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NEWS[®]

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September 2019

Hitting all price points

Dean Cabinetry keeps growing by offering a range of products to meet every budget

2019 AWFS Fair:
Post-show report

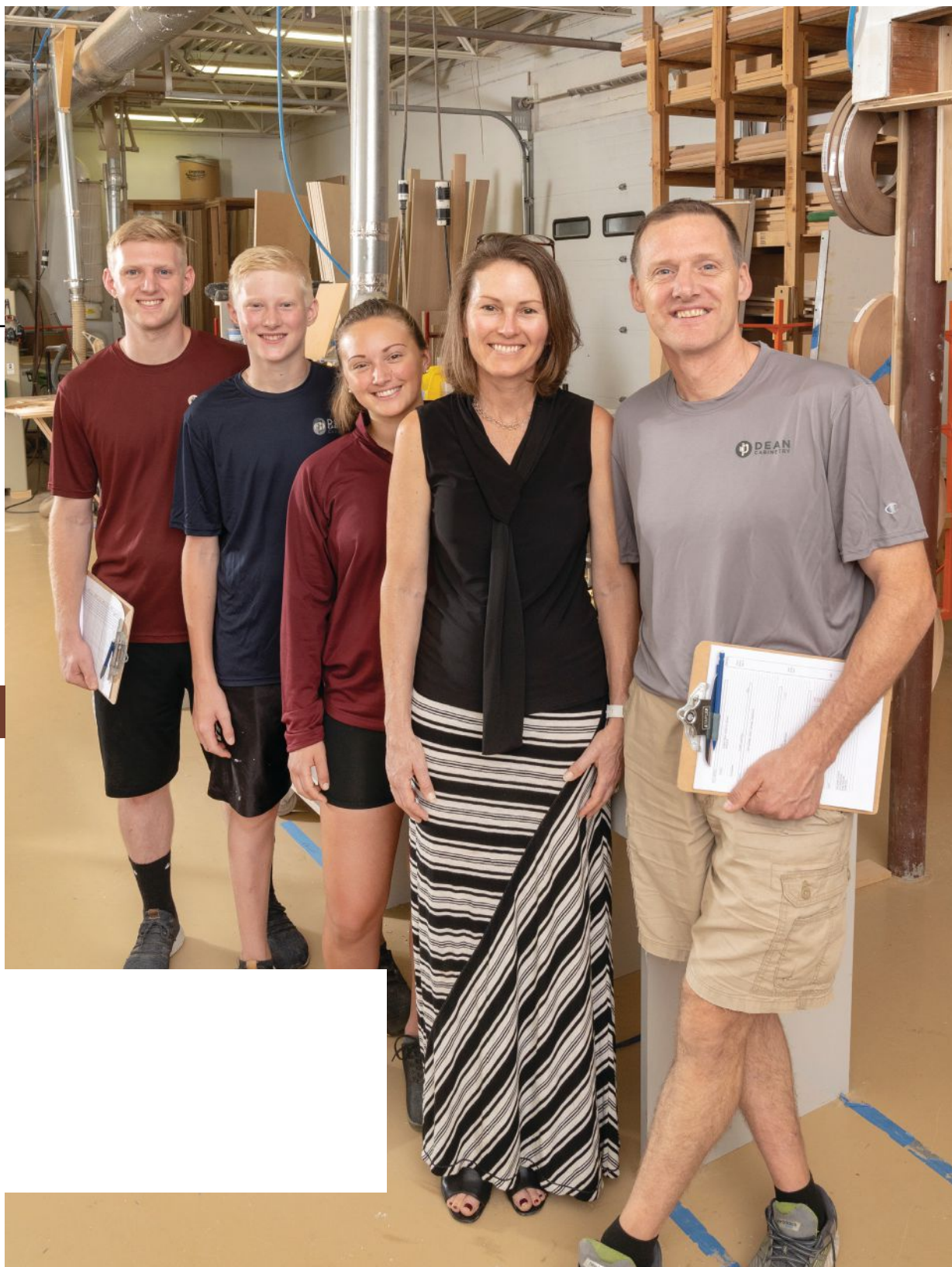
Sanding solutions
for the modern shop

Finishing: 12 ways
to increase profits

NEW TOOLS

- Grex cordless pinner
- Legacy Renegade CNC
- Next Wave HD5
- Northtech fence

\$3.95 (Canada, \$5.95)



15" 3 HP PLANER WITH SPIRAL CUTTERHEAD

- Motor: 3 HP, 240V, 15A, single-phase
- Max. stock width: 15"
- Maximum stock thickness: 6-1/8"
- 3", 4-flute, spiral cutterhead with 52 carbide inserts
- Pedestal-mounted control panel
- Magnetic switch with overload protection
- 2-Speed, chain-driven, automatic feed rollers—16 & 20 FPM
- Ball bearing return rollers
- Precision-ground, cast iron table and extension wings
- Table size with extension wings: 15" x 48"
- Dust port: 4"
- CSA Certified
- Approximate shipping weight: 581 lbs.



W1863 15" 3 HP Planer w/ Spiral Cutterhead

7" 2 HP PLANER MOULDER W/ STAND

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



W1812 7" 2 HP Planer Moulder w/ Stand

D3393 Elliptical Jig for W1812

PATENT OWNED BY
WOODSTOCK
INTERNATIONAL INC.

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

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



W1854 18" 1 1/2 HP Drum Sander

13" 3/4 HP OSCILLATING DRILL PRESSES

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



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



Includes sanding drums

A PATENT WAS ISSUED
AS A RESULT OF ITS
AMAZING TECHNOLOGY



W1668
Bench-Top
Model



W1848
Floor Model



New

38"

63"

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

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

KNIFE BELT SANDER/BUFFER

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



W1843 Knife Belt Sander/Buffer

16" VARIABLE-SPEED SCROLL SAW

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



Cast-Iron
Construction

Large 45°
Tilt Table



W1713 16" Variable Speed Scroll Saw

10" 2 HP OPEN STAND HYBRID TABLE SAW

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



W1837 10" Hybrid Table Saw With Extension Table

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October 25th: 9am - 5pm

New Castle, DE Showroom:

November 7th: 9am - 7pm

November 8th: 9am - 5pm

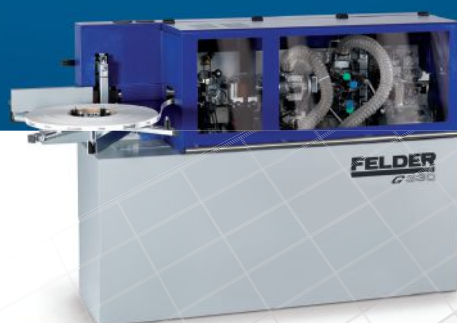
November 9th: 9am - 1pm

Dallas, TX Showroom:

November 14th: 9am - 7pm

November 15th: 9am - 5pm

November 16th: 9am - 1pm



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Straight Knife Cutter **\$19,990.00**



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PHOTOS: MICHAEL GORDON (TOP, COVER)



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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

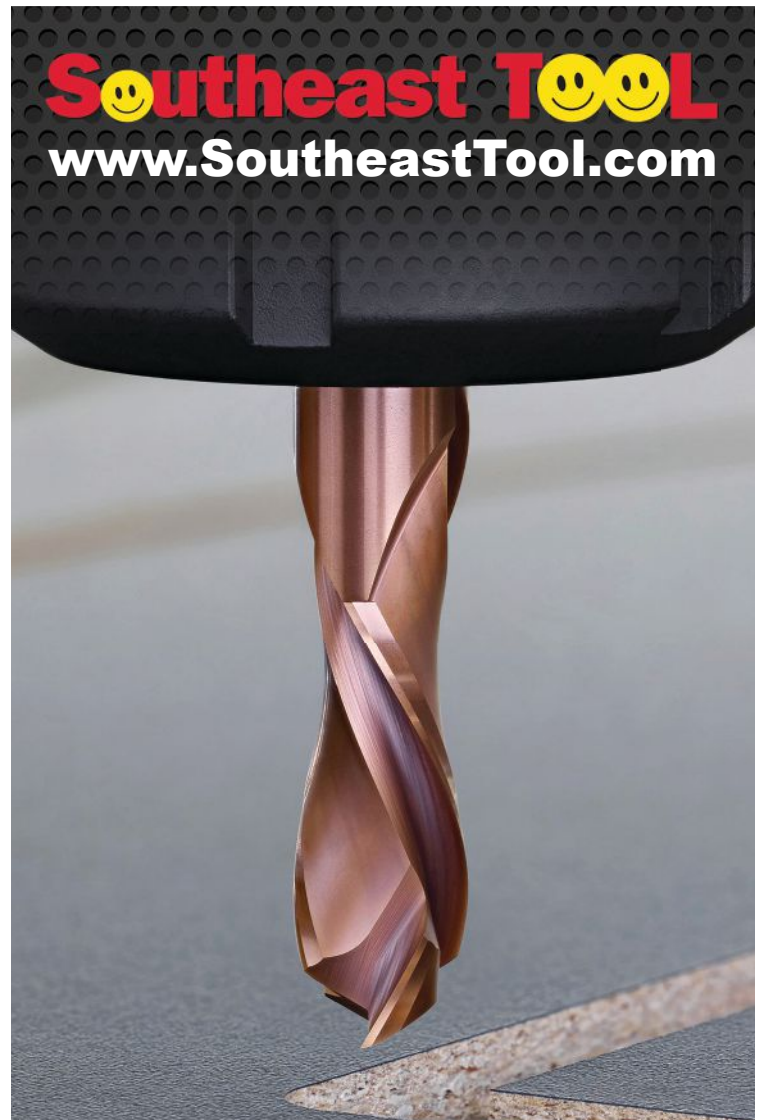
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TAKING STOCK

with TOD RIGGIO

Walk, talk and repeat; the show's daily grind

My mother-in-law asked, "What do you do at a trade show." This one's especially for you Grammy.

Tried something new and got to Las Vegas two days before the AWFS Fair, leaving all Tuesday to help with booth setup. Raise a banner, unpack magazines, position a table and chairs, and were done. Nothing went according to plan, I ended up in a casino, and my colleagues finished the job. Oh well.

Wednesday started as a sprint and turned into a marathon. A slew of appointments and media events lasted into the late afternoon. Explored maybe half of the show before heading to Biesse's after-show gathering at The Venetian.

After finishing with my appointments Thursday morning, it was back to walking the aisles. And this is what I really do at a trade show: visit and talk with exhibitors. There were over 600. I didn't visit every booth, but I tried.

I averaged five miles a day, according to my step counter. I divided the show floor into quadrants, concentrating on one or two a day. Quickly, at first, then returning for closer looks. I was dazzled by robotic solutions for moving materials, finishing and sanding; overwhelmed by the hardware choices; intrigued by the CAD/CAM software solutions; impressed with the student woodworking competitions, and blown away by the machinery innovations.

Wood coatings and engineered panels

were also strong categories. There were dozens of woodworking accessories to explore. Dust collectors, abrasives, fasteners and hand tools also caught my attention.

There weren't huge crowds to deal with. I'm fairly certain that the 2019 AWFS didn't break any attendance records. The opening-day crowd wasn't very impressive. Thursday was the busiest day. Friday and Saturday were slow.

I wasn't alone. Woodshop News was well represented by publisher Rory Beglin and staff writer Jennifer Hicks. We had part-time help to cover the booth and contributors John English and Ian Kirby were also present.

I also pulled booth duty, which was a welcome relief from walking the aisles. I've said it before and I'll say it again, it's an absolute pleasure to meet our readers. I'm always humbled by your kind words and appreciate the story ideas. There's usually a surprise guest or two and this year's highlight was a visit from Popular Woodworking editor Andrew Zoellner and advertising director Don Schroder. Popular Woodworking was recently purchased by Active Interest Media, the parent company of Woodshop News, so now we're on the same team. Awesome news.

Saturday, closing day, is usually pretty slow. But I added some excitement by purchasing a central dust collector. It wasn't on a whim, but it was on sale. Then it was time to pack up the booth and head for the airport. **W**

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

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Silentia+

Silentia+, the new-generation of soft close hinges from Salice, incorporates **an innovative switch to adjust the deceleration mechanism**. This enables the closing speed of doors of any size or shape to be perfectly adjusted.



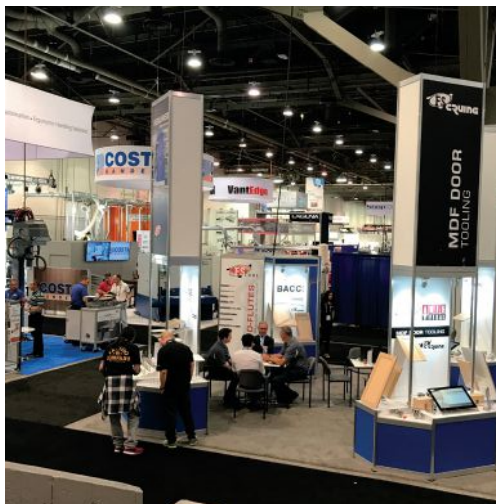
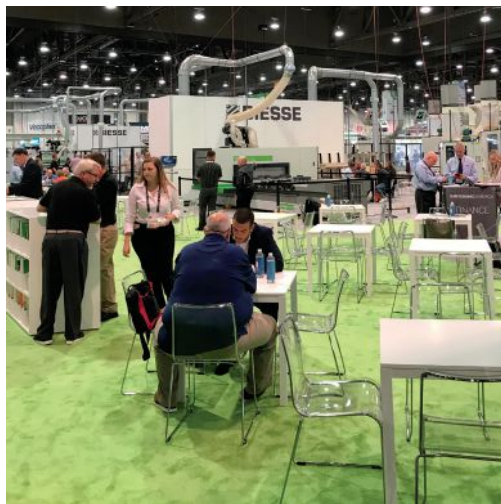
Besides showing no resistance while opening doors, the Silentia+ hinges guarantee an exceptional and consistent deceleration thanks to **twin fluid dampers**, delivering a perfect soft closing action in all applications and under any temperature condition.



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SALICE

NEWS DESK



Summer sizzle: AWFS Fair as 'hot as the Vegas heat'

By Jennifer Hicks

The AWFS Fair energized the Las Vegas Convention Center from July 17–20, offering something for everyone. From robotic, labor-saving machinery to educational symposiums and design contests, the four-day industry trade show encouraged attendees to fully immerse themselves in new experiences and generate lasting relationships.

The fair featured over 600 exhibitors and a record pre-show registration count, according to AWFS trade show committee chairman Michael Cassell, also senior CNC product specialist for Weinig/Holz-Her.

"Overall the show floor was as hot as the Vegas heat," Cassell said in an interview with Woodshop News. "While overall attendance was down slightly, activity was steady. In reviewing show statistics, we do see that those geographical markets with a slight decrease in attendance are also those areas with decreases in the overall housing market.

"There was record attendance at the numerous educational sessions during the show, and many positive reviews were given for the new product display and Visionary Award exhibit areas."

The Visionary Awards celebrate product innovation and the entries were prominently displayed in the main lobby. Please see the accompanying stories to learn about the winning products.

Joseph Brown of Joseph Brown Woodworking and Cabinets in Langlois, Ore. attended the show for the sixth time to connect with his vendors and browse new hardware and equipment. He was looking to invest in a robotic arm for sanding applications, something once too expensive to consider.

"I was really interested in all of the robotics because of the labor shortage now and I'm looking at that real seriously. I wasn't planning on it but they're getting into more of a price range where I can implement that into my shop. I have been talking with engineers and programmers from one of the companies, and they're bringing a model for me to look at. I'm not sure how well it will fit with my shop, but it shows promise," says Brown.

Brown also liked the Shaper Origin, a portable hand-held CNC router.

"It was worthwhile for me to go and I also got a little relaxation. I liked meeting vendors I've dealt with before and friends I've made

along the way. That's one of the neatest things about woodworking - networking and meeting different people who teach you things. I hope my ideas will help somebody else too," adds Brown.

Biesse had a whopping 16,000-sq.-ft. of exhibit space featuring machinery and work cell demonstrations. Stiles, SCM, Felder and Laguna Tools also had a big presence.

"The show was really worthwhile for us in terms of making contacts," says Raúl Ramírez, director of the Southwest School of Woodworking in Phoenix and a first-time exhibitor. "Although I had attended in the past, I noticed right away that having the exhibitor badge meant that other exhibitors were more interested in talking to us. In addition, we were able to go in early and do some networking in the mornings before the crowds hit. Because of that, we were able to have some great conversations and we met several potential new instructors and suppliers.

"And, of course, the show itself is fascinating. We were able to catch some demos, including CNC machines and turning, and I never get enough of seeing all the woodworking machines. It's like a candy store! So, we're really looking forward to going back next time."

The fair also featured a comprehensive educational program, student turning and furniture competitions, and special guests, including Norm Abram and retired NASCAR driver Jeff Gordon.

The next AWFS Fair is scheduled for July 20–23, 2021. For more, visit www.awfsfair.org. 



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Visionary Awards recognize innovation

By Jennifer Hicks

Ten exhibitors won Visionary Awards at the 2019 AWFS Fair. The awards recognize product innovation and leadership in the woodworking industry.

The winners were:



Wagner Meters' Orion 950

The pinless wood moisture meter has a built-in relative humidity temperature sensor that can calculate and display the equilibrium moisture content and absolute humidity of the environment. The device sends data through Bluetooth technology to both Woodshop MC and FloorSmart, free mobile apps for Android or Apple devices. For more, visit www.wagnermeters.com.



ICA North America's X-Matt

X-Matt, a line of 'super power' coatings for interior furnishings, is also a recent winner of the XIA Award (Milan, Italy) and Interzum Award (Cologne, Germany). It is designed to create high performance ultra-matt surfaces in terms of their chemical/physical structure with self-healing properties, while maintaining a lower VOC content compared to UV conventional coatings, according to the company. The highly resistant anti-scratch coatings are easy-to-clean and fingerprint resistant, have anti-glare surfaces, are soft to the touch and offered in a wide array of colors. For more, visit www.icaspa.com.

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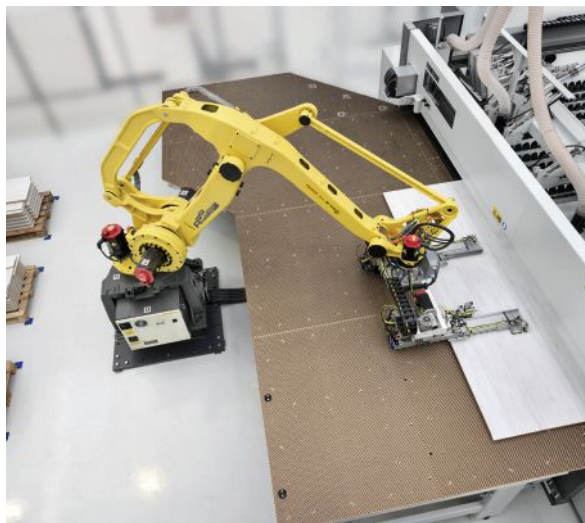
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Biesse's WN6 ROS

A panel saw with a Robotic Operating System (ROS) offers increased productivity with its innovative labor-saving features. Unlike saws that require an operator to move panels, rotate strips, press the start button to begin every cutting cycle and manually apply labels, the ROS does it all, the company says. The WN6 ROS uses the frame of a standard machine but replaces the air table and operator with a labor-saving robot that performs operations in the exact same way every time. For more, visit www.biesseamerica.com.



MB Maschinenbau's Roba Fusion 1

This double-end tenoner was developed for shaping and milling edges of furniture and interior doors of random sizes. Boasting a relatively short and compact design, the high throughput machine consists of a fixed left and a high-speed servo drive positioned right milling unit carrier, according to the company. Also included are a laser-based part measurement feature that automatically moves milling units into positions, HSK63 high-performance spindles for accurate shaping pattern, and a tool changer with six free spaces. For more, visit www.mb-maschinenbau.de.



Grex Power Tools' 23-gauge headless pinner

The first cordless pinner that is similar in size, weight, balance and power as a traditional pneumatic 23-gauge pinner, according to the company. Light and compact at 3.75 lbs., the tool drives the finest pin nail possible while allowing the operator to achieve the desired precision for finish and trim work applications. It has a 100-pin magazine and fastener range of 3/8" to 2". For more, please see story on Page 20 and visit www.grexusa.com.

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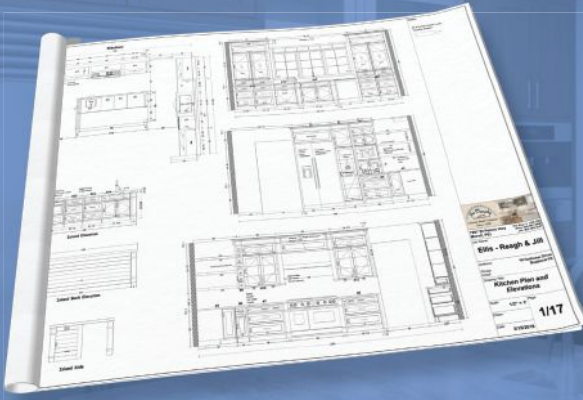
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EagleEyeERP

This enterprise resource planning software program provides a solution to standardize, simplify and automate tasks for shops of any size, according to the company, EagleEye ERP. Information is organized into a single source, providing access to every step of the sales cycle from the initial customer contact through estimating, engineering, inventory, production, delivery and final invoice. For more, visit www.3erp.com.



Northtech Machine's L5 No Lock Air Lock Fence

This touch sensitive fence eliminates the need to manually unlock and lock a fence. Mounts to any Northtech straight line rip saw as well as most competitor models. www.northtechmachine.com.



Yeti Tool's SmartBench

A portable, 3D CNC router with a three-minute estimated set-up time, the SmartBench is ideal for precise machining on the jobsite, according to the company. It drills, pockets, mortises, carves or dados material. Features include a color touchpad handheld control unit that can receive jobs/cutting instructions via Wi-Fi or a USB drive. It sells for \$5,995. For more, visit www.yetismartbench.com. 

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NEWS DESK



Nicholas Maraldo's "Nautical Marquetry Table".

Fresh Wood's Best of Show winner about to set sail

By Jennifer Hicks

Nicholas Maraldo, a student at the Furniture Institute of Massachusetts in Beverly, Mass., won the Best of Show award at the AWFS Fresh Wood competition.

Open to high school and post-secondary woodworking students in North America, the Fresh Wood exhibit featured 42 finalists from 25 schools competing in six categories: Case Goods, Seating, Tables, Design for Production, and Sports & Games.

Maraldo's prize haul included a sculpture made by Judson Beaumont and a software package from KCD.

"The Fresh Wood student competition at the AWFS Fair was a memorable event," says Maraldo. "It's hard to conceive that many of the fine pieces in the show were constructed by high school students; I certainly wasn't producing work of such exceptional quality at that age. It's encouraging to think that these are the fine craftsmen of our future."

"Considering the exceptional quality among the finalist pieces, winning Best of Show was both a surprise and an honor. I am humbled to receive such positive feedback on my work from the judges, the students, and the show participants. My table represents seven months of planning, learning, and building, with a fair amount of experimentation along the way. Earning the top award provides a great source of encouragement and affirms that I may have the necessary skills to turn my passion into a rewarding career."

Maraldo, also a teacher at the school founded by Phil Lowe, hopes to make custom furniture full time and pursue his other specialties such as cabinet work, shipwright work, home renovation and repair.

Judges were Beaumont (Straight Line Design), Bob Barone (Precision Drive Spindles/PDS), Scott Grove (Imagine Grove), Wendy Maruyama (Wendy Maruyama Studio) and Jim Wellever (Michigan Career & Technical Institute).

For more, visit www.awfsfair.org

Hard maple sales take a back seat

By Jennifer Hicks

As a species of interest amongst consumers, hard maple is just about as vanilla as it gets right now, according to suppliers who spoke with Woodshop News recently. Readily available, this light whitish/blond hardwood with minimal graining is moving steadily at best.

"It's about the middle of the road as far as I'm concerned. It probably had its heyday a couple of years ago. We're doing a lot of staircases with it so it's still moving. We've got plenty of it. We're having a harder time getting figured stock, including the curly and bird's-eye maple. I just can't find much of that," says Doug White of Doug White Lumber in Marissa, Ill.

Scott Roberts of Roberts Plywood in Deer Park, N.Y., describes hard maple sales are very mellow.

"Sales haven't been up or down. Supply has been fairly good because there is no increase in demand and prices have come down a little bit. The quality has been good. It's not used much in residential, but still you get that demand for it with institutional work like schools and hospitals where that's the spec written in the plans," says Roberts.

Demand is particularly high for pre-finished maple plywood, says Roberts. "I sell it day in and day out for kitchen interiors, bathroom vanities and closets. You just cut it and assemble it. There's no need to spray."

Matt Gilland of Superior Veneer & Plywood in New Albany, Ind. reports a slight drop in the production of hard maple veneer, but says it remains a versatile choice.

"It takes stain well," says Gilland. "There are lots of options for whoever finishes it. Also, it's affordable." **W**



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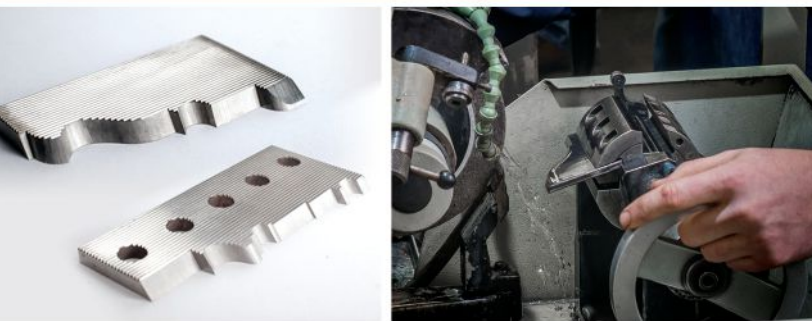
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TOOLS & TECHNIQUES



GreX nails it with cordless pinner

By Jennifer Hicks

Grex unveiled its new cordless 23-gauge headless pinner, model GCP650, at AWFS and collected a Visionary New Product Award.

The nailer weighs about 3.75 pounds and applications include light wood assembly, finish and trim work, dowel and joint pinning, lightweight paneling and more. It has a 100-pin magazine and fastener range of 3/8" to 2", according to the company.

Engineering the tool was no easy feat, says product manager Raymond Wong. He discussed with Woodshop News how GreX strived to get it to meet today's current demand for cordless power.

"When it comes to nailers and staplers, there's always been a huge challenge of going cordless. The reason for that is most cordless power tools like drills and saws have a rotational motion so it makes sense to go battery powered. But nailer and stapler tools are very different; you're trying to generate all of the energy into an instantaneous punch," says Wong.

"With our technology, we're the first company to actually produce a cordless nailer that works as similarly to a nail gun that's air powered as possible."

The tool is powered by the GreX GFC01 fuel cartridge and two AAA batteries. Each cartridge shoots approximately 1,300 pins, according to the company.

The 23-gauge cordless nailer sells for \$438.

For more, visit www.grexusa.com. **W**

Next Wave presents redesigned CNC Shark

By Jennifer Hicks

Next Wave Automation introduced a redesigned CNC Shark at AWFS, model HD5, boasting greater capacity and several new features.

"This CNC allows a woodworker to expand their skills and creativity. It provides precision and customization options normally limited to a very few select craftsman. Inlays, complex joinery, and personalization are all easily mastered by common woodworkers with a desire to produce the perfect project. Every workshop needs one," says company president Rudy Simondi.

The HD5 features a 28" x 36" table and XYZ travel of 25" x 25" x 7". It can process wood, soft metals, composites and plastics.

The HD5 comes with the latest version of Vectric VCarve Desktop design software, a color pendant controller, two hold down clamps, carbide V-bit, and Next Wave's Virtual Zero Unlimited software.



"Our patented software gives you the ability to carve over multiple planes, so the character of the wood is retained. An example would be reclaimed or weathered wood. No other competitor can offer this functionally," Simondi says.

Other features include a heavy-duty aluminum and steel reinforced gantry, a new extruded aluminum router mount system, linear rails and guides on the gantry, and anti-backlash, wear-compensated lead screws on all axis, according to the company.

The HD5 is compatible with the Bosch 1617 and 1618; Porter Cable 890 Series, and DeWalt 610, 616 and 618 routers, all sold separately. It is also compatible with accessories available from Next Wave, including a laser, fourth axis and scanner attachments. It starts at \$3,999.

For more information, visit www.nextwave-automation.com. **W**



The HD5 and laser scanner attachment.

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Northtech recognized for touch and move fence

By Jennifer Hicks

Northtech Machine featured its new L5 No Lock Air Lock fence for straight line rip saws at AWFS, selected as a winner of the trade fair's Visionary New Product Award.

The L5 fence incorporates touch sensitive technology, allowing the operator to touch the top of the fence to disengage the lock and move the fence. The fence locks when the

touch is removed.

"A traditional style of straight line rip saw fence requires you to manually release a lock and lever, and then turn a handwheel to get it to the appropriate position and then relock the lever. It's not a big deal if you're running the same width product, but typically on straight liners it's common for customers to be ripping random widths, so moving that fence in



The L5 fence features award-winning touch sensitive technology.

between for every cut is common," says company president Brandon Koetter.

"With our fence, you just lay your hand on the fence, the fence recognizes the change in the electronic field from the impulses and the static in your hand, and it will disengage the locking mechanism."

The fence rests on a set of lineal bearings for easy movement.

The L5 fence, available in electric and pneumatic versions, can be added to any Northtech split chain straight line rip saw and most competitor models. It can be paired with a digital measurement system. Available in multiple sizes, pricing starts at \$995.

For more, visit www.northtechmachine.com. **W**



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Registration opens for NBMDA convention

The North American Building Material Distribution Association (NBMDA) has opened registration for its 2019 annual convention, scheduled for Nov. 12-14 at the Hyatt Regency New Orleans in New Orleans.

The convention will unite the top distributors and suppliers serving the interior building material, cabinetry and woodworking industries.

"Last year, we had record attendance at our annual convention," Kevin Gammonley, the trade association's executive director, said in a statement. "A lot of change is occurring in the distribution channel, and it's important to set aside time for education and exploration of new products and partners. The NBMDA annual convention provides this opportunity. We are looking forward to another successful event in 2019."

For more, visit www.distributorconvention.org.



The Renegade features three work stations for panel processing, turning and joinery.

Legacy makes an impression with the new Renegade CNC

By Jennifer Hicks

Designed for the artisan cabinet-maker, furniture builder or sign maker, Legacy Machinery's new Renegade CNC offers unsurpassed versatility, according to the company. The machine premiered at the 2019 AWFS Fair and garnered lots of attention.

The Renegade features three independent workstations: a 4'x8' horizontal table, vertical clamping table, and turning center.

"This configuration allows the operator to quickly and easily go from turning between centers to machining complex joinery to sheet or part processing," says product manager Tracy Anderson.

The 3-axis horizontal table can be set up as a T-track table for hold downs, a bench dog table with no profile cam locking clamps, or a vacuum table.

The 5-axis turning center, a Legacy exclu-

sive, lets a shop turn, index, carve and machine between centers, even on tapered components.

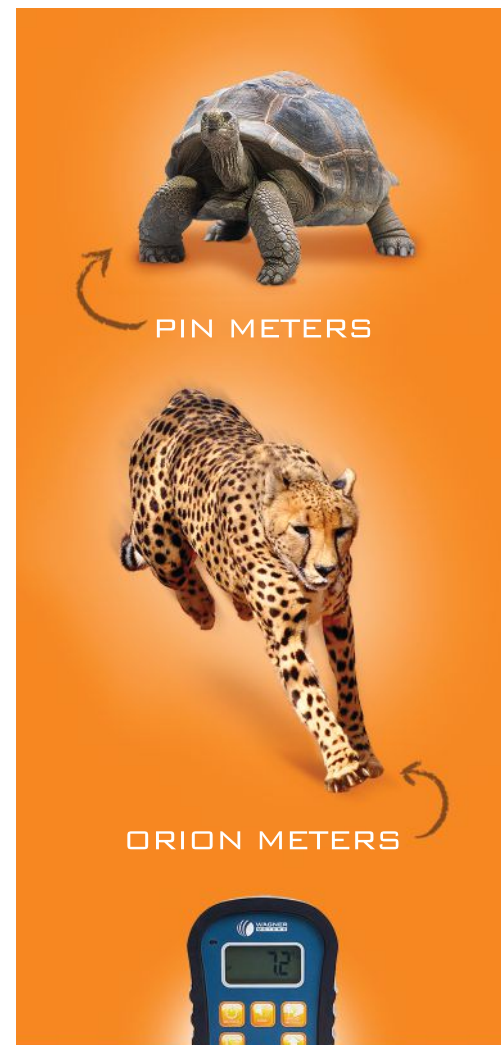
The 4-axis vertical clamping table helps machine the ends or edges of parts. "Through dovetail joinery, finger joints, traditional mortise and tenons, and mitered door components are classic examples of how the vertical table can be used," says Anderson.

The Renegade also features an automated tool measurement system that measures each tool after the operator loads a new tool. Legacy's Smart Tool system can also be used to measure the thickness of stock, set the Z zero height and set the angle of the turning bed.

The company manufactures the Renegade in Springville, Utah, where free hands-on training is available.

The Renegade sells for about \$79,000.

For more, visit www.lwmcnc.com. 



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Spindles, aggregate heads open a world of possibilities

By John English

Spindles can be confusing, especially for woodworkers just getting into CNC machinery. An indication of the scope of available options is that Precision Drive Systems (spindlerepair.com) lists a staggering 150 spindle brands that it repairs.

Most woodshops tend to stick with the spindle that came with their machine, at least for a while. But this is a rapidly evolving technol-

ogy and it pays to check back with the router's manufacturer every now and then, just to see what's new. For example, there might be an auto lube upgrade available. Some older spindles use a series of pressurized grease shots to lube their bearings, while newer ones generally use a constant oily mist that's carried by compressed air. Bearing failure and wear is still a big issue with spindles, but less

than it used to be. And too much lube is about as detrimental as too little. Heat buildup from the workload is an issue, too, and shops might want to check if there are any advances in water or air-cooled systems for their specific spindle. Some manufacturers are now leaning toward air even on their smaller units (although there may be a trade-off in RPMs), plus the cost of a water pump and delivery system can become an issue.

Small shops considering a first CNC or upgrading a small machine might seriously consider going with a spindle over a portable router. Some of the advantages include less noise, more intricately controllable speed (which is determined by software, not a rheostat, so it can be varied even in the middle of a task), and less run-out. There are also more



Aggregate heads can swivel and turn, expanding a CNC's capabilities.

power and more collet size options – especially if you're using small cutters for tasks such as engraving that come in something other than a 1/4" diameter shank. And there are definitely more opportunities to upgrade. Entry-level spindles are surprisingly affordable, but as with most advanced technology, you get what you pay for. If you have an inverter, a 3-phase spindle will deliver more torque at lower speeds, for all-day tasks. The most common type of variable frequency drive (VFD, a device that is used to control the speed of AC induction motors) is a voltage source inverter that actually converts single phase to 3-phase.

And if you can find a local expert or spindle repair shop to change out a router for a spindle, that usually makes a lot more sense than having to learn the entire process yourself. The software alone can be a big challenge.

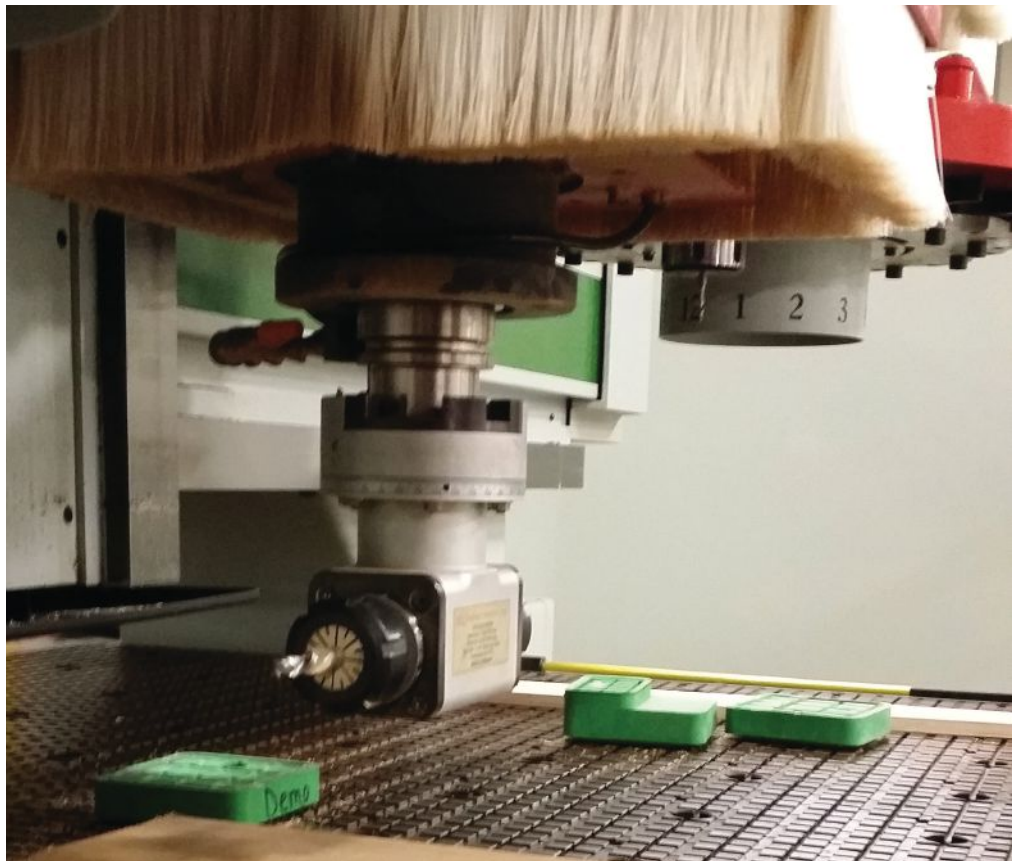
Consider adding some spindle alarms, too, if your machine didn't come with them. The most common are thermal (heat sensing) and some general alarms that react to travel issues (where the tool might cut into the machine, or travel too fast), excess run-out, and other speed/torque issues.

Larger shops might want to temper spindle investment decisions by also considering what is happening in robotics. Collaborative robots (also known as cobots or co-robots) are machines that physically work with and alongside human workers. Outfitting a robotic arm with a spindle turns it into an incredibly versatile tool because of the arm's dexterity and ability to move in all planes.

But robots are expensive, and a woodshop that doesn't see one in its future might want to consider upgrading the standard CNC spindle by adding an aggregate head.

Aggregate heads

When a woodworker is buying a table saw, there's only a short list of parameters to consider – table size, horsepower, blade diameter, tilt and so on. But when a shop invests in a CNC router, that list becomes a whole lot longer. Many of the items on it are related to future growth and adaptation, rather than immediate needs. With the table saw, upgrades over the years are usually going to be limited to a better fence, a few jigs and perhaps some more efficient dust collection. But the bottom line is that the saw only performs three or four linear tasks – crosscuts, rips, grooving and maybe some limited molding cuts. And that's all it will ever do. The work needs to be fed to the blade. Saws obviously have an essential and highly valuable role to play, but they're just not that versatile.



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Most aggregate heads work best on short milling or cutting operations.

With a CNC workstation, the options are a lot more complicated. Most cabinet shops initially invest in a CNC router just to release flat casework parts from sheet stock. But it doesn't take long to realize that, because the tool moves to the work, this equipment has a lot more potential. The first job the shop takes on that demands some complex joinery, or perhaps turned components, will undoubtedly have an operator exploring how the CNC can work in more than three axes. Woodworkers soon tire of repositioning and re-securing parts so that the tool in the spindle can reach a different face of the workpiece. It's time-consuming and eats away at accuracy. And it's downright disappointing to have to revert to that old table saw because the spindle can't make a cut at a specific angle.

The answer to these frustrations is probably an aggregate head, which in essence adds another axis to the machine. It's a device that attaches to the spindle and uses a set of gears to swivel and turn in ways the standard spindle can't. It lets a woodworker use the CNC router to run a saw blade, rout or carve vertically

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instead of horizontally (that is, work on the sides of a part rather than just the top and edges), and perform more machining tasks without having to move the part. Essentially, a standard spindle holds tools perpendicular to the table and aggregate heads can hold them at various angles. Some aggregate heads require the addition of a C axis, or at least benefit from one, but many are modular and can rotate manually. Most shops explore the aggregate option because being able to complete more processes without dismounting or re-clamping the work leads to reduced material handling, and faster production times. But not all small CNCs can be adapted to accommodate an aggregate head, and this is something to consider, and ask about, when purchasing a router.

Not all spindles can handle an aggregate head, and if a shop is working with a salesperson on specs for a new router, this may be something to invest in right away. If not, the spindle may need to be upgraded down the road. You'll need to match the aggregate head to the collet system. They're usually available for standard connections such as HSK63F, SK30 or ISO30.

And not all toolholders can handle an aggregate head, while others only accept them in some locations. Some CNCs can have the tool bar modified, such that the factory spec

tool bar won't allow the mounting of an aggregate head, but the modified one will. And sometimes a woodworker can make a manual tool change, just inserting the aggregate head manually. That can also be an option if the head is simply too large for the carousel.

Speed bumps

Aggregate heads aren't a magic solution for every situation. They do have some potential limits. For example, they're not always as sturdy or durable as the simple, straight spindles that hold them, so the shop needs to talk with the salesperson about how they will be used. Most aggregate heads work best on short milling or cutting operations, rather than consistently being asked to perform hi-torque tasks for a long period of time.

The tooling is an issue, too. Because of resistance, router bits, saw blades and profiling tools or even engraving tools all cause heat to build up in different ways, as does the density and workability of the material (MDF, hardwoods, plastics) that is being milled, cut or shaped.

It's important to discuss with the salesperson, or probably more appropriately the supplier's service department, how the head is

to be cooled and lubed, and consequently to institute a regimen in the shop whereby operators understand any required procedures and abide by them. Grease can burn off at a pretty low temperature and leave the gears running metal-on-metal with no lube. That'll make the head heat up exponentially.

While many heads come with a gauge attached, if an alarm is available too it can be a good investment. Or the shop might consider upgrading to a head that is equipped with an oil bath, and these generally have a larger body that helps to dissipate thermal build-up.

Unfortunately, that latter consideration can also be a trade-off. Because the aggregate head will be attached to the spindle and stored in the toolholder's carousel, its size and weight may well become a limiting factor. Most heads are built with lightweight metals such as aluminum or cast alloys, and while these are usually quite adequate for most tasks, they lack the shear, shock and compression resistance of steel. So, they need to be a bit bulkier.

There's a lot to think about when shopping for an aggregate head, but there's also a lot that one of these devices can do for a smaller shop that wants to get the most out of its CNC router. **W**

CabWriter Software releases Version 3.0

CabWriter Cabinet Design Software announces the release of Version 3.0 for CabWriter Pro, CabWriter Home and CabWriter CNC.

CabWriter is a SketchUp extension for the custom cabinetmaker.

CabWriter 3.0 offers more powerful support for divided cabinets, the ability to copy/mirror existing cabinets, automatic scene creation, menu bar customization, label printing, improved edge banding and beaded face frame support, the ability to export a subset of parts to the cut list or DXF, and much more, according to the company.

"CabWriter was already the best cabinet design software on the market for the price. With Version 3.0, we've refined some features and added functionality requested by our customers," Greg Larson, CabWriter's president, said in a statement.

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FINISHING

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Twelve ways to increase profits

There are two primary ways you can increase your profits over and above what you pay your employees. Charge more for your work or reduce your costs. Here are a dozen suggestions for reducing costs in the finishing department.

Try less expensive finishes

This is the obvious one, but it comes with a caveat. You may also be lowering the quality of the work you're turning out. But in my experience, you really don't know. The one thing I do know is that more expensive finishes, stains, etc. aren't always better. So it may be that lower-cost products still give you the quality you want.

To find out, you're going to have to do some tests. Do the cheaper products spray just as well? Do they give you an equivalent build? Do they dry fast enough and get hard enough? You'll need to determine the answers to questions like these. But you should notice differences pretty quickly if there are any.

Make the switch

If you haven't already switched from high-pressure to HVLP spray guns, do it. You'll have much less bounce-back and waste. Bounce-back is often called overspray, but it is the finish that bounces back off the object and gets caught up in the flow of air that is ex-

hausted. Overspray is the spray that partially or totally misses the object and can be reduced just by improving your spraying technique.

Keep in mind that you don't have to switch from a compressor to a turbine to get the reduced force that comes with HVLP. Most manufacturers make HVLP guns that work with compressed air.

Move the air

You need to have good exhaust for two reasons. The first, of course, is health. It's unhealthy to have solvent and atomized finish floating around the finishing area. A mask doesn't protect well enough. This is true even for water-based finishes.

The other reason is to prevent the atomized finish from settling back on your work and creating a rough surface. The air movement should be strong enough to pull the bounce-back off the work.

Lighten up

For quite some time in my early days I was doing my finishing in the back of my shop, where there was very poor lighting. When I built a separate spray room and installed excellent lighting, the difference was profound. I could see! And my work improved. Having to do serious repairs or do-overs became rare.

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The temperature of the light affects color. You could be matching the color perfectly in one light only to discover that the match isn't that good in another light. It's always best to do the color matching in the same light the object will end up in, but this is usually not practical. So compromise by using full-spectrum fluorescent lighting to bring out all the colors.

Don't skimp

Use high-quality abrasives. This is not a place to save money. Not using high-quality abrasives can lead to swirls due to the unevenness of the abrasive grains, inconsistent staining, or leave the wood in such poor condition that it takes more finish to produce a smooth result.

Related to using quality abrasives is the practice of trying to save money by using the abrasives until they get too worn. When abrasives lose their cutting ability, they polish, and this will result in uneven staining. When sandpaper gets worn and no longer produces similar amounts of sanding dust as when new, replace it.

Switch it up

You may be able to reduce costs by switching to higher-solids coatings, which allow you to get the same build with few applications.

This is the argument, by the way, for water-based finishes, which have a higher solids content than many solvent-based finishes. Most manufacturers provide information about the solids content of their finishes.

Keep it clean

Maintaining your equipment is critical for lowering costs. Dirty spray-booth filters, leakage in your air-handling equipment, and problems with your make-up air will increase your electric bill and may lead to do-overs that wouldn't otherwise be necessary.

Most important is to clean your spray guns after use or at the end of the day. This is especially the case when using water-based finishes. Lacquers and many catalyzed finishes can usually be cleaned adequately from spray guns by spraying solvent through them. The way you'll know if this works is to take the guns apart after the solvent spraying and check. But in my experience spraying solvent through the guns doesn't work well with water-based finishes. You have to disassemble the guns and clean all the parts individually. Then reassemble.

Use no-wipe stains

It's often suggested that you apply a washcoat before staining to reduce blotching. But

this adds an extra step to the process. It's more efficient to spray a highly thinned stain and leave it without wiping. Stains sold for this process are called "no-wipe." The process itself is often called "spray-to-color." You are building the color slowly with thinned applications. Not thinning enough will lead to lap marks and reduced control.

The problem with the spray-to-color procedure is that grain isn't highlighted. The color appears flat. To correct this, apply a wiping stain either directly over the no-wipe stain or over a washcoat depending on whether the wiping stain will dissolve and smear the no-wipe stain. Then wipe off the excess wiping stain.

Monitor the conditions

It's important to always be aware of the temperature and humidity in the spray area. Cooler temperatures, especially after overnight in a cold shop, will lead to a thicker finish that will require more thinning or higher air pressure and more bounce-back to avoid orange peel, and maybe more coats. Higher humidity will lead to blushing in lacquers and slower drying in water-based finishes.

Continued on Page 31

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THE CUTTING EDGE

with R.W. LEE

Alibre enhances its Atom 3D software

Software is constantly evolving, usually for the better. A case in point is the latest 2D and 3D parametric CAD program, Alibre Atom 3D, from Alibre LLC. Alibre began in 1997 and with the help of Microsoft became the first web-based collaborative 3D design environment. The environment operated on a web browser and allowed multiple users to work on the same design simultaneously.

Parametric solid modeling, both 2D and 3D, is driven by drawing dimensions, meaning that the software automatically recalculates the other dimensions of a design to accommodate changes of a single dimension. This maintains the design's overall dimensional

accuracy, both in the model of a single part or after parts are assembled into an object without having to calculate new dimensions in other portions of the part or in mating parts in the assembled design.

Alibre Atom 3D retails for \$199 for use on a single computer. A one-year support and maintenance contract costs \$249. There are no yearly subscription fees.

Alibre Atom 3D is a design-and-draw from the ground up type of CAD program, as opposed to a program that pulls predominately from a library of sources. And because it can print plans, the program can be used by both CNC users and nonusers.

I've been a long-term user of Alibre Version

10, released in 2007. All of the base features remain in the latest release. Improvements include better interface controls and more accessible command buttons.

Changing from operation to operation changes the command buttons available. This seems odd at first, though as a user becomes more proficient with Alibre it becomes natural and saves enormous amounts of time. The controls that do not deal directly with designing and drawing are placed so they can be accessed from one button (called the "gem").

The design process begins in a 2D workspace, which shows the X, Y and Z planes for proper orientation in the assembly workspace.

Alibre Atom 3D has a unique feature that contains all of the information about a design or an assembly, known as the Design and Assembly Explorers. After using Alibre Atom 3D for a while a user will appreciate all of the information the two Explorers present as it will make clear many aspects of the workspace and of the part.

At the top of the design and assembly workspaces are the various controls. In the 2D sketching mode workspace these buttons control everything from drawing a line to rounding the edge of a finished part. The dropdown menus are actually windows that contain information about the design action a particular but-

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ton represents. When using the 3D sketching mode, the part being designed will be shown in an isometric view and all the tools available in the 2D sketching mode are available in the 3D sketching mode, except for the constraint and dimensioning tools.

From my experience, the constraint and dimensioning tools are what make Alibre so easy to use. Rather than having a 2D sketch or a part just floating in space, the part can be fixed in a certain place in the workspace relative to the sketching grid or reference geometry.

Creating an entire piece of furniture or a

small cabinet is accomplished in the Assembly Workspace, which assembles all of the parts that were previously designed.

Any item in the drawing can be changed or moved. If a part or assembly is changed subsequent to creating a drawing, the drawing can be regenerated to include the changes.

Atom 3D comes with KeyShot, a rendering program. Simlab Composer is also available. There are CAM add-ons – AlibreCAM-Mill and AlibreCAM-Turn from MecSoft Corp.; EZ-Mill, EZ-Turn, and EZ-EDM (Electrical Discharge Machining) from EzCAM Solutions

Inc., and SprutCAM from Sprut Technology.

Learning how to use Alibre Atom 3D is no more difficult than other 3D parametric CAD programs, though it can be a bit daunting as the program separates activities, like 2D sketching, 3D sketching, assemblies and printing plans, rather than having them all run together. One aspect that makes learning easier is the consistency of the buttons for the various functions.

Alibre Atom 3D has an optional support and maintenance program. A free 30-day trial is available. For more, visit www.alibre.com. **W**

Rev-A-Shelf adds to sales team

Rev-A-Shelf LLC is expanding its sales team with the addition of Bryant Haas as an OEM Sales Manager.

Haas has over 20 years of experience in the cabinet industry and has served in several volunteer positions in the NKBA and KCMA, according to the company.

Haas resides in southern Indiana and will join the OEM team servicing the large cabinet manufacturers in North America.

For more, visit www.rev-a-shelf.com.

FINISHING from Page 29

Test on scrap

To check that everything is working properly, it's always a good idea to spray a test sample before beginning. You can do this on scrap wood, or on cardboard or brown paper you roll down from a pipe hung from the ceiling. Brown paper is good because you can see problems easier than with white paper. Doing this test also allows you to adjust the settings and air pressure so you can reduce flaws.

Write it down

Especially if more than one person is doing the spraying, create a detailed and written

standard operating procedure. With this, variations in quality and appearance can be reduced and hopefully eliminated.

Add automation

If you are in a large production shop, consider automating the finishing process. The initial cost will probably be substantial, but over time you'll save money on labor and do-overs.

Bob Flexner is author of two books, "Understanding Wood Finishing," and "Wood Finishing 101." **W**



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- Max. cutting width: 13 $\frac{1}{2}$ "
- Max. cutting height: 14"
- Blade size: 120" (1 $\frac{1}{8}$ " to 3 $\frac{3}{4}$ ")
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- Precision-ground cast-iron table size: 26 $\frac{3}{4}$ " L x 19" W x 1 $\frac{1}{2}$ " H
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- Max. cutting height: 12"
- Blade size: 143" L (1 $\frac{1}{8}$ "-1 $\frac{1}{4}$ " wide)
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- Footprint: 26" L x 27" W
- Precision-ground cast iron table size: 28" x 35 $\frac{1}{2}$ "
- Spindle travel: 3 $\frac{1}{4}$ "
- Spindle tilt: 45°
- Spindle sizes: 3 $\frac{1}{4}$ ", 1", and 1 $\frac{1}{4}$ "
- Spindle speeds: 3600 – 10,000 RPM
- Spindle capacity under nut: 5 $\frac{1}{8}$ " (1 $\frac{1}{4}$ " spindle)
- Approx. shipping weight: 710 lbs. (G7215Z), 692 lbs. (G5913Z)

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G5913Z
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- Max. cutting height: 12"
- Blade size: 131 $\frac{1}{2}$ " L (1 $\frac{1}{8}$ "-1" W)
- Blade speeds: 1700 & 3500 FPM
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- Approx. shipping weight:
- 418 lbs. (G0513X2), 434 lbs. (G0513X2F), 460 lbs. (G0513X2BF)



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- Table tilts 45° for bevel cuts
- Floor-to-table height: 34 $\frac{1}{2}$ "
- Cutting capacity/throat: 24 $\frac{1}{2}$ "
- Maximum cutting height: 16 $\frac{1}{4}$ "
- Blade size: 180" L (1 $\frac{1}{4}$ "-1 $\frac{1}{2}$ " W)
- Blade speed: 5300 FPM
- Shielded and permanently lubricated bearings
- Overall size: 48" W x 32" D x 83 $\frac{1}{2}$ " H
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- 951 lbs. (G0568), 962 lbs. (G0569)

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G0569
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EXTREME
SERIES

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



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- Motor: 3 HP, 220V, single-phase, TEFC, 16A
- Cutterhead: (4) HSS knives, 12" x 1 $\frac{1}{16}$ " x $\frac{1}{8}$ " (G9860); (84) indexable carbide inserts (G9860ZX)
- Cutterhead dia.: 4"
- Cutterhead speed: 5900 RPM
- Max. depth of cut: $\frac{3}{16}$ "
- Max. width of cut: 11 $\frac{13}{16}$ "
- Precision-ground cast iron table size: 12 $\frac{1}{2}$ " x 80"
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- Motor: 5 HP, 220V, single-phase, 25A (G9953ZX); 5 HP, 220V/ 440V*, 3-phase, 14A/ 7A (G9953ZXF)
- Precision-ground cast iron table size: 16 $\frac{1}{4}$ " x 99 $\frac{1}{4}$ "
- Cutterhead speed: 5000 RPM
- Max. depth of cut: $\frac{3}{16}$ "
- Bevel jointing: 0–45° L/R
- Center mounted fence: 6 $\frac{3}{8}$ " x 43 $\frac{1}{4}$ "
- Approx. shipping weight: 1742 lbs. (G9953ZXF), 1719 lbs. (G9953ZX)

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G9953ZX
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10 HP CYCLONE DUST COLLECTOR

- Motor: 10 HP, 220V/440V*, 3-phase, TEFC Class "F"
- Impeller size: 18 $\frac{1}{2}$ " steel radial fin
- Air suction capacity: 4029 CFM @ 4.3" SP
- Maximum static pressure (inches of water): 16.8"
- Filter: 99.9% efficiency from 0.2-2 microns
- Filter surface area: 398 sq. ft.
- Collection drums: Steel, 55 gallon x 2
- Sound level: 87-90 dB
- Overall size: 76 $\frac{3}{4}$ " W x 60" D x 139 $\frac{3}{8}$ " H
- Approximate shipping weight: 975 lbs.



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10 HP, 3-PHASE DUAL-FILTRATION HEPA CYCLONE DUST COLLECTOR

- Motor: 10 HP, 220V/440V*, 3-phase, 30A/15A, TEFC Class "F"
- Intake hole size: 12"
- Max. static pressure (inches of water): 16.8"
- Primary filter: 99.9% at 0.2-2 microns
- Secondary filter: HEPA rated 99.97% @ 0.3 microns
- Airflow capacity: 4029 CFM @ 4.3" SP
- Approx. shipping weight: 1555 lbs.

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12" SLIDING TABLE SAW WITH SCORING BLADE MOTOR

- Main motor: 7 $\frac{1}{2}$ HP TEFC, 220V/440V*, 3-phase, prewired for 220V
- Scoring motor: 1 HP TEFC, 220V/440V*, 3-phase
- Main table size: 35 $\frac{1}{4}$ " x 21 $\frac{1}{2}$ "
- Main blade size: 12", Arbor: 1", Tilt: 0–45°
- Depth of cut @ 90°: 3 $\frac{1}{16}$ ", @ 45°: 2 $\frac{1}{8}$ "
- Scoring blade size: 4 $\frac{3}{4}$ ", Arbor: 20mm, Speed: 8000 RPM
- Scoring blade tilt: 0–45°
- Sliding table size: 126" x 14"
- Approx. shipping weight: 1498 lbs.



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14" SLIDING TABLE SAW WITH DIGITAL FENCE

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

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HITTING ALL





PRICE POINTS

Dean Cabinetry, a Connecticut shop, keeps growing by offering a range of products to meet every budget

BY JENNIFER HICKS

After entering the accounting field in his early 20's, John Dean soon realized he was too active and creative to continue down that career path. But after founding Dean Cabinetry in Bolton, Conn. in 1996, he wakes up every day looking forward to work. His team, which has grown to 18 employees, is equally motivated.

The turnkey custom cabinetry business offers planning and design services, construction, finishing and installation. It stands out from the competition by offering kitchens and other home casework products to meet all budgets, including custom, semi-custom and stock cabinetry options.

"We're unique in that we can hit anyone's price point. We don't start with what we do and try to make it a fit," says Dean.

"We like to be very up front with what budget numbers they're looking at and they tend to self-select into a cabinet line," adds his wife and co-owner/designer, Leah Dean.

LITTLE BY LITTLE

Dean is from the Bolton area, just east of Hartford. Growing up, he learned all sorts of repair and maintenance skills from his father, who bought and sold properties. Then he went to college for accounting.

"I worked for two years as a CPA. But right away I wanted something different. I couldn't see myself wearing a tie and being behind a desk all day. I liked being active. I liked creativity. And I liked working with my hands," he says.

Dean started with general remodeling and carpentry jobs sourced from local contractors. He quickly gravitated to cabinetry.

"Little by little, I tried to find just the cabinet projects," he says.

Dean's started in his basement, moved to a garage and then a barn while adding employees and equipment as needed. He had six employees by 2013 and needed more space, so he purchased a 4,000-sq.-ft. building that has served him well. The shop is preparing to move into a 16,000-sq.-ft. space by the end of the year.

DOING IT RIGHT

Most jobs originate from homeowners and contractors, and have to do with remodeling.

"We don't do commercial work because we enjoy working with clients. And we've learned how to help people through the emotional ups and downs of remodeling a kitchen," Dean says.



(Clockwise, from top left)
Staff meeting in progress;
Kim Newton sanding; Zack
Delvaglio assembling; fin-
isher Omar Ibarra, and (from
left) John Dean, Kevin Dean
and Dave O'Connor.



PHOTOS: MICHAEL GORDON

"I think that's the enjoyable part of the business, if you do it right. It can be hard part of the business if you don't do it right."

Dean has attempted commercial revenue streams in the past but the return wasn't there. "[Commercial's] just a really different animal. You're dealing with long bid and lead times and you have to wait forever to get paid."

The shop serves New England and beyond. "We go down towards New York City and up into Boston and all throughout Connecticut and its shoreline. We travel all over."

Dean sees a strong preference for European-style cabinetry and projects that include light-hued painted finishes accompanied by stained accent pieces, such as white kitchen cabinets with a clear-coated center island.

"I think things are moving towards a modern feel. There are always the higher end traditional homes up here that want that traditional Colonial detailing."

FAMILY ORIENTED

The Deans see strong, healthy camaraderie in their ranks, which they attribute to keeping the work environment friendly and enjoyable. Their son Kevin, a student at the University of Connecticut, has been a big help.

"We try to be family oriented and we do events and activities which create a family-like atmosphere. Kevin's been working hard on that. We do tailgate events, happy hours, etc.," Dean says.

Kevin launched the company's first advertising campaign in 2015. He also runs morning meetings and has implemented a successful lean manufacturing program.

The shop employees include eight on the administrative side and 10 woodworker and/or installers. Dean says turnover is relatively low

and help isn't too hard to find.

"We try to keep a close watch on our processes so that we can train people easily. We don't want processes which are difficult for people to learn. If they are, then we outsource that."

GROWING EVERY YEAR

The shop's average annual gross is about \$2.5 million. It didn't skip a beat during the last recession.

"We were smaller then but I think our advantage was not doing commercial work. We've also never done a large amount of new construction. New construction really took a turn in '08 in Connecticut and it has not fully recovered. We were fortunate to avoid both of those."

Dean says the shop completes about two to three kitchens or other jobs weekly and is hoping to double that in the next couple of years.

"Our challenges are always growth related because we're growing every year. There's always a portion of the business where we need to be more efficient."

Ironically, Dean feels that his dreaded former day job has helped the company succeed.

"My accounting background, my organizational skills, that all really helped us not miss details, the small details, and that's what helps us survive in remodeling with all of the changes."

There are, of course, days with glitches and headaches, but Dean has no regrets.

"Honestly, when I hear someone say they're retiring I find myself saying, 'Oh, sorry to hear that. That's awful.' I can't even imagine it."

Contact: Dean Cabinetry, 263 Boston Tpke., Bolton, CT 06043. Tel: 860-643-1501. www.deancabinetry.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 advertisements for ShopBot (Affordable CNC digital fabrication, ShopBotTools.com) and AWFS (Booth #7909). Below the header is a navigation bar with links: Home, Listings, Events, Classifieds, Articles, Deals, Advertise With Us, Contact Us, and Woodshop News. The main search area has a yellow background and includes a "Keyword" search bar, a "Where" location bar (set to "Essex, Connecticut, United States"), and a "Search" button. There are also filters for "Match" (exact match, any word, all words), "Category" (a dropdown menu), "Location" (a dropdown menu), and "Zipcode" (a text input). Below the search area, there are sections for "Browse by Category" (listing various categories with item counts), "Featured Listings" (highlighting MultiCam, Inc. and ShopBot Tools, Inc.), and a "Sign in" section with fields for email and password.

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THE PERFECT CUT

Complied by BHSW Inc.

There are three components that come together to create perfection in milling and sizing. They are machines, tools and people. In small shops or in dedicated work cells at larger, custom operations, the next generation of CNC is being designed to make machining portable. Origin, a revolutionary new tool from Shaper Tools, Inc., does precisely that. And precision is the watchword here. This tool sets up quickly, is simple to operate, and delivers remarkable depth control and toolpath results. It's ability to automatically plunge brings a Z axis to bear in a way that lets woodworkers design, and make, in a whole new way.

When it comes to the second component, tooling, Wisconsin based Vortex Tool Company, Inc. is also breaking new ground. A woodworker can now input critical data (material, dimensions, horsepower etc.) into the company's award winning Tool Selection Guide app, which will then recommend the best tool for the task. The app also includes calculators to determine chip-load, feed rate, RPM and metric conversions. Vortex has also developed a new website that features detailed product information on more than a thousand tools, and has just released its new 112-page product catalog that addresses cutting wood, composites, fiberglass, aluminum and even phenolic/paper-stone materials.

Both of these companies have made life a whole lot easier for the third component, the people on the shop floor. Whether it's portable CNC routing, or using a Smartphone to find exactly the right tool, their innovations are saving time, reducing errors, opening up new design and milling possibilities and, above all, helping woodworkers make perfect cuts.



SHAPER

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State-of-the Art Tools... and Support

Wisconsin based Vortex Tool Company, Inc. designs and manufactures a wide variety of standard and custom high-performance router and insert cutting tools. This American owned company also provides re-tipping and sharpening services for all makes and models.

Vortex has designed an award winning Tool Selection Guide app that simplifies tool selection based on a woodshop's cutting needs. Users input the type of material being cut, the horsepower of the CNC machine, the tool diameter, the thickness of material and the type of cut desired. From there, the app will recommend the best tool for the task. It also includes calculators to determine chip-load, feed rate, RPM and



metric conversions. Convenient links are also provided for the current Vortex Tool catalog and online ordering. The free app, which is an AWFS Visionary Award winner, is available for iPhone, iPad, Android phone or Android tablet.

Vortex recently launched a new website, too. It features detailed product information on more than a thousand tooling products. Its impeccable online ordering and responsive design make the site easy to view on all digital devices. From the homepage, drop-down menus allow tools to be easily located by series number, price, cutting edge diameter, cutting edge

length, shank diameter and overall length. The new website provides online customers access to their own order history, that includes previous orders and payments, plus a live inventory of products. New items and information are uploaded frequently.

And Vortex's new 112-page product catalog (#9) is now available. It includes thousands of tools divided into wood, plastic, insert and machine tool accessory sections. The new Composites/Aluminum section includes tools for cutting composites, fiberglass, aluminum and phenolic/paper-stone materials. The book also introduces new tool series and contains valuable technical information that can be used to calculate feeds and speeds for programming CNC machines. Vortex Tool Company maintains a huge inventory with over 10,000 tools in stock, so most orders ship the same day. And technical support is always just a phone call away.



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CNC Perfection in a Portable Hand Tool

Justin Nelson is the founder of Fernweh Woodworking in Oregon. His custom shop makes small-batch modern furniture, with an emphasis on high-quality and beautiful craftsmanship.

A true furniture artist, Nelson placed his pre-order for Origin as soon as he first saw it on social media. He did so without even knowing how he was going to use it. What he did know was that his shop didn't have the real estate to accommodate a full-size, static CNC machine. So he was excited about the possibility of CNC-quality cutting in a portable and versatile hand tool.

Since adding Origin to his shop, Nelson has been impressed with how seamlessly the tool can slot into time- and labor-intensive workflows.

"I've been amazed at how many jobs it's come in handy on," he says. "I started by using Origin as a logo brander on my finished pieces. Even if I had only used it for that, the tool would have paid for itself."

But Origin is much more than just a time saver and a workflow simplifier. The tool's precision and reliability give Fernweh Woodworking the freedom to make cuts with confidence, and to remove the stress involved in cutting and shaping finished work. For example, the shop uses its Origin to contour the graceful arms on its sling-back chairs. Because Nelson contours the arm once he has glued up the chair, there is very little room for error.

"If something goes wrong," he says, "you're kinda screwed."

Being able to rely on CNC precision in a portable tool gives him the confidence to make those complex cuts. Unlike traditional routers, Origin offers him precise depth control and the ability to automatically plunge. And because it was designed for woodworking professionals, Origin is easy to learn and easy to operate. There's no technological sophistication or computer programming required, and no need to learn proprietary software.

Here's how it works. One simply uploads a design file to the tool and then places Origin on the workpiece. There's a special tape, called ShaperTape, that is placed on the workpiece (the placement doesn't need to be overly precise). Origin then scans the ShaperTape to generate a map of the workspace.

From there, Origin converts the vector data—essentially, a series of points—in the file into toolpaths. All the operator needs to do is follow those paths, which are shown on the tool's built-in screen. The operator simply guides the machine along the path that appears on the display. The tool makes continuous corrections as the operator moves along the toolpath.



The spindle is not fixed like the motor in a traditional plunge router: it can move independently of the rest of the machine. This allows the tool to make continuous corrections as the operator moves along the tool-path, keeping cuts precise and reliable. And if a user makes a mistake while cutting, or strays beyond the tool's corrective range (that is, the amount the spindle can move within the body of the tool), the cutter actually retracts and preserves the workpiece!

The primary genius of Shaper Origin is that it combines computer-guided accuracy with hand-held familiarity. That means a woodworker can route with unparalleled precision, flexibility and efficiency. Other aspects that make this an invaluable tool in any woodshop are its quick set-up, simple operation, the very short learning curve, a comparatively small financial investment, fewer errors and built-in correction on the go. There's simply no better way to do inlays, signs and other precise milling such as hardware installation.

Shaper Origin. It delivers the perfect cut every time.

Just ask Justin Nelson.



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A photograph of a workshop environment. In the foreground, a sanding machine with a row of circular sanding heads is visible. A hand is operating a red and yellow sanding tool on a wooden box. The box has the "Kountry Kraft" logo on it. The background shows various workshop equipment and tools.

OF GRIT AND GRAIN

SANDING SOLUTIONS IN THE MODERN SHOP INCLUDE CNC HEADS,
NEW ABRASIVES, VERSATILE WIDE BELTS, AND MORE **BY JOHN ENGLISH**





It seems that every article on sanding begins by saying how much woodworkers hate this chore. But the bottom line is that we usually don't.

We can break sanding down into two categories, gross and fine. The former is done by big machines and the latter by hand-held tools, and also just by hand. Feeding boards to a wide belt sander, or having a CNC follow up a milling pass by changing tools and lightly sanding an MDF door is no big chore. The painful part of sanding is either in very small shops where there is inadequate equipment, in one-off art furniture where shapes can be infuriatingly complex, or in the finishing booth anywhere because coatings can become truculent and argumentative. Something as small as an eyelash can wreck your day there.

Let's start by taking a look at where much of our woodshop sanding is headed – to the kind of technology that is already being adapted to CNC heads and will soon be common on collaborative robots. Then we'll take a pass through some abrasives, scan the big solutions that are out there for panels and doors, and then wrap up with a family of intricate machines that can take the tedium right out of sanding.

CNC solutions

As noted above, sanding is a matter of scale and that's never more obvious than when it's being done by a CNC router. Some of the smaller desktop models may have some challenges holding the work, reducing and maintaining the appropriate speed, accommodating larger diameter hubs and tools, and so on. But for most commercial CNCs, improved controls and better dust collection over the last few

years have had a big effect. The ability to program for a lighter touch, switch heads easily and extract fines efficiently have made it possible for manufacturers to create a whole new arsenal of sanding tools.

The German company Benz Inc. (benztooling.com) operates a North American wood division that's located in Grand Rapids, Mich., and the company offers a number of CNC sanding solutions. Among its innovations is the Collevo belt sanding unit, which takes 100 x 560 mm belts (about 4" x 20"). It has an HSK F63 connection and an SK 30 for Biesse is available, so it fits many spindle brands. If a belt isn't solving your problem, Benz's orbital sander, the Simolo, is available in HSK F63, HSK E63, SK 30 and SK 40 connections. This head handles a number of disc diameters and grits. And Benz also makes the Zucco vibrating pad sander, which has an HSK F63 connection. The company can provide custom solutions, too. That is, a woodshop can order small modifications to the standard heads, or even work with Benz to create a highly complex sander for specific tasks.

Flex Trim (flex-trimusa.com) in Queensbury, N.Y. makes sanding heads for CNCs and other machines. These are sanding strips backed by brushes on a shaft, and changes in the height of the brush can deliver any result from polishing to aggressive brushing, or just normal wood sanding. They can be delivered in any length or diameter, and the shape can be customized. For example, they can be configured to reach into deep profiles. The sanding segments can be replaced without dismantling the shaft and the head – a woodworker just has to remove an O-ring. And the sanding head's core is resistant to chemicals, so it can be installed in a lacquer room. Flex Trim

comes in a cup format for surface sanding and a hub for edge sanding.

According to California-based Voorwood (voorwood.com), its Turbosand line of rotary sanders offers "the lowest cost per foot of any rotary sanding system". With more than 4,000 stock profiles available, it has a range of head diameters and widths to accommodate almost any edge detail. Turbosand is available for CNC routers and also shaper/sanders, single and double ended tenoners, and other types of machine. It has a simple, two-piece sanding head and works vertically and also at tilt angles. Strip changes are quick and easy, and heads are available for edges, raised panels, and complex profiles. They're also available for HSK or ISO toolholders to match specific machine spindles, and they come in 3" to 8" diameters and 1/2" to 3" widths. There's even a Turbosand rosette head for CNCs which can sand small grooves, slots and decorative features. And the Turboflex Pro is a rotary head that's matched to a specific contour, and comes in six grits and three different levels of brush stiffness.

Peak Toolworks (peaktoolworks.com) offers the Riverside Tool Supersand system. This head has a lightweight aluminum body and a soft, profiled foam core. Rather than using flaps (strips), it has a durable, rubberized abrasive that's infused in the foam, so it's actually non-directional. It fits HSK 63F mounts, and custom arbors are available, plus it can be used on other machines such as shapers to sand profiles such as raised panels.

A shop can also reduce the need to sand by using other CNC tools a little more creatively. For example, master furniture builder Russell Crawford (cherryleaf-rustle.com) suggested on the Vectric.com forum that sharp edges on



Weber wide belts (left), available from Martin Woodworking Machinery, and the Safety Speed Mfg. 3760.

plywood cutouts can be chamfered before the profiles are cut. He recommends using a 90-degree V-bit and cutting on the line at a shallow depth (perhaps .05"). Then the woodworker can go back and profile outside the line, using a good compression bit.

Abrasive opinions

The 3M Co. (3m.) is based in St. Paul, Minn. and has been making woodshop abrasives for about a century. The company's Cubitron II Hookit Clean Sanding Paper Discs have a property called Precision Shaped Ceramic Grain, which has earned high praise from users. Comments such as "the backer wore out before the grit" are common. The manufacturer says that Cubitron's triangular shaped ceramic mineral is designed to slice through the substrate, rather than gouging or plowing like conventional abrasives, and 3M says that results in a disc that cuts up to twice as fast and lasts up to four times as long as conventional abrasives.

The Finnish company Mirka (mirka.com) offers about three dozen different sanding abrasives for wood processing. Among the newest additions to the line is WPF Next Gen. This is an ideal paper abrasive for effective hand sanding, both wet and dry, on multiple surfaces. It is very flexible, fully waterproof and has great grain adhesion. Produced with new coating technology, the abrasive surface doesn't clog up easily, so a woodworker can sand faster and the abrasive lasts longer. The finer grits are optimal for fresh clear coats, and also make polishing easier.

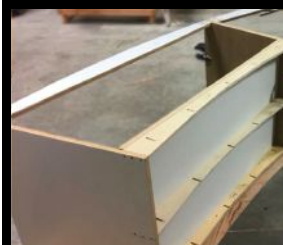
In late 2018, Mirka launched two new abrasives families, Iridium and Novastar. These are premium products with new optimized grains, new coating and curing techniques, and new multi-hole patterns. Developed in parallel, the abrasives are similar but not the same. They both have a unique dust-repellent surface that doesn't clog, so the grains stay sharp longer. The paper-backed Iridium comes in 80-600 grits and is ideal for cabinet shops, sign makers and furniture builders coating with paint. There are 125 mm and 150 mm discs as well as 81x133 mm and 70x400 mm strips. The longer strip has a center perforation, so it fits 70x198 mm sanders as well. Novastar is film-backed, waterproof and non-clogging, and it can be used on composites. Here, the grit range is also 80-600 but it only comes in the 125 mm and 150 mm discs.

Back in the good old days, every woodworker had a small block plane in his apron. Shopsmith thinks that was a great idea and has come up with a modern equivalent, the Finishing Block. Located online at shopsmithabrasives.com, it's just a soft, palm-shaped block with a Velcro hook and loop bottom for quick paper changes, and a hidden platen called a weighted reinforcement plate that lets the woodworker apply a little pressure when needed. It's the perfect solution for breaking the edges on doors, face frames and drawer fronts.

The German abrasives manufacturer Kling-spor (klingspor.com) has been in the sanding business since 1893. The company operates a manufacturing facility in Hickory, N.C., and sells to businesses only through the website shown above. (Retail customers are served through Kling-spor's Woodworking Shop.) Its new GreenTec sanding discs have been developed to meet the needs of industries where significant loading of the abrasive oc-



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Viet's Valeria, available from Biesse America.

curs. These include cabinetmaking and solid surfaces. In testing and in production sites around the country, GreenTec has been proven to dramatically reduce loading in even the most stubborn applications. A patented, proprietary coating named T-ACT is designed to minimize loading.

Located in Bethesda, Md., the online retailer 2Sand.com has more than a decade of experience supplying coated abrasives to industrial purchasers, and its warehouse stocks a large

variety of abrasives including brands such as Performax belts and Rhynogrip.

SuperMax (supermaxtools.com) offers half a dozen drum sanders, a couple of brush sanders (single and double head), and two combination units.

Wide loads

Laguna Tools (lagunatools.com) offers the 25" Compact Widebelt Sander that features Automatic Pneumatic Oscillation, two feed

speeds, and an industrial cast iron bed sitting on four Acme threaded screws with center alignment. The bed is adjustable with an electronic motor for gross movement and a manual handle for micro movement. The platen is fully adjustable so it can run in combination with the 4" rubber drum for optimum results. Raise it and use the drum alone to dimension wood, or lower it to sand sensitive material such as veneer without the risk of going through the material.

The Laguna lineup also features 37" and 43" wide belt sanders, and the top of the line 51" equipped with an 8" primary roller and a second (4") roller followed by a wide platen. This allows shops to use a rougher grit on the first roller that will absorb most of the impact and do the dimensioning, while the small roller with the platen can be set up with a finer grit. The configuration saves time because there's no need for a second pass and a belt grit change. Plus, the large motor means the machine is capable of dimensioning even wide boards and slabs, which is important for shops that don't own a wide thickness planer.

Minnesota-based Timesavers LLC (timesaversinc.com) offers solutions for almost any aspect of woodshop sanding, including heavy stock removal, panel sanding, wide belt sanding and calibrating, orbital sanding, veneer and lacquer sanding, brush sanding and more. One aspect of this sanding veteran company's



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Mirka's new Novastar is a film-backed, water-proof and non-clogging abrasive, according to the company.

line is versatility. For example, the mid-sized 2300 Series planer/sander is customizable with either a 75" or 103" belt length, and up to three heads (knife, drum or combination). It's also available in three widths (37", 43" and 52") and runs at 15 to 45 feet per minute.

Martin Woodworking Machinery in Charlotte, N.C. (martin-usa.com) also offers a range of wide belt sanders. There are five Weber models in the catalog, ranging from the 51" wide LCS that accommodates either one or two belts, to the industrial and very speedy KSL model. This latter has reinforced construction, contactless work-piece detection, and high-speed electronics. It has operating widths of 1350 and 1600 mm (53" and 63"), can be combined with up to eight machines, and has infinitely variable speed from 3 to 25 meters (10' to 82') per minute. The belt length is approximately 103", and the machine has segmented platen pressure technology that adjusts the sanding pressure of individual segments to the workpiece size, using electronic controls.

Biesse America (biesse.com) offers a full spectrum of eight Viet brand wide belt sanding options, ranging from the S211 which the company bills as "the most compact, high-performance machine for calibrating and sanding in its category", to the Valeria, which is a calibration-sanding center that was designed for large-scale industrial applications. This latter is ideal for heavy-duty processing, so it allows precision machining on high-speed production lines.

Also available from Biesse is the Narrow model, which is especially well suited to making narrow parts and components such as beams up to 400 mm (15-3/4") thick, or flooring, disassembled window elements, or other long and narrow pieces. It can be configured with vertical rotating sanding brushes for profiles and sides.

The Felder Group (felder-group.com) has seven showrooms strategically located around the country, and the company offers ten Format4 and Felder wide belt sander models.

Seven of these have touch screen control as standard or as an option, and three of the machines are new to the lineup. These include the Findustry 1352 and 1354. Options include a cross-section unit, contact-bars-module, combination sanding unit, Superfinish-unit, sanding pad units (EP/ESC), planer cutter-head unit and various varnish packages.

Felder also offers three edge sanders, including the new Hammer HS 950, which is billed as the perfect entry-level machine. Oscillation makes use of the entire sanding belt surface, and the sanding unit can be tilted continuously to 90 degrees. The open design also allows easy sanding of long workpieces.

Global Sales Group in Chico, Calif. (global-salesgroupllc.com) offers several brands of wide belt sanders including Castaly, Cantek, Dotul and Safety Speed Mfg. The Castaly CA-1554 is an affordable open-sided machine that has a combination head configuration with a drum and platen, a pneumatically controlled oscillating belt, and easy pressure adjustment for veneers (more details at lobomachine.com). And another entry-level machine, the American-made 3760 from Safety Speed (safetyspeed.com) comes with either a 10-hp single-phase or a 15-hp 3-phase motor and photo-electric belt tracking, for under \$13,000.

Remember that teaser about a family of intricate machines? Well, Opti-Sand Inc. in Geneva, Ill. (opti-sand.com) builds finish and sealer sanding machines that use flexible finger abrasive technology. These include models for sanding moldings, trim, flooring, linear parts, entry and cabinet doors, drawer fronts, face frames, MDF parts for powder coating, and more. An example of this company's versatility is the WB12 Wire Brush that is used for texturing or distressing the surface of wood parts including paneling, siding, flooring and frames. And Opti-Sand's UTS (Universal Table Sander) has a spindle that tilts from vertical to horizontal and is designed to allow woodshops to manually finish sand, sealer sand or de-nib parts.

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COUNTER

New countertop options include products made from

BY JOHN ENGLISH

In the summer of 1959, Johnny Cash visited Ireland and wrote a song about the Emerald Isle. The title of the work was *Forty Shades of Green*, and that's an apt description of the way that woodshops are trying to meet consumer demand for better, cleaner and healthier products. The current shades of green involve everything from formaldehyde-free coatings and fiberboard to environmentally sound glues, foils and contact cement.

But one aspect of the green revolution, countertops, doesn't seem to get its fair share of attention. That's a little surprising when one considers the amount of square footage they can occupy.

CaraGreen LLC (caragreen.com) is trying to change that. In the Irish language "cara" means friend, and this company's offerings are designed to be environmentally friendly. Headquartered in Raleigh, N.C., it distributes eco-responsible products which it refers to as healthier alternatives to conventional building materials. Among them is Paper-

Stone, a heavy-duty solid surface material that is made from 100 percent post-consumer recycled paper and a proprietary, petroleum-free resin. The distributor describes it as having "steel-like strength in span, and stone-like beauty". Most PaperStone products are certified recycled by the Rainforest Alliance to Forest Stewardship Council standards, and are also certified food safe by NSF International. Panels can be cut and routed with carbide-tipped shop tools, and they machine and finish like extremely dense hardwood.

Another new countertop being distributed by CaraGreen is Koskisen Eco Transparent Plywood, which is made from Finnish birch plywood. Both faces have a colored, translucent coating that emphasizes the wood's natural grain, and they're protected by an overlaid, transparent, durable film. This is a hardwearing, crack resistant, smooth and clear melamine surface that is ideal for jobs such as retail displays.

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CaraGreen also distributes other green countertop materials including Lapitec (sintered stone, made of 100-percent minerals with no resins or petroleum derivatives), and Durat, which is a solid surface material made from 30 to 50 percent recycled hard plastics that can be used to create seamless tops. Also in the catalog is Elemental, which takes plastic and metal from the post-consumer waste stream and melds them together into a stunning, easily machined, seamless surface. And IceStone is a family of durable surfaces that are made from recycled glass and cement, which create a highly durable concrete surface. It is cut, installed, and maintained just like mined stone, and comes in a variety of shades that range from soft, earth-toned neutrals to rich, vibrant colors. IceStone is ideal for kitchen countertops, back splashes, bathrooms, tabletops, bar tops, fireplace surrounds, conference tables, and reception areas. It is NSF certified for use in food service areas.

LAMINATES

Plastic laminate was the countertop of choice in American kitchens for many decades, but it eventually lost some ground to solid surface materials, engineered stone and natural marble and granite. Now, with advances in graphics and more environmentally sound manufacturing practices, laminate is making a comeback. These surfaces can look as realistic as rock and other natural choices, and do so at a fraction of the price.

At the NeoCon exhibit in Chicago this June, Formica Corp. (*formica.com*) focused the industry's attention on a couple of new, high-tech products that may change the way woodshops look at laminates. Intenteck Wireless Charging Surface is a laminate surface that can wirelessly charge Qi-compatible mobile phones simply by placing devices on it. Intended for horizontal applications in commercial spaces (hos-



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pitality, retail, healthcare, education and offices) it has charging coils embedded in the laminate that don't interfere with the aesthetics of the countertop. It will be available in late 2019.

Formica's new HardStop Decorative Protection Panels are impact-resistant, high-performance wall panels that install easily and coordinate perfectly with other Formica products. What's different here is that, unlike traditional laminate that contains a paper core, these have a treated fiberglass core for added durability, strength and fire resistance. They are Class A fire-rated and can be applied directly to drywall and many other substrates. HardStop panels are also perfect for vertical applications in settings such as hospitals, restaurants, schools, universities, airports and elevators. Both Intenteck and HardStop are being made in the full range of Formica laminates, allowing designers to create a coordinated look throughout an entire design.

Wilsonart Engineered Surfaces (wilsonart.com) in Austin, Texas also has several new lines of plastic laminate. The company's 2019 Commercial collection includes authentic wood looks, abstract patterns, stones, and solids. But one of Wilsonart's more eye-catching new countertop options is called Thinscape, a 1/2"-thick panel that comes in a dozen elegant European inspired designs. The company describes it as "the perfect complement to today's thinner cabinet profiles", and when it is paired with classic stone and woodgrain designs, it appeals to both contemporary and classic tastes. Thinscape is machined and handled in much the same way as most solid surface materials.

Quebec-based Arborite (arborite.com) has been making high pressure laminate for countertops since 1942, and the company has recently in-

troduced a collection of six stone laminate designs that are being marketed as a crossover from residential to commercial design. They bring the look of stone to a project at a fraction of the cost, and they're easy to work, install and maintain.

Digital printing has come a long way in a short time, and that's opening up some new opportunities for customizing countertops. For example, Panolam, whose brands include Nevamar, Pionite and Conolite, recently introduced its new Inspira Digital Collection. This is an expansive digital library of "diverse, playful, and sophisticated imagery for surface solutions", according to the manufacturer. But Inspira also offers woodshops the ability to create custom designs by using a high-resolution process that provides outstanding quality, vivid colors, and extraordinary detail.

SOLID SURFACE OPTIONS

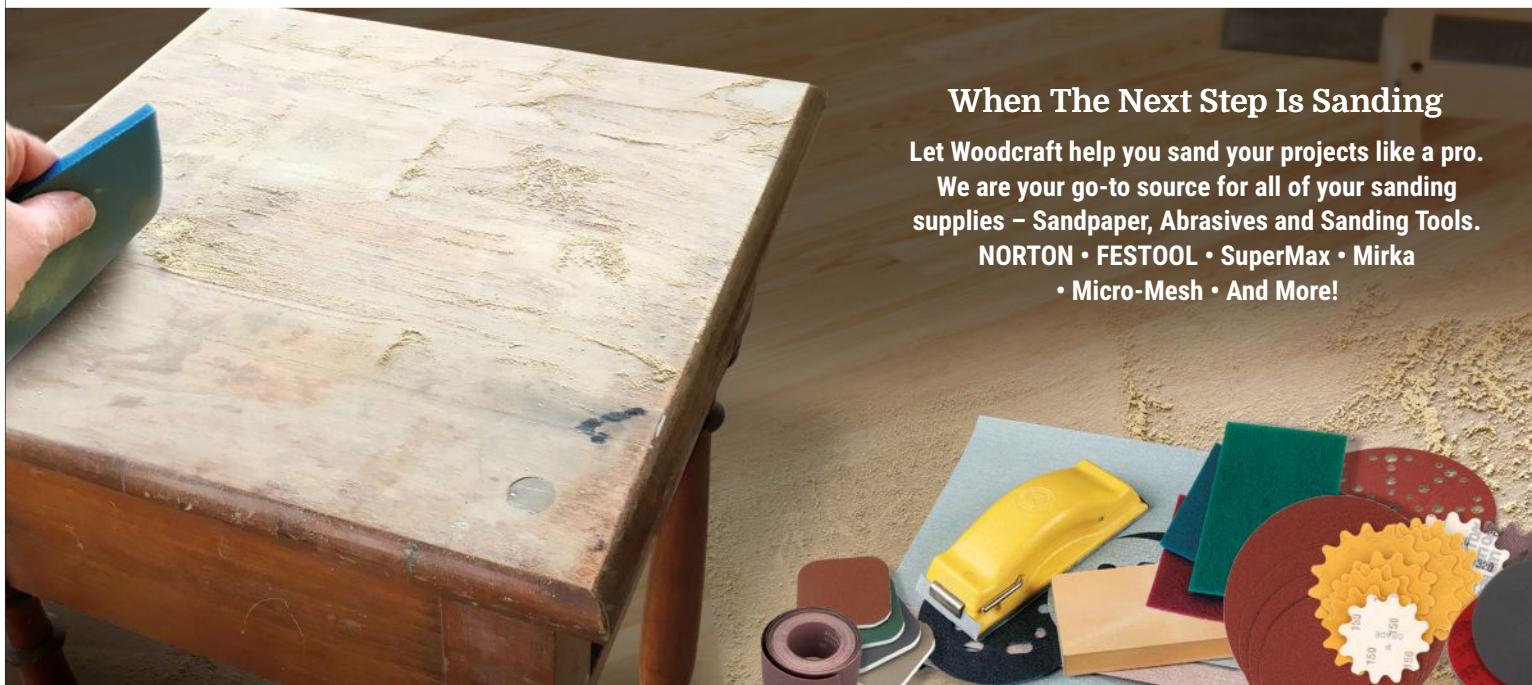
This is an ever-widening field and now includes Avonite Surfaces (aristechsurfaces.com), Mystera (mysterasurfaces.com), Hi-Macs (lghimacsusa.com), Hyundai L&C (hanexsolidsurfaces.com), Aristech (aristechsurfaces.com), Meganite (meganite.com), Formica, Wilsonart and others. Most innovations here are related to colors rather than cores. For example, DuPont's Corian introduced 25 new colors at the KBIS show in San Diego this February. The brand also continues to contribute to sustainability and green building through a collaboration with Green Builder Media and the Align project, which is a smart, modular, net-zero independent home.

Samsung Staron (staron.com) is part of the Asian business group Global

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LOTTE, which has offices in La Palma, Calif. In keeping with the colors theme, Staron introduced its Urban Series last year that features minimalist and sophisticated patterns in two themes – essentially, browns and blues. The colors are beautiful and hard to describe. If you can imagine this, they evoke warm images of concrete and quarries.

Most solid surface manufacturers stress the color palette, but many also like to point out the advantages of this countertop option. For example, Swanstone, from Swan Surfaces LLC in Centralia, Ill. (swanstone.com) is billed as “the ultimate renewable surface, where stains and scratches can always be buffed or sanded out”. There’s no gel-coat or laminate surface to wear away. It’s compression-molded, not cast, and it won’t crack, mold or mildew. It’s also non-toxic, non-carcinogenic and emits no VOCs.

NATURALLY SO...

Wooden countertops such as maple butcherblock (both edge-glued and end-grain) have been around for a long time, but grass is making major inroads here. Countertop Specialties in Dallas, Texas has a quick but comprehensive guide to bamboo countertops on its website (countertopspecialty.com). The company says that use of this grass is on the rise because it is quickly renewable and therefore eco-friendly, but also because it can give a kitchen that extra spark of style. Bamboo is naturally resistant to bacteria and won’t allow mold or mildew to grow. It’s easy to re-sand and seal again if there’s damage, but it does rely on a topical coating so there’s some maintenance involved. It also doesn’t like heat.

Iowa-based Green Building Supply (greenbuildingsupply.com) distributes Teragren Bamboo countertops, which are sourced in China. The company says that woodshops should keep in mind that drop-in sinks are recommended for bamboo rather than undermount, and that the parquet end grain variety (rather than side-grain) shows the least scratching when customers cut on their counters.

The most commercially viable variety of giant bamboo is Moso (*phyllostachys edulis*, also known as tortoise shell bamboo), which grows three to five feet a year and is not the one that Pandas eat. It’s native to China and Taiwan but has been cultivated in other countries including Japan. The roots remain in the ground, and just the stalks are harvested.

Other countertop options include poured in place or pre-manufactured concrete tops, engineered stone, ceramic and granite tile, and of course metal. In Europe and some Asian markets, stainless steel, copper and even aluminum are common alternatives for counters. These seem to be regarded more as commercial and healthcare choices in the U.S., but there’s a growing trend toward incorporating metal as accents and on limited surfaces such as island and food prep zones in high-end residential applications.

One last thought: Woodshops looking for a moisture resistant, environmentally sensitive MDF core for countertops might want to take a look at Medex (roseburg.com). It’s especially suitable for interior applications where moisture is a concern, has high screw holding properties, and is made with pre-consumer recycled wood content. **W**

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Contemporary furniture exhibit to feature New England makers

By Jennifer Hicks

LexArt, an exhibit space that serves as part of the Lexington Arts & Crafts Society in Lexington, Mass., will feature 30 furniture pieces at its invitational exhibit, "Respecting the Grain: Fine and Functional Modern Studio Furniture", scheduled for Sept. 14-29.

The pieces on display, designed and built by New England woodworkers, are broad in scope and diverse in form, covering the gamut of forms: tables and chairs; floor and wall cabinets; desks; benches and stools; sideboards and a clock, according to the society.

"There's a new wave of exceptional design and execution occurring today in the world of modern furniture building, inspired by 20th century American designers like James Krenov, Charles and Ray Eames, George Nakashima and Florence Knoll; Europeans like Alvar Aalto, Hans Wegner and Arne Jacobsen; and, generations of Japanese masters," says

show curator Katina Leodas.

"Contemporary makers are producing work that is new and exciting. Through this exhibit, we are thrilled to introduce members of the public to these new directions in 21st century craft."

Participating makers include Ted Blachly, John Cameron, Timothy Coleman, Sam Cotton, Evan Court, Mark DelGuidice, Eric Diven, Paula Garbarino, Michael Gleason, Duncan Gowdy, Peter Lutz, Steve McKenna, Tom McLaughlin, Andrew Riiska, Joseph Sheehan, Peter Shepard, Peter Thibeault and Leah Woods.

For more, visit www.lexart.org.

Guild show

The Berkshire Woodworkers Guild presented the Fine Woodwork Show and Silent Auction July 27-28 at the Berkshire Botanical Garden in Stockbridge, Mass.

The show featured work for sale and a silent



PHOTO: DEAN POWELL

Music stand by LexArt exhibitor Ted Blachly.

auction to benefit the guild, while guild members demonstrated turning, sharpening, finishing sawmill techniques

For more, visit <https://berkshirewoodworkers.org>. [W](#)

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Ribbon Rocker by Joseph Sheehan (left) and Stem Lounge by Peter Lutz, exhibitors at LexArt.



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►► **KREG TOOL** has a new line pocket hole jigs, the Kreg 300 Series, that make project building faster and easier than ever, according to the company. The series includes the 320 jig that works with materials of any thickness between 1/2" and 1-1/2", and the smaller 310 jig (*at right*). For more, visit www.kregtool.com.



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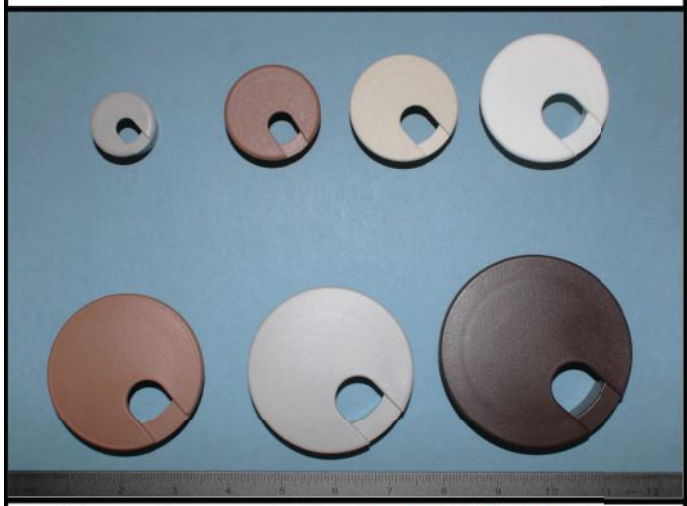
✦ **MILWAUKEE TOOL** is introducing a collection of redesigned Stud and Wide Blade tape measures, and the new Compact series. "This year marks our biggest year yet as we introduce a range of new tape measures with leading feature sets, enhanced durability, and best-in-class stand-out," the company said in a statement. For more, visit www.milwaukeetool.com.



▲ **SAMES KREMLIN** announces the release of its new MAGMA 500 heater range that works up to 500 bar (7250 psi). The MAGMA heaters will heat paint evenly without any burning effect. As an option, they can also heat the atomizing air for faster drying times and increase finish quality in Airmix or Airspray applications, according to the company. For more, visit www.sames-kremlin.com.

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◀◀ **PAINTLINE** a provider of spray stand and drying rack solutions, presents ProCart, a versatile material handling cart designed to handle multiple parts as users move through the shop or production. ProCart has a powder-coated steel base with MDF decking and heavy duty 6" castors for maneuverability, according to the company. Dividers can be installed along the width or length of the cart to provide maximum flexibility with as many as 12 bins. The dividers can also be completely removed, converting it into a lumber cart. ProCart has a weight capacity of 2,000 lbs. For more, visit www.thepaintline.com.

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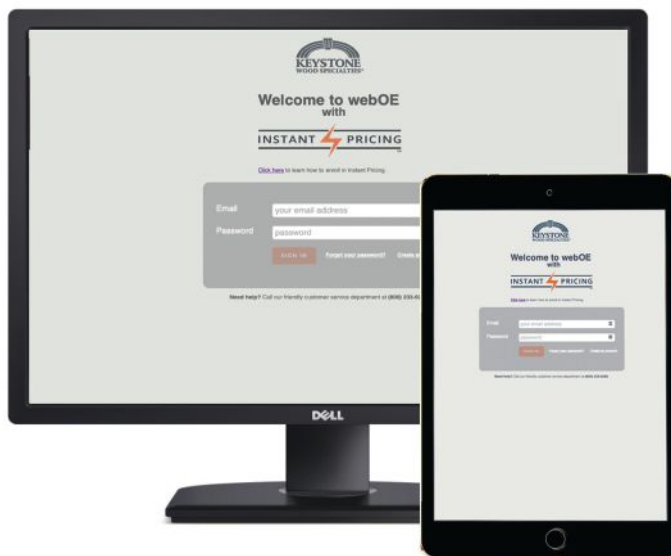
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◀◀ **OMEGA NATIONAL PRODUCTS** has introduced its Modern Farmhouse Collection of wood range hoods featuring a ship-lap design. The hoods are manufactured in both mantel and tapered looks. Available in red oak, maple, hickory, cherry, alder and paint-grade. Widths include 30", 36", 42" and 48". For more, visit www.omeganationalproducts.com.



▲ **KEYSTONE WOOD SPECIALTIES**, a wholesale manufacturer of wood components for the custom cabinet and remodeling industries, is introducing an Instant Pricing service. Cabinetmakers, remodelers, contractors, and the like, can now submit a quote request or an order and receive pricing in less than 30 seconds, any day, any-time, anywhere, according to the company. For more, visit www.keystonewood.com.

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Woodshop News welcomes event notices. Entries must be received by the 15th of the month, three months prior to the event.

Mail to: Calendar,
Woodshop News, 10 Bokum Road, Essex, CT 06426
Fax to: Calendar, 860-767-0642
E-mail: j.hicks@woodshopnews.com
Subject: Calendar Item

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

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

CALENDAR

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

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

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

— Compiled by Jennifer Hicks

CALIFORNIA

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

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

location and dates, visit www.awfs.org.

FLORIDA

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

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

GEORGIA

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

MAINE

Jan. 13 – March 6, 2020 — Eight-week Turning Intensive program with Beth Ireland. Designed to prepare woodworkers for successful careers as professional wood-

turners, and also open to amateurs who wish to bring their work up to a professional level. Location: Center for Furniture Craftsmanship in Rockport. www.woodschool.org

MARYLAND

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

MASSACHUSETTS

Oct. 10-14, Nov. 7-11 — David Calvo's five-day Bare Bones of Woodcarving workshops. Location: Calvo Studio in Gloucester. www.calvostudio.com

Oct. 12-13, Nov. 9-10 — David Calvo's two-day wood carving class. Location: Calvo Studio in Gloucester. www.calvostudio.com

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

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NEW YORK

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

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

NORTH CAROLINA

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

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

Nov. 5-7 — Stiles Manufacturing Solutions Seminar. Experience six machinery work cells, software integration strategies, guest presentations on workforce development and much more while networking with fellow business leaders. Location: Stiles Machinery in High Point. www.stilesmachinery.com

PENNSYLVANIA

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

RHODE ISLAND

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

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. For more information, visit www.sdwoodworker.org.

TENNESSEE

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

Slower growth projected in remodeling market

Growth in residential remodeling spending is expected to slow considerably by the middle of next year, according to the Leading Indicator of Remodeling Activity report compiled by the Remodeling Futures Program at the Joint Center for Housing Studies of Harvard University.

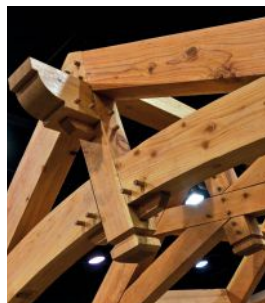
The LIRA projects that annual gains in homeowner expenditures for improvements and repairs will shrink from 6.3 percent in the current quarter to just 0.4 percent by the second quarter of 2020.

"Declining home sales and homebuilding activity coupled with slower gains in permitting for improvement projects will put the brakes on remodeling growth over the coming year," Chris Herbert, the center's managing director, said in a statement.

"However, if falling mortgage interest rates continue to incentivize home sales, refinancing, and ultimately remodeling activity, the slowdown may soften some."



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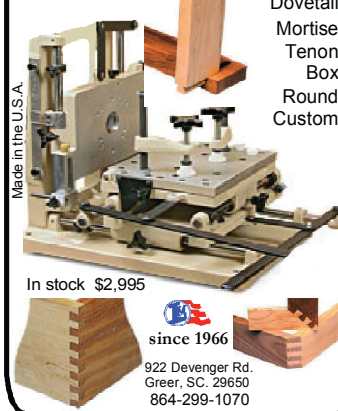
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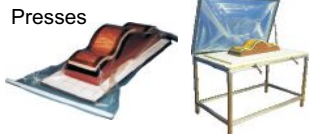
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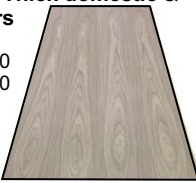
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The Whites celebrated with wagon rides and a big party.



Happy 150th!

Talk about a lot of candles ...

Doug White, owner of Doug White Lumber and Hardwoods in Marissa, Ill., celebrated a company milestone by inviting employees and customers to a gathering May 24 at the Village of Marissa Park. Hundreds of guests turned out for food, carriage rides, woodworking displays and sawmill demonstrations.

"It's a great feeling to carry [the business] on for 150 years. My great grandfather started it back in 1869," says White.

"We estimate we fed approximately 650 people. We had four different wagons for rides for kids and adults. Some customers brought in pieces they made, and we had those on display. Some traveled from as far as Chicago."

He attributes the company's longevity to being part of a tight-knit family. Francis White opened the White Lumber Co., also known as Marissa Station due to its proximity to the railroad tracks, in 1869. Francis sold the business to his nephew, James Francis White, who partnered with William McKee Lyons to create Lyons & White.

After the lumberyard was moved to its present site on 116 West Church St. in Marissa, the building and stock were lost to a fire in 1902. "[James] rebuilt the business to the delight of his many customers," says Doug White. "Management, structure and ownership shifted at times over the following decades, but always remained in the White family."

In 1981, Doug added a hardwood business, Dough Hardwoods. His wife, Connie, and daughter, Chelsea White-Campbell, are a big part of the team.

"I hope my daughter runs it for a few years until her two sons are capable and at least one or both of them can come in on the family business," adds Doug.

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

60 Grit

Rough humor by Steve Spiro

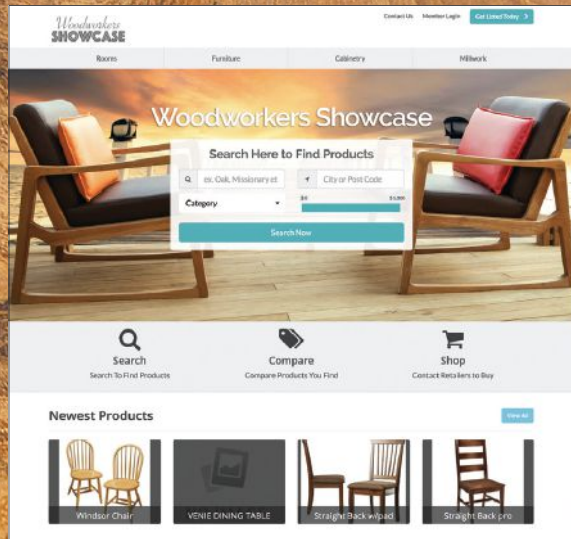


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