



WOODSHOP NEWS[®]

Shaping the Successful Shop[™]

www.woodshopnews.com

September 2016

Peak performance

Growth Ring Innovations

keeps busy with multi-market strategy

'Smart' coatings begin to emerge

Pushing boundaries: 3-axis machining

Keep it lean, clean and simple

NEW TOOLS

- **Micro Jig clamps**
- **CNC profile grinder**
- **Timesavers wide belt**
- **Vitap edgebander**

\$3.95 (Canada, \$5.95)



5 HP, 26" DUAL DRUM SANDER

- Motor: 5 HP, 220V, 25A, single-phase, 3,450 RPM
- Capacity: 4 1/4" thick x 26" wide
- Conveyor motor: 1/2 HP, 2A, universal
- Conveyor table size: 26 1/8" x 30 1/4"
- Footprint: 36 3/4" W x 23 3/4" D
- Powder coated paint
- Surface speed of drums: 2,300 FPM
- Two 6" x 27 3/4" aluminum drums
- Dual 4" dust ports



W1678 5 HP, 26" Dual Drum Sander

1 HP, 14" BANDSAW

- Motor: 1 HP, 110V/220V
- Precision-ground cast iron table size: 14" x 14" x 1 1/2"
- Blade size: 93 1/2" (1/8" to 3/4" wide)
- Cutting capacity 13 1/2" (throat)
- Cast iron frame and wheels
- Ball bearing blade guides
- Includes fence and miter gauge

*Feature packed,
and an incredible value*



W1706 14" Bandsaw

VARIABLE SPEED PLANER MOULDER with Stand

- Motor: 2 HP, 240V, single-phase, 10.8A, 3450 RPM
- Precision-ground cast iron table size: 14 1/8" x 10" x 7/16"
- Max. planing width: 7"; height: 7 1/2"
- Cuts per inch: 64-300
- 2 HSS knives



PATENT OWNED BY
**WOODSTOCK
INTERNATIONAL INC.**



W1812 Planer Moulder w/Stand

2 HP, 10" OPEN STAND HYBRID TABLE SAW



- Motor: 2 HP, 15A at 120V, 7.5A at 240V, single-phase, 3450 RPM
- Footprint: 21" L x 19 1/2" W
- Max. depth of cut at 90° angle: 3 1/4", at 45°: 2 1/4"
- Precision-ground cast iron table size: 57 1/4" W x 37 1/2" D x 35 3/4" H
- Built-in mobile base
- 4" dust port

*Made in an
ISO 9001
factory*



W1837 2 HP, 10" Open Stand Hybrid Table Saw

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

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



PATENT OWNED BY
**WOODSTOCK
INTERNATIONAL INC.**

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

12" X 15" BENCH-TOP WOOD LATHE

- Motor: 3/4 HP, 110V, single-phase, universal motor
- Electronic variable-speed spindle control with digital RPM readout • 12" swing over bed
- 15" between centers • Two spindle speed ranges: 500-1800 RPM & 1000-3800 RPM
- 1" x 8" TPI RH thread spindle size
- Spindle indexing in 15-degree increments
- Heavy-duty cast iron construction
- Rubber feet for increased stability



W1836 Bench-Top Wood Lathe

POCKET HOLE MACHINE

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

PATENTED!



W1833 Pocket Hole Machine

1 1/2 HP DUST COLLECTOR Improved Filtration

- Motor: 1 1/2 HP, 110V, single-phase, 3,450 RPM
- Motor Amp draw: 110V - 16A
- Portable base size: 21 1/2" x 33 1/2"
- Bag volume: 5.4 cubic feet
- Height (with bags inflated): 78"
- Bag size: 19" x 33" (2)
- Air suction capacity: Approx. 1,280 CFM
- Static pressure: 10.1"
- Standard bag filtration: 2.5 Micron



W1685 1 1/2 HP Dust Collector

16" SCROLL SAW

- Motor: 1/8 HP, 120V, single-phase, 1.2A, 60 Hz
- Variable speed motor
- No load speed: 550-1650 SPM
- Max. cutting thickness: 2"
- Max. cutting width: 16"
- Blade stroke: 5 1/4"
- CSA certified



*Uses Plain
or Pin-Type
Blades*



W1713 16" Scroll Saw

WOODSTOCK® INTERNATIONAL, INC. IS ALSO HOME TO ROMAN CARBIDE®, PLANER PAL®, JOINTER PAL®, AND MANY OTHER FINE BRANDS.
PLEASE VISIT OUR WEBSITE OR CALL TOLL FREE TO FIND AN AUTHORIZED DEALER NEAR YOU.

SHOPFOX.BIZ

sales@shopfox.biz WHOLESALE ONLY



1-800-840-8420

SHOP FOX® is a registered trademark of Woodstock® International, Inc.



THIS IS NOT COMPROMISING

Your customers demand unsurpassed quality and detail in your products. You demand superior performance and reliability from your machinery. With astonishing precision and brilliant efficiency, the Kentwood M609S moulder provides you with reliable performance and results. Don't just meet demands; exceed them.



THIS IS KENTWOOD.™

616.698.7500 | www.stilesmachinery.com/KENTWOOD

stiles

Accuride knows proper support goes a long way.



The 3135EC, Eclipse Undermount Slide

Redesigned to offer improved full extension movement supporting up to 100 lbs. With less than 5 lbs. of pull force, the 3135EC slides smoothly and easily with very little side-to-side movement and drawer sagging. Plus, with reduced noise and new interior Easy-Close mechanism, the 3135EC will produce a consistent, reliable experience every time.

Extend further than ever and achieve flawless movement with the 3135EC.

Accuride®
Always Moving Forward

Find a distributor at accuride.com/eclipse

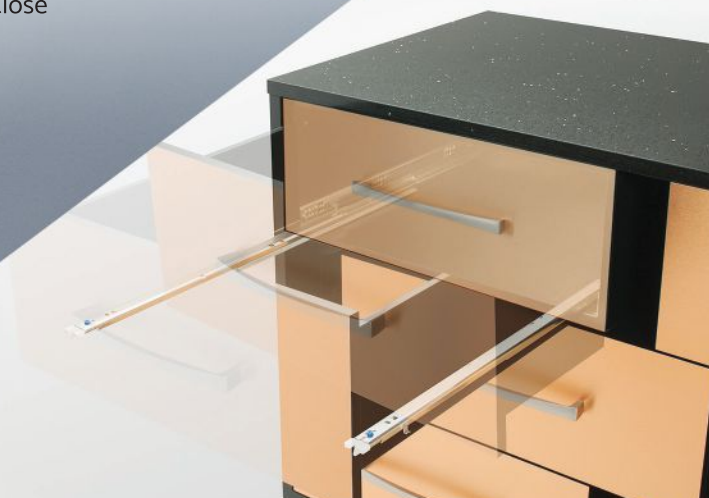


Table of Contents



34

Features

- 34 PEAK PERFORMANCE:** Dustin Sanders left a good-paying job to build his own woodworking business in the Rockies that caters to a wide array of needs.
- 46 LEAN, CLEAN AND SIMPLE:** Those three guiding lights will drive your shop's processes and help make business thrive.
- 49 FULL SPEED AHEAD:** A 3-axis CNC machine is the right choice for most small shops, and its capabilities are impressive.

News Desk

- | | |
|---|---|
| 12 Stairbuilders group reaches agreement with AWI. | 16 Furniture Society celebrates its 20th anniversary. |
| 14 Cabinet Vision hosts automation seminars in Utah. | 18 WOOD MARKETS: Walnut keeps up a steady selling pace. |

CUSTOM PROFILE KNIVES

for Shapers & Moulders

Corrugated

Lock Edge

Jet/Powermatic

Woodmaster

Williams & Hussey/Shopfox

Steel & Carbide Knives



SUPERIOR QUALITY

For over 25 years, Connecticut Saw & Tool has been producing custom profile knives for the most discerning customers. We are experts at manufacturing knives for custom window and door production. All cope and stick knives are test run in house for **guaranteed tight fit & accuracy**. We will make an EXACT match to your wood sample, CAD, or faxed drawings. Our fast delivery, competitive pricing and superior quality all add up to a truly exceptional knife grinding service that is

100% satisfaction guaranteed!

We also offer the BEST tooling with the BEST discounts from top manufacturers - in stock & ready to ship same-day!

Call or email for pricing & up-to-date availability



Call Today! 800.404.1220

140 Avon Street • Stratford, CT 06615

info@ctsaw.com • www.CTSAW.com

**COMPLETE PACKAGE
DELIVERED & INSTALLED**

Available For Hire

\$12.00 / Hour*



ANDERSON STRATOS NEST 5' X 10' CNC ROUTER

- FANUC OiMD Controller System with PC Front Interface & Handheld
- FANUC Electronics, Drives, and Servos with 2-year warranty
- 18HP 4-Pole Air Cooled Router Spindle with Aggregate Capability
- 9 Spindle Vertical Multi-Drill Block
- 10 Position Ride-Along Aggregate Ready Tool Changer
- 10 HSK-63F Tool Holders, 10 Chuck Nuts, 20 Collets
- Automatic Tool Length Measuring Device
- 2 - 9HP Becker Vacuum Pumps with Duplex Vertical Rack
- Vacuum Grid Table - Ready for Pods, Clamps, or Spoil Boards
- 14 Pop-up Positioning Pins w/4 Datum Points for sheets or parts
- Lifetime Technical Phone Support & Online Remote Diagnostics
- Includes Freight, Installation, Training, Travel, and Lodging
- Available Material Offload System Pusher/Sweeper with Dust Extraction

* Payments based on 40 hours per week for 4.3 work weeks per month for 60 months — Standard Package Price

ANDERSON AMERICA INC.
Anderson Group

Visit our Showroom

10710 Southern Loop Blvd.
Pineville, NC 28134

P: 704.522.1823
E: sales@andersonamerica.com

www.AndersonAmerica.com





27

Tools & Techniques

- 20 Micro Jig unveils new dovetail clamps.
- 22 Vitap adds another glue option to Eclipse.
- 24 The RTA argument and how to turn it on its head.
- 26 Timesavers adds four-head sander.
- 27 Colonial Saw introduces CNC profile grinder.

Departments

- 7 Taking Stock
- 10 From the Archives
- 52 New Products
- 56 At the Galleries
- 58 Calendar
- 61 Classified
- 64 Out of the Woodwork

Columns

- 28 **FINISHING:** 'Smart' coatings. By Bob Flexner
- 30 **PRO SHOP:** Back to solid surface. By Andrew Glantz

Visit us online at www.woodshopnews.com

BLOGS



Over the Workbench

Talkin' shop with former editor A.J. Hamler



This Business about Woodworking

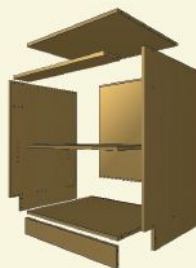
Share an opinion with David DeCristoforo but don't expect to be right

- **Contact Customer Service**
www.woodshopnews.com/subscribe
- **Tools & Machinery**
www.woodshopnews.com/tools-machines
- **Contact the Staff**
www.woodshopnews.com/contact-us
- **Advertising Information**
www.woodshopnews.com/advertise
- **2016 Online Resource Guide**
<http://resourceguide.woodshopnews.com>

CANARY

CLOSETS & CABINETRY

Three outsource solutions from Canary Closets & Cabinetry



Cabinet and closet parts
Our shop is your shop

- Parts manufactured to your specifications
- 40 different melamine and plywood colors available
- Order one cabinet or 100 – no minimums
- Easy Online ordering with real time pricing

Order here: canary.allmoxy.com

Online closet design tool
Design and sell closets today

- See real time pricing and generate instant proposals for your customers with 2D and 3D drawings
- 23 colors available
- 5 door styles
- 4 hardware finishes
- 6 day lead time
- Shipped as a complete kit with all attaching hardware



try it now: canary.closetprosoftware.com

login: demo@canarycc.com

password: john1234



Five piece cabinet doors
Exact matches for Tafisa and Uniboard melamine

- Crown and base moldings to match
- 6 day lead time
- Easy online ordering with real time pricing
- 6 different profiles available

Order here: canary.allmoxy.com

www.canarycc.com

697 Rahway Ave. Union, NJ 07083
908-851-2894



Grizzly Industrial®

PURVEYORS OF FINE MACHINERY®, SINCE 1983!

- ALMOST A MILLION SQUARE FEET PACKED TO THE RAFTERS WITH MACHINERY & TOOLS
- 2 OVERSEAS QUALITY CONTROL OFFICES STAFFED WITH QUALIFIED GRIZZLY ENGINEERS
- HUGE PARTS FACILITY WITH OVER 1 MILLION PARTS IN STOCK AT ALL TIMES
- TRAINED SERVICE TECHNICIANS AT BOTH LOCATIONS • MOST ORDERS SHIP THE SAME DAY

PANEL SHAPING JIGS

- Maximum clamping thickness: 2"
- Maximum material width:
T10460: 11½"
T10462: 16"
T10464: 24"
- Table size:
T10460: 11½" W x 11¾" D
T10462: 16" W x 11¾" D
T10464: 24" W x 11¾" D
- Required air pressure: 71 PSI



11½"
T10460 **ONLY \$1150⁰⁰**

16"
T10462 **ONLY \$1350⁰⁰**

24"
T10464 **ONLY \$1575⁰⁰**

16½" DOVETAIL MACHINE

- Motor: 1 HP, 110V/220V, single-phase, prewired 220V
- Table size: 24" x 7¾"
- Floor to table height: 46⅞"
- Number of spindles: 1
- Spindle speed: 18,500 RPM
- Dovetail bit size: 10° angle x ⅝" long
- Dovetail shank diameter: 12mm
- Maximum dovetail height: ¾"
- Minimum dovetail height: ⅝"
- Maximum thickness: 2⅝"
- Minimum thickness: 1⅜"
- Maximum stock size: 59" long x 16½" wide
- Minimum stock size: 7⅞" long x 2⅞" wide
- Overall size: 38⅝" W x 26½" D x 56⅞" H
- Approx. shipping weight: 539 lbs.



G0611X **ONLY \$3550⁰⁰**

5 HP OVERARM ROUTER

- Motor: 5 HP, 220V, 3-phase, 2-speed, 25A
- Table size: 30" x 23¾"
- Throat clearance: 25½"
- Spindle speeds: 10,000 and 20,000 RPM
- Swing: 51"
- Floor to table height: 36½"-42¾"
- Spindle stroke: 4"
- Table travel: 6¼"
- Pneumatic cylinder: 1⅞"
- Max. distance spindle to table: 9"
- Table tilt: 45°
- Overall size: 30" W x 50⅝" D x 61½" H
- Approx. shipping weight: 915 lbs.



G9981 **ONLY \$4095⁰⁰**

PROFESSIONAL SPINDLE SHAPERS

- Motor: 5 HP, 220V, TEFC or 7½ HP, 220V/440V*, TEFC
- Precision-ground cast iron table: 35½" x 28"
- Table counterbore: 7" x ⅝" deep
- Spindle travel: 3¼"
- Spindle sizes: ¾", 1, 1¼"
- Spindle speeds: 3600, 5100, 8000, and 10,000 RPM
- Maximum cutter diameter: 5⅝"
- Maximum cutter height: 5⅝"
- Overall size: 34¾" W x 35½" D x 42" H
- One-piece cabinet-style stand
- Independent, micro-adjustable fence with 4" dust port
- Shielded and permanently lubricated ball bearings
- Approx. shipping weight: 604 lbs.



5 HP, SINGLE-PHASE
G5912Z **ONLY \$2695⁰⁰**

7½ HP, 3-PHASE
G7214Z **ONLY \$2750⁰⁰**



21-BIT LINE BORING MACHINE

- Motor: 2 HP, 110V/220V, prewired 220V, single-phase, 20.8A/10.4A
- Air requirement: 70 PSI
- Table size: 43⅞" wide x 15¼" deep
- Floor to table height: 33¼"
- Maximum stroke: 3⅝"
- Maximum throat: 8"
- Number of spindles on boring head: 21 (10 left and 11 right)
- Distance between spindle centers: 32mm
- Shank size: 10mm • Fence length: 74¾"
- Stroke operation: Pneumatic
- Overall size: 75" W x 28⅝" D x 58⅞" H
- Footprint: 36¼" x 28⅝"
- Approx. shipping weight: 514 lbs.



G0643 ~~\$3795⁰⁰~~ **ONLY \$3650⁰⁰**



THREE SPINDLE SHAPER

- Motor: 3 HP, 220V, single-phase, TEFC (Includes 3 motors)
- Amps: 18A per motor
- Precision-ground cast iron table
- Table working size (each side): 17" x 32" x 13½"
- Table working height: 35"
- Spindle travel: 4"
- Spindle size: 1¼"
- (¾" and ½" spindles available as an option)
- Spindle speeds: 7000 and 10,000 RPM
- Maximum cutter diameter: 6"
- Exposed spindle length: 4"
- Bearing type: Shielded and lubricated for life
- Approx. shipping weight: 1260 lbs.



G9933 **ONLY \$4850⁰⁰**



*To maintain machine warranty, 440V operation requires additional conversion time and a \$250 fee. Please contact technical service for complete information before ordering.



SCAN QR CODE
TO VIEW VIDEO
LIBRARY



TECHNICAL SERVICE: 570-546-9663 • FAX: 800-438-5901

2 GREAT SHOWROOMS!
BELLINGHAM, WA • SPRINGFIELD, MO

1-800-523-4777

grizzly.com®

VIEW VIDEOS AT
grizzly.com

FOLLOW
US:



EDITOR TOD RIGGIO

ART DIRECTOR STEVE JYLKKA
STAFF WRITER JENNIFER HICKS
CONTRIBUTING WRITERS

BOB FLEXNER, JOHN ENGLISH, GREG WILLIAMS
ONLINE EDITOR MIKE TROCCHI

SALES & MARKETING

PUBLISHER
RORY BEGLIN

860-767-3200 EXT. 242; rory@woodshopnews.com

CLASSIFIED MARKETPLACE ADVERTISING
860-767-3200 EXT. 242; FAX: 860-767-1048
marketplace@woodshopnews.com



GROUP PUBLISHER, GENERAL MANAGER GARY DE SANCTIS
MANAGING DIRECTOR - CATAPULT GEORGE SASS
GROUP CREATIVE DIRECTOR DAVID POLLARD
VP, MARKETING AND EVENTS JULIE ZUB
DIGITAL DIRECTOR IAN BOWEN
PRODUCTION MANAGER SUNITA PATEL
SR. PRODUCTION COORDINATOR BRIANA SMITH
PRODUCTION COORDINATORS
JASON LALIBERTE, JENNIFER WILLIAMS
TRAFFIC COORDINATOR CHRIS CIRILLO
PRODUCTION INTERN ATHENA NATHAN
BUSINESS MANAGER LINDA CAVANAUGH
BUSINESS OFFICE MANAGER KATHY MOISA
GROUP CIRCULATION DIRECTOR STEPHANIE FLANAGAN
GROUP CIRCULATION MANAGER CLAIRE F. BRAYFIELD
CIRCULATION MARKETING MANAGER MATTHEW BOYLES
IT MANAGER ELAINE CIRILLO
IT SUPPORT COLLIN DEHNERT



ACTIVE INTEREST MEDIA

EXECUTIVE CHAIRMAN EFREM ZIMBALIST III

PRESIDENT & CEO ANDREW W. CLURMAN
EXECUTIVE VP & CFO BRIAN J. SELLSTROM
EXECUTIVE VP, OPERATIONS PATRICIA B. FOX
VP, CONTROLLER JOSEPH COHEN
VP, FINANCE CRAIG RUCKER
VP, RESEARCH KRISTY KAUS
VP, IT NELSON SAEZ
DIRECTOR OF RETAIL SALES SUSAN ROSE



HEADQUARTERS:

10 Bokum Road, Essex, CT 06426
(860) 767-3200 • Fax (860) 767-0642
Editorial E-mail: editorial@woodshopnews.com
Circulation E-mail: circulation@woodshopnews.com
Advertising E-mail: sales@woodshopnews.com
Website: www.woodshopnews.com
Advertising Billing Questions: (310) 356-4121

SUBSCRIPTION SERVICES:

For questions, problems, or changes to your Woodshop News subscription,
CALL: 800-243-9177, Mon. - Fri. 7:00 am to 12:00 pm Midnight EST.
Sat. - Sun. - 9:00 AM to 6:00 PM EST.

WRITE: Woodshop News, PO Box 433212, Palm Coast, FL 32143-3212
Canada Post Return Address undeliverable to:
APC-PLI, PO Box 503, RPO West Beaver Creek,
Richmond Hill, ON L4B 4R6.

Canada Post Publication Mail Agreement No 40624074.
E-MAIL: circulation@woodshopnews.com.

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

Woodshop News, (ISSN 0894-5403, U.S.P.S. 000-966),
Vol. XXX, No. 10, is published monthly by Cruz Bay Publishing, Inc., an Active Interest Media
company. The known office of publication is: 10 Bokum Road, Essex, CT 06426. \$21.95 for
one year; \$35.95 for two years (Canadian subscribers add \$12 per year for postage; U.S.
funds, foreign subscribers add \$14 per year for postage; U.S. funds). Periodicals postage
paid at Essex, CT, and additional mailing offices. Postmaster: Send address changes to
WOODSHOP NEWS, PO Box 433212, Palm Coast, FL 32143-3212. Printed in the U.S.A.



TAKING STOCK

with TOD RIGGIO

Forecast is for increased regulation with chance of growth

The U.S. Environmental Protection Agency issued its final rule to reduce exposure to formaldehyde vapors from certain wood products produced domestically or imported into the United States.

The agency said it worked with the California Air Resources Board to help ensure the final national rule is consistent with California requirements for composite wood products.

"We are carrying out important measures laid out by Congress to protect the public from harmful exposure of this widely used chemical found in homes and workplaces," Jim Jones, EPA assistant administrator for the Office of Chemical Safety and Pollution Prevention, said in a statement.

"We have worked with the State of California as a partner to help ensure consistency in our requirements. The new rule will level the playing field for domestic manufacturers who have a high rate of compliance with the California standard and will ensure that imported products not subject to California's requirements will meet the new standard and thus, not contain dangerous formaldehyde vapors."

The Formaldehyde Emission Standards for Composite Wood Products Act of 2010 established emission standards for formaldehyde from composite wood products and directed the EPA to finalize a rule on implementing and enforcing a number of provisions covering composite wood products.

One year after the rule is published, composite wood products that are sold, supplied, offered for sale, manufactured or imported in the United States will need to be labeled as TSCA Title VI compliant. These products include hardwood plywood, MDF and particleboard, as well as household and other finished goods containing these products.

The EPA is also setting testing requirements

to ensure that products comply with those standards, establishing eligibility requirements for third-party certifiers and establishing eligibility requirements for accreditation bodies to be recognized by the EPA that will accredit the third-party certifiers.

The new rule includes certain exemptions for products made with ultra-low formaldehyde or no-added formaldehyde resins and new requirements for product labeling, recordkeeping and enforcement provisions.

Continued growth predicted

In the coming year, homeowner remodeling activity is projected to accelerate, keeping the rate of growth above its long-term trend, according to the Leading Indicator of Remodeling Activity from the Remodeling Futures Program at the Joint Center for Housing Studies of Harvard University.

The LIRA anticipates growth in home improvement and repair expenditures will reach 8 percent by the start of 2017, well in excess of its 4.9 percent historical average.

"A healthier housing market, with rising house prices and increased sales activity, should translate into bigger gains for remodeling this year and next," managing director Chris Herbert said in a statement. "As more homeowners are enticed to list their properties, we can expect increased remodeling and repair in preparation for sales, coupled with spending by the new owners who are looking to customize their homes to fit their needs."

"By the middle of next year, the national remodeling market should be very close to a full recovery from its worst downturn on record," research analyst Abbe Will added. "Annual spending is set to reach \$321 billion by then which, after adjusting for inflation, is just shy of the previous peak set in 2006 before the housing crash." **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.

Request a **New** Color Catalog



Email your request to
info@decore.com



Decore.com

RTA Cabinets Doors Drawer Fronts Drawer Boxes Moldings Accessories Finishing Hardware

DECORE-ATIVE SPECIALTIES®



Dalton 3/4" (286) Walnut Natural

Our Customers Make
A Remarkable Difference.™

FROM THE ARCHIVES

LAST VISITED IN **2006**



Decade has been kind to Irion Lumber

By Jennifer Hicks

Louis Irion started his lumber business, Irion Lumber, in 1997 after running a period furniture shop for 20 years. Demand for wide boards, essential for matching original designs, was too great to ignore.

"I hear so many times that woodworkers can't find wide lumber, let alone matching sets of the same, and it isn't that scarce. You just have to know where to look for it and probably pay a little more," Irion said in our March 2006 profile "Lumber heaven."

"Our strength is the fact that we have been involved in the lumber business for so long and have the background in the furniture business. That really has been much more of an asset than we ever realized because we also understand the processes that go with wood," he added.

A decade later, Irion Lumber is still going strong. Located on a 300-acre farm in Wellsboro, Pa., the sawmill specializes in stocking plain and figured Pennsylvania cherry, tiger maple, unsteamed Eastern black walnut, mahogany and butternut, with intermittent supplies of curly birch. Thicknesses range from 4/4 to 24/4.

"The lumber business has grown," Irion said recently. "I'd say since 2005 we've probably tripled our sales and the whole concept behind the business is keeping it the size it is because we can control the quality of lumber. And we are really happy to have a life and a business, too. The problem we faced in the furniture business was it ran us. That can happen if you're not careful, so we've made the conscious decision not to grow out of our comfort zone."

Irion recently purchased a larger sawmill and spends most of his time, with wife Wanda, selecting and buying logs.

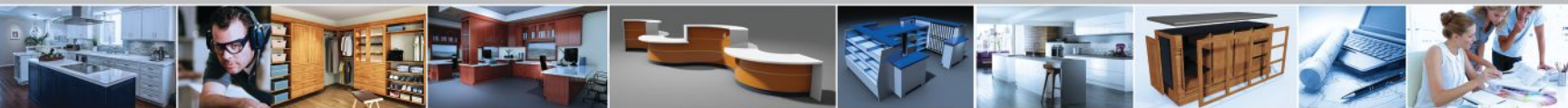
The 2006 profile is available at www.woodshopnews.com. Search for "Irion." **W**



PHOTOS: FOREST MCMULLIN/REDUX PLUS



Go Beyond Simple Cabinetry...



Unlock Your Creative Potential

The open architecture of Microvellum Software allows you the freedom to **Design, Engineer & Manufacture** products beyond the point of simple cabinetry with the power of AutoCAD®, Microsoft®, and Blender® based technology.

- Open architecture allows for **unlimited flexibility**
- Cabinet software **built by cabinet makers**
- **Scalable** solutions for small & large shops
- Direct connectivity for virtually **any CNC machine**
- A perfect solution for residential kitchens & bath, commercial interiors, store fixtures, closets, office furniture, reception areas, and custom products.
- Integrated **Solid Modeling** Analyzation
- Integrated **Purchasing, Scheduling, Time Tracking, & Shipping Management**



Providing Design to Manufacturing Solutions for 25 Years

Microvellum Software | Toll Free (800) 204-0913 | sales@microvellum.com | www.microvellum.com

NEWS DESK

Stairbuilders group reaches agreement with AWI

By Jennifer Hicks

The Stairbuilders and Manufacturers Association and Architectural Woodwork Institute reached a contributing-association agreement pertaining to the development of the AWI/ANSI standard for architectural woodwork.

"We are very pleased to be invited by AWI to provide valued input regarding stairway, handrail, and guard construction," SMA president Steve Guenzel said in a statement. "Although this is but a small part of the realm of architectural woodwork that will be covered in the AWI/

ANSI standard, stairbuilding is a specialized field in which our members are experts."

AWI president Greg Lutz notes that the agreement, signed in June, marks the beginning of an era of mutual cooperation between industry stakeholders.



"We are proud of our affiliation with SMA and promise that our combined efforts will surpass any prior architectural woodwork

standards to date. AWI's collaboration and combined efforts with many different subject experts allows our new industry standard to embody the wisdom and experience that can be found nowhere else," Lutz says.

Under the agreement, both associations will use the American National Standard Institute and AWI's approved standard writing procedures for creating the first voluntary industry consensus standard.

For information, visit www.awinet.org and www.stairways.org. 

The **NEW** TigerSaw 1000

The Defect Optimizing Saw For Every Shop

TigerStop
fast and accurate...every time

TigerStop LLC www.tigerstop.com 360.254.0661

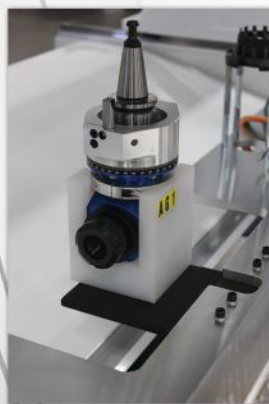
- Reduce labor by 60%
- Improve yield & quality
- 5-piece door panel optimization

The Most Versatile CNC Machining Center In Your Shop



MADE IN AMERICA 

Model 45



- Panel Processing
- Architectural Millwork
- Furniture
- Plastics Processing
- Complete Software Solutions
- Total Service, Training, Retrofits, & Free Unlimited Phone Support

Call for a live web or in house demo
800.533.6901

THERMWOOD
First in CNC Routers

www.thermwood.com

Cabinet Vision hosts automation seminars in Utah

By Jennifer Hicks

Nearly 200 industry professionals turned out in July to learn about shop automation processes at seminars hosted by Cabinet Vision. The events took place at Utah-based production facilities Trim Art in Kaysville on July 19 and Lewis Cabinet Specialties in Tremonton the following day.

Cabinet Vision, along with partners Allmoxy, Lockdowel, Advanced Machinery Systems and Stiles Machinery, demonstrated how to automate multiple facets of the manufacturing process in a series of presentations.

"I was surprised at how excited the older, longtime woodworkers are about new technology. People I know to have previously criticized technology are now enthusiastic and excited to implement it into their businesses,"



Attendees gain a better understanding of automation at seminars hosted by Cabinet Vision and its partners.

Brady Lewis, founder and CEO of Allmoxy, said afterwards. "I think people are finally seeing the application in their business partly because they're seeing the same technologies used with great success all around them in their personal lives."

The event included tours of the Lewis Cabinets and Trim Art production sites, where at-

tendees could see best practices in action.

"I was pleased to see the next generation of managers embrace technology that will allow them to grow without necessarily building new buildings to do so," Lockdowel CEO Stephen MacDonald says.

For upcoming seminars, visit www.cabinetvision.com. 

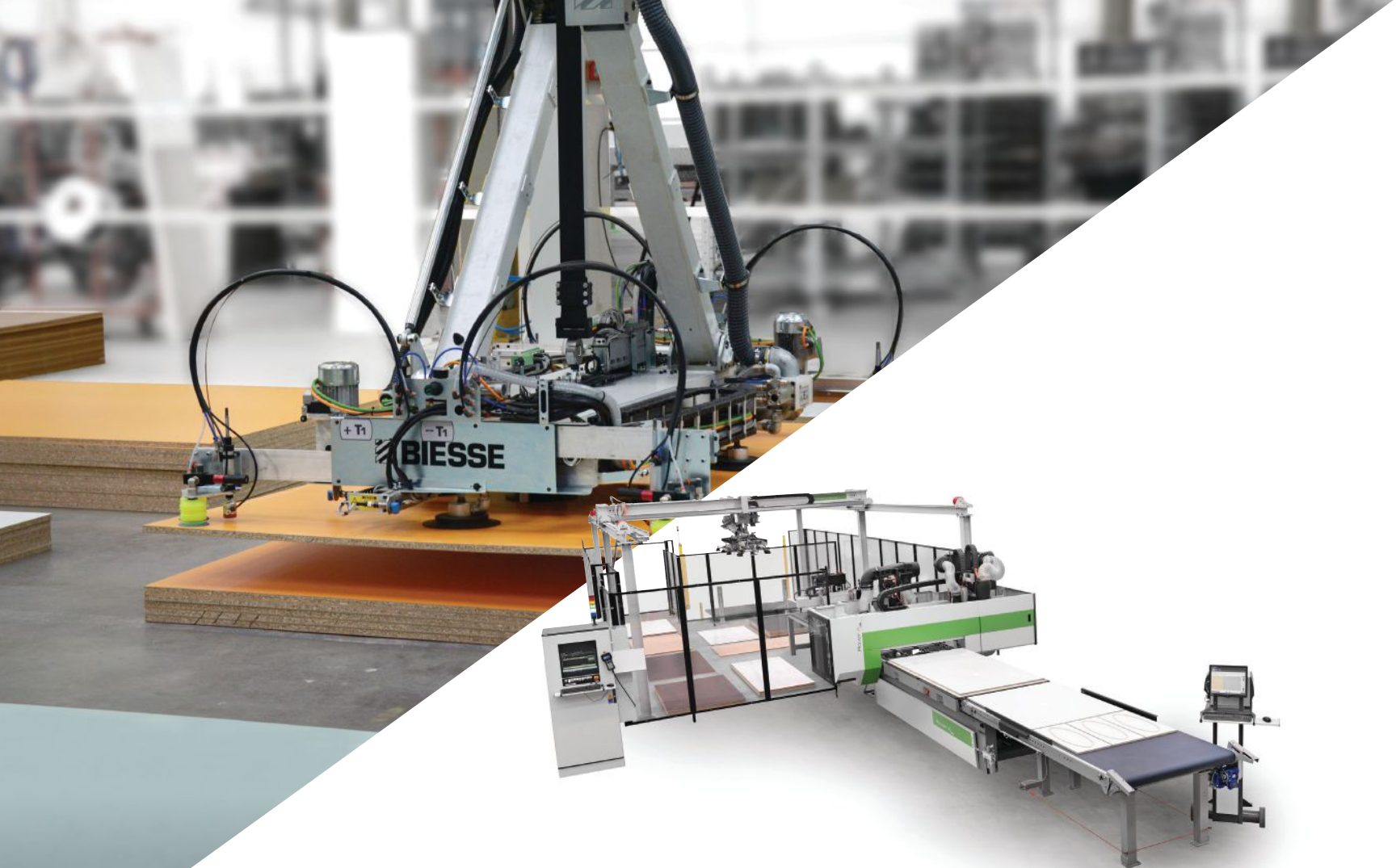
HEARNE HARDWOODS INC.

Extraordinary Hardwoods Lumber:

- Over 140 Species & 1 Million Feet of Inventory in Stock
- Exotic & Domestic Lumber
- Flitch Cut Table Top Slabs
- Book-Matched Material
- Reclaimed Timbers
- Burls, Figured Woods & Other Rarities
- Custom-Made Hardwood Flooring
- Figured Veneer
- Guitar Sets, Billets & Other Tonewoods
- 6' Vertical Bandsaw



WWW.HEARNEHARDWOODS.COM
1.888.814.0007 / 1.610.932.7400



Winstore 3D K3

Industry 4.0 for all shop sizes!

Biesse's Winstore 3D K3, is **the affordable solution for any size company looking for material handling solutions for a nesting cell**. The 3D K3 contains all the technological excellence of Biesse's automatic magazines with a smaller footprint, specifically designed for the optimization requirements of nesting cell production, which would otherwise need an operator and automation for feeding the material. Combine this automation system with Biesse's high performance Rover A CNC Router, and you get a completely flexible solution that increases efficiency and production.

1 877 824 3773
biesse.com

 **BIESSE**

Furniture Society celebrates its 20th anniversary

By Jennifer Hicks

Great efforts paid off at The Furniture Society Conference, held June 23- 25 at the University of the Arts and the Center for Art in Wood in Philadelphia. Kathy Sharp, co-chairman of this year's conference, says a lot of work went into recognizing the studio furniture makers group's two decades of success.

"We really wanted the conference to be special," Sharp says. "Wendell Castle was the featured speaker. We also heard presentations from the Award of Distinction winners, Ned Cooke and Thomas Hucker, and from presenter Bebe Johnson."

Organizers were quite pleased with the turnout of about 275 attendees.

"We've had a lot more in the past," Sharp says. "The Furniture Society was hit pretty badly in 2008 when the economy turned south.

We lost a lot of members, but the membership has increased lately."

The society currently has about 700 members.

This year's conference theme was craft and fracturing, which focused on manufacturing in the handcraft business.

"The theme carried through there very well. One of the main reasons to go is because of the comradery and to catch up with old friends and talk about what machines they're using, what finishes they're using, and all of that. That's always very encouraging for the members to be able to be exposed to one another," Sharp says.

In addition to the many workshops and panel presentations, the John Henry Challenge stood out. It was a contest between members using hand tools against a ShopBot CNC 4-axis carver.

"That one was a lot of fun," Sharp says. "They had two hours to create and the hand-carvers won. It may have been a technicality



due to something with the machine, but it was great fun."

Attendees were also introduced to new executive director William Hinman, a certified fundraiser.

"It's what we need," Sharp says. "This has been a largely volunteer organization. We need the guidance of a professional who knows how to go out and find people to donate and support and we've had some very good support from [companies] like Powermatic, but we need to expand that and I think that's what he is going to do for us."

Sharp says the society is still deciding on whether it will hold a full conference or smaller symposium in 2017 and where it will be located.

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

Busch Vacuum Solutions for CNC Woodworking Processes

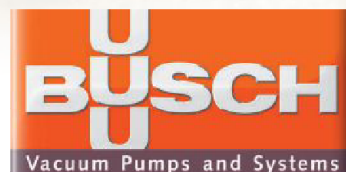


NEW!

Save on energy and operating costs by using contact-free **Mink claw technology**.

- › Constant high suction capacity
- › Broadest range of sizes
- › Minimal maintenance

1-800-USA-PUMP | www.buschusa.com | marketing@buschusa.com



Real. American. Originals.

**"There is one brand
of CNC router in my shop...
for many good reasons."**

*Chris Williamson | Owner
Custom Cabinets - Williamson Millworks
Savannah, Georgia*



C.R. ONSRUD

AMERICAN-MADE CNC MACHINERY



Chris Williamson is an American Original.
Find out why he chose C.R. Onsrud CNC
machines over other brands when he
upgraded his cabinet business:

M-Series 97M - 4X8 CNC Router

\$69,000



Don't have a QR scanner? Try this link instead:

<http://info.cronsrud.com/WilliamsonMillworks>

FDM+C 05|2016

120 Technology Drive Troutman, NC 28166 (704) 508-7000 www.cronsrud.com

Walnut keeps up a steady selling pace

By Jennifer Hicks

Woodworkers can't get enough walnut — even if prices rise, according to lumber distributors interviewed by Woodshop News.

The demand, from both home and abroad, is causing unpredictable price fluctuations, says Lou Irion of Irion Lumber in Wellsboro, Pa.

"There was an absolute frenzy about a year ago and that's backed off a little. But it is still our most popular species and most problematic. It's difficult to get good quality logs and that just translates to having to pay more," Irion says.

"The ideal log goes to a veneer buyer and

those are sold at very high prices. We're looking for logs with maybe a few blemishes, but still a lot of good wood in them, so we are looking for logs larger in diameter around at least 18". By the time you get sap off, if you're trying to get decent boards, you need a good-sized log to get a good yield."

Black walnut (*Juglans nigra*) grows throughout the central and eastern U.S. and is used for making furniture, cabinetry, flooring and instruments. It is generally steamed to homogenize the sapwood and heartwood into a rich uniform chocolate color throughout the board.

Rick Hearne of Hearne Hardwoods in Oxford, Pa., says the large variety of domestic and European walnut he offers is not steamed but still popular.

"Walnut has been red hot for several years. Our customers do prefer the natural look of unsteamed. The disadvantage of steaming is when you steam it you kill the texture and it will never be the same ever again," says Hearne, who encourages customers to learn how it's graded differently than other domestic hardwoods.

Hearne also touched on the current issue of the thousand cankers disease threatening walnut trees.

"The supply issue from the disease is going to lead to more abundance of walnut logs. Walnut is mostly from private property. There are people who normally wouldn't cut a walnut tree out of their paddock and now they are cutting them. The supply side might be affected in 20 years from now when blight has reached its peak, but for right now, we're seeing big trees come in," Hearne adds.

Scott Roberts of Roberts Plywood in Deer Park, N.Y., says walnut is a big seller. The rich deep color is driving demand and price doesn't matter as much as the quality, he says.

"Walnut is hot. All types, from Claro, plywood and veneer, live-edge slabs, FSC-certified, flat-cut, rift-cut and quartersawn. I'm selling a lot of walnut."

Prices for 4/4 FAS walnut start around \$7/bf and run to \$14 for clear grades and wider matched sets. Specialty logs up 5' wide and 16' long are going for \$25 to \$100/bf. [W](#)

Clamping Technology | Cutting Technology | Precision Steel



BESSEY® Auto-adjust toggle clamps

- Automatically adjust to variations in work piece height while maintaining clamping force.
- Adaptable base plate for easy mounting in metric & imperial.
- Large handle with soft insets for maximum comfort.
- One BESSEY® Auto-Adjust Toggle Clamp offers a range of clamping force and clamping height. It can replace a range of competitive clamps for quicker set-ups, smaller tool cribs and consolidated inventories
- Try them all!



www.besseytools.com

A Winning Combination from Holz-Her



You can take advantage of Holz-Her's award-winning technology combined with **Special Pricing!**

The advanced technology of Holz-Her's Evolution 7405 CNC machining center ensures extraordinary speed and performance with its ability to machine **all four sides** of your workpiece! The Evolution delivers enhanced precision in a remarkably small footprint and is equipped with a revolutionary workpiece holding system that leaves no pressure marks from clamps.

It's clear that there's no better time to make this award-winning technology the workhorse of your production process. Act now to take advantage of Holz-Her's special pricing opportunity while supplies last!

\$79,900* including installation and training!

Find out more today.

704.587.3400

www.holzherusa.com

***Details:** Promotional price is available for stock machines purchased by September 30, 2016. Standard payment terms apply and financing is available.



Equipment

Service

Diagnostics

Parts/Tooling

Education

Software

Cutting
Edgebanding
Material Handling
CNC Machinery
Sanding
Optimizing



A proud member of the Weing Group

TOOLS & TECHNIQUES



Micro Jig unveils new dovetail clamps

By Jennifer Hicks

Micro Jig introduced the MatchFit Dovetail Clamp for attaching fences, outfeed tables, cutting guides and more.

Micro Jig director Bruce Wang says the clamps are an ideal solution to custom wood-working shops because of their versatility. They key, he says, is that the clamp head is enclosed within a dovetail groove so they stay clear of work surfaces, blades and bits.

"MatchFit Dovetail Clamps are manufac-

tured with a forged-head compatible with a universal 1/2"-wide, 14-degree dovetail groove. The unique shape of the MatchFit Clamp head allows it to be securely inserted into a dovetail slot and slide along the groove to the desired clamping position," Wang says.

With a jaw depth of 2-3/8" (60mm), the clamps can grip any surface up to 5-1/4" thick with up to 595 lbs. of clamping pressure, according to the company. Users create their own track grooves using any 14-degree, 1/2" dovetail router bit, then slide the clamp head along the dovetail groove to the desired clamping position.

"Because the clamps slide securely within the dovetail groove and stay out of the way during operation, users can clamp virtually anywhere. This gives woodworkers the flexibility to mount fences and extensions horizontally or vertically and without obstruction. They can quickly and easily attach taller fences, and extend infeed and outfeed capacity on table saws, router tables and band saws," Wang adds.

The MatchFit Dovetail Clamp system includes two clamps and retails for \$39.95.

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



JET TOOLS AUTHORIZED DEALER



1840 WOODWORKING LATHES

Two new lathes (JWL-1840EVS and JWL-1840DVR) feature sliding headstocks that also rotate 360° for convenient outboard turning. The JWL-1840DVR incorporates a DVRTM intelligent control that provides consistent torque across the lathe's full range of turning speeds without belt changes.

LOWEST PRICES ■ FAST SHIPPING
800-365-6677

NEW PRODUCT: FROM ONLY \$2999⁹⁹



BISJETTOOLS.COM
YOUR SOURCE FOR JET PRODUCTS

How **Lamello** Improved My Business

"The Lamello P System has improved the precision and productivity of our line and is easier for our customers to use - a win/win for our business".

Elvin Hurst, Jr., President, Dan Folk, Cabinetmaker
Kountry Kraft Kitchens, Newmanstown, PA



Lamello

COLONIAL SAW
MACHINERY SALES AND SERVICE

Learn more about Lamello from the industry experts at Lamello USA,
a division of Colonial Saw Company www.csaw.com/lam • 800.252.6355

Vitap adds another glue option to Eclipse

By Jennifer Hicks

Vitap configured its Eclipse contour edgebander to apply PUR (polyurethane reactive) glue. A new model has a dual-glue system for use with conventional EVA (ethylene vinyl) or PUR glues with minimal changeover time.

"It can be switched from conventional glue to PUR glue by inserting a cartridge system. The PUR glue mixes with the regular glue ini-

tially, and as the glue is being used then you go into straight PUR glue," says Riccardo Azzone, president of Atlantic Machinery, Vitap's exclusive distributor in North America.

The semi-automatic Eclipse has an onboard trimming unit and can process large or small panels without extra setup. It can also apply edging to straight or shaped parts.

The biggest benefit of using PUR glue is its resistance to heat and humidity changes, according to Azzone.

"With conventional glue, there can be delamination issues," he says. "Shipping cross country, especially in the summertime, can cause [conventional] glue to melt or lose some of its bonding properties. PUR glue is much more resistant to temperature changes."

The Eclipse, set up to run conventional glue only, sells for about \$45,000. The PUR option bumps the price to about \$55,000.

For more information, visit www.atlantic-mach.com. **W**



**woodworking technology
for high production workshops**

**For a limited time only
save up to 25% on select machines**

Sliding Table Saws



Edgebanders



Planers



Shapers



Jointer / Planer Combos



For more information, contact 770-622-6632
or marketing@scmgroup-usa.com



Miltec helps its neighbors

The owners and employees of Miltec UV rallied together to solicit donations, funds and support from the local community for the victims of the recent West Virginia floods.

Several managers at Miltec UV have family located in Rainelle, W. Va., who lost their homes and therefore, Miltec UV was directly impacted by this natural disaster. They felt compelled to help by gathering donations and becoming the donation center for the Chesapeake Bay Business Park in Stevensville, Md., according to the company.

Over a two-week period, Miltec UV gathered over three skids worth of donations. The company said it purchased supplies based on the needs of the devastated town. The immediate needs ranged from bleach and bottled water during the first few days to boots, fans, shovels, hoses, air mattresses, sheets, towels, toiletries, clothing and canned goods.

For more, visit www.miltec.com.

Pattern book produced online

Kuiken Brothers Co., a national residential and commercial building material supplier, published an online Molding Design Guide, a modern replica of architectural pattern books.

The digital resource features detailed interior elevation drawings of over 40 unique molding combinations, including full-room packages, cornice combinations and mantles designs.

The guide is available at www.kuiken-brothers.com.



50th Year Anniversary
European Maker of Tools



Watch Videos on
www.virutex.com



Table-Miter Saw Combo



Glue Pot Banders for up to 3 mm tapes & Laminate Strips

Hand Held, up to 3mm tapes & Laminate Strips, 110V
Temperature, Speed, Glue Dispense Control, fast heat up
Ideal for custom work, large tops & site work, **\$1,950**

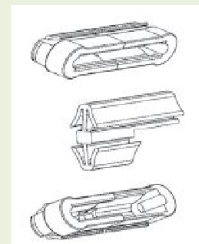
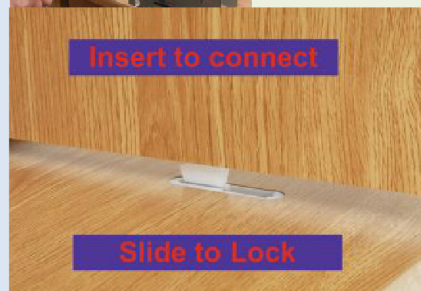


Bench Mount version, with auto end cutter, tape holder
extendable table fence & pressure clamps, 110 Volts
motorized top & bottom trim station for up to 1 mm tapes
\$3,950.00

New Panel connect & disconnect system

Use our router or your CNC to insert male & female connector set to two panels. Snap them in to connect and slide the panels to disconnect. Ideal for cabinet makers and ckd suppliers. Save \$ on shipping

cost and damages



Glue Pot Edge Banders, Automatic

Single Phase

220 V
Auto Feeder
Auto trim
up to 3mm tapes
& laminate strips

\$8,900



Auto feed
Auto trim, 3 phase
up to 3mm tapes
& laminate strips
Advance design
Pnumatic Controls

\$10,900

Hot Air Banders

Hand Held **\$480**



\$6,900
Auto Trim
Power Feeder
220, 1 phase

Door Tools

\$1,450

Lock Mortiser



Door concealed Hinge Router

\$650

17" Door Planer **\$490**



Door Lifter **\$80**

Solid Surface Tools

Angle Trimmer **\$500**



Tilttable Plung Router **\$950**

Specialty Planers

Curve Planer **\$490**



Edge Lipping Planer

\$650



Hand Held **\$145**



Motorized **\$2,500**

Miter Cutter **\$395**

Laminate-Veneer Slitters

Compressed Air Vaccum Clamps



No Vaccum Pump Needed
Tilttable, Rotateable **\$390**

www.virutex.com

50 Hill street, # 509 Southampton, NY 11968
1-800-868-9663- Fax: 631-537-2396-Virutex@aol.com

FINISH WELL!

Two Great Assets for Your Finishing Room:



Easy | Axis

Foot-rotated turntable for applying finishes.

HDPE Construction cleans-up easily from any type of finish residue.

Two easily interchangeable support plates with either non-slip pads or elevation pins.

Dura | Rack

A stable solution to store and transport both small and large freshly finished parts.

Heavy-duty powder-coated steel frame with solid aluminum support rods.

Replaceable paper tubes keep your product clean.



SMARTTECH
3D LAMINATING & FINISHING SOLUTIONS

SmarteTechOnline.com
704 362 1922

The RTA argument and how to turn it on its head

What we do is valuable and it shouldn't take long to show most customers the value of your shop's craftsmanship and assembly

By John English

In a June 2015 piece in The Huffington Post, design consultant Kelli Kaufer listed nine ways to save on a kitchen remodel. Topping the list was a suggestion that homeowners go with ready-to-assemble (RTA) cabinets. While her emphasis was on household budgets and DIY, it's telling that a mainstream-media piece zoned in on this industry trend.

Kelli estimated that an RTA solution would cost about half the price of a custom job and somewhere around twice that of big-box factory cabinets off the shelf. As she pointed out, that's a subjective area. It depends on materials, styles, shipping and a host of other concerns. Most shop owners would perhaps be a little more conservative and put the figure in the range of 25 to 30 percent savings. That's still a big difference for a contractor or woodshop manager estimating a kitchen job and it can be very significant for the homeowner. Those kinds of savings might make the difference between purchasing run-of-the-mill and premium appliances.

Her rule of thumb is definitely food for thought. It suggests that a custom shop's customer service — all that estimating, planning, design and installation — might be worth about the same to consumers as the actual boxes.

Of course, not everyone feels that way. When it comes to RTA casework, custom woodshops are often bypassed by a number of large physical and online retailers such as The Home Depot, Ikea, *TheRTAStore.com* and Kitchen Cabinet Kings, to name a few. These suppliers reach out to homeowners, landlords, remodelers and general contractors and their focus is heavily tilted toward do-it-yourself solutions. For them, the bottom line is, well, the bottom line. Their marketing is intensely price-based and they assume that in most cases the end user will be the one doing the assembly.

Some even offer financing. Last year, RTA Cabinet Store in Conshohocken, Pa., began offering credit lines up to \$3,000 and repay-

ment terms up to 40 months for consumers who wish to do their own assembly and installation. That's a necessary service and a great option for many homeowners who are on a tight budget and don't have many choices. But consumers who are subject to such restrictions were never going to consider custom cabinets anyway, so there's an argument that such sales have little impact on the woodshop industry.

Fastenlink's tooling and connector.



Other companies such as Colorado-based *CabParts.com* include some elements of the consumer market, but are historically much more honed into the professional segment and offer woodshops an enhanced level of service.

RTA cabinets offer a lot of solutions, but they also present some new issues. For example, the vast majority of adult consumers have had to assemble something they purchased from a big-box store in the last couple of decades. Professional cabinetmakers just scratch their heads when they think of Grandma standing in the living room looking at a pile of vinyl-wrapped MDF boards, 30 pounds of hardware in little plastic bags and a confusing manual. Why on earth wouldn't this woman hire a professional and get something that will last, look good and answer her needs?

But despite how familiar that image feels, many homeowners are pretty confident that they can handle the challenge of popping RTA cabinets together. And, more and more, they are correct. The knock-down (KD) mech-

anisms that suppliers use have evolved at a terrific pace during the last few years — from glue and screws to cams and bolts, to click-together milled edge profiles. And as the techniques have matured, the quality of the materials has also improved. As have the design choices: a customer can now order pretty much anything he or she wants in a KD package that ships inexpensively and fast. Kitchen can arrive in days, as opposed to waiting weeks or even months for a custom job.

Customer questions

So how does a woodshop take advantage of RTA technology? How does a shop owner explain to a customer why he wants to use RTA cabinets instead of building them in-house and why that customer shouldn't run an end-route around him and just eliminate the middleman?

Begin with anything other than cost. That's your best argument, so keep it for last. Budget is the thought you want them to carry home at the top of their list. So concentrate first on all those design options. By looking beyond the limited capacity of your machines, they can choose from myriad colors, profiles, finishes and door styles. And by combining your expertise with the RTA supplier's product, they can upgrade to better slides and hardware or have you add a few unique options. These might involve accommodating the owners' hobbies or interests — perhaps a wine or gardening theme or a display case for collectibles.

Next, point out that the timing on RTA is a lot different than shop-built casework. If there are holidays looming or perhaps an occasion such as a graduation or wedding in the family, your customer will be quite interested in shrinking the timetable.

Another point worth exploring is that many of the big-box RTA cabinets are actually built overseas at low cost, so the quality can be suspect — and it's difficult to follow up with customer service issues. Woodshops tend to outsource from known and familiar top-quality American and Canadian manufacturers, so there is still an element of customizing involved. Questions can be asked and answered easily, returns or repairs can be handled through a real person and the shop can duplicate doors and other elements down the road if needed. Buying from reputable, nationally distributed outsourcing suppliers such as Decorative Specialties (decore.com), Cabinets Quick (cabinetsquick.com), Conestoga (conestogawood.com) or Elias Woodwork (eliaswoodwork.com) means that a woodshop not only gets reliable physical products, but also buys into decades of high-end experience and is often able to use the supplier's design service, too.

And many RTA cabinets use technologies designed to deliver top-end joinery in a way that is more amenable to assembly by production shops than homeowners. For example, the rugged and rapid connection system from Fastenlink (fastenlink.com) is a superior technology that is ideally suited to larger suppliers that use CNC to build RTA casework and also to its custom woodshops clients that want to assemble cabinets in-house quickly, but sturdily.

Fastenlink is made up of two components: an invisible (when complete) plastic link that looks like a barbell-shaped dowel and a ramped pocket that receives the link. It can be machined on standard CNC routing and horizontal boring machines. Casework using Fastenlink is assembled in-house with glue (it doesn't just snap together), so a little cabinetmaking experience goes a long way toward helping the system deliver a perfect product every time.

A convincing argument

Talking a DIY enthusiast out of the end-run option should be relatively easy. Just think "oil changes." Thirty years ago, almost every man-about-the-house changed the oil in his vehicles himself. It wasn't unusual to drive down an alley on a Saturday morning and

spot two or three guys reaching for a filter wrench as they lay on their backs under the front end, garage door open and the dog chewing their shoes. Now, virtually nobody deals with that. We pay a quick-change place about the price of dinner for two and never give it a second thought.

Reminding customers why they shouldn't do their own install plays on the same emotions. Just start talking about working around plumbing and electrical elements, dishwashers and HVAC vents. Mention how you've never been in a kitchen that was both level and plumb. Talk about filler strips, aligning doors or the challenges of installing countertops on uneven cabinets. Mention all the tools needed to do a proper job. And then talk about the time involved. It takes two trained cabinetmakers a whole lot less time to install an RTA kitchen than it does a homeowner to surmount the learning curve and do the job by himself. Or herself. Meanwhile, the family is without a kitchen and domestic bliss is, well, elusive.

What we do is valuable and it doesn't take long for most customers to realize they might be out of their depth. Popping a box together is only one small part of the job. The rest is experience and training. **W**

ShopBot has the right CNC tool for any size wood shop.

Whether your shop is S, M, or XL, all of ShopBot's tools give you the professional speed, power, and accuracy at a fraction of the cost of big-iron CNC tools.

Cut wood, vinyl, aluminum, foam, plastic — just about anything.

ShopBot has been innovating CNC technology for 20 years. Every ShopBot is designed, built and supported in Durham, NC, USA. **And tech support is always FREE.**

We offer solutions for 3-axis, 4-axis, and 5-axis machining. Call us to order yours today!



**Proudly celebrating our
20th year serving woodworkers.**

**We make
the tools
for making the
future.**

ShopBot®
888-680-4466 • ShopBotTools.com



Easy Panel System

Simple, decorative aluminum trim for wall panels



Request a Mock Up

12" x 12" Mock-Ups Available



CALL TO ORDER
(631) 750-3000

1625 Sycamore Ave. / Bohemia, NY 11716
www.monarchmetal.com

TOOLS & TECHNIQUES



Timesavers adds new feed-through sander model

By Jennifer Hicks

Timesavers added a 52" four-head model to its extensive 2300 Series of feed-through sanders.

The company offers about 30 different models in the line of 37", 43" and 52" sanders, which until now were limited to a maximum of three heads in a single machine frame.

Timesavers national sales manager Dewayne Kangas says that several decades ago customers were satisfied using 80- and 100-grit belts. Demand for finer finishes required finer belts, which the company accommodated by offering machines with triple heads for 80-, 120- and 180-grit belts.

"Now it's come to the point where those three heads are not allowing for fine enough sanding. People want to offer products with even finer finishes so now we've gone to a four-head machine and customers can put up to 220- or even 240-grit on the top end of the final belt that gives almost a glass finish to their cabinet doors or whatever type of furniture parts that they're doing," Kangas says.

He adds the new model is ideal for small- to medium-sized shops because of its low price point.

"We've offered four- to six-head machines in the past, but they're designed to run all day and start at around \$150,000. The smaller shops with 10 to 50 employees run sanders less so we came up with this model. It's a little lighter in horsepower but very adequate for what most people have to do."

The 30-hp sander, model 2341-45-0001, sells for under \$95,000 installed. For more, visit www.timesaversinc.com. **W**

Colonial Saw rolls out CNC profile grinder

By Jennifer Hicks

Colonial Saw offers the new UTMA P20 CNC profile grinder for producing custom cutters, molder heads, router bits and more. "The main benefit is this is that it's full CNC, so the learning curve of your grinder person goes down. You don't need someone with 20 years of experience in the grinding industry to put out good product. You can train anyone to run it," product manager Jeff Goltz says.

The machine rough grinds a blank knife into a finished profile directly from DXF or HPGL CAD drawings. Templates are not required. It features a 12-hp grinding motor and variable-speed control, according to Colonial Saw.

"The reason you want variable speed on a machine like this is because some people are still running high speed steel and others are running carbide," Goltz says.

"With four CNC digital servo motor controlled axes, it automatically compensates for compound side and back clearance angles. The full cabin enclosure is significantly safer than manual knife grinders. The quick-change grinding wheel grinds against the cutting edge, limiting any burning to the bottom of the grind."

Goltz adds that the machine also helps shops eliminate inventory.

"If you're having somebody now do your sharpening for you, you



need certain sets on hand depending on the job. But now you don't need them because you can make a brand new set in 30 minutes."

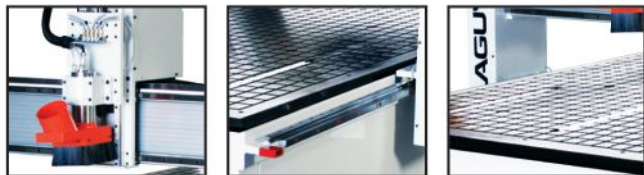
The machine retails for \$150,000 to \$160,000, depending on the tooling specified.

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

INTRODUCING SWIFT CNC WITH VACUUM

The latest model of the Laguna SWIFT has been upgraded to include a vacuum table. This Laguna CNC is perfect for the small cabinet or woodworking shop looking to move into CNC automation. The machine comes equipped with a powerful 3HP industrial spindle and is manufactured with a heavy-duty robust one-piece welded tubular steel frame. The SWIFT is available in three sizes, 4x4, 4x8 and 5x10 table sizes.

Starting at
\$13,995



For More Information Call
800.234.1976

LAGUNA
LAGUNATOOLS.COM



Laguna Tools is not responsible for errors or omissions. Specifications subject to change. Machines may be shown with optional accessories. © 2016, Laguna Tools, Inc. LAGUNA® and the LAGUNA Logo® are the registered trademarks of Laguna Tools, Inc. All rights reserved.



FINISHING

with BOB FLEXNER

Smart coatings might truly change the way you feel

It seems like everything is becoming smart these days: phones, watches, cars and coatings — including paints and finishes.

A smart coating is defined as a paint or finish that can sense and respond to a stimulus in its environment — for example, to pressure,

light or heat. Then the coating will react in a predictable way.

One of the most fascinating smart coatings is “pee-back” paint. It’s my favorite example for explaining what a smart coating is.

The party district of Hamburg, Germany is called St. Pauli. The town had a problem. People, mostly guys, would come out of a bar or club late at night and relieve themselves in some dark area, usually against a wall or building.

Signs and warnings didn’t help much. Neither did paying a guard to stand there all night because the person would just find another dark area.

The solution the town settled on was to paint the walls and sides of buildings with a super hydrophobic and oleophobic paint called Ultra-Ever Dry made by Ultra Tech International in Jacksonville, Fla. Hydrophobic means water repellent and oleophobic means oil repellent in this context.

The paint is made using nanotechnology, which creates billions of tiny peaks with air in between. So, essentially, there is an air barrier that repels droplets of pee back onto the shoes of the culprit.

Self-healing

Even more practical smart technologies are being developed by a number of companies called “self-healing” coatings.

It used to be, especially with automotive coatings, that you could remove light scratches by heating the surface. Lacquers are evaporative coatings that aren’t very resistant to heat; they flow when heated. But lacquers are high in solvent content, so they began giving way to enamels in the 1970s because of increasingly strict environmental laws. Enamels are reactive (crosslinking) coatings that don’t flow when heated. So it was no longer possible to fix light scratches with heat.

In the last couple of decades, researchers at several universities, including Illinois and Southern Mississippi, have been working on ways to repair scratches in crosslinked coatings, such as polyurethane, using UV light.

The day might come (fairly soon, actually) when a scratch caused by someone keying your car heals itself simply by sitting out in the sun for a short time. Also, scratches on crosslinked furniture finishes might be made to heal without changing the sheen.

Adhesive paint

You’re probably aware that Google is working on self-driving cars. Well, the company has filed a patent for an adhesive paint to be used on these and other cars that will help reduce injuries to pedestrians hit by these cars.

The coating would be applied to the front end of the car and be composed of an adhesive layer and a topcoat of an “eggshell-like material” that

Techno CNC Systems

HDS Series 4' x 8'

\$45,000*



Ziggy — MRB Furniture Design Inc.

631-648-7481
www.technocnc.com



“We love our Techno HDS Series CNC Router. It has improved our production in so many ways. The speed in which we can produce our furniture has dramatically reduced our delivery times and lets us plan our production very accurately. The CNC has improved our material yields increasing our profits and has limited shop personnel cutting errors. Thanks Techno CNC for such a great, reliable machine!”

*Base price shown without vacuum pump or installation and training.

would break away instantly on contact. The pedestrian would stick to the adhesive layer, so as to not bounce off or be thrown over the car.

In the pipeline

Researchers at the University of Reading in the U.K. have developed a self-healing polyurethane that fills in damage at low temperatures, in contrast to several others that work only when heated. Low temperature healing makes this coating not only useful in paints and finishes, but also for healing cuts in the human body.

Scientists in Ireland have developed a water-based coating that can be baked onto a surface to become 99.9 percent resistant to superbugs such as MRSA, E. coli and other fungi. This coating works on glass, metallic and ceramic surfaces without the aid of UV light, so it is great for indoor surfaces — for example, those in hospitals.

It can also be used on many surfaces people touch a lot such as handrails and door handles. The scientists are working on incorporating their technology into paints and plastics for use

on many other surfaces, especially cell phones where bacteria can live for up to five months.

A nanotechnology coating developed in Israel at Ben-Gurion University of the Negev impedes the growth of surface bacteria on metal and could be used as an anti-fouling agent in coatings applied to submerged ship hulls and bridge structures. It could also be used on medical implants and surgical tools to prevent infection.

Researchers in San Diego, using slugs as their inspiration (they noticed that slugs come out of the ground at night with no dirt on their bodies), have developed a coating that exudes a silicone substance that is so slick that ice can't adhere to it. It simply slides off. The silicone substance is secreted from the coating when temperatures fall below freezing and it retreats back into the coating when temperatures rise above freezing. Obvious use: wings on airplanes. **W**

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

WallGoldfinger expands sales force

Corporate furniture manufacturer Wall-Goldfinger of Randolph, Vt., expanded its sales representative team to Pennsylvania, Delaware and Southern New Jersey with the addition of Philadelphia-based Facility & Design Resource.

FDR is experienced in the contract furniture market and hopes to enhance WallGoldfinger's brand recognition in the Pennsylvania region.

"We are excited to partner with Wall-Goldfinger and expand our presence with key specifiers by representing a design and manufacturing leader in particularly the custom boardroom, conference and reception categories," FDR president Matt Boyle said in a release.

"Sales representatives allow clients face-to-face contact. We are excited to not only expand our representation and brand awareness in the Pennsylvania region, but to have such an experienced team working with us," added WallGoldfinger CEO John Wall. "The FDR team knows the industry, speaks the language and will expertly help clients choose the right furniture for their needs."

For more, visit www.wallgoldfinger.com/rep.

WPMA schedules annual meeting

The Wood Products Manufacturers As-

sociation will hold its annual meeting in conjunction with the Kentucky Forest Industry Association Sept. 27-29 at The Brown Hotel in Louisville, Ky.

The meeting will include a complete day of plant tour visits, a "mystery night" and educational sessions.

For more information, contact Philip Bi-beau of the WPMA at 978-874-5445 or Bob Bauer of the KFIA at 502-695-3979.

Acrilex opens online factory store

Acrilex Inc. launched a new online factory store to offer the company's specialty and one-of-a-kind Acriglas colored acrylic materials.

The store — www.acrilex.com/shop — opened to fulfill the creative inspirations of designers, makers and manufacturers needing only a few square feet of ready-to-ship acrylic sheets, according to the company.

All products are available in small quantities and with no minimum purchase.

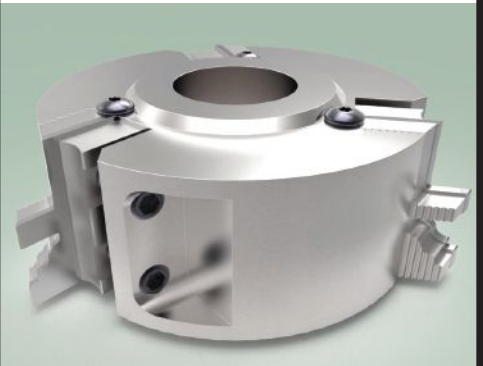
"Our customers have been requesting access to our edgy line of acrylic materials in small quantities," Daniel Rustin, the company's marketing director, said in a statement. "We listened and responded with the launch of the Acrilex Factory Store. It offers everyone from sign shops, display fabricators and lighting manufacturers to exhibitors, jewelry makers and hobbyists with a single, online outlet to purchase our unique acrylic sheets."



W. MOORE PROFILES LTD.

Introducing: The MultiTasker

Another innovation from W. Moore Profiles, LTD.



The **MultiTasker** line of tooling is designed for dual purposes. For small production runs on a shaper the **MultiTasker** can be fitted with precision ground HSS knives for a low cost to complete the project. For larger runs, the **MultiTasker** can be fitted with carbide inserts for longer tool life and steel backer for support.

Versatility when needed!

Low cost when necessary!

Higher production capable when required!

Available for most profile
manufacturing equipment



W. MOORE PROFILES, LTD.
800-396-9091
www.wmooreprofiles.com

Dust Collection

Since 1993, we have been the leaders in American-made cyclonic dust collection. We have the systems and the expertise to meet any of your dust collection needs.

We are the dust collection professionals. It's all we do.



Many systems and horsepower available.



GORILLA
DUCT™ Fast • Strong • Secure

Oneida Air Systems is proud to introduce **Gorilla Duct™**. Affordable, clamp-together ductwork with the strength and Made in America quality that you've come to expect from Oneida Air Systems.



Made in the USA.

1.800.732.4065
www.oneida-air.com



PRO SHOP

with ANDREW GLANTZ

Write off solid-surface materials? No way, not yet

The kitchen and bath industry continues to move forward with new high-end materials for countertops and trim. The old stand-by, once the go-to finish, is relegated to the sidelines.

These days, both natural and engineered stone, or engineered quartz, are the high-end choices for the industry, and sheet acrylics and polyesters — often referred to as solid surface — are no longer in vogue. But there are advantages to working in solid surface that can't be duplicated in any other material. I recently designed and fabricated a piece of furniture using solid surface for the top and front façade that highlights these benefits and design opportunities.

The piece I had in mind was a small dresser that also could be used for a luggage rack. I wanted a material for the top that would be scratch-resistant and easy to take care of, so solid surface was a natural choice. And if it did get scratched, I could sand out any dings easily.

But having decided to use solid surface for the top, the next question was what to use for the front façade. I could certainly switch to wood for this, since I am basically a wood guy, but my thought was to try to use solid surface throughout.

There were many complications given that my design was for a demilune-shaped piece. But I also realized that this would be a learning experience. I always

feel that it is good to add a material to my arsenal of media and I had worked with solid surface before.

However, the curves I had in mind were nothing like what I had fabricated in the past. I already owned the two most important tools necessary for working with solid surface — the glue gun and a blade for the table saw. So my investment was only that of time and materials in this experiment.

Curving the trim

To give me easy registration of all parts, I added an inch to the ends of every trim piece so that I could use ¼" bolts to align the two pieces during glue-up. I lightly oiled these bolts so they could be easily removed. You don't want to forget this step because the glue is tenacious. The holes also were used to



The completed dresser with solid surface top and front façade.



The front foot (above) was made from 14 pieces of solid surface; the top isn't something that could easily be produced with stone.

attach the guide for routing.

All of the front trim pieces are laminated to a 1" thickness. The verticals are straight, so that was no problem. But the horizontals are curved, so these had to be roughed out with the band saw, laminated and then trimmed to the final curve with a pattern and router table.

One advantage the solid surface holds over other materials is that glue joints are totally invisible. This is particularly true in the patterns with tiny color variants and a bit less so in the patterns with larger flakes or aggregate.

This is important if the design calls for gluing pieces at a 90-degree angle, since the aggregate style sheets are slightly different from front to back. Nevertheless, even with these aggregate patterns, glue joints all but disappear, leaving the illusion that the shapes you create are made from one solid chunk of material rather than laminated up in 1/2" increments.

For instance, the front foot looks like it is all one piece. But it is actually glued up from 14 different pieces that come together at this location. You can't do that with any other material.

Curving the fronts

The doors and drawer fronts presented a different kind of challenge. I wanted to curve them left to right and still stay with the 1/2" thickness. So thermoforming was the answer. Sheet acrylic can be shaped

by heating it in a 320-degree oven for 50 minutes and then lightly clamped to a form until it cools. A convex form works a bit better than a concave one, but I used both with good success. I also used bags of buckshot to weigh down the warmed sheets, which worked well as a clamp.

The material has no memory, so there is no spring-back at all. The only limitation is the size of the oven you use. I was using a household one, which limited me to about 6" x 26" inserting it diagonally with the piece in a little rack to hold it vertically. I used the already formed drawer front as the form for the sub-front that is part of the actual drawer structure.

The curved fronts were then ripped in half, the pull band was glued to one edge and then the other half was glued back on. This created a seamless transition from front to pull and back and allowed me to angle the edges of the pulls to form a shape top to bottom on the front of the piece.

These two advantages, invisible laminations and thermoforming, allowed me to create a piece that could not be made as easily or seamlessly with other materials. Even the transition between the two colors of materials used in the top would not have been possible in wood and I doubt that stone fabricators would want to try this design.

The net result is really interesting to me and the ramifications and possibilities for the material seem endless. While parts of this piece were a bit over the top and production took longer than I would want for a commissioned piece, I feel that I really learned a great deal about what I can do — and do easily — with solid surface.

And while the first one took a lot of time, a great deal of that was in the preparation of jigs and patterns, which would make the production of a run of these very cost-efficient.

I still love the look of stone. But I do not have enough shop space to add wet-diamond technology, nor do I have the volume to support the added expense of tooling. So, for me, solid surface is a good alternative.

I am not willing to write it off as a "has-been" quite yet. The ability to seamlessly join it, to sculpt it and to thermoform it are great advantages that we can all bring to bear on many projects in the future. [W](#)

Andrew Glantz is the owner of Zenith Design in Scottsdale, Ariz., and past president of The Furniture Society.

Quality Cabinet Doors & Molding

- Tenon, Miter & Slab Cabinet Doors: Raw, Stained, Painted, Glazed & Distressed
- Over a 3000 Molding Profiles
- Much More!



*Quality Committed, Timely Delivered,
Environmentally Driven*

1-800-665-0623

www.eliaswoodwork.com



Grizzly Industrial®

PURVEYORS OF FINE MACHINERY®, SINCE 1983!

10" HYBRID TABLE SAW WITH RIVING KNIFE

- Motor: 2 HP, 120V/240V, single-phase, prewired to 120V
- Amps: 15A at 120V, 7.5A at 240V
- Precision-ground cast iron table size with wings: 40½" W x 27" D
- Table height: 35½"
- Footprint: 21" L x 19½" W
- Arbor: ½"
- Arbor speed: 3450 RPM
- Capacity: 3¼" @ 90°, 2¼" @ 45°
- Rip capacity: 30" right, 15" left
- Overall size: 57¼" W x 37½" D x 35½" H
- Approx. shipping weight: 345 lbs.



CAST IRON TRUNNIONS

FREE 10" CARBIDE-TIPPED BLADE

\$99 shipping

G0771 \$795⁰⁰ SALE \$695⁰⁰

10" HYBRID TABLE SAW WITH RIVING KNIFE

- Motor: 2 HP, 110V/220V, single-phase, prewired to 220V, 16A/8A
- Precision-ground cast iron table size with wings: 27" x 40"
- Arbor: ½"
- Arbor speed: 3850 RPM
- Capacity: 3¼" @ 90°, 2¼" @ 45°
- Rip capacity: 30" R, 12" L
- Quick-change riving knife
- Approx. shipping weight: 416 lbs.



CAST IRON TRUNNIONS

INCLUDES BOTH REGULAR & DADO BLADE INSERTS

G0715P ONLY \$850⁰⁰

10" LEFT-TILTING TABLE SAWS WITH RIVING KNIVES & CAST-IRON ROUTER TABLES

- Motor: 3 HP or 5 HP, 240V, single-phase
- Precision-ground cast iron table size with wings: 48" W x 27" D
- Arbor: ½"
- Cutting capacity: 8" L, 26" R
- Max. depth of cut @ 90°: 3"
- Max. depth of cut @ 45°: 2½"
- Approx. shipping weight: 550 lbs.



See our website for Reviews & Awards

SP US 177335

\$150 shipping

3 HP G1023RLW ONLY \$1395⁰⁰

5 HP G1023RLWX ONLY \$1425⁰⁰

14" SLIDING TABLE SAW

- Main motor: 10 HP, 220V/440V*, 3-phase, 25A/12.5A
- Sliding table size: 15" x 126" • Main blade arbor: 1"
- Main blade speed: 3000, 4000, 5000, 6000 RPM
- Scoring blade motor: 1 HP, 3A/1.5A
- Scoring blade size: 4¼" • Scoring blade arbor: 22mm
- Scoring blade speed: 8000 RPM
- Scoring blade tilt: 0-45°
- Depth of cut: 4" @ 90°, 2¼" @ 45°
- Max. rip capacity: 52½"
- Max. sheet capacity: 126" x 126"
- Approx. shipping weight: 2932 lbs.



126" LENGTH OF CROSS CUT

\$355 shipping

G0772 ONLY \$11,250⁰⁰

8" X 76" JOINTERS WITH BUILT-IN MOBILE BASE

- Motor: 3 HP, 240V, single-phase, 15A, TEFC, 3450 RPM
- Total table size: 8" x 76¼" • Infeed table size: 8" x 43¾"
- Cutterhead knives (G0490W): 4 HSS, 8" x ¾" x ½"; (G0490XW): Spiral cutterhead with 40 indexable cutters
- Cutterhead speed: 4800 RPM • Cutterhead diameter: 3¾"
- Max. depth of cut: ½" • Max. rabbeting depth: ½"
- Cuts per minute: 21,400
- Deluxe cast iron fence size: 36" long x 1¼" wide x 5" high
- Approx. shipping weight: 567 lbs.



PARALLELOGRAM TABLE ADJUSTMENT SYSTEM!

See our website for Reviews & Awards

\$150 shipping

WITH 4-KNIFE CUTTERHEAD G0490W ONLY \$1025⁰⁰

WITH SPIRAL CUTTERHEAD G0490XW ONLY \$1350⁰⁰

10" CABINET TABLE SAWS

- Motor: 3 HP, 220V, single-phase, 12.8A
- Precision-ground cast iron table size with extension: (G0690) 27" x 40"; (G0691) 27" x 74¾"
- Table height: 34" • Max. dado width: 1½"
- Arbor: ½" • Arbor speed: 4300 RPM
- Capacity: 3¼" @ 90°, 2¼" @ 45°
- Max. rip capacity: 12" L, 29½" R (G0690); 12" L, 50" R (G0691)
- Approx. shipping weight: (G0690) 530 lbs; (G0691) 557 lbs.



FREE 10" CARBIDE-TIPPED BLADE

SP US 232857

See our website for Reviews & Awards

G0690 ONLY \$1525⁰⁰

WITH EXTENSION RAILS & TABLE G0691 ONLY \$1625⁰⁰

\$150 shipping

AUTOMATIC EDGEBANDER

- Required power supply: 30A, 220V, single-phase, 60 Hz
- Feed motor: ¾ HP • Glue and edge motor: ¼ HP
- End trim motor: ¼ HP
- Flush trim motor: ¾ HP
- Buffing motor: ¼ HP
- Heating element: 1455W
- Table size: 10½" W x 78¾" L
- Min. panel dimensions: 4¾" W x 9½" L
- Compressed air required: 100 PSI
- Glue pot capacity: 34 oz
- Roller width: 3¾" • Roller diameter: 1½"
- Edgebanding coil capacity: 31½"
- Approx. shipping weight: 875 lbs.



MADE IN AN ISO 9001 FACTORY!

G0774 \$11,500⁰⁰ SALE \$9695⁰⁰

\$150 shipping

THE ULTIMATE 8" JOINTER WITH EXCLUSIVE DIGITAL HEIGHT READOUT

- Motor: 3 HP, 220V, single-phase, TEFC, 3450 RPM, 15A
- Total table size: 8½" x 82½"
- Infeed table size: 8½" x 42"
- Cutterhead: 4-row spiral with 36 indexable, solid-carbide inserts
- Cutterhead speed: 7000 RPM
- Cutterhead diameter: 3½"
- Floor to table height: 31"
- Fence stops: 45°, 90°, & 135°
- Deluxe cast-iron fence size: 38" long x 1½" wide x 4¾" high
- Approx. shipping weight: 796 lbs.



MADE IN AN ISO 9001 FACTORY!

FREE SAFETY PUSH BLOCKS

G0495X ONLY \$2150⁰⁰

\$150 shipping

*To maintain machine warranty, 440V operation requires additional conversion time and a \$250 fee. Please contact technical service for complete information before ordering.

PRICING CODE
16WOODS

MENTION THIS CODE WHEN PLACING YOUR ORDER

17842R

1-800-523-4777

2 GREAT SHOWROOMS!
BELLINGHAM, WA • SPRINGFIELD, MO

TECHNICAL SERVICE:

570-546-9663
FAX: 800-438-5901

- ALMOST A MILLION SQUARE FEET PACKED TO THE RAFTERS WITH MACHINERY & TOOLS
- 2 OVERSEAS QUALITY CONTROL OFFICES STAFFED WITH QUALIFIED GRIZZLY ENGINEERS
- HUGE PARTS FACILITY WITH OVER 1 MILLION PARTS IN STOCK AT ALL TIMES
- TRAINED SERVICE TECHNICIANS AT BOTH LOCATIONS • MOST ORDERS SHIP THE SAME DAY



FREE 2016 CATALOG
772 PAGES OF HIGH
QUALITY MACHINES & TOOLS
AT INCREDIBLE PRICES

12" X 83½" PARALLELOGRAM JOINTER

- Motor: 3 HP, 230V, single-phase, 15A
- Precision-ground cast iron table size: 12¾" x 83½"
- Floor to table height: 31"½"
- Maximum depth of cut: ½"
- Rabbeting capacity: ¾"
- Cutterhead diameter: 3½"
- Number of carbide inserts: 60, 14 x 14 x 2mm
- Cuts per minute: 19,800
- Cutterhead speed: 4300 RPM
- Fence stops at 45°, 90°, and 135°
- Footprint: 84" x 33"
- Approximate shipping weight: 1059 lbs.



FREE SAFETY
PUSH BLOCKS

\$275
shipping
weight 1059 lbs.

WITH SPIRAL CUTTERHEAD

G0609X ONLY \$2795⁰⁰

20" PLANERS

- Motor: 5 HP, 240V, single-phase, 20A
- Table size: 20" x 25¼" (21" x 56½" with wings)
- Max. cutting width: 20" • Min. stock length: 7½"
- Max. cutting depth: ½"
- Feed rate: 16 and 20 FPM
- Number of carbide inserts: 96 (G0454ZW)
- Number of knives: 4 HSS (G0454W)
- Knife size: 20" x 1" x ½" (G0454W)
- Cutterhead speed: 5000 RPM
- Overall size: 44" W x 56½" D x 43½" H
- Approximate shipping weight: 947 lbs.



BUILT-IN
MOBILE
BASE

PRECISION-
GROUND
CAST IRON
BED &
INFEED/
OUTFEED
TABLES

\$179
shipping
weight 947 lbs.

G0454W ONLY \$1795⁰⁰

WITH SPIRAL CUTTERHEAD

G0454ZW ONLY \$2625⁰⁰

25" EXTREME-DUTY PLANER WITH SPIRAL CUTTERHEAD

EXTREME
SERIES

- Cutterhead motor: 15 HP, 220V/440V*, prewired 220V, 3-phase, 37A/18.5A
- Table elevation motor: ½ HP, 2.4/1.2A
- Precision-ground cast iron table size: 25" x 57"
- Max. cutting width: 25"
- Max. cutting height: 9"
- Max. cutting depth: ¾"
- Min. stock length: 10"
- Feed rates: 20, 25, and 30 FPM
- Cutterhead speed: 4900 RPM
- Approximate shipping weight: 2054 lbs.



DIGITAL
READOUT
& KEY PAD

\$355
shipping
weight 2054 lbs.

PRECISION-GROUND SUPER HEAVY-DUTY
CAST IRON INFEED & OUTFEED TABLES

G0603X \$9995⁰⁰ SALE \$9195⁰⁰

30TH ANNIVERSARY 17" HEAVY-DUTY BANDSAW

- Motor: 2 HP, 110V/220V, single-phase, TEFC, prewired 220V, 1725 RPM
- Amps: 20A at 110V, 10A at 220V
• Precision-ground cast iron table size: 17" x 17" x 1½" thick
- Table tilt: 10° left, 45° right
- Floor-to-table height: 37½"
- Cutting capacity/throat: 16¼"
- Blade size: 131½" long
- Approximate shipping weight: 342 lbs.

MADE IN AN ISO
9001 FACTORY!



\$99
shipping
weight 342 lbs.

G0513ANV ONLY \$895⁰⁰

15" PLANERS

- Motor: 3 HP, 240V, single-phase, 15A
- Max. cutting width: 15" • Max. stock thickness: 8"
- Min. stock thickness: ¾"
- Min. stock length: 8" (G0453W), 6" (G0453ZW)
- Max. cutting depth: ½" • Feed rate: 16 and 20 FPM
- Cutterhead diameter: 2½"
- Cutterhead speed: 5000 RPM
- Power feed rollers: solid serrated steel
- Table size: 41¼" x 16"
- Overall size: 38" W x 42" D x 42½" H
- Approximate shipping weight: 594 lbs. (G0453W), 604 lbs. (G0453ZW)



G0453W ONLY \$1195⁰⁰

WITH SPIRAL CUTTERHEAD

G0453ZW ONLY \$1895⁰⁰

Z-SERIES

\$150
shipping
weight 604 lbs.

24" EXTREME-DUTY PLANERS

EXTREME
SERIES

- Cutterhead motor: 10 HP, 220V/440V*, prewired 220V, 3-phase
- Feed motor: 1 HP
- Table elevation motor: ½ HP
- Precision-ground cast iron table size: 24" x 35½"
- Max. cutting width: 24" • Max. cutting height: 9"
- Max. cutting depth: ¾"
- Feed rate: 20-40 FPM
- Cutterhead speed: 5000 RPM
- Cutterhead dia.: 4½"
- Approximate shipping weight: 1935 lbs. (G9741), 2024 lbs. (G9961)



MADE IN ISO
9001 FACTORY

G9741 \$7995⁰⁰ SALE \$7650⁰⁰

WITH SPIRAL CUTTERHEAD

G9961 \$9250⁰⁰ SALE \$8675⁰⁰

\$275
shipping
weight 2024 lbs.

HEAVY-DUTY TILTING ARBOR SHAPER

EXTREME
SERIES

- Motor: 7½ HP, 220V/440V*, prewired 220V, 3-phase, 3450 RPM, 20A/10A
- Precision-ground cast iron table size: 47¼" x 35½"
- Spindle travel: 6½"
- Spindle size: 1¼" W x 7" L
- Spindle tilt: -5° to +45° • Spindle capacity: 6"
- Spindle speeds: 3900, 5000, 7200, & 9400 RPM
- Max. cutter dia.: 10"
- Approximate shipping weight: 1096 lbs.



INCLUDES HEAVY-DUTY MITER GAUGE,
SPINDLE SPACERS & NUTS, HOLD-DOWN
ASSEMBLIES & TABLE INSERTS

G0608X ONLY \$4295⁰⁰

\$275
shipping
weight 1096 lbs.

19" BANDSAWS

- Motor: 3 HP, 220V, single-phase, TEFC, 60 Hz, 12A
- Precision-ground cast iron table size: 26¾" x 19" x 1½" thick
- Floor-to-table height: 37½"
- Cutting capacity/throat: 18¼"
- Max. cutting height: 12"
- Blade size: 143" long
- Blade widths available: ½"-1¼"
- 2 Blade speeds: 1700, 3500 FPM
- Overall size: 36" W x 32" D x 76" H
- Approximate shipping weight: (G0514X) 460 lbs; (G0514X2B) 512 lbs.

MADE IN AN ISO
9001 FACTORY!



G0514X ONLY \$1475⁰⁰

WITH MOTOR BRAKE

G0514X2B ONLY \$1755⁰⁰

\$99
shipping
weight 512 lbs.

FOLLOW
US:



VIEW VIDEOS AT
grizzly.com



grizzly.com®

OVER 15,000 PRODUCTS ONLINE!



SCAN QR CODE TO
VIEW VIDEO LIBRARY



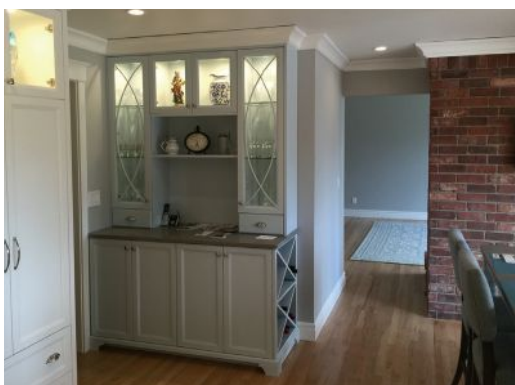




PEAK PERFORMANCE

DUSTIN SANDERS LEFT A GOOD-PAYING JOB TO BUILD HIS OWN WOODWORKING BUSINESS IN THE ROCKIES THAT CATERS TO A WIDE ARRAY OF NEEDS

BY JENNIFER HICKS



Having left a steady job in the lumber industry to start a custom woodworking business in his late 20s, Dustin Sanders is glad he stuck with his gut instinct. Now 31, Sanders made the decision in 2012 to leave a large lumber distributor he had worked at for almost a decade. He took his networking and woodworking skills to the next level and started Growth Ring Innovations in Golden, Colo., which has already grown significantly in the last four years.

And yes, Dustin Sanders is his birth-given name, despite jokes and misunderstandings that it's only promotional word play.

Growth Ring Innovations has seven employees and operates from a 2,500-sq.-ft. shop at the base of the Rocky Mountain foothills, not far from the original Coors brewery.

A TEENAGE ENTREPRENEUR

Sanders hails from Arvada, Colo., and went to work for Paxton Lumber at its headquarters in Denver just after his high school graduation. The truth is he didn't know what he wanted to do for a living, but was happy to have a job associated with woodworking.

"My dad was very handy and he was the reason I always played with scrap wood. I got a scroll saw at age 10 and did woodworking as a hobby. I did bigger jobs in high school like mantles, cabinets and furniture. It was always my passion, my hobby. I always spent time doing it," Sanders says.

In high school, Sanders started a part-time woodworking business, hiring other students in the shop program to help him build furniture. He bought his lumber from Paxton and



Dustin Sanders (above, left) has set up shop to produce “anything out of wood.”

a relationship was formed.

“I went to Paxton just a couple weeks after graduation. I finally gave in because Jack Egan, the store manager there, knew me since I was 13 or 14 and kept calling me my senior year. I was already having success in my side business, but I started working in the Paxton retail store helping retail customers find woods they were looking for.”

After just a few months, he was promoted to a regional sales manager.

“The whole time I was there, I never quit my side work. Nights and weekends, I was building this business. Every job was word of mouth, including work through some of the industry contacts I made at Paxton.

“Paxton was an awesome job. It helped me get a house and get my shop running. But I had to make a decision. I couldn’t do that job and be with my family and have the business. I was spreading myself way too thin. I went to the vice president of the company, told him what I was doing and that I wanted to be his biggest customer.”

He also changed the name of the business from The Dusty Sander to Growth Ring Innovations. “I wanted something unique that used wood terms to promote innovation,” he says. “This is an old industry and we are trying to implement modern technology.”

A MINDFUL BALANCE

Growth Ring serves three primary markets. Commercial work (restaurants, bars, hospitality industry) accounts for about 40 percent of its yearly revenue. Residential contributes 25 to 30 percent. The balance comes from manufacturing parts and products for other companies.

“The idea is to be prepared for any future recession or market downturn for security,” Sanders says. “We did memorial plaques for a customer years ago and we are still trying to take any job we can, even small things from people off the street. It’s about diversity.

“We have a national contract producing boat parts for Sea Ray making transom boards for the backs of yachts. I want my employees to know that we’ll always have work.”

The shop completes 10 to 15 high-end residential projects per year, including millwork, custom cabinets, countertops and more.



“We do a lot of homes in the mountains. There is some work here in town and in Denver, but mainly we work along the Front Range, which is the mountain frontal area that ranges from Colorado Springs to Fort Collins.

“I would say 95 percent of our work comes from repeat customers and others seeing work and people passing the word.”

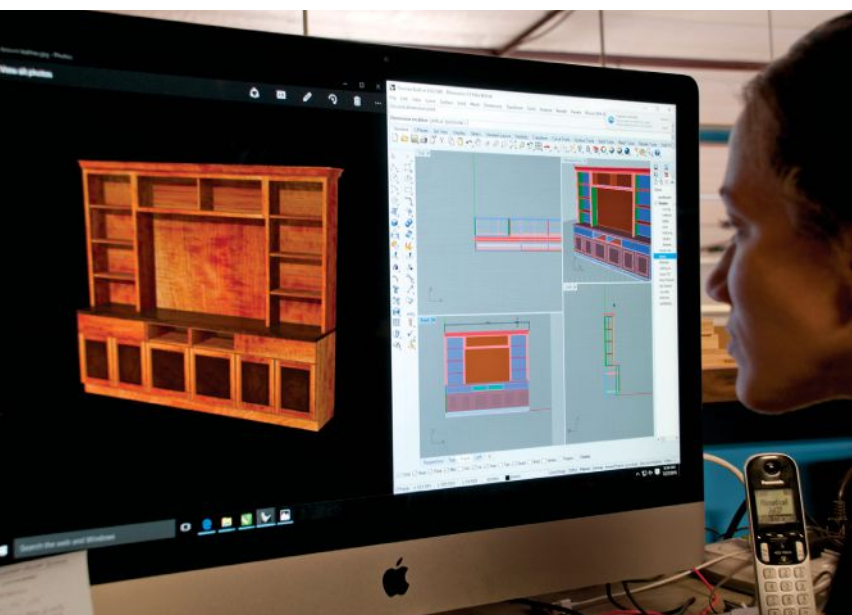
SOMETHING FOR EVERYONE

But Sanders is too savvy to rest on his good reputation alone. In the spring, he hired a business developer to focus on sales and marketing.

“We’re doing a lot of creative things like producing small tokens and memorabilia out of different woods on our laser engraver for our target customers with their logos on them. We can say we do anything out of wood, but people don’t really seem to grasp that. So we are tying it into our marketing efforts.

“In the 10 years that I was at Paxton, I was really blown away by

PHOTOS: BRIAN PAYNER/REDUX PLUS



how many shops were just doing a certain niche. They just called themselves a cabinet or furniture shop and that's all they did. But they had a 10,000-sq.-ft. shop, however-many employees and millions of dollars in equipment. And if a customer walked in off the street and wanted boards cut or planed, they'd turn them away. I could never understand that. So the fact that we're trying to take on all different aspects of work really makes us a very unique shop."

It has to be, given the wide range of style preferences in the shop's market. Sanders explains that customers in Denver want something far

different from those who live in the mountains, for example.

"A lot of what we're seeing in the highlands are contemporary cabinets with modern straight lines and European cabinets. The people in the city want a lot of laminates and high gloss. In the mountains, there is a lot more traditional construction and we see use of a lot more hardwoods. Someone with a mountain home next to a stream doesn't want a white kitchen. It's like two different worlds."

A MAN WITH A PLAN

Sanders is always trying to stay a step ahead. He recently added a retirement savings program, mostly as a signal to his employees that he's making a long-term investment in them. And if and when he needs more workers, he knows where to find them. His last three hires were fresh out of the woodworking program at Red Rocks Community College in Lakewood and Arvada, Colo.

"I really want the people just out of school because they still have a taste of art in their mouth and a little more enthusiasm for the industry. I'd probably like workers who are a little more seasoned, but sometimes it's just a job for them. So I just want people here that are passionate about it. These guys step up. For example, we don't have the best lathe here and one of our guys took the piece home and turned it.

"It's really an art to be successful with business relationships and networking," Sanders adds. "You have to do everything to keep good contacts with other shops, vendors and lumber and hardware suppliers. And you're also a teacher. I didn't realize that when I started this, but being a teacher to my customers and to the crew is one of my primary jobs." **W**

Contact: Growth Ring Innovations, 13900 W. 44th Ave., Golden, CO 80403. Tel: 720-495-1133. www.growthringinnovations.com

FESTOOLS-ONLINE.COM

FESTOOL AUTHORIZED DEALER

Select tools now with
IMPERIAL SCALES



SERVICE
all-inclusive



NEW!

OF 1010 EQ
Plunge Router

LOWEST PRICES ■ FAST SHIPPING
800-365-6677

FESTOOLS-ONLINE.COM
YOUR SOURCE FOR FESTOOL PRODUCTS



Ruffino Cabinetry talks about brand growth through relationships

We traveled to Fort Myers, Florida to talk with Steve Ruffino, founder and CEO of Ruffino Cabinetry, and his Chemcraft Distributors Oscar and Mario Hernandez of Famis Inc. located in Miami and Naples, Florida.

Ruffino Cabinetry was founded in 1981 and produces luxury custom cabinetry and fitted furniture for projects throughout Florida and selected national and international projects. Their award winning work has been featured in several publications including Home & Design and Florida Design.

"While we're obviously cabinet makers, we consider our true specialty to be our custom colors and finishing techniques," said Steve Ruffino, "it offers our customers more options than they can typically get from the larger manufacturers. It's what sets us apart.

"I started the business as a solo operation in 1981," said Ruffino, "and now we have 60 employees. We don't advertise and we don't have a sales force to speak of. Most of our business comes from longtime repeat customers and referrals.

"Our reputation for quality has established us as a brand name," continued Ruffino, "we now have designers and architects coming to us as their preferred cabinet company.

"A few years ago we were experiencing a severe production bottleneck in our finishing area. We realized that we needed to find a new partner that could help take our product and our production to the next level – that's when we reached out to Famis and Chemcraft."



Front, L to R: Steve Ruffino - CEO, Ruffino Cabinetry holding grand-daughter Stella Rose Ruffino, Mario Hernandez - Vice President, Famis Inc., Mike McIntyre - Operations Mgr., Ruffino Cabinetry.

Back, L to R: Meghan Ruffino, Stephen Ruffino - Vice President, Ruffino Cabinetry, Carol Ruffino - Sales / Design Mgr., Ruffino Cabinetry, Oscar Hernandez - Partner / Sales Director, Famis Inc., Fernando Rivadeneira - Sales Representative, Famis Inc.

"One of our specialties at Famis is custom engineering automated and semi-automated finishing systems," said Mario Hernandez, "so we were confident that we could help improve their work flow. But first we needed to identify the correct Chemcraft product to fit the system.

"We brought in our Chemcraft technical representative and together we did extensive testing," continued Hernandez, "the solution we arrived at was Chemlife® 24.

"Chemlife 24 was a perfect fit with the on-demand finishing system we set up, and its properties allowed us to greatly simplify their finishing process," he said.

"Between the equipment upgrades and Chemlife 24," added Ruffino, "a step that was taking us 8 hours was reduced to 40 minutes. Overall we've seen at least a 50% improvement in production time."

"Chemlife 24 allows us to use this type of system," said Oscar Hernandez, "we're circulating both white and clear and because the same catalyst is used for both, the number of steps involved have been reduced.

"In addition," continued Hernandez, "the 24 hour pot life of the product ensures that there aren't fluctuations in the sheen and helps offset any external factors that might cause problems in the finish such as humidity."

"And, with Chemlife 24," said Ruffino, "we have far less of an issue with formaldehyde off-gassing than we had with the product our previous supplier had us using. Between our distributor Famis, and Chemcraft we get the attention to detail, knowledge and support we need. It's a relationship we can grow with."

Visit chemcraft.com to locate your nearest distributor.

THE FINISHING TOUCH

Compiled by BHSW Inc.



Making dust, collecting dust, avoiding dust... there's a theme here.

The perfect finish, in large part, is achieved by handling dust intelligently. That doesn't mean we all have to rush out and buy new collectors. American Fabric Filter has a much more economical solution: just update your existing bags. The company will engineer and manufacture bags that get the absolutely best possible results from your existing equipment.

And making the dust is easy, too: just plug in a SuperMax 19-38, or one of SuperMax's brush sanders, and achieve the perfect finishing touch on everything from reclaimed lumber to creating a distressed look on floor boards.

If you're assembling fine furniture or casework, choose one of the exquisitely engineered portable sanders from Festool and hook it up to one of their perfectly-matched dust extractors to reduce airborne dust to virtually zero, right where it's made.

Of course, there will be a lot less sanding in the first place for shops that use their existing CNC or line borer to upgrade the assembly process with innovative fasteners from FastenLink. Pop, click and you're done – RTA has never been so quick and easy.

And when all the dust has been made and collected, woodworkers can download the new, free, Facts on Finishing Guide from AcromaPro, and discover new ways to match coatings with materials before spraying the perfect finish.



americanfabricfilter.com 40



festoolusa.com 41



supermaxtools.com 44



fastenlink.com 42



www.acromapro.com 43

Big Shop Technology for Any Size Woodshop

Not getting the most out of your dust collector?

Custom filter bag manufacturer American Fabric Filter Co. (AFF) has been working with woodshops of every size for the past two decades, and has proven over and over again that most existing systems can outperform a brand new one when they're equipped with AFF's optimized filters. Based in Wesley Chapel, Fla., the staff of experienced technical designers works closely with its custom manufacturing

facilities to solve customers' challenges. They offer the same individualized custom filter design technology to small and mid-sized commercial shops – and even home hobbyists – as they do to large manufacturing plants. AFF is proud to deliver fabric products from just three inches long to three stories high. That range is possible because the company recognizes that no two woodshops are alike, and filtration needs vary with the size of the collector, the type of dust generated, and the amount of use the system gets. The company's experienced sales staff can recommend fabrics, designs and sizes that maximize both vacuum and the cleanliness of the air being returned to the shop. They manufacture a wide line of filtration bags including custom filters for small collectors, bag-house bags, and vent bags used on any piece of air moving equipment.

For woodshops, AFF typically uses a scrim supported felt, which creates highly efficient bags that can improve performance while capturing dust particles as fine as 1 micron. The scrim-

supported media adds strength to the felt for greater durability, so it extends the life of the bag.

AFF also offers replacement cartridge filter elements for bag-houses and dust collectors. They fit most OEM units, and are manufactured from quality components to meet or exceed original factory specs and provide top performance.

Consultations with the experts at AFF are free, so call soon to learn how to make your shop a cleaner –and healthier – place to work.



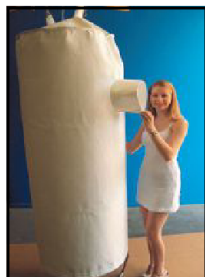
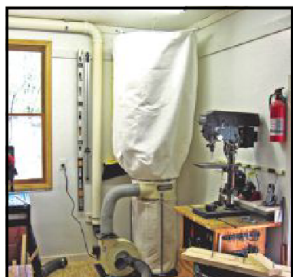
American Fabric Filter

Phone: 800-367-3591

Web: americanfabricfilter.com

Email: info@americanfabricfilter.com

Can Your Old Dust Collector Work Better Than A New One?



Optimum Performance - Low Maintenance - Custom Designs - Cleaner Air - Longer Life - Economical - Best Size & Fit - Proudly Made In USA

Yes, With Optimized Filters From... American Fabric Filter Co.

(800) 367-3591 americanfabricfilter.com

1-Micron Filtration

We Design & Fabricate Custom Filter Bags That REALLY WORK!

Superior Finishes Don't Begin in the Booth

As any craftsman knows, jobs need to be perfectly sanded and dust-free before sealing and top coating. Superior prep is a job for an integrated system – a thoughtful, beautifully engineered one that considers everything from workstation fatigue to sanding patterns, and how to eliminate dust at its source.

That's a job for Festool.

The company engineers and builds the highest quality portable sanders in the industry, and backs them with a three-year limited warranty. Festool offers a dozen finish sander options in pads ranging from 3-1/2" to 6" diameters.

And there are also some detailers with delta-shaped pads that make quick work of inside corners and other challenges.

Festool's family of Rotex tools can operate in several modes, making them arguably the most versatile sanders on the planet. With the flip of a switch a woodworker

can go from gear-driven aggressive stock removal to random-orbit, silky smooth, vibration-free finish sanding – or even polishing. On some models, the round pad can be switched to a delta-shaped detailer in seconds (no tools required), allowing furniture builders and refinishers to prep in some of the tightest corners. Other sanders are equipped with Festool's re-

nowned EC-TEC® brushless motor, specifically designed to deliver long-life and low-vibration. These units can sand all day through multiple shifts with low user fatigue, and that translates into fewer mistakes and higher production. These brushless motors provide constant, powerful performance in low profile, ergonomic housings.

All of Festool's finish sanders integrate seamlessly and systematically into the company's extraordinarily efficient dust extraction options – six HEPA dust extractors that run from a totally totable 0.9 gallons in the jobsite-friendly CT SYS, to the rugged and hefty CT 48 with a full 12.7 gallon capacity. They're triggered by the tool, connect in seconds, run quieter, and keep the motor completely separated from the dust.

Removing dust when and where it's created not only means that the workpiece is far cleaner when it gets to the spray booth, but the worker is also much more protected. By using Festool's integrated system, fine contaminants introduced into the shop's ambient air are essentially eliminated. This can significantly improve the quality of the entire woodshop's output, extend the service life of tools, and even increase the useful life of abrasives.

Festool offers several different options when it comes to abrasives, each one specifically tailored to both the material and the sander being used. The company's 'Rubin' abrasive was developed for natural wood, wood composites and veneers and has a special coating that sheds wood fibers. It is recommended for hardwoods, softwoods, exotics and many wood-based products. Rubin is a closed coat aluminum oxide abrasive, bonded with a synthetic resin, and available in grits from 40 to 220. Festool's 'Granat' is the company's longest lasting and highest performing abrasive. It is well suited to most applications including bare wood, paints,



most modern paint systems, VOC clear coats, plastic materials, solid surface materials, acrylics, and composites. This is a hardened aluminum oxide in grits from 40 to 1500.

'Saphir' is for aggressive stock removal and heavy stripping jobs (24 to 100 grit), while the 'Vlies' (pronounced fleece, in 80 to 800 grits), is an excellent choice for deep pore cleaning on natural wood and veneers, and also works wonderfully on contours.

Having the correct backing pad makes a huge difference in results and resilience, and Festool offers half a dozen different options that run the gamut from hard to soft. That's also part of this superior system – sanders, abrasives and dust extractors – that delivers perfect parts to the spray booth every time.

FESTOOL®



PLAY
VIDEO



Festool USA

Phone: 888-337-8600

Web: festoolusa.com

Email: festoolusa.com/contact



Cam-less, Clampless, SIMPLE Connections!

It's evolution.

FastenLink is the logical conclusion to thousands of years of joinery efforts. Since the discovery of glue, woodworkers have been trying to find the perfect way to join parts together. Dowels, biscuits, bolts and cams have paved the way. Now, perfection has finally arrived.

The one-piece FastenLink connector slides into a ramped pocket and... you're done!

Installed using standard CNC routing and horizontal boring machines, FastenLink delivers a simple and rapid manufacturing solution. The patent pending connector system leaves no visible hardware, providing the ultimate finishing touch to assembly.

The genius of the connector lies in its unique shape, which allows a woodshop to build boxes without clamps and still provide customers with glued, permanent, strong joinery. The plastic design brings extra strength to the equation, and the groove in the tip of the dowel creates a shoulder



der that simply slides into place. The tapered groove cut into the wood guides the FastenLink connector until it clicks into the locked position, seamlessly joining parts together.

FastenLink replaces wooden dowels with a superior solution while eliminating the need for

cams, screws or pneumatic nails and staples. And for shops that ship RTA (ready-to-assemble) cabinets, the beauty of FastenLink is that installers – or even consumers – can assemble the end products with no more tools than a glue bottle and a rubber mallet. Gone is that dreaded bag of fasteners and incomprehensible instructions that were written overseas. The customer simply lines up the pre-inserted FastenLink dowels so they pop into the holes, and then snaps the product together.

Now, that's evolution.

And for woodshops, it's also revolutionary. Manufacturing with Fastenlink is an easy retrofit, because it only requires the use of standard

machinery. The ramped pocket can be milled on a CNC router – rail and pod, flatbed or feed-through. And you can replace wooden dowels for the boring machine with Fastenlinks.

Try it, and you will never again manually insert hardware.



PLAY
VIDEO



Fastenlink

Phone: 270-240-5800

Web: fastenlink.com

Email: info@fastenlink.com

Say goodbye to exposed fasteners. Say hello to fastenlink



844-470-5800 • www.fastenlink.com

THE POSSIBILITIES ARE ENDLESS

FastenLink not only replaces screws, dowels, cam locks and clamps, it is an upgrade from the old standard fasteners. And once you understand and experience the solid linking ability of the FastenLink connector system, you will find more and more ways to create profit.

THE 2016 *Challengers Award* FINALIST

Before your next job starts, think about the finish.



The new Facts on Finishing Guide from AcromaPro™ is an essential tool for any woodshop.

As new finishing techniques become available, it can be a challenge to understand the complex relationship between products, application methods and curing techniques. A woodworker also needs to grasp how these elements form an integral part of the finished wood product. The new Facts on Finishing Guide, which is available free of charge as a downloadable PDF file, covers a host of topics from surface finishing materials to various substrates, plus different application and curing methods. It also addresses environmental considerations, cost efficiencies and the durability of finishes – all of which help woodworkers make better use of increasingly technical options.

AcromaPro has been serving woodshops since 1874, so it's no surprise that the company has created this hands-on tool for finishers. Originally founded in Sweden as Beckers and merging with Acroma Lack AB in 1968, the company has evolved over the past 142 years into one of the world's most trusted providers of wood finishing solutions. Becker Acroma was acquired by Sherwin-Williams in 2010, further broadening its knowledge base and bolstering its leadership in finishing technologies.

With ten easy to navigate sections of content, the new Guide is a must-read for both beginning and experienced finishers. It describes everything from pot life to drying/curing and how to sand a finish. And it's not just a tool for hands-on finish application: it also helps a woodshop manage resources. Shop owners and project managers will gain valuable insights on how to achieve the best

finish while optimizing capacity, and cutting production costs.

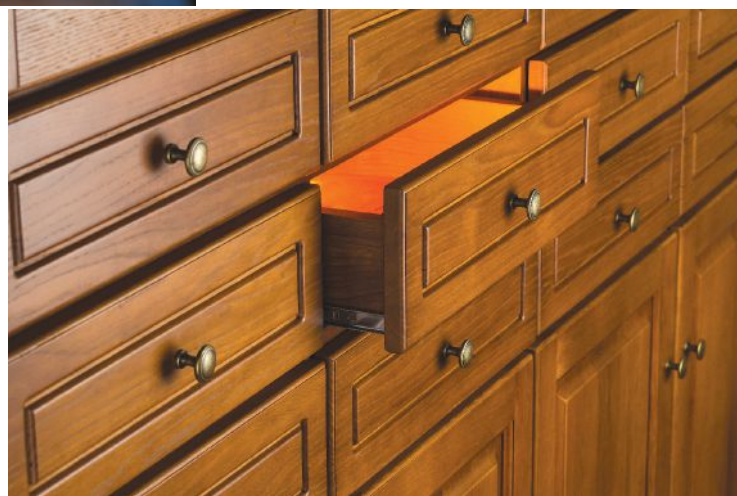
As any artisan knows, pairing the right treatment with a specific wood species is crucial. In the section on substrates, the Guide focuses on materials such as solid wood, veneers and sheet stock. It describes how correct sanding techniques can be combined with the right finishing materials and technology to achieve a top quality coating. After all, a well-sanded surface is halfway to a perfect finish.

In the Guide's paints, lacquers and stains section, finishers can enhance their knowledge of the differences between various binders, solvents, additives, pigments and fillers. Then the publication talks about drying and curing, and the best ways to accelerate drying in order to reduce hazards and manage solvent emissions in a responsible manner.

When comparing the costs of different finishing systems, a shop manager needs to take several factors into account such as the type of product, its dry content, density and dilution curve. The Guide addresses these issues and also covers the handling of paints and lacquers in a safe manner, plus how to employ finishing techniques that minimize environmental impact – all while creating a safer and cleaner workstation for employees. And it deals with surface resistance – how cured furniture finishes will behave in the real world.

Finding a defect on a coated surface is fairly easy, but finding its cause can be difficult. A woodshop finisher can use Facts on Finishing to help determine what is causing the problem, and source relevant solutions.

AcromaPro™ is committed to improving customers' competitiveness by developing products and techniques to meet shops' needs, and also those of the environment. The new Facts on Finishing Guide is just one way the company supports woodworkers' efforts in these areas. To download your copy, visit the URL listed below. And to locate an AcromaPro distributor near you, or for more information on some of the world's leading waterborne, post-catalyzed and pre-catalyzed coatings, plus a wide selection of both clear and pig-



mented stains and glazes and AcromaPro's Aqualight™ Waterborne UV products, visit the company online at acromapro.com.

Premium quality. Sustainable technology. Unparalleled knowledge. AcromaPro delivers it all.



AcromaPro

Phone: 888-277-1448

Web: www.acromapro.com

Email: info@acromapro.com

Download: Facts on Finishing
<http://goo.gl/Z6pxz4>

SuperMax Tools Knows Sanding

It's said the devil is in the details, and nowhere is that more evident than when putting the final touches on a woodworking project. Sanding has always been the most tedious part of woodworking but SuperMax Tools' line of drum and brush sanders help to make sanding another enjoyable part of the creation process.

Customer Doug Sikkema came to SuperMax for a sanding solution when building a craftsman-style kitchen in his daughter's house. Contractor bids were coming in over \$50k, way over budget. Sikkema, a retired furniture builder, offered to do the project and knew he needed a dependable sander. He didn't have the space or the budget to buy a commercial oscillating sander that he had used during his career. After reading reviews and machine comparisons online,



he settled on the 19-38 Drum Sander.

"Your sander is the most impressive sander I have ever used," Sikkema later wrote in a letter to SuperMax. "I would put this sander up against any wide belt on the market. I absolutely worked the SuperMax 19-38 to death on this kitchen. It never let me down. It is by far the best tool in my shop."

SuperMax Tools also offers the SuperBrush Brush Sander which is said to be "The Most Versatile Machine in Woodworking," with good reason. Models can be equipped with dozens of different brush heads to help customers achieve nearly any finish. SuperMax Tools sales manager John Geyen works with the SuperBrush line and says he has seen tremendous growth with wire brush-

ing to create a distressed finish, and using a nylon head to clean reclaimed wood.

"We get calls every day from companies that are looking to cut down on the time spent on labor-intensive finishes," says Geyen. "They have guys using homemade wire brushes, trying to get distress hundreds of feet of board. With a SuperBrush, a project that used to take a week can be done in a couple of hours. We pride ourselves on being the right solution for so many woodworkers."



SuperMax
Tools



PLAY
VIDEO



SuperMax Tools

Phone: 651-454-3401

Web: supermaxtools.com

Email: john@supermaxtools.com

SUPERMAX KNOWS SANDING



19-38 Drum Sander

Machine Features:

- 1-3/4 HP, 110V
- Indexed alignment setting
- INTELLISAND Technology



1HP Dust Collector

Machine Features:

- 680 CFM, 120V
- 1 Micron Filter Bag
- 10-1/2" Steel Impeller



SuperBrush Double Brush Sander

Machine Features:

- 5HP, 220V
- Multiple sizes and power packages available
- Dozens of brush heads for any application

> Full specs and dealer locations at SuperMaxTools.com
Call us at 888-454-3401



SuperMax
Tools



Find IT • See IT • Experience IT
Find IT • See IT • Experience IT



JULY 19-22, 2017

Has IT!

Las Vegas Convention Center
Las Vegas, Nevada

What is your “IT”? New Products, Innovation, Technology, Education, Solutions, Equipment, Networking. Here, you’ll see innovation come to life, “test” the latest products from hundreds of industry – leading manufacturers, discover new supplies to increase cost efficiency, and see new machinery in action. The global stage is set to take your business to the next level.

Whatever your “IT” is, AWFS®Fair has “IT”. Register Today.

awfsfair.org

LEAN CLEAN AND SIMPLE

Those three guiding lights will drive your shop's processes and help make business thrive

BY JOHN ENGLISH

It's hard to keep up with manufacturing technology and also the vast glossary of new terms that it has generated. In a rush to be "innovative," many leading woodshop machine manufacturers have followed the lead of the computer industry and fallen into the habit of engineer-speak. They now describe their products in such technical language that it often leaves cabinetmakers scratching our heads.

The same is true of shop management. Many lean manufacturing terms were inherited from an early Toyota model in the 1980s and have never been translated to English. As the woodshop industry becomes more and more immersed in the doctrine, one might be forgiven for suggesting that a project manager should carry a Japanese dictionary just to get through a Monday morning meeting. American management seems utterly intrigued by words such as Kaizen, KanBan and Muda, and attributes a mystical aura to them. Through the years, executives and theorists have added an entire glossary of new acronyms and shorthand to this vocabulary — terms such as 6 Sigma, Andon, Takt Time and Smed.

Sounds a bit like Klingon, doesn't it?

These two worlds — complex machines/software and lean manufacturing — are becoming more and more intertwined in the modern woodshop. And the language they use is simultaneously becoming more and more confusing for people who just want to work wood. Manufacturers are even changing the meaning and weight of some words as time goes by. For example, to most shop employees the term "nesting" simply refers to laying out parts on a sheet of plywood in the most efficient way. It's the old-fashioned concept of optimizing — trying to get the optimum (or greatest) number of parts out of a sheet.



All you're doing here is trying to maximize yield and minimize waste. So the nesting software is being asked to physically rotate and move parts about in an effort to make more of them fit on a sheet of MDF.

That's a simple enough concept, right?

But to engineers, nesting has become an entire software regimen that no longer just describes the physical act. Yes, the code writers are still referring to the same process as a woodworker, but they're often doing so in exclusionary language that only they can understand. For example, nesting programs don't save time: they "optimize schedule adherence." Really? An old woodworker we once knew used to laughingly refer to nails as inter-fibrous friction fasteners. He was before his time.

And the software engineers don't just nest: they do it "dynamically."

Their cryptic insider lexicon is making it more and more difficult for a woodshop owner or employee to read and understand a technical manual, a trade magazine or even a brochure for a machine or software program. American advertising has always been celebrated for its inventive ability to simplify options, rather than confuse the potential buyer. Today, understanding CNC ads often requires something akin to a degree in computer science. When did product flyers become a more comfortable read for the people who make the machines than the people who buy them?

Take, for example, that phrase "dynamic nesting." In real life, the word dynamic describes movement and, in most cases, it just means that something is able to respond rapidly to changes in its environment. (For example, a dynamic football coach might put in another tight end if the deep ball isn't there.) But depending on the software engineer who is writing the manual, "dynamic" might mean that the program is

PHOTO: JOHN TROHAREUX PLUS



able to handle both 2-D and 3-D design formats or automatically decide whether to use a whole sheet or just a remnant (which many programs can now track by size in a shop's physical inventory) or stack two or more sheets and cut them simultaneously or link to the woodshop's purchasing database or make decisions based on information from other jobs beyond the one it's currently milling or even talk through the cloud or an app with other machines. Or perhaps all of the above.

Now, to be fair, nesting has come a long way and it has revolutionized many aspects of our trade. The problem here is not what new software does, but rather the industry's inability to allow the people who use it to understand fully what it does — and also what they might be able to make it do beyond the manual. There was a time when we believed that computers would simplify our offices and eliminate paper. What actually happened was that they turned every office into its own print shop and paper production soared. Anyone who once believed that software would make our jobs easier, well ...

What software does is make a cabinet shop more efficient, more manageable and a little less reliant on individual cabinetmakers. That means our roles are evolving and we need to evolve with them or be left behind.

LEAN LEANINGS

All of those dynamic functions listed above underline one fact. Nesting software has evolved into an essential component of lean manufacturing. You can't have one without the other.

Lean manufacturing is a management tool (or some would say a complete system), which has the primary goal of eliminating waste. Most definitions take that a little bit farther by adding a codicil: the ob-

ject is to maximize a product or service's value to the customer while eliminating or minimizing waste. In simple English, lean means giving the customer the best product at the lowest possible cost of production. The word "lean" expresses the desire to eliminate all excess fat in the budget in terms of both materials and employee time.

Nesting is inherently lean, or at least a lot leaner, than traditional layout tools. Remember when shops chopped sheets into smaller rectangles on saws and then milled those on the CNC? That progression actually illustrates the core of lean thinking. The old way was task-centric. It concentrated on one single action and tried to make that part of the puzzle as efficient as possible. The new way is to look at the entire flow of production in terms of all the machinery, people, materials and other assets involved and then strive to make the woodshop — and not just an individual task — as efficient as possible. That approach engenders processes, rather than tasks. One of the side benefits here is that information becomes much more shared throughout the shop. When you're part of a process, you need to know what comes before and after and adjust accordingly (dare we say dynamically?). More knowledge allows managers to more easily pinpoint hiccups in the system. Instead of each workstation working in isolation, it becomes a larger part of the whole. Lean is conceptual: it's a way of thinking.

Incidentally, Kaizen refers to continuous improvement, KanBan is a signal (such as a card inserted in a pile of parts that tells the shop when more is needed) and Muda means "waste." The term Six Sigma describes a scientific method for achieving results that lie within acceptable deviations; Andon is a set of, well, traffic lights really, that tell a manager at a glance the status of a workstation (green is good, yellow means something is needed and red says the machine is offline); Takt Time is a way of using real time to measure whether a process is in balance (going just fast enough and not too fast to mesh with other processes); and Smed means Single Minute Exchange of Dies, which is a strange way of describing a reduction in the amount of time it takes to change something such as a CNC tool.

NESTING IS INHERENTLY GREEN

Yes, nesting is lean, but it's also quite green. The abiding concept in lean manufacturing is to reduce or even eliminate waste. Now what could possibly be greener than that? Reducing waste is obviously good for the woodshop and the planet.

So how good?

Well, waste reduction is an elusive concept. Our first instinct is to apply it only to direct savings produced by a more efficient physical use of materials. The more parts we can cut from a single sheet, the less waste there is.

But there's a much broader definition at work here, too. For example, nesting reduces the amount of shop time that people and machines spend making and handling parts. That can reduce the light bill and the shop's heating and cooling costs, especially if it leads to less overtime or a smaller crew. And because nesting uses fewer full sheets, it also reduces floor space requirements. Then there's the pneumatic and electric power used to run the machines and even the number of times a truck needs to stop by and empty the dumpsters and the diesel it uses to get there. Less waste reduces the woodshop's landfill use and the number of trees required to make the plywood being nested and milled. That means there's some positive impact at both the sawmill and the plywood factory because of slightly smaller orders. There's the fact that the woodshop's employees will spend less time cleaning up and disposing of offcuts and even stocking and moving sheet goods from inventory to workstation simply because there are fewer sheets.

OK, let's jump on the terminology bandwagon for a minute. Back in the 1980s, Toyota actually defined three broad categories of waste, which it named muda, muri and mura.

Muda, which was loosely defined above as overall waste, is further refined to seven subcategories: transport, inventory, motion, waiting, overproduction, over-processing and defects. Nesting reduces Muda



by requiring less transport (fewer sheets need to be forklifted and handled); less inventory (obviously); less motion (the operator has to load fewer sheets and unload fewer offcuts); less waiting (a nesting CNC program allows workers to shift change without slowing production and more parts being made means somebody down the line doesn't have to twiddle their thumbs as long between batches); less overproduction (because the current generation of nesting programs can constantly keep in contact with the project manager and other production stations); less overprocessing (nesting invites such subtle economies as two parts sharing a single release cut, and generally eliminates processing the sheets on a saw

first); and fewer defects (improved spindles, drive motors, tooling and programming have made nesting an extremely efficient activity).

Muri, the second category of waste, is a subtle way of describing poor management. It includes all the extra work that poor planning and supervision can impose on a process. With automated CNC and a sophisticated nesting program, there is a significant (if not huge) reduction in the amount of human involvement required to manufacture parts. Without people, there's no extra work being done.

Mura, in the simplest terms, refers to bumps in the road — hiccups in the process. The easiest way to grasp it is to consider its cure rather than its symptoms. Mura is generally dealt with by

implementing a just-in-time (JIT) solution, where there is very little inventory either coming into the CNC as sheet stock or leaving as parts. And there is no delay caused by not having sheets ready to go or not having somebody pick up the parts as soon as they're milled (of course, larger shops will have automatic feed and harvest systems in place). Because a nesting system can be very precisely quantified, timed and programmed, it is far more predictable that, say, a couple of woodworkers running parts manually through a table saw. That predictability allows the project manager to implement a more precise and efficient (JIT) solution and thus deal with mura.

Eliminating all or even some categories of waste means that the average woodshop will improve its carbon footprint and become greener, while also becoming leaner.

CONCLUSIONS

Woodshops can obviously benefit from better nesting procedures in terms of both profits (lean) and conscience (green). The struggle is to survey the vast amount of information, products, software, machinery and training available and to navigate through it all to a point where rational decisions can be made.

Woodworkers can benefit from better nesting software and processes because of safer workplaces (less lifting, dust etc. than traditional sheet reduction processes); better shop profits (which means more job security); and a less detrimental day in terms of their jobs' negative impact on the planet.

The best offense, going back to our football metaphor, is a good defense. So, understanding how the engineers and MBAs think is paramount. That begins with learning their lingo, but we also need to remind them at every opportunity that we still speak English and ask that they simplify the jargon.

Program writers are not terribly concerned with the inherent art of working wood, but rather with one defining word: efficiency. Woodworking, to the software experts, is not a prized skill that was developed through a lifetime of experience and has been passed down through generations. Today, most of what we do is just another manufacturing process that needs to be micromanaged.

And here's the chilling reality: technology does what it's told to do and people sometimes don't. It's a lot easier to manage machines than men, especially if you're isolated from them through a software program. It would be nice if our industry had programmers who know how to sharpen a hand plane, but the sad truth is that even most woodshop employees no longer have that skill.

Yes, the future lies with robots running routers and nesting will continue to grow in importance. But fortunately, there's still a little room in the custom shop for innovation. Thankfully, the machines can only deduce: they can't actually imagine. **W**

Corbels & Brackets

Appliques & Onlays

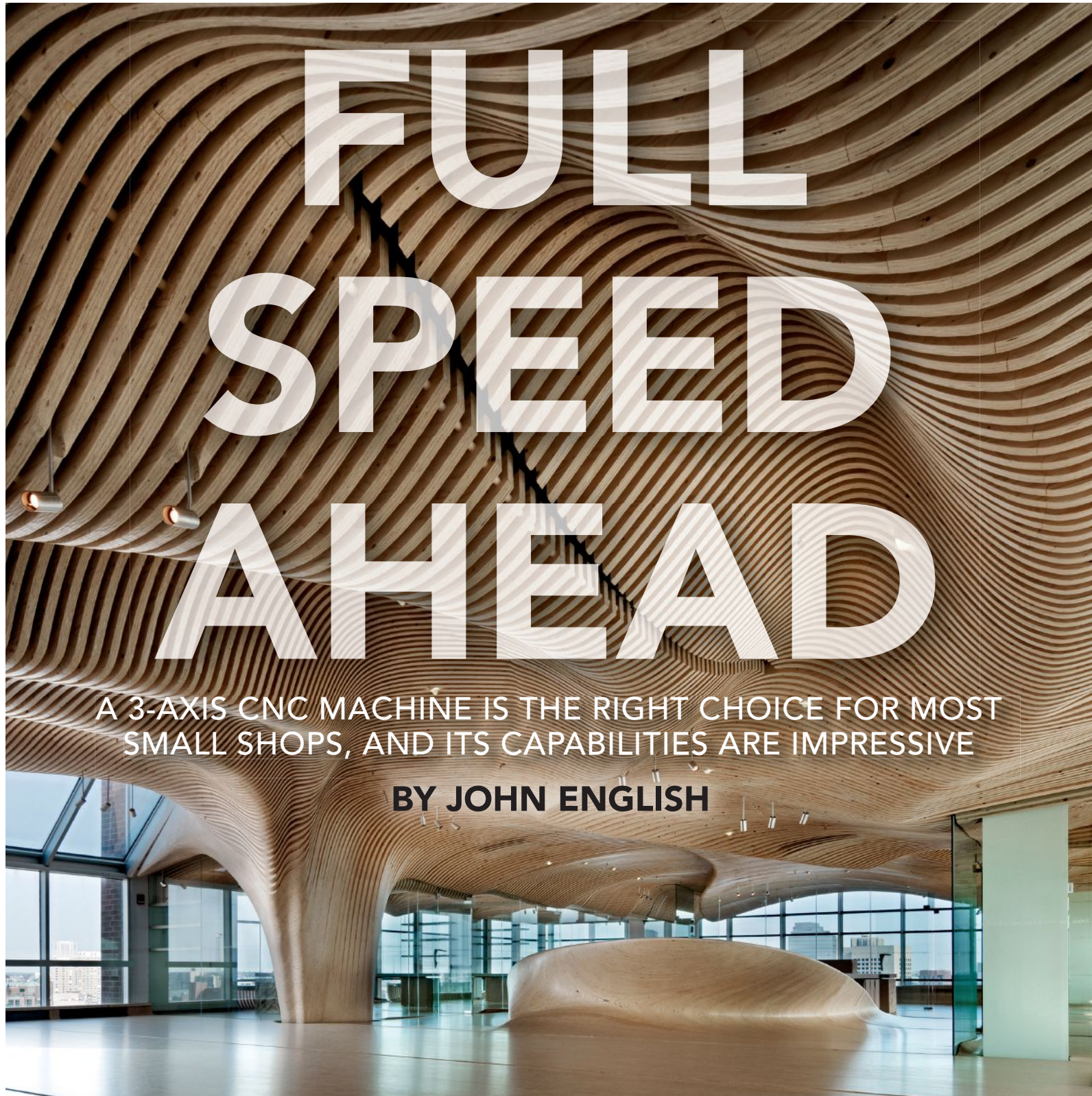
Moldings & Accents

Balusters & Newel Posts

Bendix Collection
Crafted by a Tradition of Elegance

OSBORNE
Wood Products, Inc.

Order Online or By Phone: www.osborneparts.com 1.866.963.5578



FULL SPEED AHEAD

A 3-AXIS CNC MACHINE IS THE RIGHT CHOICE FOR MOST SMALL SHOPS, AND ITS CAPABILITIES ARE IMPRESSIVE

BY JOHN ENGLISH

An axis is a direction or a line of travel, so the head on a 3-axis CNC machine can travel in three linear directions: forward and back (X), left and right (Y), plus up and down (Z). In woodshops, these machines are usually employed to work on flat stock (that is, panel processing). Even though CNC machining is becoming highly complex in many other areas of manufacturing, 3-axis configurations are still very common in woodshops. That's be-

cause cabinets are generally built with flat parts.

Those more complex (and usually more expensive) 4- and 5-axis machines add one or two circular, as opposed to linear, functions. They rotate in A (which revolves around the X-axis) and/or B (which circles around Y). There is technically a sixth movement, C, which rotates around the Z-axis, but this offers so few advantages that it is rarely offered or used in woodshop applications. Plus, parts need to be secured for machining in a way that would often



An office space designed by the architectural firm, Decoi, and manufactured on a 3-axis CNC by C.W. Keller & Assoc. of Plaistow, N.H.

physically interfere with the sixth axis.

So, in 4- and 5-axis configurations, the head itself can rotate in addition to traveling across the platform and moving up and down. This allows a tool (a router bit, laser or 3-D printer) to reach a part from virtually any direction. The result is that more complicated, sculpted pieces can be milled without having to stop and reposition the work in a new orientation, if such repositioning is even possible.

Some basic CNC platforms are described as 2.5-axis. In these, travel along all three linear axes still exists, but only two can be operational simultaneously. So, for example, a router bit might travel to the entry point, stop, plunge to the correct depth, stop and then travel only along the X- and Y-axes while milling a part to size. A true 3-axis machine can

vary the depth of cut as it travels, while a 2.5-axis head would, in this case, maintain the same depth of cut until it stops moving.

The nomenclature here (X, Y and so on) is used as it exists in a standard vertical machine. If the milling center is rotated to the horizontal position, the axes' designations change. For example, the vertical Z-axis will be what was originally the X-axis.

Confused yet? Hang on, there's more.

A 3-axis CNC can be configured to emulate many of the properties of a 5-axis machine. For example, the head on some models can be tilted to a predetermined angle (that is, indexed) before it travels or the table can be adjusted or the part can be supported in a custom holder that holds it at a specified angle.

A woodshop can also install an aggregate head, which is an affordable way to add a fourth axis to a 3-axis setup. This has the effect of turning the spindle's business end up to 90 degrees. In that case, a head traveling along the X-axis (which would usually just mill vertically or directly below it) can now work horizontally (sideways, if you will). Many aggregate heads also tilt to variable stops between 0 and 90 degrees, adding even more complex abilities.

Is three axes enough?

If you're building boxes and drawers, doors and fronts, filler strips and appliance panels, then 3-axis milling will probably work. If you're machining architectural details that incorporate carving or work in the round, then you might want to look at 4- or 5-axis units.

For woodshops looking at buying a first 3-axis router or upgrading an existing one, the price can vary a lot depending on needs. Beyond the bed size, some of the major concerns are travel speed, horsepower, work-holding options and tooling capacities and changers. The ability to add an aggregate head might be important, too, especially for sign shops and furniture makers.

In addition to looking at stepper motors and travel, it's a good idea to ask the salesperson about the relationship between the new machine's spindle speed (how fast it

rotates) and its horsepower rating. Are there different power ratings for different speed ranges? Think about the materials you mill and the profiles you cut. Shallow grooves in softwood window parts are going to require a whole lot less work than through-cuts in thick cabinet sides. Are you buying too much power or too little?

The CNC setup for a shop that plans on buying in its RTA boxes and just doing a little custom work is going to be a lot different than the arrangement for an architectural millwork fabricator, or a freeform furniture or stair builder. Those shops might need to look beyond three axes.

Keep in mind too that 3-axis machines have come a long way in a short time and so have their tooling, spindles and especially their software. When buying new, you'll need to be very specific about explaining to your

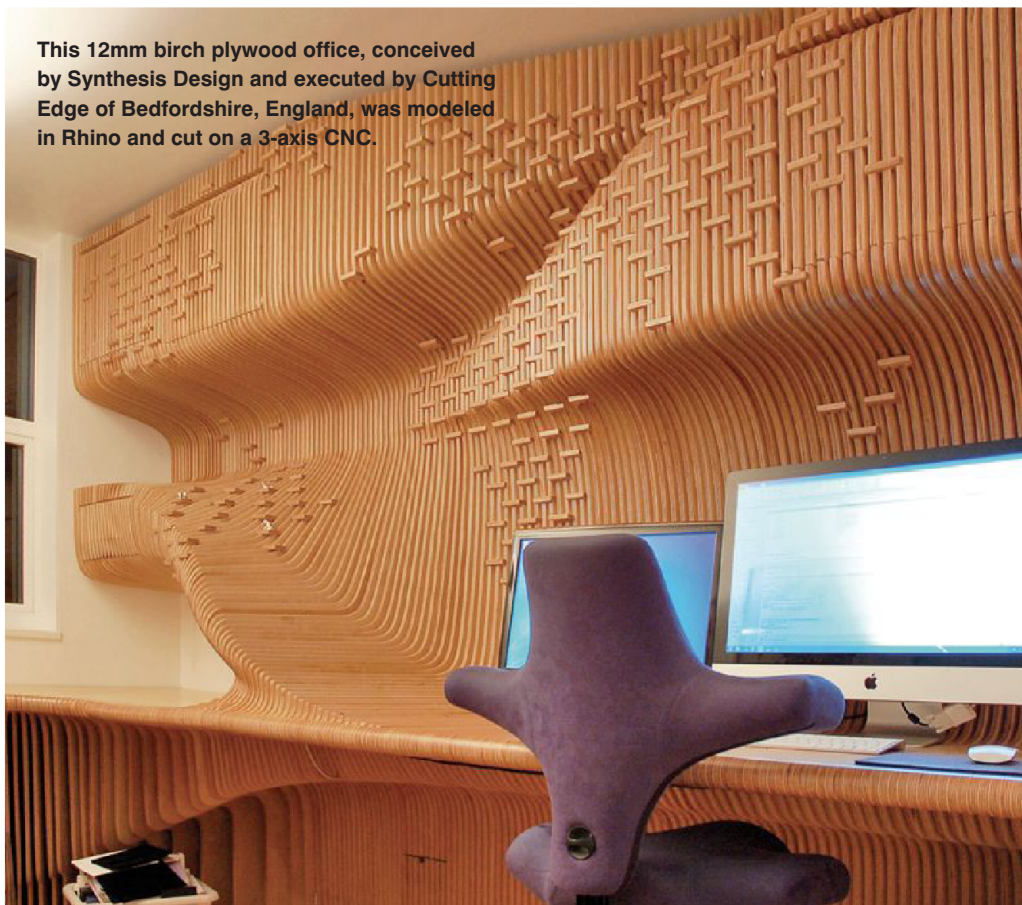
salesperson what tasks the machine will be asked to perform. If you're looking at used equipment, begin with the software and its ability to be upgraded, even before you discuss spindles and tool changers. Rapid advances in the worlds of imaging and printing, data storage and transmission all affect the way that your computer talks to your router. Who would have thought 10 years ago that we could someday take a picture with a phone, send it to a CNC and engrave a panel for an appliance or a set of doors?

One of the more salient observations made by CNC salespeople is that many shops buy a 5-axis machine and then operate it as though it only had three. They don't push the envelope, look for design challenges and discover what the machine can do.

The same can be said, in a way, for 3-axis CNC. A lot of shops use their machine to process panels and nothing more. That's fine if the jobs are all boxes and doors. But if your shop has a chance to bid on more interesting fare and hesitates because you lack the confidence, the knowledge or experience to do so, then you might not need a new CNC.

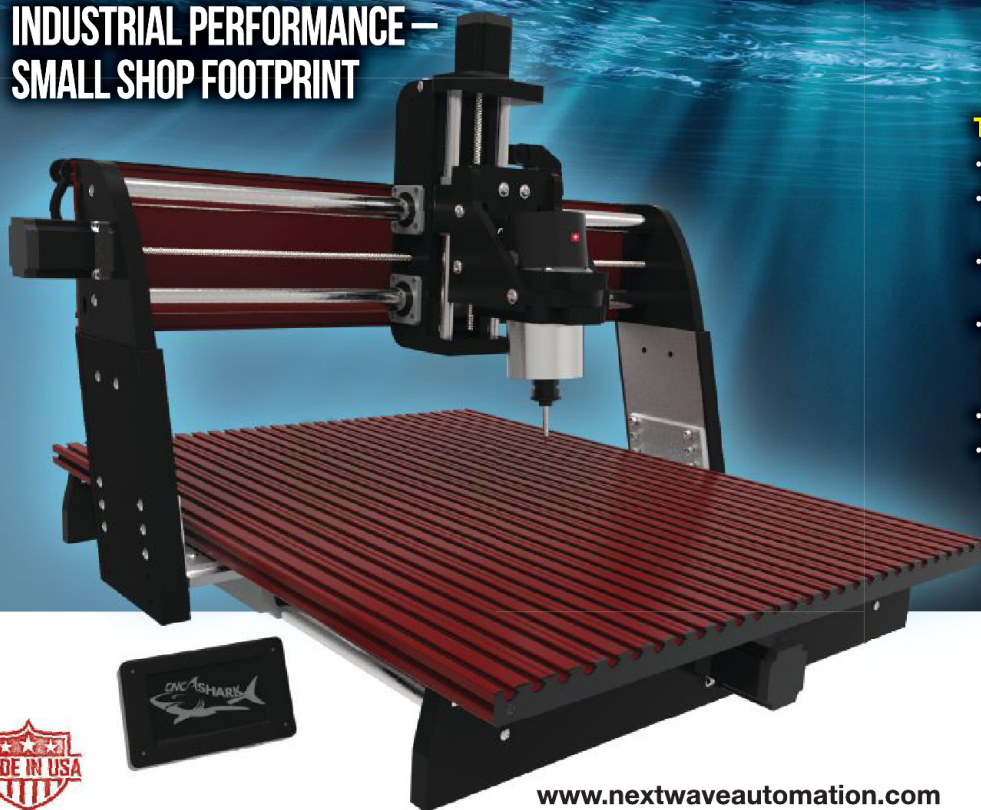
Perhaps what you really need is an imaginative designer. [W](#)

This 12mm birch plywood office, conceived by Synthesis Design and executed by Cutting Edge of Bedfordshire, England, was modeled in Rhino and cut on a 3-axis CNC.



THE ALL NEW CNC SHARK HD4®

INDUSTRIAL PERFORMANCE —
SMALL SHOP FOOTPRINT



The New CNC Shark HD4® features:

- Commercial grade, industrial construction
- Use a 2-1/4HP router or our variable speed, water-cooled spindle
- Perfect for heavy cutting, carving and machining on wood, soft metals or plastics
- Upgraded software is included with Virtual Zero, Auto Piece Alignment, X/Y Homing Switches, Auto Rotation, Edge Detection and more!
- Also available with an extended, 50" base
- User-friendly interface with touch screen, color pendant display



www.nextwaveautomation.com

Next Wave
Automation

NEW PRODUCTS



▲ **BOSCH** offers a new 18-volt reciprocating saw with a variable-speed trigger, allowing tradesmen to ease into a cut without concerns about potential binding or kickback, according to the company. The saw, model GSA18V-083B, weighs 5.5 lbs. and measures only 15-3/4" in length, yet delivers up to 3,050 strokes per minute. The saw also features tool-less blade changing and an LED worklight. The bare tool sells for \$139. For more, visit www.boschtools.com.



A TRADITION OF INNOVATION™

Oliver's 120 year heritage of innovative design and quality goes into every product we sell.

Oliver offers a full line of heavy-duty machinery.

Two-year limited warranty.

Visit Oliver Machinery's
NEW customer forum online at
www.olivermachinery.boards.net

OLIVERMACHINERY

HEAVY-DUTY SANDING WITH OLIVER

**5392 36" HD
DOUBLE HEAD
WITH 2 POWERFUL
MOTORS
(20/15HP)**

**5397 43" HD
DOUBLE HEAD
WITH 2 POWERFUL
MOTORS
(30/20HP)**



5355 25" SINGLE HEAD W/ 15HP MOTOR
5385 37" SINGLE HEAD W/ 20HP MOTOR
5360 25" DOUBLE HEAD W/ 15HP MOTOR
5390 37" DOUBLE HEAD W/ 25HP MOTOR
5395 43" DOUBLE HEAD W/ 25HP MOTOR

**5424 52" HD DOUBLE HEAD
WITH 2 POWERFUL MOTORS (40/30HP)**



Panel cleaning brush roller standard on the 5424. The panel cleaning brush roller is provided at outfeed end of the conveyor belt for removal of dust on work pieces. A dust hood for panel cleaning brush allows for effective dust collection.

WWW.OLIVERMACHINERY.NET | INFO@OLIVERMACHINERY.NET | 800-559-5065

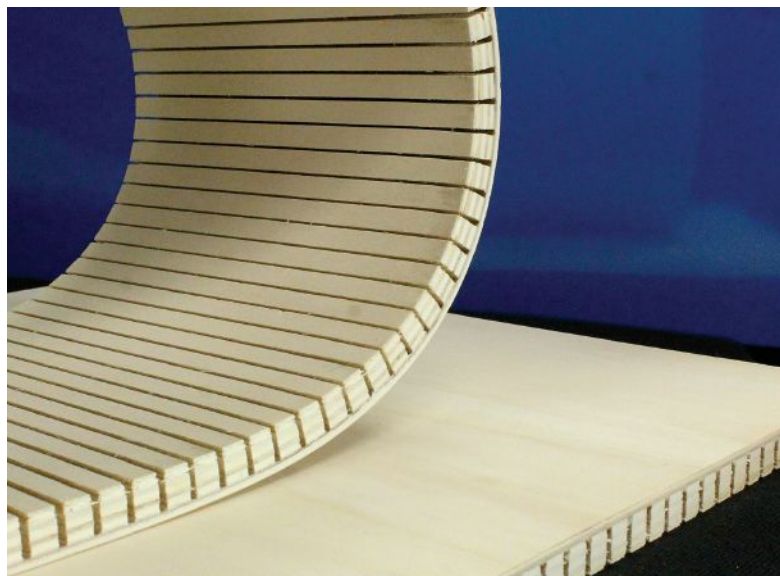
[FACEBOOK.COM/OLIVERMACHINERY](https://www.facebook.com/olivermachinery)

[YOUTUBE.COM/OLIVERMACHINERY](https://www.youtube.com/olivermachinery)



▲ **HETTICH** redesigned its Grant Box Track Sliding door systems for installations that require the movement of heavy panels, space dividers and large doors up to 500 lbs. per door. Improvements include a low-profile mounting option for restricted headroom applications. For more, visit www.hettichamerica.com.

▼ **KERFKORE** introduces Timberflex Premium, a bendable panel that has a three-ply Italian poplar face ready to paint or laminate without the need for patching or sanding, according to the company. The panels can bend to a 5" radius and are available in 1/2", 5/8" and 3/4" thicknesses. For more, visit www.kerfkore.com.



Home of the GREEN VACUUM CUPS



FREE Shipping
On orders of \$200+
if you mention this ad



Better Vacuum Cups, Inc. provides top notch vacuum cups for all CNC Routers. Route into your cups, no problem! Check out the videos online at GreenBVC.com

909.606.0140
or toll free
877.872.2821



BETTER VACUUM CUPS INC.

More News From Forrest

5 Newest Blades For Discerning Woodworkers

Forrest sets the standard for excellence with these latest top-quality blades:

- **Ply Veneer Worker.** Best for rip and cross cutting two-sided plywood (finished or unfinished) and cross cutting solid woods. Has 70 teeth, 10° hook, high alternate top bevel grind.
- **Woodworker II 48-Tooth** general-purpose blade. Has a 20° face hook, 25° bevel, and sharp points for clean, quiet cross-grain slicing.
- **"Signature Line" Chop Master** for quiet, precise cutting and less splintering. Has 90 teeth, a -5° hook for feed rate control, and re-designed angles.
- **2- & 4-Piece Finger Joint Sets.** Each reversible, interlocking 8" blade has 24 teeth. Ideal for rabbets and grooves. Sets make 3/16" and 5/16" cuts or 1/4" and 3/8" cuts.
- **Thin Kerf Dados** for clean cutting 3/16" to 1/4" grooves in thin plywood and man-made materials. Available in two-piece and three-piece sets.

NEW Website! More Blades!



Our blades are American-made and have a 30-day, money-back guarantee. Custom sizes available. Order from Forrest dealers or retailers, by going online, or by calling us directly.

FORREST
The First Choice of Serious Woodworkers Since 1946

www.ForrestBlades.com 1-800-733-7111 (In NJ, call 973-473-5236)

© 2016 Forrest Manufacturing Code WN



▲ **MILWAUKEE TOOL** presents a new line of magnetic tape measures with the Finger Stop mechanism, which protects fingers during retraction. The tape measures are also more compact and ergonomic, providing a better fit in the user's hand, according to the company. Other features include a smaller magnetic hook to access tight spaces and an improved wire-form belt clip. The tape measures are available in 16', 25', 30' and 35' lengths, as well as two metric options. They sell for \$20 to \$35. For more, visit www.milwaukeetool.com.

▼ **AIR HANDLING SYSTEMS** offers its new Clamp Together Duct System that uses a barrel-type clamp to attach two rolled edges of ducting together. No special tools are required for installation. For more, visit www.airhand.com.



TSM-12 Benchtop Pocket Cutter

Rout, drill, screw and go!



TSM-12



Fast, strong joinery!

www.CASTLEUSA.COM
800.282.8338



THE PROFESSIONAL POCKET

The Country's Largest Selection of Unique Slabs and Burls



**BERKSHIRE
PRODUCTS**

Sheffield, Mass
413-229-7919
BerkshireProducts.com



▲ M.L. CAMPBELL presents waterborne pre-catalyzed Agualente Plus, a one-component, VOC-compliant coatings system based on advanced resin technology that provides a hard, durable, stain-resistant finish for interior wood surfaces, according to the company. Agualente Plus consists of a sealer, primer and clear topcoats with a full range of sheens. For more, visit www.mlcampbell.com.

▼ GRIZZLY INDUSTRIAL offers a pair of new heavy-duty wood lathes, model G0799 with a 20" swing and model G0800 with a 24" swing. The lathes feature a fully adjustable 14-1/4" tool rest and more, according to Grizzly. The headstock assembly can be positioned anywhere along the bed and the tailstock swings aside on the hinged bed when not in use. They have a speed range of 60 to 3,500 rpm, 3-hp motor, digital readout and forward/reverse spindle function. For more, visit www.grizzly.com.



Lifting Table BARTH

made
in
Germany

The modern workbench!



- Saves time and increases productivity
- Ergonomic design reduces health problems
- Vacuum holdowns prevent workpiece damage



MARTIN
WOODWORKING MACHINES

8715 Sidney Circle, Ste. 100, Charlotte, NC 28269, Ph: (704) 921 0360, Fax: (704) 921 0361, www.martin-usa.com

1 DRAWER or 1,000 DRAWERS



A Time Honored Tradition

Quality cabinet components are what we do—and we've been doing it for decades. You give us your specs. We'll make drawers you'll be proud of.

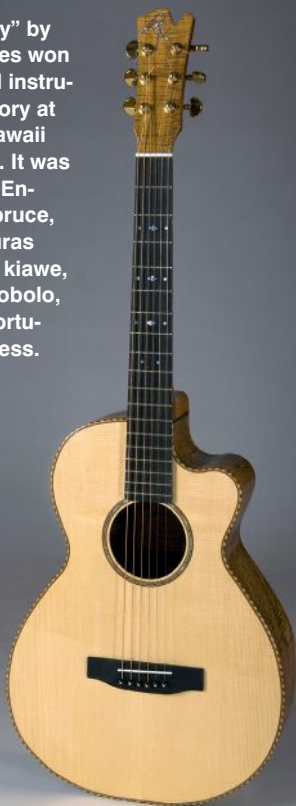


1-800-233-0289
www.keystonewood.com

KEYSTONE
WOOD SPECIALTIES®

Cabinet Doors • Drawer Fronts • Dovetailed Drawer Boxes • Face Frames • Moulding
Valances • Wainscoting • RTA Cabinets • Roll-Out Trays • and More

"Serendipity" by David Gomes won the musical instrument category at the 2015 Hawaii Woodshow. It was made from Engelmann spruce, koa, Honduras mahogany, kiae, ebony, cocobolo, milo and Portuguese cypress.



Acadia exhibit comes to Maine in October

Heirloom-quality works will be on display at upcoming Hawaii show

By Jennifer Hicks

Furniture makers David Lamb and Judy Kensley McKie are featured in the exhibit, "Acadia through a furniture mak-

er's eyes," at the Gallery at Somes Sound in Somesville, Maine, scheduled to open Oct. 31.

Lamb made a special piece for the exhibit, "Four Seasons of Acadia", to capture the four seasons of Acadia. Lamb is a founding member of the New Hampshire Furniture Masters Association.

McKie's "Eagle Console Table," made from mahogany, is another featured piece. McKie, known for her use of animal, bird, and fish imagery in her furniture and sculptures, lives in Cambridge, Mass.

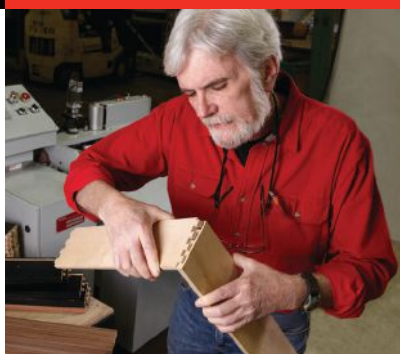


Last year's Best of Show piece at the Hawaii Woodshow: "Roots of Inspiration" by Mats Fogelvik, made with koa, milo, primavera, rosewood, holly, olive and ash.

DBS
DRAWER BOX SPECIALTIES

YOUR PARTNER FOR
OUTSOURCE SOLUTIONS

Drawers
Components
Accessories



What are you
building today?

Talk to us about outsource solutions that can grow your business and your bottom line.

Drawer Box Specialties
A States Industries Company

800.422.9881 ■ DBSdrawers.com



WHERE ARE YOU FINISHING?
*The Flexible, Economical Solution
to a Permanent Wall*



- ✓ Eliminate Rework
- ✓ Contain Saw Dust
- ✓ Contain Overspray
- ✓ Maximize Space



Distributor Opportunities Available

Call 877-647-5653

www.goffscurtainwalls.com/wsn



(From left) Joel Bright's koa entry table from the 2015 Hawaii Woodshow; David Lamb, left, with "Four Seasons of Acadia."

A large portion of the proceeds from the exhibit will be donated to Friends of Acadia, according to the gallery.

Hawaii Woodshow

The 2016 Hawaii's Woodshow, an annual juried woodworking exhibition sponsored by the Hawaii Forest Industry Association, is scheduled for Sept. 17 through Oct. 2 at the Honolulu Museum of Art School Gallery at Linekona.

The show features heirloom-quality works, which are required to be made from native Hawaiian-grown trees such as koa, mango, kamani, milo, Norfolk pine, macadamia nut, kiawe and other species.

The focus of the show is to encourage an appreciation for the participating artists and the materials they use, and to promote the positive role forests play in the economy and ecology.

This year's jurors are Betty Scarpino, a contemporary artist and sculptor from Indianapo-

lis; Duane Preble, a University of Hawaii professor emeritus, and R.W. "Rollo" Scheurenbrand, an Oahu luthier. [W](#)

Contacts:

Gallery at Somes Sound, 1112 Main St., Somesville, ME 04660. Tel: 207-244-1165. www.galleryatsomesound.com

Hawaii Forest Industry Association, P.O. Box 66, 'O' kala HI 96774. Tel: 808-933-9411. www.hawaiiiforest.org

Had it with sanding dust?
Bring in a pro.

- Sanding Tables
- Sanding Booths
- Inspection Lighting

SAND PRO®



SANDMAN Products
Affordable Downdraft Sanding Stations
Ph: 800-265-2008 • info@sandmanproducts.com
www.sandmanproducts.com



REMANUFACTURED

Sandingmaster Wide Belt Sander Model 2075-C
37" x 75" Belt. This machine also has Veneer sanding capabilities. Combination Head allows for light thicknessing as well as fine sanding.

Professional Quality At The Right Price

Remember the line of Sandingmaster Wide Belt Sanders we sold from the mid 80's to the mid 90's? We now sell them remanufactured to new specifications (subject to availability), along with many fine, accurate woodworking machines new and remanufactured.

Call us for parts, service, and advise on your woodworking needs.



P.O. Box 70, Rutland, Vermont 05701
(802) 773-3240
www.woodshopspecialties.org

CALENDAR

ARIZONA

Sept. 9-Oct. 29 — The Vision Gallery in downtown Chandler is hosting the sixth annual Makin Furniture+, an exhibition of handcrafted furniture by Arizona artists. It will feature functional furniture, turnings, wood carvings, wood bending and more. For information, email curator Steven Makin at makin-furniture@yahoo.com.

Sept. 12-16 — Joinery Advanced with Raul Ramirez. Learn joint and drawer layout through dovetails, half-blind dovetails, full-blind mitered dovetails and angled dovetails. Fee: \$680 plus \$60 for materials. Location: Southwest School of Woodworking in Phoenix. www.swwfc.org

FLORIDA

Jan. 10-12, 2017 — Kitchen & Bath Industry Show, an exhibition of new products, industry trends and manufacturing technologies. Location: Orange County Convention Center in Orlando. For information, visit www.kbis.com

KENTUCKY

Sept. 27-29 — The Wood Products Manufac-

turers Association will hold its annual meeting in conjunction with the Kentucky Forest Industry Association at The Brown Hotel in Louisville. The meeting will include a complete day of plant tour visits, a "mystery night" and educational sessions. For information, contact Philip Bibeau at 978-874-5445 or visit www.wpma.org.

INDIANA

Oct. 7-8 — Woodworking Showcase 2016. Annual woodworking event at the L.L. Johnson Lumber and Johnson's Workbench location in South Bend. Industry experts showcase the latest in woodworking innovations and technology. For information, visit www.theworkbench.com

MARYLAND

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

MASSACHUSETTS

Oct. 8-10 — Paradise City Arts Festival Northampton. A juried fair hosted in the spring and fall featuring furniture and other

handmade items for the home. Location: Three County Fairgrounds, Northampton. www.paradisecityarts.com

MICHIGAN

Sept. 9-10 — Wood Expo 2016 featuring Scott Philips. L.L. Johnson Lumber and Johnson's Workbench 26th annual Woodworking Show at its Charlotte location. For information, visit www.theworkbench.com.

MISSOURI

Oct. 23-25 — The 64th annual convention of the Architectural Woodwork Institute. Trade show features educational programs, professional speakers, plant tours and networking opportunities. Location: InterContinental Kansas City. For more, visit www.awinet.org.

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

Subscribe Today & Receive a FREE HAT!



With a **REDESIGNED** format to **ENHANCE** your reading experience, now is a better time than ever to be reading

WOODSHOP NEWS

GET 12 ISSUES OF WOODSHOP NEWS PLUS A FREE HAT FOR **ONLY \$21.95!**

CALL: 1-800-243-9177

WEB: www.woodshopnews.com

MAIL: WOODSHOP NEWS, PO BOX 433212
PALM COAST, FL 32143-3212

☐ 1 year with Hat \$21.95 ☐ 2 years with Hat \$35.95

Name _____

Address _____

City _____ State _____ Zip _____

Daytime Phone _____

E-mail _____

(for renewal purposes only)

☐ Check Enclosed ☐ Bill my credit card

☐ ☐ ☐ No "bill me" orders please.

Credit Card # _____

Exp. Date _____

Canadian subscribers add \$12 per year;
Foreign subscribers add \$14 per year.

Offer valid with this coupon only and may not be used in combination with other offers. This offer is not retroactive. Valid on new subscriptions only.

O6WHAT

NORTH CAROLINA

Oct. 26-27 — CMA Regional Event. The Cabinet Makers Association will sponsor the event hosted by Biesse, featuring seminars from industry experts and plant tours of local woodworking shops. Location: Charlotte. www.cabinetmakers.org

PENNSYLVANIA

Sept. 23-24 — The Eastool Expo is a tool and machinery event showcasing the latest products and equipment for the woodworking

and related industries. The two-day event has seminars, contests, and equipment demonstrations. Location: Quarryville. For information, call 717-933-8091 or email merle@littlemountainprinting.com.

TEXAS

Oct. 27-Dec. 3 — Texas Furniture Makers Show. An annual juried exhibit featuring furniture makers from Texas. Location: Kerr Arts and Cultural Center in Kerrville. For more, visit www.kacckerrville.com.

WISCONSIN

Sept. 16-18 — Fine Furnishings Show featuring furniture and other handcrafted items for the home. Location: Muellner Building at Hart Park in Wauwatosa. For more information, visit www.finefurnishingsshows.com.

Oct. 12-15 — Great Lakes Kiln Drying Association fall meeting and kiln drying seminar. The three-day event in Wausau will feature educational presentations and local plant tours. To register or for more information, visit www.glkda.org.

PROFITABLE BEADED FACE FRAMES? YOU BET!

- One positioning system for cut-off saw and MORSO notching machine
- Included software is compatible with most PLANIT software versions
- Videos and technical specs. online at www.hoffmann-usa.com



HOFFMANN-USA.COM
Toll-free: (866) 248-0100



- Quickly design individual face-frames on screen or download job files
- Different length RazorGage positioning systems and manual or automatic notching machines available

www.Timbercraftdrawers.com



Est. 2003

TIMBERCRAFT
Custom Dovetailed Drawers
Manufactured in Connecticut

3-5 day standard production
No expedite surcharges

5/8" Solid Maple or Birch
Finished and Assembled Drawers
3/8" Birch Plywood Bottoms

800-345-4930

High Speed STEEL KNIVES

**Corrugated
Williams&Hussey
Lock Edge**



**Dare to
Compare**
*Call us for
exceptional
quality,
service, and
pricing.*

Call
(800)762-9899  **Hickory Saw
& Tool, Inc.**
for more details!

Ship: 406 9th Street SE • Hickory, NC 28601
Toll Free (800) 762-9899 • Toll Free Fax (800) 762-6845
Web Site: www.hickorysawandtool.com
Email: hst01@hickorysawandtool.com

We now take the Discover Card along with Mastercard,
Visa and American Express.



WORLD
HARDWARE SUPPLY
a division of ahturf.com

Steel Bar Pulls



Stainless Steel • Carbon Steel

3-Inch --- \$2.01 ea.	3-Inch --- \$1.41 ea.
96mm --- \$2.50 ea.	96mm --- \$1.49 ea.
128mm --- \$2.77 ea.	128mm --- \$1.58 ea.
192mm --- \$3.16 ea.	192mm --- \$1.71 ea.
256mm --- \$3.68 ea.	256mm --- \$1.91 ea.
320mm --- \$4.13 ea.	320mm --- \$2.09 ea.
416mm --- \$4.71 ea.	416mm --- \$2.32 ea.
480mm --- \$5.12 ea.	480mm --- \$2.47 ea.

Ball Bearing Drawer Slides



100 lb. Load Rating • Full Extension

16-Inch	- C4520-16P	- \$3.40 pair
18-Inch	- C4520-18P	- \$3.71 pair
20-Inch	- C4520-20P	- \$4.06 pair
22-Inch	- C4520-22P	- \$4.40 pair
24-Inch	- C4520-24P	- \$4.74 pair
26-Inch	- C4520-26P	- \$5.40 pair
28-Inch	- C4520-28P	- \$7.52 pair

#6 x 5/8" Flat Head Phillips Blum Screws



\$8.13
1,000 Count



5mm Clear or White Shelf Supports



\$27.50
1,000 Count

FOR LARGE ORDERS PLEASE CALL FOR QUOTES!

**FOLLOW US
ON SOCIAL MEDIA!**



facebook.com/ahturf



pinterest.com/ahturf



twitter.com/ahturf

A&H Turf & Specialties, Inc.
468 Moore Lane
Billings, MT 59101

1-800-548-6323

**VISIT US
ONLINE!**



ahturf.com

Adhesives

Glue Like a Pro!

Pro-Glue
Veneer Softener

Professional Quality Adhesives

Pro-Glue.com

Order Toll Free: 888.342.8262
Minimum order ships FREE!



Bits, Blades & Cutters

**TOOLS
DON'T CUT,
THE TOOLING
DOES.**

COLT tooling make
your tools work better.

Ask your local woodworking
dealer about our products.
www.colt-tools.com

COLT
PROFESSIONAL TOOLS

**WOODSHOP
NEWS**
Shaping the Successful Shop™

RIDGE CARBIDE EXPRESS CUSTOM CUTTERS & KNIVES

- Custom Router Bits
- CNC Router Bits
- Corrugated Back Knives
- Molder Planer Knives
(William and Hussy, Shop Fox, Grizzly)
- Groovers & Cutters
- Profile Shaper Cutters

**We deliver what others
only promise with
2-3 day delivery.**

Call Toll Free: 1-800-443-0992
Tool Free Fax: 1-888-728-8665
Email: rcttool@verizon.net

www.ridgecarbidetool.com
595 New York Ave Lyndhurst, NJ 07071

Bits, Blades & Cutters

SELF-SET
JOINTER / PLANER KNIFE

The Worlds Only Affordable
Self-Setting Knife for your Jointer or Planer

Precisely Located Stops on
the SELF-SET Holder Ensure
Perfect Set-Ups
Every Time

Fast and Accurate Knife
Changes in Every Machine
Ever Made - Every Time



DISPOZABLADE
800-557-8092 .com

Branding Irons

Custom Branding Irons

Same day quotes

Industrial and
Craftsman

Flame or Electric,
Branding Presses



**BRAND
NEW
INDUSTRIES INC**

BrandNew Industries, Inc.
(800) 964-8251 • BrandNew.net
Over 20 Years of Experience!

**CLASSIFIED
ADVERTISING**

CALL 860-767-3200 x 242

**WOODSHOP
NEWS**
Shaping the Successful Shop™

Cabinet Components

woodoverstock.com

View our full line of
first quality overstock
turnings, carvings & mouldings.

www.woodoverstock.com | 888.993.0030

Drawers & Doors

Doors, Drawer Boxes,
Custom Cabinet Boxes,
Moldings & Accessories

EliasWoodwork

1-800-665-0623
www.eliaswoodwork.com

DO YOU SEE THIS AD?

Your customers do, too.

Place your ad here.
Call 1-800-444-7686



CNC Machine Cut
Dovetails That Look
Hand Cut!

- * Call for Sample & Prices
- * Thru & Blind
- * Drawers & Pullouts
- * Prefinishing
- * Adjustable Tail Spacing
- * Undermount Prep
- * Prompt & Reliable
- * 1-2 Week Turnaround

**Stratton Creek
Wood Works**
Est. 2005

kmario@strattoncreek.com
330-876-0005 Shop
330-876-0032 Fax
www.strattoncreek.com

Fasteners

MONARCH
METAL FABRICATION

Easy Wall Panel System

Simple, decorative
aluminum trim



(631) 750-3000
monarchmetal.com

Furniture Accessories

Table Extension Slides

OSBORNE
Wood Products, Inc.

1.866.963.5578
www.osborneparts.com

Glass

Green Mountain Glass, LLC.
211 Main St. • Charlestown, NH 03603
Small Lite, Narrow Sight Line Insulated Glass
Silicone Dual Seal, All types, from historic
way to blast resistant glass.
Argon fill and warm edge available.
603-826-4660

Hardwoods

RARE WOODS USA

www.rarewoodsusa.com • (207) 364-1073
120 species of exotic & domestic woods
Ebony, Olive, Rosewood, Satinwood, etc.
\$3 million inventory - buy 1 plank or 1000!

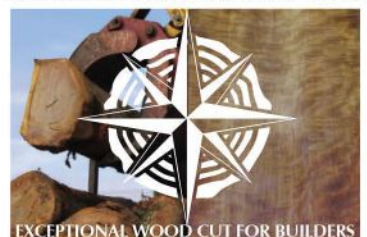
**NORTHWEST
BAMBOO** Inc

LUMBER, PLYWOOD
VENEERS, FLOORING

503-695-3283

WWW.NWBAMBOO.COM

NEWPORT NAUTICAL TIMBERS



EXCEPTIONAL WOOD CUT FOR BUILDERS

Custom Cut Lumber
Live Edge Slabs • Large Inventory
Bristol, RI • 401-253-8247
NewportNauticalTimbers.com

CLASSIFIED MARKETPLACE

Call 860-767-3200 ext. 242 for Advertising Information

Hardwoods

CR Muterspaw LUMBER COMPANY

Specializing in
Unique Hardwoods
Exotic
Figured
Domestic
Quartersawn
&
Live Edge Slabs
in stock!

"The Woodworker's Candy Store"

937-572-9663
sales@crlumber.com
www.crlumber.com

WOODSHOP NEWS
Shaping the Successful Shop™

**Domestic & Exotic
Fine Hardwoods**
Lumber • Slabs • Blanks

Cormark International

Call for personalized service
828-658-8455
www.CormarkInt.com

EISENBRAND INC.
EXOTIC HARDWOODS
• Quality Guaranteed •
FREE BROCHURE
Phone 310-542-3576
Orders 800-258-2587
www.eisenbrandhardwoods.com
clayton@eisenbrandhardwoods.com

STEVE WALL LUMBER CO.
Quality Hardwoods and Woodworking Machinery
For The Craftsman and Educational Institutions.

The trusted supplier from the Heart
of North Carolina Furniture County.

- HARDWOODS • EXOTICS • THIN CRAFTWOOD • AROMATIC CEDAR
- HARDWOOD PLYWOOD • CUSTOM PANEL DOORS • HARDWOOD FLOORING

See Our Catalog on the WEB: walllumber.com

BOX 287 • MAYODAN, N.C. 27027
336-427-0637 • 1-800-633-4062
Email: wood@walllumber.com
SEND \$1.00 FOR CATALOG

Hardwoods

buyApplePly.com
PREMIUM QUALITY HARDWOOD PLYWOOD

What are you
creating today?

Select from most veneer
species in 5 different
thicknesses, all in convenient
shippable sizes.
Visit buyApplePly.com.

Delivered
directly to you.

Oregon Claro/Black Walnut
Slabs - Wide lumber - 4/4 through 16/4
Turning - Carving Stock - Gunstocks - Veneer
Web Site: www.gobywalnut.com

GOBY

WALNUT PRODUCTS
5315 NW St. Helens Rd.
Portland, OR 97210

M-F 7-4; Sat. 9-4
(503) 477-6744

**CLASSIFIED
ADVERTISING**
CALL 860-767-3200 ext. 242

WOODSHOP NEWS
Shaping the Successful Shop™

**RARE HIGHLY FIGURED
CLARO WALNUT**
1"-3" thick lumber RWL, large slabs,
turning blocks & gunstocks.
Wineland Walnut (530) 345-4012
Fax: (530) 345-0990 • Mon-Fri 8-3
9009 River Road, Chico, CA 95928
winelandwalnut@gmail.com
www.winelandwalnut.com

**WEST PENN
HARDWOODS, INC.**

Exotic Wood Wonderland!
The Largest Importer of
Exotic Hardwoods From
Pen Blanks to the Whole Log!

www.westpennhardwoods.com

716-373-6434

Visit us on
Facebook

Lumber

You Supply the Tools.
We'll Supply the Wood.



Downes AND Reader
HARDWOOD

- Domestic & Exotic Hardwoods
- Mahogany
- Softwoods
- Plywood
- and much more!

Check us out at:

145 Furniture Row
Milford, CT 06460
203-878-9663

Evans Drive
Stoughton, MA 02072
800-788-5568

Hours:

Mon-Fri: (7:30AM - 4:00PM), Sat: (7AM - Noon)
Visit us at downesandreader.com

West Coast Woods
Smarter Lumber Solutions

VG Clear in Western Red Cedar,
Alaskan Yellow Cedar,
Douglas Fir.

Salvage Urban Forest Slabs:
Monterey Cypress,
Claro Walnut
and MORE!



1-800-711-WOOD
www.WestCoastWoods.com
831-768-3880 FAX: 831-768-3883
347 Locust Street, Watsonville, CA 95076

L.L. JOHNSON LUMBER MFG. CO.

**EVERYTHING
FOR THE WOODWORKER**

CHARLOTTE, MI
SOUTH BEND, IN

HARDWOODS
SOFTWOODS
EXOTICS
PLYWOOD
TOOLS



theworkbench.com
800-292-5937

Lumber

RECLAIMED LUMBER

Resawn or surfaced to spec
Kiln dried molder blanks
Nationwide Shipping

- Chestnut • Heartpine
- Red Oak • White Pine
- White Oak • Hemlock

717-270-9900

www.KEYSTONEVINTAGELUMBER.COM

Machinery

ANDREOU MACHINERY

AM-340 25" CNC DOVETAIL MACHINE
\$15,900 DELIVERED



INTRODUCTORY
DISCOUNT
PRICE UNTIL
SUPPLIES LAST
LIMITED
QUANTITIES AT
THIS PRICE

SEE VIDEO AT:

<http://youtu.be/LpBzAZZnpk8>

TEL # 201-724-6005

www.andreoumachinery.com

Services

**CNC ROUTER BIT
SHARPENING**

Spiral & Compression Router Bits
Sharpened to Factory Specifications,
using 5 Axis CNC Grinder

DISCOUNTED PRICING
ON CNC TOOLING FROM:

VORTEX
TOOL COMPANY INC.

Amana Tool®
REDEFINING WOODWORKING

LMT • ONSRUD **ES TOOL**

100% Satisfaction
Guaranteed

FAST TURN-AROUND &
FREE SHIPPING ONE WAY!



**CONNECTICUT
SAW & TOOL**

800.404.1220

140 Avon Street • Stratford, CT 06615
info@ctsaw.com • www.CTSAW.com

Sharpening

Sharpening



Vortex professionally sharpens all types of solid carbide tooling — and all brands! Two-day turnaround service offered on most tools, competitive pricing and new razor-edge technology! Try us.

VORTEX
TOOL COMPANY INC.
WHERE INDUSTRY TURNS FOR INNOVATION™

5605 Jelinek Avenue • Schofield, WI 54476
vortextool.com
800-355-7708 • fax 715-355-7353

Veneers

Spicy Sheet Veneer



Spicy domestic & exotic veneers
10, 20, 30 mil equiflex paper
2ply (wood on wood)
Superback laminate
PSA
4 x 8 to 5 x 12 and cross grains
Stock & Made to Order

No Minimum Order

1819 Dewey St., New Albany, IN 47150
toll free: 855.940.7827 fax: 812.941.8780
www.superiorveneer.com

ADVERTISING INDEX

A&H Turf & Specialties.....	www.AHTurf.com	60
Accuride International.....	www.accuride.com	2
AcromaPro.....	www.acromapro.com	43
Amana Tool	www.amanatool.com.....	C4
American Fabric Filter Co	www.americanfabricfilter.com	40
Anderson America Corp	www.andersonamerica.com	4
AWFS Fair 2017	www.awfsfair.org	45
Beaver Tools	www.beavertools.com	20, 37
Berkshire Products	www.BerkProducts.com	54
BESSEY Tools North America	www.besseytools.com	18
Better Vacuum Cups, Inc	www.GreenBVC.com	53
Biesse America.....	www.biesseamerica.com	15
Busch LLC.....	www.buschusa.com	16
C.R. Onsrud, Inc	www.cronsrud.com.....	17
Canary Closets & Cabinetry.....	www.canarycc.com	5
Castle, Inc	www.castleusa.com	54
Chemcraft.....	www.chemcraft.com	38
Colonial Saw	www.csaw.com	21
Connecticut Saw & Tool	www.ctsaw.com	3
DBS - Drawer Box Specialties	www.DBSdrawers.com	56
Decore-ative Specialties	www.decore.com.....	8-9
Elias Woodwork and Manufacturing ...	www.eliaswoodwork.com	31
Fastenlink	www.FastenLink.com	42
Festool USA	www.festoolusa.com	41
Forrest Manufacturing.....	www.ForrestBlades.com.....	53
Goff's Enterprises, Inc	www.goffscurtainwalls.com.....	56
Grizzly Industrial, Inc	www.grizzly.com.....	6, 32-33
Hearne Hardwoods.....	www.hearnehardwoods.com	14
Hickory Saw & Tool Inc	www.hickorysawandtool.com.....	59
Hoffmann Machine Company	www.hoffmann-usa.com.....	59
Holz-Her U.S. Inc.	www.holzher.com	19
Keystone Wood Specialties	www.keystonewood.com.....	55
Laguna Tools Inc.	www.lagunatools.com	27
Let Girls Learn	www.letgirlslearn.gov.....	C3
MARTIN Woodworking Machines Corp.	www.martin-usa.com	55
Microvellum Software.....	www.microvellum.com.....	11
Monarch Metal Fabrication	www.monarchmetal.com	26
Next Wave Automation.....	www.nextwaveautomation.com.....	51
Oliver Macninery Co	www.olivermachinery.net.....	52
Oneida Air Systems Inc	www.oneida-air.com	30
Osborne Wood Products, Inc	www.osbornewood.com.....	48
SandMan Products.....	www.sandmanproducts.com	57
Scm Group North America	www.scmgroupna.com	22
ShopBot Tools, Inc	www.shopbottools.com	25
Simantech Inc	www.simantechinc.com	24
Stiles Machinery	www.stilesmachinery.com.....	1
SuperMax Tools.....	www.supermaxtools.com.....	44
Techno CNC Systems, LLC.	www.technocnc.com	28
Thermwood Corp	www.thermwood.com.....	13
TigerStop, LLC.....	wntrk.tigerstop.com	12
Timbercraft Mfg.....	www.timbercraftdrawers.com	59
Virutex.....	www.virutex.com	23
W. Moore Profiles Ltd	www.wmooreprofiles.com.....	29
Woodshop Specialties.....	www.woodshopspecialties.org	57
Woodstock International	www.woodstockinternational.com	C2

Vacuum Supplies

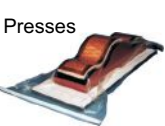
Vacuum Press
www.qualityvak.com

Pumps




Pneumatic **Electric**

Presses




Bags **Frame Presses**

Professional automatic pneumatic systems with 4'6" x 8'6" bag from \$625

Toll Free 800 547-5484

Quality VAKuum Products, Inc.
www.qualityvak.com
74 Apsley St. Hudson, MA 01749
Phone (978) 562-4680 Fax: (978) 562-4681

LEVENEER
Flexible Sheet Veneer

- Over 160 species in stock
- Sizes 4'x8' & 4'x10' in stock
- Same day shipping available



LEVENEER

10 & 20 mil paperbacked
2 ply woodbacked, Polyback
Fabric backed Wallwood, PSA
Certified material available



Order by phone (800) 588-5003
Order on-line www.leveneer.com

**CNC Routing/Bridge Mill
Vacuum Table Applications!**

Over 40 Years of Engineering Solutions

- Clampless Holddown
- Reduces Set-Up Time
- Retrofits All Machines
- Sold Direct or to OEMs



GRAPHIC PARTS
INTERNATIONAL INC.

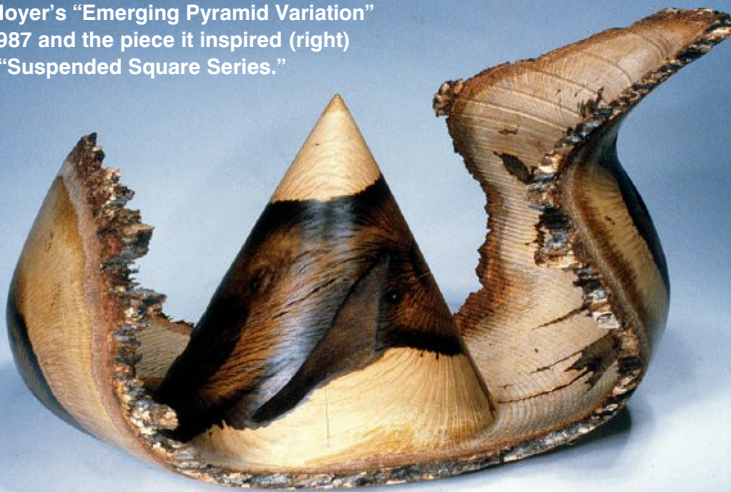
vacuumtables.com
773.725.4900

**THE
LARGEST
WOODWORKING
B2B
CLASSIFIED SECTION**

CALL 860-767-3200 ext. 242

**WOODSHOP
NEWS**
Shaping the Successful Shop

Todd Hoyer's "Emerging Pyramid Variation" from 1987 and the piece it inspired (right) called "Suspended Square Series."



Back and forth

Ever been inspired to create something new from something old? It happens all the time and makes for an interesting exhibit theme.

The Center for Art in Wood, a gallery and educational resource in Philadelphia, is taking a new approach with its online "Flashback-Fast Forward" exhibit, which opened in July and runs through Oct. 21, featuring the work of more than 50 artists from the center's 40-year history.

"Flashback-Fast Forward features work that each artist chose, one from a past center exhibition where they were included, and a newer piece as their 'Fast Forward,' " executive director Albert LeCoff says.

"Each artist offers their thoughts on the older work and being included in a center exhibition and how the new piece reflects their evolving creative processes and technique. Some artists' involvement spans almost the entire time since my very first show."

LeCoff co-founded the center in 1976 with a series of wood turning symposiums. It had its first exhibition, "Turned Objects: The first North American turned object show," in 1981.

The center became a non-profit in 1986 and relocated to the heart of Old City Philadelphia in 2011. It gets about 16,000 visitors per year.

Its mission is to honor and promote the work of not only makers and artists who create wood turned objects, but to include all artwork produced from wood and wood in conjunction with other materials.

Participating artists include Marilyn Campbell, Mark Del Guidice, Virginia Dotson, Tom Eckert, Todd Hoyer, Philip Moulthrop, Gord Peteran, Betty Scarpino, Mark Sfirri and Tommy Simpson.

For more, visit www.centerforartinwood.org.

— Jennifer Hicks



Marilyn Campbell's "Passage to the Orient" from 2005 and "After Midnight," produced for the online exhibit.



60 Grit

Rough humor by Steve Spiro



MY CHILDREN WILL BE 50% MORE LIKELY TO SURVIVE INFANCY.

Globally, 62 million girls are not in school and even more are fighting to stay there. Girls empowered with an education will delay marriage, have fewer children, earn a higher income, and are more likely to invest in their families and communities. When girls gain skills, knowledge, and confidence, they break the cycle of poverty and help strengthen societies.

EDUCATE GIRLS, CHANGE THE WORLD.

#62MILLIONGIRLS



LET *
GIRLS
LEARN

Take action to support the initiative:

Learn more at LETGIRLSLEARN.GOV

Get involved at DONATE.PEACECORPS.GOV

Tell your friends: [#letgirlslearn](https://twitter.com/letgirlslearn) and [@peacecorps](https://twitter.com/peacecorps)

INDUSTRIAL

SIGNMAKING

Solutions



Many sizes & styles of carbide insert engraving knives available

GIN-GROOVE™
CNC INSERT ENGRAVING SYSTEM

This industrial engraving tool body was engineered to quickly interchange inserts while the tool body remains mounted in your CNC machine. This minimizes down-time and helps to maintain consistent cutting accuracy.

INDUSTRIAL

CNC INSERT V-GROOVE ROUTER BITS

Many sizes & angles available



 **Amana Tool®**

www.amanatool.com

1-800-445-0077