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January 2016

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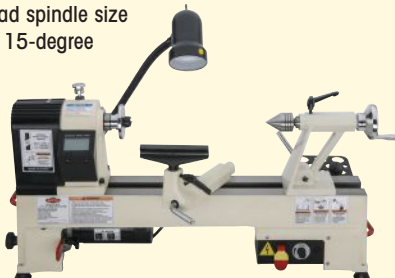
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W1713 16" Scroll Saw

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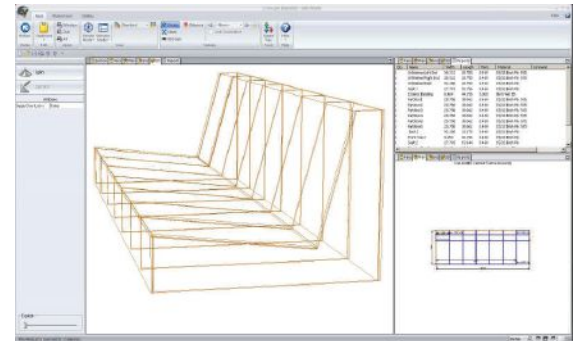
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BLOGS



Over the Workbench
Talkin' shop with former editor A.J. Hamler

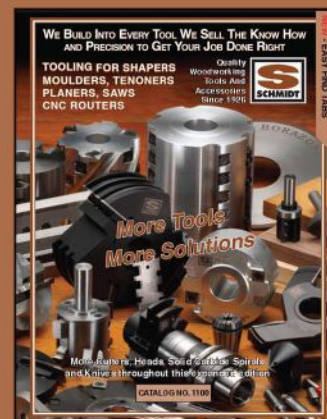


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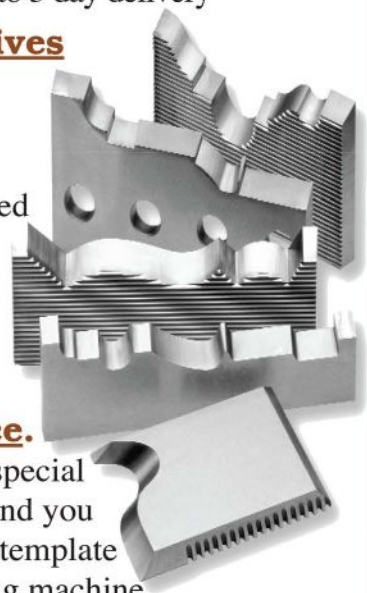
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TAKING STOCK

with TOD RIGGIO

Digging deep and thriving for 30 years

Last month, I tried to wax poetic about my preference for looking forward rather than backwards. Turns out that's a ridiculous notion for a magazine editor in an anniversary year.

I've been digging through piles of past issues to select some of our most memorable stories for a new "From the Archives" section, which debuts on Page 10, part of our celebration of 30 years in publishing. The first choice was fairly easy: a 2005 feature on Sam Maloof. Picking the next 10 or 11 will literally require more digging because some of our past issues are buried in storage.

I've got a decent memory and a searchable database on most everything published since 1997. Longtime subscribers will have to help me with earlier articles.

There are some news stories that stand out, none more so than our early coverage of The Furniture Society. The studio furniture group was formed in 1997 and we reported on the first conference held in Purchase, N.Y. I attended the first 10 conferences, which bounced around North America from Toronto to San Francisco. There were a lot of good times as you might expect when a bunch of woodworkers emerge from the confines of their shops. But there was also a lot of knowledge to soak up during these multi-day events filled with panel discussions and business advice from the leaders in the field. I always left with a full notebook and filed some of the longest stories on my career. One of those stories will be remembered in an upcoming issue.

The Furniture Society is still going strong and has its 2016 conference scheduled for June 23-25 in Philadelphia. The theme is "Craft/Facturing: An evolution of makers and entrepreneurship." The conference, co-

hosted by the University of the Arts and The Center for Wood in Art, will blend artist presentations with panel discussions on contemporary topics relevant to the studio furniture community and the conference theme.

I haven't been in several years, but my recent trips down memory lane remind me how valuable these conferences are from an educational and networking perspective.

MERGERS AND ACQUISITIONS

There have been a couple of recent wood-working-related publishing deals worthy of note.

Our parent company, Active Interest Media, acquired August Home Publishing Co. in October. Founded by Don Peschke and based in Des Moines, Iowa, August Home is a multimedia company that publishes Woodsmith magazine and produces the PBS-distributed show "Woodsmith Shop." It has also category-leading titles in gardening and cooking.

"Don and his team in Des Moines have built a phenomenal company by developing extensive expertise in monetizing content through multiple print and digital channels, while surrounding their customers with service," AIM president and CEO Andy Clurman said in a statement. "We're thrilled to have August Home's creativity, skills and audience as part of AIM."

August Home becomes a sixth division at AIM, called Creative Home Arts. Other divisions include Marine, Healthy Living, Outdoor, Home, and Equine.

In December, Vance Publishing split its assets three ways, with CCI Media acquiring the Woodworking Network and related events. CCI Media publishes FDMC magazine. [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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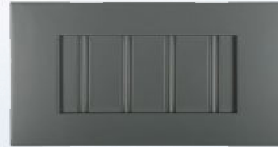
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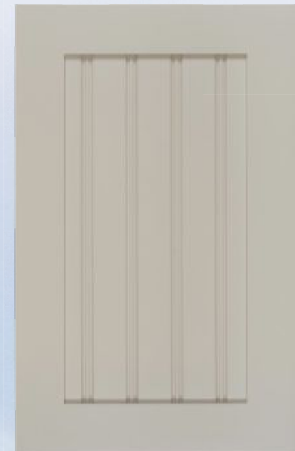
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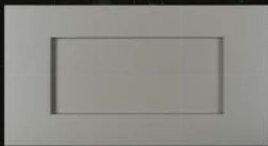
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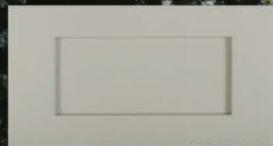
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FROM THE ARCHIVES

LAST VISITED IN 2005

Sam Maloof still looms large a decade later

As we celebrate 30 years of Woodshop News, a look back at 'the master' himself

By Tod Riggio

As the newly minted editor, this was on my bucket list: Get Sam Maloof for the cover. So senior writer Brian Caldwell picked up the phone and made it happen. Just like that.

Maloof, who was 89 at the time, couldn't have been more gracious. He invited Brian to his home and shop in Alta Loma, Calif., and spent the better part of a day regaling him with stories. Imagine that? He also posed for several photos and I had no trouble picking the lead for our September 2005 issue. He's standing inside his front gate, showing the

hands that created so much great furniture, over the caption, "Still rockin'."

In the story, Maloof talked about being satisfied with 10 more good years to continue designing and building furniture. He only got four more, dying at 93 on May 21, 2009. You can find the entire story at www.woodshopnews.com, but here are some of the more memorable quotes:

- "In chairs, I have a mental drawing in my head of what I want to do and I'll go ahead and make the chair. A lot of times I don't make sketches. I sketch in my head as I'm making it."



Optimizing your combi-head sander How to manage scrap wood

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• "I make chairs to suit me and not the client. I design them for myself and they just seem to work out. I don't think I've ever made a chair that I didn't think was comfortable to me. I've refined my designs over the years, but I've never followed ads or trends. I've been my own person.

• "One man said to me that I was going down the wrong track trying to make hand-made furniture, it just doesn't work. I said if Charles Eames wants to design bowls out of

plastic and sell them by the thousands, I think that's his privilege. As for me, I'd rather make individual pieces, starving at the same time, you know?

"I'm still making my same stuff while so many woodworkers, potters, whatever, keep changing and I felt that I had to be true to myself and I wanted to do what I do and not what somebody else was doing."

I'm still humbled that we got Sam Maloof for the cover. And I'm mystified that I haven't



had the issue framed to hang in my office. As we celebrate 30 years in publishing, this is certainly one of our crowning achievements and one I'll always cherish. 

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Arts & Crafts show gets better with age

By Jennifer Hicks

They keep coming back year after year. For 28 years, to be precise, enthusiasts of the Arts & Crafts style flock to the annual conference held at the historic Grove Park Inn in Asheville, N.C. They'll get their next chance on Feb. 19-21.

"It still amazes me that any event could last 29 years," director Bruce Johnson says. "I've seen Arts & Crafts publications come and go and Arts & Crafts businesses come and go, but this conference does speak to the appeal of the Arts & Crafts style."

With a loaded agenda full of antiques shows, exhibits, workshops, seminars and more, the event typically attracts more than 3,000 people from across the country, Canada, and even some foreign countries. Typically 1,000 or so attendees will opt for the all-inclusive conference pass with access to seminars, small group discussions and workshops on everything from furniture restoration to stenciling. The rest will visit for an afternoon or so, just as they would at any other high-quality antique or craft show, according to Johnson.

"The thing about Arts & Crafts collectors is that we live with our work. The things we collect are also the chairs we sit in and the tables we eat at and the lamps we turn on. That sets us apart from people who collect just one specific thing. And I think that for a large part is why for 29 years people are willing to leave their homes and their jobs and their families and come down to Asheville, N.C., for a long weekend with other collectors," Johnson says.

Another key to the show's long run is a separation between vintage and contemporary crafts, Johnson explains. For example, antiques are shown in dedicated space, away from new work.

"We do this because the contemporary craftspeople are really good. They use the same styles and techniques as some of the original craftsmen and have the finishes and stains down so well it's very difficult to tell a new piece from an old one. I don't want anyone disappointed in what they're looking at here at this show." **W**



Attendees learn about Stiles Machinery at its Manufacturing Solutions Seminar in November

Stiles packs them in at manufacturing seminars

By Jennifer Hicks

Stiles Machinery held the last of its 2015 Manufacturing Solutions Seminars in November, drawing a crowd of more than 200 to its showroom in High Point, N.C. The two-day event combined classroom presentations with machinery demonstrations to help cabinet manufacturers of all sizes in understanding new ways to improve their competitiveness and profitability.

"Our most recent event in particular has really turned out to be a winner. It's apparent that the industry out there is really interested exploring new technology. They turned up in droves," Stiles vice president of marketing Steve Waltman said.

On the first day, Stiles showcased four work cells highlighting new panel-processing technology for European furniture construction for improving cut, band and bore-manufacturing processes. Participating attendees were introduced to a number of production processes from high-volume and high-production lines, to more compact work cells for shorter custom runs, to those looking for a highly flexible manufacturing cell.

The next day, guests were exposed to new trending manufacturing practices focused on solid wood doors and other face-frame construction methods, including five-piece door work cells, sanding and finishing demonstrations, according to Waltman.

"Those in attendance were looking for in-depth answers and hands-on demonstrations to questions that mean something to them, versus marketing speak. This is the real deal. These machines are set up in real-world experiences, something that we can't do at trade shows. We had 50 machines set up and running with 40 experts on staff for the two days. The guests could run projects that resemble their solutions.

Because the events are gaining so much momentum, Waltman says Stiles is planning to add a fourth date in 2016.

The next Manufacturing Solutions Seminar is scheduled for Feb. 24-25. Registration will open in January.

For information, visit www.stilesmachinery.com. **W**



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US:



'Handcrafted' TV show set to premiere in March

Reality program will search the country for talented men and women who make items by hand

By Jennifer Hicks

Television network INSP will premiere "Handcrafted America" in March, an original series of 13 episodes featuring artisans who make functional work predominately from wood.

The premise of the show has host Jill Wagner (Teen Wolf, Wipeout) traveling the country on a quest to find talented men and women who make extraordinary items by hand. In every half-hour episode, Wagner meets three craftspeople and gets a behind-the-scenes look at their handiwork, as well as the process of conception and design. Along the way, viewers learn about the history and cultural heritage that inspire and influence each creation.

INSP airs dramas and "inspiring stories celebrating the American spirit and honoring timeless traditional values," according to the network.

"This show falls in line with the common thread in our programming that goes to people who make a conscious decision to have simple way of life, like "Dr. Quinn Medicine Woman" and "Little House on the Prairie," says Craig Miller, the network's vice president of original programming. "So we think that a show about artisans and craftspeople that make things by hand fits right in with that theme and that viewers will appreciate seeing real people doing some of the same things our characters do," Miller says.

The show is co-produced by Susie Films, a television production company based in Charlotte, N.C., which selects the artisans.

"In terms of artisans who make things out of wood, we have everything from guitar makers, pens, sunglasses, longbows and surfboards. Half of the artisans make something out of wood in some way, shape or form. A



few more incorporate wood in their work."

Some of the woodworkers in the series include Wayne Henderson of Wayne Henderson Guitars in Rugby, Va.; Scott Woody of Woody's Chair Shop in Spruce Pine, N.C.; Melissa and Scott Coleman of La Puerta Originals in Santa Fe, N.M.; Chuck Jacobi of Best Billiards in Pittsboro, N.C.; Cody DuMont of Tenbrook Archery Longbows in Santa Cruz, Calif.

For information, visit www.insp.com. **W**

Advantage Lumber buys mill in Brazil

An online seller, AdvantageLumber.com, announced the recent purchase of a hardwood lumber operation in Northern Brazil.

The company's new Brazilian facility produces hardwood decking, flooring, deck tiles and cabinet-grade hardwoods. The facility has more than 130,000-sq.-ft. of warehouse and production space, with dry kilns that have a capacity of more than 500,000 bf, according to the company.

"The factory is currently being retooled with top notch European machinery and vast improvements are being made for the facilities targeted 140-person workforce," the company said in a statement. "The factory is to be FSC-certified with three production lines capable of an annual production of 3 million square feet of hardwood flooring, 5 million square feet of decking, 2 million square feet of deck tiles, and 7 million board feet of cabinet-grade hardwood lumber.

For more, visit www.advantagelumber.com.

New-construction starts rally in October

New-construction starts in October advanced 13 percent, according to Dodge Data & Analytics. The increase follows the lackluster performance for construction starts during August and September, when activity fell to the lowest levels reported so far in 2015.

Much of October's gain for total construction was due to a sharp rebound by non-residential building, with additional support coming from a moderate upturn for housing as the result of further strengthening by multifamily housing.

"The healthy increase for construction starts in October alleviates concern about a stalling expansion that may have arisen with the sluggish activity in August and September," Dodge Data & Analytics chief economist Robert A. Murray said in a statement. "The construction start statistics do show volatility on a month-to-month basis, and as a result trends in the near term are rarely smooth. On balance, though, factors

within the economic and political environment still point towards the continued expansion for construction. For the non-residential building market, the primary drivers for its commercial and institutional building segments remain positive. The U.S. economy continues to register moderate job growth, vacancy rates are receding, rents are rising, and construction-related bond measures at the state level are getting passed.

"For residential building, multifamily housing is still a target for investors while Millennials are lifting the demand for apartments. For public works, there's been solid progress made by Congress towards finalizing the next federal multiyear transportation bill and there's less uncertainty with the selection of Paul Ryan as the new Speaker of the House of Representatives, although fiscal 2016 appropriations still need to be passed."



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WOOD MARKETS

White and red oak see boost in popularity

By Jennifer Hicks

White oak and red oak appeal to consumers in different ways. Sometimes it's the color or working properties that influence the buying decision. Lately, it's about the type of cut made at the sawmill, according to hardwood lumber dealers interviewed by Woodshop News.

Skip Kise of Good Hope Hardwoods in Landenberg, Pa., says the demand for rift and quartersawn white oak is so high he's having difficulty keeping it in stock.

"Customers are in the market for white oak that does not have much flake or simple slabs that have a vertical grain look to them for architectural millwork projects, moldings and

staircase," Kise says.

"In general, white oak has been trending upward in the past couple of years. Somewhere an architect or designer decided to use it and now it's the next great thing. That's usually how it works. The woods fall in and out of favor based on what's being dictated in the design world."

Kise adds that live-edge slabs are also still very popular.

Matt Gilland of Superior Veneer in New Albany, N.Y. says that during the last year he's sold more flat-cut red oak than white oak veneer.

"Everyone seems to be keeping with a contemporary theme. And, right now, I think customers want the red oak because it has a

warmer tone to it. We saw the uptick with red oak over the past year and it's been a pretty steady seller. White is still popular for the most part, but mainly in rifts and plain with little or no flake. Red is popular on the entire spectrum of cuts with either little-to-none or medium-to-heavy flake," Gilland says.

"Rift white has stayed steady because it has a limited amount of flake. The customers want to avoid that flake because it's a little more contemporary in design. We recently sold some rift white oak for several kitchen jobs and they all had a clear satin finish and were very modern-looking."

Sam Talarico of Talarico Hardwoods in Mohnton, Pa., agrees that white oak is very hot right now. But he also notes it never really goes out of style.

"I've been selling it for 45 years and it's never been slow, although some times are hotter than others. Right now I'm selling more European than domestic because there's a much better quality in the logs. Here in the U.S., the supply of oak logs to rift and quarter is dreadful, so I buy a lot of veneer logs and I can't even keep them in stock," Talarico says.

"I'm selling an awful lot of the rift logs to go with big jobs for trim, flooring and furniture and lots of 12" and wider logs for stair treads. The really big logs are driving the sales." **W**

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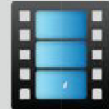
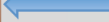


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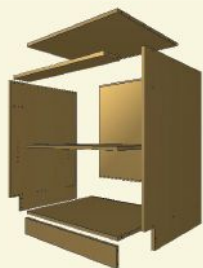


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TOOLS & TECHNIQUES



Italian company debuts electronic boring machine

By Jennifer Hicks

Maggi Technology, an Italian manufacturer, recently introduced the 21 Technology electronic boring machine to the U.S. market. The single-head boring machine offers quick and easy setup in under a minute, according to the company.

"This is the only multi-spindle boring machine of its category that's 100 percent electric. It doesn't need compressed air at all with electronic selection of the main functions through a user-friendly and reliable custom user interface made expressly for Maggi," product manager Stefania Maggi says.

The touch-screen function allows users to select electronic head rotation from 0-90 degrees at any angle, drilling depth, height and speed adjustment and clamp-height adjustment.

The machine also features a programmable logic controller, "meaning that all mechanical movements are smooth, constant and controlled by software to deliver the greatest accuracy in operations," Maggi says.

21 Technology was nominated for a new product Visionary Award at the 2015 AWFS fair in the machinery-under-\$50,000 category.

For information, visit www.maggi-technology.com. 

Teknatool updates its 'smart motor' lathe

By Jennifer Hicks

Teknatool USA is introducing an updated Nova Galaxi DVR "Smart Motor" lathe along with 25 new accessories. The lathe can handle a wide range of turning projects, from small delicate finials to large pieces of wood, according to the company.

"This is the bigger, beefier brother to the Nova DVR XP," marketing manager Tara Huff says. "What separates these two machines is the updated electronics. The Galaxi also has a longer bed length at 44" between centers. The headstock not only swivels a full 360 degrees, but also slides the full length of the bed. The Galaxi weighs in at 529 pounds for a strong, sturdy and vibration-free machine."

New features include an electronic brake, capable of stopping the lathe quickly, and a "dial-in" speed control, allowing the operator to precisely increase or decrease between

100 and 5,000 rpm. There's also a favorite-speed function.

With its Digital Variable Reluctance motor (1-3/4 hp, direct drive) and controller, the Galaxi provides the smoothest turning experience of any lathe on the market and it is tuned to give maximum torque at lower rpms just when needed for larger, heavier work, according to Huff.

"The technology in this headstock delivers constant high torque. This means that the turner won't feel the machine bog down as the technology can accommodate for chisel digs or power loss. The 'Intelligent Drive' analyzes both the spindle location and the power required to maintain a given speed. As cutting tool pressure is increased, the direct drive adds more power," Huff says.



The new accessories include interchangeable tool rests and mobile bases.

For a limited time, the Galaxi will be offered at an introductory price of \$2,250. At full price, it will retail for about \$2,500.

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Company says synthetic wood will last for decades

By Jennifer Hicks

At the 2015 AWFS fair, exhibitor Accsys Technologies caused some buzz with its Accoya wood, a modified wood product meant to last for decades in about any indoor and outdoor application.

"Accoya wood has been used in some of the most extreme applications, including a submerged pedestrian bridge, docks, and coastal siding, outdoor furniture and cabinetry, win-



dows, and doors," Accsys Technologies marketing manager Laura Ladd says.

Accoya wood is manufactured with a proprietary acetylation process that chemically



Accoya is the ideal material for outdoor decking, according to the manufacturer.



The products comes with a 50-year above-ground warranty against rot and decay.

alters the wood's free hydroxyls into stable acetyl groups. Acetyl groups are naturally present in all wood species, which means that nothing toxic is added. The altered cell structure of the wood makes it an unrecognizable food source for insects and prevents fungal decay, according to the company.

The product comes with a 50-year above-ground and 25-year below-ground warranty against rot and decay.

The company compares Accoya wood to hardwood for its machinability and says it requires no special tools for crosscutting, ripping, planing, routing or drilling. Uses include decking, doors, millwork, siding and windows.

It's available in 4/4 to 12/4 stock from several U.S. distributors. To find a dealer, visit www.accoya.com. 



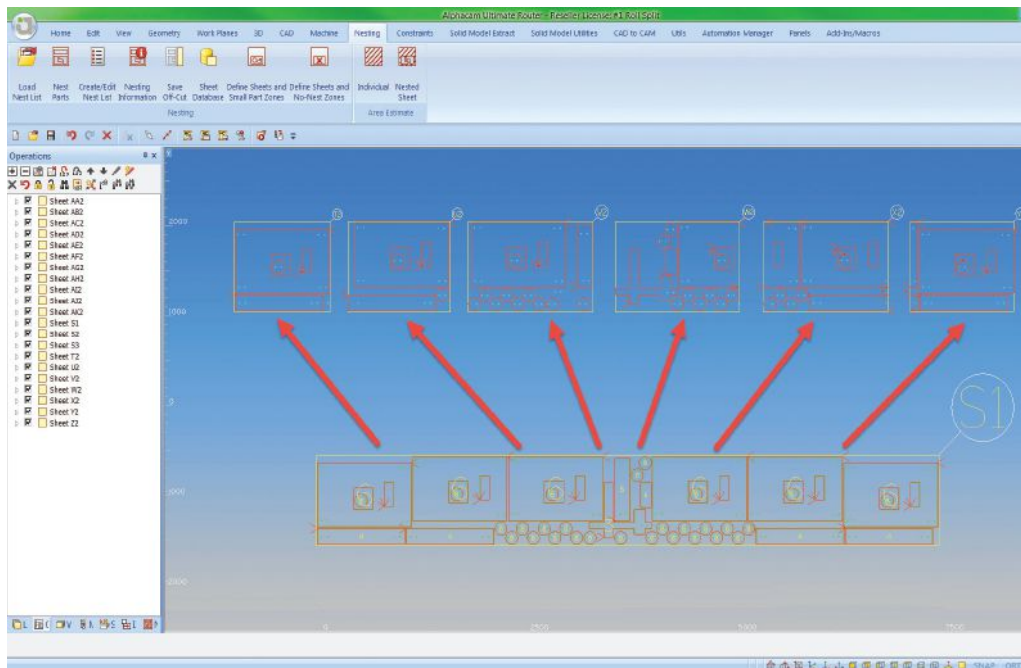
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Alphacam 2016 R1 features a new function called “roll-split” for manufacturers who need to nest shapes onto rolled sheets.

Alphacam release billed as a big time-saver

By Jennifer Hicks

Alphacam 2016 R1, the latest release of CAM software from Vero Software, features a new automation manager that can generate numerical-control code from 2-D and 3-D CAD files, as well as from solid models created from third-party software.

“This is a great alternative to a standard CAD/CAM system, where each file would have to be processed individually by inserting the file, extracting the features, applying tool directions and toolpaths, saving the file and NC code, then generating the required reports,” sales manager Michael Pettit says.

“This version of Alphacam takes a group or batch of files and automates the complete processing of the parts. Overall, this will save the end-user days and weeks, potentially even months of programming time in a year.”

Other enhancements include the Parametric Sketcher, which provides a simple way of parametrically generating geometries for files that are used regularly without the need for complicated constraints or routines.

“Common CAD geometry is created automatically, regenerating the file with any required variables, meaning there is no need to redraw similar components or families of parts. They are built using standard geometry commands and parts with the same form but different sizes are created by simply modifying the values of one or more variables,” Pettit says.

Other enhancements include File Inserter, the new geometry creation tool, allowing predefined elements such as hinges and locks on a door to be inserted easily onto a newly created drawing from the parametric sketcher; 2-D Transform, the new geometry modification tool, making it simpler to manipulate operations such as distort, scale, move and rotate, and the new auto-update material function, giving the option to associate a material to auto-update after each cutting operation.

“It optimizes time on the CNC machine by automatically updating stock, ensuring that subsequent toolpaths are only relevant to the residual material,” Pettit explains.

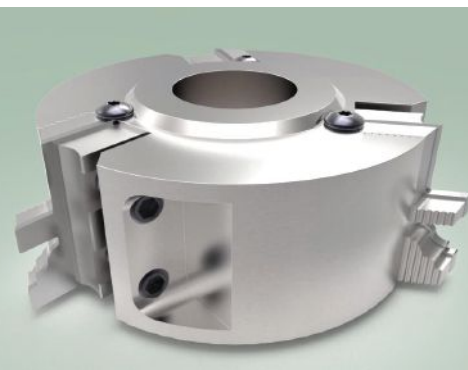
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Edgebanding: Sources, new materials and more

A host of suppliers are available to keep your shop on the cutting edge

By John English

Rehau is a Bavarian town of about 9,000 residents in Germany near the Czech border, a couple of hundred miles north of Munich. It has been around awhile — the name itself dates from 1234 A.D. and the town is a lot older than that. The biggest employer by far is the polymer manufacturer Rehau AG & Co, which was founded in 1948 and now employs more than 15,000 people around the world. Known to woodworkers for both edgebanding and vinyl windows, the company originally made garden hoses as well as parts for the old Volkswagen Beetle. Always innovative, Rehau was involved in the first German heart operation that used silicone tubes and also the first extrusion of a PVC window profile. It established a presence in the U.S. by opening a

sales office in New York in 1959.

Today, Rehau (www.rehau.com) is known for innovations such as UltraLitec, a new type of production process introduced in 2011 that combines fibers with thermoplastics in a special compression molding and laying technique. And in 2013, the company unveiled RauVisio glass and high-gloss laminates for both edgebands and surfaces in the furniture industry. In November, Rehau began offering Magic 3-D edgebanding that “creates an illusion of depth and embossed texture using a decorative print that shows through a transparent PMMA surface,” according to the company. The tape uses two different lacquer types to create the illusion of 3-D. With excellent processing capabilities, Magic 3-D can

handle tight radii, trims easily and can be polished or beveled without damaging an underlying print.

COMMERCIAL SUPPLIERS

Most shops get into edgebanding slowly. They transition from solid-wood custom residential doors to an occasional commercial job that requires clean edges, such as a clinic or school. When it's time to ramp up that end of the business, it really helps to find a supplier that can offer solutions without adding any confusion. Part of that equation is great customer service and companies such as DC Distributing (www.dc-dist.com) have understood that for quite some time. That's probably why DC is one of the largest suppliers of edgebanding and related products in the United States. The company offers custom services such as slitting and pre-gluing and a real person still answers the phone when a woodworker needs a little guidance choosing products.

FormWood Industries (www.formwood.com) is another great example. Located in Jeffersonville, Ind., the company has been manufacturing edgebanding and other veneer products since 1972. FormWood provides a variety of backer offerings and is now working in conjunction with the Forest Stewardship Council to create veneer sheets and architectural pan-

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els that have been FSC-certified. FormWood also sells bamboo veneer in both vertical (narrow cane) and horizontal (wide cane) cuts and in both natural and caramelized colors.

A lot of shops have invested in Festool's new Conturo handheld edgebander since its introduction and also in the accompanying workstation that transforms it into a stationary machine. Among Festool's distributors is Wood Werks Supply Inc. of Columbus, Ohio (www.thisiswoodworking.com), which also supplies Festool adhesives along with edge forming and trimming router bits and a line of Safety Speed Cut edgebanding machines.

Brian's Tool Sales in Enfield, Conn. (www.brianstoolsales.com) carries four Cehisa machines and an AMT edgebander model. And Kling-spor (www.woodworkingshop.com) offers a number of hardwood and melamine tapes. The company also supplies a pair of specialized router bits for creating a hardwood edgeband.

If you're looking for a used edgebander, especially a larger machine, visit RT Machine online (www.rtmachine.com).

Another source for new machines is California-based Global Sales Group (www.globalsalesgroupinc.com), which offers both Safety Speed Cut machines and both a portable and a stationary option from Cantek (the MX500AU and MX330 models, respectively). Cantek itself also has an online presence at www.cantekamerica.com, where a shop owner can watch a video on the MX330 in action.

Reading about products and watching videos online can give a woodworker a pretty good idea of what a tool or a tape can do, but there's nothing like talking with an experienced shop pro to gain the confidence to try new technologies. For example, cabinetmakers in Connecticut who need help with edgebanding can visit the physical retail store of Parkerville Wood Products (www.parkervillewoodproducts.com) in Manchester. The company started out building boxes and still has a custom woodworking division. Occupying 22,000 sq. ft., the staff at Parkerville has a lot of shop experience to help customers find hands-on solutions.

Keim Lumber Company (www.keimlumber.com) offers the same kind of experience on a much larger scale. Based in Amish country in Charm, Ohio, it's a fourth generation family-owned business that began in 1911 as a rough lumber mill. Back then, there were only four employees. Today, the company occupies more than 700,000 sq. ft. of retail, office, warehouse and millwork production space and has 400 employees. Keim offers both real wood veneer edgebanding and melamine edgebanding from brands such as Therm-O-Web and Sauers. There are a variety of widths to choose from including the popular 2", 7/8", and 13/16" sizes, and the tape comes in lengths from 25 to 250 feet.

Manhattan Laminates Ltd. (www.manhattanlaminates.com) bills itself as the only full-line woodshop supply distributor in Manhattan and the company offers Formica-brand edgebanding.

Another way to learn about options like

moving into edgebanded casework is to join an industry group such as the Architectural Woodwork Institute (www.awinet.org) and take part in its shop visit program. Local chapters meet at each other's facilities and discuss methods, materials and machines over coffee.

CATALOG SOURCES

If you can't make it to Manchester or an AWI meeting, there's always the Internet. For smaller shops or occasional edgebanding jobs, retailer Rockler Woodworking and Hardware (www.rockler.com) lists 140 edgebanding-related products in the company's online catalog. These include a huge array of FastEdge peel-and-stick options, plus hot-melt wood and plastic or melamine choices. Rockler also offers a number of simple, inexpensive trimming tools and some clamping solutions.

For tricky applications, Woodworker's Supply (www.woodworker.com) suggests taking a look at super sticky FastCap SpeedTape. This patented product is a high-strength, pressure-sensitive adhesive that comes on a roll. All you do is peel off the liner and stick it into place. There's no mess and you get a permanent bond. The clear, double-sided tape

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is great for applying edgebanding and also works for laminating, veneering and even installing light trim. Approximately 4 mils thick, it comes in 1" and 6-1/2" wide rolls and both are 50' long. The company also sells FastCap and Edgemate wood edgebanding and the extremely simple Band-It brand trimmer that handles materials up to 1/8" thick.

Outwater Plastics of Bogota, N.J. (www.outwater.com) has been helping woodworkers solve production problems since 1972. When it comes to edgebanding, the company's catalog has five pages of products to offer. These range from banders and trimmers to peel-and-stick wood and polyester tape. Outwater also sells pre-glued iron-on tapes, standard wood veneer edging, metal-like trims, glass-look banding, thin tapes and a line of impact resis-

tant, rigid or semi-rigid PVC. The company's Eco Style ABS edgebanding is chlorine-free, so it can be disposed of safely in an incinerator.

Edge It (www.edgeitedgebanding.com) supplies woodshops with PVC, metallic and veneer edgebanding. The wood species include, but are not limited to, oak, cherry, walnut, mahogany, maple and birch. Edge It also carries hot-melt adhesives and has a page on its website called "Clearance Sale" that is well worth checking out if your client hasn't settled on a color choice. A woodworker can find some really good deals on custom orders that were never picked up or hundreds of tape rolls from popular manufacturers such as Nevamar, WilsonArt and Formica.

The Wood & Shop Inc. stocks about 50 different exotic or imported hardwoods and do-

mestic species. The company's online catalog (www.woodshop.net) offers a number of solid wood, hot melt and PSA edgebandings for sale by the foot.

OTHER SOLUTIONS

If your client wants something special, perhaps edgebanding in-house isn't the solution. Outsourcing doors and panels can open up a whole menu of options that a smaller woodshop might not have the machinery or technical abilities to complete. And outsourced suppliers, especially the larger ones, are often on top of trends before they reach mainstream cabinet shops. For example, Decore-ative Specialties (www.decore.com) provides components to shops across the country and notes that while "edgebanding is traditionally used to provide a cohesive look between the material on the face and the edges, a recent trend in cabinetry uses a unique or contrasting edgeband to provide a distinct difference between panel and edge materials. This is especially popular with high-gloss looks and with silver or contrasting colored edgebanding applied. With custom cabinetry, the options for customization are endless." Working with an established national door and case supplier is akin to having your own design department.

Another route to go is to use solid hardwood veneers and make your own custom edgebanding. Reputable suppliers such as Berkshire Veneer Co. (www.berkshireveneer.com) stock hundreds of thousands of square feet of raw veneer.

For more supplier information, visit our online resource guide at www.woodshopnews.com. **W**



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Ligna organizers add off-year conference

The first Ligna Conference is scheduled for May 3-4, 2016, at the Hannover Exhibition Center's Robotation Academy in Hannover, Germany.

The conference, organized by Deutsche Messe and the German Woodworking Machinery Manufacturers' Association, will explore the intelligent integration of production and logistics processes and the practical benefits of Industry 4.0 technologies for users of woodworking machines.

It will also feature real-life case studies that illustrate the wider benefits to the timber and furniture industries of integrated production systems, such as the ability to manufacture customized products at competitive prices.

The two-day conference will also feature exhibits, seminars and networking opportunities.

THE CUTTING EDGE

with R.W. LEE

'Certainty of the outcome' boosts value of CNC

RES Woodworking in Clinton, Conn., has a well-equipped shop. On a recent visit, I quickly noted a SawStop table saw, Altenrdorf F45 slider, 36" wide belt sander, dovetailer, Kreg multi-spindle pocket hole and 4' x 8' face-frame table, and several shapers and router tables. It actually took a minute to find the Omnitech Selexx Pal CNC machine, painted bright orange with a 5' x 10' worktable.

Owner Ray Swan purchased the router in 2007. It only has been used for about 500 hours, but Swan says it was a good investment. His measurement of success is that the CNC machine was purchased with the idea that it was to be his next "employee," one that would work consistently and precisely, rather than as a "moneymaker" to increase the output of his two-man shop.

Swan's entry into digital fabrication started with the purchase of Cabinet Vision's CAD software in 2000. He uses it mostly to design basic cabinets, which are modified to meet customer requests and construction constraints. Swan estimates he uses about 80 percent of the software's capabilities.

The step into the CNC world, like everything Swan has done, was after a slow and analytic review of the options.

Part of it was driven by the often-heard lament, "I can't find any decent help." That is why Swan called the CNC machine his next employee. Actually, the way he uses the combination of Cabinet Vision (with an added manufacturing module) and the CNC machine, he has a couple of new hires.

The software provides two — a "salesperson," since it can create realistic renderings of what a completed kitchen will look like, and an "estimator", capable of calculating and optimizing the materials needed to complete the job. You can probably add "designer" as well, since software prepares his shop drawings.

Swan organizes the final documents — final renderings, cut lists and shop drawings — into a job-specific three-ring binder. The details are discussed with his employees before the project is started. This has reduced his role of overseeing the project's comple-

tion, since he no longer has to be on top of every detail during the construction process.

The shop has taken the extra step of using mobile sorting racks to store parts immediately after they've been cut on the CNC machine.

And this is one aspect of where Swan sees the biggest payoff. Before he got the CNC, he estimates it took his crew three to four days to cut the sheet goods for a typical kitchen. It now takes three to four hours.

Time is also saved in assembly, since the CNC machine cuts all of the dados and rabbets and holes for drawer slides, hinges and adjustable shelves. While the machine works, his guys are putting together cabinets.

He and his new "employees" have become a well-oiled machine. The process doesn't change, whether for a single cabinet or a whole kitchen's worth. "It's so much faster and efficient to use this software/CNC combination," he says. "That, coupled with the certainty of the outcome, makes the investment worthwhile." **W**



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Patience is key with green paint strippers

Less irritating to breathe and less damaging to the environment, they are easy to use if you give them time

Not counting the use of heat or lye, which are both damaging to furniture because they can lift veneer and loosen joints, methods for removing old paint and finish from furniture have gone through at least four distinct periods.

Before solvents became widely available, coatings were removed by scraping, often with glass used like we use scrapers or by sanding after sandpaper became available.

The first active solvent widely used for stripping was benzene. It was cheap and fairly effective and it was sometimes combined with other solvents to make commercial strippers.

By the early 1970s, however, benzene was determined to be carcinogenic. It was taken off the consumer market and replaced as a stripping solvent by methylene chloride, which is more expensive, but also more effective. That is, it's stronger and faster-acting.

Other solvents were also used in combinations to make less expensive (and less effective) strippers. These include acetone, methyl ethyl ketone, toluene, xylene and methanol. Sometimes, these solvents were combined with methylene chloride to reduce costs. All of these solvents are inflammable, while methylene chloride is not.

Each of these strippers is still widely available and easily recognized by the packaging — in metal containers. High-percentage methylene-chloride strippers are noticeably heavier than the multisolvent strippers and are labeled "non-flammable," so they are easy to recognize. (Manufacturers supplying the professional refinishing trade often package their methylene-chloride strippers in large thick-plastic containers.)

In the mid-1980s, methylene chloride came under scrutiny as a possible human carcinogen. The evidence for this was weak and is still in dispute. But the doubt created, plus the flammability and toxicity of the other solvents used in strippers, was enough to create a market for an entirely new category of paint and finish removers with reduced toxicity.

It isn't that these replacement solvents are so less toxic. It's that they evaporate so much slower (remaining wet on the wood for up to a day or two) that there's plenty of time for the air in a room to turn over many times before the solvent vapors reach toxic levels.

The reduced strength and speed of these replacement solvents is reflected in the packaging. Every brand I've seen is packaged in a plastic container.

ALTERNATIVES

The pioneers in this new category were Safest Stripper and Wood Finisher's Pride. You might remember them from the early 1990s. Their introduction was accompanied by a great deal of advertising, focused primarily on replacing methylene chloride, which was prominently

branded a carcinogen.

Safest Stripper was based on dibasic esters (DBE): dimethyl adipate and dimethyl glutarate. These solvents are often used in so-called "safe" or "green" cleaners, including graffiti and paint-spatter removers. When used alone, DBE is often combined with water.

Wood Finisher's Pride was based on n-methyl-pyrrolidone (NMP). This solvent is stronger (faster) and more expensive than DBE.

The flurry of advertising created enough interest for many additional companies to enter the market with their own versions of alternative strippers, some combining NMP with DBE. It got to the point that every paint store and home center stocked many brands.

Then, fairly suddenly, this entire category of strippers almost disappeared from the shelves, leaving only Citristrip, an orange-colored gel, widely available. What happened?

In my opinion, alternative strippers disappeared because of a major marketing mistake. Every brand exaggerated the time it took for their stripper to work. That is, they claimed much faster results than the actual time it took.

Manufacturers chose to compete with the speed of methylene chloride, which they couldn't legitimately do, instead of promoting ease of use. Instead of having to fight the rapid evaporation rate of the traditional strippers, the consumer could relax, be patient and eventually remove all coats with just one application of stripper.

The exaggerated claims got strippers packaged in plastic with the reputation of "not working." Customers complained to store clerks and store clerks warned potential customers. The market dried up.

This situation continued until recently when "green," referring to environment and health, entered the marketing vocabulary. Terms such as "biodegradable," "non-toxic," "water-based," "earth-friendly," "no harsh fumes," "soy-based" and "citrus" took on strong marketing clout. (Soy and citrus are misleading because they don't refer to the active ingredient, which is NMP).

Alternative strippers fit many of these terms well, so manufacturers reentered the market, often with newly labeled products showing lots of green.

Exaggerated working times and over-the-top hyperbole didn't disappear, but the bet is that consumers are now so desirous of avoiding bad smelling, irritating and flammable solvents that they will use these strippers anyway.

DO THEY WORK?

The question is: Do they work adequately enough to be legitimate replacements for methylene chloride and flammable-solvent combinations? The answer is that they do. They just take considerably longer on most coatings.

It's important to remember that coatings react differently to stripping solvents, no matter how fast or slow they are relative to others. For example, shellac and lacquer dissolve fairly quickly and become a "gunk" that is easy to wipe off (though not so quickly with DBE). Varnish, oil paint and usually latex paint swell and blister. Oil-based polyurethane and two-part, high-performance finishes have their bonds to the substrate broken so you can scrape them off.

Summing up, green paint and varnish removes have a number of things going for them. They are considerably less irritating to breathe. They are generally less damaging to the environment and they are easy to use if you give them time to work.

On the other hand, some contain a lot of water (and might even be promoted for it). Water raises the grain of the wood and causes steel wool to leave rust marks on the wood (so use a synthetic pad instead). Much worse, water can lift veneer if left in contact for an extended period, especially on old furniture glued with animal-hide glue.

Also, the slow-working advantage becomes a disadvantage if you are in a hurry. You have to allow considerably more time than you might be used to with strippers in metal cans. **W**



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- Min. panel dimensions: 4¾" W x 9½" L
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DISCOVER

A visionary in Vermont



PHOTOS: MICHAEL GORDON



Kevin Hastings has grown his Vermont woodworking company through risk-taking moves that paid off
By Jennifer Hicks



PHOTOS: MICHAEL GORDON

Since 1992, Kevin Hastings has grown his Vermont woodworking company, Amoskeag Woodworking, into a full-service business for commercial and residential millwork, cabinetry and lumber production.

The name of the business comes from Amoskeag Mfg. Co., once the world's largest text mill in Manchester, N.H., where Hastings grew up. Though it has an office in Colchester, Vt., all of the action happens at the company's production mill in Fairfax, north of Burlington and about 30 minutes from the Canadian border. The 55,000-sq.-ft. production facility was the former home of Milton Bradley Wood Products Co., which made about 1 million Scrabble letter tiles per day for more than 20 years until it closed in 1998.

The enormous shop is airy and bright inside and features automated tooling and CNC machinery. There are currently 25 employees, down from a high of 55. The atmosphere is a mix of traditional craftsmanship and contemporary digital technology. The shop also has a strong focus on sustainable practices using FSC-certified products and environmentally sensitive finishes.

Hastings found his niche in the commercial woodworking industry early on, in part because of the insurmountable competition in residential woodworking that is naturally part of the area.

"In Vermont, everybody's a woodworker working out of their garage. There's a very strong woodworking climate here. I didn't want to do residential work because so many people were doing it, so early on I got involved with commercial work because that's where my connections were and the business grew and grew," Hastings says.

It really grew in 2010 with the acquisition of the production mill for Morse Hardwoods and Millwork, but more on that later.

SO MUCH FOR THAT DEGREE

Hastings earned a bachelor's degree in computer science at Saint Anselm College in Manchester, N.H. But a part-time job in the school's woodshop got him interested in pursuing construction work after graduation.

"I knew I couldn't sit in an office so I went into construction and built houses," Hastings says. "In 1988 I followed my brother up here to Vermont when I was 25. We worked together until I went out on my own in 1989. But pretty soon the housing market crashed, so I went to work for a small commercial construction company's woodshop. I went back out on my own in 1995 and rented a little 2,600-sq.-ft. shop in Colchester."

Amoskeag Woodworking had begun. The jobs poured in and the business grew by word of mouth. Hastings hired his first employee, Shawn Hatin, in 1995 who continues to work for the company.

He expanded the operation in Colchester, then outgrew that 7,000-sq.-ft. space by 2010. That's when the opportunity to buy the Fairfax facility emerged.

"I had looked around for nine months and found this place, which back then was Brad Morse Hardwoods, on the market," Hastings says. "My first reaction was, 'Wow, it's way too big. But the housing market that crashed in 2007 had shrunk Brad's business to a quarter of its size. His guys were only working two days a week. He said if I bought his equipment, he'd give me the business as well. I was in deeper than I had wanted, but I didn't want to see his (eight) employees go down, too.'"

He decided to put the two businesses together and so far it has worked.

"One of the things that has helped us survive is we're not a one-trick pony. Because Vermont is such a rural area with only about 600,000 people, we do commercial, residential wholesale and contract manufacturing work. That mix brings in enough revenue to keep the business going."

Architectural millwork accounts for about half the revenue. Morse Hardwoods and Millwork, a retail source for flooring, molding and residential building products, contributes about 30 percent.

"The way that side works is customers will call us and say they're looking for oak flooring, unfinished in a certain width, or they'll say they took down lumber on their property



Employees Larry Chouinard (left) and Israel Bourget in the shop.

and ask us to make it into flooring to put into their house. We also do any kind of molding such as crown molding, base molding and stair parts," Hastings says.

The remaining revenue comes from contract manufacturing, an agreement with an inventor who needs a product made. Amoskeag is currently manufacturing products for five entrepreneurs, including cutting boards, plant holders, yoga mat kits and other wood components.

"We've restructured a little over the past several years and one of the reasons we took on the contract manufacturing was because there was a need and nobody was doing it," Hastings says.

MADE—AND SOLD—IN VERMONT

Amoskeag, for the most part, is a regional supplier. "We probably do 80 percent of our work in Vermont and the other 20 percent in New England or upstate New York, which is just across Lake Champlain. It's very rare that we will go farther than that geographic radius. Maybe one time a year we will do something in the Bahamas or another state. We did a project for Bruegger's Bagels at the Mall of America."

Some of the regular customers include Merchants Bank and the New England Federal Credit Union.

Hastings describes the shop as a nice place

to work with a hardworking, team-oriented crew that has low turnover. He isn't in the shop much anymore with a couple of business to run.

"I'm quite busy overseeing everything and making sure everything is done properly. I usually do all of the initial sales agreements and manage staff. Basically I'm a general manager.

"We can probably handle about 25 jobs at a time. We have drafting, engineering and programming professionals here. Commercial jobs are submitted to us, then to the architect for approval, and then they are engineered to order."

Hastings says the company's focus on sustainability has a lot to do with the woods its uses. For example, it is more likely to use local ash over oak that has to come from a great distance.

"There's this big push in the state legislature to keep farms and forests in business so we don't look like suburbia. Our company embraces that mentality as well. We believe in supporting local materials," Hastings says.

As for customer preferences, Hastings is seeing a trend towards rustic woods, like figured brown maple, with a clear finish. "Anything that's darker and has more character in it or anything unusual like spalted maple or maple with tap holes in them from making syrup. Those are the trends.

"We use a lot of clear finishes because the

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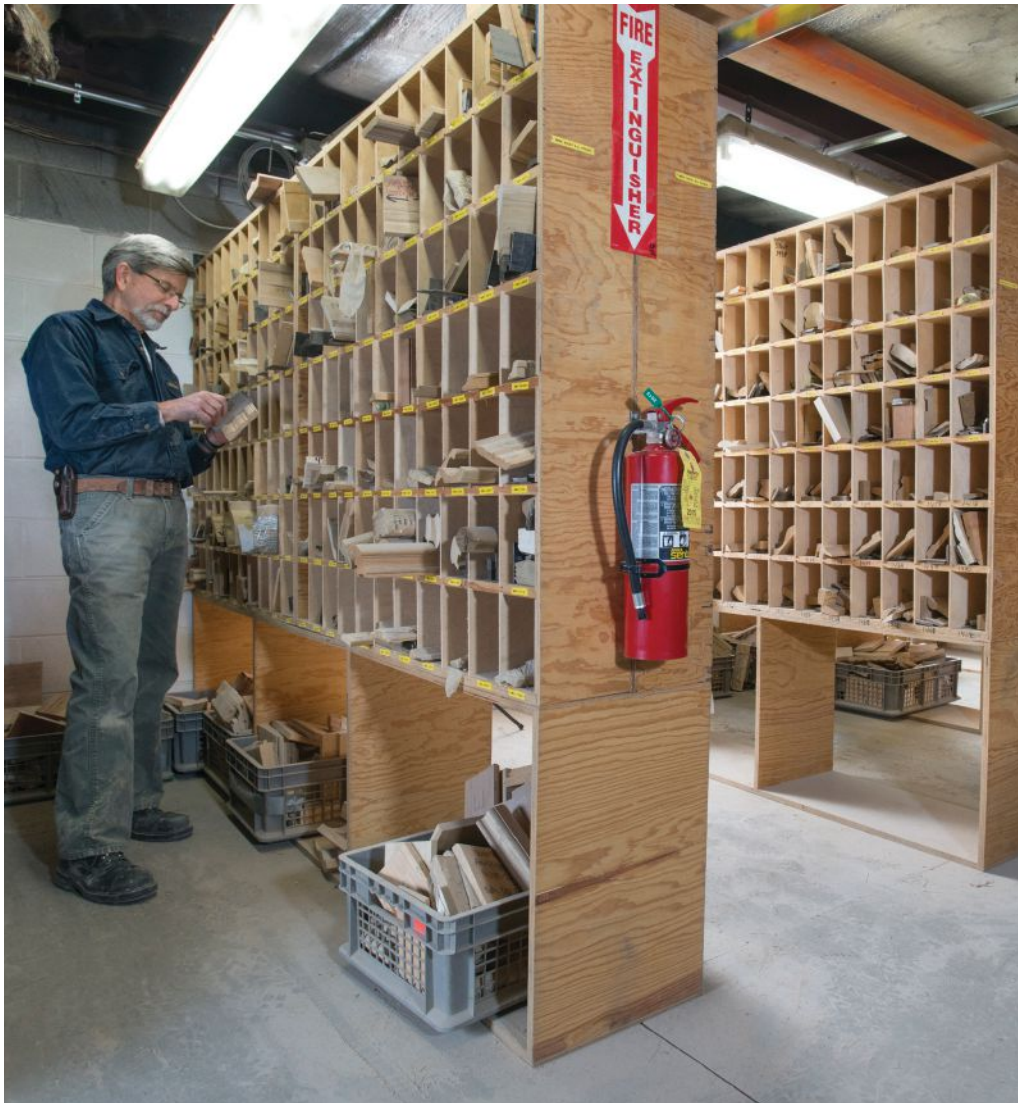
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Cary Snow (above) marks ripped wood lengths; Reggi Pouliot in the cutter library. At right, completed work from the shop's extensive portfolio.



PHOTOS: MICHAEL GORDON

work we do on the commercial side requires them. We've done some pickled finishes and some painted, but the bulk of what we do is stained and clear," Hastings says.

TIME TO START MARKETING

Hastings just applied for a federal grant to help with sales and marketing, which he hopes to secure in 2016.

"Marketing is the one thing we don't do very well. Our product has sold itself over the years, but that only takes you so far. We applied for the grant to go out and push the business some more.

"The business we bought was 25 years old so the people would just keep calling. We didn't advertise on the web or do print marketing. We have seen our market shrink, so with the grant we want to build an e-commerce website to get back out in front of our clients. The funny thing is that I was a computer science major in the 1980s, but I'm not that computer-savvy now."

Shaking his head, Hastings expresses that he still can't believe he was able to manage the monstrous facility and keep business going. Instead of being intimidated by it, he now feels that it is not maximizing its full potential because not enough people know about what his business can really offer.

"Milton Bradley had 75 employees here, so there's room to grow. We'd like to take advantage of the three kilns here and dry and saw logs. We are always buying logs from Canada or Massachusetts and I know we can support logging trucks and so on. It's important for us to build that network." **W**

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AIRING IT OUT

Adding pneumatics in your shop
doesn't have to cost a lot and
isn't complicated to set up

By John English

Why would a woodshop want to add pneumatic capabilities?

Lots of reasons — pin nailers, staplers and spray guns immediately come to mind. Installing hardware can be quicker with an air-powered ratchet wrench. But beyond that, pneumatic power is a component of growth. When a shop steps up to machines such as CNC routers and wide belt sanders, these use compressed air to hold work in place or allow a head to be configured or moved.

Not everything works better with air. For most woodshop portable tools, cordless or even plug-in solutions generally work better. Take something such as pad sanding: while a pneumatic sander might be ideal for a few

tasks, it eats up a lot of air and the compressor pump usually has to work hard to keep up. They're not always as responsive as a small electric sander and hauling that hose around can be a real drag.

But there is definitely a set of tasks in every woodshop where air is the best solution. And adding pneumatics on a small scale can be quite inexpensive and easy to do.

BEGIN WITH THE COMPRESSOR

Sizing a compressor is simple arithmetic. Add up the requirements of the tools you will run simultaneously and make sure the pump and

the reserve tank will handle them. Asking a qualified salesperson's advice will pay dividends here. The world of cfm and psi can get a little confusing. For a great explanation, visit www.about-air-compressors.com and click on "Compressor Sizing" in the left-hand column.

Choosing a compressor is a bit more complicated. For small shops, this might be both a job-site and also a workshop piece of equipment. In that case, you'll probably want the largest portable unit that you can physically handle. The bigger the wheels, the easier they roll. Keep in mind that most job sites won't have ready access to 220-volt juice, so that somewhat restricts the choice. Customers also appreciate a quiet compressor, especially if it's being run indoors when they are still in the house or home office. On commercial jobs

such as retail environments, if there's a lot of trim to install it might be better to do it when the store is closed, because even the quietest compressors in sealed acoustic boxes still make quite a racket.

For shops looking at a dedicated stationary compressor, there are some energy consumption issues to take into account. Traditional units with large reservoirs kick on quite frequently and cycle to maintain high pressure. To do that, they run at one fixed speed. The new generation of variable-speed compressors will slow down or speed up in response to changing demand. It's a bit like the difference between a domestic water heater that warms 40 gallons all day and all night regardless of how much is being used and an on-demand tank-less water heater that only heats water as it is being used.

Branding can be a powerful part of the decision, too. Some manufacturers have earned a reputation for reliability through many decades, but there are now a lot of pumps out there that were made offshore. They might be

less expensive, but they often have no history. You're going to rely heavily on this piece of equipment, especially on job sites, so check to see what kind of support is available and where it is available. They're hard to ship to a repair center.

YOU NEED AIR WHERE?

Delivering compressed air where it's needed in the shop used to be a big deal that involved lots of metal pipe and fittings. Once in place, the pipes were difficult to alter. Now, a small shop can purchase a complete system that is designed to install easily and inexpensively on the wall or to attach to a ceiling.

Options such as the Rapidair 90500 package (available at retailers such as Grizzly, Northern Tool and The Home Depot among others) run less than \$100 and use flexible hose to meander around machines, light fixtures, ductwork and other obstacles. The corrosion-free, lightweight hose handles loads up to 150 psi. While the kit is only recommended for work areas up to 1,200 sq. ft. and tubing lengths that

are less than 50 feet from the compressor, it's so inexpensive that adding a second or even third one is a viable option. The fittings on kits like this are usually just pushed together, like the PEX (cross-linked polyethylene) water line systems that plumbers have moved to in the last few years. The 90500 kit includes 100 feet of tubing, two outlets and a manifold. If 100 feet isn't enough, the hose on its own sells for about 50 cents a foot. Additional wall-mounted outlets run \$30.

If you already have a compressor and pipe, you can instantly extend that system by adding a three-way plug-in manifold that splits the line to accommodate a couple of different nailers or spray guns. That also saves time disconnecting the hose from one tool and attaching it to another. A shorter length of hose running from the manifold to each tool will keep tangles to a minimum.

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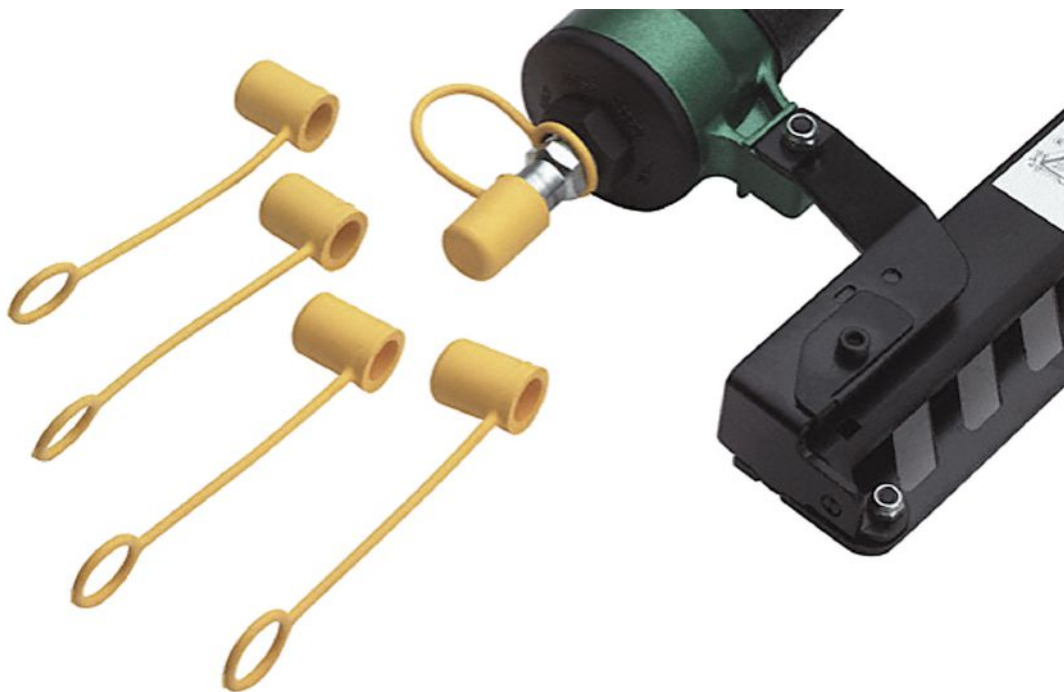
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the swivel connector. Major manufacturers offer both male plugs and female couplers. According to Senco, a swivel plug “allows easier access when working in corners and tight spaces, reduces fatigue, helps prevent kinks and reduces stress on the air hose [and] provides a strong and simple connection for pneumatic tools.” In lay terms, it allows the gun to reach inside cabinets without the air hose driving you nuts.

Another version of this concept allows hoses or tools to swivel 360 degrees. For example, three orbital swivel fittings that are available from Woodworker’s Supply (www.woodworker.com) let two lengths of hose swivel in a complete circle to help eliminate kinks in the supply line. They’re made of brass and then nickel-plated to resist corrosion.

Moisture and dirt in the lines is a big problem with pneumatic tools and it can get into the air system when we leave nail guns lying around on a workbench or on the ground at a job site. To prevent small insects, dirt or moisture from entering pneumatic tools, Robert Boone of Union City, Ohio, created a company called Intacap. He then developed a line of simple and inexpensive pneumatic caps that the auto industry has been using since 2009. They’re nothing more than a rubber cup that fits onto the pneumatic tool intake and each cap is secured so it can’t be lost. Intacaps are widely available through major retailers.

Woodworkers are aware of vacuum veneer clamps that work with compressed air, but pneumatics can also be used to clamp work. Lee Valley and other suppliers offer the V-Clamp system, which is an inexpensive and non-invasive alternative to using pipe or bar clamps to hold a workpiece in place for drilling, routing and so on. It’s essentially a couple of 5-1/4” square pads that are screwed to a



Senco’s 3-Way manifold.

workbench. Each pad is divided into nine little squares. Flip a toggle switch and they'll grab a piece of wood and hold it steady while you work on it. They're a great solution for production work, where touching the toggle is a whole lot quicker than unscrewing and then retightening a couple of mechanical clamps. Two styles are available: a single-sided that mounts with four screws (and requires 1 cfm of air at 80 psi) and a two-sided version (2 cfm at 80 psi) that vacuum-mounts instantly to smooth surfaces without screws. They are \$69.50 and \$79.50, respectively, from Lee Valley (www.leevalley.com).

GENERAL HOUSEKEEPING

Dirt and moisture have always been a challenge for pneumatics in the woodshop, especially in more humid regions of the country. Accumulations of dirt and dust can gum up the insides of nailers, pinners and staplers. Fine dust can contaminate finishes and the best way to combat this is by filtering for both moisture and dirt. For example, RTi (www.rti-pbe.com) makes a family of in-line filters.

Rapidair (www.rapidairproducts.com) makes airline filter-regulators that remove moisture and debris from air lines and also include embedded regulators to set flow pressure (the



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Swivel couplers (left) and hose orbit swivels (middle) allow a woodworker to reach into cabinets and confined spaces without the air hose getting in the way; In-line filtration for both moisture and dirt is essential, and quick-release filters (right) from suppliers such as RTI keep maintenance to a minimum.

pressure of the air when it arrives at a pneumatic tool). Such filters are inexpensive (a standard 3/8" version retails for about \$40), do a great job safeguarding both tools and the quality of sprayed coatings, and are offered by several brand-name manufacturers. For example, Campbell-Hausfeld offers an American-made, five-micron, in-line filter (PA2121) for trapping moisture and foreign matter that has

a see-through bowl with a metal guard. This lets a woodworker monitor fluid levels at a glance. It comes with a quick-release bowl and quarter-turn drain, so it's simple and quick to do maintenance.

Most major manufacturers also offer lubricators that continuously deliver oil to air tools. This reduces maintenance and extends tool life. But be careful where they

are located. Some guns — and especially spray equipment — don't need lubrication and indeed warm against it. Check the owner's manual before attaching a tool to a lubricated airline.

One final thought — and perhaps the most important: read the owner's manual to learn how to drain your compressor's reserve and do it daily. **W**

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DUST is the DEVIL

**Lingering particles in your shop
can damage everything from
finish quality to your health**

By John English

Walk through the shop and touch some flat, horizontal surfaces. If your fingers leave even a small a track in the dust, you have a problem. It's sometimes called migrant or "fugitive" waste.

The American Heritage Dictionary defines dust as "a cloud of fine, dry particles." But woodshop owners know better. It's not just airborne: it's an insidious coating, a thin blanket that affects everything from finish quality to employee health. And in an industry that is centered on flammable materials and byproducts, dust also carries potential for both fire and explosion.

Dust is the enemy and it must be contained.

PLANNING IS KEY

Woodshop owners have always understood that dust is a threat. Before sprinkler systems and spark detectors, the main concern was fire. Today, we are perhaps more worried about the pulmonary and carcinogenic health of our employees and ourselves, but fire is still a valid issue.

The National Fire Protection Association has developed a comprehensive library of information for many different industrial sectors, among which are woodshops. NFPA Publication 664 (available online at www.nfpa.org) describes how to prevent fire and explosion in facilities that process wood or manufacture wood products. It's worth reading through and possibly requiring supervisors to do the same. Among the elements the NFPA stresses are compartmenting, which addresses ways to contain wood dust fires before they start; means of egress so your people are not at risk; and control of ignition sources so fires never get started.

Those three elements need to be part of any comprehensive approach to dust collection. They highlight the danger of fire, but they also address employee safety and quality-control issues. And they are only part of the picture. A dust collection system isn't just hoses and vacuums. It's also a collection of practices and routines that together can reduce and even eliminate many of the hazards of dust accumulation. There are more elements to consider here than just ductwork and bags.

One good place to start when formulating a shop policy on dust collection is to download a free PDF offered by the Canadian organization WorkSafeBC (www.worksafebc.com). The booklet is titled "Combustible Dust in Wood Products Manufacturing: A shop floor guide for employers and supervisors". The organization itself is a British Columbia statutory agency that is funded by insurance premiums paid by employers. WorkSafeBC is responsible for administering the province's workers' compensation act.

As one might expect, it isn't exactly a light read. But it does cover the issues in great detail. Among the topics addressed, for example, is the manner in which combustible dust differs from other wood dust. The publication also outlines ways in which a woodshop might create and use a combustible wood dust management program and then details what is involved in standard housekeeping. It gives examples of ways to control and eliminate ignition sources and guides shop owners through a process to discover where potentially harmful wood dust might build up unseen in the workplace.

The word "housekeeping" as used by WorkSafeBC doesn't just mean routine cleaning: it also refers to dust inspections, reacting to changes in the volume or types of dust being generated and conducting preventive maintenance to reduce a shop's exposure to accidents and poor health. And it stresses that even emergency preparedness should be part of the dust collection system. For example, do your shop-floor people know what to do in the event of a wood dust fire before emer-

gency crews arrive? Will they try to fight it? Should they? Will the steps they take aggravate the problem? Will they open or close doors and add to the amount of air available to the fire? Should they close down ductwork that might act as a corridor for heat and, if so, do they know how to do that?

Letting people know what to do before it happens can save lives and the woodshop, too.

But before you get to training, you have to gather the dust.

BEGIN AT THE END

Designing a comprehensive dust collection system begins with understanding what it needs to handle. Every material generates different types of waste and both the chemical composition and physical size of the grains will determine the volatility and toxicity of any residue. In other words, you need to know what kind of dust you're making — and how much — before you can have somebody design extraction and filtering mechanisms. There are dozens of competent suppliers online where a shop owner can go to size a new dust collection system, or assess and modify a current one. Engaging an expert, even for a one- or two-man shop, is a wise decision. It's crushing to install a new system and almost immediately discover that it's undersized or inefficient. Most suppliers have design experts on staff and many offer free design services.

Another reason to engage a professional is that no two shops are identical, so every dust collection system is actually a custom design. For example, some shops process mostly solid hardwoods, while others work almost exclusively in MDF or plywood.

The first step, therefore, is to audit the shop's existing and proposed waste, in terms of both composition and volume. These numbers will never be precise, so what you're looking for is an educated estimate. A good place to start is to take a hard look at the makeup of the company's COGS (cost of goods sold). Your accountant can review this and give you a pretty good picture of what kinds of materials the shop has used in the last few years and how much of each. A good set of books will show how much plywood, plastic laminate, fiberboard, solid wood by species and other raw materials were purchased, inventoried and processed. The results of such an audit might be surprising.

Next, the way that these materials are processed needs to be examined. If a shop outsources part or all of some steps such as sanding (as it would do if it buys in pre-sanded or finished custom doors) or CNC milling, that will impact the amount and type of waste being generated.

Shops that hire a service to dispose of dust can review the history of collections and see how many cubic yards or other volumes of waste were processed.

The bottom line here is that one doesn't have to make completely wild guesses about current or projected volumes and types of dust. There are enough sources of information available to reduce those numbers to fairly reliable arithmetic.

Once a shop owner knows how much dust is being generated and the nature of it, he or she can approach a planner and design a system to collect it. The shop can also begin to look at alternative ways of disposal at this stage and some of these could have a direct impact on profitability. Instead of paying to bury waste in a landfill, perhaps it can be sold to the manufacturers of wood pellets, particleboard, fiberboard, chipboard or hardboard. Depending on its constitution, there might even be a way to market waste as animal bedding, landscape mulch or as an ingredient in commercially manufactured compost. There's a process that reduces wood waste to charcoal and then combines it with organic waste to produce fertilizer.

MIGRANT DUST

The issue of migrant (or fugitive) dust is a big one. This is dust that escapes the collectors and accumulates throughout the shop, often in places where it is unseen and unnoticed.

One example of this relates to lighting. As incandescent bulbs gradually disappear, lots of shops are finding that compact fluorescent (CFL) replacements don't deliver the same amount of light or take too long to warm up. So, some woodshops have switched to halogen, sodium and other lighting options that burn faster and brighter. But, unfortunately, that often means they also burn hotter. Consequently, fine dust accumulating on top of some light fixtures is a hazard, so lamps need to be periodically cleaned. Switching to LED bulbs might also be part of the solution because they supposedly run cooler than CFLs.

So cleaning the tops of lights and changing to different bulbs can actually become part of a woodshop's dust collection system. But the real point here is that there shouldn't be any dust on top of those lamps in the first place. Where did it come from?

The Environmental Protection Agency defines fugitive dust as "emissions of solid, airborne particulate matter which could not reasonably pass through a stack, chimney, vent or a functionally equivalent opening." In essence, they're saying it wasn't evacuated from the building through burning. The term "migrant dust" is perhaps more appropriate to woodshops: it describes dust that was introduced within the enclosed environment of a building and was not collected at its source. It then moves (migrates) through the building using air currents created by heating and air conditioning systems or is carried by static attraction on the outside surfaces of metal dust collection ductwork. It can travel in air dispelled by pneumatic tools or even hitch a ride on clothing. Every time something in the woodshop is disturbed (such as a dust collector bag starting up or someone removing a sheet of plywood from a stack),

fine dust once again becomes airborne and migrates around the shop.

The only ways to eliminate it — or at least reduce it to harmless inconsequential levels — are to gather it at its source and perform routine cleaning.

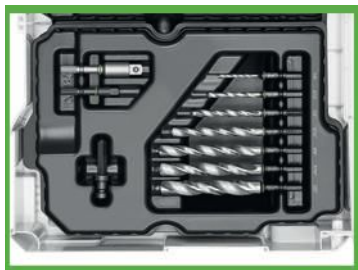
CAPTURE AT THE SOURCE

Sanding involves abrasion rather than cutting, so the residue is especially fine. As such, portable sanders are a primary source of migrant dust in most woodshops (as opposed to wide belt units that usually have sophisticated collection built in). Capturing fines where they are created can be done rather inexpensively and with technology that has been around for a long time. There are three elements and a shop that employs all three will enjoy significant success.

The first is to use orbital sanders that have dust hoses attached. Small filter bags are essentially useless in a commercial environment because they fill very quickly and there is no mechanism that lets the operator know when the bag needs to be emptied and cleaned. The limited amount of filter fabric clogs in a very short time and no longer breathes effectively. There are many models of sander available with built-in hose ports and, while some are more effective than others, all are more effective than a bag or than not using anything. Look for models that don't restrict the airflow too much: there's not much point in attaching a sander to a large hose if the air has to pass through a very small orifice where it exits the sander and enters the hose.

Sanding in front of the open end of a 4" hose doesn't work well. To begin with, we are human and we tend to forget to move the hose. Secondly, that method just relies on undirected attrition — gulping huge volumes of air in the hope that the offensive particles will be collected. A sander attached to a hose, with holes in the paper that match holes in the base, is far more directed and effective.

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The second element in collecting at the source is to use downdraft tables. These augment rather than replace the sanders with hoses attached. In addition to extreme fines, a downdraft table also uses gravity to help collect larger particles. One problem with commercial downdraft tables is that they are often relatively tall, so it's difficult to work on complete assemblies. An easy solution to that is to elevate the operator rather than lower the table: that is, one can buy or build a small deck or platform on casters upon which a woodworker can stand, so he/she can reach all parts of the cabinet. It doesn't have to be too tall, maybe 18" or so.

The third element is an overhead air scrubber that sits above every workbench where sanding will occur. These are relatively inexpensive, but they do require regular maintenance (filter cleaning or replacing). And they need to be turned on.

If a woodworker is collecting dust above and below the work and also at the sander, migrant dust can be all but eliminated.

A COMPREHENSIVE APPROACH

An effective dust collection system includes a collection of practices and routines that must become habits on the shop floor. For example, a shop can institute a provision that team members must never use a pneumatic hose to blow the dust off cabinets. That only moves dust: it doesn't collect it. Yes, it takes more time to tack down a surface than it does to blow it, but the latter only addresses an immediate problem and contributes to a long-term one. That dust will come back to haunt you.

One-man shops often use shop vacuums rather than central dust collectors. In doing so, they exchange volume for speed. That's not all bad, but it is essential that the shop vacuum is equipped with a filter bag or it will reintroduce some of those fines to the workshop environment.

The bags need to be replaced often as they are not very porous and clog quickly. If an upgrade to a HEPA or high-performance filter is available, that's a good idea, too.

Larger shops need to inspect and maintain spark detection and suppression equipment on collectors. Failure to add this chore to a regular routine can allow combustibles to accumulate and create a much larger fire or explosion hazard.

Local exhaust ventilation (LEV) is the trade term for an engineering system that can be used to protect employees and sensitive equipment (such as CNC computers) from hazardous fines. It involves machine-specific hoods, efficient and properly-sized ductwork (that reduces in diameter the farther it is from the collector), fans placed in the ductwork lines to maintain the cubic feet per minute of air being moved, filters to scrub air being released back into the shop and a discharge stack or vent to eliminate waste that has been filtered. Each of these elements needs to be easily accessed for routine cleaning and should be put on a schedule that ensures the cleaning is done.

Monitoring the effectiveness of the dust collection system is a critical element that is often ignored. Areas where employees work should undergo routine or constant indoor air-quality assessment. Quantifying the amount of migrant dust in the shop air allows managers to set targets and meet them. With the revolution in electronics in the last couple of decades, numerous industries now operate clean rooms for component assembly. That means there has been a grand evolution in the science of airborne particle monitoring. Adding a particle counter to the woodshop's dust collection system (or several portable units, strategically placed) is an element well worth considering.

If migrant dust isn't monitored and eliminated — or at least significantly reduced — it will stay in the shop environment and continue to cause problems for both products and people. **W**

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New England show celebrates two decades

By Jennifer Hicks

The New England Fine Furnishings Show recently completed its 20th year. Held Nov. 6-8 at the Pawtucket Armory Arts Center in Pawtucket, R.I., the annual show features fine furniture makers and other professional craftspeople from throughout the New England region and beyond.

Best in Show award recipients are elected each year based on exhibitors' work and booth layouts. This year there were finalists in 12 categories.

The judges included Hilary Heminway, owner of Hilary Heminway Interiors in Stonington, Conn.; Michael McMillan, associate curator at the Fuller Craft Museum in Brockton, Mass.; Meg White, director of Gallery Naga in Boston, and Kelly Taylor, owner of Kelly Taylor Interiors in Providence, R.I. The winners included:

Best Traditional Furniture Piece: Roger Myers of Stratham Wood Studios in Stratham, N.H.

Best Traditional Furniture Body of Work: Justin Kauffman of Kaufmann Fine Furniture in Noblesville, Ind.

Best Modern Furniture Piece and Body of Work: Fred Rossi of Rossi Custom Woodwork in Manchester, Mass.

Best Rustic/Industrial Furniture Piece & Body of Work (Marc Harrison Award for Marketing Excellence): Kevin Travers of American Revolution Design in Hope Valley, R.I.

Best New Product: Jim Zink of Jim Zink Furniture Maker in Meredith, N.H.

Best Student/Traditional Furniture: Taima Krayem of North Bennet Street School in Boston

Best Student/Modern Furniture: Jenny Kwon of the Rhode Island School of Design in Providence, R.I.

For more, visit www.finefurnishingsshows.com.



Fred Rossi in his booth at the Fine Furnishings Show.

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Taima Krayem, a "best student" award winner from North Bennet St. School.



The Best in Show award winners gather for a group photo.

ACC BALTIMORE

This year marks the 40th anniversary for the American Craft Council retail show in Baltimore, scheduled for Feb. 19-21 at the Baltimore Convention Center.

The show will feature more than 650 of the

country's top contemporary craft artists presenting their latest handmade creations in furniture and home décor, as well as jewelry and clothing.

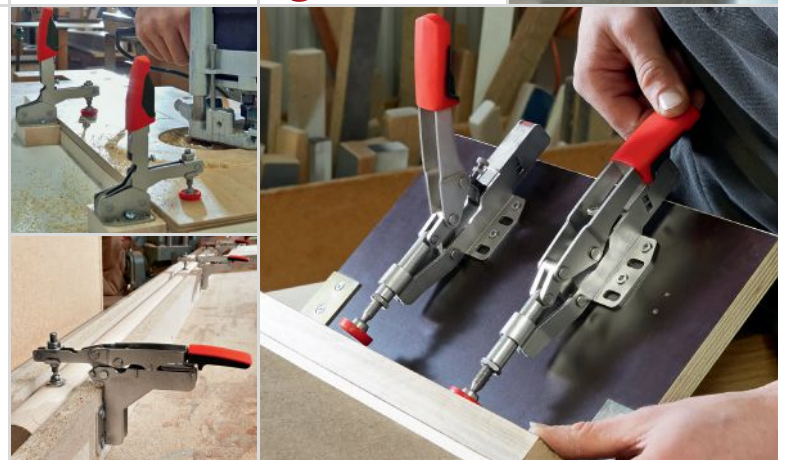
For information, visit www.craftcouncil.org/baltimore. [W](#)

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▶▶ NAP GLADU recently introduced a line of high-performance edgeband tooling for a wide range of machines, including Biesse, Brandt, Homag, Holzher, SCM and Stefani. The line includes diamond pre-mill cutters, diamond edgebanding and rounding cutters, as well as carbide cutter heads and straight or radius insert trimming cutters, according to the company. For more, visit www.napgladu.com.



▶▶ GRIZZLY INDUSTRIAL has a new benchtop sandblast cabinet, model T27156. The top-loading access offers a clear view of the work area through a lockable, sealed cabinet. It is compatible with a variety of blasting media, measures 23" wide, 19" high and 19-1/4" deep and weighs about 30 lbs., according to the company. It's sold with a blasting gun and four ceramic tips for cleaning, polishing and finishing. Price: \$120. For more, visit www.grizzly.com.



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▼ **EAGLE AMERICA** has introduced two new eight-piece CNC router bits sets made in the U.S. Each set is made up of eight of the company's most popular router bits for CNC machines, including solid-carbide spiral bits, V-groove bits and round nose bits. The set with 1/4" shanks, item No. 106-1010, sells for \$134.99. The set with 1/2" shanks, item No. 106-1015, sells for \$289.99. For more, visit www.eagleamerica.com.



▲ **FESTOOL USA** is introducing the new TXS cordless drill, a compact T-handle design that weighs just under two pounds. Features include a built-in fuel gauge, LED worklight, four-bit magnetic storage, removable reversible belt clip, high and low speeds and multiple-position clutch. It is compatible with Festool system accessories like Centrotec drill bits. For information, visit www.festoolusa.com.



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▲ RIKON has introduced a new 10" x 18" pen lathe, model 70-105, with five-speed range, suitable for boring barrel holes, roughing out pen billets, turning them to shape and finishing, according to the company. The lathe can handle spindle projects up to 18" long with a 7-1/4" swing over the tool rest, according to the company. It also features a 1/2-hp, 1,700-rpm motor. It sells for about \$300. For more, visit www.rikontools.com.

▼ FESTOOL also offers a new Centrotec Installer Kit, an 89-piece set of extenders, countersinks, socket adaptors, a hook-driver, square-drive and imperial brad-point bits as well as pilot-bit-countersink combo. Featuring no-slip, quick-change shanks for use with Festool's Centrotec System or any keyless or three-jaw chuck, the set makes the right bit, counter-sink, bit holder or extender readily accessible. For more, visit www.festoolusa.com.



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▲ **ROCKLER WOODWORKING & HARDWARE** has introduced two new compact router accessories, an ellipse and circle jig and a mortise-centering base. The ellipse and circle jig eliminates the excessive math and measuring previously required to mark and rout all round and arcing shapes, and also the steady skill required to follow the markings routing freehand to produce a smoothly machined circle or ellipse, according to the company. The mortise-centering base provides a solid base for centering mortises in stock up to 4" thick. Once the base is attached to the compact router, it employs two indexing pins to sandwich the board and center the router, guiding a precisely centered mortise. The jig and base sell for \$69.99 and \$19.99, respectively, at www.rockler.com.

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

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The events are also listed at no charge on the Internet:
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Be sure to include: event name, date, location, sponsor, contact name, telephone number, and Website URL if applicable.

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Jan 15-17 — The Woodworking Show Indianapolis. Location: Indiana State Fairgrounds Blue Ribbon Pavilion. Fee: \$10 online; \$12 at the door. www.thewoodworkingshows.com

MARYLAND

Jan. 8-10 — The Woodworking Show Baltimore. Location: Maryland State Fairgrounds Cow Palace in Timonium. Fee: \$10 online; \$12 at the door. www.thewoodworkingshows.com

Feb. 19-21 — Baltimore American Craft Council retail show. Location: Baltimore Convention Center. www.craftcouncil.org

MASSACHUSETTS

Jan. 22-24 — The Woodworking Show New England. Location: Eastern States Exposition

in West Springfield. Fee: \$10 online; \$12 at the door. www.thewoodworkingshows.com

MEXICO

Apr. 12-15 — Woodworking Industry Conference. Location: CasaMagan Marriott Cancun Resort, Cancun. To register, visit www.wmma.org.

MICHIGAN

Feb. 12-14 — The Woodworking Show Detroit. Location: Gibraltar Trade Center in Mount Clemens. Fee: \$10 online; \$12 at the door. www.thewoodworkingshows.com

NEVADA

Jan. 19-21 — Kitchen and Bath Industry Show (KBIS) will showcase the latest industry products, trends and technologies in kitchen and bath design and remodeling. Location: Las Vegas Convention Center. www.kbis.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

Feb. 20-May 7 — A Hands-On Workshop with Erminio Marrese. Covers tool use, machine operation, material selection, design choices, joinery and finishing as students complete a project. Location: Purchase College. Fee: \$600 with materials. Contact: anthony.pellegrino@purchase.edu

Feb. 22-May 2 — Woodturning Workshop with Jason Schneider. Learn about wood selection, spindle turning, bowl and vessel turning, box making, finishing and more. Location: Purchase College. Fee: \$710 with materials. Contact: anthony.pellegrino@purchase.edu

PENNSYLVANIA

April 8-10 — Philadelphia Invitational Furniture Show, an annual exhibit of custom furniture. Location: 23rd St. Armory, Philadelphia. www.philadelphiafurnitureshow.com

June 23-25 — The Furniture Society annual conference, exploring the theme of "Craft/Facturing: An Evolution of Makers + Entrepreneurship." Event will feature presentations, exhibitions, technical demonstrations and more. Location: Center for Art in Wood and the University of the Arts in Philadelphia. Open to members and non-members. www.furnsoc.org 

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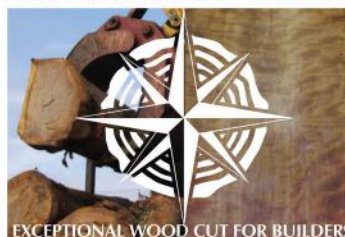
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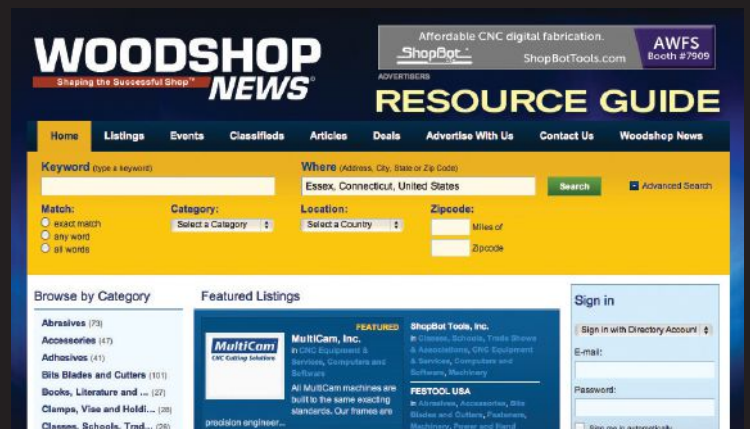
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'Armchair traveler' constructs Toothpick World

Stan Munro of North Syracuse, N.Y., began "toothpicking" as a hobby when he was in the fifth grade. Little did he know, then, how far he would take it 30 years later.

For example, look at the detail in his replica of Fenway Park in Boston. You can almost hear the crowd cheering. The fact that it's made from a pile of toothpicks is hard to believe. Yet this is what Munro does day after day with remarkable skill.

"I just finished the Trinity Church in Boston," Munro says. "All of my buildings are

1:164 to scale. What people don't understand is how long something will take based on the size of it. They will think the Empire State Building took a long time because it's so tall, but it took less than a week. Trinity Church, which is only 15 inches long, took almost three months. The detail that really goes into some of the smaller ones is really challenging."

About 10 years ago, Munro needed to be home more to care for his wife, Suzi, who was stricken with polycystic kidney-liver disease. He became an "armchair traveler" watching the Travel, History and Discovery channels and started replicating iconic buildings, monuments and historic sites from around the world. Suzi received a transplant and has recovered, while Munro has completed more than 200 replicas.

He has sold a few, but his main focus is traveling exhibits, called Toothpick World, Toothpick City and Toothpick Town depending on the size of the exhibit. Toothpick World is the flagship with more than 100 structures. Toothpick City, which is on permanent display at Ripley's Believe it or Not Museum in Baltimore, has about 50 buildings and Toothpick town has about 22 structures.

His latest exhibition, "Toothpick World: From Sliver to Skyline," is currently running through March 27 at the Fuller Craft Museum in Brockton, Mass.

He researches his projects by looking at original blueprints, satellite photos and whatever he can find to create a faithful rendition of the original building. One of the best parts of what he does is the low overhead. Working from cases of toothpicks in his basement, which he buys from a wholesaler, he only needs a Dremel



St. Basil's Cathedral in Moscow.

tool, scissors, clippers and glue to build his projects. On average, he says each building takes about 18 days to build.

"The quickest one was the Washington Monument, which only took three hours. Now the Golden Gate Bridge, at the same scale and 40 feet long that comes apart in 12 different sections, took almost a year."

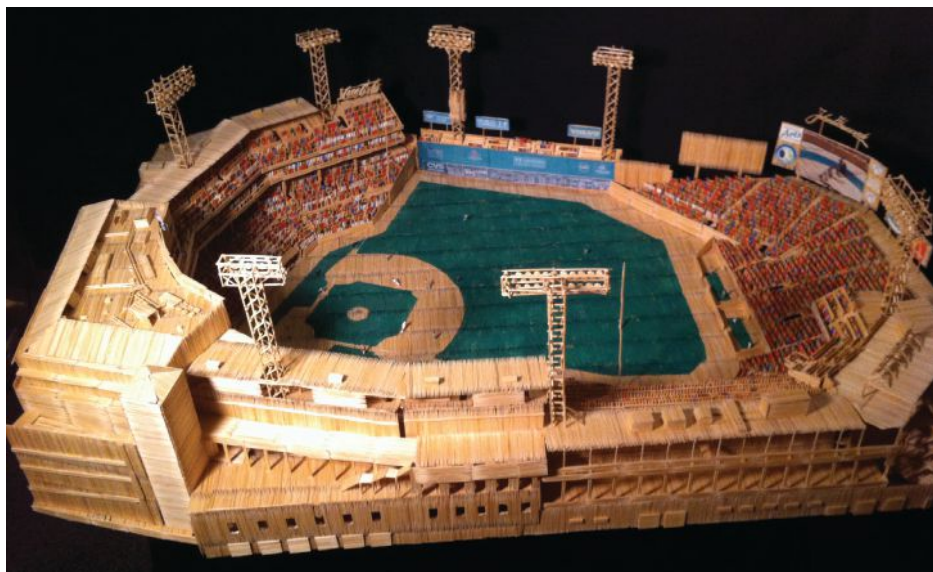
An abbreviated list of his past projects include the Eiffel Tower, White House, Big Ben, Stonehenge, St. Basil's Cathedral in Moscow and the International Space Station. [W](http://www.toothpickworld.com)

For information, visit www.toothpickworld.com.

— Jennifer Hicks



(Above) Stan Munro with his Empire State Building, Chrysler Building and Eiffel Tower toothpick replicas. (Below) Fenway Park.



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Rough humor by Steve Spiro



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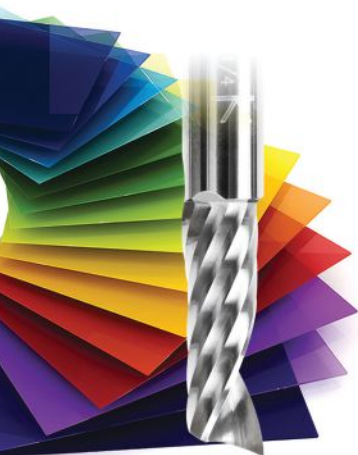
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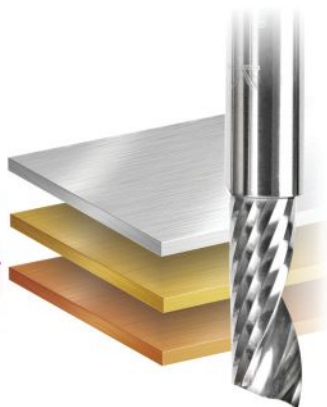
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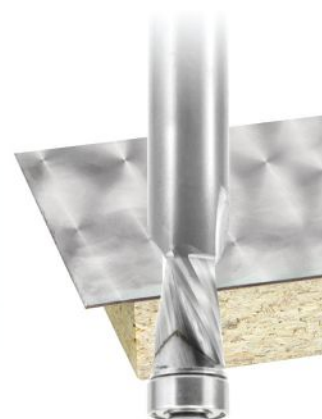
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