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NEWS®

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January 2017

Good times in the Badlands

South Dakota shop punches above its weight class

How to choose the right finish

Threat of EAB slows ash sales

Tool up for sign-making

NEW TOOLS

- **Biesse's Opera R**
- **Freud saw blades**
- **Hettich drawer system**
- **Nova 18" drill press**

\$3.95 (Canada, \$5.95)



TRACK SAW MASTER PACK

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

W1835 Track Saw

Includes: Accessory Pack

W1832 Track Saw Master Pack

55" Guide Rail

7" 2 HP PLANER MOULDER W/ STAND

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

PATENT OWNED BY
WOODSTOCK
INTERNATIONAL INC.



W1812 7" 2 HP Planer Moulder w/ Stand

D3393 Elliptical Jig for W1812



10" 2 HP OPEN-STAND HYBRID TABLE SAW

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

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



W1837 10" 2 HP Open-Stand Hybrid Table Saw

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

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



PATENT OWNED BY
WOODSTOCK
INTERNATIONAL INC.

W1668

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



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

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



W1836 Bench-Top Wood Lathe



POCKET HOLE MACHINE

- Motor: 1/2 HP, 120V, single-phase, 3A, 17,500 RPM
- Two flip stops for drilling consistency
- Auto start/stop motor actuation w/ pull of handle
- Auto adjust clamping foot mechanism for workpiece thicknesses between 1/2" to 1 1/2"
- Cuts both dia. holes for pocket screws at the same time
- Ideal for face framing



Fast & super easy pocket holes!

PATENTED!

W1833 Pocket Hole Machine



6" PARALLELOGRAM JOINTER W/ SPIRAL CUTTERHEAD

- Motor: 1 1/2 HP, 110V/ 220V, pre-wired 110V, single-phase, TEFC, 3450 RPM, 15A/7.5A
- Precision-ground cast-iron table size: 55 1/2" L x 6" W
- Floor to table height: 32 1/2"
- Max. cut (per pass): 6" W x 1/8" D
- Rabbeting capacity: 1/2" Spiral cutterhead dia.: 3"
- Cutterhead speed: 4,850 RPM
- CPM (effective): 19,400
- Fence system: positive stops @ ±45° & 90°
- Approx. shipping weight: 429 lbs.

Built-in mobile base!

W1755S

6" Parallelogram Jointer w/ Spiral Cutterhead



WALL DUST COLLECTOR

- Motor: 1 HP, 120V/240V, single-phase, prewired 110V, 7A/3.5A
- Air suction capacity: 537 CFM
- Static pressure: 7.2"
- Intake hole size: 4"
- Impeller: 10" balanced cast-aluminum
- Bag size (dia. x depth): 13 1/2" x 24"
- Bag filtration: 2.5 micron
- Dust level viewing window
- Height with bag inflated: 44"
- Approx. shipping weight: 55 lbs.



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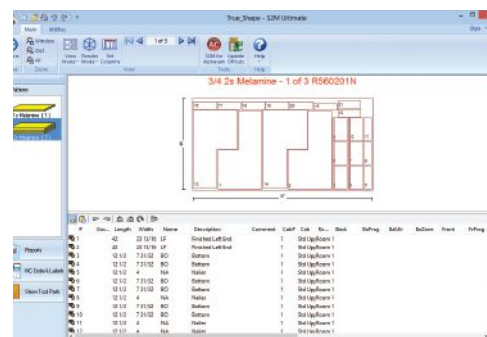
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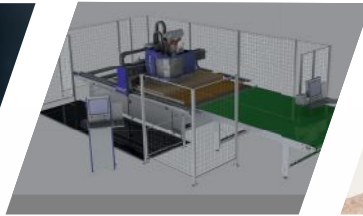


Drilling Head



Main spindle

Main spindle HSK F63
(24000 rpm)



**Offloading pusher
and conveyor**

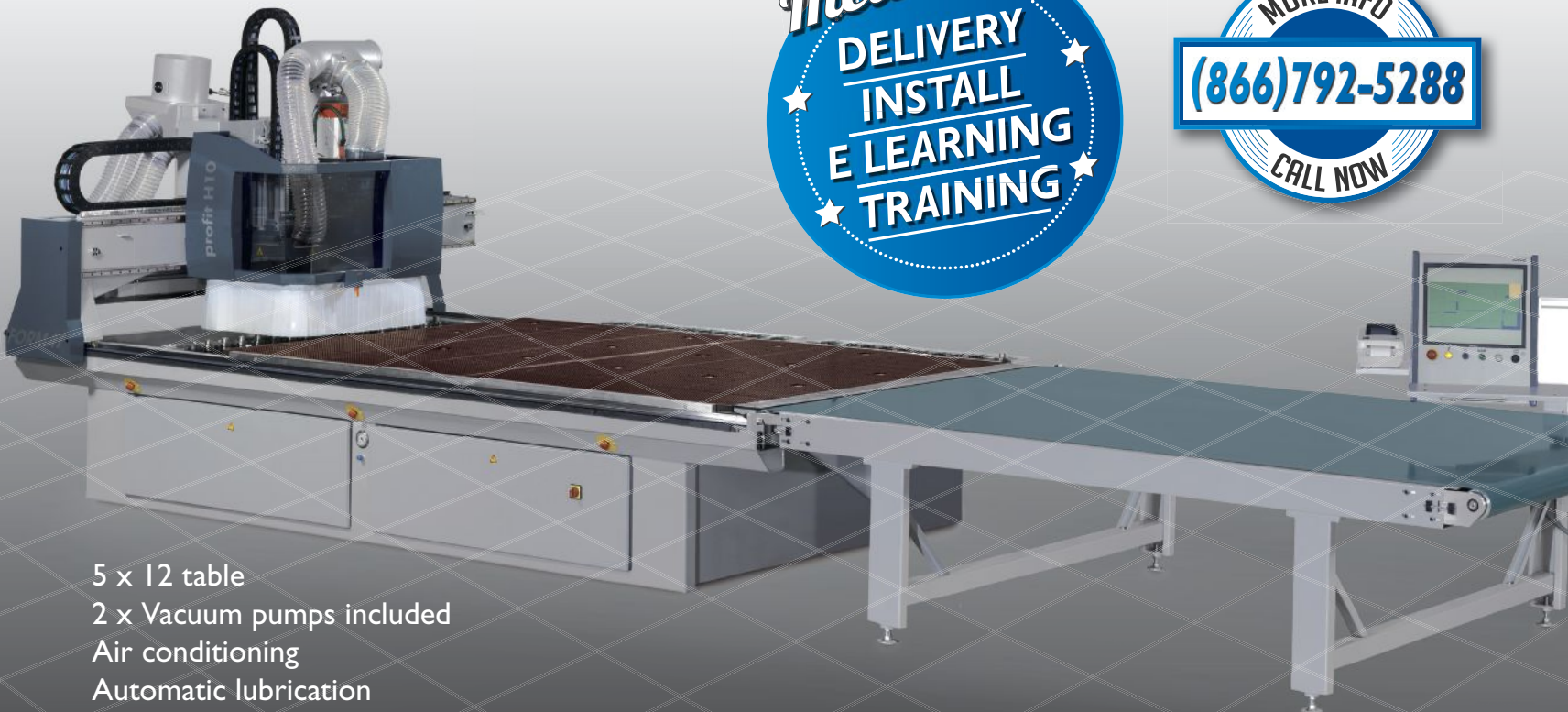


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FORMAT

Hammer



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BLOGS



Over the Workbench

Talkin' shop with former editor A.J. Hamler



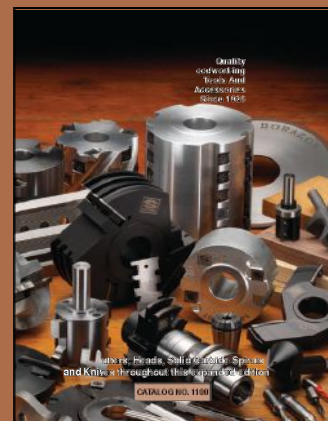
This Business about Woodworking

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

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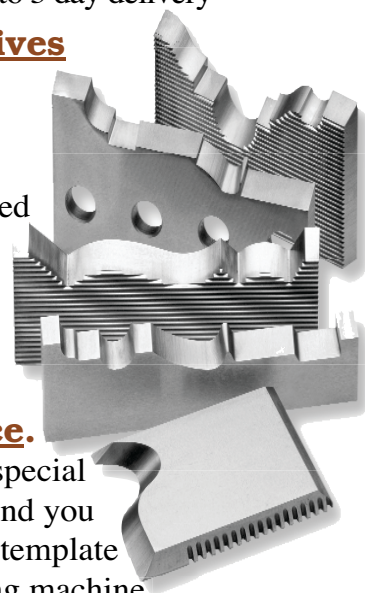
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Canada Post Return Address undeliverable to:
APC-PLI, PO, Box 503, RPO West Beaver Creek,
Richmond Hill, ON L4B 4R6.

Canada Post Publication Mail Agreement No 40624074.

E-MAIL: circulation@woodshopnews.com.

Please include name, address, and phone number on any inquiries.

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

Vol. XXXI, No.2, is published monthly by Cruz Bay Publishing, Inc., an Active Interest Media company. The known office of publication is: 10 Bokum Road, Essex, CT 06426. \$21.95 for one year; \$35.95 for two years (Canadian subscribers add \$12 per year for postage; U.S. funds, foreign subscribers add \$14 per year for postage; U.S. funds). Periodicals postage paid at Essex, CT, and additional mailing offices. **Postmaster:** Send address changes to WOODSHOP NEWS, PO Box 433212, Palm Coast, FL 32143-3212. Printed in the U.S.A.



TAKING STOCK

with TOD RIGGIO

Cub Scouts, tools and my shop — what could go wrong?

When I volunteered — or got drafted, depending on how it's remembered — to lead my son's Cub Scout den, I didn't give much thought to future woodworking dilemmas. Then I experienced my first Pinewood Derby, which I wrote about last winter, and began to realize how woodworking and scouting can be intertwined.

Now that we've graduated to Wolf Scouts, the second year of Cub Scouts after Tiger Scouts, I'm grappling with a woodworking project. The thought of teaching seven eight-year-olds how to make a birdhouse is beyond terrifying. And allowing them into my shop just seems absurd.

But before I check with my insurance agent and have parents sign waivers, I've got to understand what I'm getting into.

The actual project is a bookend and, as near as I can tell from the manual, it's two pieces of wood nailed together at a right angle. The book says to visit a local hardware or lumberyard and ask to use their facilities. An enticing option, though on my countless visits to these establishments I can't recall them having suitable facilities. One is near an urgent care center, but I don't want to approach this with a negative attitude.

As proposed, this project only requires a handsaw, hammer, sandpaper and paintbrush. But when I look at my beautiful son, swinging a hockey stick like a sword, I question his capabilities even with these rudimentary tools. I've been keeping implements of destruction out of his hands for the last seven

years and it seems downright crazy to suddenly reverse course.

Last year, while making our first Pinewood Derby car, I basically pushed him to the sideline. We started off working together and then I completely took over. This year will be different, I repeat to myself, because he's older and, according to his mom, wants to spend time with me in the shop. I think that excites me, but patience isn't always my strong suit.

Invite all seven Cub Scouts into my haven? I'm familiar with how they act as a group. They transform from little angels into wild animals in the blink of an eye. My shop and what's left of my sanity might never be the same.

My other internal struggle is with the project itself. The bookend is just so basic. I've already considered stronger joinery and embellishing the project with a personal touch. I want to give their clients — mom and dad — a worthy keepsake. Exceed their expectations. This thinking obviously misses the point of the project, which is to give the kids an introduction to woodworking, but welcome to my world.

The truth is, I'm not ready for this experience. I can't imagine it going well. Eight seems like the right age to get in the shop, but I'm not sold. During the Christmas break, I'm going to start with my son. If that goes well, maybe I'll have the confidence to work with the entire den.

But first I'll have to place anything sharp or dangerous well out of their reach and hope I never turn my back on the pack. What have I gotten myself into? **W**

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



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- Max. depth of cut: 1/8"
- Max. rabbeting capacity: 1/2"
- Table size: 8" x 76 1/2"
- Infeed table size: 8" x 43 3/8"
- Cutterhead dia.: 3 3/16" (G0490), 3 3/8" (G0490X)
- Cutterhead speed: 4800 RPM
- Cutterhead knives: 4 HSS, 8" x 3/4" x 1/8" (G0490)
- 40 inserts (G0490X)
- Approx. shipping weight: 562 lbs.

4-KNIFE CUTTERHEAD

G0490 ONLY \$995⁰⁰

SPIRAL CUTTERHEAD

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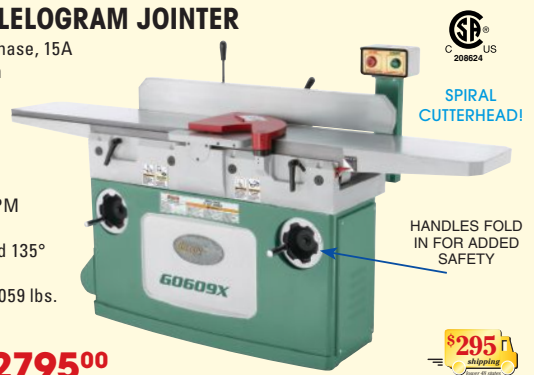
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12" X 83 1/2" PARALLELOGRAM JOINTER

- Motor: 3 HP, 230V, single-phase, 15A
- Precision-ground cast-iron table size: 12 3/4" x 83 1/2"
- Floor-to-table height: 31 5/8"
- Max. depth of cut: 1/8"
- Rabbeting capacity: 3/4"
- Cutterhead dia.: 3 3/4"
- Cutterhead speed: 4300 RPM
- 19,800 CPM
- Fence stops @ 45°, 90°, and 135°
- Footprint: 84" x 33"
- Approx. shipping weight: 1059 lbs.

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ULTIMATE 12" JOINTERS

EXTREME
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- Motor: 3 HP, 220V, single-phase, TEFC, 16A
- Cutterhead knives: 4 HSS, 12" x 1 1/16" x 1/8" (G9860); 84 inserts (G9860ZX)
- Cutterhead dia.: 4"
- Cutterhead speed: 5900 RPM
- Max. depth of cut: 5/16"
- Max. width of cut: 11 13/16"
- Precision-ground cast-iron table size: 12 1/2" x 80"
- 23,600 CPM (G9860); 35,400 CPM (G9860ZX)
- Approx. shipping weight: 1265 lbs.

4-KNIFE CUTTERHEAD

G9860 \$3950⁰⁰ SALE \$3825⁰⁰

SPIRAL CUTTERHEAD

G9860ZX \$5195⁰⁰ SALE \$4995⁰⁰



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THE ULTIMATE 16" JOINTERS

EXTREME
SERIES

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

3-PHASE, SPIRAL CUTTERHEAD

G9953ZXF ONLY \$6595⁰⁰

SINGLE-PHASE, SPIRAL CUTTERHEAD

G9953ZX ONLY \$6795⁰⁰



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3 HP SHAPER

- Motor: 3 HP, 240V, single-phase, w/ reversing switch, 12A
- Precision-ground cast-iron table w/ wing measures: 30 1/2" x 28 1/4"
- Floor-to-table height: 34"
- Spindle travel: 3"
- Spindle size: 1/2", 3/4", 1"
- Table spindle openings: 1 1/2", 3", 4", 7"
- Max. cutter height: 2 1/2"
- Spindle speeds: 7,000 and 10,000 RPM
- Overall size: 30 1/2" L x 28 1/4" W x 39 1/2" H
- Footprint: 20" L x 21" W
- Approx. shipping weight: 392 lbs.



\$109
shipping

G1026 ONLY \$1195⁰⁰

3 HP CYCLONE DUST COLLECTOR

- Motor: 3 HP, 220V, single-phase, TEFC Class "F", 22A
- Impeller size: 15 1/2" steel
- Airflow capacity: 1654 CFM @ 2" SP
- Max. static pressure (inches of water): 14.2"
- Filter: 99.9% efficiency captures 0.2-2.0 micron dust particles
- Filter surface area: 113 sq. ft.
- Collection drum: Steel, 55 gallons
- Sound rating: 83-85 dB
- Overall size: 60 1/4" W x 38 1/2" D x 109" H
- Approx. shipping weight: 400 lbs.



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G0441 ONLY \$1575⁰⁰

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- Precision-ground cast-iron table size: 28" x 35 1/2"
- Table counterbore: 7" x 5/8" D • Footprint: 26" L x 27" W
- Spindle travel: 3 3/4" • Spindle tilt: 45°
- Spindle sizes: 3/4", 1", and 1 1/4"
- Spindle speeds: 3600, 5100, 8000, and 10,000 RPM
- Spindle capacity under nut: 5 5/8" (1 1/4" spindle)
- Max. cutter dia.: 5 5/8"
- Overall size: 39" L x 35 1/2" W x 43" H
- Approx. shipping weight: 710 lbs.

5 HP, SINGLE-PHASE

G5913Z ONLY \$3250⁰⁰

7 1/2 HP, 3-PHASE

G7215Z ONLY \$3375⁰⁰



tilting
SPINDLE!

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5 HP CYCLONE DUST COLLECTORS W/ HEPA FILTERS

- Motor: 5 HP, 220V, single-phase, TEFC Class "F", 3450 RPM, 60 Hz, 22.4A (G0442HEP); 5 HP, 220V/440V*, 3-phase, TEFC Class "F", 3450 RPM, 60 Hz, 13.7A/6.9A (G0601HEP)
- Intake hole size: 10" w/ 8" adapter
- Suction capacity: 2184 CFM @ 1.9" SP
- Max. static pressure: 14"
- Sound rating: 83-86 dB
- Overall size: 63" W x 56 5/8" D x 111 1/2" H
- Approx. shipping weight: 632 lbs.

SINGLE-PHASE

G0442HEP ONLY \$3725⁰⁰

3-PHASE

G0601HEP ONLY \$3725⁰⁰



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ITC confirms ruling in Reaxx table saw suit

The U.S. International Trade Commission confirmed findings by an administrative law judge in SawStop's patent infringement lawsuit against Robert Bosch GmbH and its subsidiary, Robert Bosch Tool Corp., for the Bosch Reaxx Jobsite Table Saw.

In September, administrative law judge Thomas B. Pender issued a preliminary ruling that the Reaxx infringes on SawStop's safety technology patents. SawStop is seeking an injunction from the ITC that would stop Bosch from importing its saw from Germany, where it is manufactured.

The ITC will now consider Pender's recommended next steps including "a cease-and-desist order issue against Robert Bosch Tool Corp.," regarding importation of the infringing Reaxx saw and activation cartridges into the United States.

"We are very pleased that the commission confirmed Judge Pender's findings that Bosch infringes our patents," SawStop president Stephen Gass said in a statement. "We regret that Bosch chose to introduce the Reaxx saw in disregard of our patents, leaving us with no alternative but to defend our rights in court. We have invested millions of dollars in research and development to protect woodworkers from serious injury and we remain grateful for the U.S. patent system for protecting and encouraging our safety innovations." **W**



New home sales down 1.9 percent in October

Sales of newly built, single-family homes fell 1.9 percent in October from a downwardly revised September reading to a seasonally adjusted annual rate of 563,000 units, according to newly released data by the U.S. Department of Housing and Urban Development and the U.S. Census Bureau.

"Though slightly down from last month, new home sales have been on an upward trend since last year," Ed Brady, chairman of the National Association of Home

Builders, said in a statement.

"Builders are adding to inventory based on consistent gains in sales, solid builder confidence and ongoing job and economic growth," added NAHB chief economist Robert Dietz.

The inventory of new home sales for sale was 246,000 in October, which is a 5.2-month supply at the current sales pace. The median sales price of new houses sold was \$304,500.

Regionally, new home sales fell 9.1 percent in the Northeast, 13.7 percent in the Midwest and 3 percent in the South. Sales increased 8.8 percent in the West.

Lumber coalition seeks U.S.-Canadian fair trade rules

By Jennifer Hicks

With the expiration of the U.S.-Canada Softwood Lumber Trade Agreement, a coalition of U.S. lumber producers are seeking remedies from the government that will impose duties and prevent further injury to the domestic market.

An ad hoc group of the U.S. Lumber Coalition — the Committee Overseeing Action for Lumber International Trade Investigations or Negotiations — petitioned the U.S. Department of Commerce and the U.S. International Trade Commission in November to restore the conditions of fair trade in softwood lumber between the United States and Canada.

The petition alleges that Canadian provincial governments, which own the vast bulk of Canada's timberlands, provide standing trees to Canadian producers for an administered fee that is far below the market value of the timber, as well as a number of other subsidies. It also alleges that Canadian lumber is being sold for less than fair value in the United States.

As a result of these practices, the petition states, there has been injury suffered by U.S. industry and workers by reason of unfairly-traded Canadian softwood lumber imports, suggesting Canada's gain in market share came at the direct expense of U.S. producers once the softwood lumber agreement expired.

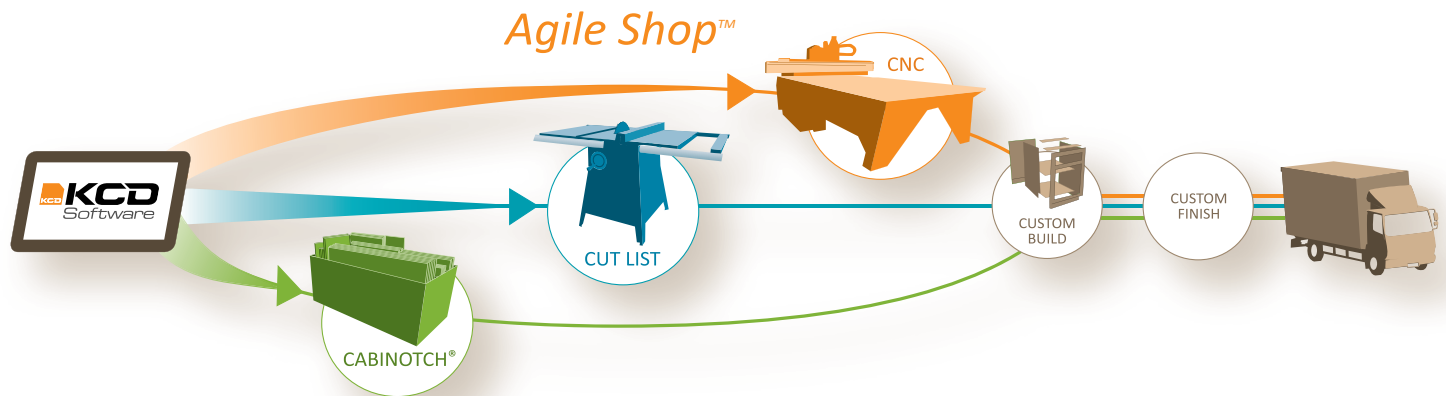
The petition also says that, following the expiration of the agreement, Canadian imports surged from 29.5 percent (third-quarter 2015) of U.S. total consumption to 33.1 percent (fourth-quarter 2015) and 34.1 percent through the first eight months of 2016.

The domestic industry experienced a decline in several key trade and financial indicators as a result of the low-priced Canadian imports, including lost sales and revenues that resulted in U.S. mill closures and job losses, according to the petition.

For more, visit www.uslumbercoalition.org. **W**

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Stiles Machinery backs group's reforestation efforts

By Jennifer Hicks

Stiles Machinery announced a newly formed partnership with an organization focused on restoring the health of the planet through reforestation and the archiving of the genetics of ancient trees.

Archangels Ancient Tree Archive, based in Copemish, Mich., is a federally recognized non-profit organization that locates and refreshes the world's largest and most iconic trees. It has created living libraries of old-growth tree genetics for the purpose of future research and functional reforestation.

"We're locating and propagating the largest, oldest things on earth — the trees. We want and need to replace the natural filter systems of our water and air to fight global warming caused by climate change and protect our freshwater ecosystem to restore the health of our planet," says David Milarch, co-founder of Archangels Ancient Tree Archive.

"Only together can we mount an effort to preserve a liable future for our children and our grandchildren."

Stiles is supporting the non-profit financially as well as by helping to spread the group's message through its industry connections and resources.

"It's a natural fit given our relationship with the woodworking community. It comes full circle for us — we want to help replenish the resources of our industry for the healthiness of it future and for our planet," Stiles marketing manager Chris Dolbow says.

"We were moved and inspired by the passion and the work that the Milarch family is doing to propagate and reforest our world. From the moment we were first introduced, we became immediately inspired and wanted to get involved to do our part."

Stiles is currently introducing a number of programs for employees and their families to get further involved with the organization, as



well as the regional communities surrounding the company's five U.S. locations. Stiles will also be sponsoring an expedition with

Archangels to clone old-growth trees from the Southeast region of the country.

For more, visit www.ancienttreearchive.org. 

'Generation Next' seeks funds to support trade workers

By Jennifer Hicks

This Old House Ventures of Stamford, Conn., recently started a charitable campaign called Generation Next with the goal of encouraging and empowering young people to join skilled trades.

Generation Next will raise money from companies and trade associations serving the

home construction and renovation industry to support scholarships for students pursuing careers as carpenters, electricians, roofers, masons and plumbers.

Donations will go to the Mike Rowe Works Foundation to support its 2017 Work Ethic Scholarship Program. Rowe, television host of "Dirty Jobs" and his current series, "Somebody's Gotta Do It," started the foundation in

2008 to reinvigorate the skilled trades.

This Old House Ventures includes This Old House magazine and television series. Eric Thorkilsen and TZP Growth Partners bought the company from Time Inc. in 2016.

This Old House Ventures says it will promote Generation Next across all of its platforms.

For more, visit www.thisoldhouse.com and mikerowerworks.org. 

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Threat of invasives slows sale of white ash

By Jennifer Hicks

Sales of American white ash (*Fraxinus Americana*) have been up and down lately, according to hardwood and veneer distributors interviewed by Woodshop News.

Some buyers are hesitant, concerned about the affects of the emerald ash borer and the wood's future availability. Others are craving ash for its light color and the visual appeal of its open grain.

Traditionally, ash sales run hot and cold, according to Jim Reader of Downes & Reader Hardwood, a retailer and wholesaler based in Stoughton, Mass.

"There could be a casino job going on that calls for all ash and suddenly it goes crazy, and then it will be dead for a while. It could just be they want an oak look with a lighter color to it. Some jobs are quartersawn and some jobs aren't. We do some wide flooring panels and some people want a mountain of that. It's physically similar to red oak and won't tear out like maple will. Overall, it's a decent species."

The emerald ash borer has caused devastating losses throughout the U.S., particularly in the East. In effort to combat the spread, European countries have limited U.S. ash imports to boards with perfectly square edges to eliminate wane, preventing shipment of the cambium layer where the emerald ash borer larvae feeds. This has lead to an increased domestic supply, according to Reader.

"What we're seeing is a little backup because Europe isn't taking anything unless it's a perfectly square edge. So all that volume that was going to Europe is no longer going there be-

cause sawmills here can't spend the labor on trying to pull perfect boards for them. They're just not set up to do it that way," Reader says.

But an abundant supply can create a lull in sales. "Everyone was buying ash up earlier, but now there's a fair amount around so they're thinking there will be plenty of it for a while. But the reality is, you go 10 years out from now and it's not going to be around in a marketable stand," Reader adds.

Consumers are also hesitant to deal with the species simply to avoid any potential hassle of local and statewide quarantines and other regulations being imposed to prevent the spread of the emerald ash borer, says Greg Engle of Certainly Wood, a veneer supplier in East Aurora, N.Y.

"It's been steady, but average, at best. I think people are very skittish about it, especially specifying it in projects because of the [emerald ash borer]. They're not sure if they're going to be able to get a good supply of it," Engle says.

Doug Grove of Groff and Groff Lumber in Quarryville, Pa., says ash sales have picked up because of the wood's appearance and its working properties.

"Lighter things are coming on a little bit now and more customers are looking to go that route. The ash, I think some of it's going into furniture. There's a customer in West Virginia that's been promoting ash for a lighter wood in his furniture. It sort of has an oak-like grain with a lighter color than oak. It seems to work well and the guys like working with it. You can stain it any color. And it's a little cheaper than oak," Grove says.

FAS 4/4 ash wholesales for about \$2.20/bf and retails for about \$4.80/bf, according to dealer quotes. **W**

AXYZ opens showroom in Somerset, New Jersey

AXYZ International, a CNC router manufacturer, has opened a new showroom in Somerset, N.J.

The expansion of AXYZ into the north-eastern United States provides AXYZ with more opportunities to serve and support new and existing customers.

"Having a presence in this region with a local office lets us service our customers quickly with any sales, support or technical questions or issues," Brian Bulger, territory sales manager at AXYZ, said in a statement.

The New Jersey office houses the newest AXYZ machines and technologies including the Trident, Pacer, PanelBuilder and AXYZ series CNC routers.

This is AXYZ International's fifth office in the United States, with the other showrooms located in Atlanta, Cincinnati, Los Angeles and Tampa.

For more, visit www.axyz.com.

U.S. plywood manufacturers cry foul

The Coalition for Fair Trade of Hardwood Plywood has filed a petition with the U.S. Department of Commerce and the U.S. International Trade Commission asserting that imports of hardwood plywood products from China are being sold in to the United States at "dumped prices" below cost to gain an unfair competitive advantage.

The coalition is an association of U.S. hardwood plywood manufacturers.

The petition asserts that in violation of international trade rules, Chinese producers of hardwood plywood receive illegal government subsidies, such as tax breaks and discounted land and raw materials.

"We cannot allow critical U.S. manufacturing industries – and the communities they support – to be damaged because of China's illegal trade practices," Kip Howlett, president of the Hardwood Plywood & Veneer Association, said in a statement. "Now is the time for the U.S. government to take decisive action and stand up for thousands of American workers who are employed in the hardwood plywood industry."

For more, visit www.hardwoodplywood-fairtrade.org.



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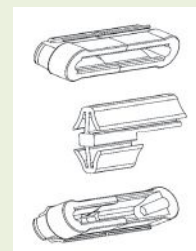
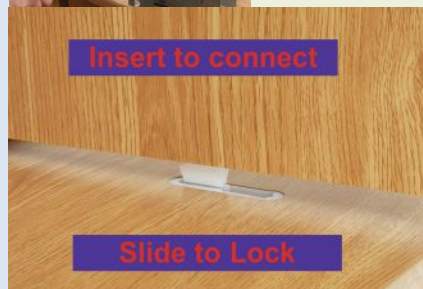


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TOOLS & TECHNIQUES

Opera R takes the hands-off approach for sanding

By Jennifer Hicks

Biesse Machinery offers the Viet brand Opera R, an automated sanding machine for MDF doors with flat center panels that can also remove cross-grain scratching from solid wood doors.

The Opera R incorporates 3-D optical scanning and robotics with a standard orbital sander. It won a Challengers' Award at IWF 2016 in Atlanta.

"The Opera R is the only automated solution in the market today that's able to sand internal panels of kitchen cabinet doors with square corners," product manager Mike Johnson says.

"Shaker-style doors with a flat square panel are one of the hottest kitchen fads right now. A majority of them are being produced out of MDF and then painted. So you need to be able to sand the routed panel before you Thermofoil or primer paint. Before the Opera R, the only way you were able to do that was by hand."

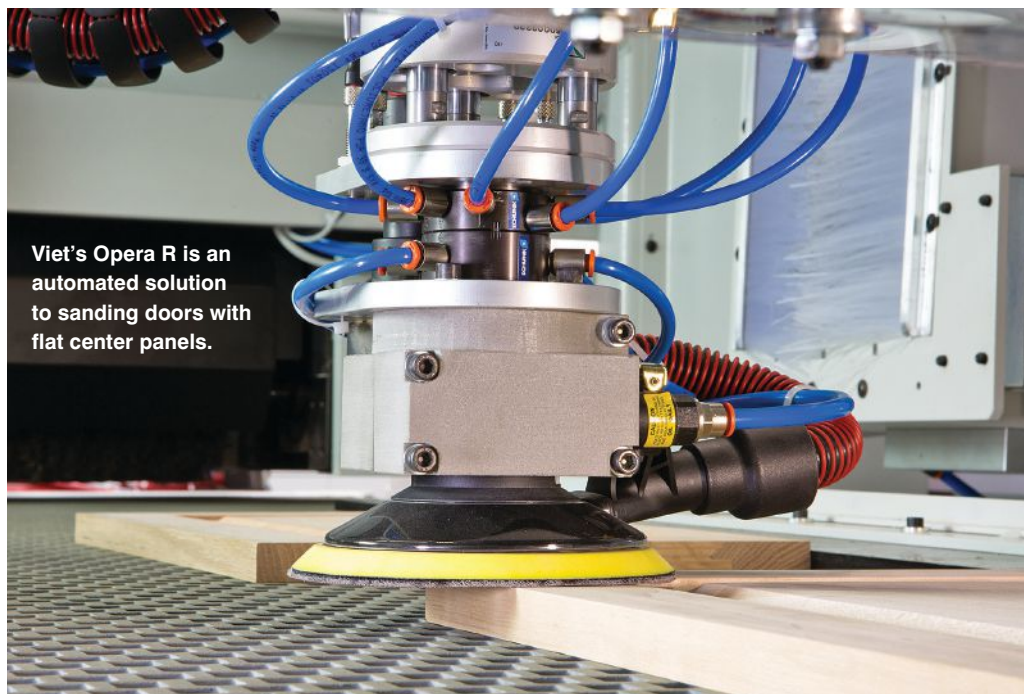
Another feature is the patented system that can maintain pressure on stiles and rails, regardless of thickness.

The machine self-regulates its abrasive wear, always pulling dust collection through the abrasive. It tracks the amount of linear feet sanded by an abrasive disk, cleans the disk with a blast of compressed air and changes the disk automatically.

Johnson adds that dust is captured inside the machine for a cleaner work environment.

The Opera R has a base price of \$225,000. The price goes up when more robotic features are added.

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



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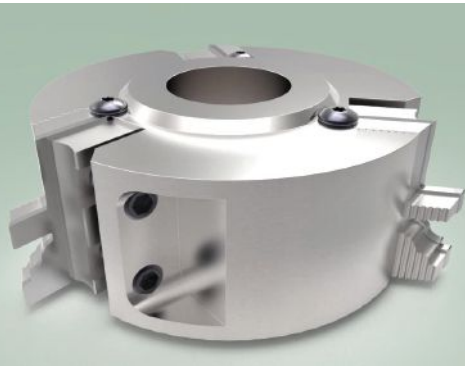


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Teknatool releases new Nova Voyager drill press

By Jennifer Hicks

After three years of product development, Teknatool is shipping its 18" Nova Voyager drill press with a Digital Variable Reluctance (DVR) motor.

"Nova is mainly known for woodturning and we've used the DVR motor on our lathes for the past 10 years. It is a 'smart' motor," product manager Craig Walls says. "All motors do on/off or fast/slow, but this allows us through programming to tailor a lot of the software into actual applications on the drill press like we do with our lathes."

For example, the drill press can be set to start when the user pulls down on the lever, and automatically stops when the quill is retracted. Drill depth can be set at increments of 0.05". The user can also select how deep to drill and what action the machine should take once reaching that depth, such as stop.

Another feature of the DVR motor is the pilot-hole function that governs the speed of the drill as it enters then ramps up to full speed.

"The problem with drill presses is they haven't really changed in 50 or more years, and the amount of buzz this is getting is because of that," Walls says. "Yes, features

have been added, but there haven't been any changes like this that takes woodworking into the next generation. Basically it gives woodworkers the flexibility and control to make working more enjoyable.

"For example, an external depth stop is available on some drill presses, but it's not very accurate. On ours, it's all done electronically and accuracy is within 1/100 of an inch."

The Nova drill press is also direct-drive, meaning there are no belts or pulleys. Also, the motor doesn't have any brushes, permanent magnets or electrical connections to moving parts; and no current flow in the rotor, meaning less wear and longer life than an AC or DC motor, according to Walls.

The 1-3/4-hp motor has a variable speed range of 50 to 5,500 rpm. The optimal speed for bit type (Fostner, twist, etc.) and material (softwood/hardwood) is preprogrammed and automatically set after user input through the picture menu control.

Finally, there are a number of safety features to stop the drill press, plus password protection to prevent unauthorized use.

The Nova Voyager 18" DVR drill press sells for \$1,499.

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

Freud rolls out new panel-saw blade series

By Jennifer Hicks

Freud added a large-diameter LSBX series of panel saw blades, including 16 sizes that range from 460- to 680mm in diameter.

The blades are manufactured with Freud's proprietary TiCo Hi-Density carbide and Silver ICE (Industrial Cooling Element) coating that leaves a slick surface on the blade body to reduce heat and drag, according to the company.

"The big breakthrough here was the accuracy in the plate for us," product manager Greg Neer says. "We also made a slight change to the anti-vibration feature, which helps us make sure the blade runs a little truer from a placement standpoint. We are able to dial in the tension a little more accurately than the LSB series. There are some very specific proprietary things in the blade itself that we want to keep from competitors but really enhance the performance of the blade."

"These blades save manufacturing facilities a significant amount of money if they buy

several hundred sets of blades a year. They can also increase efficiency by reducing the amount of rework since there is no chipping and no scrap. And anytime somebody has to shut down a saw — the life and blood of the shop — not only are they not being productive, but there are lots of safety issues that go with blade changes."

The LSBX blades sell for about \$200 to \$450 each. For more, visit www.freudtools.com. **W**



NWFA accepting scholarship applications

The National Wood Flooring Association is accepting applications for the 2017 NWFA Education & Research Foundation Wood Studies Scholarship.

This nonrenewable scholarship in the amount of \$1,000 is awarded to a current high school senior who will study forestry in an effort to advance and improve forestry practices for generations to come.

The application deadline is Feb. 1, 2017.

Metamob relocates to new headquarters

European band saw producer Metamob has relocated into a new 50,000-sq.-ft. in Romania.

Earlier this year Metamob formally announced an exclusive distribution agreement with Union Grove Saw & Knife in Union Grove, N.C. Under the terms of this agreement, Union Grove is handling all sales and service of band saw blades produced by Metamob in the U.S.

For more, visit www.sawandknife.com.

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Hettich America debuts drawer system

By Jennifer Hicks

Hettich America introduces the InnoTech Atira drawer system, offering modern aesthetics to give kitchens a burst of character. The drawers feature straight lines and clean contours, are offered in a variety of colors and are full of versatile interior organization solutions, according to the company.

"Atira was added to the product line to provide end users with more versatility, allowing for even pre-manufactured component parts of custom cabinets to perfectly suit individual tastes and requirements. This allows for homeowners to enjoy both striking design combined with the company's reliable hinge and drawer technology," Hettich marketing manager Felicitas Wolter says.

"The linear design of InnoTech Atira fits into every home and offers a variety of differentiation options for drawers and extensions. Various side elements such as railing options, different color choices, and rear panel widths and guides offer individual planning solutions that can be realized flexibly and simply."

Wolter says a simple upgrade from railing to Hettich's Top-Side or DesignSide is also possible and that that drilling positions and front panel are not affected by this.

From a functional standpoint, options include a partial extension runner without a soft close feature to a full-extension runner with Hettich's



Silent System or push-to-open features.

Hettich's Quadro runners are also compatible, while interior storage and organization accessories can be coordinated to match exterior style elements.

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



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Spindle problems can spin out of control

These expensive elements in the digital fabrication process can cost a lot in downtime if you don't plan proper maintenance and repairs

By John English

Spindles are a bit like the people who run them. Ignore minor aches and pains and small problems can turn into systemic failure. Disregard routine maintenance and the machine will soon need surgery.

One of the biggest problems with CNC technology is that it invites such complacency. After decades in the woodshop, these routers have become so reliable and predictable that we tend to forget just how much work they are doing. We also sometimes forget that a spindle rebuild can cost about the same as hiring a man for a whole month.

So, if you haven't done so lately, this might be a good time to pull out the owner's manual and have a look at some suggested and required maintenance schedules. Does the manufacturer suggest steps such as warm-ups at the start of the day or using a vacuum instead

of compressed air to clear dust? Are your people doing these things diligently? Routinely skipping minor maintenance can add up to big problems over time. As Ben Franklin used to delight in telling folks: "Beware of little expenses. A small leak will sink a great ship."

The point here is that a few minutes of warm-up can get the lube flowing properly around bearings before they are asked to go to work. Or checking runout every so often can pinpoint a failure before it happens. Some signs that your team might be dropping the ball here include a change in the way the spindle sounds, increased heat when you physically touch the housing, any kind of vibration or an error code. It doesn't seem to matter much what type of bearing it is: those signs of trouble are fairly universal.

As with most metal, the main enemy is too much heat. Even in air-cooled aluminum spindles, if fans can properly dissipate the heat then

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the spindle will enjoy significantly longer life. Let heat build up because of undue friction and there will be repair bills. Can you improve the air flow? Or pre-chill the fluid in a liquid system? Ask your factory salesperson if these are options. As Mr. Franklin used to say: "an ounce of prevention is worth a pound of cure." Chilling the fluid can extend the life of bearings by several times and even deliver more power to the cutter. But chillers, like spindles, also need routine maintenance such as checking filters and fluid levels and occasional flushing. And if they're equipped with an alarm system that monitors heat buildup or fluid levels, a woodshop needs to make sure its operators know how to respond.

Involving operators in routine maintenance is absolutely essential, even if the shop has a designated repairman to perform these tasks. The woodworker who is actually running the machine will be the first to notice something amiss, as long as he/she is trained to do so. Here's another quote from Ben that seems especially apt here: "Tell me and I forget. Teach me and I remember. Involve me and I learn."

Preventative maintenance

Long-interval routine maintenance, as opposed to daily or weekly tasks, can be a bit of

a challenge to implement or even plan. There is such a vast array of choices when it comes to spindles that it's difficult to reduce them all to simple rules of thumb. For example, some shop owners used to think they should routinely replace or rebuild spindles at set increments (perhaps every couple of thousand hours). But most shops nowadays will just run until there's a problem and then seek repair or replacement.

By the way, if you are replacing an original spindle with a reconditioned one, pay special attention to the warranty. It will probably not be as strong as the original equipment one and might require routine maintenance to be valid.

Depending on the production schedule and budget, woodshops with more than one milling center that share the same spindle model will often keep a spare on hand, so there's no downtime if one fails. Others are willing to pay a stiff premium to have a repair done in a couple of days, rather than waiting for weeks. If the horsepower is low enough, it can sometimes be less expensive to replace than rebuild. And on some models, upgrading the horsepower (or the configuration — is it time for an aggregate?) might be a viable option. An underpowered spindle will

fail sooner than an overpowered one. Plus, matching RPM to the tooling diameter, the path speed and the material density is something one might want to talk over with the router and/or the spindle manufacturer's rep before overwork takes its toll. There are so many variables here that it takes both specifications and experience to get the formula right and avoid excessive or traumatic wear. Sometimes, for example, the material might even require slower RPM.

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Discovering why a spindle is either misbehaving or has already suffered a substantial failure is usually the province of professionals. For that, most shops need to ship it out to get the right answers. But sometimes, a little research ahead of time can pay dividends in avoiding failures or dealing with them once they occur. High Speed Technologies (HST, online at highspeedtechnologies.com) has a really interesting page on its website called "Why did my spindle fail?" Based on more than a hundred thousand repairs, the article goes into detail on the most common causes of failure including contamination, mishandling, incorrect preloading, overloading, lubing, imbalance, drawbar mechanism and statistical bearing failures.

When something fails

If you're lucky, you might be able to replace an off-the-shelf, inexpensive top bearing in-house, which might shut down production for a few hours or even be fixed overnight and not interrupt a kitchen's delivery schedule. Many shops keep one or two spare bearings on hand for just such an emergency.

But odds are that your spindle repair won't be a DIY project. If something is out of true or

building heat, then it's usually time to talk to an expert. In most cases, that will be the company that supplied the spindle, its authorized repair facility or the supplier that originally sold you the CNC center.

If those aren't options, then a woodshop will need to source an aftermarket repair facility. To get an idea of the process involved in doing that, Woodshop News recently spoke with Bob Barone of PDS Spindles (online at pdsspindles.com), which operates repair facilities in the U.S., Germany and Brazil. Barone is headquartered at the company's offices in Bessemer City, N.C., and his team processes repair orders from across the country. They work on all brands, both belt-driven and electric.

Once a woodshop ships a spindle to PDS, the repair sequence generally begins with an initial free inspection that's designed to discover why the spindle failed. This is critical, as it could reflect the way other spindles in the woodshop will behave and also how this particular spindle might avoid or at least delay future repairs. What the technicians find is then included in a written quote, which is discussed with the customer who must give approval before work begins. If the woodshop decides not to proceed, the

company will simply ship back the spindle at the customer's expense. In most cases, PDS will be able to offer a standard three-to-five business day (plus shipping) repair service that comes with a written warranty on both rebuilds and upgrades. PDS also offers an emergency spindle repair service for shops that need to finish a job and get it out the door in a hurry. In that case, the woodshop needs to call ahead to discuss schedules and special fees apply because people and parts will need to be reserved.

Whether you're working on spindles in-house or shipping them out for repair, routine maintenance and team training are the keys to reducing ongoing costs. Spindles are expensive elements in the manufacturing process and a failed unit can cost a lot more in downtime than the price of repairing it. So it's absolutely essential to train people in more than just operational procedures: they must also be involved in maintenance and hopefully be able to recognize when something is going wrong before it actually does.

As old Ben liked to say: "An investment in knowledge pays the best interest." He also admonished us that "By failing to prepare, you are preparing to fail." **W**

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PRO SHOP

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What will the Trump presidency mean for your bottom line?

Flatter taxes, fewer individual rates and a loss of some targeted tax credits are all on the drawing board

The election of Donald Trump as the 45th President of the United States brings the possibility — indeed the likelihood — of tax law changes. In his campaign, the Trump highlighted several goals of tax reform that included reducing the official corporate tax rate to 15 percent from its present 35 percent.

In addition, he would like to see the top individual tax rate at 33 percent, down from 39.6 percent. But what would this mean for a woodworking shop?

Repeal or replace

Trump's proposals include repealing and replacing the Affordable Care Act (Obamacare). This could mean the repeal of all taxes associated with the Affordable Care Act, including the following:

- 3.8 percent tax on net investment income
- Additional 0.9 percent Medicare tax on wages and self-employment income
- Penalty on individuals for failure to obtain health insurance

- Penalty on larger employers for failure to offer affordable health insurance
- "Cadillac" tax on overly-generous health plans

Woodworking professionals could also see the repeal of the premium assistance tax credit and the small-business health insurance credit.

Personal business

Of interest to the owners of many small woodworking businesses — and their heirs — the estate tax would be repealed under Trump's proposals. However, capital gains on property held until death and valued at more than \$10 million would be subject to tax with an exemption for small businesses and family farms. To prevent abuse, contributions of appreciated assets into a private charity established by the descendant or the descendant's relatives would be disallowed.

Corporate taxes

Both Trump and House Republicans would like to see the corporate tax rate cut from its current top rate of 35 percent (the highest worldwide) to 15 and 20 percent, respectively. Trump specifically proposed a reduction in the top corporate tax rate to 15 percent while extending the same 15-percent top rate to the income of pass-

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through entities and sole proprietorships.

The plan from House Republicans, on the other hand, is more moderate. The House GOP plan also includes "base broadeners" to counter the revenue lost from the rate drop. Trump's plan doesn't have those. As a result, under Trump's proposal, the corporate income tax raises less revenue than the House GOP's plan does.

Pass-through businesses

Most incorporated businesses, so-called "C" corporations, are taxed twice — once at the entity level and again when shareholders pay taxes on dividends and capital gains. In other words, pass-through businesses such as LLCs, partnerships and S corporations don't pay taxes at the entity level since their profits are passed to the owners and taxed at the individual income tax rate.

The current top corporate tax rate is 35 percent and the current top rate on business income from pass-through entities and sole proprietorships is the top ordinary personal income tax rate of 39.6 percent. One proposed alternative would give pass-throughs a reduced rate compared to wage income (with a 15 percent rate cap) and the House GOP proposal (a 25 percent rate cap). Both plans would have a

top personal ordinary tax rate of 33 percent.

Creating a special rate for pass-throughs could encourage gaming, according to the Tax Foundation, the Washington-based think tank, because business owners would have an incentive to recategorize their wage income as business income. Trump's proposals do include rules that would prevent pass-through owners from converting compensation income taxed at higher rates into profits taxed at the proposed 15 percent rate.

The most likely scenario appears to tax pass-through entities at 15 percent, but tax them again on distributions. Good news for woodworking businesses that retain a substantial share of their income in the business.

Eliminating expenditures

Most corporate tax expenditures, except for the research and development tax credit, could be eliminated in exchange for a lower corporate tax rate. That's right: in order to pay for lower business tax rates, Trump proposes the elimination of certain unspecified "corporate tax expenditures." He has, as mentioned, indicated the research-and-development credit would be spared.

Congressional Republicans have run into trouble with lobbyists whenever they get too

specific about what tax breaks they would eliminate in return for lower corporate rates. In all likelihood, this will continue to be a difficult hurdle.

First-year write-offs

Of interest to many woodworking businesses, Trump has proposed a doubling of the Section 179 small-business expensing election from \$500,000 to \$1 million. That would mean that up to \$1 million for equipment and other business property expenditures could be written off as an expense in the first year. Presumably, the ceiling for all capital expenditures after which the first-year expensing is lowered, dollar-for-dollar would also be raised.

In lieu of interest deduction: manufacturers would be allowed to deduct all new investments. As proposed, businesses engaged in manufacturing in the U.S. could elect to expense capital investments and lose the deduction for interest expense. An election once made could only be revoked within the first three years of election.

On Capital Hill

As the new Congress is seated, it's more than likely that the next president's proposals will

See Pro Shop, Page 27



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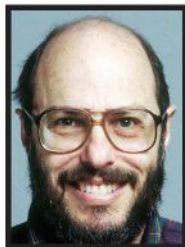
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With the finish in mind, starting is easier

Before you begin your next project, be sure to weigh the pros and cons of these five finish categories

Even before you begin a project or a production run, you should think about which finish you're going to use. It could influence what you're trying to achieve.

Considering only film-building finishes — those that dry hard so they can be built up — there are five broad finish categories to choose from:

- Varnish, which includes polyurethane varnish, spar varnish, wiping varnish (varnish thinned about half with mineral spirits) and gel varnish
- Shellac, which can be clear or amber and with its natural wax included or removed
- Lacquer, which includes nitrocellulose, colorless CAB-acrylic and slower drying brushing lacquer
- Water-based finish, which is any finish that thins and cleans up with water
- Two-part finishes, which include catalyzed lacquer, catalyzed (conversion) varnish, polyester, epoxy resin, UV-cured finish and two-part water-based finish.

For almost all situations, professional shops can eliminate varnish because it dries too slowly, slowing production and allowing dust too much time to settle and stick.

Shellac can also usually be eliminated. Exceptions would be refinished or reproduction furniture or woodwork where you want to use the finish that would have been used in the 19th- or early 20th century.

So now there are only three finishes to choose among: lacquer, water-based finish and two-part finish. You choose from here based on six criteria. Usually, one or two will totally outweigh the others, so the choice is rarely complicated.

- Appearance, meaning the degree of yellow/orange coloring the finish adds to the wood

- Protection and durability, which tend to rate similarly even though they refer to different qualities
- Ease of application
- Rubbing qualities, meaning how easily the finish can be rubbed to an even sheen
- Reversibility, meaning how easily the finish can be repaired or stripped
- Safety: for yourself, the end user and the environment

Appearance

All three of the finishes are available in a variety of sheens and can be applied very thin by thinning each coat or thick by applying three or more coats. So choosing for appearance means choosing for color.

For no added color (especially attractive on white woods such as maple, birch and ash) water-based finish is best. CAB-acrylic lacquer and catalyzed varnish are close. All the rest add some degree of yellow/orange coloring.

The differences in the amount of color a finish adds are less apparent when the wood is stained.

Protection and durability

Protection refers to water resistance — the degree to which a finish resists penetration of moisture. Durability refers to the strength of the finish film itself to resist being damaged from coarse objects (scratches), heat, solvents, acids and alkalis.

Protection has most to do, however, with the thickness of the film. Moisture has greater difficulty penetrating a thicker film than a thinner film. So four coats of nitrocellulose lacquer, for example, are more protective than a very thinly applied catalyzed varnish. But catalyzed varnish is much more protective than lacquer in equal thicknesses because catalyzed varnish crosslinks and lacquer doesn't.

The crosslinking of two-part finishes makes them much more durable than lacquer and single-part water-based finish.

Ease of application

The degree of difficulty applying a finish is a big consideration if you are a beginner or don't finish very often. The main obstacle, however, isn't the finish but the spray gun.

The actual act of spraying isn't that difficult to learn, but learning to adjust the gun and air supply to get good results and keeping the gun clean are. Lots of woodworkers buy a spray gun, use it a couple times, then put it aside because it's clogged and doesn't work well anymore.

This is especially the case with water-based finishes, which don't redissolve easily simply by spraying water or solvent through the gun. Usually, the gun has to be disassembled and scrubbed clean after each spraying session.

But once these obstacles are overcome, spraying is fast and produces almost perfectly level and dust-free results with fast-drying finishes.

Rubbing qualities

Sanding a finish level and rubbing it to an even sheen is the only way to produce a perfect finish (other than French polishing using shellac). If you think about this, you'll realize that good rubbing qualities are the opposite of the finish's scratch resistance because rubbing is scratching using abrasives.

So, by far, the best rubbing results can be achieved with nitrocellulose lacquer. Most other finishes are difficult to rub to an even sheen.

Reversibility

Reversibility refers to the ease with which a finish can be repaired or stripped. Easy reversibility is the opposite of good heat- and solvent resistance.

The reversibility of a finish is a big consideration for furniture manufacturers and refinishers working on elaborate Victorian and earlier-period furniture. Reversibility is rarely an important consideration for finishing cabinets.

Furniture factories, for example, are very concerned that the finish on the furniture they ship out can be repaired so the repair doesn't show. If this can't be done, the furniture might not be sold or might have to be returned to the factory for refinishing, which is expensive.

Nitrocellulose lacquer is the easiest finish to repair invisibly (though the actual process requires a good deal of skill). The repair is usually done by melting solid finish into the damaged area and leveling it. More finish can also be dissolved into the damaged area. If the finish is resistant to heat and solvents, disguising the repair can be difficult.

Refinishers should be (but often aren't) concerned with reversibility because they don't want some future refinisher to have to sand or scrape to remove the finish they apply. This will damage the wood and the patina (evidence of age) and reduce the appeal — and sometimes the value — of the furniture.

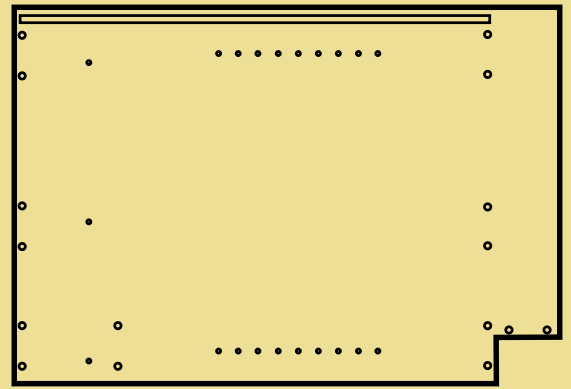
Safety

There are three categories of safety when referring to finishes: safety to you during application, safety to the person or persons using what you have finished, and safety for the environment.

All the finishes discussed can cause health problems during application. It's always wise to work with an air flow to remove solvent vapor and overspray. A well-functioning spray booth is best.

There's really no safety issue for the end user once the finish is fully dry or cured. Recently, there has been a lot of publicity about formaldehyde problems with imported Chinese flooring, but it's with the adhesive and laminate wood, not the finish, as I understand it. If you're concerned, check with your finish supplier.

Safety for the environment is the big issue and solvent finishes are being eliminated in parts of the country. I've written about this a number of times in this column. [W](#)



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THE CUTTING EDGE

with R.W. LEE

Next-gen joinery system can save time and boosts profits

NextWave Automation has paired a fence and router lift to create the Ready2Rout joinery system, which makes setting up a router table to cut blind and half-blind dovetails, box joints, dados and rabbets as easy as pressing a button.

Ready2Rout has four main components, starting with the router table fence and a color-screen control unit on a movable pendant that has built-in joinery settings. The control unit can also be programmed with up to 20 custom settings for frequent cuts using almost any type of router bit.

The router lift and a touch plate, used to precisely calibrate the zero settings for the fence and router bit, complete the system.

At first glance, Ready2Rout's fence and lift look quite similar to what's already in the market. But a carbon-fiber dust cover, protecting a worm-gear drive mechanism, gives a clue that there's much more to this setup. There's also a stepper motor on the back of the fence and two more attached to the lift, plus the control unit featuring a graphic user interface that any smartphone user will be familiar with.

The fence and lift, which goes by the name of Ready2Lift, are accessories designed to fit most commercial router tables. The Ready2Route fence has two attachment wings with enough slots to make change-out a breeze. The Ready2Lift is available with two 3/8"-

thick aluminum plates. One is "regular-sized," while the other is "Rockler-sized," designed to fit the retailer's router table offerings. The Ready2Lift will accept the Porter-Cable 7518 router out of the box. Adapters are available for the Porter-Cable 690 and 890, Bosch 1617 and 1618, and DeWalt 610.

I'm impressed with the operating manuals that come with both products. They feature color photographs that illustrate the step-by-step instructions, which appear to be written by an actual woodworker. The manuals are available online (nextwaveautomation.com) to get a thorough understanding of how the system works.

Once installed, the system is easy to set up. After setting the zero-height of the router bit relative to the router lift plate and the zero-location of the fence relative to the bit, the user simply enters the joinery selection, bit size, material size, depth of cut and cut location. The next step is to power up the router and monitor the cut.

For a small- to medium-sized shop, Ready2Rout offers the potential of a time saver and profit enhancer. It shortens setup time and can be operated by entry-level employees. In a large shop, it can be used for prototypes.

The Ready2Rout Complete Joinery System sells for about \$1,000. [W](#)

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be incorporated into a host of other changes. Where this will end up is hard to predict since, on the congressional drawing board are a number of tax proposals. Most likely, when Congress undertakes the 2018 budget this spring, the process will include:

- Creating a new business rate for small businesses that are organized as sole proprietorships or pass-through entities instead of taxing them at individual rates
- Reducing the corporate tax rate to 20 percent
- Providing for immediate expensing of the cost-of-business investments
- Allowing interest expense to be deducted only against interest income, with any net interest expense carried forward and allowed as a deduction against net interest income in future years with special rules that will apply for financial services companies
- Allowing net operating losses (NOLs) to be carried forward indefinitely and increased by an interest factor, and eliminating NOL carrybacks
- Retaining the research credit, but evaluating options to make it more effective
- Generally eliminating certain, but unspecified, special-interest deductions and credits
- Shifting to a territorial tax system
- Moving toward a consumption-based tax approach

Paying for the cuts

Any tax cuts — real or proposed — must be paid for in some way. Some estimates put the 10-year deficit increase at \$9 trillion for Trump's proposals. Obviously, there is some sleight-of-hand that can be used to ignore at least part of the problem currently, but it'll show up quickly.

Obviously, the economy will have to grow faster than it has in some time to solve the problem. If not, tax rates could creep higher after the initial cuts. That also has happened in the past. It might be avoided with significant spending cuts, but that approach has proved elusive in the past.

In the long run, the overall tax bills of most taxpayers, including many professional woodworkers and their shops, are almost sure to be lower, but deductions for individuals are almost certain to be reduced. There could be cutbacks in certain tax credits and other deductions for particular industries. In other words, some taxpayers could benefit less than others, making it more important than ever to keep an eye on our lawmakers. [W](#)

Mark E. Battersby is a freelance writer based in Ardmore, Pa.

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- Max. throat capacity w/fence: 12"
- Max. cutting height: 14"
- Blade size: 120" (1⅞" to ¾" W)
- Blade speed: 2820 FPM
- Footprint: 24" L x 18" W
- Overall size: 29" W x 32½" D x 76" H
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- Arbor speed: 3450 RPM
- Max. depth of cut: @ 90° 3¼", 45° 2¼"
- Rip capacity: 30" R, 15" L
- Overall size: 57¼" W x 37½" D x 35⅜" H
- Footprint: 21" L x 19½" W
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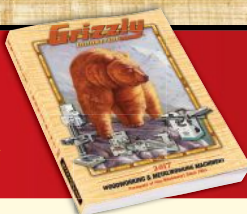
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- Cutterhead speed: 5400 RPM
- Max. planing height: 6"
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- Cutterhead speed: 4800 RPM
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- Cutterhead dia.: 3 1/8"
- Cutterhead knives: 4 HSS, 20" x 1" x 1/8" (G0454); 98 carbide inserts (G0454Z)
- Cutterhead speed: 4800 RPM
- Table size: 20" x 25 3/4" (20" x 55 1/2" w/ extension)
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- Approx. shipping weight: 932 lbs.



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- Cutterhead knives: 4 HSS, 24 1/8" x 1 3/16" x 1/8" (G9741); 162 carbide inserts (G9961)
- Cutterhead dia.: 4 5/8"
- Cutterhead speed: 5000 RPM • 42–84 CPI
- 20,000 CPM (G9741); 30,000 CPM (G9961)
- Overall size: 42 3/8" W x 36" D x 58" H
- Approx. shipping weight: 1980 lbs.



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Craig Erickson is following in his father's footsteps at Don's Custom Cabinet Shop.



GOOD TIMES IN THE BADLANDS

SOUTH DAKOTA SHOP OWNERS PUNCH ABOVE
THEIR WEIGHT CLASS BY SUCCESSFULLY
COMPETING WITH LARGER COMPETITORS

By Jennifer Hicks

Forty-six years. That's how long Don's Custom Cabinet Shop in Rapid City, S.D., has been in business. So you've got to figure it's doing something right.

The shop's primary market is residential kitchens and nearly all of its work is generated through customer referrals. It competes against big stores and usually succeeds.

"We've always worked hard at explaining to people that they can get a custom kitchen for somewhere close to a home-center price," says Craig Erickson, son of founder Don Erickson. "Everybody automatically assumes that custom cabinets must be more expensive than the home centers. We beat the home centers pretty regularly in price. The difference is we stand behind our work and, if something breaks, we will replace it because we have the knowledge and background."

The rural shop is near the Black Hills mountain range in the western part of the state, which offers a bittersweet mix of long winters and scenic and rugged beauty. It operates out of a 9,000-sq.-ft., barn-style building on Don's property. Don is 87 and



still involved, but has passed the torch to Craig.

"We keep dad busy," Craig Erickson says. "He still works on face frames and does some of the alterations on our work, like cutting cases to fit a bigger refrigerator or something like that for past customers. Once in a while he does a delivery for us, but no lifting," says Erickson, who juggles the roles as the shop's manager and bookkeeper.

Erickson started working for his dad part-time at age 15 and full-time at 17. His friend since childhood, Todd Craig, is the shop foreman. It's currently a seven-person shop that produces 30 to 40 kitchens per year.

Pictured above are members of the cabinet shop crew. Left to right: John Hart, William Ternes, Roy Humpal, Don Erickson, shop foreman; Don Oleson, Leo Cihak and Wal Schultz. Virgil Graff, shop superintendent, was not present when picture was taken.



(From left) Don Erickson and his crew from a 1961 newspaper photo; a couple recent kitchen jobs, and one in the pipeline.

Family roots

Don Erickson didn't exactly set out to become a woodworker. There was some chance and lots of hard work involved for any opportunity that became available so he could support his family. As a teenager in the late 1940s, he worked as a ranch hand at a family farm in Hamill, S.D., before a devastating hailstorm ruined all the crops. He then moved to Rapid City, where he delivered beer for Budweiser and did other odd-and-ends jobs. In 1951, he married his now-deceased wife Betty, before being drafted during the Korean War and serving as an Army cook in Germany. He returned to Rapid City in 1953, working

first for Lampert Lumber Co., then Buckingham Wood Products, where he ran a crew for a new cabinet shop.

Don and Betty built their house in 1958. The next year, Don started building kitchen cabinets for local acquaintances as well as contractors he met at Buckingham's who regarded him as a master craftsman. He worked out of his basement and garage until 1963 when he built the first part of the current shop.

By 1970, he was in the position to quit work and started Don's Custom Cabinet Shop. He's since built eight additions to the shop, including a showroom, offices and assembly and finishing rooms.



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Meeting demands

The shop is “booked solid” from a customer base of small ranchers to millionaires, according to Craig Erickson. Its market reaches parts of Wyoming and Nebraska. The bulk of the orders are for kitchens and baths with a few furniture pieces mixed in.

The shop often runs seven days a week to meet demand. “I’d like to be capable of getting more kitchens out the door, but working seven days a week I don’t want to take on more work. It’s hard to imagine — and I don’t think it will happen — but I wish people were doing my job. Sometimes I’m so busy here because there are certain things that only I can do,” Erickson says.

“Finding good employees is very tough. It’s challenging getting everything done in the time frame it needs to be done. We keep track of enormous amounts of information that comes through. We’ve got a dozen custom kitchens in play at one time and you have customers calling to make changes to details.”

The shop designs with KCD Software and bought its SCM Tech80 CNC router in 2002. The goal is to provide customers with a turnkey product, though the message isn’t always received, according to Erickson.

“We really struggle with [customers] not realizing that we provide the counter-tops. They just assume they would order their cabinets here and have to go to a countertop shop to buy countertops. We run into a lot of people being surprised that we offer them, too.”

Face-frame cabinetry, rustic hickory and painted finishes are most often specified.

“I think Houzz [.com] and magazines are contributing to design preferences. People are seeing more styles painted, so we’re seeing more requests on what they see. They bring pictures in to show us. We don’t turn things away. We always try to do it. We’re capable of just about anything.”

Customer satisfaction

Craig Erickson says the most gratifying part of the business is completing a project and waving goodbye to a happy customer. Part of the sales process includes a guided shop tour.

“Almost always, if they have time, I’ll take them through the shop and show them exactly what we’re doing and why we’re doing it so they understand what goes into the price,” Erickson says. “Our goal is to service the customer without them thinking we are very expensive and make sure nobody leaves unhappy. We try not to let there be one customer that has a bad taste in their mouth from us, so we work really hard to make sure that chain of negativity can never get started.

“Most of it is communicating with the customer from the beginning. What you learn from making mistakes is to catch them earlier and earlier and make sure if there are any changes in the plans we update them on the price. If there’s ever some sort of error, we get it fixed.” **W**

Contact: Don’s Custom Cabinet Shop, 23166 Radar Hill, Rapid City, SD 57703. Tel: 605-393-1330. www.donscustomcabinetshop.com

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BOOST

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Many CNC tools can be adapted to specialize in building custom signage that will add to your cash flow

By John English

An idle CNC is a terrible thing to behold. No woodshop owner wants to witness such a large investment lying dormant for lack of a job. But between kitchens and casework, this versatile machine might just be able find some fill-in work on Fifth Avenue. The combination of cutters and CAD that brings a cabinet to life can also deliver a strong advertising message. Because a CNC can work in wood, plastics, composites and even non-ferrous metals, the technology has allowed many woodshops to specialize in building custom signage. Others offer signage as a menu item that complements the casework being built for commercial, institutional or industrial clients.

The first key to sign making is to have somebody on staff with a creative bent. Building custom signs requires imagination, competency in a variety of mixed media, some artistic experience or formal training, and a shop that owns the right equipment. A CNC router is usually the centerpiece of a woodshop's sign-making equipment. But virtually every other machine in the shop can also come into play, as does tooling.





(Clockwise, from left) Rockler and Freud offer sign-making bit sets; ShopBot's new Desktop Max.



Amana Tool and Infini Cutting Tools also offer sign-making sets.



CNC tooling for sign makers is usually oriented to the material that's being cut, milled or shaped. High-speed steel, carbide tips, solid carbide and carbide-insert cutters are all available and those choices need to be matched to the density and hardness of the workpiece and the amount of stock being removed. For example, cutting into foam involves different parameters than solid aluminum. A shop that has heretofore only worked with wood might want to consult with both the CNC and the spindle manufacturer before settling on solutions for other materials.

Sign makers' kits

Several major suppliers offer packaged kits that offer a variety of tooling designed to render signage. For example, Laguna Tools (laguna-tools.com) offers an Amana set that contains eight industrial brand bits. Included are a 1/2" 60-degree V-bit, a 3/16" 7.5-degree angle, 1/4" aluminum and plastic cutting O-flutes, a 1/8" ball nose, a 1-1/2" insert 45-degree V-bit, a 1/4" shank 30-degree V-tip insert and a 1-1/2" insert 90-degree V-groove. Together, this package lets a woodshop work in a wide array of materials including wood, foam-board, acrylic, nylon, PVC, polycarbonate, solid-surface materials, HDPE, ABS, UHMW, HIPS, PE, PET, polystyrene, polypropylene and acetal.

Note that sign-making bits are generally on the lighter side: they don't have a lot of mass as they're usually asked to engrave or lightly carve, rather than remove large amounts of waste. By the way, Amana Tool (amanatool.com) also offers seven individual bits that are specifically suited to sign making.

Freud Tools (freudtools.com) has also put together an eight-piece sign-making set. This collection of solid-carbide and carbide-tipped cutters includes a couple of upcut spiral ball nose bits, a 6.2-degree x 1/32" tapered ball, a 5.4-degree x 1/16" tapered ball, an upcut spiral straight bit, a down-spiral straight cutter, a 3/4" 90-degree V-groove and a 1/2" 60-degree V-groove bit. They are made from TiCo carbide with chromium, which is

designed and manufactured by Freud.

Rockler Woodworking and Hardware (rockler.com) has several proprietary bits and sets for sign making. One of these is set No. 26694, which includes a 1/2" diameter by 5/8" carbide-tipped 60-degree V-groove bit, a 1/2" diameter 90-degree V-groove bit and a 3/8" diameter by 3/8" core box bit. The company caters to small-shop and hobbyist users, so it also offers several different lettering templates, plus a package called the Sign Maker Accessory Box (No. 59369). This includes 17 router bits, a large sanding mop and some CarveWright software named Project Designer Pro that features advanced design tools.

Eagle America (eagleamerica.com) offers a wide range of tools and jigs for sign making, including round-nose chamfer bits, veiners and V-groove plunge bits. The company also supplies plunge roundover bits with and without guide bearings.

For sign makers working with curves and intricate profiles, U.S. Router Tools (usrouter-tools.com) offers a number of bits that were designed for cutting softer and more flexible plastics.

Katana sign carving sets (available through mlcswoodworking.com) come in both five- and seven-piece micro-grain carbide sets. The former, with 1/4" shanks, includes upcut and down-spiral straight bits, a veiner and two round-nose cutters (1/8" and 1/4"). The latter has three 1/2" shank bits and four 1/4" ones.

Whiteside's No. 705 CNC Starter Set (available through carbideprocessors.com and other outlets) is a five-piece package of 1/4" shank bits that is suited more to carving than engraving. It includes 1/8" and 1/16" ball-nose bits, a two-flute upcut and two V-bits — 60 and 90 degrees.

Comsurge Tooling (comsurge.com) has a number of carving bits in various profiles, including pod bits in both left and right rotations. Infini Cutting Tools (infinitytools.com) has an array of kits and individual router bits available and Integra (ipgandm.com) has a good selection of knives, spirals, veining and V-groove tools. Leuco Telcon (leucotelcon.com) manufactures a wide range of PCD-tipped end mills for machining composites, CMC, MMC, high Si Al and other abrasive materials and some of them are well-suited to sign making. And Practical Products Co. (practicalprods.com) sells Trim-Ease lube, which will help all kinds of bearing and non-bearing guides behave themselves properly when milling materials used in building signs. In that vein, if a shop is contemplating working in new materials, a conversation with the cutting consultants at Pro Cut (procutsaw.com) might be well worth the time. They specialize in machining, sharpening and milling challenges.

More than bits

Most CNC routers offer the capacity to make signs and some manufacturers focus more intently than others on this aspect of the tech-



nology. For example, Vision Engravers (visionengravers.com) offers a wide range of entry-level and medium-sized engravers and routers from 6" x 8" to 4' x 8'. Because the focus is often on engraving rather than routing, some Vision tools can work in more than one plane or one family of materials. The company's Rotary Attachment permits engraving on cylindrical items up to 10" in diameter. And a new oscillating knife now provides the ability to cut semi-rigid materials such as card stock with great precision. Vision also makes it easy to create ADA-compliant signs with its Automatic Raster Braille insertion tool, which saves time by eliminating work that is normally done by hand.

The new Desktop Max from ShopBot (shopbottools.com) will be of interest to shops that build signs under 36" x 24". Running on household current, it comes with either an easy-to-remove aluminum tool bed or a vacuum hold-down deck kit. The company also offers a variety of tooling for the Max that includes both 30- and 60-degree engraving bits, some ball nose and O-flutes, and a six-piece sign-maker's bit kit. There's also a diamond drag bit for engraving signatures, logos or artwork in plastic, metal, glass and stone. A woodshop can use this bit to create signage in aluminum, brass, glass, mirrors or granite, or score cut lines on plate glass for creating stained glass sign elements. Its floating head automatically regulates pressure on the diamond tip, making it easy to engrave a solid and uniform line on imperfect or warped material.

Sign Warehouse (signwarehouse.com) is one of many suppliers that can deliver tools outside the realm of traditional woodworking, such as vinyl cutters, plotters and trimmers. The company also carries a large inventory of sheet vinyl in both solid colors and patterns, plus all the

blades and supplies needed to work them. U.S. Cutter (uscutter.com) is a similar supplier that carries everything from cutting tools to design software for plotting and printing.

For shops that want to add metal lettering to wood or plastic signage, Baileigh Industrial (baileigh.com) offers an affordable and easy to operate letter brake. The LB-8 makes fast work of channel letters and its open-jaw design helps speed up production when compared to using a standard sheet-metal box and pan brake. The material can just be flipped over for a reverse bend, instead of having to slide it all the way into the brake and back out again.

Building signage in a woodshop can range from simple projects using templates and tools from suppliers such as MilesCraft or Craftsman to fulltime CNC manufacturing. And whether the shop is planning on making signs between casework jobs or switching its entire focus to this niche, most CAD software manufacturers offer some comprehensive solutions. For example, En Route (enroutesoftware.com) "allows you to first create 2-D artwork by using unique design tools and then add 3-D reliefs and textures using parametric textures, rapid texture/rapid picture and bitmaps. EnRoute's rapid texture tool also lets you create unique surfaces by taking advantage of the shape and diameter of your cutting tools while at the same time reducing cut times." And both Aspire and VCarve Pro from Vectric (vectric.com) include tools that are used to design and carve complete signs in one piece of material or to accurately create separate parts for larger projects that can be assembled on site.

A woodshop can also outsource the CAD and just use CNC downtime to mill plastic or wood parts for local sign shops, rather than taking on the whole design, fabrication and installation processes. **W**



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HARDWARE HEAVEN

LONG OVERLOOKED, THESE COMPONENTS ARE NOW BEING CONSIDERED AT A MUCH EARLIER STAGE AND PLAYING A MORE PIVOTAL ROLE IN THE DESIGN PROCESS

BY JOHN ENGLISH

Historically, cabinet hardware has been chosen to complement colors and shapes in casework, countertops, walls and appliances. Perhaps by the nature of its diminutive size, hardware has been secondary to other design components. Knobs and pulls by themselves have rarely been the defining agent in a kitchen. This tail has hardly ever wagged the dog. So it's no surprise that hardware has often been relegated almost to an afterthought.

That's changing.

Cabinet hardware is now being considered at a much earlier stage in the design process, especially when it's hidden. That sounds counterintuitive: if it's less obvious, then why would it be more important?

Well, kitchen designers usually describe hardware as being either functional or decorative, even when (to the rest of us) it's obviously both. The "functional" elements include drawer slides, organizers and other items that are usually hidden at first glance and revealed as needed. Take, for example, the new base cabinet pullout from Rev-A-Shelf (rev-a-shelf.com) that the company calls its Food Storage Container Organizer. Riding on Blumotion soft-close slides (blum.com), this unit is about as functional as anything can be in a kitchen: it makes full use of a base cabinet, allows the cook complete and very easy access to all the contents without having to get down on his/her knees and, because it's fully contained behind the door it's less obvious, so therefore it's described as functional.

"Decorative" hardware, on the other hand, is more blatant and includes pulls, knobs, accents and hinges — all the things that we immediately see when we walk into a room.

There has been an increasing emphasis in the last few years to using every cubic inch of cabinet storage space. That trend ranges from ingenious corner treatments to multi-tier drawers and, lately, to full height casework that replaces soffits. Those have always been available, but now are becoming much more mainstream. This shift might have been influenced by an anthropological factor: the average North American adult male is now about 5-foot-9, while a typical female is a little over 5-foot-4. That represents an increase in height, on average, of more than a full inch since custom cabinets gained a foothold after World War II. And we're still growing. So reaching high isn't quite the challenge it used to be. Soffits are also being eliminated as a means to stretch the visual impact of a room, making the space seem lighter, taller and more airy. That means cabinet doors are getting taller and people are finding that it's more convenient to have them pop open by just touching the bottom rail, rather than having to reach up and grab a handle.

We're also growing in other directions and many hardware manufacturers are finally beginning to understand that our fatter fingers no longer fit in many of the mainstream pulls that are still offered by the big-box stores. Designer pulls are getting deeper and woodworkers are beginning to source these and use them as a selling point. More men are also



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discovering the joys of cooking, and this, too, is playing a role in the evolution of larger hardware to fit their hands.

As a result of the desire to use space more efficiently, functional hardware has come a long way in a short time. Even when buyers give up wall cabinets to increase the amount of windows and daylight in a kitchen, or eliminate entire walls to achieve a more “open plan,” they still want the remaining cabinets to be as functional, efficient and usable as possible.

On the decorative side, some global influences also weigh in. Designers around the world have moved to a cleaner and more streamlined look and, as surfaces are becoming less cluttered, the hardware on cabinetry has followed suit. Customers are demanding more open spaces, greater traffic flow, more intelligently designed storage and a crisp visual aspect that blends into the rest of the home’s public spaces. Countertops are moving from granite and marble toward engineered, non-porous and maintenance-free materials and hardware is following this trend.

But there is still some room for organics. Butcher-block is experiencing a minor renaissance and painted cabinets are back in vogue, largely because they blend both form and function. They are clean, yet more inviting and hospitable than foil.

All of these elements play a role in how customers want their cabinet hardware to look. The sterility of Euro-centric, monotone, minimalist casework requires that there are no visible pulls and knobs, while the warmth of wood and the texture of paint are both offset well by basic and less decorative hardware.

Are trends relative?

Woodshop estimators have seen interior design take the concept of clean to a new level of late with a huge increase in the volume of invisible (touch) hardware. On the other hand, they’re also becoming used to designers who have discovered that overly emphasized, larger-than-life pulls can offset grand expanses of solid color casework. In some cases, these pulls are so immense that they replicate the traditional handles on oven and refrigerator doors.

Add to this a design aesthetic that is moving away from stainless-steel appliances, while simultaneously increasing the amount of bare or clear-coated metal — especially stainless steel — in decorative hardware. Other popular metal finishes include copper, pewter and even gold leaf (or a good simulation thereof). So while we are seeing less metal on appliances, we’re seeing more on cabinets. That’s a macro trend. The physical shapes and colors of this metal hardware can be looked at as a series of micro trends.

Trend is a tedious word. Merriam-Webster defines it as both following a general course and also veering in a new direction. Well, it can’t

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be both, at least not simultaneously. Perhaps a more apt definition for woodshops is the one found in the Oxford dictionary: “A general direction in which something is developing or changing.”

Consumers no longer rely as much as they used to on interior design magazines, trade shows or home shows to identify trends in cabinet hardware. That is, in part, because the presentation cycle in those venues is so long. For example, from the time a magazine editor assigns a story to the day it appears on a newsstand can be many months. And trade shows often take years to plan.

Instead, consumers are increasingly browsing online sites such as Pinterest, Facebook and other adaptive social media to see what’s new and popular. One byproduct of the ability to track by the minute is that trends can now live their entire life cycle very quickly. Another is that the preponderance of similar sites can actually generate a trend or stifle one. Depending on the keywords used in a search, the results can be far more provincial than catholic. For example, one might end up looking at the latest looks in “country” kitchens rather than “rustic” ones.

Hardware is a relatively serious investment for most kitchen owners or builders, so being trendy is often tempting, but not always deemed essential. Woodshop customers who are going to physically live with a design for several years must, of course, feel comfortable with it. But owners of investment real estate such as spec houses and high-end rentals, on the other hand, might need to live more in the moment and pay a lot more attention to trends.

Unfortunately, trending can be misleading. The intoxication with shiplap has come and gone many times through the decades and features using this material can look dated very quickly, especially in the absence of fresh paint. It might be hot today, but can drag down the entire kitchen over time. Other trends, such as the currently celebrated “tuxedo kitchen” have actually been around for a long time in one form or another and have always been trendy in specific markets.

So while we should definitely pay attention when something grabs our eye, it is incumbent upon us to remember that such a reaction is impulsive and requires further research. Real estate professionals understand that a house sells faster when the kitchen style



Salice’s Wind door lift system.



Workstead's wood pulls for its 47 Plaza project.

matches, at least to some degree, the architecture of the home's exterior. Even though a homeowner might impulsively favor a certain look, putting ultra-modern, sleek casework and stainless-steel pulls in a traditional Tudor or a provincial farmhouse might not be the best idea if the home will go on the market soon. Buyers, it seems, don't like those kinds of surprises. We must temper trendiness with common sense.

Universal access

One of the catchwords for kitchens during the last couple of years has been "universal design." It's an inclusive concept — and really more than a trend — that considers all shapes and sizes of people. So it doesn't just stop at designing for the average-sized adult. The idea is to make spaces safer, easier and more convenient for everyone and this

has special relevance for baby boomers who want to "age in place" — that is, be able to stay in their own homes as they age. Cabinet hardware is no exception: just as passage and entry doors have long been designed with levers instead of round knobs, cabinet hardware is increasingly being built to accommodate users with arthritis, restricted finger strength and other age-related considerations.

One longstanding concept here is the full-extension slide that obviates the need to bend down and search through the back of a drawer's contents. With exactly this in mind, Häfele America Co. recently added Accuride's 3634EC to its catalog. This is a slide that was intentionally designed for deep base cabinet drawers. It has soft closing and can support up to 150 lbs., but its special appeal to universal designers is that it has an inch of over-travel, which allows complete access without having to contort one's body to see what's in the back of the drawer. Allowing older people and folks of all ages with disabilities better access to the

contents of their kitchen and bathroom cabinetry is becoming more and more popular as the population ages.

The high capacity of the Accuride slides is also something that's trending lately: drawers are getting bigger. The company also recently introduced another slide, the Eclipse 3135EC undermount, which is an easy-close slide that is capable of handling drawers up to 30" wide. Bigger drawers close to the ground allow kitchen users access to more items with less effort. Cooks no longer need to store the big roasting pan for turkeys in that deep cabinet above the fridge, where getting it down before the holidays is a major effort. Now it can be popped into a large base drawer.

And opening those drawers (at least the ones without touch technology) is also getting easier for more people. Pulls are trending larger, too. When it comes to being able to grip a pull with ease, a good example of



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bar pulls with more clearance is the new Hayworth line from Hardware Resources (hardwareresources.com). These are zinc die-cast pulls with a solid nickel finish. They have a straight bar and two slightly longer than average stubs that allow swollen or painful fingers to gain access and a good grip. Available in a number of different lengths, the Hayworth line also includes a 2" long T-shaped knob in the same profile and finish and this is much easier for people with physical challenges to grip than a standard round, oval or spherical small knob. The company also offers two similar lines, the Key West and Naples, which feature slightly different looks but retail that clean, crisp appearance. Most cabinet hardware manufacturers are recognizing this need and offering non-traditional knobs with more surface area and better geometry for dysfunctional fingers. However, the trend does seem to be to keep the profiles relatively simple and the lines clean and almost industrial.

That trend toward sleeker lines is inherited from European cabinet design and isn't confined to pulls and knobs. Hettich (hettich.com) has taken the idea to the next level with its complete drawer system called AvanTech. Here, the cabinet hardware is completely invisible, offering silent push-to-open technology that is totally out of sight. The under-mount slides are hidden behind the drawer sides, so the customer only sees the box — there's no metal showing anywhere.

Another way to reduce the amount of visible cabinet hardware is to create door systems that lift up rather than swing open to the side. Long a mainstay of European kitchens, horizontal cabinet doors supported by a lift are becoming more common in American kitchens and offices. In that vein, Salice (saliceamerica.com) recently introduced the new "Wind" door lift system that adds a new element to the concept. In addition to being placed in a location that uses as little as possible of the desirable space in a cabinet (the hinges and lift are attached to the inside top of the box), Wind is also adjustable. It can be moved left and right to align the door properly, but can also be adjusted for speed.

That is, the strength of the decelerating effect can be changed to match the size and the weight of the door.

Real wood

All the straight lines and metal accents can be a bit overwhelming for woodshop customers who would rather wax nostalgic and want the look and feel of real wood in their homes. For those among us who find the trends toward minimalism a bit unnerving, there is some hope. Some kitchen designers are bucking the trend and rediscovering age-old concepts such as open shelves and butcher-block countertops. A few are also going with an unusual material for cabinet hardware: wood.

Leading that charge is Smith Woodworks and design of Califon, N.J., which can be found online at the intentionally naughty URL niceknobs.com. The company offers everything from pulls and knobs to fridge and appliance handles in a dozen different species, all made in North America.

Architects and woodworkers are also espousing this throwback to real wood hardware. Take, for example, the exquisitely simple pulls designed by Workstead for its 47 Plaza project. The company (workstead.com) is an architectural, furniture and interior design firm located in the old American Can Factory in Brooklyn, N.Y. The richness of the natural wood tones in these pulls provides a truly dramatic counterpart to the monotone of the cabinets.

Wood has always been used in a variety of ways as a cabinet hardware material, from slides and hinges to a wide variety of solid wood shelf supports. Today, that latter tradition continues with the Sawtooth Shelf System (sawtoothshelfsystem.com), which has roots in Scandinavian and German designs from the late Middle Ages. Popular culture swings on a pendulum, so at some stage natural wood finishes will return as a major component in kitchen design. Until then, expect to see a small resurgence in solid-wood handles and other hardware as people try to retain a slight grip on organics in a world that is increasingly made of plastic and metal. 

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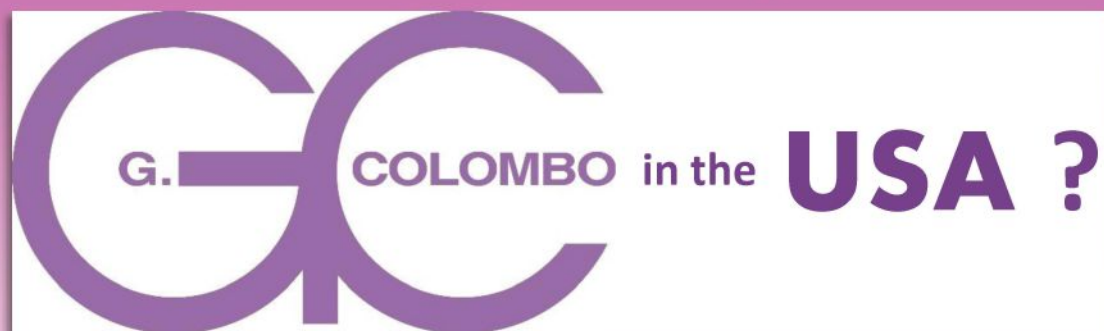


◀ **HARDWARE RESOURCES** added a Wood Pantry Pullout, made from solid white birch plywood and coated with a clear UV finish. It is available in 12 size options, each with two adjustable shelves and six-way adjustable door-mounting brackets for easy mounting. Additionally, the top mounting bracket allows for 3" of adjustability and can be used for frameless or face-frame cabinetry, according to the company. For more, visit www.hardwareresources.com.



 **BOSCH** is introducing two Starlock oscillating multi-tools to meet demand from professional users for more aggressive accessories and a larger contact surface, according to the company. The new models include the GOP 40-30, with a 4.0-amp rating, and GOP 55-36, with a 5.5-amp rating. For more, visit www.boschtools.com.

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▼ **INFINITY CUTTING TOOLS** introduced a three-piece router bit set for making glass cabinet doors. The set can produce the joinery for the rails and stiles of the door frame, as well as the rabbet to hold the glass. It can also create the stop or glazing strip to hold the glass in place. For more, visit www.infinitytools.com.



▲ **OMEGA NATIONAL PRODUCTS** introduced the Signature Craftsman range hood featuring a straight or arched valance with a flat-panel insert. The Craftsman is ready-to-finish and offered in red oak, maple, hickory, cherry and alder, according to the company. It's available in 30", 36", 42" and 48" widths. For more, visit www.omeganationalproducts.com.

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▲ **PORTER-CABLE** presents its first cordless impact wrench, model PCC740. The 20-volt tool features a ½"-long hog ring anvil, providing 330 ft.-lbs. of max torque for construction applications and lug nut removal, according to the company. It weighs 6 lbs. with a 4.0-Ah battery installed and measures 9.9" in length. It also offers variable-speed control and has an LED worklight. It sells for \$119 as a bare tool and \$159 with a battery. For more, visit www.porter-cable.com.



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Dwight Sargent sold this dining table and chairs at the Rhode Island Fine Furnishings Show.

Rhode Island furniture show sees boost in sales

Shaker community exhibit runs through the fall at the Art Institute of Chicago

By Jennifer Hicks

Offering American-made, handcrafted furniture, accessories and art, the 21st annual Rhode Island Fine Furnishings Show was held Nov. 4-6 at the Pawtucket Armory Arts Center in Pawtucket, R.I. Given its timing, show director Karla Little says the show surpassed expectations.

"Typically shows do not do well in attendance and sales in an election year. However, we had the same attendance as last year and we had an increase in sales," Little says.

For example, exhibitor Dwight Sargent of Pompanoosuc Mills in East Thetford, Vt., sold a recently completed live-edge walnut dining table and six chairs to a couple from Newport, R.I.

Fine Furnishings' events feature a combination of local, regional and national artists and craftsmen exhibiting and selling their work.

While there are a variety of products available, the primary category is handcrafted furniture.

Shaker exhibit

The Art Institute of Chicago is hosting "Shakers and Movers: Selections from the Collection of Dr. Thomas and Jan Pavlovic," an exhibition that celebrates the craft of the Shakers community through this fall.

The exhibit features more than 20 items made by the Shakers in the late 18th and 19th centuries and considers Shakers in the larger context of American furniture production and the artistic innovation that defined the country's early history, according to the gallery.

"For Shakers, work was a form of worship and objects were expressions of their attempt to create heaven on earth. The objects are generously loaned by collectors Thomas and Jan Pavlovic," the gallery said in a statement.

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from England in 1774, the group peaked in the mid-19th century, boasting more than 6,000 members from Maine to Kentucky. Though only one Shaker community survives today, the impact of Shakers on American culture has endured, particularly in art and design. The Pavlovics' collection, passionately assembled over the last 40 years, exemplifies the virtuosic craftsmanship synonymous with this influential utopian religious community." **W**

Contacts:

Art Institute of Chicago, Gallery 168, 111 South Michigan Avenue, Chicago, IL 60603, United States. www.artic.edu

Fine Furnishings Shows, P.O. Box 11, Tiverton, RI 02878. 401-816-0963. www.finefurnishingsshows.com



(From left) Shakers and Movers: Selections from the Collection of Dr. Thomas and Jan Pavlovic; Tom Gallenberg of White Lake, Wis., was a first-time exhibitor at the Rhode Island show; Matthew Dworman of QLine Design in Kingston, N.H., won the Rhode Island show's new product debut award.

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CALENDAR

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

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

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

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

— 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, at 17015 Burbank Boulevard in Encino. www.sfvw.org

April 26-28 — Woodworking Industry Conference. Annual event, open to mem-

bers of the Wood Machinery Manufacturers Association, Wood Machinery Industry Association and other trade groups, focuses on business development, networking and education. Location: Omni Rancho Las Palmas Resort & Spa, Palm Springs. For more, visit www.wmia.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. For information, visit www.tampawoodcrafters.org.

March 17-19 — Woodworking Show at Tampa, offering tools and machinery for sale, hands-on demos and skill training seminars. Location: Florida State Fair Entertainment Hall. www.thewoodworkingshows.com

GEORGIA

March 10-12 — Southern States Woodturning Symposium. Scheduled demonstrators include Stuart Moritmer, Dixie Biggs, Dennis Pallus and Windsor chair maker Greg Pennington. Other events include a gallery, trade show and auction. Location: Clarence Brown Conference Center in Cartersville. www.southernstatesymposium.com

March 17-19 — American Craft Show Atlanta. A three-day celebration of hand-made work featuring more than 225 top artists of furniture, home décor, jewelry and other custom items. Location: Cobb Galleria in Atlanta. www.craftcouncil.org

March 31-April 2 — Woodworking Show at Atlanta, offering tools and machinery for sale, hands-on demos and skill training seminars. Location: Cobb Galleria. www.thewoodworkingshows.com

INDIANA

Feb. 3-5 — Woodworking Show at Indianapolis, offering tools and machinery for sale, hands-on demos and skill training sem-



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inars. Location: Indiana State Fairgrounds.
www.thewoodworkingshows.com

MARYLAND

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

Feb. 24-26 — American Craft Show Baltimore. A three-day celebration of hand-made work featuring over 650 top artists of furniture, home décor, jewelry and other custom items. Location: Baltimore Convention Center.
www.craftcouncil.org

MASSACHUSETTS

March 24-26 — Paradise City Marlborough. Celebrating its 20th year, the juried arts festival features fine furniture and other hand-made items by over 175 exhibitors. Location: Royal Plaza Trade Center in Marlborough.
www.paradisecityarts.com

MINNESOTA

April 7-9 — American Craft Show Saint Paul. A three-day celebration of hand-made work featuring more than 225 top artists of furniture, home décor, jewelry and other custom items. Location: Saint Paul RiverCentre.
www.craftcouncil.org

MISSOURI

Feb. 10-12 — Woodworking Show at St. Louis, offering tools and machinery for sale, hands-on demos and skill training seminars. Location: Gateway Center. www.thewoodworkingshows.com

NEW JERSEY

Feb. 17-19 — Woodworking Show at Somerset, offering tools and machinery for sale, hands-on demos and skill training seminars. Location: Garden State Exhibit Center. www.thewoodworkingshows.com

NEW YORK

Monthly — Sawdust and Woodchips Woodworking Association meetings are held on the

first Wednesday of each month at 6:30 p.m. at the Cold Springs Fire Department in Baldwinsville. www.sawdustwoodchips.org

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

PENNSYLVANIA

March 31-April 2 — Philadelphia Invitational Furniture Show. Annual curated show featuring handmade artisan furniture and furnishings. Now accepting exhibitor applications. Location: 23rd St. Armory, Philadelphia.
www.philadelphiafurnitureshow.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. www.sdwoodworker.org

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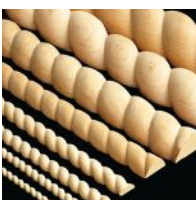
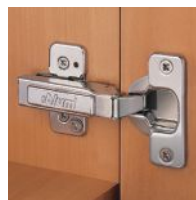
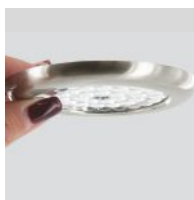
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Leo Litto of Austin, Texas, won the Best of Show award for this tray table.



An occasional night table, by Phillip Morley of Wimberley, Texas, won the show's Woodcraft Sponsor's Award.

Texas makers take center stage

The annual Texas Furniture Makers' Show strives to put the spotlight on the state's furniture makers. It's most recent show, held Oct. 27 through Dec. 2, did just that.

The show featured 53 pieces by 39 makers and was judged by Asa Christiana, former editor at Fine Woodworking magazine; Danny Kamerath of Mason, Texas, and Peter Kennedy of Austin, Texas.

"In keeping with our purpose to improve the craft, a seminar was held the first weekend of the show," Teri Valentine says. "Asa Christiana's presented 'Build Stuff with Wood,' in which he taught how to set up a simple shop space and how to use just a few hand-held power tools to build surprisingly stylish and fun projects."

The show also featured a "judges critique," which gave constructive evaluations to each furniture maker who wished to have their pieces critiqued.

The show provides a formal gallery atmosphere for the furniture makers to exhibit and sell their handcrafted accessories to the public.

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

— Jennifer Hicks



Jody Fletcher of Seguin, Texas, with his third-place ribbon.



The Wilson Chair, by Gary and Austin Weeks of Gary Weeks and Co. in Wimberley, Texas, was the runner-up.

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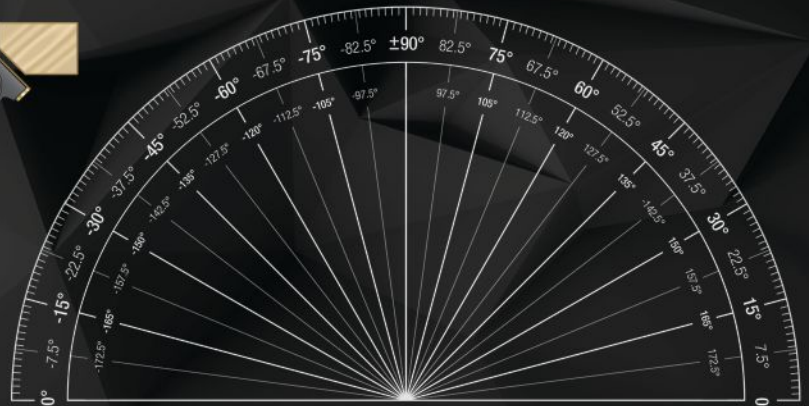
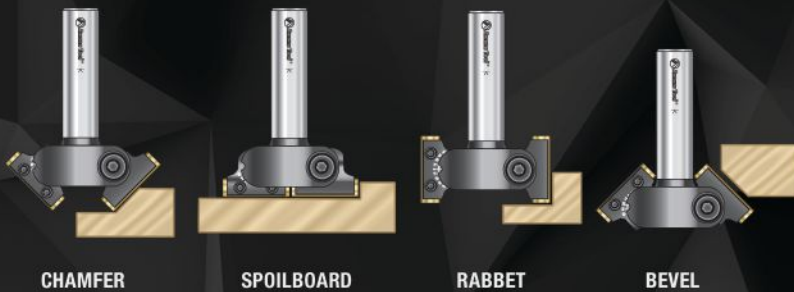
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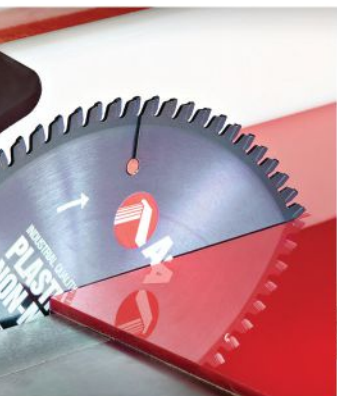
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