

WOODSHOP

NEWS[®]

Shaping the Successful Shop[™]

www.woodshopnews.com August 2017

Finding his way in Wilmington

Pete Steele's small Delaware shop more than holds its own

Choosing the right work-holding system

The sticky business of picking adhesives

Sanding solutions for smooth surfaces

NEW TOOLS

- ETemplate's ELaser Pro
- Grex 21-gauge nailer
- Pocket/screw machine
- TigerStop's AutoLoader

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TRACK SAW MASTER PACK

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

W1835 Track Saw

Includes: Accessory Pack

W1832 Track Saw Master Pack

55" Guide Rail

7" 2 HP PLANER MOULDER W/ STAND

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



PATENT OWNED BY
WOODSTOCK
INTERNATIONAL INC.

W1812 7" 2 HP Planer Moulder w/ Stand

D3393 Elliptical Jig for W1812



10" 2 HP OPEN-STAND HYBRID TABLE SAW

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

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



W1837 10" 2 HP Open-Stand Hybrid Table Saw

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

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

PATENT OWNED BY
WOODSTOCK
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W1668

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



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

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

New



W1836 Bench-Top Wood Lathe

20" PLANER W/ MOBILE BASE AND SPIRAL CUTTERHEAD

- Motor: 5 HP, 240V, single-phase, 20A
- Max. width of cut: 20" • Max. height of cut: 8"
- Min. stock thickness: 3/16"
- Min. stock length: 8"
- Max. cutting depth: 1/8"
- Cutterhead dia.: 3 1/8"
- Cutterhead speed: 5000 RPM
- Cutterhead: Spiral 4 rows, 96 carbide inserts
- Precision-ground cast iron table size: 20" x 25 3/4" (20 7/8" x 56 1/2" w/ extension)
- Approx. shipping weight: 937 lbs.

W1754SW

20" Planer w/ Mobile Base and Spiral Cutterhead



8" JOINTER W/ ADJUSTABLE BEDS

- Motor: 3 HP, 240V, 12A, single-phase, TEFC, 3450 RPM
- Precision-ground cast iron table size: 8" x 76 1/2"
- Cutterhead dia.: 3"
- CPM: 21,400;
- Speed: 5350 RPM
- Max. width of cut: 8"
- Approx. shipping weight: 534 lbs.

W1741W 8" Jointer w/ Adjustable Beds



2 HP DUST COLLECTOR

- Motor: 2 HP, 220V, single-phase, 3450 RPM, 12A
- Static pressure: 12.3"
- Impeller: 12" balanced steel, radial fin
- Portable base size: 21 1/4" x 33 1/2"
- Bag capacity: 5.4 cubic feet
- Air suction capacity: approx. 1550 CFM
- Standard bag filtration: 2.5 Micron
- Approx. shipping weight: 108 lbs.

W1666 2 HP Dust Collector



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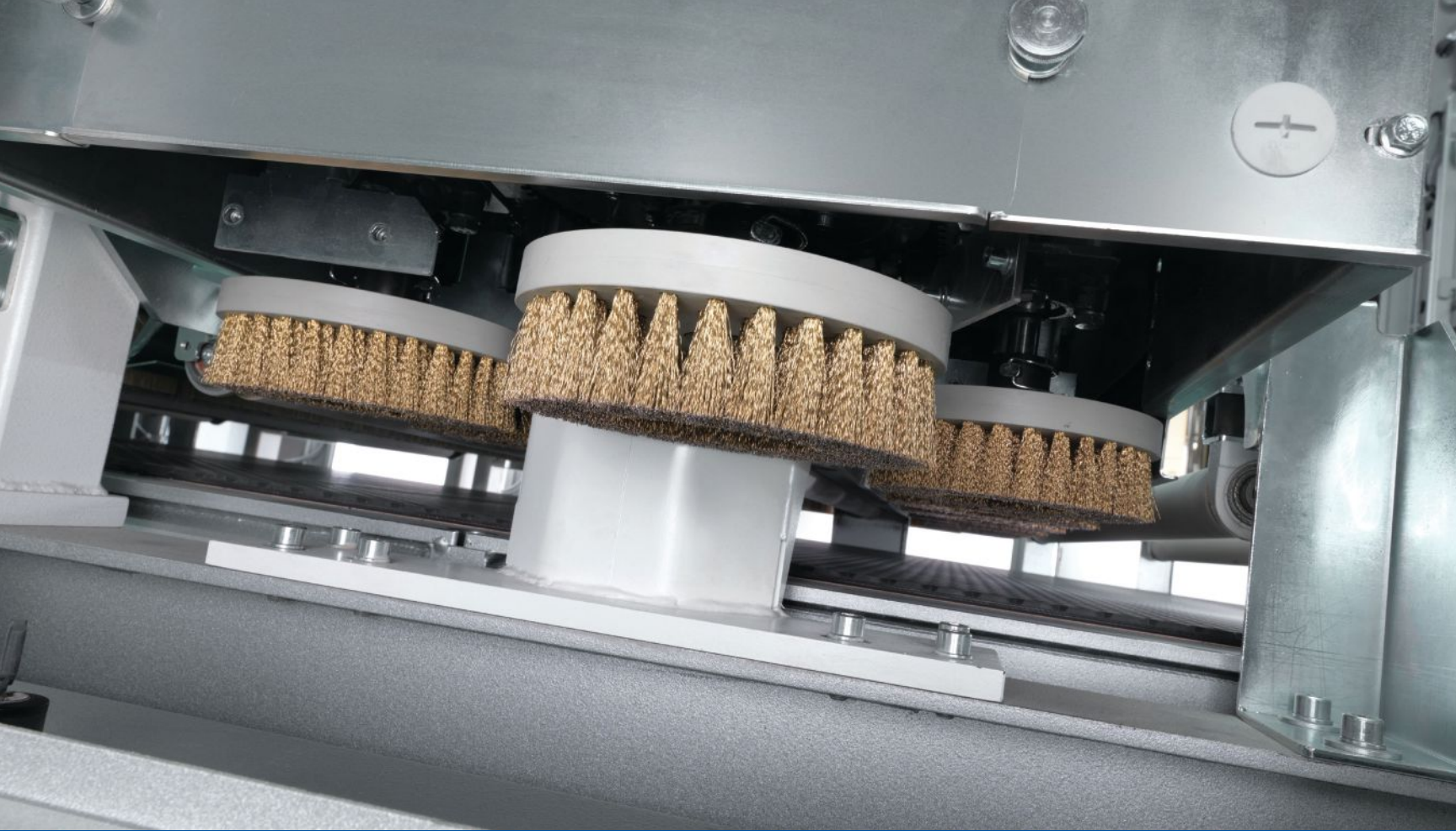
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PHOTOS: JOHN TROHAREUX PLUS (TOP, COVER)

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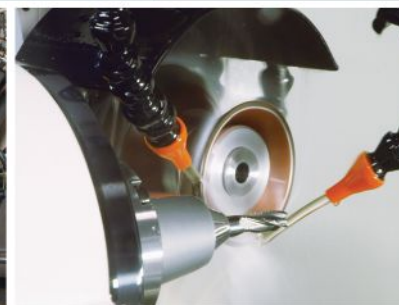
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BLOGS



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

SawStop acquisition could change the safety landscape

Merger and acquisitions have been the talk of the woodworking industry in recent months. Let's start with SawStop's purchase by Festool parent company TTS Tooltechnic Systems.

I've had a front-row seat to watching SawStop grow from an idea into a manufacturer of high-end cabinet saws. Stephen Gass invented Active Injury Mitigation technology, which prevents saw operators from suffering serious cuts and wounds by stopping the blade within a few milliseconds if the saw blade comes in contact with the operator's skin, in 1999 but couldn't find a saw manufacturer willing to license it. SawStop eventually decided to build its own saws and has been selling them with great success since 2004.

In June, SawStop announced a purchase agreement with TTS. It's a surprising development that suddenly makes sense for a safety-conscious brand (Festool) that doesn't make table saws.

"For TTS and the company's subsidiaries, it has always been a top priority to deliver precision results with maximum operator protection. The newly acquired technology, which TTS will continue to develop together with the SawStop team, supports these priorities and prepares TTS to face stricter safety requirements that are likely to be imposed on power tools," the company said in a statement.

The acquisition is expected to close in July. SawStop will be integrated into the TTS group as a separate legal entity and both the name and brand will be preserved. The company's current management team will continue to operate SawStop. For more on the purchase, see our story on Page 8.

Axalta Coating Systems recently completed its acquisition of the Valspar Corporation's North American industrial wood coatings business, which includes the Zenith, Ultra-

guard, Lifeshield and Color Choice brands. Valspar divested the business in connection with the antitrust approval of its acquisition by the Sherwin-Williams Co.

In July, Rev-A-Shelf acquired Glideware LLC of Grand Junction, Colo., a manufacturer of home organizing solutions. "The acquisition of Glideware is a perfect fit for Rev-A-Shelf," Rev-A-Shelf general manager David Noe said in a statement. "These are versatile products that resonate in many applications and we expect our broad exposure to provide even more success to the line."

Festool recently announced it started producing its FS guide rails, an integral system component and accessory of many of its power tools, at the company's North American headquarters in Lebanon, Ind. Festool plans to expand its Lebanon-based manufacturing facilities for additional production lines and other products in the future.

The guide rails, produced with U.S.-sourced material, will begin shipping throughout the U.S. and Canadian markets later this year, according to the company. The guide rails are aluminum tracks that work in collaboration with some of Festool's most popular products, including its track saws, routers and jigsaws.

The Cabinet Makers Association scheduled its first national conference to celebrate the trade group's 20th anniversary for March 1-2, 2018, in Denver at the Crowne Plaza Denver Airport Convention Center.

Presentation topics will include pricing strategies, transitioning to CNC, technology tools, workforce development, succession planning, and sales and marketing training.

For more, visit www.cabinetmakers.org. 

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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 **BIESSE**

Festool parent company buys SawStop

By Jennifer Hicks

SawStop LLC was scheduled to be acquired by Festool parent company TTS Tooltechnic Systems by the end of July.

The sale for an undisclosed amount includes all of SawStop's patents, intellectual property, products and facilities, according to SawStop vice president of marketing Matt Howard. He says SawStop's owners reached out to TTS earlier this year to initiate the sale.

"We've always been admirers of TTS and their companies," Howard says. "We see a lot of parallels with SawStop and the values of their products and brands. They build complementary products to ours and they focus on safety. We're a safety company."

"With the support of TTS, we are excited to grow our business and to invest in the development of new tools. This acquisition will also continue the stability of customer support that SawStop owners have always enjoyed."

Established in 1999, SawStop manufactures table saws designed to minimize saw-related injuries and the costs associated with them. Its saws feature a safety device that stops and retracts the blade on contact with skin.

TTS Tooltechnic Systems is a third-generation, family-owned company based in Wendlingen, Germany. Its family of companies includes Festool, Tanos, Cleantec and others.



"We are proud to join a company with a shared passion for customer safety, product quality and meticulous engineering," SawStop president and founder Stephen Gass said in a statement. "Speaking for our entire team in Tualatin, Oregon, and across North America, we are excited to join with TTS to bring safer woodworking to more people through new tools and in new markets around the world. With a family like TTS at our side, I can't wait to see what we will accomplish together."

SawStop's current management team will continue to operate the company from its Oregon headquarters.

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

AWI foundation names scholarship winners

By Jennifer Hicks

The Architectural Woodwork Institute Education Foundation is awarding \$25,500 in financial aid to 10 scholarship winners.

The winners were chosen from a pool of applicants nominated by woodwork technology instructors from secondary and post-secondary schools across the U.S.

"This year's scholarship program attracted a larger number of new schools and a greater variety of institutions participating than in previous years. We believe that students are envisioning the architectural woodwork industry as a viable career path, whether on the manufacturing side or the management side," foundation chairman Kent Gilchrist said in a statement.

Winners include Bryce Ahlers, Preston Boyd and Kelson Classen (Pittsburg (Kan.) State University); Ben Gonzales (Cerritos College); Michele Brenes (Fox Valley Technical College); Ellen Cahill (Madison Area Technical College); Jake Cazja (New England School of Architectural Woodworking); Jason Astor (MILL National Training Center); Andrew Dearing (Utah Valley University), and Lucas Pipkin (Appalachian State University).

Nominees were judged on grades, references and personal letters. Special consideration was given to those pursuing a career in the woodwork industry.

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



NESAW director Greg Larson (right) with student scholarship winner Jake Cazja.



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- Max. rabbeting capacity: $\frac{1}{2}$ "
- Table size: 8" x 76 $\frac{1}{2}$ "
- Infeed table size: 8" x 43 $\frac{3}{4}$ "
- Cutterhead dia.: 3 $\frac{3}{16}$ " (G0490), 3 $\frac{1}{8}$ " (G0490X)
- Cutterhead speed: 4800 RPM
- Cutterhead knives: 4 HSS, 8" x $\frac{3}{4}$ " x $\frac{1}{8}$ " (G0490)
40 inserts (G0490X)
- Approx. shipping weight: 564 lbs. (G0490).
556 lbs. (G0490X)



G0490X ONLY \$1395⁰⁰

- Motor: 3 HP, 220V, single-phase, TEFC, 16A
- Cutterhead knives: 4 HSS, 12" x 1³/₁₆" x 1/8" (G9860); 84 inserts (G9860ZX)
- Cutterhead dia.: 4"
- Cutterhead speed: 5900 RPM
- Max. depth of cut: 5/16"
- Max. width of cut: 11¹³/₁₆"
- Precision-ground cast-iron table size: 12¹/₂" x 80"
- 23,600 CPM (G9860); 35,400 CPM (G9860ZX)
- Approx. shipping weight: 1265 lbs. (G9860), 1241 lbs. (G9860ZX)



G9860ZX ~~\$5195⁰⁰~~ **SALE \$4995⁰⁰**

- Motor: 5 HP, 220V, single-phase, 25A (G5913Z); 7.5 HP, 220V/440V*, 3-phase, 20A/10A (G7215Z)
- Precision-ground cast-iron table size: 28" x 35½"
- Table counterbore: 7" x ⅝" D • Footprint: 26" L x 27" W
- Spindle travel: 3¼" • Spindle tilt: 45°
- Spindle sizes: ¾", 1", and 1¼"
- Spindle speeds: 3600, 5100, 8000, and 10,000 RPM
- Spindle capacity under nut: 5⅞" (1¼" spindle)
- Max. cutter dia.: 5⅞"
- Overall size: 39" L x 35½" W x 43" H
- Approx. shipping weight: 710 lbs. (G7215Z), 692 lbs. (G5913Z)



G7215Z ONLY \$3375⁰⁰

- Motor: 3 HP, 220V, single-phase or 3-phase, 1725 RPM
- Sanding belt oscillates 1/4"
- 8" vertical table height adjustment
- Table tilt: 45° • Table size: 11 3/4" x 47 3/4"
- Platen size: 47 1/2" x 9 1/2"
- Base size: 42" x 24 1/2"
- Sanding belt size: 9' x 138 1/2"
- Belt speed: 4120 FPM
- Approx. shipping weight: 873 lbs. (69984), 827 lbs. (69985)



3 HP, 3-PHASE
G9985 ~~\$3295⁰⁰~~ **SALE \$3150⁰⁰**

- Motor: 3 HP, 230V, single-phase, 15A
- Precision-ground cast-iron table size: 12 $\frac{3}{4}$ " x 83 $\frac{1}{2}$ "
- Floor-to-table height: 31 $\frac{1}{16}$ "
- Max. depth of cut: $\frac{1}{8}$ "
- Rabbeting capacity: $\frac{3}{4}$ "
- Cutterhead dia.: 3 $\frac{1}{16}$ "
- Cutterhead speed: 4300 RPM
- 19,800 CPM
- Fence stops @ 45°, 90°, and 135°
- Footprint: 44 $\frac{1}{4}$ " x 18"
- Approx. shipping weight: 1056 lbs.



Push Blocks
G0609X ONLY \$2795⁰⁰

- Motor: 5 HP, 220V, single-phase, 25A (G9953ZX); 5 HP, 220V/440V*, 3-phase, 14A/7A (G9953ZXF)
- Precision-ground cast-iron table size: 16¼" x 99¼"
- Cutterhead speed: 5000 RPM
- Max. depth of cut: ¾"
- Bevel jointing: 0–45°
- Center mounted fence: 6⅝" x 43¼"
- Approx. shipping weight: 1742 lbs. (G9953ZXF), 1719 lbs. (G9953ZX)



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- Motor: 7½ HP, 220V/440V*, 3-phase, 20A/10A
- Precision-ground cast iron table size: 47¼" x 35½"
- Spindle travel: 6½"
- Spindle size: 1¼" W x 7" L
- Spindle tilt: -5° to +45°
- Spindle capacity: 6"
- Spindle speeds: 3900, 5000, 7200, & 9400 RPM
- Max. cutter dia.: 10"
- Approx. shipping weight: 1096 lbs.

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G0608X ONLY \$4395⁰⁰

- Motor: 3 HP, 220V, single-phase, 17A, 1750 RPM
- Table size: 59" x 23¾"
- Table vertical travel: 21½"
- Platen horizontal travel: 50½"
- Table lateral travel: 18"
- Sanding belt size: 6" x 186"
- Belt speed: 3600 FPM
- Drive wheel dia.: 8"
- Overall size:
98"W x 47½"D x 67½"H
- Approx. shipping weight: 744 lbs.



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NEWS DESK

WMIA education arm hands out scholarships

By Jennifer Hicks

The Woodworking Machinery Industry Association Education Foundation recently awarded \$31,500 in scholarships toward pursuing a career in wood technology, machinery and related fields. To date, the foundation has provided nearly \$380,000 in scholarship funding.

This year's awards included \$16,500 to 11 college students and a total of \$15,000 to three schools — Pittsburg (Kan.) State University, New England School of Architectural Woodworking in Massachusetts, and Quebec's National School of Furniture and Cabinetmaking — that distributed scholarships to 12 students.

Eleven of the 23 scholarship recipients are female.

"Once again this year, WMIA's Education Committee and the Foundation Board of Trustees were quite impressed with not only the skills and accomplishments of the scholarship recipients, but the passion they expressed about having a career in the woodworking industry," says Chris Hofmann, WMIA's education committee chairman and Lamello product manager at Colonial Saw Co.

"We have been very pleased with the increased quality of the scholarship applicants and the continued surge in the number of female students receiving awards bodes well for our industry. WMIA is very proud to support the industry in this way year after year."

The WMIA Educational Foundation is supported by contributions from business groups and individuals in the woodworking industry and the International Woodworking Fair.

For more, visit www.wmia.org.

Milwaukee expands warnings, instructions for battery pack

In consultation with the U.S. Consumer Product Safety Commission, Milwaukee Tool is voluntarily expanding the warnings and instructions of its M18 High Demand 9.0 battery pack, model No. 48-11-1890.

The expanded product warnings address situations that could lead to a battery pack failure and/or other safety hazards. This safety notice does not require users to return their 9.0 battery packs.

"Should highly conductive or corrosive fluids get inside the M18 High Demand 9.0 battery pack in sufficient quantities, it can cause battery pack failure," the company said in a statement. "Failure can include short-circuit which, in the extreme situation, can result in smoking or fire, even when not in use. Examples of highly conductive or corrosive fluids include seawater, certain industrial chemicals and bleach or bleach-containing products.

"Because Milwaukee Tool is committed to continuously improving safety, quality and customer satisfaction for the professional trades, the company is proactively taking immediate action, issuing expanded warnings and instructions for the M18 High Demand 9.0 battery pack."

For more, visit www.milwaukeetool.com.



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Alder as an alternative sells well with consumers

By Jennifer Hicks

While it's not used as often as some of its mainstream domestic counterparts, alder (*Alnus rubra*), also known as red alder, still strikes interest from those looking to incorporate a striking appearance in their projects. Native to the Pacific Northwest, the light rust-hued hardwood is moving steady at lumberyards, according to hardwood distributors interviewed by Woodshop News.

"We show it to customers every once and a while, depending on what they're looking to do, and they wind up buying it. Sometimes they're not aware of it here on the East Coast," says Rob Lamoureux of Parkerville Wood

Products in Manchester, Conn.

"The wood's tone is similar to cherry, but not as pink/red. It has a similar grain pattern, but not the same texture. Cherry's texture is more like a maple and this has more of a softer texture when machining it. We offer a clear grade, but it does have a knot or two in it. It's knottier than our regular premium cherry. People looking for something more rustic like smaller tabletops find it's perfect for them. It gives them a cherry look, gives them something a little more unique, but it's still domestic. When they find out about it they like it because nobody else has it."

Alder sales have increased in the last year



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for Scott Roberts at Roberts Plywood of Deer Park, N.Y., who says customers give him positive feedback on using it for cabinetry applications and also for culinary purposes.

"Whenever I sell alder to someone, they call me back and say they love it, that it's easy to work with, it's light in weight, easy to finish, takes stains well ... and a lot of them put the scraps in a smoker for their fish or chicken for flavoring," Roberts says.

"It is a little bit soft, so if you're running it through a molder, the blade better be sharp because it will leave a nick in it. I see a lot of it used for residential cabinetry. It's too soft to use for flooring or stairs. And that rustic look is pretty desirable right now. Even though I offer clear and rustic, more people want the character grade."

Matt Gilland of Superior Veneer & Plywood in New Albany, Ind., has seen a slight increase in alder veneer sales, especially with rustic variations.

"We've sold quite a bit of alder since February. It seems like the rustic's been a little bit more popular for us than the clear has. The clear that we've been producing has been going predominantly out West. The knotty turns out beautiful because we random-plank it. We will cut it up and disperse the knots so that way the knots are appearing top to bottom, left to right, and it looks really nice," Gilland says. **W**



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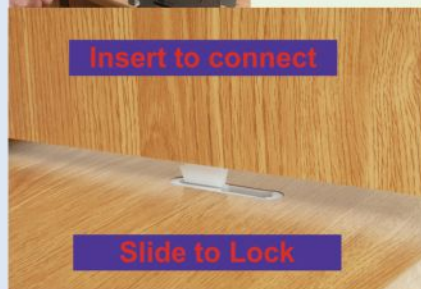
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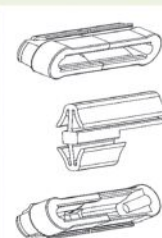
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TOOLS & TECHNIQUES

Grex Power Tools debuts new brad nailer

By Jennifer Hicks

Grex Power Tools has a new 21-gauge pneumatic brad nailer, model H850LX, aimed at woodworkers and trim carpenters.

Product manager Raymond Wong explains that 21-gauge nails offers users a middle ground between the small hole size left by a 23-gauge pin and the holding strength of an

18-gauge brad nail.

"The reason why people like the 21-gauge nowadays for finish applications is because it's a good compromise between the two. It's got a little bit of a bigger nail, so we can get more of the structural holding power closer to an 18-gauge, but it's still got a really small head size, closer to the 23-gauge," Wong says.



"Most professionals will have both the 18- and 23-gauge tools. But there are certain scenarios where somebody might just want to bring one tool instead of having to carry two tools with different nails around and the 21-gauge gives them that opportunity."

The nailer weighs about 3.5 lbs. and shoots fasteners ranging from 3/8" to 2" long. It features an adjustable edge guide, metal body, steel-belt hook and auto lockout to prevent dry firing with an override function.

The 21-gauge nailer sells for \$399 with a carrying case and accessories.

For more, visit www.grexusa.com. 

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Safety Speed rolls out new screw-pocket machine model

By Jennifer Hicks

Safety Speed Mfg., a provider of panel-processing equipment, introduced a new screw-pocket machine, model SPM301HD, featuring a direct-drive, continuous-duty electric-spindle motor for repetitive jobs in high-production facilities.

"The key benefit of our pocket-hole product line is superior mechanical performance versus other models on the market, which are generally air-driven to create the pocket and pilot hole," company president Brian Donahue says. "Now, with the HD model, the cutting performance of the spindle motor can't be matched. It's the same motor seen on high-end CNC equipment, very industrial and heavy duty for a customer with high production."

"With [our] original SPM301 machine, we found our customers wanted to run it more than three to four hours a day. They wanted to run it eight hours a day or more, so that's why we developed and implemented the CNC spindle motor into the HD model."

The machine's design allows the pilot hole and pocket to be cut at the same time, com-

pleting the process in less than a second per pocket without sacrificing cut quality, according to the company.

"The six-degree screw pilot hole and pocket created by our system makes for a very strong joint and requires less clamping when assembling than other methods of joinery," Donahue says.

Other features include a built-in analog depth gauge and access from the top of the machine for quick bit changes. The machine requires standard 220-volt power and 30 cfm of compressed air at 80 psi.

The SPM301HD retails for \$6,999 and is manufactured in the U.S.

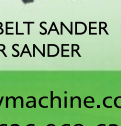
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TigerStop adds AutoLoader to cross-cutting saw system

By Jennifer Hicks

TigerStop announced the addition of the AutoLoader, an automatic infeed station, for the TigerSaw 1000, the company's fully automated cross-cutting saw system.

AutoLoader reduces manual material-handling time. It can be customized with two to seven loading stations and accommodate ma-

terial 4' to 24' in length.

"A TigerSaw customer can be anyone from a small cabinet shop to a shop that requires multiple machines or anywhere in between. For maximum efficiency, the saw requires two operators, one to feed and one to tail, which allows the machine to run as efficiently as possible," product manager Mike Anderson says.

"With AutoLoader, the operator can load up to five pieces of material and, once they press go, it will continue until they're completely processed. But, without it, they will have to go back and forth, one piece at a time. So, by adding AutoLoader, a shop owner can increase throughput without adding extra labor."

The AutoLoader delivers finished-part cut quality along with five-piece door optimization and pack-and-bundle processing. It comes with Dynamic Optimization software for achieving maximum material yield and a Crayon Defect Marking System that allows shops to manually defect in-house and use lower-grade, less-expensive material, according to the company.

Pneumatically powered, each loading station on the AutoLoader features sensors that recognize when material is pressed against the back fence, signaling that it's ready to be processed through the saw and to continue feeding material until more is needed or the cut list is complete.

For safety, a switch and kill line runs the entire length of the infeed station.

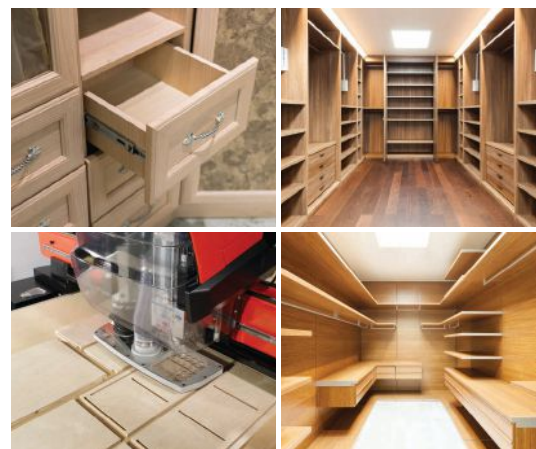
The price is about a third of the cost of comparable saw systems with automated infeed stations currently on the market, according to TigerStop.

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



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ETemplate enhances ELaser Pro system

By Jennifer Hicks

ETemplate Systems, a provider of 3-D measuring and templating technology, recently updated its ELaser Pro system that creates an “intelligent” CAD model from a visit to a job site, allowing users to model as they measure. The updated technology creates CAD files that are fully compatible with downstream design and manufacturing systems.

Company president Paul Hansen says the new ELaser Pro exports data files to communicate directly with popular cabinet-design software such as Cabinet Vision, 2020, KCD and Pro Kitchen, as well as standard DXF output to AutoCAD and Microvellum.

“We build files that are directly compatible to those systems, so the ELaser end-users can continue the design processes inside their software,” Hansen says.

“This system eliminates extra steps and makes the design process go faster. Typically, members of the wood industry are out there

doing manual measuring, hand documenting, then having to key in all of the data back in the office. Here they are getting digital measurements on the fly and they’re getting more accuracy with the abilities of the 3-D laser.”

ELaser quickly creates a floor plan and pushes it out to the ceiling height. Next, the user can add doors, windows, switches, outlets and plumbing to the design and have all the data pass to the cabinet-design software, saving time and reducing measuring inaccuracies.

The update also makes it easier to measure odd 3-D shapes and has additional tools to input out-of-level and out-of-plumb surfaces

into the CAD model.

“These additional measuring tools not only aid in the design and installation of millwork, they also provide inspection capabilities to verify the as-built to the original design,” Hansen adds.

The system has a base price of \$14,000.

For more, visit www.etabletssystem.com. 



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FINISHING

with GREG WILLIAMS

Back stories can make restorations well worth the time

In conversations with some of my professional colleagues (refinishers, restorers and furniture-repair technicians), the subject of pricing practices often leads into how to best handle jobs that would cost more than the replacement of the object. And there's usually a story relating to the item that helps seal the deal.

For example, I had a client referred to me in 2015 for a quote on restoring two teak deck chairs. The chaise lounge-like chairs were finished with house paint, had broken and cracked slats, seat and back frames, and some missing parts. Before giving a quote, I asked the owner about the history of the chairs and

about his expectations and hopes for the outcome of the repair or restoration. I took pictures, made notes and I told him I'd like to do some research before giving him a quote.

Hidden under the paint and almost unnoticeable were brass plaques with the name "S.S. Nieuw Amsterdam." A little time on the Internet revealed that the Amsterdam was an ocean liner built in 1937 and that she was the Netherlands' ship of state. After the Netherlands fell to Hitler's army, she was requisitioned by Britain and spent the remainder of the war as a troop transport.

My client, a retired U.S. Naval officer, was given the chairs when he retired by an old

friend who had purchased them as salvage after they were removed from the ship and stored for some years. I shared with him the results of my research and he became quite excited by the history of the ship and chairs. He revised his expectations. Even before I had picked up the chairs to begin work, he envisioned guests admiring the gleaming polished brass plaques with the iconic name of the famous vessel, while he regaled them with his new stories.

He authorized a detailed restoration, which pleased me for several reasons. For starters, I was going to make more money and that certainly boosted my enthusiasm for the job. But my contributions would also make me part of the story, while the client gained a more expansive relationship with the chairs and their history.

The story was a product of the experience that this officer had with the chairs and his old friend and the history of the famous ship itself as brought to light by the research I shared with him. The value of the whole experience exceeded the price of the repair he paid for and the cost of the labor and materials on my part.

Who knew?

Sometimes the stories emerge after a completed restoration. One piano restorer couldn't



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understand why his client was crying on the delivery date. Was she dissatisfied with the work? No, they were tears of joy. The piano had been a wedding present from her father to her mother, who died giving birth to her only child.

Another piano restorer was asked to restore a Hardman 5 Grand, a family heirloom that the grandfather used to play a bit. The customer was the granddaughter, who wanted a player mechanism installed since she didn't play.

"I had to take it to Washington, D.C., and deliver it to a second-floor condo," the restorer says. "The daughter was quite something. She worked for the CIA, had been in combat and could fly a plane and helicopter. She was a tough one. After I did a final tuning check, I started the player and selected one of a short list of tunes in the digital memory. It was the 'Battle Hymn of the Republic.' She was quickly in tears. It turned out that that was one of the only tunes her grandfather played. What are the odds of that? She was thrilled and I hear that she uses it all the time now to remember her grandfather."

In these two examples, the restorer did not know much of the story until the item was complete and delivered. I'm sure that they were doubly glad that they had done an excellent job on the piece when they saw how important the journey of that piece was to

the recipient and that telling their part of the story, expressing how and why they valued the piece, was important to the person receiving the piece.

Clinching the deal

As craftsmen — whether restorers, finishers, repairmen, upholsterers or fabricators — we must act as salesmen. Often, listening closely to the story that the client has to tell will make the sale less difficult. When the client feels that you are involving yourself in that story, he or she will be more willing to trust you to offer and deliver your best work and advice.

A restorer said to me, "I find most of our work exceeds the monetary value of the object, but we sell the job when we acknowledge how the client has valued the object. Listen to the story. Add to the story with your knowledge of wood, of antiques, of history. In working on the piece, we often find more information about it that clients love to hear. This can be documented in a condition report or treatment report or any detailed description. This can be added value to your work.

"Spending an extra half hour to put together this information is well worth it, especially in getting repeat business. It demonstrates our passion for the work we do and it is infectious."

So talk to your customers and get the back-story on their projects. It might take a while longer to clinch the deal that way, but I guarantee the customer will be happier. And you might get more enjoyment from the work as well. **W**

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

CMA elects new board members and officers

The Cabinet Makers Association has re-elected Matt Krig of Northland Woodworks in Blaine, Minn., to a fourth term as president and Leland Thomasset of Taghkanic Woodworking in Pawling, N.Y., as vice president.

Also elected were treasurer James Fox of Fox Woodworking in Phoenixville, Pa., secretary Monika Soos of Sofo Kitchens in Maple Ridge, British Columbia, and Matt Wehner of Cabinet Concepts by Design in Springfield, Mo.

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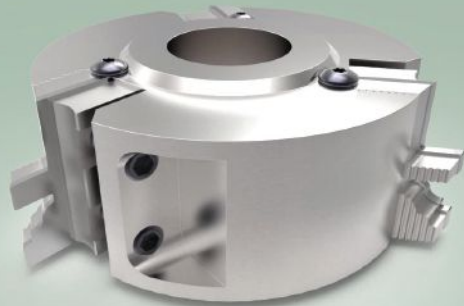
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PRO SHOP

with BY DAVID GETTS

Seeking a niche? It's not all dollars and cents

A niche is commonly defined as a product or service that appeals to a small or specialized market sector. In the broadest sense of the definition, if you work in the woodworking industry, you are already in a niche market.

Woodworking, like every other specialized craft, caters to a relatively small portion of the available market. To an outsider, your work is probably viewed as niche-esque, but to the insider you have an understanding of how the different nuances of the craft lead to specialization. Figuring out your specific niche can be daunting, but if you follow the money you'll usually discover what your niche market is. A true niche is one that creates a comfortable or suitable position for your company or even for yourself as an individual.

View from the top

Many years ago I worked for what was, at the time, the largest architectural woodworking company in North America. The company boasted five locations across Canada and the United States. There appeared to be no job the company couldn't handle. Hotels, corporate offices and large government projects oozed from the job book like a melted cheese sandwich. Each subsidiary not only served the local building industry, but could also be used as a subcontractor to other branches helping to meet production schedules. And even though each branch was totally self-sufficient, they all possessed a specialty niche that set them apart from the other divisions.

For instance, one branch was well-equipped to do veneering, while another was the leader in CNC technology. Even location was a niche. I worked in the lone U.S. branch, which provided the company with better inroads into the Lower 48. Being a lowly project manager, I was certainly not privy to upper management's philosophy or business plan, but it seemed fairly apparent that the company direction was designed with the purpose of carrying out a plan of North American dominance.

During my tenure at the company, I was

provided with the opportunity to receive training at their British Columbia branch. Even though they called me the "Southern Yank" (a sarcastically demeaning term, yet with a hint of puppy-dog affection), I was able to find their soft spot and work my way upstairs. It was there that I was provided insight on how the company ran its day-to-day planning and long-term business objectives. While spending time with their chief estimator, I was given a crash course on how large projects are estimated and what it takes to keep them profitable. I mentioned a recent trade article about the "top dogs" in the architectural woodworking industry. The article went into great detail about the type of work each of these companies specialized in, their sales volume, years in business, number of employees, etc. And there at the top of the list (by a fairly significant margin) was the company for which we worked. The chief let out a hearty laugh and said, "Those numbers don't tell the whole story. By sales volume we are clearly No. 1, but half of those sales come from a very profitable tenant-improvement business where we act as the general contractor."

It was at that moment a light bulb went off in my head about the importance of niches. Although, on the outside, this company was a leader in the woodworking industry, the numbers on the inside revealed a different story. Custom woodworking appeared to be the niche that set them apart from the competition, but it was the general contracting that created the bread-and-butter of the books. So the question that rattled around in my brain was: what is their niche? Woodworking or contracting? Were they employing the use of two niches to carry out their business plan or was the unseen general contracting their true niche since it appeared to be the driving force behind their sales and profit?

Profitable and sustainable

I believe finding a niche is not as simple as diverting all your energy into one differentiated or

Continued on Page 22

PHOTO:

THE CUTTING EDGE

with R.W. LEE

Rendering can seal the shakiest of deals

You are at the end of a long design process for a large and very profitable job. The client has not been the easiest to work with, but you and your staff have persevered. The process is at the point of signing the contract and getting the first deposit, when the client says: "I'd really like to see what the finished kitchen will look like." You close your eyes, take a deep breath and struggle for a response.

There are software programs that can take rough, colored elevations of a cabinet installation done in CAD and produce photographic-quality images from any view. This process is called rendering and the programs that do this are called renderers.

The rendering process depicts the 3-D nature of a CAD drawing as a 2-D picture, taken from a specified location and perspective under specific lighting conditions, much as you would frame a scene to take a photograph with a camera. Rendering brings a CAD-generated image of a cabinet installation to life by adding the simulation of realistic lighting, shadows, atmosphere, color, texture and optical effects such as the refraction of light. With some rendering programs, their output is so realistic it is difficult to identify the difference between a rendered image and a photograph.

Rendering programs are available as open source (free), stand-alone or as part of a CAD software package.

To run a rendering program, your computer will need a graphics card and plenty of memory. A graphics card will take some — though not all — of the processing load off the computer's central processing unit. For use with a Windows-based operating system, make sure to get a rendering program made to work with a 32- or 64-bit processing system, depending on what you have. There are similar requirements for Apple and Linux-based computers.

A 64-bit processor is faster than a 32-bit processor and rendering programs that require many calculations per second to function smoothly operate faster and more efficiently on 64-bit processors.

If rendering is only done occasionally, a 32-bit computer is more than adequate, though a better graphics card and more memory might be a good addition.

I've experimented with two inexpensive rendering programs and SketchUp's CAD program. I used the same design for comparison: a simple set of cabinets with marble and solid-surface countertops, sink, appliances and recessed lighting. Renderings were made with different light levels, at different times of day and at different times of year.

Indigo RT, a stand-alone program (\$199) from Indigorenderer.com, has more than adequate capabilities to render any scene for a cabinet installation for a small- to medium-sized shop. Conditions of the object and environment that can be changed including the lighting, materials and their textures, glass characteristics, reflections, and shadows.

Continued on Page 22



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technical market. It certainly can be that, but for small, custom makers it's not so simple. A specialized niche only works if it provides you with enough work to remain profitable.

Geographic location also plays a key role in how you set up your niche market. As a small maker you can probably do quite well focusing on a single type of job if you work in a large metropolitan area. But if you live in a small town or rural part of the country, you're going to need to specialize in many different things just to put food on the table. Don't think of niches as having to be one specialized craft only. A niche can be a multitude of things you do well. Again, the best measure of a niche is how profitable and sustainable it can be.

CUTTING EDGE from Page 21

Using Indigo with SketchUp has advantages as there is a toolbar with Indigo buttons to control Indigo operations, plus there is a plugin that provides easy access to tools that allow you to complete the rendered scene in SketchUp.

Learning to use Indigo is a step-by-step process and, with patience and experimentation, you can render any cabinet-installation image from a simple bathroom to a complex

Awhile back I had a visitor to my shop. He was a friend of a friend. He and his wife were moving to the area and asked if I could show them around. Curious about what I did, he came to my shop to see exactly what kind of business I was in. His very first comment was that I needed to hire more employees so that I could really start making money. I was so unimpressed by his insight into my life and business after spending a total of six minutes with me that I just had to know how it was he could exude such confidence in the direction my business needed to go. Surely he must be an industry expert, a successful businessman or perhaps a life coach to have such intrepid insight. When I inquired of his background, he said he was between jobs. In other words, unemployed with no credentials.

kitchen/dining room scene. The resulting output will please most clients and speed the approval process.

I also tried Kerkythea, an open-source program available at Kerkythea.net. A plugin is available for direct export to SketchUp and other CAD programs.

Kerkythea has a simple graphic user interface that separates out each material or color used in the 3-D model from the CAD drawing. A dropdown menu makes it easy to modify the design in terms of materials, color

The point? A niche in business is not necessarily obvious and sometimes even following the money trail won't get you there. A niche is first and foremost personal. You might be able to find a niche for your business that is profitable, but if you don't like doing it, it will not really be your niche.

A sustainable niche is twofold; it must address the ability of a business and the humanity of the person. Craft markets rely heavily on the skill of the individual. Therefore, in order to have a successful niche, you must find the balance between what you're good at and what makes you happy. **W**

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

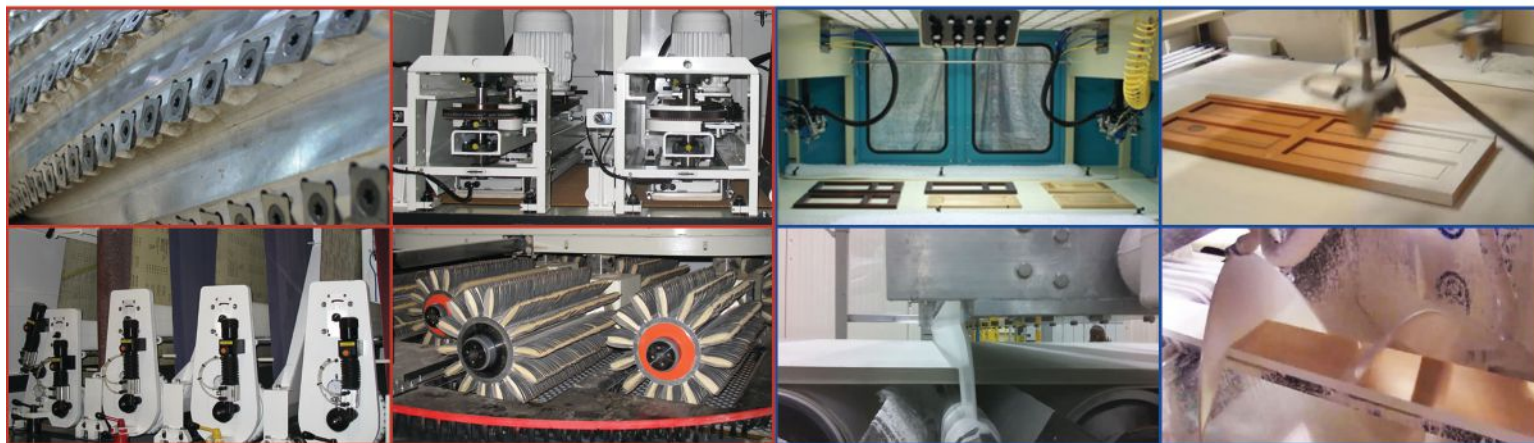
and lighting options. Kerkythea has a large library of materials, backgrounds and lightning choices.

Either of these rendering programs can change the 3-D images from a CAD program into photorealistic images that can help sell your kitchen and bathroom cabinets. Both take patience and perseverance to learn and it is best to start out with a very small and simple design.

Rendering is ultimately a sales tool to help the client make a final decision. **W**

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SANDING TSUNAMI

We show some true grit in determining the machines in a crowded marketplace that will offer you the most for a fair price

By John English

While it's the most effective way to achieve a perfect surface, sanding is also the most challenging to manage. There's the debris, of course, which includes a lot more fines than other operations such as planing, routing or shaping. And then there's the disposable nature of the abrasives, which can wear or clog a lot faster than a carbide edge will dull. So making purchasing decisions isn't only about the machine. But it does start there.

Sanding machines come in a variety of sizes and shapes, from profile or molding units to spindle, disc, stroke or edge sanders, plus wide belt/panel machines. For the purposes of this discussion, let's define machines as stationary units to which one brings the work, rather than devices that are brought to the work. (For more on portable solutions, stay tuned for November's article on hand-held sanding options.)

LARGER PROCESSES

One of the most iconic names in woodshop equipment, Timesavers (timesaversinc.com) has built sanding machinery for more than 70 years. The Minnesota-based company's panel sanders are its most robust offerings. The 3300 Series is a customizable machine that can be outfitted with up to four heads, while the 5300 Series is an immensely heavy and powerful machine that can be outfitted with up to five heads and is suited to the largest and most demanding panel-sanding projects. For small- and medium-sized cabinet and furniture shops, a popular option is the SpeedSander, which uses a combination drum and platen head to process small-to-medium-sized woodworking projects. For larger jobs, there's the 2300 Series that comes with either a 75" or 103" abrasive belt and can be configured with up to four heads. Timesavers also builds task-specific machines for orbital, veneer and lacquer sanding, plus brush sanders and heavy stock removal machines.

Felder Group USA (feldergroupusa.com) is an Austrian manufacturer with U.S. headquarters in New Castle, Del. The company recently added two new machines to its stable of seven wide-belt sanders. Both the Finish 1352 and 1353 models offer an option for touch-screen control and can be set up as either a two- or three-belt arrangement. The model name comes from the 1350mm processing width and an optional carbide insert planer head can be added on the machines' infeed sides. These Finish models have an electro-pneumatic sanding pad that is lowered onto the work at both front and rear with precise tolerance and the controls are designed to prevent veneered surfaces from being sanded through. A vacuum table, brushes and roller extensions are all offered as options.

Biesse America (biesse.com/na) currently offers a range of nine Viet brand wide-belt sanders. With headquarters in Italy, it has offices in

Anaheim, Calif., and Charlotte, N.C. The company is very accessible: it operates 200,000 sq. ft. of showrooms and every year conducts 7,000 demos worldwide. One of its latest support innovations is Parts, a 24/7 online system where shops will be able to locate and order spare parts. With green goals in mind, Biesse's Viet range of machines includes the ESS system, which allows for energy savings of up to 30 percent and that affects both electricity consumption and CO2 emissions. The entry-level S211 is ideal for smaller, artisan workshops and the machines increase in power and ability from there.

Eurowood Machinery (eurowoodmachinery.com) is an importer and supplier of machinery and replacement parts. Its Italian brand Stemas (stemas.it/en) offers more than two dozen sanding machines, most of which are designed for very specific tasks. They run the gamut from quite small to very large and will sand and glaze moldings and profiled panel edges.

Global Sales Group (globalsalesgroupllc.com) offers a variety of Castaly brand — formerly Lobo — sanding machines that tackle curves and rounds, lacquer and orbital finishing and also wide-belt tasks. One of the more unique is the RC-420V round pole sander that will even work on tapered pool sticks in full automation. The company also carries Safety Speed and Dotul wide belt sanders.

Martin Woodworking Machines (martin-usa.com) is a subsidiary of a German manufacturer that has been building machinery since 1922.



The 5300 Series is the heaviest machine that Minnesota-based Timesavers Inc. makes, and each machine is custom built to the exact needs of the customer.

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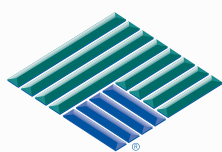
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Among the offerings from SCM Group NA is the Minimax Is, a surface belt sander with a double gooseneck and two exhaust hoods.

The line consists of six Weber brand wide-belt sanders and the entry-level model is the LCS that has Weber's patented ISA segmented platen system within the framework of either a single- or double-belt version. The single is equipped with a combined station, while the double-belt machine has a contact roller station as well as a combined station. Calibrating and finish sanding can be performed individually or in combination. Working widths are 43" and 51".

ROOM TO GROW

Chicago-based Opti-Sand (opti-sand.com) has a comprehensive line of machines including molding sanders that work on trim, flooring, paneling, siding and other linear parts. They're modular, so a woodshop can add top, bottom or side spindle modules as needed. The company's rotary sanders work on cabinet doors, drawer fronts, face frames, entry doors, shutters and other three-dimensional parts. They come standard with a vacuum conveyor belt and are available with power-adjustable twin belts with edge sanders. Opti-Sand also offers panel sanders, hanging door line sanders (for entry/passage doors), and wire brush options for texturing or distressing panels, siding, flooring and frames.

Voorwood (voorwood.com) offers half a dozen feed-through shape-sand machines, a range of table shape-sanders and its Turbosand line of rotary sanders. These latter sand the profiled edges of doors and panels or reach into grooves and decorative features. Most of the profiles in the catalog can be downloaded as DXF files. And Voorwood also offers TurboflexPro flap-sanders, which are die-cut to better match a profile without sanding off outside corners or skipping over inside curves.

Apex Machine Group (apexmachinegroup.com) offers three families of sanding machines. The 1000 series comes in widths from 13" to 43", in single- to three-head configurations with drum, brush, disc or combination heads. The 2000 Series runs from 13" to 52" wide and has up to four head options including a cutterhead. And the heaviest duty 3000 Series sands from 25" to 64", also with one to four optional heads.

Costa Sanders LLC is part of a global corporation with U.S. headquarters in Archdale, N.C. The company's machines are available in widths from 350mm (13.77") through 3200mm (126") and are customizable to process the bottom, top, or both surfaces in one pass. They range from the SK Series (which has a vacuum plant for processing small parts and built-in roller table extensions) through five families to the S Series. Here, the frame, abrasive sizes and power can all be tailored to any production level, as well as to aggregate traditionally different processes into one single machine body. With its different frame types and lengths, the line can accommodate from one to 10 working units.

Roba brand surface, profile/molding, distressing and edge sanding machines are the products of MB-Maschinenbau GmbH (mb-maschinenbau.de), located in Herford, Germany. The patented Roba Tech, the introductory machine, is equipped with a new sanding belt that



Biesse offers nine Viet brand wide-belt sanders, starting with the entry-level S211 designed for smaller shops.

contains 174 strips. An area of about 50" square contacts the workpiece and 360-degree rotation of the sanding aggregate over the work makes it possible to reach all edges and corners. The large sanding area lets the machine achieve its best cutting results at low rotation speeds and this allows the sanding strips to slide gently into milled grooves and sand them properly. For moldings, the Roba SSM is specifically designed for MDF and intermediate lacquer sanding, using abrasive wheels.

Familiar to woodshops because of its CNC routers, edgebanders and panel saws, NexTech Machinery has just moved into a beautiful new tree-lined facility in Cornelius, N.C. where several machines are installed and set up to demo and do sample runs. The company (nexttechmachinery.com) offers a family of four wide belt sanders for small to medium sized woodshops. The single-head S37-C is the entry-level



The K series of calibrating and sanding machines from Costa handles panels, flooring, kitchens, and custom woodshop needs.

sanding machine and it has a width capacity of 37.4". Next in line in terms of size, the S43-RC has two sanding heads that handle workpieces up to 39" wide and then the S52-RRR reaches to 51" wide. At the top of the ladder, the PS52-PRC offers all the features of the S52-RRR with the added advantage of a 40-hp steel helical planer head. This planer/sander handles workpieces that are up to 51" wide.

The catalog of Oliver Machinery (olivermachinery.net) includes five wide-belt sanders with 25" to 43" capacities, a 37" dual oscillating drum sander, two edge machines and a spindle unit. The drum sander (model 5555) features more than a half-inch of oscillating travel, quick-change sandpaper and an independently adjustable rear drum. It has a 15-hp motor, cast-iron base, four-post table construction, twin 4" dust ports and an amp meter.

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MORE OPTIONS AND SHAPES

Laguna Tools (lagunatools.com) offers a complete range of small- and medium-sized machines. Included are several models of spindle, belt and disc sanders that accommodate the needs of a range of woodworkers from hobbyist to small shop pros, or designated tasks in larger environments. Laguna's DDS 26 is a double-drum head that handles work up to 26" wide, and the DDS 38 model extends that capability to 38". The company's family of wide-belt sanders caters to work from 25" to 51" and the top of the line Pro 51 is equipped with a primary 8" roller and a secondary 4" roller followed by a wide platen for fine finish. This allows a shop to dimension and finish in one pass.

Cantek America (cantekamerica.com) has 6", 9" and 12" wide-edge sanders, a three-sided molding sander, combination planer/wide belt units ranging from 24" to 51" with insert knives, plus two single-head and a double-head small wide belt. Cantek's PR series wide-belt machines are available with one to four heads and in widths from 24" to 51". The sanding heads available include a 10" contact drum (rubber or steel), and a combination head with a 5-1/2" diameter drum and 2-5/8" adjustable sanding platen.

Doucet Machineries (doucetinc.com) offers a number of edge belt sanders including models with two belts that allow the operator to run different grits simultaneously. The Doucet Progress model P-12-60 is an extremely versatile combination machine that includes a 12" disc and a 6" x 60" belt sander.



The versatile A15 Stile & Rail Shaper-Sander from Voorwood handles parts as small as 37mm x 89mm and offers hopper, Space-Ball, foam and other insert options.

Newman Machine Co. (newmanwhitney.com) manufactures the A-4000 and PST-4000. The former is a four-stage wide belt sander and the latter adds a helical carbide planer cutterhead and comes in 12 different configurations and up to four heads. Both machines have quite sophisticated control panels, and the range is from 38" to 54" in width.

SCM Group NA (scmgroup.com) supplies a range of 13 machines under the DCM brand and three Minimax models. The wide-belt sanders range from the entry-level DMC SD 10 with a 37.4" wide capacity to the 64.9" DMC System TT 1650 and beyond. The Minimax Is is a surface belt sander with a double gooseneck and two exhaust hoods and the Minimax U 150 is a standard 6" edge sander with a worktable that can tilt to 45 degrees and an additional table with rubber rollers for shaped workpiece sanding that can be quickly installed and removed.

Attendees at major woodworking shows are familiar with the impressive presence of Stiles Machinery Inc. (stilesmachinery.com) at most venues. Stiles offers a comprehensive range of sanding machines from wide belt and edge units to brush, robotic, profile, orbital and calibration sanding. The lines include Kuper, Heesemann and Makor brand machines, and there's a Heesemann wide belt sander for almost any size application. For example, the KSA-8 is available with one to six heads (top and bottom), is designed for sanding lacquer, veneer, or veneer and solid wood, and is available in 62", 70", 78", and 86" widths. One major ad-

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vantage to dealing with Stiles is that the company maintains a network of five regional service centers and a nationwide force of more than 100 field service representatives.

SMALLER SHOP SOLUTIONS

When it comes to smaller machines, the range of options increases quite a bit.

SuperMax Tools (supermaxtools.com) offers a family of drum and brush sanders that handle work from panels to profiles, and sometimes both. For example, the company's 19-38 combo machine has interchangeable drum and brush heads. The nylon brush is ideal for pulling the grain out of soft woods, or cleaning up reclaimed lumber.

Safety Speed (safetyspeed.com) offers a pair of wide-belt sanders that were designed to be affordable for smaller shops. The 3760 model comes in 10- or 15-hp configurations and handles sheets up to 36" wide, while the larger 4375 has a 42" maximum working width.

Baileigh Industrial (baileigh.com) offers three drum sanders, two oscillating spindle sanders and four options on edge/belt sanders — all under \$3,600.

Woodmaster (woodmasterdrumsanders.com) also offers economical, but high-quality solutions for smaller shops with three single drum options and two doubles.

Grizzly Industrial (grizzly.com) has a wide array of choices that bridge the gap between one-man operations and production shops. The top of the line is a 51" wide belt sander at \$23,450 and the offerings work down through several intermediate models to a 15" open-sided wide belt sander that retails for \$4,695. After that, Grizzly has families of drum and edge units, and a rich offering of disc, belt, flap and spindle solutions.

Woodstock International (selling the Shop Fox brand and found online at woodstockint.com) offers options similar to the Grizzly line.

Larick Machinery (larickmachinery.com) carries a half-dozen small-



Laguna Tools carries a wide range of small- and medium-sized machines, including several models of spindle, belt and disc sanders.

profile sanding machines and a couple of shaper sanders. Quickwood (quickwood.com) makes molding sanders with four heads for sanding moldings on three sides. And Maksiwa (maksiwa.com) has a benchtop disc sander and a floor model disc/belt combo.

The Sand-Flee (rjrstudios.com) is an 18" wide portable drum sander than can be used on a bench or even taken to the job site. It's ideal for flat sanding small parts. And the DB-612-DLX is a benchtop all-purpose contour and finish sanding machine from Sand-Rite (sand-rite.com) that has a pneumatic drum and a brush for cleaning up small parts and profiles.

Watch your mailbox in October for a Woodshop News supplement on finishing that, in addition to covering coatings, will also have more information on both sanding and dust control. **W**



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- Arbor: 5/8"
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- Cutting capacity: 8" L, 26" R
- Approx. shipping weight: 550 lbs.

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- RPM: 1725
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- Precision-ground cast-iron table size: 17" x 17" x 1½"
- Table tilt: 45° R, 10° L
- Floor-to-table height: 37½"
- Cutting capacity/throat: 16¾"
- Blade length: 131½" (1/8" to 1" wide)
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- Motor: 2 HP, 120V/240V, prewired 120V, single-phase
- Amps: 15A at 120V, 7.5A at 240V
- Precision-ground cast-iron table w/ wings measures: 40½" W x 27" D
- Table height: 35¾"
- Arbor: 5/8"
- Arbor speed: 3450 RPM
- Max. depth of cut: @ 90° 3¼", @ 45° 2¼"
- Rip capacity: 31" R, 16¾" L
- Overall size: 64" W x 40¼" D x 35½" H
- Footprint: 21" L x 19½" W
- Approx. shipping weight: 371 lbs.

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- Scoring blade size: 3/8" • Scoring blade arbor: 22mm
- Depth of cut: 3½" @ 90°, 2¼" @ 45° • Max. rip capacity: 33"
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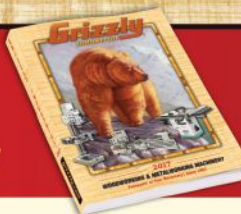
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- Bevel jointing: 0-45°
- Dust port size: 4"
- Planer feed rate: 22 FPM
- Max. planer depth of cut: 1/8"
- Max. planer cutting height: 8"
- Planer table size: 12 1/4" x 23 1/8"
- Overall size: 67 1/2" W x 41 1/2" H x 24" D
- Footprint: 26" L x 19 1/2" W
- Approx. shipping weight: 704 lbs.



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- Motor: 2 HP, 240V, single-phase, 10.8A, 3450 RPM
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- Cutterhead speed: 7000 RPM
- Cuts per minute: 14,000
- Cuts per inch: 64-300
- Max. planing width: 7"
- Max. planing height: 7 1/2"
- 2 HSS knives
- Overall size: 22" W x 36 1/4" L x 34 1/2" H
- Approx. shipping weight: 324 lbs.



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- Min. stock length: 8"
- Max. cutting depth: 1/8"
- Feed rate: 16 & 30 FPM
- Cutterhead dia.: 3"
- Cutterhead speed: 4800 RPM
- Cutterhead knives: 3 HSS, 15" x 1" x 1/8" (G0453); 74 inserts (G0453Z)
- Precision-ground table size: 15" x 20"
- Overall size: 32 1/2" L x 42" W x 45 7/8" H
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24" PROFESSIONAL PLANERS



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



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5 HP, SINGLE-PHASE

G5851Z \$4895⁰⁰ SALE \$4695⁰⁰

7.5 HP, 3-PHASE

G7213Z \$5195⁰⁰ SALE \$4950⁰⁰

20" PLANERS

- Motor: 5 HP, 240V, single-phase, 19A
- Max. cutting width: 20"
- Min. stock length: 8" • Max. cutting depth: 1/8"
- Feed rate: 16 FPM & 20 FPM
- Cutterhead dia.: 3 1/8"
- Cutterhead knives: 4 HSS, 20" x 1" x 1/8" (G0454); 98 carbide inserts (G0454Z)
- Cutterhead speed: 4800 RPM
- Table size: 20" x 25 3/4" (20" x 55 1/2" w/ extension)
- Overall size: 39 1/2" W x 55 1/2" D x 45 7/8" H
- Approx. shipping weight: 932 lbs. (G0454Z), 920 lbs. (G0454)



\$189
shipping

4-KNIFE CUTTERHEAD

G0454 \$1750⁰⁰ SALE \$1495⁰⁰

SPIRAL CUTTERHEAD

G0454Z \$2575⁰⁰ SALE \$2195⁰⁰

BUILT-IN
MOBILE BASE

24" EXTREME-DUTY PLANER WITH SPIRAL CUTTERHEAD



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



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4-KNIFE CUTTERHEAD

G9741 \$7995⁰⁰ SALE \$7795⁰⁰

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FINDING HIS WAY IN Wilmington

Pete Steele's four-man Delaware shop punches above its weight class, gaining business by finishing complex jobs

By Jennifer Hicks

Combining his formal business training with a passion for building cabinetry, Pete Steele, along with his former business partner, opened Astral Plane Woodworks in Wilmington, Del., in 1994. The custom shop has been going strong ever since, despite some challenges along the way.

Business fell drastically during the Great Recession from 2008-10, but Steele made it a priority to work through the slow times so his employees didn't take the hit. "Things dropped off by a third. I had money in the bank and just tried to keep work going. I didn't lay anyone off. I didn't want to do that. They have families," Steele says.

Of course, not every business owner can keep the doors open when the economy goes south. But Steele's personal business mantra of delivering quality products on time in the early years gave him a solid reputation that kept work coming in and the lights on.

Astral Plane currently has three full-time employees and one part-timer building custom furniture and cabinetry, with a focus on commercial projects such as banks, theaters, hotels and professional offices.

DRIVEN TO SUCCEED

Originally from Wilmington, Steele grew up spending time with his uncle, who was a woodworker. He started taking shop classes in seventh grade and continued with woodworking courses through high school. He graduated from the University of Delaware with a business degree.

"When I got out of college, I ran some retail stores. I liked the management part and the aspect of running my own business, but I didn't like dealing with the corporate side of things," Steele says.

So he switched jobs, working for a small cabinet shop before starting out on his own.

"I give my ex-partner, Jerome LeBlonde, credit for getting me started in this business. We knew each other at the University of Delaware where he studied design. Jerome started a woodworking business right



out of college, whereas I worked in the corporate world. I soon found out this was not for me. So I went to work for him for two years before we partnered in 1994 to form this company. Jerome helped teach me to be more creative in my woodworking."

The business basically began with a clean slate. "We had contacts through my partner's former business. And both of our wives had pretty good jobs in the first couple of years we were trying to get clients. It's a tough business, but I get a lot of personal satisfaction out of it and I like when my clients are happy and like the products," Steele adds.

The partners did it all in the early years, covering the shop and the office. They started in the residential market and added a full line of stock cabinets from JSI Cabinetry, based in Fall River, Mass. The focus



A residential kitchen, featuring four custom stools, by Astral Plane.

has shifted to more lucrative commercial work, particularly around the state's coastal areas.

LeBlonde left the company in 2003 to start a shop closer to his home in Baltimore. That left Steele with no other choice but to hire several woodworkers and shift his role to estimating, designing, managing and other ownership duties.

ATTENTION TO DETAIL

Steele prefers commercial work over residential because the jobs are bigger. But he welcomes any type of request, putting 100 percent of the shop's resources into every job, catering to a vast range of design styles. He works closely with a network of general contractors and designers,

obtained entirely through word-of-mouth referrals.

Residential jobs include casework and custom kitchen packages. The shop also produces conference tables, reception desks, bars, vanities and countertops.

"Right now, I'm working on a kitchen with quartersawn white oak cabinetry with a liming wax finish," Steele says. "We work with all different types of wood and finishes — some are painted and some are natural. We do a little bit of everything. Usually the designer has some idea of what the client wants and I give my input."

Styles are somewhat in between traditional and contemporary influences. "We do a little of both. Here, the door style is a little more contemporary, but it fits into an older school overall design," Steele says.



Steele says craftsmanship and excellent customer service are the keys to his business.

"A lot of the commercial work is more on the laminate side. We do some columns and different architectural designs when the prints require them, along with stock laminate products."

KEEPING A POSITIVE REPUTATION

Steele notes the competition is pretty fierce in his location. His solution is to deliver the best custom work money can buy, coupled with excellent customer service.

"There are a lot of shops in this area. They're all pretty much non-union shops and competition is pretty tough. There are probably 10 shops within three or four miles of me.

"I've always stayed small. I provide excellent service. I always get the job done on time. No matter what, I get it done on time. The quality and the service sets me apart from the other guys that are a little bit cheaper than me, but don't finish the job like they should. It drives the general contractors crazy when these shops complete 95 percent of the job and leave them stuck with all of these little odds and ends that they don't finish up. There've been a number of occasions when I've gone out and finished another cabinetmaker's job that didn't complete the job."

He says he will continue doing what it takes to run a successful business for the next decade or so and, from that point, isn't necessarily sure what lies ahead. Everything will depend on finding a potential successor.

"I've got at least another 10 years before I make any decisions. I'm not trying to expand. I don't need to make a fortune. The business is not something I think I can easily sell when I retire, unless one of my employees wants to buy me out. But even then, if they didn't perform, my general contractors won't keep calling, so there's no guarantee of

work. It's tough, but you get rewards out of it," Steele says. **W**

Contact: Astral Plane Woodworks, 28B Germay Dr., Wilmington, DE 19804. Tel: 302-654-8666. www.astralplanewoodworks.com



A cherry reception desk made for a wealth management firm. Behind it is a Thomas Moser sideboard.

THE FINISHING TOUCH

Compiled by BHSW Inc.

Every project is judged first by its finish. That's what customers do – they look and touch, and then make up their mind. So, achieving the highest quality possible at the finishing stage is absolutely critical. For that, a woodshop needs the support of industry leading partners who consistently deliver.

SuperMax Tools is located in St. Paul, Minn. and has the proven experience and application expertise to assist shops with their sanding and finishing needs. The company manufactures drum and brush sanders in the US, and provides industry leading support to its customers.

UNEEDA has been supplying abrasive and sanders to woodshops for more than fifty years, and is also noted for exceptional customer service. The company has just introduced three new sanders and a vacuum system that collects fines down to 0.5 microns.

Once a project has been sanded, woodshops turn to Cefla Finishing to achieve breathtaking results in coating. As the new industrial revolution called Industry 4.0 marries technology to talent, Cefla is leading the charge with a number of impressive tools that not only provide its customers with a competitive edge, but partner with shops to streamline technology as we collectively navigate new waters.

And when the coatings are cured, quality hardware adds the final finishing touch to a casework or furniture project. Accuride has been doing just that since 1962. The company is a global presence with extensive resources, a deep understanding of design and manufacturing, and a reputation as a pioneer in the development of quality movement solutions.

Sanding, coatings and hardware – together, these companies partner with woodshops to deliver the benchmark in finishing touches.

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Accuride Provides That ‘Finishing Touch’

Slides that deliver smooth, reliable movement and nearly limitless options.

There are few features as important to woodworkers as great design and versatility. Those traits are critical to achieving that “finishing touch” – a final product that one can be proud of, and also be assured will last. Accuride movement solutions provide that optimal combination. For over half a century, the company has been offering craftsmen premium ball bearing slides. And those slides have allowed woodworkers to bring movement to the most unique and creative designs without sacrificing reliability.

Nothing shows a commitment to refinement better than Accuride’s newly enhanced 9300 family of heavy-duty slides. Already the benchmark for its segment, the enhanced 9300 has added new features while improving on those that made it a preferred choice for years. These include even tougher construction, a

new opening for more mounting options, and a 20% increased load rating – now a whopping 600 lbs.

The 9300 is available in many trims, including standard lock-in and lock-in/lock-out designs. It’s also available in lengths spanning 10” to 60”, depending on a project’s requirements.



With so many options and a limited lifetime warranty, it’s small wonder that this full-extension, non-disconnect drawer slide has long been a go-to for craftsmen and woodworkers. The 9300 is a great option for pullout pantries, garage and shed storage and, with the enhanced load rating, moving interiors in micro-living.

But the 9300 is just one of the many great options Accuride provides for woodworkers. There are countless side mount slides, and movement solutions for sliding doors and under-mount drawers. The company recently released the 3160EC Easy-Close, which is the only under-

mount slide engineered to support drawers up to 60” wide. Better yet, all of Accuride’s under-mount slides come standard with a soft-close feature.

Then there’s been the long-acclaimed 3800 Series. As with the 9300, this popular family of medium-duty slides has also been enhanced. Practically a mainstay in woodworking, the venerable 3800 comes in numerous variants including heavy-duty, self-close, and Touch Release. This range supports drawers up to 24” wide and handles loads up to 100 lbs. Given its many options, there’s almost nothing you can’t do with a 3800 slide. You’ll find it almost everywhere – in kitchens, bedrooms, bathrooms, garages and more.

With so many dependable options, Accuride slides give woodworkers what they need to achieve a superb finishing touch.

MORE GAIN NO PAIN

The 9300 Enhanced Family of Slides

When it comes to heavy-duty, no one builds slides as tough and dependable as Accuride. Look no further than our newly enhanced 9300 Series of heavy-duty slides. They’re stronger, smoother, and longer-lasting, all backed by our limited lifetime warranty. Strength. Value. That’s the Accuride way.

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Maximum Value, Minimum Training



When it comes to putting the finishing touch on a furniture or casework project, SuperMax Tools offers a wide variety of drum and SuperBrush™ sanders to meet the needs of any

woodshop. The company's comprehensive line of machines tackles thickness sanding, raw wood prep,

white wood and sealer sanding, primer and scuff treatment, reclaimed lumber cleaning, wire brushing and more. When it comes to training, these easy-to-use machines come with an extremely low learning curve.

SuperMax Tools' award-winning open-ended drum sanders come in two configurations and are ideal for both small pro shops and

woodworking enthusiasts. The fabled 19-38 Drum Sander is an industry standard and offers 19" of sanding width in a single pass, or 38" in a double pass. SuperMax Tool's impressive 25-50 Drum Sander is the largest open-ended drum sander on the market and will handle panels up to 25" wide in a single pass, and up to 50" in a double pass. For shops that routinely work on wide stock, the company offers double drum sanders from 25" to 50" wide, and those machines can greatly reduce the amount of time spent sanding because they can be set up with different grits on the two drums. Open-ended and double drum sanders produce consistent results and do so at a fraction of the cost of wide belt sanders. Plus, some models are mobile enough to transport to the jobsite on large projects.

For woodshops that need to texture, clean or finish sand, the SuperBrush sander is the ultimate solution. This unique machine comes in sizes ranging from 24" to 49" wide, and in either single and/or double brush heads. SuperBrush machines offer infinitely variable brush and conveyor speeds, which allows for endless finish possibilities.

SuperMax Tools offers free sample testing to ensure that their products provide woodworkers with the best fitting machine and brush head for their specific applications. And the company provides an opportunity to expand the scope of projects the shop can complete, while increasing speed and consistency.



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Better Sanding, Better Dust Control... Better Finish!

For more than half a century, Uneeda Enterprises Inc. has been helping woodworkers achieve the industry's most advanced sanding results. The company was founded in the Bronx in 1967 and is still headquartered in New York, with additional locations now in North Carolina and Utah. From day one, founder Herman Fuchs always understood that the essence of a great business is developing strong relationships with his customers. Today, Uneeda continues that commitment by providing not only the sector's best customer service, but also a host of highly innovative sanding solutions.

Take, for example, the company's systematic approach to orbital sanding. It begins with EKASAND E-Series electric sanders and then supports those with the new EKASAND Vacuum, which is optimized to extract the smallest fines and the most problematic dust particles.

The two larger EKASAND E-Series random orbital sanders are equipped with either a 5" or 6" pad, and each model is ergonomically designed with a low profile that provides superior balance, comfort, and control for all-day work. A brushless 350 Watt motor features four adjustable speeds ranging from 4,000 to 10,000 RPM, which allows a woodworker to select for both task and material. These electric central vacuum sanders can be equipped with standard 5, 6 or multi-hole back-up pads, allowing greater air flow and more dust extraction. And they are available in 3/16 and 3/32 orbits.

Then, there's the EKASAND E-Series 3" x 4" sander, which is the perfect compact tool to sand flat as well as recessed and intricate surfaces. It delivers consistent performance while being extremely energy efficient, and it has an overheat system that will shut down the motor

if the temperature ever reaches potentially damaging levels. The 3" x 4" is available in both non-vacuum and central vacuum versions. Compact and lightweight, it operates at two speeds (7,000 and 9,000 OPMs).

Better sanding doesn't mean a whole lot if it generates uncontrolled dust that contaminates both the shop air and finishes. The brand new EKASAND Vacuum system will solve that issue and was optimized to connect with any of the EKASAND sanders. One of the most important features of the new vacuum is its state-of-the-art Permanent Clean technology, which regularly measures dust levels in both of its HEPA filters. Once a factory preset value is reached, the filters are alternately cleaned within 3.5 seconds using high performance electromagnets. The benefits here include cleaning at constant high air flow, while significantly reducing costs thanks to longer filter life. And the best thing of all is that a woodworker's workflow never gets interrupted! The HEPA filtering removes 99.99% of particles down to an impressive 0.3 microns.

The EKASAND Vacuum also has a Power Take-off feature that automatically syncs when a tool is switched on or off. And it comes with a 10-foot long antistatic hose, so it's not only a workshop solution but also a superb tool for installers on the jobsite.

With a 60,000 square foot manufacturing, warehousing and distribution headquarters, UNEEDA is the only supplier in the industry to offer technical services to all customers and distributors at no charge. Beyond offering the widest range of abrasive products for the



woodworking industry (including the ability to supply custom sanding discs from 1/2" to 42" diameter), Uneeda's main objective is simple: to make sure that its customers achieve the best results possible while reducing their sanding costs.

Now, is there a more important finishing touch than that?



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Cefla Finishing and Industry 4.0



Industry 4.0's technology allows companies to connect the digital world and the real world – that is, the world of machines and the world of people. It begins with Smart Factories, where the digitization process allows hardware and software to interact at every step of the production process. By 2020, there will be more than a billion connected devices on planet Earth, and Cefla Finishing is already part of a future that combines the efficiency of mass production with the personalization of specific customer needs. The company, which is a world-leading provider of finishing, decoration and digital printing solutions for the wood industry, is embracing Industry 4.0 in order to provide its customers with a competitive edge, and part of that process is a new set of powerful and innovative tools.

The first of these, cCloner, is a tool that allows for a realistic overview of a process before one starts up the production line. It creates virtual models of machining steps and simulates real time so that the actual process, once started, can meet production requirements and prevent inefficiencies. Simulation enables a woodshop to adjust parameters up front, and to prevent potential bottlenecks. It allows a shop to reach the optimum level of efficiency in product changeovers and in processing different batches. And it also facilitates line starting operations, significantly reducing the time required. cCloner is quick and realistic: it can simulate a sequence of work days and, thanks to its library of 100 machines, recreate down to the smallest detail. Highly flexible and sophisticated, it offers tangible, useful

support for the management of a single machine or a complete line.

When it comes to constant monitoring of the line, and the collection and analysis of data related to productivity, the answer is cTracker. This software instantly provides an operator with a host of opportunities, minimizing downtime and constantly boosting production efficiency. At power-up, cTracker displays a view of the line synoptic. A supervisor can then look into details of individual machines as well as alarms, recipes, and so on, and make appropriate adjustments.

Beyond tracking, monitoring and simulating, a shop also needs to integrate data into its enterprise resource planning (ERP). The third Cefla Finishing tool, cLink, fills the gap between ERP and cTracker so that data retain their value over time and can be used to optimize future workflows.

The fourth element in Cefla Finishing's approach to Industry 4.0 is Smart Contract. The company has always understood that the core of evolution is service, and its massive presence worldwide makes it easy for CEFLA to agree with its customers on where and when to support them in order to solve any issue, or ensure an advantage. Smart Contract is akin to an engine kept idling, but able to immediately pick up speed to prevent a problem, provide a solution, or ensure improved performance. This is the cornerstone of the partnership, and it is flexible enough to be scaled up or down according to a customer's needs. It allows the company to stay close, but only when necessary.

Among the solutions that Cefla Finishing provides are integrated digital printing that covers a broad swath of sectors, such as wood, laminates and plastic surfaces; OMNIDRY, which provides fully automatic management of piece height while retaining all the outstanding characteristics of a standard Cefla vertical oven; and the super-fast Smartedge for painting and sanding the edges of straight and shaped panels. Smartedge allows an operator to change edge shapes in about 10 seconds, and edge thickness in 15 seconds – all without having to turn the machine off. To learn more about these and other innovative solutions for fixtures such as iLoad and iFlow, visit CEFLA online.



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STICKY BUSINESS

By John English

We bond things together. It's what woodshops do. Sometimes joinery or hardware helps, but the core of what we do is use adhesives to make natural and manmade products stick to themselves and to each other.

As the materials in those products continually grow more complex and diverse, choosing the correct adhesive can be a challenge. Woodshops are also getting more concerned about environmental issues and whether "safer" glues will do as good a job as the old reliable ones. The answers lie in educating ourselves as to available options and the best way to do that is to find a knowledgeable supplier.

GETTING IT RIGHT

Pierce Covert is the president of Glue Machinery Corp. in Baltimore (gluemachinery.com). For more than 50 years, the company has been supplying hot-melt and cold-glue machinery to woodworkers. He says the top four problems when working with adhesives are using too little glue and getting a poor bond; using too much, which slows the cure, causes squeeze-out and wastes money; not paying enough attention to temperature and humidity, both in the adhesive application and the storage environment; and using the wrong glue pattern.

"The glue pattern you select," Covert says, "along with the pattern's length, width, compression requirements, type of glue and even the age and maintenance level of your equipment all have an impact in determin-

ing just the right amount of adhesive to use."

The best way to combat all of these problems is to work with your glue supplier to explore adhesive options that are best suited to your specific needs. And when choosing a vendor, Covert has some advice there, too: "How do you determine if a glue machinery supplier has what it takes to go beyond a one-time sale and actually become your long-term partner? Certainly, pricing will be an important factor in your decision. But there are other things you'll also want to consider.

"Responsiveness is critical. If it's hard to get a supplier to answer a call or return an email during the sales process, one has to imagine that it may be even more difficult to get his/

her attention after the sale is complete. Some glue-machine companies only sell and service one or two specific lines of consumables and equipment. If your question is about a system that includes pieces of equipment from outside their lines, they aren't willing to help. Others take a more vendor-agnostic approach. For the greatest level of service and flexibility, insist on a partner that can provide comprehensive service regardless of brand."

In addition to adhesives, Glue Machinery Corp. carries a comprehensive line of cold application equipment including handguns, complete delivery systems, label gluers, roll coaters, pumps and pressure tanks, and pattern controllers and detectors. The company also supplies hot-melt machinery including handguns, benchtop hands-free systems, roll coaters and automatic bulk systems.

Daubond adhesives from Daubert Chemical Co. in Chicago (daubertchemical.com) are used for thermoforming, lamination and assembly applications. For shops needing to learn about the process, the company has a thermoforming training video link on its homepage. The segment begins with an explanation as to why Daubert offers a two-part adhesive, instead of the single component that many shops use. A one-part adhesive has a hardener already pre-mixed into the adhesive and the company says this causes the product to age quicker, which reduces its heat resistance. That allows vinyl on thermofoil components to move excessively, eventually causing the bond to fail. The



On bentwork and forms a slow adhesive, adequate clamping time, a sturdy form and good planning are all essential components.



A comfortable working height and a logical sequence when gluing sub-assemblies both make glue-ups more comfortable and manageable.



Having clamps at hand and knowing the open time of an adhesive is critical when assembling large components.

two-part system also requires less heat during activation and during its useful life it has better heat resistance. The video explains the application process in detail, including recommending a HVLP delivery system. It covers mixing, calibration, prep, spraying, drying, press layout (including using temperature strips), quality control and cleanup.

Both Daubert and Glue Machinery Corp. point out the critical nature of temperature. If pre-heating is too low, the adhesive won't activate and set properly and if it's too high it can damage the vinyl.

Beyond thermofoil, temperature sensitive adhesives are also widely used in simple wood parts assembly. Hot-melt adhesive, such as item No. 3776LM from 3M (3m.com) can be a practical way to assemble drawers and other components in woodshops or hold things together until a mechanical solution takes over. According to 3M, the adhesive

is 100 percent solids thermoplastic resin and engineered to remelt after bonding if exposed to high enough temperatures. Among the advantages of hot-melt adhesives are that it can be virtually invisible between surfaces, quickly fills gaps and reaches its bond strength within seconds. That last means that a woodshop can move assemblies right away, which eliminates the need for clamps, fixtures or additional drying time and energy.

GOING GREEN

As with every other aspect of the woodshop industry, working with adhesives has an environmental aspect. Most manufacturers cater to this need. For example, Henkel Corp. (na.henkel-adhesives.com) has construction and woodworking adhesives with reduced VOCs and



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Sonoco produces liquid adhesive, dry blend and hot melt, and its SonoGrip family of brands are designed for assembly and wood applications.

formaldehyde-free formulations. Henkel has obtained GreenGuard certification for five of its trademarked brands: Dorus, Bondrite, Formica, Hybond and Permagrip.

On the front lines of environmental advances are research-and-development entities such as Sirrus (sirruschemistry.com). Its polymerization-on-demand technology currently provides fast cure speeds at ambient temperatures to significantly reduce cycle times, increase throughput and thereby reduce energy costs. In 2014, Sirrus signed a development agreement with Elmer's Products for the development of consumer products from Sirrus' Chemilian and Forza monomer platforms.

Another supplier worth watching for advances in this area is Sonoco Products (sonoco.com). The company makes Sonotube concrete forms and also produces liquid, dry-blend and hot-melt adhesives. Its SonoGrip brands are designed for assembly and wood applications.

TRADITIONAL SOLUTIONS

Hide glue is still available as flakes that need to be dissolved in warm water or other solutions. According to Pennsylvania-based manufacturer L.D. Davis (lddavis.com), "it is sold in many different grams strengths allowing adhesive compounders the ability to adjust open time, tack level and viscosity for running on all types of equipment. The higher the gram strength, the stronger the glue. The stronger the glue, the less open time you have." Animal products have been largely replaced by pharmaceutical industry byproducts nowadays as the source for hide glue gelatin.

Not all hide glue needs to be mixed. Titebond's Liquid Hide Glue (titebond.com) from Franklin International is a ready-to-use product that "provides superior creep-resistance, offers excellent sandability and is unaffected by finishes. Its sensitivity to moisture allows for easy disassembly of parts, a critical benefit in antique restoration or the repair of musical instruments," according to the company.

White glue, such as Elmer's, is a PVA (polyvinyl acetate) compound and is very safe to use. The polyvinyl element is a plas-



In the market for an industrial bulk hot melt glue system? Graco's Therm-O-Flow 200 applies sealants and adhesives from 55-gallon drums.

tic and the acetate is a salt that is formed when acetic acid combines with an alkaline or metal base. White glue is a viable choice for most standard casework and furniture, including dovetail and finger joints that need more open time. It has a slight disadvantage for repair shops in that no adhesive (including itself) will stick well to it once it cures.

Aliphatic resin emulsion or yellow glue such as the Titebond II brand is similar to and just as strong as white glue, with the added advantage that it has a shorter open and clamping time. The word aliphatic means that it's non-aromatic or, more precisely, it's a chemical compound of an organic class in which atoms are not linked together to form a ring. While white glue has a feature known as creep, which means it's elastic enough to move slightly over time, yellow glue doesn't slip as much, especially during glue-up. Water-resistant or water-proof yellow glue such as Titebond III is recommended for any wood project that will see occasional humidity (on a covered porch, perhaps, or in a basement).

Polyurethane adhesives such as Gorilla Glue are an excellent choice for outdoor furniture. They can require a small learning curve. For example, parts might need to be dampened and some brands will stain skin and foam up so clamping must be done right. Once the application process is understood and followed, polyurethane adhesive is an impressive solution.

Epoxy is a great gap filler and the water-proof characteristics of many brands allow it to be used on boats and items that are sometimes submersed. Many epoxies are formulated with very fast setup times, while others allow a little open time.

Instant Glue and other cyanoacrylate adhesives are ideal for small repairs like carving details that split with the grain by mistake. However, these products have a very short shelf life, especially after being opened, and there are some toxicity concerns. Read the labels. **W**

HOLD THE LINE AND MAKE THE CUT



The IQ Vacuum Pod system from Laguna Tools plugs into a shop's compressed air lines and turns a manual bed into a small vacuum work-holding system.

For a long time now, the most common way to position and hold work on a basic CNC table has been with T-slot devices. And, for most jobs, they function perfectly.

However, there are some repeatability issues. For example, when loosening a T-nut fixture, it can occasionally be challenging to try to replace it exactly where it was and in the perfect orientation. T-nuts can also block collector flow, so sometimes there's an accumulation of waste in the slot. Despite that, a bed with T-slot clamps (such as the B3V140A clamp from Velox at veloxcncrouters.com, or Next Wave's table hold-down kit at nextwaveautomation.com) combined with basic nesting software is still a great choice for many small shops. Plus, a number of small-machine manufacturers such as ShopSabre (shopsabre.com) now offer a hybrid T-slot and vacuum table as an option.

Pod and rail (and if you're not familiar with the system, there's a short image gallery on New CNC's site at newcnc.com) is the system of choice for higher production levels. For larger panel jobs, a universal vacuum system can handle parts where the edges don't always need to be accessed and matrix tables are sort of a hybrid between pods and vacuums.

tions to machine in more than one plane (top, sides, bottom). So, even though choosing a work-holding method still has a lot to do with the physical size of parts and the volume of production, other factors such as cost, availability and in-house expertise are beginning to play larger roles. And the answers don't always point to work-holding methods. Sometimes, for example, a timing test might reveal that it's actually faster to use a non-CNC option (such as line boring) to perform some tasks, rather than upgrading the router's fixtures. Plus, much of the new versatility of various holding methods also depends on the software being used and who is doing the programming.

Vacuum technology is perhaps the most adaptable work-holding option, especially for non-linear parts, and advances in pump technology are affecting the way that woodshops hold parts for processing. Take, for example, the Danish furniture builder Kvist Industries. It makes high-end seating from solid or molded wood, so the production-line clamps need to handle some interesting shapes. New markets in China have recently generated a lot of demand for both nostalgic and new designs from the company. So in 2015 the technical director, Rune Kvist, turned to Virginia-based Busch

Factors such as cost, availability and in-house expertise are playing larger roles in choosing a work-holding system

By John English

Choosing a work-holding system based on job or shop-size parameters is becoming a little less crucial as technology advances. That's especially true for smaller woodshops that are becoming more sophisticated and increasingly turn to CNC solu-

Vacuum (buschvacuum.com) to upgrade his production process. The old system had sometimes caused clamping problems because the vacuum either didn't reach the required level or got there too slowly. Busch provided three energy-efficient Mink claw vacuum pumps outside the building "that go unnoticed, except for the fact that we always have the vacuum we require for clamping," Kvist says. Now, the required vacuum is immediately available at any time because pipework between the pumps and the CNC machines serves as a buffer, where a constant vacuum of 200 millibars is maintained. The system only runs enough pumps to maintain the vacuum level in the pipework (usually one, sometimes two). The third is a reserve to avoid any downtime.



CNC centers, such as the Evolution 7405 from Holz-Her, feature a vacuum clamping system to hold challenging workpieces and mill difficult shapes.

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The new Biesse Winline 16 uses an array of work-holding solutions to hold both straight and curved parts, including finger clamps and vacuum modules.

Another approach among the most innovative industry leaders is to take the best of several new technologies and combine them to provide custom work-holding solutions. For example, Biesse (biesse.com) does exactly that on its new Winline 16, an NC multi-center designed specifically to produce doors and windows. It was designed for "artisans and small industries aiming to increase production, and for medium and large industries who need to produce small batches of unusual size or remakes." The machine handles loading, unloading and positioning of pieces autonomously. One section of the double electro-spindle worktable is dedicated to linear processing, while a second caters to custom elements such as arches, hollow-core doors and squaring. To accommodate those different functions, the Winline 16 uses finger clamps with pressure regulators to control the force applied (which helps avoid denting) and the EPS table for arches and special machining operations can be equipped with hyperclamps or vacuum modules.

Small-shop options

A shop doesn't have to spend a fortune to upgrade its work holding for small projects. For example, Laguna Tools (lagunatools.com) offers the incredibly simple IQ Vacuum Pod system. Just fasten it in place to turn a manual bed into a small vacuum table. Included in the kit is a vacuum generator (venturi) and an airline fitting, so all a woodworker needs to do is attach that to the airline from the shop's compressor and it's up and running. There are four 2-1/2" vacuum clamps in the package.

ShopBot Tools (shopbottools.com) offers the CNC Pressure Foot that allows the machine to cut "impossible-to-clamp" parts without using tabs or double-sided tape. It attaches to the Z-axis of a router and provides clamping force directly around the cutter, where it's needed the most. It's particularly effective for machining small parts and thin/flexible materials that can't be held by traditional clamping methods.

Another budget-conscious upgrade is aftermarket cups. Using these, woodshops can keep up with machine-specific options through suppliers such as Better Vacuum Cups (greenbvc.com). Known for its trademark green-colored cups, the company tailors aftermarket solutions to specific manufacturers. For example, BVC is now offering a replacement cup for Busellato pod-and-rail systems that's 55mm tall (Part No. BU80155.55B). It comes complete with a base, top cup, ball valve and gasket, if needed. BVC points out that Busellato and other industry leaders are innovative and change designs often. So machine owners might want to check in occasionally and see what new options are available.



A pod and rail machine is well suited to both cabinet and millwork processing, where the woodshop can easily position vacuum pods and rails for a wide variety of fixture options.

There's information on basic work holding at (makezine.com). All Star CNC Products (allstaradhesives.com) has a couple of handy guides to CNC gaskets and fixture building on its in-board page. Plus, Thermwood (thermwoodwebstore.com) offers a Urethane Fixture Compound (item FSD0086) that is a two-part liquid urethane for producing 3-D fixtures. Once cured, it's very durable.

When exploring options, keep in mind that traditional fixture plates, tooling plates and quick-change clamping options are all undergoing advances as machines become more robotic and also as additive technologies mature. For example, Diversified Machine Systems (dmscncrouters.com) has developed a new quick-change fixture that dramatically reduces the time required to swap out fixtures on its CNC machines. The device increases production and reduces stress on the operator by lowering swap time from about 15 minutes to just 30 seconds. And most top-level machines, such as the new Profit H08 21.31 Format4 CNC from Felder Group (feldergroupusa.com), feature some form of advanced zoning that delivers incredibly flexible vacuum fields.

Integrated solutions

Some CNC centers are designed around a superior ability to hold challenging work-



Diversified Machine Systems has developed a quick-change fixture that dramatically reduces the time required to swap out fixtures on its CNC machines.

pieces and mill difficult shapes. The Evolution 7405 from Holz-Her (holzherusa.com) comes to mind. It has a patented vacuum clamping system that allows access to almost every plane and even arcs and cutouts are possible. The new Connect version opens up new possibilities, allowing pockets and grooves to be cut for connectors such as the P-System from Lamello on all four edges, as well as in the X and Y directions. Holz-Her has added a seventh tool-changer location to the machine because of its ability to hold work.

Automation and robotics are not just gaining ground in workpiece holding, but also in workpiece feeding and unloading, and they are becoming more affordable. For example, CNC Factory (cncfactory.com) has a short video on its site about its new Python XPR that uses vacuum clamping to load/unload and Techno's new ME4 CNC also automates these functions. The work cell automatically loads a 4x8 sheet from a pallet using a scissor lift and a movable gantry equipped with suction cups uses retractable guide rails and stops on the table to accurately guide and place the material on the CNC platform. Then the operator turns on a vacuum hold-down and starts the cut cycle. After processing, the work is pushed to a conveyor table at the front, while another sheet is simultaneously loaded from the rear. What's new here is not so much the technology, but the pricing.

As 3-D printing expands its role in the woodshop and the casework industry moves beyond boxy shapes, we're going to see a revolution during the next few years in modular (readymade) fixturing. CNC pallet changers, which provide work-holding solutions that can be switched mid-job, will also become more accessible and affordable for smaller operations. With a pallet changer, a shop can schedule several of the same parts or several separate jobs, and the machine will run unattended. Multi-line suppliers such as Stiles (stilesmachinery.com), and individual companies such as Midaco (midaco-corp.com) can help woodshops explore this option. www.w

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◀ KREG adds the Rip-Cut, a tool that turns an ordinary circular saw into a precision edge-guided cutting tool. It features a long-edge guide that follows the straight edge of the sheet you are cutting. The edge guide is connected to an aluminum rail that holds your saw on a universal saw sled. The rail has a built-in measuring scale. The Rip-Cut, item No. KMA2685, has a suggested retail price of \$39.99. For more, visit www.kregtool.com.

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The screenshot shows the Woodshop News Resource Guide website. At the top, the logo "WOODSHOP NEWS" is displayed with the tagline "Shaping the Successful Shop". To the right, there are banners for "Affordable CNC digital fabrication. ShopBot ShopBotTools.com" and "AWFS Booth #7909". Below the logo, a navigation bar includes links: Home, Listings, Events, Classifieds, Articles, Deals, Advertise With Us, Contact Us, and Woodshop News. The main search area has a "Keyword" field (with a hint "type a keyword"), a "Where" field (with "Essex, Connecticut, United States" entered), and a "Search" button. There are also radio buttons for "Match" (exact match, any word, all words), a "Category" dropdown, and "Location" and "Zipcode" fields. Below the search area, there is a "Browse by Category" section with a list of categories and their counts: 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). To the right of this is a "Featured Listings" section with three featured items: MultiCam, Inc. (CNC Cutting Solutions), ShopBot Tools, Inc. (In Classes, Schools, Trade Shows & Associations, CNC Equipment & Services, Computers and Software, Machinery), and FESTOOL USA (In Abrasives, Accessories, Bits Blades and Cutters, Fasteners, Machinery, Power and Hand). On the far right, there is a "Sign in" section with a "Sign in with Directory Account" dropdown, "E-mail:" and "Password:" fields, and a "Sign me in automatically" checkbox.

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◀ **GRIZZLY INDUSTRIAL** has a new jointer/planer combination machine, model G0809. It is a side-by-side design with dedicated jointing and planing centers. The 6" jointer and 13" planer are powered by a 2-hp motor. The jointer fence adjusts from 90 to 45 degrees left or right and the table features a built-in rabbeting shelf. The planer has two feed speeds. Other features include a built-in mobile base and infeed/outfeed extension rollers on the planer table, according to the company. For more, visit www.grizzly.com.



▲ **TABLELEGS.COM** introduced EasyBase, allowing woodworkers to build freestanding, strong, heirloom-quality table bases in under 10 minutes with no clamps or glue. EasyBase has corner joints aligned with modified mortise and tenon and secured with an interlocking corner-block system. The tables are available in a multitude of wood species and table-leg styles. For more, visit www.tablelegs.com.

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'On The Wright Trail' underway in Wisconsin

By Jennifer Hicks

A new Frank Lloyd Wright exhibit, "On the Wright Trail," opened at the SC Johnson Gallery in Racine, Wis. It features examples of Wright's architecture and furniture, including 26 miniature scale models of his designs.

"Wright lobbied hard to gain acceptance of the three-legged chair, arguing that if a person had proper posture, the chair functioned correctly."

The exhibit runs through Dec. 31 and is held at SC Johnson's corporate headquarters. The company manufactures home cleaning products.

"In celebration of Wright's birth in Wisconsin 150 years ago, we are thrilled to offer visitors of 'On the Wright Trail' a unique opportunity to study the architect's design practice across different areas, media and time," company spokeswoman Kelly M. Semrau said in a statement.

The exhibit features a rotating selection of Wright's designs and artifacts, including his chair with three legs, specifically designed for SC Johnson.

"Wright lobbied hard to gain acceptance of the three-legged chair, arguing that if a person had proper posture, the chair functioned correctly. Wright eventually approved the SC Johnson chair design with four legs," the company said.

Ron Olsen, a retired architectural draftsman, crafted the models for the exhibit.

For more, visit www.scjohnson.com/visit.

History as inspiration

The Winona County History Center in Winona, Minn., is presenting the "Art of Fine Furniture" through Aug. 17. The fifth annual exhibit, curated by studio furniture artist Jamie Schell, focuses on how history has impacted the inspiration of artists, craftsmen, buyers and designers.

"The exhibit features the creations of professional and hobbyists," the center said in a statement. "It also offers free educational and inspirational workshops and discussions to encourage professionals and aspiring amateurs alike to think deeper about the works they create and to push themselves to create new extraordinary works."

For more, visit www.theartoffinefurniture.com/ 

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Pieces in the Art of Fine Furniture exhibit include (clockwise from far left) Mark Laub's "Queen of the Slipstream", curator Jamie Schell's koa chair, Jeff Hand's "Skinny Legs and All", and Joel Nichols' sycamore bench.



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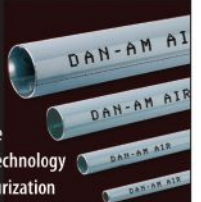
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Organizations sponsoring meetings, classes or shows of interest to professional or hobbyist woodworkers are invited to submit items to: Calendar, Woodshop News, 10 Bokum Road, Essex, CT 06426; editorial@woodshopnews.com.

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

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

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

— Compiled by Jennifer Hicks

ARIZONA

Aug. 21-Sept. 7 — Fundamentals of Traditional Woodworking I. The first in a three-part series is a hands-on course for beginners. Fee: \$519 including materials. Location: Southwest School of Woodworking in Phoenix. www.swcfc.org

Sept. 11-Oct. 5 — Fundamentals of Traditional Woodworking II. Students will practice

several types of joints and apply their skills by building a small bench. Fee: \$672 including materials. Location: Southwest School of Woodworking in Phoenix. www.swcfc.org

CALIFORNIA

Monthly — San Fernando Valley Woodworkers meetings are held on the third Thursday of each month at 7 p.m. at the Balboa Park Sports Complex, Gym Building, at 17015 Burbank Boulevard in Encino. www.sfvwv.org

CONNECTICUT

Sept. 30 — Annual open house event at Parkerville Wood Products. Includes facility tours, demos, and a woodworking show featuring some of the company's customers and vendors. Location: Parkerville Wood Products in Manchester. www.parkervillewoodproducts.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.

Monthly — Woodcrafters Club of Tampa meets every third Thursday evening at 3809 W.

Broad St. in Tampa. www.tampawoodcrafters.org

ILLINOIS

Nov. 2-5 — SOFA Chicago. The 24th annual exhibit featuring more than 70 dealers of handcrafted items made of wood, glass, ceramics and other mediums. More than 36,000 artists, collectors, curators attend for programming, demos and more. Location: Navy Pier. www.sofaexpo.com

MARYLAND

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

MASSACHUSETTS

Aug. 21-25, Sept. 13-17, Oct. 25-29 — David Calvo's five-day Bare Bones of Woodcarving workshops. Location: Calvo Studio in Gloucester. www.calvostudio.com

Sept. 16-17, Nov. 11-12 — David Calvo's two-day woodcarving class. Location: Calvo Studio in Gloucester. www.calvostudio.com

Oct. 7-9 — Paradise City Arts Festival Northampton featuring contemporary fur-

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niture and other fine crafts by selected artisans and makers from throughout the country. Location: Three County Fairgrounds in Northampton. www.paradisecityarts.com

NEW YORK

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

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

NORTH CAROLINA

Sept. 13-15 — Wood Machinery Manufacturers of America's regional networking meeting. Location: DoubleTree by Hilton in Charlotte. www.wmma.org

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

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

PENNSYLVANIA

Oct. 18 — Cabinet Makers Association Regional Event. This day-long educational event features tours of local woodworking shops. Location: Lancaster Host Resort and Conference Center. www.cabinetmakers.org

RHODE ISLAND

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

SOUTH CAROLINA

Oct. 29-31 — Architectural Woodwork Institute 65th annual convention featuring panel discussions and networking opportunities for industry professionals. Location: Charleston (venue TBA). www.awinet.org

SOUTH DAKOTA

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

TEXAS

Oct. 5-6 — Closet & Storage Summit featuring independent closet companies. Location:

Doubletree by Hilton in Austin. www.closet-summit.com

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

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

WISCONSIN

Oct. 26 — Stiles Sanding Seminar. Join Stiles Machinery, 3M and Madison Area Technical College for this one-day complimentary seminar to gain a better understanding of the sanding process. Location: Madison College in Madison. www.stilesmachinery.com

WYOMING

Sept. 7-10 — Western Design Conference, an exhibit and sale of handmade furniture, fashion and home accessories in a Western theme featuring more than 130 artists. Location: Snow King Center in Jackson Hole. www.westerndesignconference.com

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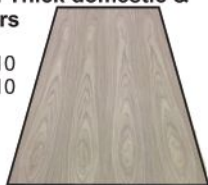
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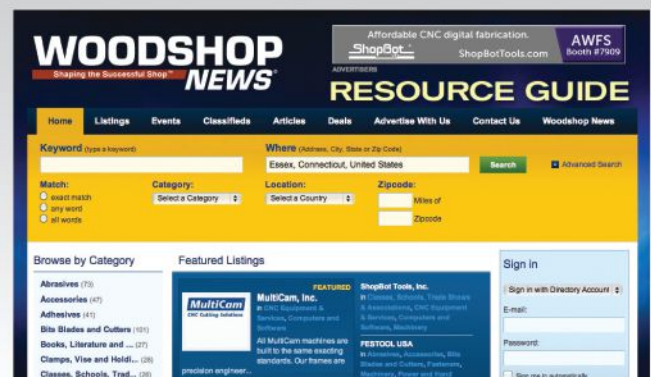
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Blum celebrates 40 years

Blum Inc., a manufacturer of cabinetry hardware items such as soft-close hinges, custom drawer slides, and advanced lift systems, is celebrating 40 years in the United States this year.

The company marked the occasion by inviting all employees to a special event held on April 29 at Carrigan Farms in Mooreville, N.C.

"We have always believed in building long-lasting relationships with employees, customers and key suppliers. Many times it is said that the customer comes first," Blum CEO Karl Rudisser said in a statement. "I believe that both the employee and customer are equal. I think if you have great employees, the natural consequence is they will take care of the customer."

Blum Inc., founded by Julius Blum in Austria, was established in 1977 in Hickory, N.C., in a small rented warehouse and products were imported from Austria. Shortly thereafter, the company moved to its current home in Stanley, N.C., where the manufacturing of products in the United States began. Today, Blum operates in a 450,000-sq.-ft. building on



Blum CEO Karl Rudisser at the celebration.

75 acres and has more than 400 employees.

"We are continuously innovating new products and services and working to improve the quality of existing ones," Rudisser said. "Because of this, we can look back on many years of continued growth."

For more information, visit www.blum.com

-Jennifer Hicks

Finalists named for AWFS fair's Visionary New Product Awards

The finalists for the AWFS fair's 2017 Visionary New Product Award were announced. The awards recognize creativity and innovation and are evaluated on quality, production impact, practicality, innovation and ease of use.

The winners were selected at the fair, held after deadline.

The finalists, in their respective categories, are:

Software

Mozaik CNC Operator — Mozaik Software.
Virtual Vision 3D — Next Wave Automation
Osync Machine Analytics v2.0 — C.R. Onsrud

Woodworking

LT-2D3D-C Laser Templator — Laser Products Ind.

Tooling

RiverRax — Techniks / Riverside Tool Corp.
Leitz BrillianceCut Circular Saw Blade — Leitz Tooling Systems
CNC Laser Height Control — CNC Factory

Components

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Machinery Over \$50,000

Durr Ready2Spray Paint Robot — Enhancement Technologies
Vitap Point K2 TOP CNC Work Center — Vitap Costruzioni Meccaniche S.p.A.
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Power Tools

Apollo True HVLP Precision-6 Turbo Paint Spray System — Apollo Sprayers International Inc.
Composite Fastening Systems — Senco
Shaper Origin — Shaper Tools Inc.

Hardware

Salice Air Hinge — Salice America
3135EC Eclipse Easy-Close Undermount Slide — Accuride Int.
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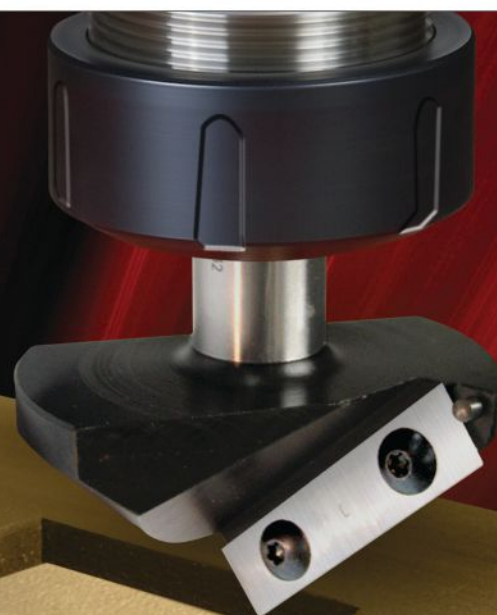
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