orange peel.

Fuji Spray's new MPX-30 gun is a good example of the newest generation of RP guns. It works with a shop's standard air compressor, rather than requiring a turbine, and it comes in either gravity feed or siphon models. A high-pressure regulator gauge is included, and the recommended operating pressure is 13.8 cfm at 36 psi. The MPX-30 will handle solvent-based coatings, plus low VOC colors or clearcoat. Its stainless-steel passages are suitable for waterborne coatings, too.

Another high-end gun, the SATAjet 5000 RP comes with a 1.3mm nozzle and a precision air pressure gauge (adjustable to ± 0.10 bar accuracy). Easy to operate, the gun provides relatively simple control of fan shape, material flow and air consumption.

The new SATAjet X 5500 became available in the U.S. and Canada last November. Developed in co-operation with Porsche's design studio, it's equipped with the company's X-nozzle system and has two distinct spray fan shapes for each nozzle size – parallel and oval-shaped. It's very quiet, matches any paint material, climatic conditions or painting method, and has a much easier and faster cleaning process than traditional guns. It's very precise because of enhanced atomization, and with constant fan size across the entire nozzle spectrum, it's quite consistent. As with the latest generation of guns from most manufacturers, a woodshop can choose between HVLP and RP versions, and also between the two different spray fan shapes for each individual nozzle size. Both the 5000 RP and the X 5500 are available with or without an integrated digital/non-digital pressure gauge.

Enhanced atomization is becoming a marketing catchword. In fact, Apollo Sprayers is stressing its value with the newest 7700T, which the company calls the Atomizer. It offers new MicroTech technology for atomizing particles. Other innovations include an im-



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“SOME USERS, ESPECIALLY AUTOMOBILE PAINTERS, SAY THAT THEY TEND TO PUSH THE PSI SETTINGS UP A LITTLE OVER THE RECOMMENDATIONS FOR RP GUNS”

HANDLES AND APPS

In addition to regulatory compliance and more efficient delivery, spray equipment manufacturers are paying more attention to ergonomics, too.

The RX-Apex is a new airless paint spraying gun from Titan (titantool.com) and it comes with a choice of four different handle grips for various sized hands, plus some angle tweaks. The gun is designed for high-volume paint and high-performance protective coatings applications, and it also has the company's All-Day trigger system. A built-in free-flow swivel makes maneuvering the gun easier and less restrictive, and shop managers will appreciate the Infinity Packing system that doubles the life of the gun and makes rebuilding as easy as reversing the seat and changing the ball.

Graco (graco.com) launched four electric and two gas airless sprayers in February that feature the new Endurance Vortex MaxLife piston pumps and a new app that tracks job progress and manages sprayer performance.

Graco also presents two proportioner options. The ProMix PD positive displacement system mixes material close to the gun, which not only makes color changes faster, but also reduces flushing waste by up to 80 percent. The ProMix 2KS and 3KS are meter-based systems that increase efficiency for mixing two- and three-component materials.

Carlisle Fluid Technologies (carlisleleft.com) offers the AG-360 automatic LP gun series from DeVilbiss that lets a woodshop choose



The DeVilbiss AG-360 automatic spray gun series (top) and RX-Apex from Titan.

between a large menu of caps to meet goals related to environmental compliance, transfer efficiency, atomization power and application requirements. Their stainless-steel passageways cater to both water and solvent bases, and they have independent fan, atomizing and trigger air.

Carlisle's Ransburg division offers the Aerobell, which is a compact, high speed rotary atomizer, and the Aerobell 268 that delivers high speed electrostatic bell rotary atomization along with 3-color, 3-purge functions. And Carlisle's BGK division now offers gas catalytic infrared ovens that cure powder or liquid while using less floor space, less equipment and less time. The company offers a number of state-of-the-art guns including the DeVilbiss Tekna ProLite, FLG4 series, the Binks AA1600M airless gun, and the AG-363 air-assisted automatic gun.

Anest Iwata (anestiwata.com) continually updates its guns, including the highly reviewed Supernova family that includes the compliant WS-400 Evotech. The company has a handy chart on its wood applications webpage that lists its various product ranges according to shop size.

Woodshops with higher production levels can find several automatic setups at Cefla's site (ceflafinishing.com). They are arranged according to task and the size of the production run, whether small, medium or large. It's a very helpful way to start a search, especially for shops that are not completely familiar with all the latest options. [W](#)



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PDS promotes spindle repair services

Precision Drive Systems, a global provider of high-speed precision spindle motors, support and spindle repair, is working to help customers in the woodworking industry save time, money and downtime with its Local Drop-Off and Quick-Turn services.

"When your woodworking spindles or saw arbors need to be repaired or rebuilt, PDS' Local Drop-Off and Quick-Turn services provide superior efficiency and the greatest value," Bob Barone, vice president for PDS, explained in a statement.

"PDS offers local customers substantial savings by encouraging them to bring their woodworking spindles and saw arbors directly to our repair center for restoration or emergency repairs. Our Bessemer City, N.C. facility is equipped with a highly skilled technical staff who provide outstanding support and specialize in repairing all brands of high-speed electric spindles, molder spindles and saw arbors to help our customers minimize costly downtime."

For more, visit www.spindlerepair.com.

KCD Software launches new website

KCD Software, a provider of custom woodworking and design to CNC software for the cabinet and closet industries, has improved the functionality and enriched the content areas of its website.

"We're excited to provide visitors with dynamic product and industry info, along with helpful tools like our simple 'Get the Right Software Fit' product finder – five questions to help match your custom business to the right software product," Ken Frye, KCD's executive project manager, said in a statement.

"The new site empowers professionals to try the connectivity and tools they need to ramp up and streamline their custom businesses."

Visitors to the site can also find clear and easy to understand software tutorials and training videos, solutions-based product information and industry articles and trends.

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

SAi's EnRoute workshop program hits the road

SA International, a provider of software solutions for the signmaking, digital printing and CNC machining industries, has confirmed dates and locations for a new series of informative nationwide training workshops focused on its EnRoute CAD/CAM software.

"Tailored to CNC woodworking, signmaking and architectural millwork companies, as well as those within the nested-based manufacturing and fabrication industries, the workshops are geared towards ensuring students become more proficient and productive with EnRoute and their CNC machines," the company said in a statement.

"The two-day events will take place in

six cities from the East to West coast until November and will enable CNC users to receive hands-on, project-based instruction on all aspects of EnRoute. This will include advanced 2D & 3D design techniques, time-saving workflow improvements, and instruction on key EnRoute features like tool-pathing, nesting, and both parametric and rapid textures."

Scheduled dates include:

June 20-21 – Charlotte, N.C.

Aug. 15-16 – Portland

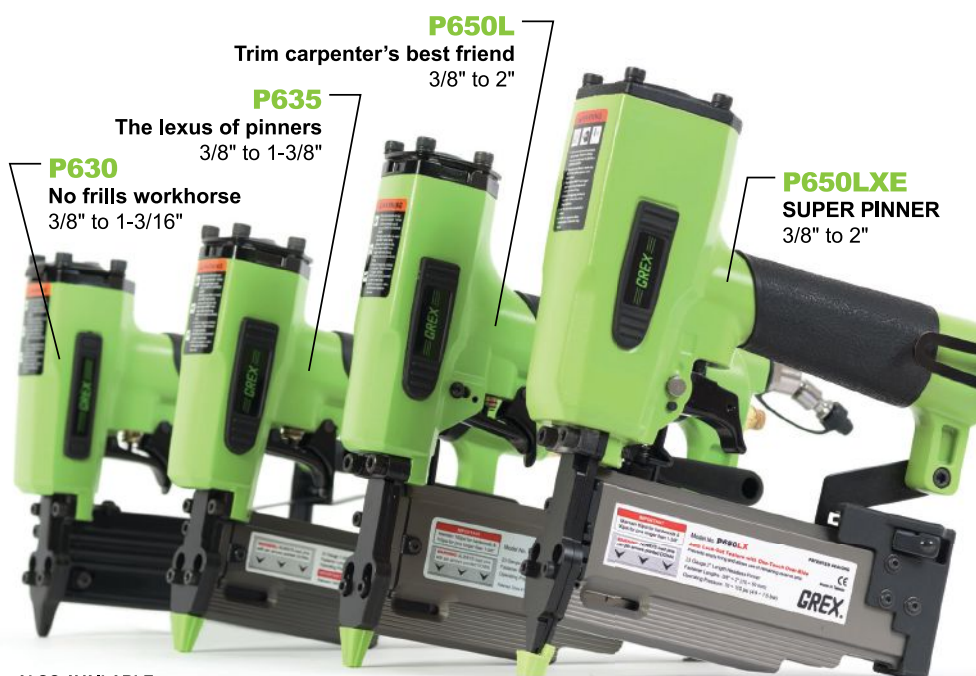
Oct. 17-18 – New Jersey/New York

Sept. 19-20 – Orange County (Calif.)

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Catching up with CNC SOFTWARE

A comprehensive guide to the latest releases, new features and recent corporate developments

BY JOHN ENGLISH

Confusing. Overwhelming. Why is it written in engineer speak instead of English?

Those are the initial reactions of many woodworkers to new software for their computerized numerically controlled (CNC) routers, whether it's for computer-aided design (CAD) or computer-aided machining (CAM). One core problem is that that operating this equipment seems to be a marriage of two very distinct professions – cabinet/furniture building and computer programming – and on the surface they look like they share few core attributes. But on reflection, that's really not true.

Both are creative endeavors that use advanced tools to build complex projects, whether the casework is virtual or physical. Essentially, only the tools are different. It takes a bit of effort to induce a mind that was trained on table saws and routers to learn new ways. And maybe a thimbleful of courage, too, to take on so much that is new and intimidating.

Thankfully, there is help.

One of the most intuitive and easy to master packages is published by KCD Software (kcdsoftware.com). The company provides free live tech support and has a strong focus on woodworking, offering programs for designing cabinets, closets and doors, plus both CNC and traditional manufacturing.

This is software that you rent, and there are four levels to choose from. They currently run from \$95 to \$295 a month, with discounts when you pay for a year at a time. The basic package, Designer, lets a woodworker create 2D and 3D graphics such as elevations and dimensioned drawings.

The next level, Professional, adds estimates, proposals and various reports, plus integration with Cabinotch (cabinotch.us). That's a system where shops can order the boxes in knock-down (RTA, or ready-to-assemble) format, and then add doors, drawers, finishes and hardware in-house. Built with American-made, formaldehyde-free hardwood plywood, the system has a patented interlocking joint that makes the cabinets a snap to assemble.

The third KCD package, Workshop, adds unit part sizing with construction details, plus cut lists and door and drawer order-generating tools. And the top-of-the-line suite, Commander, includes CNC coding, true shape nesting, one-button machining, and an optimizing tool for gaining maximum yield from sheet stock. KCD also offers dozens of short videos that explain all of the various commands and pull-down menus. As of last August, the company has begun offering software integration with custom powder-coated cabinet doors from Integra Doors in Greer, S.C.

Microvellum (microvellum.com) also has a strong understanding of casework and furniture. The company offers software solutions for design, drafting, engineering and solid modeling. It has an impressive library of cabinet drawings built up over two decades, plus integration of catalogs from suppliers such as Osborne Wood Products, who make components like decorative corbels and kitchen island legs. The software also imports hardware specs from many leading manufacturers including Accuride, Blum, Grass and Hafele, among others.

A woodshop can use Microvellum software to connect with and control machining centers, flat-table routers, through-

feed machines, beam saws, vertical and horizontal drilling machines and CNC chop saws. The company has an open source post-processor solution that allows for fast setup and easy customization. It has partnered with many CNC machine manufacturers to ensure smooth integration with routers from Anderson, Biesse, C.R. Onsrud, Holz-Her, Homag, Multicam, SCM, Schelling, Weeke and other suppliers. And woodshops can use its reporting tools to create custom reports on virtually every aspect of production. Since all the information pertaining to every project is stored in a single database, building custom reports to access this information is easy and straightforward.

CNC EXPLAINED

Anyone who has taken drafting courses, or indeed even studied a set of blueprints over the past 30 years, is probably familiar with AutoCAD, the 3D CAD software from Autodesk. Translating a design into programming for a CNC becomes a whole lot easier after downloading the company's free CNC Handbook course at autodesk.com. The goal of the book is to teach people with a technical background how to program and operate CNC machines. The 256-page PDF file explains every phase of the process in remarkable detail.

Autodesk has combined its most powerful software programs and services to create several packages, each at a single price, which are being marketed as Autodesk Industry Collections. For example, the Product Design & Manufacturing Collection includes everything a shop needs to design and make products, including in-canvas workflows for design, advanced simulation, 5-axis CAM, nesting and factory layout. Users also get access to the full breadth of specialized toolsets available with AutoCAD, along with new cloud-based technologies such as Fusion 360 that can unify design, engineering, and manufacturing into a single platform. That is, it makes CAD, CAM and CAE (engineering) software all work together as one. The Product Collection also includes rendering and data management software.

In 2016, Autodesk acquired Delcam, which is a wholly-owned, independently-operated subsidiary that grew out of a Cambridge University engineering project started in 1965. Delcam now offers digital solutions that automate and integrate design and manufacturing processes with the latest technology for CAM, additive manufacturing, simulation, robotics, and inspection. Among its products are PowerShape (3D CAD) and PowerMill, which is a robotics interface.

Mozaik Software (mozaiksoftware.com) creates Windows products for cabinets, closets and casework. The focus is on custom cabinet shops and cover the gamut from jobsite planning through design and manufacturing on CNC routers. It also includes applications for labeling, cutting and assembling.

Mozaik's Design program (\$50 a month) integrates seamlessly with Sketchup, opening up some interesting design possibilities. The company also offers a \$199 program (buy, not rent) called ArielVision that is an easy-to-use plugin for creating near photo quality renderings in Sketchup. The Design software can be installed on a tablet or laptop and taken on the road to design in plan and elevation views. It can handle face

frame, frameless, inset and full overlay cabinet door styles in the same design, and allows the woodworker to mix and match cabinets from different libraries. A designer can also create custom door and drawer styles, add hardware with specification documents, and select materials and textures. There is also the capacity to quickly add countertops and moldings to designs, and create custom molding profiles. As for speed, autofill functions can quickly fill a space, a wall or an entire room with library or custom cabinets, and the shop can then use the Product Editor to shape and change cabinets as desired.

Mozaik's CNC Complete package (\$125 a month) includes programs that handle everything from design to cut lists, nesting and machine ready G-Code.

GROWING RESOURCES

One of the biggest news stories of late in the CNC software world was the inclusion of Vero Software packages such as AlphaCam and Cabinet Vision in a new division of the Swedish parent company, Hexagon (hexagonmi.com). It's known as Production Software, and it includes Vero Software, Fasys and Spring Technologies. The move sees the three acquisitions adopting Hexagon's corporate identity and reflects the corporation's broadening expertise in production technology.

Hexagon acquired Vero Software, which is a specialist in CAD/CAM software, back in 2014. The 2017 acquisition of Fasys brought tooling and resource management software, plus shop-floor automation and integration expertise, into the portfolio. And Spring Technologies, acquired in 2018, provides CNC simulation technology for G-Code verification and workflow optimization. This translates to more resources for woodshops as they grow.

The latest versions of Cabinet Vision and Workplan were featured at Wood Pro Expo and the Cabinets & Closets Conference in Charlotte, N.C. in March. Cabinet Vision for woodworkers generates photo-realistic images and, at the click of a button, lets users transition from art to part. They can create shop drawings, generate cut and material lists, formulate bids, apply production standards, maximize material yield, and more. The newest version of Workplan is geared toward optimizing logistical flow by letting users actually model their woodshops and localize inventory during the manufacturing process. In addition to tracking project status and making it easy to determine remaining job tasks, the system also manages purchasing needs and even tracks man-hours for efficiency.

Measuring a room for casework before actually designing the boxes can be a tedious task. Cabinet Vision now directly imports measurements from the Leica Disto S910 laser measuring tool. Leica is also a subsidiary of Hexagon AB. Vero's Alphacam 2018 R2 has a new nesting engine that can deliver significant improvements in material yield. It also provides faster calculation times, along with improved feedback and graphics. And Cabinet Vision Version 11 now includes new rendering technology that provides users with nearly photo-like images, which woodshops can use as a sales tool. Plus, Vero's WorkPlan software for ERP works with Cabinet Vision to let users organize workshop operations from design to completion.

Woodshops that have been using Mastercam software currently have a chance to participate in beta testing for the upcoming 2020 release. It can be downloaded on the website (mastercam.com) and will be supported through the Customer Forum, which is staffed with CNC applications engineers, posts writers, technical support people, software

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developers and QC engineers. The company is looking to release a new public beta version approximately once a month. Known issues, updated bug fixes, and other details will be delivered when a shop installs the most recent beta. The program requires a 64-bit version of Windows 7, 8.x or 10. The beta version is provided as part of an early access program and although it has been extensively tested, it has not yet been officially released so using it is at a shop's own risk.

Mastercam delivers CAD/CAM solutions such as optimized pocketing to highly specialized toolpaths like 5-axis trimming. It has full 3D CAD modeling, easy pocketing, contouring and drilling, built-in nesting, plus engraving and aggregate tools among other resources. Designed to grow as a business grows, shops can start with what they need and upgrade to new machining techniques as needs grow.

OTHER RESOURCES

Vetric (vetric.com) offers free trial software, training videos and files for download, to encourage potential users to give it a test drive. Its products include VCarve, Cut2D and Aspire. Cut2D program is designed for smaller shops that need to produce complex 2D patterns with profile, pocket, drill and inlay toolpaths. It has unlimited job and toolpath size, true shape nesting, and job set-up sheets.

CabMaster (cabmastersoftware.com) offers design and manufacturing software, including nesting options and door building programs. Its Designer 3D program lets a woodworker view a total price of each job by material, hardware and labor usage.

Cabinet Pro (cabinetpro.com) provides software to generate cut lists, material reports, labels, floor plans, dimensioned wall elevations, 3D renderings and more for the cabinet and door manufacturers.

Camworks (camworks.com) is CNC machining software for general industry, including woodworking.

SolidWorks (solidworks.com) is a 2D and 3D CAD package published by the French company, Dassault Systèmes. It is taught in more than 28,000 universities worldwide. One of its programs, Swood Design, acts as a booster for woodworking projects inside SolidWorks. Thanks to a set of features dedicated to wood and panel processing, Swood Design makes it easier and faster to make production-ready designs.

TopSolid (topsolid.com) from Missler Software is a manufacturing solution for modeling, simulation and production. Its program for woodshops, TopSolid'Wood, represents a genuine integration between design and production for the wood industry. A digital chain is created between the design office and shop to deliver consistency between the CAD and the CAM user interfaces. The latest version of TopSolid'Wood includes updates such as grain matching for nesting, an automated nesting process, advanced 2D functions and improved renderings.

CNC Exporter from Cabinet Solutions (cabinetsolutions.net) takes a woodworker from designing a kitchen to setting up tooling information, to EnRoute for nesting parts and creating G-Code. EnRoute is a program from Sai (thinksai.com).

The bottom line with CNC software is that a shop should begin any search by checking in with the hardware (router) manufacturer for recommendations, but temper that advice with opinions garnered from user groups and other resources online. Just because a machine manufacturer says a certain piece of software works best doesn't mean it is so. This industry moves so quickly, there is probably something out there that is easier, faster, cheaper or simply better than the 'free' software that came with the machine. [W](#)

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STRIEBIG

Milwaukee exhibit features works of Charles Radtke

By Jennifer Hicks

The Milwaukee Art Museum is hosting a furniture exhibit, "Charles Radtke: Contained", that runs through Aug. 25.

This is the first retrospective exhibition for the prominent furniture maker who lives and works in Cedarburg, Wis. Radtke's objects are in several private and museum collections, including the Renwick Gallery, Smithsonian American Art Museum, Museum of Fine Arts, Boston, and Milwaukee Art Museum.

More than 35 cabinets, tables, chairs and doors featuring the artist's signature craftsmanship and attention to detail will be on view in the museum's Bradley Family Gallery. The exhibition focuses on the artist's ongoing exploration of the cabinet as a container. Several works have intricately designed interiors or hidden compartments, while others are more traditional woodworking forms.

The more recent works featured in the exhibition show the artist going beyond the mastery of technique toward a more conceptual exploration within the forms, including challenging, rather than enhancing, the natural characteristics of certain woods, according to the museum.

"Radtke's pieces initially draw the viewer in through the technical mastery and elegance of the work," Margaret Andera, the museum's interim chief curator, said in a statement. "A closer look, however, reveals surprising features such as asymmetrical wood grain patterns,

five-sided legs, and subtly painted details. We have watched the evolution of Radtke's career and are excited to bring greater national attention to this extraordinary artist."

For more, visit www.mam.org.

Oklahoma honors a Texan

The Forest Heritage Center Museum, officially designated as the "Wood Art Capital of Oklahoma", gets to pick its Master Woodworker of the Year. And this year, the honor goes to Wayne Delyea of Granbury, Texas.

Delyea's work, alongside the other finalists, will be on display at the museum's Wood Art Gallery through May 5.

"The objects will be diverse and should create a lot of conversation about the beautiful art forms that come from trees," says FHC director Doug Zook. "We are pleased to have these talented wood artists commit to a project of this magnitude and help raise the stature of wood art in Oklahoma."

For more www.forestry.ok.gov/fhc. [W](#)

Charles Radtke's "One on One" (opposite page, from left) and "Sarcophagus No. 6".


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◀ **BOSCH** is introducing the 18-volt Connected LED Area Light with Bluetooth, model GLI18V-1200C, which offers users full control over the smart light using a mobile device. The light produces 1,200 lumens, which is enough to illuminate dark work areas like corners or rooms, according to the company. The light intensity is adjustable, with a lower, dimmed mode setting. For more, visit www.boschtools.com.

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CALENDAR

CALIFORNIA

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

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.

MASSACHUSETTS

Sept. 30 – Oct. 2 — Woodworking Machinery Manufacturers of America (WMMA) Regional Networking Meeting in Boston. www.wmma.org

NEVADA

July 17-20 — AWFS Fair featuring new and innovative woodworking equipment and tech-

nology, hardware, materials and more for custom shops of all sizes, as well as dozens of industry-related educational seminars. Location: Las Vegas Convention Center. www.awfs.org

NEW YORK

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

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

NORTH CAROLINA

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

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

PENNSYLVANIA

Oct. 4-6 — Philadelphia Furniture Show.

Featuring over 50 exhibitors of handcrafted furniture and furnishings. Location: 23rd St. Armory in Philadelphia. www.philadelphiafurnitureshow.com

SOUTH CAROLINA

July 26-29 — Society of American Period Furniture Makers Mid-Year Conference. Featuring expert presentations, workshops and local tours. Location: Greenville Woodworker's Guild woodworking facility in Greenville. www.sapfm.org

WISCONSIN

June 19-22 — The Furniture Society's annual conference, FS19: Groundwork, the Inspiration, Intersections and Experimentation of Furniture Practice. Featuring networking opportunities, interactive lectures, skill-building workshops and more. Held in partnership with the Milwaukee Institute of Art & Design in Milwaukee. www.furnsoc.org

WYOMING

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

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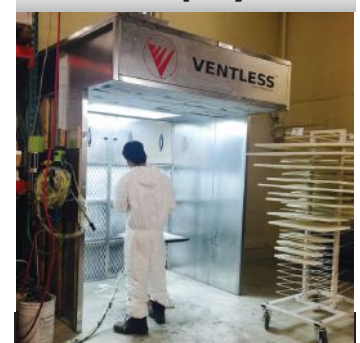
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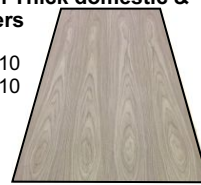
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Projects made during Rockler's celebration of National Woodworking Month in April.

Promoting the craft

To celebrate National Woodworking Month in April, Rockler Woodworking and Hardware stores throughout the country offered hands-on project kits and classes. Participants had the opportunity to learn or hone a variety of woodworking skills while producing items to take home.

Projects included a wooden tote; four-in-one screwdriver; custom sign and turned bowl.

"National Woodworking Month is the perfect time to learn new woodworking skills," says Scott Ekman, Rockler's vice president of marketing. "These classes offer a unique opportunity for anyone interested in woodworking to learn basic techniques, get some hands-on experi-

ence and meet other people interested in the craft."

A different project was scheduled for each week with class size limited to three to six participants, maximizing the availability of one-on-one help.

The wooden storage tote class covered the step-by-step process of assembling and finishing. Woodturning basics were the focus of the 4-in-1 screwdriver class, while participants used a plunge router and templates to create their own custom sign on a wood blank. The bowl project provided the experience of turning and finishing on the lathe.

Plans, overview videos and material lists are available online at www.rockler.com. www.rockler.com

60 Grit

Rough humor by Steve Spiro



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