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#### 17" HEAVY-DUTY BANDSAW

#### **BEAUTIFUL WHITE COLOR!**

- · Motor: 2 HP, 110V/220V, single-phase, TEFC, 1725 RPM
- Precision-ground cast iron table size: 17" sq.
- Table tilt: 10° L, 45° R
- Cutting capacity/throat: 161/4"
- Max. cutting height: 121/8"
- Blade size: 131½" L (1/4"-1" W)
- Blade speeds: 1700 & 3500 FPM
- Quick release blade tension lever
- Approx. shipping weight: 342 lbs.

#### MADE IN TAIWAN

INCLUDES DELUXE EXTRUDED **ALUMINUM FENCE, MITER** GAUGE & 1/2" BLADE



16" RE-SAW

HEIGHT

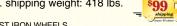
AMERICA

G0513P

ONLY

#### 17" HEAVY-DUTY BANDSAWS

- Motor: 2 HP, 110V/220V, single-phase, **TEFC, 1725 RPM** MADE IN TAIWAN
- Precision-ground cast iron table size: 235/8" x 171/4" x 11/2" thick
- Max. cutting height: 12"
- Blade size: 1311/2" L (1/8"-1" W)
- Blade speeds: 1700 & 3500 FPM Quick release blade tension lever
- Approx. shipping weight: 418 lbs.





ONLY \$109500 G0513X2

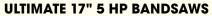
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#### MADE IN ISO 9001 FACTORY

**CAST IRON TABLE** Motor: 5 HP, 220V, single-

- **TRUNNION** phase, TEFC, 1725 RPM Precision-ground cast iron table
- Table size: 251/2" x 21" x 2" thick Table tilt: 5° L, 45° R
- Cutting capacity/throat: 16½"
- Max. cutting height: 16" Blade size: 160" to 162"
- (1/8" to 13/8" W)
- Blade speed: 4500 FPM
- Resaw fence size: 6" H x 23" L
- Approx. shipping weight: 784 lbs. **MADE IN TAIWAN**



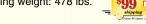
ONLY \$239500 G0636X

WITH MOTOR BRAKE

ONLY \$269500 G0636XB

#### 19" HEAVY-DUTY BANDSAWS

- · Motor: 3 HP, 220V, single-phase MADE IN or 220V/440V\*, 3-phase, TEFC ISO 9001 **FACTORY**
- Precision-ground cast iron table
- Table size: 263/4" x 19" x 11/2 " thick Cutting capacity/throat: 181/4" MADE IN TAIWAN
- Max. cutting height: 12"
- Blade size: 143" L (1/8"-11/4" W)
- 2 Blade speeds: 1700 & 3500 FPM
- Approx. shipping weight: 478 lbs.



SINGLE-PHASE

ONLY \$149500 G0514X

SINGLE-PHASE WITH FOOT BRAKE ONLY \$139500 G0514XF

SINGLE-PHASE

ONLY \$157500 G0514X2

3-PHASE

ONLY \$147500 G0514X3

#### 21" SUPER HEAVY-DUTY BANDSAWS with TILTING GEARED TABLE



- Precision-ground cast iron table
- Table size: 29½" x 20¾" x 1½" thick
- Table tilt: 5° L, 45° R WITH QUICK
- Throat capacity: 20" **CHANGE BLADE** Max. cutting height: 14" LEVER!
- Blade size: 165" L (1/4" to 13/8" W)
- Blade speed: 4600 FPM

Approx. shipping weight: 680 lbs. MADE IN ISO 9001 FACTORY

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WITH CAST IRON WHEELS & MOTOR BRAKE G0531B



\$2195.00 SALE \$215000

MADE IN TAIWAN





· Motor: 5 HP, 220V, single-phase, or 71/2 HP, 220V/440V\*, 3-phase Precision-ground cast iron table

**24" INDUSTRIAL BANDSAWS** 

with TILTING GEARED TABLE

- Table size: 331/2" x 235/8" x 2" thick
- Table tilt: 45° L & R
- Max. cutting height: 161/4"
- Blade size: 180"-1811/2" L (1/4" to 11/2" W)
- Blade speed: 5300 FPM
- Approx. shipping weight: 951 lbs.

**MADE IN ISO 9001 FACTORY** 





252923

5 HP, SINGLE-PHASE

ONLY \$299500 G0568

71/2 HP, 3-PHASE

G0569

ONLY \$299500

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



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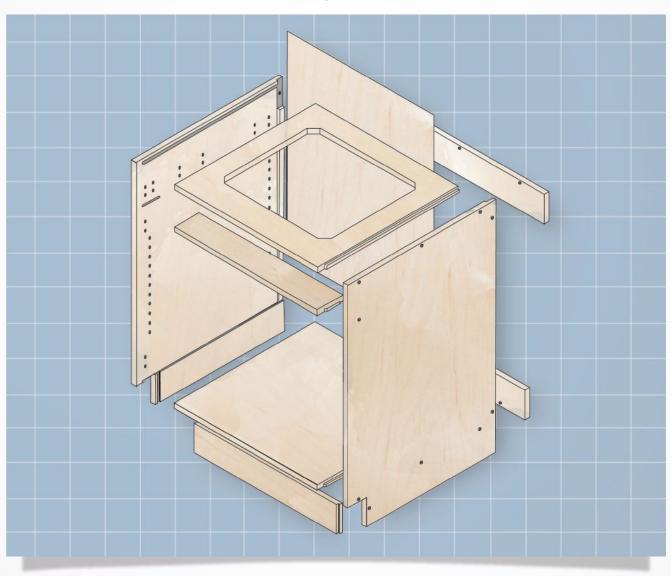


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## Contents

FEBRUARY 2013 Volume 23 Issue 2

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#### **Departments**

First Volley

**TechSpot** 10

Wood of the Month 12

Lumberyard

28 Editor's Choice

Cabinets & Closets Expo 31

Ad Index C27

Contact Us C27



#### **Features**

#### 14 Lumberyard: Countertops Permanent wood finishes make even wooden sinks practical with Grot-

house Lumber's Durata.

#### 16 Pine Beetle Furniture

Azure Furniture's Corbin Clay wins fame for pine-beetle woodcraft. Meet him at Cabinets & Closets Expo.

#### **21** Hobbit Wood Joinery

Oak plank doors sawn, planed and joined in mythical Middle-earth's pre-industrial woodshops provide a home for director Peter Jackson's film adaptation of "The Hobbit."

#### 25 OakBridge Timber Framing

For more than 26 years family members at OakBridge have been doing timber framed homes.

#### 31 Cabinets & Closets 2013

Expanded this year, the show has a new program and expo covering both home storage and custom cabinetry conferences and exhibition.

Cover photo: Douglas Lyle Thompson

#### **OnlineVideo**

From WoodworkingNetwork.com/video

#### **Azure Furniture Business Plan**

Using the Domino biscuit joining system for building heirloom quality furnishings from pine-beetle lumber, Corbin Clay (on the cover) stakes out a niche. Clay appears at Cabinets & Closets Expo courtesy of Festool.



#### **Digital Editions**

Tablet-ready and e-reader compatible digital editions of Custom Woodworking Business are free at Woodworkingnetwork. com/articles/archives

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## **FirstVolley**

## Best Rated Wood Shop?

Woodworkers see their furniture, cabinetry, woodturning, carving and veneering honored in numerous programs – including the *Custom Woodworking Business* Design Portfolio Awards. All of these center around the end product. But with client preferences and budgets in the mix, end products aren't always fully under your control.

One thing you can control is your business. And an indicator of how well you are doing can be measured by what people think of you. To that end, *Custom Woodworking Business* is launching a new awards program: Best Rated Custom Woodworkers.

#### The prize:

- Recognition in *Custom Woodworking Business* in print, online and at Facebook and other social media.
- Video interviews and a trophy at the 2014 Cabinets & Closets Expo.
- Entrants also are eligible to become live video correspondents at industry events and at WoodworkingNetwork.com online.

#### Categories and criteria:

- Best Rated by Clients: Best rated by customers, as measured by your standing on Angies List, Yelp, ect.
- Best Rated Social Media Outreach: A review of your use of social media.
- Best Rated by Suppliers: Wood industry suppliers are invited to nominate custom woodworking businesses.

More details on Best Rated Custom Woodworkers will be announced at Cabinets & Closets Expo 2013, Feb. 27-Mar. 1 at the New Jersey Convention Center.





Bill Esler, Editor in Chief besler@vancepublishing.com



## Videos Amaze, Inform



Custom woodworkers flock to *Custom Woodworking Business'* video channel for items that inspire, amaze and tell how to build it at WoodworkingNetwork.com/videos

Brian Grabski's woodworking video was awesome. You should do an article on this company. I'd like to know what all they do.

Interested Reader, Via Kampyle Survey

Wow! Nice sound track too on Grabski's video, too.

SK Blakeslee, USA

Re: Video How to Make a Spiral Tapered Leg: A nice job done by a true craftsman. However in a commercial setting, I would need strong support from my customer to make these from scratch when they can be purchased pre-made from a few suppliers. Bottom line for me is cost made vs purchased realizing that on some jobs you cannot find it, to buy, you have to make it. Bill does a nice job, the legs look great.

Interested reader, via Kampyle Survey

Re: Video How to Install LED Lights Under Cabinets: Nice product. I'm beginning to use LEDs on my kitchen projects. I will look into DeKor for the next one. Mike Mihich, via Hotmail

Re: Video 60 Foot Fir Flagpole Reclaimed as Table: The flagpole video story was terrific – so well put together, someone had a lot of forethought to document it in the way they did. Thanks for sharing this today. Loved it!

Custom Woodworker, via Kampyle Survey

ON STEAMBENDING VIDEOS: Kent Perdue ("Woodbending Manually" video) neglected to mention that to have the lamination resemble the original board, mark it with a 'V' before ripping so strips are assembled in the same order as they were ripped, yielding the same grain pattern as the original.

Daniel DeKoven via Yahoo

Mike Jarvi ("Steambending Oak Wood Table" video) has found his own center of the universe in the U.P. This video even smells good. Thanks for sharing it. **Paul Kinsey, College of the Redwoods** 



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#### 25" EXTREME-DUTY PLANER with Spiral Cutterhead

Cutterhead motor: 15 HP, 220V/440V\*, 3-phase, 37A/18.5A

15 HP!

Table elevation motor: 1/2 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: 1/2
- Min. stock length: 10"
- 3 feed rates: 20, 25 & 30 FPM
- Cutterhead speed: 4900 RPM
- Approx. shipping weight: 2054 lbs.

#### MADE IN TAIWAN

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

15" PLANERS

G0603X ONLY \$999500



#### SHOP FOX

#### 7" PLANER / MOULDER with Stand

Motor: 2 HP, 220V, single-phase, 12A

- Precision-ground cast-iron table and wings
- Max. cutting width: 7"
- Max. planing height: 71/3"
- Max. planing depth: 1/2
- Max. moulding depth: 3/"
- Feed rate: Variable
- Cutterhead type: Square
- Knife size:  $7\frac{1}{9}$ " x  $1\frac{1}{2}$ " x  $\frac{1}{4}$ " HSS Cutterhead speed: 7,000 RPM
- 4" dust port
- · Rubberized steel feed rollers
- Approx. shipping wt.: 324 lbs.

W1812 \$1650.00 SALE \$145000



- Motor: 3 HP, 220V, single-phase
- Precision-ground cast iron tables & extension wings
  - Table size: 15" x 20"
- Max. cutting height: 8"
- Feed rate: 16 & 30 FPM
- Cutterhead speed:
- 5000 RPM Magnetic safety switch
- Approx. shipping weight: 675 lbs.

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

**BUILT-IN MOBILE BASE** 

G0453 ONLY \$109500 with Spiral Cutterhead G0453Z ONLY \$169500





MADE IN TAIWAN



#### 15" PLANERS

**BEAUTIFUL**  Motor: 3 hp, 240v, single-phase WHITE COLOR

· Precision-ground cast iron table size: 15" x 20"

- Min. Stock thickness: 3/16
- Min. Stock length: 8"
- Max. Cutting depth: 1/8
- Feed rate: 16 & 30 fpm · Cutterhead speed:
- 5000 rpm Approx. Shipping weight: 675 lbs.

**BUILT-IN MOBILE BASE** 



with Spiral Cutterhead

G0453PX ONLY \$169500





- · Motor: 5 HP, 220V, single-phase
- Precision-ground cast iron table size: 20" x 253/4" (20" x 551/2" with extension)
- Max. cutting height: 8"
- Max. cutting depth: 1/2"
- Feed rate: 16 & 20 FPM
- Cutterhead dia.: 31/2"
- Cutterhead speed: 5000 RPM
- Approx. shipping weight: 920 lbs.

2 SPEEDS!



MADE IN TAIWAN

10

HP!

**BUILT-IN MOBILE BASE** 

G0454 ONLY \$165000

with Spiral Cutterhead

G0454Z ONLY \$255000



#### 20" PROFESSIONAL **PLANERS**

- Cutterhead motor: 5 HP, 220V, single-phase, TEFC
- Feed motor: 2 HP, 220V, single-phase
- Precision-ground cast iron table size: 211/," x 281/,
- Max. cutting height: 8" • Max. cutting
- depth: 1/8" Feed rate: 17–26 FPM
- Cutterhead speed: 5200 RPM
- Approx. shipping weight: 1010 lbs.



G5850Z ONLY \$385000

with Spiral Cutterhead G0544 ONLY \$459500





#### 24" PROFESSIONAL **PLANERS**

 Cutterhead motor: 5 HP, 220V, single-phase or 71/2, HP. 220V/440V\*, 3-phase

Feed motor: 2 HP

- Precision-ground cast iron table size: 311/g" x 241/g" Max. cutting
- height: 8" Max. cutting
- depth: 1/8" Feed rate: 17-26 FPM
- Cutterhead speed: 5200 RPM · Approx. shipping weight: 1126 lbs.





G5851Z Single-Phase ONLY \$475000 G7213Z 3-Phase ONLY \$499500

#### 24" EXTREME-DUTY PLANER extreme with Spiral Cutterhead

- Cutterhead motor: 10 HP, 220V/440V\*, 3-phase
- Feed motor: 1 HP • Table elevation motor: 1/2 HP
- · Precision-ground cast iron table size: 24" x 351/2"
- Max. cutting width: 24 Max. cutting height: 9"
- Max. cutting depth:
- Feed rate: 20–40 FPM Cutterhead speed:
- 5000 RPM • Cutterhead dia.: 45%"

· Approx. shipping weight: 1980 lbs.



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12" JOINTER/PLANER COMBINATION MACHINES

**INCLUDES FREE SAFETY PUSH BLOCKS** 

WITH FND

MOUNTING

**FENCE** 

(G0634XP)

INCLUDES

Motor: 5 HP, 220V, single-phase, 3450 RPM

 Jointer table size: 14" x 59½. Cutterhead knives (G0633): 3

Knife size (G0633): 12" x 1" x 1/2

Cutterhead diameter: 3½

Cutterhead speed: 5034 RPM

Max. jointer depth of cut: 1/2

· Max. width of cut: 12"

Bevel jointing: 0-45°

• Planer feed rate: 22 FPM

Max. planer depth of cut: 1/2

 Max. planer cutting height: 8" • Planer table size: 121/4" x 231/8"

· Approx. shipping weight: 734 lbs. (G0633, 34Z), 704 lbs. (G0634XP)

**G0633 ONLY** 

3 Knife Cutterhead \$199500



SPIRAL CUTTERHEAD (G0634Z & G0634XP)

8" x 76" JOINTERS

Motor: 3 HP, 220V, single-phase, TEFC, 3450 RPM

Precision-ground cast iron table size: 8" x 76%"

Cutterhead knives (G0490): 4 HSS, 8" x 3/" x 1/3

• Cutterhead speed: 5350 RPM

• Cutterhead dia.: 33/16

Deluxe cast iron

fence size: 36" L

ONLY \$97500

x 11/4" W x 5" H

Approx.

shipping

weight:

564 lbs.

G0490

Max. rabbeting depth: ¼

SUPPORTED BY CAST

**IRON COLUMN** 



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**Spiral Cutterhead** 

G0634Z ONLY \$259500



Spiral Cutterhead G0634XP ONLY



#### **8" JOINTERS**

- Motor: 3 HP, 220V, single-phase, TEFC, 3450 RPM
- Precision ground cast iron table size: 9" x 72½"
- Cutterhead knives: 4 HSS, 8" x 3/4" x 1/8"
- · Cutterhead speed: 5000 RPM
- Max. depth of cut: 1/3"
- Max. rabbeting depth: 1/2"
- Deluxe cast iron fence size: 35"L x 5" H

Approx. shipping weight: 500 lbs.

**INCLUDES FREE SAFETY PUSH BLOCKS** 

G0656P ONLY \$82500

with Spiral Cutterhead G0656PX ONLY \$122500=



**FREE SAFETY** 

**PUSH BLOCKS** 

with Spiral Cutterhead

G0490X ONLY \$129500



**BUILT-IN** 

MOBILE BASE

INCLUDES

FREE SAFETY

**PUSH BLOCKS** 

#### 12" X 60" SHORT BED JOINTER WITH SPIRAL CUTTERHEAD

- Motor: 3 HP, 220V, single-phase, TEFC
- Precision-ground cast iron table size: 13" x 60"
- Fence: 5¾" x 31¼"
- Max. depth of cut: <sup>3</sup>/<sub>2</sub> Bevel jointing: 45°-90°-135° **PUSH BLOCKS**
- Cutterhead
  - 4950 RPM Cutterhead dia.: 33/,
- 4 row spiral cutterhead with 60 indexable
- solid carbide inserts
- Approx. shipping weight: 834 lbs.

MADE IN ISO 9001 FACTORY

G0706 ONLY \$249500



#### 12" x 831/2" PARALLELOGRAM JOINTERS

- · Motor: 3 HP, 220V, single-phase
- Precision-ground cast iron table size: 12<sup>3</sup>/<sub>4</sub>" x 83<sup>1</sup>/<sub>2</sub>" INCLUDES
- Cutterhead speed: 4950 RPM
- Max. depth of cut: 1/8
- Max. rabbeting capacity: ¾

Approx. shipping weight:



with Spiral Cutterhead

G0609X ONLY \$269500

#### EXTREME

#### THE ULTIMATE 12" JOINTERS

- · Motor: 3 HP, 220V, single-phase, TEFC
- Precision-ground cast iron table size: 12½" x 80"
- Center mounted fence: 4½" x 39½" MADE IN ISO
- Max. depth of cut: ½.
- Bevel jointing: 90°--45°
- · Cutterhead speed: 5900 RPM
- Approx.

shipping weight: 1265 lbs. MADE IN TAIWAN

INCLUDES FREE SAFFTY **PUSH BLOCKS** 

G9860 ONLY \$339500 with Spiral Cutterhead

G9860ZX ONLY \$499500 = \$255



9001 FACTORY

#### EXTREME

#### THE ULTIMATE 16" JOINTERS

speed:

- Motor: 5 HP, 220V, single-phase or 3-phase, TEFC
- Precision-ground cast iron table size: 16½" x 99½"
- Center mounted fence: 65/8" x 431/4"
- Max. depth of cut: 5/, " Bevel jointing: 90°-45°
- Cutterhead speed: 5000 RPM
- Cutterhead dia.: 4"
- Approx. shipping weight: 1738 lbs.



Single-Phase

G9953 ONLY \$459500 Single-Phase, with Spiral Cutterhead

G9953ZX ONLY \$649500

3-Phase, with Spiral Cutterhead G9953ZXF ONLY \$629500



255



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### One Saw Two Versions

single mechanical platform that is offered in either manual or programmable automated versions.

A sliding table saw uses a

By Bill Esler



The SCM SI400 16" sliding table saw has been introduced in two versions: one programmable (SI400ep), the other manual (SI400). SCM says both versions of the SI400 Nova safely and accurately square panels, or straight-line thick, solid wood lumber. With 9-hp motor and 1-hp scoring motor, its 16" blade capacity (with scoring blade mounted) lets shops cut through 5.5" of material. Externally each offers a large 10' sliding table that rides on hardened steel guideways with ball bearings.

Internally the SI400s incorporate a massive cast-iron blade group, with a completely enclosed structure for lifelong durability. The blade tilts using a large industrial screw, sits in a double-hung trunnion mechanism, the entire blade group rising and falling with the blade as depth of cut adjustments are made. The tilting arbor ranges from 0° to 45°.

A patented design ensures a smooth

fluid movement in both tilting and raising/ lowering the blade, and also prevents wood pitch and sawdust from building in the gear system - another patented feature. The rip fence has a large steel round bar with heavy-cast iron knuckle, and has a microadjusting feature with a cam lock to ensure solid positioning.

In the manual version, two-hand wheel blade controls are located ergonomically on the front of the machine.

In the programmable Si400ep version, the LCD controls can operate the saw manually, semiautomatically or fully automatically with memory of up 99 programs, 4-axes "Easy" electronic control and motorized programmable rip fence.

See the SI400 run at Woodworking Network. com/video



#### **Bandsaw Blade Cuts Waste**

Wandering bandsaw blades can wreck projects and waste wood, "No one can afford to waste wood in the bandsawing process these days... especially exotic woods," says Catherine Helshoj, VP LagunaTools.

At IWF 2012 Laguna showed an updated LT 14 SUV bandsaw that improves efficiency by using extremely thin-profile blades - allowing it to handle intricate scrollwork, typically needed to be done by much smaller machines in the past. The LT 14 SUV also has a patented ceramic Laguna Guide System using thumb screws for adjustment control, cast iron flywheels, fence, table, and 3-hp Leeson motor. The rack and pinion upper guide and table tilt were also upgraded, as were the handles and wheels.

Now Laguna has updated its bandsaw blades as well. "We machine grind our blades to extremely precise tolerances of 0.002 of a millimeter," says Helshoj. "We use a complex two-piece manufacturing process that incorporates carbide material for remarkably durable teeth that cut through even the hardest wood like butter."

Watch a video on bandsaw blade physics using this QR code.





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## WOOD

OF THE MONTH

#### REDWOOD

#### Figures and Burls

By Jo-Ann Kaiser

edwood trees are prevalent in California and parts of Oregon, where the majestically tall trees thrive. However, not as prevalent is the redwood burl. Also known as vavona burl, redwood burl yields an especially dramatic and varied collection of figures.

Typical uses for redwood burl include inlay and marquetry because the wood is usually small dimensionally, so it is a good fit for specialty items like jewelry boxes or turned designs.

Redwood burl yields many figures from a simple curl similar to curly maple, to a bee's wing and a cat's paw, and a blister.

#### **Hurly-Burly**

The glossary description for burl from the U.S.D.A. Forest Product Laboratory's Wood Handbook, is a "hard, woody outgrowth on a tree, more or less rounded in form, usually resulting from the entwined growth of a cluster of adventitious buds."

A burl is a growth above the ground, usually found near the base of the tree, although some burls are found way up a tree.

Most people believe burls are caused by contact, when someone or something hits a tree, and are

a consequence of damage. The burls can have bark inclusions, little holes or pinholes, or a cat's paw figure, which looks like a cat made footprints across the grain. Redwood burl can also have a peck, like bird pecks you find in maple.

#### **More Than Just Burl**

Redwood burl is typically from old growth redwood stumps left behind because the loggers cutting the trees in the late 1800s and early 1900s wanted the fine-grained, straight wood found higher up the tree, and not the curly material in the stump.

The guitar makers love the reclaimed old growth material for its extremely tight and straight grain and the wood is often used for surfboards.

The redwood trees were named for their spongy red bark, according to author Hugh Johnson, *Encyclopedia of Trees*. Typical uses for the lumber, especially in the United States, include: exterior cladding, shingles, exterior joinery, wooden pipes and interior joinery, and other interior finish. The wood is sometimes rotary cut into veneer. Material with an interesting figure may be used for furniture and paneling.



#### **FAMILY NAMES**

Shorea species, Parashorea species and Pentacme species Sequoia sempervirens of the Family Taxodiaceae.

#### **COMMON NAMES**

Vavona burl, vavona burr, redwood burl, redwood, coast redwood, sequoia, California redwood

#### HEIGHT/WEIGHT

The average height for this very tall species is 200 to 350 feet. Average weight is 26 pounds per cubic foot with a specific gravity of 0.42.

#### **PROPERTIES**

Kiln drying is recommended and should be done with care to avoid problems such as collapse.

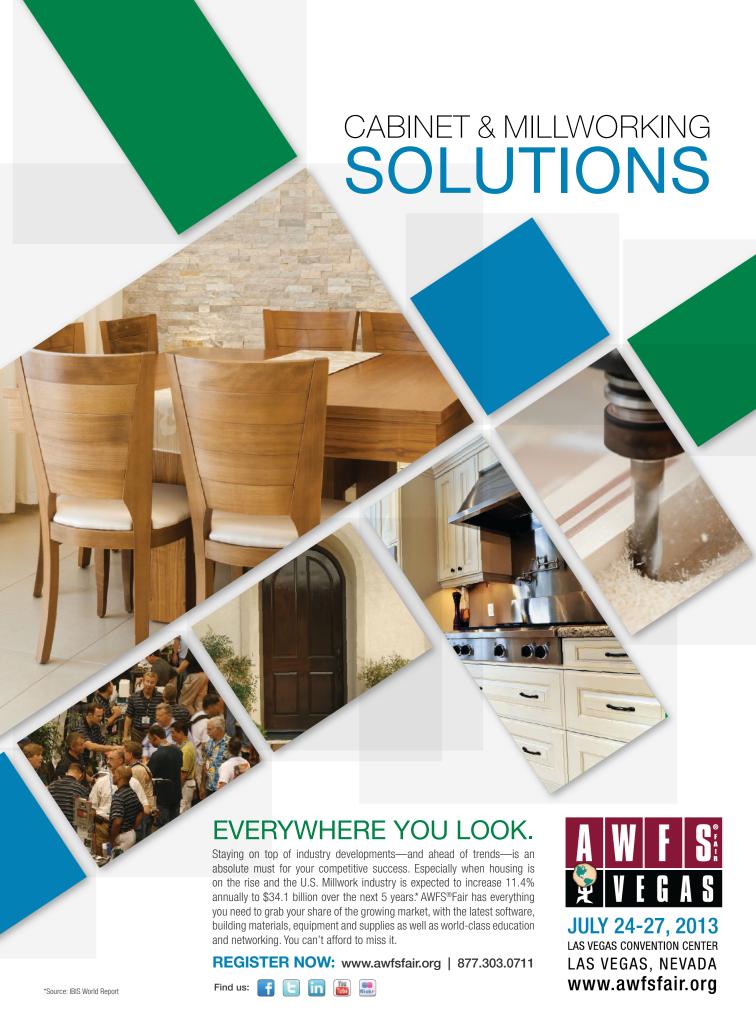
Experts recommend slow drying to begin because of the tree's high moisture content.

The wood works well with hand and machine tools. Takes nails and screw joints well.

The wood glues well, but alkaline adhesives may cause staining.

Find hundreds of wood species profiled at WoodoftheMonth.com





#### lumberyard | countertop

## Wood Meant **To Get Wet**

Permanent wood finishes make even wooden sinks practical. Grothouse Lumber's Durata was used on 'This Old House' airing Dec. 27 on PBS.

By Bill Esler

Grothouse Lumber has been enjoying plenty of media exposure lately as the source for a high-profile renovation project in on the PBS show, "This Old House," hosted by renovation and woodworking stars Kevin O'Connor, master carpenter Norm Abram, and general contractor Tom Silva.

Grothouse's Pastore Waterfall Wood
Countertop was included in episode 13, "The
Cambridge Project 2012," which aired Dec. 27,
2012. It measures 11-1/2 feet and weighs 600
lbs. It is positioned around pre-built cabinets in
the house, and includes a quartz inset counter
that surrounds an integrated undermount sink.
The butcherblock countertop was constructed
by Grothouse of 2" solid maple wood, with
dovetail keys to enhance the mitered edges. The
countertop is finished with Durata, a waterproof
and maintenance free permanent wood finish.

Grothouse showed the Durata Matte countertop finish at KBIS 2012, the first such finish in a 10 sheen. Developed to provide an organic, invisible, permanent and protective wood finish, Durata Matte provides a scratch-and chemical-resistant surface even lacquer

thinner does not affect, once it's cured.

Grothouse also uses it to seal custom wood sinks. "We encourage an exceptionally innovative and fresh environment at our company, to constantly offer new products that modernize the wood surfaces industry," says Paul Grothouse, president.

Grothouse's Pastore Waterfall Wood

Grothouse Durata Matte.

Countertops are fabricated with seamless butcherblock side panels that function as legs. These extend from the countertop to give the appearance of one fluid piece. Paul Grothouse says they can be tricky to manufacture.

Video of production in Grothouse Lumber's newest plant shows a section of the countertop being machined in an Anderson Move CNC router as progressively more precise cuts are made for an outlet: first a 3/4" rougher bit, then a 1/4" and finally an 1/8" to provide a radius inset.

A Martin T75 sliding table saw cuts the miter for the edge. "You need a lot of power for a cut like this," says Grothouse. "It's not something you can do with an average saw." The countertop in the video is also shown in the glue clamp and in the spray room.

The Waterfall Wood Countertop crafted for the large kitchen island took careful consideration and an army of men to carry. At 11-1/2 feet long, doorways with even normal turns were not an option. Silva decided to carry the countertop through a window, which was removed for the effort. Silva scribed the legs to calculate the cut at the installation site, adapting to the uneven floor and assuring the waterfall wood countertop has a level surface.

The latest episode marks the fourth "This Old House" for the Germanville, PA-based wood surfaces manufacturer. Grothouse produced custom countertops in teak, mahogany butcher block, and mahogany plank style wood for shows beginning in 2007.





Grothouse appears at five minutes into this segment: thisoldhouse.com/toh/tv/video/0,,20658413,00.htmlv



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## **Blue Pine Business Model**

Azure Furniture maker Corbin Clay gains acclaim for pine-beetle wood crafting.

By Bill Esler

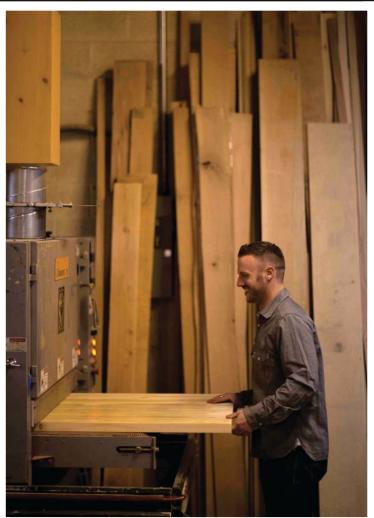
ettle One, a craft made vodka, is a popular "call brand" in big city bars. Now Kettle One has singled out a Denver woodworker for its Gentleman's Call award: woodsmith and Azure Furniture founder Corbin Clay. Azure Furniture, launched in 2009, had already been gaining visibility in its local market, as Clay pursued his personal mission of advancing

the use of lumber from millions of acres of forest killed by the Pine Beetle.

Since the *Wall St. Journal* featured Azure Furniture in a front page article in December 2012, Clay has moved into even greater prominence for helping popularize beetle-kill pine wood furniture. The lumber from the trees, also called "denim pine," features a distinctive blue cast.

In Kettle One Vodka's Gentleman's Call competition, Clay and five other finalists beat out thousands of competitors, then bested the other finalists in an online vote. He was cited in the video nomination for making the blue-tinged pine furnishings trendy, while helping the wood industry and environment. In the Denver area, building blue pine cabinets and furniture has be-

The fundamentals of finishing apply to pine-beetle lumber. It's like any other wood, just bluer, says Clay.









#### **feature** | azure furniture

come a popular design style.

He sources some wood from the Hester's Log and Lumber Company, which specializes in processing beetle-kill lumber, providing wood from Aspen, Lodgepole Pine, Engleman Spruce and Douglas Fir trees.

Clay says 100 percent of the beetle-kill pine used in his production is Coloradosourced, mostly from Summit and Grand counties. Wood finishes and powder coating are both formaldehyde-free. Low-VOC coatings are allowed to completely off-gas before shipping. Laminates are developed from recycled paper, and applied to surfaces with Greenguard certified adhesives.

The latest media positioning reflects Clay's smart use of brand marketing, vital

in growing his young business. He sells his furniture in an online store, with pieces ranging from \$309 for an end table to \$1,199 for a dining table. Azure Furniture also sells cabinets. bookcases and media storage furniture, and Clay also produces exterior siding of blue pine.

"I was fortunate enough to receive my training from a German master craftsman," Clay says, noting his shop offers "a nice blend of high-end craftsmanship with the speed and efficiency of a mass-production shop." Key to that efficiency is use of the Domino joining system. Made by Festool, the system uses the Domino's joiner and its pre-fabricated beech and sipo

tenons. The joiner features simple indexing and adjustable mortise sizing. Festool says the Domino tenon is 100 percent rotationproof and stronger than either biscuits or dowels. A large gluing surface area adds extra strength. In Clay's video entry in the Kettle One competition, he tours his shop, filled with familiar tools - a DeWalt chop saw, Delta boring drill and tablesaw, Oneida dust collector, Timesaver sander.

On his wish list: "We plan on bringing in a wide belt sander, straight-line rip saw, possibly a clamp carrier, and a more industrial grade planer," Clay says. "I'm still unsure about surfacing our own stock...

#### In the Shop

#### **Festool Domino**

Hand-held powered mortise and tenon joining system.

#### Saws & Sanders

Delta X5 saw, DeWalt chop saw,

#### Other Stuff

Delta boring drill, Oneida dust



There are too many companies that can do it better and more efficiently than we can." Visitors to Cabinets & Closets Expo 2013

Feb. 27-Mar.1 at the New Jersey Convention Center can meet Corbin Clay demonstrating high-tech joinery. His visit is sponsored by Festool, and he will appear in the Cabinets & Closets Expo Eveready booth showing Domino his technique.

VIDEO Azure Furniture's Corbin Clay works blue pine at woodworkingnetwork. com/videos



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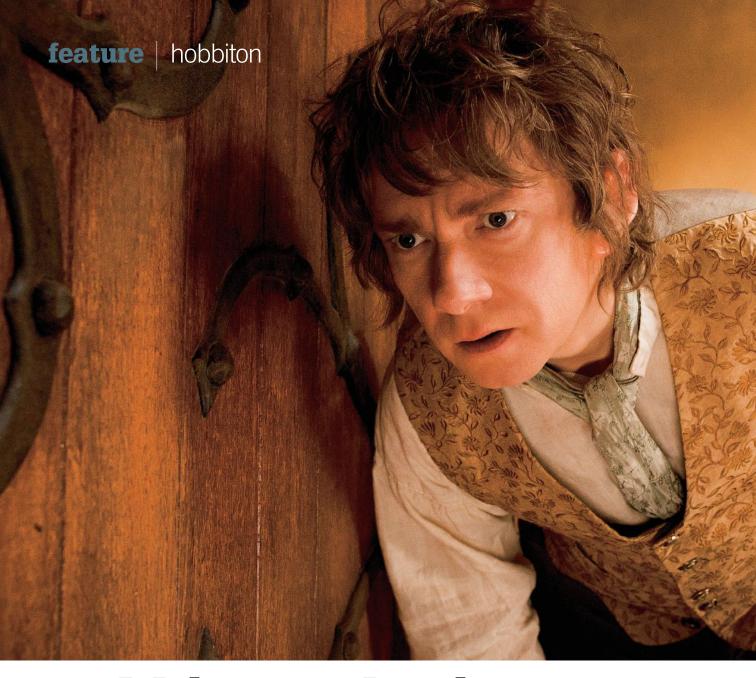
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## **Hobbit Wood Joinery**

Arts and Crafts woodwork adapted to tunneled rooms yielded unique designs.

By Bill Esler

n a hole in the ground there lived a hobbit...it was a hobbit-hole, and that means comfort. It had a perfectly round door like a porthole, painted green, with a shiny yellow brass knob in the exact middle. The door opened on to a tube-shaped hall like a tunnel with panelled walls, provided with polished chairs, and lots and lots of pegs for hats and coats...The tunnel wound on and on and many little round

doors opened out of it.

Thus J.R. Tolkien describes the home of a hobbit, the short-statured creature that was among inhabitants of his *Lord of the Rings* and *The Hobbit* books.

Oak plank doors sawn, planed and joined in mythical Middle-earth's pre industrial woodshops provide a home for the star of director Peter Jackson's film adaptation, "The Hobbit: An Unexpected

Journey." The signature comfort described by Tolkien, along with sketches by the author, provided design advice to movie set artistic director Dan Hennah and the set builders for Hobbiton homes.

The visual impact of the interior woodwork in the newest film is powerful. Since it was shot in high definition 3D using a new camera technique, wood grain shows through in all its glory. Original designs for



Hobbit furniture was built for director Peter Jackson (I, with Martin Freeman) under direction of Dan Hennah.

the hobbit domiciles were first created by Hennah for "Lord of the Rings" movie trilogy 10 years ago. The Tolkien design has inspired hotels, custom wood sheds, even doll houses, styled after the hobbit home, Bag End. A West Chester, PA architect even built a full-scale Bag End home in Douglas fir and Spanish cedar.

In "The Hobbit," circular solid plank doors are set in matching jig-sawn door

frames, components pegged into place. The ornate Craftsman Style extends to timber-framed arches with mortise and tenon joinery.

Exteriors of some doors use the green paint and centered knob Tolkien describes; interior faces of the doors are finished to a golden hue. Joint and tenon furnishings abound, built in Hennah's workshops. Drinking flagons are shaped from wood

## **Q&A on Middle Earth**

Dan Hennah Q&A with CWB

**Q**: Why do the houses in the Shire have round doors archways?

**A**: We used round doors to be true to Tolkien's descriptions...and his sketches to inform our design of Bag End.

**Q**: What architectural and design reference points were used in the set?

**A**: For Bag End we used English country cottage design. While no specific houses were used for design influence, the old pubs of Oxford gave some design leads.

**Q**: Are the table and benches antique or created for the film?

**A**: The table and benches were inspired by English country kitchens of the 17th and 18th centuries. These were built from seasoned oak in our prop furniture workshops. The floors were made from terracotta tiles and also some were oak parquetry. The furnishings, rugs and seating were all made in our workshops or outsourced and made to our designs.

**Q**: *Is there a purpose in all the arches?* **A**: Arches...maintain the premise that Bilbo's house is underground.



An Autodesk Inventor user and Tolkien fan designed a 3D template for a hobbit window.

#### feature hobbiton

staves of indeterminate species, like tapering wooden barrels. That wood craft is important in the world of Tolkien is also evidenced in the history of another character, Cirdan, an elf who is a shipwright, and teaches his craft to succeeding generations. Cirdan appears in the "Lord of the Rings" trilogy movies. He builds swanshaped ships, seaside buildings, and works with Mallorn trees – a mythical species said

to be similar to birch, with smooth bark and leaves that turn gold in the winter.

Stone Street Studios, Peter Jackson's production facilities in Miramar, New Zealand, pulled from storage sets used in the "The Lord of the Rings" movies, including the Hobbiton home of Bilbo Bagins.

More tables, chairs, bookcases and kitchen cabinetry were built to accommodate the scope and style of the blockbuster



#### Softwood

Western cedar, Douglas fir, larch, Scots pine, Sitka spruce.

#### Hardwood

European ash, beech, birch, cherry, elm, oak, plane, polar, syamore.

#### **Mallorn Trees**

Mythical deciduous specie. Bark is smooth; gold leaves in winter.

Based on climate of U.K.

film. ("The Hobbit" sold nearly \$1 billion in tickets.)

Middle-earth is a pre-industrial society, so everything had to appear handmade. The company's army of artisans included a potter, a blacksmith, furniture makers, a boat builder, basket makers, even a fully manned foundry.

Building the world of "The Hobbit: An Unexpected Journey" took up the whole of the eight-acre site, encompassing six stages. Three films for the Hobbit series were filmed at once and required hundreds of people, and construction of nearly 100 sets. In the case of the hobbit house, two sets in differing scales were built to accommodate 3D filming.

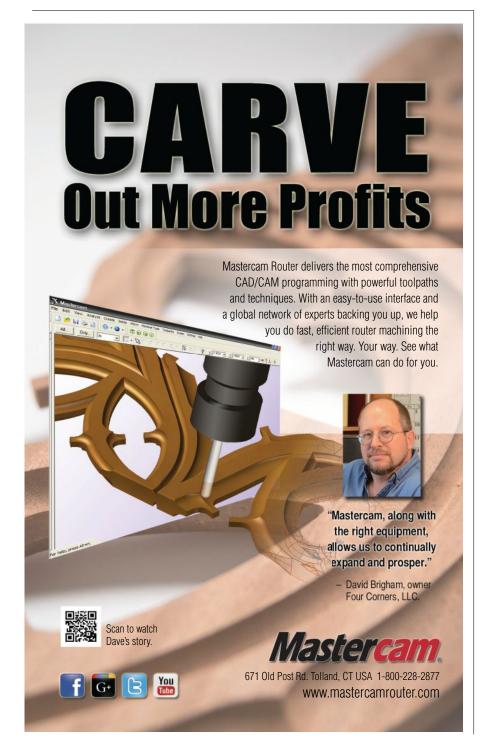
Design carried over from the Lord of the Rings movie trilogy, but "a decade later, a lot of the imagery of Middle-earth has become quite iconic," Jackson says.

"But for 'The Hobbit: An Unexpected Journey,' it was important that it feel like a more idyllic time. The darkness that will descend on this world is brewing but hasn't yet expanded, so we wanted to reflect that visually by making it feel a bit more gentle, and have a bit more of a storybook quality in the design."

The production's art department team of roughly 350 people, working under design leader Hennah, was charged with designing a layered, multi-faceted and palpably real Middle-earth in the physical sets, going hand-in-hand with characters and environments created by Weta Digital, a New Zealand film set builder and model producer.

TRAILER and slideshow at woodworkingnetwork. com/articles/archives/

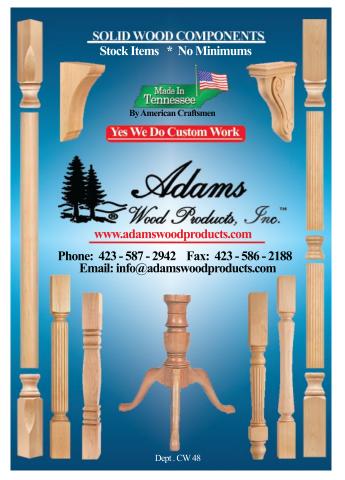






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#### **our way** | timber interiors



## Team Timber Framing Skill

Family members at OakBridge have been timber framers their whole lives.

By Johnny Miller, Owner, OakBridge Timer Framing

s we all know, wood is a mystery — there is always something to learn. Here at OakBridge Timber Framing, we have been doing timber frame homes for 26 years. My father is 74 and a master craftsman, and he, and the rest of us, are all still learning new things about wood.

The third and newest generation of OakBridge Timber Framing is working side by side with the experienced

craftsmen. It's all family here at OakBridge, though we always welcome our clients to participate.

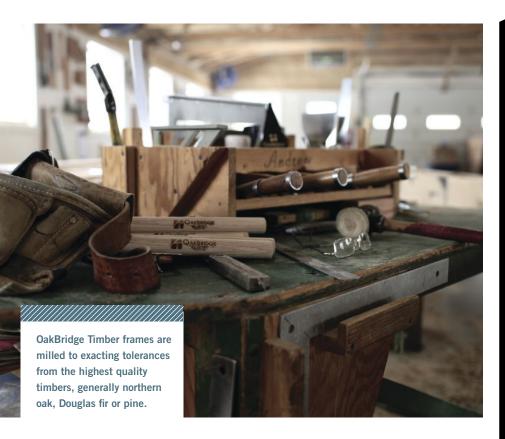
A number of our clients do woodworking as a hobby. We encourage them to come to our woodshop as we're crafting their dream home, and get involved for a day, a few days, or even a week.

Selecting the right pieces of timber is crucial for any project. For example, when you're looking for





#### **our way** | timber interiors



the right piece to do a nice acorn carving, it's important to look for a few things:

If the big timber is fresh out of the woods, it still has some moisture. Therefore, what we try to do is get a piece with more knots.

The more knots, the better, since knots will stop a check. If the end that we're carving the acorn on has several knots, that's great.

Another thing we look for is multiple, minor checks. If there are 2, 3, or 4, we know it will never change much.

While some of our clients prefer to just observe, we've mentored others to carve one of their own acorns or chisel a mortise.

There are so many minor but important techniques that are available, if you just take the time and interest to use them.

One technique we use is the "draw bore," where the mortise and tenon joint is fastened with a wooden pin. We offset the pin hole in the mortise and the pin hole in the tenon about 1/8".

When the two pieces are completely tight together, the two holes are still slightly offset. Driving a strong hickory pin through the hole has tremendous pulling power. Also, when the pieces do some shrinking, it

actually keeps pulling together. This technique is a must for tight-fitting joints.

Another great technique we use is cutting the shoulder for the mortise 90.5° instead of 90° from the face. This compensates for the slight rounding of the timber as it ages.

#### Why Rounding?

The rounding is caused when drying at the surface occurs before the center of the timber. As the timber gets a little smaller, so do the pin holes. To avoid hairline checks at the pin holes, we use 25mm pins instead of 1".

If the timber has a slight bow, releasing the fibers on the opposite side of the bow will straighten that timber. Sometimes it can be done by cutting a pocket of housing on that side.

If you have a timber with a bow, avoid cutting pockets or housings on that side if possible. Keep in mind that timber shrinks in width, but next to nothing in length. The slight decrease in size has a minimal effect compared to a horizontal log structure.

The more we know about wood, the more we realize that there is so much more to learn.

#### OakBridge Timber's History

Johnny Miller and Levi Hostetler began OakBridge Timber Framing out of their experience as Amish youth, raising barns and buildings as the Amish and Mennonite people have done for generations. Hard work, a penchant for detail, and a commitment to the craft of timber framing has stood them well in every frame planned and erected.

Just like their ancestors, skilled joiners at the company carefully hand-craft each timber – whether Douglas fir, northern oak or pine – with hand tools, enabling exactness of cuts and precision in the joinery.

The team at OakBridge Timber Framing has been timber framers their whole lives – it's a part of their culture. A family-run Amish business, based in Howard, OH, they all have a focused passion for what they do that creates unrivaled quality.

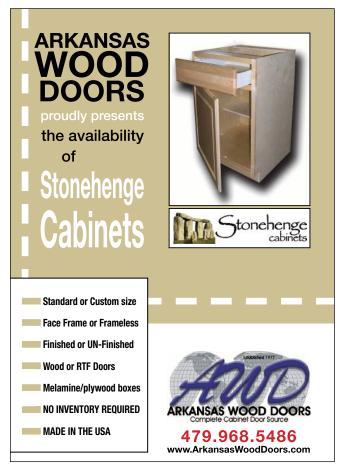
"We treat each home we build as if it were going to be our own," says Miller. "To us, timber framing is an art – it's not about how quickly you get it done, it's about how well you get it done."

OakBridge has become well known for its craftsmanship and attention to detail to which Miller refers. The company has built homes across the United States, small and large. "To know that the structures we build with our own hands are the places that people call home – where they raise their families and visit with loved ones – it's one of the best feelings," says Miller.

SLIDESHOW See the OakBridge process at woodworkingnetwork. com/articles/archives/ CWB-custom-woodworking-business









#### **feature** | editor's choice



## **Decorative Wood Boxes**

How I built award winning walnut jewelry boxes; my book excerpt here and online.

By Dennis Zongkers, Zongkers Custom Furniture, Omaha, NE

etails on these two traditional jewelry boxes are excerpted from my upcoming book, *Wooden Boxes:* Skill-Building Techniques for Seven Unique Projects (©2013, The Taunton Press) due out this fall. It will feature seven completed projects, which include these boxes, and it will have detailed step-by-step instructions, from the beginning to the end on how to build each one

These traditional-style jewelry boxes show one with marquetry and one without. Both are made with walnut burl veneer with bird's eye maple for the trim. The veneers used in the marquetry were purpleheart for the roses, popular veneer for the leaves, with ebony and myrtle burl veneers for the scrolls.

My goals for this project were to use veneer on the inside and outside with a matching grain pattern. I also wanted to match the veneer from straight sides to radius doors and add marquetry to the top and all three radius doors with a rose theme pattern with scrolls mixed into the top.

The side and front doors have two different radiuses. I made two radius forms for veneering the marquetry and veneer onto the face and inside door at the same time in a vacuum press bag. I cut the marquetry using a packet method on a delta scroll saw and shaded some of the pieces in a hot silica sand to create shadow and depth.

I choose walnut burl for the main veneer for a natural rich background color, mixed



with purpleheart veneer for the roses which is a great color to match up to the walnut burl without either wood being too over dominate of each other. For the leaves, I used a green poplar to represent the natural color of the leaves of a rose bush. For the decorative pattern on the top I used dyed black maple.

Excerpted from Zongker's upcoming Wooden Boxes: Skill-Building Techniques for Seven Unique Projects, this was a People's Choice winner in the latest CWB Design Portfolio awards.



View a step-by-step how-to build these wood boxes at woodworkingnetwork.com/articles/archives/CWBcustom-woodworking-business.

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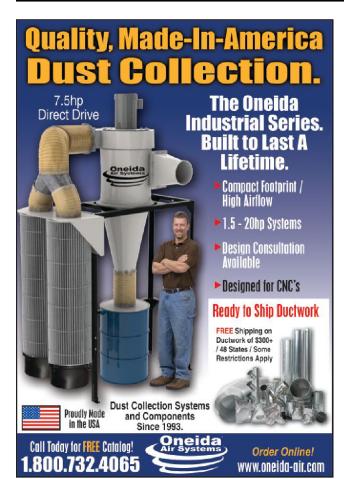


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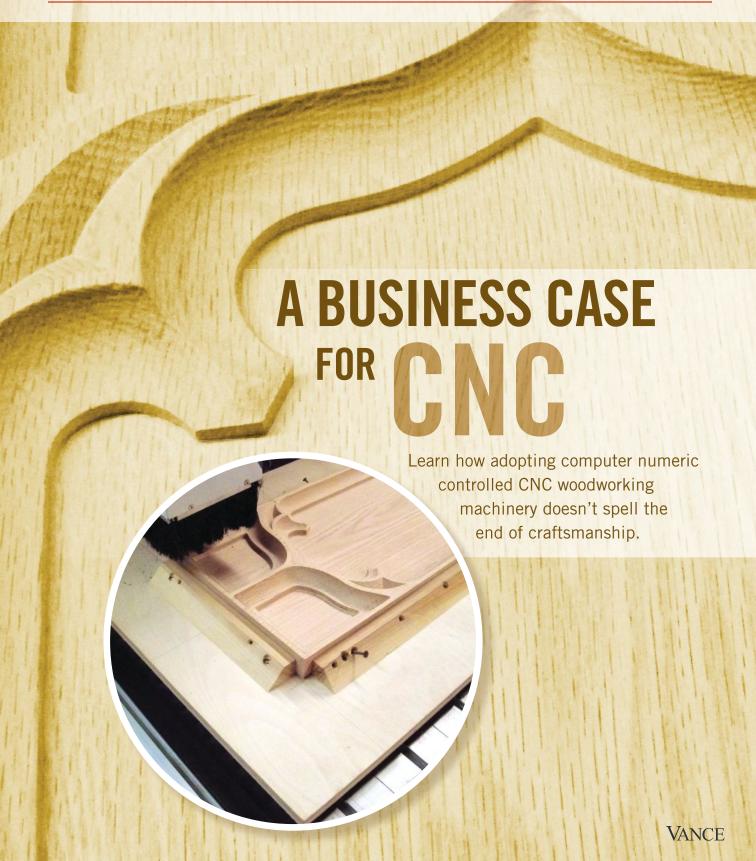


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## Contents

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#### **Your Opportunity**

While half of custom woodworkers report getting productivity assists from computer numeric controlled (CNC) routers and cutters, only one-third of small shops use them, according to a new survey. That could be a missed opportunity.

CNC machines come in all shapes and sizes, and with a wide range of capabilities. They can provide the basic platform for production, or in the cases of Wonders of Wood in Tracy, TN (see page 6), or G. Watson Design in Durham, CA, (see page 12) opportunities to add value or accomplish what would be nearly impossible to accomplish just by hand.

This CNC Insider, brought to you by woodworking technology company Laguna Tools, Inc. and software application source Vectric Ltd., draws on technical resources from both companies - and forms a gateway to a wealth of technical video, specifications, and galleries of work by custom woodworking businesses like yours.







Wonders of Wood: a landmark project needed CNC



Software is central to CNC success. Here's why



G. Watson Design: software-enabled craftsmanship



Woodwork Career Alliance verifies CNC skills



CNC learning: a wealth of resources

#### business | **CNC profits**



# CNC MACHINES EXTEND SKILLS

Classic custom woodcraft gets an assist with CNC routing systems.

Proadly speaking a "CNC Router" is a computer controlled machine with a router or spindle mounted on it, holding a cutting tool. Typically it moves in three directions: the X, Y and Z axis. The position of the router is determined by a computer telling the motors on each axis how much to move in each direction.

Any location within the machine's work area can be defined this way and the router be moved within that space. As the machine is driven by a computer telling it where to move, the operator uses a software program to draw the shapes to cut and create the path that the machine will follow. For many, the CNC is an extension

of existing skills in woodworking and your knowledge will help as you progress along the learning curve.

For some small shops and start-ups, a benchtop CNC machine is an ideal entry point. It can also be cost-effective for bigger operations that don't want to tie up larger machines on smaller jobs, making it ideal for small format production or prototyping. A 4' x 8' CNC, such as the Laguna SmartShop, "is an ideal machine for woodworking professionals building one to five kitchens a week," says Steve Alvarez, Laguna Tools CNC Sales Manager.

"Priced from \$30,000, it's really a remarkable value."



## CMA: CNC Users 'Most Profitable'

Cabinet Makers Assn. • Milwaukee, WI

CMA Benchmark A CNC machine may not absolutely guarantee profitability for custom woodworkers and cabinetmakers. But the correlation between profit leaders and users of CNC machines is striking. The Cabinet Makers Association annual Benchmark Study found 48.4% of shops surveyed were using them. When asked how automating processes with CNC equipment has impacted their operations, 61.9% selected, "We have added significant manufacturing capacity that we routinely use."

When asked how CNC has impacted the financial side of their business. 49.5 % said they were "much more" profitable. Interestingly, CNC equipment is present not only in big operations, although larger shops are more likely to be automated. Four out of five shops (81 percent) billing over \$1 million report having CNC equipment; compared to only one third (34.5%) of smaller shops. There was no significant difference in outlook for 2013 between CNC and non-CNC shops. slightly more (68.5% CNC and 66.4% non-CNC) of respondents are feeling optimistic about 2013.

For a copy of the CMA Benchmark contact director@cabinetmakers.org

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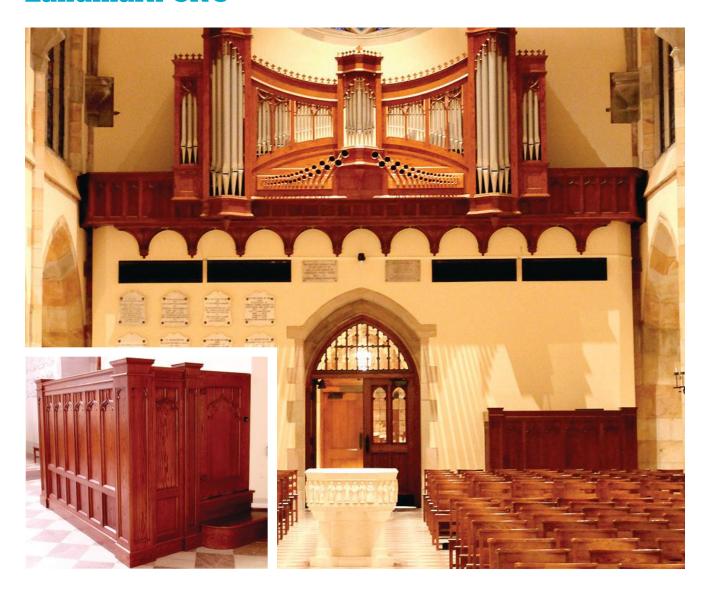
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#### **Landmark CNC**



#### Wonders of Wood

## **Hiding in Plain Sight**

To match a landmark's oak furnishings, craftsman Dean Lutes adds Laguna's Swift CNC.

hen a highly specialized job calling for intricate, historically correct craftsmanship came through the doors at Wonders of Wood in Tracy City, TN, owner Dean Lutes knew the job would require a CNC. That would be a first for Wonders of Wood. And the timing was perfect to acquire a new Swift CNC Machine from Laguna Tools.

"I have been following the evolution of

CNC technology since its inception," said Lutes, who enjoyed a successful career as a heavy-equipment operator for 18 years before opening his woodworking shop in 1990. "Having worked with design software since 2003, making the jump into CNC machinery with this project seemed like the natural step to take for my business."

Lutes' assignment was to create an oak electronics control booth hiding sophisti-

cated audio equipment. While that sounds simple enough, the project took on more dimensions because the control box was to be installed into the famous All Saints' Chapel, a beautiful landmark at the University of the South (commonly known as "Sewanee"), which broke ground in 1905.

The regal-looking chapel is known for its ornate, Victorian Gothic-style architecture, patterned after the Church of England in



Oxford, England, a movement that began in the late 1740s there. The Gothic revival movement had a dramatic influence on architecture around the world, especially on educational campuses.

"What makes this job so challenging and fun is that the control booth, which we're making out of red oak, cannot look out of place in the chapel," says Lutes. "On the contrary, it must look as though it's been part of the chapel's historic interior for over a century."

Lutes estimated it would take approximately 286 man hours to create the 11 carved panels needed to cover the 8' x 6'

control booth using his existing tools. And that doesn't include the time to produce the carved decorative columns and matching access door.

Using a CNC machine would cut that time requirement in half, Lutes figured, and so he was ready to jump into the CNC era.

"I decided to go with the Swift 48 X 96 model from Laguna Tools for a number of reasons," said Lutes. "I had been going to the IWF Atlanta woodworking show for years, and it was obvious that Laguna Tools really understood the needs of small- to medium-sized operations. After spending some time at their booth, the Swift CNC op-

tion became the clear choice for me."

Lutes said he appreciated the fact that the CNC Swift was extremely versatile, and could be easily outfitted with a vacuum table, so he could use it for all phases of his business.

Lutes used existing woodwork in the chapel to establish patterns and built drawings with his Vectric Aspire software. These allowed the Swift CNC to complete the exacting replication of the original woodwork, carved by hand more than a century before. The completed project fits naturally into the landmark setting of the Old Sewanee chapel. The solid frame of



## CUT SMARTER, NOT HARDER FOR LESS.



The Laguna HHC (Handheld Controller) control makes machine operation simple. Standard G-code programs are transferred from a USB memory stick that is inserted into the handheld control unit. Programs are then selected and processed... it does

For More Information Call Us at 800.234.1976

not get any easier!





Step 1: Original pillars and panels formed the basis for the design.



Step 2: Careful measurement calculated design to program the CNC tool path.



Step 3: Oak panel locked in place the Laguna Swift CNC (detail on facing page.)



Step 4: Unfinished panels are glued to form the wall of the control booth.

the Laguna Swift was an important factor in attaining consistency in cutting the oak panels. Lutes even entered the project in the Custom Woodworking Business Design Portfolio Awards.

When he was weighing his buy, says Lutes, "I took note of its solid, one-piece, tubular welded frame construction. Going to various shows over the years, I could see that other CNC machines on the market were made from cheaper aluminum with bolted-together frames requiring assembling by the customer; that meant me!

"Of course, the fact that the Swift CNC Machine was also very affordable didn't hurt, either," he said. "I also appreciated the tremendous customer service I've been getting from 'Router' Bob Alsup and other folks at Laguna Tools," he said. "If I have a question, I get fast follow up service. Bob, and everybody at Laguna Tools, takes the time to make sure my questions or requests are handled quickly and effectively. That's the kind of old-school customer service you iust can't find these days."

Lutes says business has grown steadily over the years thanks to word of mouth. In his 48 x 88-foot shop he handles everything from simple woodworking jobs to ornate reproductions of antique furniture, porch columns, windows and doors, as well as custom kitchen cabinets.

While Lutes comes by his woodworking talents naturally enough – his father was an accomplished carpenter - it wasn't until he grew tired of high-rise construction that he returned to his woodworking roots.

"I just got tired of doing heavy, high rise construction and decided to find another job," Lutes said. "I answered a help-wanted ad for a trim carpenter position to help with building Blockbuster Video Stores. That contracting assignment took me all over the country and led to a number of other jobs as well."

Lute eventually settled in Tracy, where he began building his Wonders of Wood woodworking business and married.

"I've been very blessed to be making a living doing what I truly love, and being able to work for people who have become some of my best friends. And that's exactly the way I feel about Laguna Tools...they treat me like a partner and friend."

For more on Laguna Tools quality lineup call 800-234-1976 or go lagunatools.com. Watch the Swift run at and learn about setup at http://bcove.me/9hmcbqr7



### **Primer: Cut Depth,** and Pass Depth

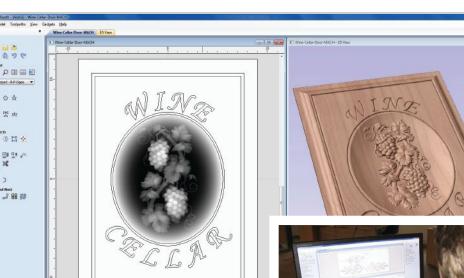
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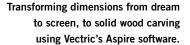
Toolpath Settings Two very important toolpath settings are the Cut Depth and Pass Depth. The Cut Depth sets how deep the toolpath will cut into the material and the Pass Depth sets how deep the router bit will go on each pass. Sometimes you can complete a toolpath with a single pass, but often you must break it up into multiple passes because of the material, the tool size or your machine capabilities.

**Example** If, for instance, you want a toolpath to cut 0.75 inches deep, but need to limit the depth for a single pass to 0.25 inches, you would set your Cut Depth to 0.75 inches and your Pass Depth to 0.25 inches and the program will calculate 3 passes with each pass cutting 0.25 inches deep. The first pass would cut from the material surface down to 0.25 inches, at the end of that pass the bit would move down another 0.25 inches and remove the material between 0.25 and 0.5 inches and finally, the last pass would remove the material between 0.5 inches and 0.75 inches. At the completion of the toolpath, you would end up with your desired 0.75 inches deep cut and you completed this without asking more of the bit or machine than it was capable of doing.

Introduction to CNC, by Vectric Ltd.

### feature **software**







## EXTENDING CRAFT TO CNC MACHINES

From cutting cabinet parts to 3D carvings, test drive CNC software.

By James Booth

oing custom decorative work with a CNC has never been easier or more affordable. Vectric's Aspire software is one of the most complete solutions available to design parts and create toolpaths to drive a CNC. Its intuitive interface and natural workflow make it easy to work with. Aspire is backed up by more than 30 hours of tutorial videos to ensure that you or your staff can generate immediate return on your CNC investment. There are many levels at which Aspire and a CNC can be integrated into your shop. At the most basic, you may use it to accurately cut out 2D shapes or process cabinet parts. The next level would be using it to add decorative elements such

as V-carved graphics, textures or ornate inlays. If you want to start offering 3D relief carvings, the wide availability of 3D clip art makes it possible to find a 3D model that can easily be purchased, downloaded and machined to add a carved element to a design. At the highest level the software allows you to import or draw 2D designs, then model those into 3D relief carvings. This means you can offer a 100% custom carving unique to a particular client. A free trial download, vectric.com/WebSite/ Vectric/products/download\_products.htm, lets you test the software and see how easy it is to add value to current work and open opportunities in new markets. vectric.com



## Well-tuned CNC and Software

Vectric Ltd. • vectric com

**CNC Optimization** Some important considerations when researching the purchase of a machine or when looking at building one yourself include machine size, its performance for speed and accuracy and technical support both before and after the purchase. As with software, the importance of a company's reputation, customer support, and an active website is key.

Every CNC machine needs software to directly drive its movement; this is commonly referred to as the 'control software'. Some common generic third-party packages to do this include "Mach3" and "WINCNC", some manufactures create and use their own proprietary systems specific to their own models and these may be installed on an external PC or be loaded onto a dedicated Control Box attached to the machine.

Most control systems offer settings that can significantly improve the smoothness and accuracy of your machine when correctly set. The best designed project will not cut well on an incorrectly "tuned" machine.

Introduction to CNC, by Vectric Ltd.

## Vectric / PASSIONATE ABOUT CNC

When faced with the challenge of making identical carved panels for a local church, Dean Lutes of Wonders of Wood realized it was time to invest in a CNC machine and Vectric's Aspire software.

"After 21 years being in business and looking at CNC I finally convinced myself that the technology could carve better than I could, so I invested in the 96 x 48 Laguna Swift and Aspire. I could see straight away how user friendly the software was, not at all like other CAD programs I looked at."

"As this was my first job with the CNC I had the parts modeled for me but am now confident with what I know now that I could easily create the 2D and 3D elements in Aspire myself."

"The toolpath options in Aspire are very easy to use and gave me a selection of toolpath strategies that could be used to most efficiently cut the different areas of each panel."

"Once we were done we had ended up with an amazing set of panels. These are not glue-ups, each one is cut from wide solid oak board and measures 1 ½ inches thick!"

"This was my first CNC project and it was great to know that Vectric and Laguna were with me all the way. I found using the CNC and Vectric software exciting, challenging but ultimately very rewarding."

You can read more about Dean's project in the Aspire Case Studies on the Vectric Website.



Toolpath preview of design



Machining a booth panel



**Finished Church Booth** 

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### G. Watson Designs

## **Digitized Woodcraft**

Software shapes and bends designs for fully custom wood components, and no compromises.

By James Booth

any professional woodworkers worry that adding CNC technology and CAD/CAM software will diminish their craftsmanship and be too difficult to learn. There probably was a time when these points had some validity, but in the last few years good CNC software solutions have become more affordable, easier to use, and do not require compromise on the quality you deliver to customers.

G. Watson Designs, based in Durham, in northern California, offers turnkey design, fabrication, finish and installation service to clients looking for exceptional millwork, cabinets, and furniture. Among Watson's specialties are style and proportion, especially when producing for designers whose clients need home theater, bookcases, or paneling that blends seamlessly with original millwork in their homes.

G. Watson Designs is able to fully customize installation, both in materials choices and dimensional layout, proportioning projects with complex curves, richly developed finish treatments, custom carvings and turnings, veneered surfaces, for individual furniture items, entry ways, kitchen, library, or entertainment spaces, or whole house millwork treatments.

The founder of the company, Gregory

Watson, has been in business since 1972. In that time, he has built an enviable portfolio and a reputation for high quality work, for design and contracting professionals.

Watson had been watching the evolution of CNC technology for some time and had seen, over the last five years, how the cost of CNC technology was coming down while the quality and ease of use was improving. Just over two years ago he decided to invest in a Laguna 5' x 10' CNC Router and a Laguna CNC Lathe (lagunatools.com/ cnc). He also chose Aspire software from Vectric (vectric. com) to create the toolpaths that run the machines. Watson was kind enough to spend some time with us to discuss his experiences of adding this technology to his business.

We started by asking him to explain exactly how the software is used.

"Aspire is used to generate the G-code (toolpaths for the CNC) for panel processing our cabinet parts as well as to model dimensional carved components and create 2D and 3D toolpaths for other decorative elements," Watson explains. "We do 95% of our carving on the CNC so the part is quickly and accurately laid out and then we finish the last part by hand. This means that the customer gets the detail and finish of a hand carving but the accuracy of the software and the CNC."

When asked about the learning curve, he commented, "I use software for drafting, modeling, web design, and photo editing. This basic foundation of computer knowledge and skill made learning the program relatively easy. The Video Tutorials that come with Aspire are great!"

In addition to designing carved parts from scratch in Aspire, Watson also makes use of the dimensional CNC clip art available from Vector Art 3D (vectorart3d.com), "We find the rich variety of models is an excellent short-cut to incorporating carving into our woodwork. The ability to shape, bend, and scale these carvings, as well as the ability to clip, cut, copy and paste parts



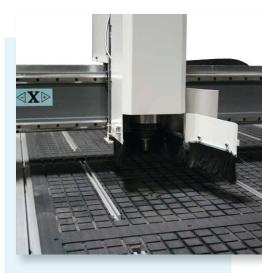
from different models gives us the capability to produce fully custom objects from the library of components."

Watson says the idea that the CNC will compromise craftsmanship is incorrect. He has found that adding the technology has actually complemented the shop's traditional skills. "The software and clip art have created a short cut to the incorporation of complex objects in a design," Watson says. "While we have some computer controlled tools, we are nonetheless a traditional bench shop. The technology does not diminish the need for skilled cabinetmakers; it actually leverages their abilities in much the same way a program like PhotoShop does for a professional photographer!"

**Picture details**: *Mantle Corner*: Carving modeled and toolpaths created in Aspire from imported vectors and line drawings.

*Wall Section*: Gothic wainscot toolpaths and models for ornate friezes created using Aspire. Various components including the crown have modified 3D clipart milled directly into the wood, not applied.

Fireplace: All toolpaths for elements in upper facades produced from imported vectors in Aspire. The carvings created from customized 3D clipart.



### Primer: G-code, Tool Passes

Vectric Ltd. • vectric.com

**G-code** is a generic term for the code which is sent to the machine with the instructions telling it how to move.

Or, to put it another way, the file that is saved from the software using the Post Processor to format it for the CNC machine.

In reality it's a standard format that a lot of CNC's use a variant of – so G-code is not necessarily interchangeable to different machines. The name comes from the fact that many of the codes within in start with a G. For example G01 specifies a Feed Rate move and G00 specifies a Rapid move etc.

Feeds and Speeds For each tool, the use specifies a Feed Rate and a Plunge Rate depending on the material being cut. Feed rate is the maximum speed your router bit will move through the material when actually engaged in cutting the toolpath. Plunge rate is the maximum speed the tool moves when entering the material to get down to cutting depth. When not in the material the tool runs at "Rapid" Feed Rate between locations of cut.

Introduction to CNC, by Vectric Ltd.



### training | WCA Skills



## VERIFYING CNC SKILL SETS AT WCA

Woodwork Career Alliance issues credentials for CNC operators.

By Greg Heuer

oodwork Career Alliance's major undertaking – development and publication of industry-approved Standards of Tool Skills and Evaluations – is aimed at meeting the need for skilled woodworkers in an increasingly competitive global market. The need exists for woodwork manufacturers not only to retain and make optimum use of their current workforce, but to train and retain new workers.

Measurable standards for 12 tool groups, covering over 50 tools and machines and their operations, have been finalized. When the Skills Standards Project is completed, it will include more than 100 machines and tools as well as the woodworker's relation-

ship to them through skill standards, evaluation and a recognition or credit process.

WCA has completed skills standards for four CNC-controlled machines: 3-Axis Vacuum Pod CNC router; Aggregate Head tooling; Beam Saws; and Nested-Based CNC operation. In process are skill standards for CNC Fixturing. In the 3-Axis CNC, evaluators verify competency in routing grooving and boring at three levels, from operating a machine that is already set up through programming, tool setup, and execution of the machining operation. These unified Standards of Tool Skills and Evaluations serve as a comprehensive, industry-accepted compilation of operational procedures.



### WCA Passport: Portable, Personal

Nellysford, VA • woodworkcareer.org

Individual Skills In May 2007 the USDA Forest Service awarded the Architectural Woodwork Institute (AWI) a grant of \$92,000 to develop the Wood Manufacturing Skill Standards, Evaluations and Credentials Project. AWI was selected to be the Secretariat for The Woodwork Career Alliance.

The Skill Standards Project is a three-pronged effort taking place from 2007 to 2013. Phase One created a framework for development. Phase Two focused on development of skills criteria and evaluation documents. Phase Three, the rollout, is underway. Skill Evaluators are being accredited, and the Passport Program is being adopted by schools and industry.

The WCA Woodwork Passport is a portable, personal, permanent record of a woodworker's level of competency in tool and machine operations. The WCA Passport provides an Industry Certification for individual woodworkers who demonstrate their skills on specific tools and machines. Tool stamps are awarded to Woodworkers who demonstrate their tool competency to a WCA Accredited Skill Evaluator. WCA maintains a record of each Woodworker's stamps and provides verification to educators or employers.



## LEARNING A CNC BY OPERATING IT

Router Bob runs the IQ 2 CNC at http://bcove.me/jua2q1yj

Bv Bill Esler

ow do firms who are moving into CNC for the first time begin to learn? As with most other equipment, woodworkers begin with the manufacturer for education on CNCs.

Some woodshops will begin with a small CNC devices like Laguna's IQ PRO, to learn how CNC operates. Assembled in the U.S., the Laguna IQ CNC is geared for discriminating woodworkers who want to step into the CNC world with a heavy duty professional caliber platform (welded steel frame, precision linear guides, cast iron gantry supports, 2 HP liquid cooled industrial spindle). It's driven by the IQ Pro Industrial PLC Controller and industrial touch screen

by Austria's B&R Automation, and runs standard G-code from any CAM software package, such as Vectric Aspire.

Laguna Tools provides a wealth of resources for learning at its video landing page lagunatools.com/company/videos and at an applications site screencast.com/ users/LagunaCNC including Vectric VCarve applications.

Vectric's Aspire software features an intuitive interface and natural workflow that also make it easy to learn. Vectric provides more than 30 hours of Aspire tutorials, as well as a user forum support, to get customers up to speed and into the production process quickly. vectric.com



### **Educating Our Future CNC Users**

vectric.com • lagunatools.com

### **Natural Applications** U.S.

schools are putting greater emphasis on so-called STEM skills (Science, Technology, Engineering and Math) in high schools. At Chicago's West Town Woodworkers Training, instructor Doug Rappe trains adult students by teaching them to think like a CNC machine, then stepping backwards to plan out its moves. At Madison College in Madison, WI, (above) woodworking program director Patrick Molzahn teaches a broad view of CNCs, as well as operations, so students have a perspective on how the equipment is operated and optimized.

The centerpiece of the woodworking vocational trade program at the Ridgeland (SC) Correctional Facility is a recently acquired Laguna Tools I.Q. CNC Machine, currently used by 30

Laguna CNCs can be found at a range of schools (examples: Kiona-Benton, OR; Mosinee, WI, High Schools; and UCLA and California's Institute of Art in Los Angeles). Vectric software is used by dozens of schools (examples: Lincoln Park High (Brownsville, TX); Glacier High (Kalispell, MT); KSU, UNC, UM, University of Minnesota, and University of Central Missouri.



xecutives of CMA-member companies will share their real-world knowledge for improving the efficiencies of their companies, from drumming up new business and cost estimating, through design and manufacturing considerations.

The Cabinets Conference, sponsored by the Cabinet Makers Association (CMA) and Custom Woodworking Business (CWB), is set for Wednesday, Feb. 27 at the Sheraton Edison Hotel Raritan Center in Edison, NJ. The conference is a key component of the 2013 Cabinets & Closets Conference & Expo. (See related story on Closets page 30.)

This educational session, specially planned for custom cabinet manufacturing owners and managers, is one of two tracks - the other being for closet professionals - that will split off from a dynamic all-delegate opening general session. The general session features a **keynote presentation** by **Robert Reiss**, *Forbes* columnist and host of the CEO Show with Robert Reiss, and an exclusive presentation highlighting a brand new research study of the custom cabinet and closet markets by Laurel Didier, group publisher of Woodworking Network.

The day-long **Cabinets Conference** also includes a Peer2Peer Luncheon and is capped off by an All-Delegate Networking Reception that features presentation of awards to the winners of the **20th Annual Design Portfolio** and **7th Annual Top Shelf Design Awards**.



Woodworking contest winner Corbin Clay will appear at Eveready Hardware (Booth 109) demonstrating the Festool Domino.

The event switches over to the New Jersey Convention & Exposition Center on Thursday, **Jan. 28**, for the start of the **Cabinets & Closets Expo**. The show will feature displays and product demonstrations by more than 75 supply and machinery exhibitors. (See exhibit list on page CWB page 34.)

"The Cabinet Conference gives cabinet manufacturing professionals a great added reason to attend this event," said Rich Christianson, conference director. "There is a close affinity between closet systems and kitchen cabinetry in terms of construction and fabrication. But there are also considerable differences in these products and how they are marketed and installed. This event will help shed light on

those similarities and differences."

### The Cabinets Conference Track

Following is a preview of the Cabinets Conference. (See Closets page 34 for the complete Cabinets & Closets Conference schedule.)

10:30 a.m. Tips for Selling & Marketing Custom Cabinets & Woodwork, presented by Rick Thaler, OGB Architectural Millwork; Joe Knobbe, Exclusive Woodwork; Kevin Ward, A. Ward Design; and Dave Grulke, Cabinet Makers Association

This session promises to deliver timetested strategies and information from four unique business owner's perspectives. Each of the panelists will present his own unique sales and marketing strategies that cover the following markets:



- · Large commercial projects sold through general contractors and architects;
- Ultra high end residential projects sold through architects and designers;
- · Residential and small commercial projects sold through home builders, remodelers and directly to commercial building and business owners; and
- Residential projects sold directly to homeowners

The session will also include a presentation of traditional and new media options that help deliver marketing messages to targets, as well as discussion on sales prospecting within each type of market. The session will conclude with open guestions and discussions from the floor where all can share the best practices they use.

Noon Peer2Peer Networking Lunch 1:15 p.m. Moving from Residential to **Commercial Woodworking Projects**, presented by RickThaler, OGB Architectural Woodwork

Thinking of expanding into commercial millwork? There is an entirely different set of rules and language you need to learn to become successful. This session will highlight many of the tricks and tips you'll need in your arsenal and includes discussions on a variety of topics germane to the world of commercial woodworking.

- Learn how to break into the business, then how to become a preferred invited
- Discover hidden opportunities within jobs underway;
- Find out who you need to know and who needs to know you so you will be called when immediate needs become opportunities for you;
- Get forms and procedures commonly used in commercial projects; and



• Learn the ins and outs of project financing 2:00 p.m. Automating a Custom Wood **Production Shop**, presented by Kevin Ward, A-Ward Design

There is a series of steps and decisions necessary when retrofitting a woodworking operation to take advantage of automation. Nearly every facet of the business is impacted once decisions are made to move to new ways of producing custom woodwork projects. This session will explore considerations and planning necessary to create a smooth transition from the perspective of a shop owner who built his business using automation from the ground up.

- How software has replaced most manual functions, and what it means to production;
- Machinery selection: What to look for to meet current and future needs:
- Work flow on the shop floor and strategies to minimize the bottlenecks inherent in automated processing;
- Infrastructure considerations in electrical and compressed air availability and capacity, material storage and handling and the like: and
- Front office and sales and employee considerations are explored.

2:45 p.m. Break

3:00 p.m. Costing & Estimating **Custom Projects**, presented by Sean Benetin, Rick Thaler and Kevin Ward

One of the factors in growing a woodworking business is pricing each project with the expectation of earning a profit. There are some common pitfalls that are



## **Custom** Woodwo

## AT A GLANCE 2013 Cabinets & Closets Conference & Expo

4:00 p.m. to 8:00 p.m. Tuesday, Feb. 26: Early-Bird Closets Executive Forum & Mixer Sheraton Edison Raritan Center, Edison, NJ

8:00 a.m. to 5:30 p.m. Wednesday, Feb. 27: Cabinets & Closets Conference Sheraton Edison Raritan Center, Edison, NJ

5:30 p.m. to 7:30 p.m. Wednesday, Feb. 27: All-Industry Networking Reception & Awards Presentation Sheraton Edison Raritan Center, Edison, NJ

10:00 a.m. to 5:00 p.m. Thursday, Feb. 28: Cabinets & Closets Conference & Expo New Jersey Convention & Exposition Center, Edison, NJ

> 10:00 a.m. to 3:00 p.m. Friday, March 1: Cabinets & Closets Expo New Jersey Convention & Exposition Center, Edison, NJ

See full schedule on Closets page 34 Register and view updates on CabinetsandClosetsExpo.com



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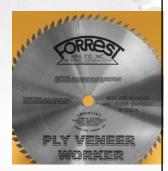
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Hoffmann Machine Co., Inc. Toll-free: (866) 248-0100 http://www.Hoffmann-USA.com inherent in this process, and they are explored and explained along with strategies to minimize risk of missing a part of the project or missing overhead expenses that would impact earnings. Our three panelists will discuss their take on estimating and costing from their own experience within their businesses. An open discussion of best practices from all attending will be part of this session.

- Identify and quantify overhead item costs that must be met before profits can be expected;
- Develop a loaded shop rate that includes ALL your overhead expenses you can use in estimating;
- Understand component and process

time and pricing appropriately;

- Don't forget about the time eaters, no matter how small they seem; and
- · Hidden factors that enhance or can eat away at your net profits.

4:30 p.m. Open Forum: What's Your Problem? This signature CMA event is one you don't want to miss. The full faculty of presenters will facilitate a large-group forum, beginning with an overview of the session, and then break into small discussion groups on some topics vital to develop an ethical, sustainable and profitable woodworking enterprise.

For more information and registration, visit cabinetsandclosetseexpo.com

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### Cabinets & Closets Expo Exhibitors

(This list is as of Jan. 24, 2013; consult cabinetsandclosetsexpo.com for updates.)

Abrecht Bracket Co. Accurate Technology Advance Storage Distribution AdvancedDimensons.com Arclin Surfaces Art for Everybody Association of Closet and Storage Professionals ACSP) Atlantic Hardware Atlantic Plywood Better Vacuum Cups BHK of America C.R. Onsrud Cabinet Makers Association Cabinet Vision Canary Closets Canmade Furniture Products Capella Hardware Castle Inc. CCF Ind. Closets & Cabinetry by Closet City Colonial Saw DC Distributing Diaz Mfg. Doormark Corp. Doug Mockett & Co. Drawer Box Specialties (DBS) **Drawer Connection** EdgeCo Inc. Elias Woodwork Eveready Hardware Excalibur Sports Ind. Felder Group Gingrich Woodcraft Global Product Sourcing Hafele America HandiSolutions

Membrane Pres Omnitech Organizers Direct Osborne Wood Products Panolam Ind. Plastix USA Plus Closets Porta Door Promob Software Solutions QuickScrews Intl Quinko-Tec Rev-A-Shelf Richelieu Hardware Selby Furniture Hardware

Custom Voodwork Meet the Winners at **CABINETS &** Awards, Conference, Expo Feb. 27-Mar. 1 Edison, NJ cabinetsandclosetsexpo.con

Senoplast Klepsch & Co. GmbH Sidelines Inc. Stevens Ind. Stiles Machinery StorageMotion Thermwood The Closet Works Timesavers Valley Custom Door WalzCraft Weinig USA Woodworking Machinery Industry Association (WMIA) Woodworking Network

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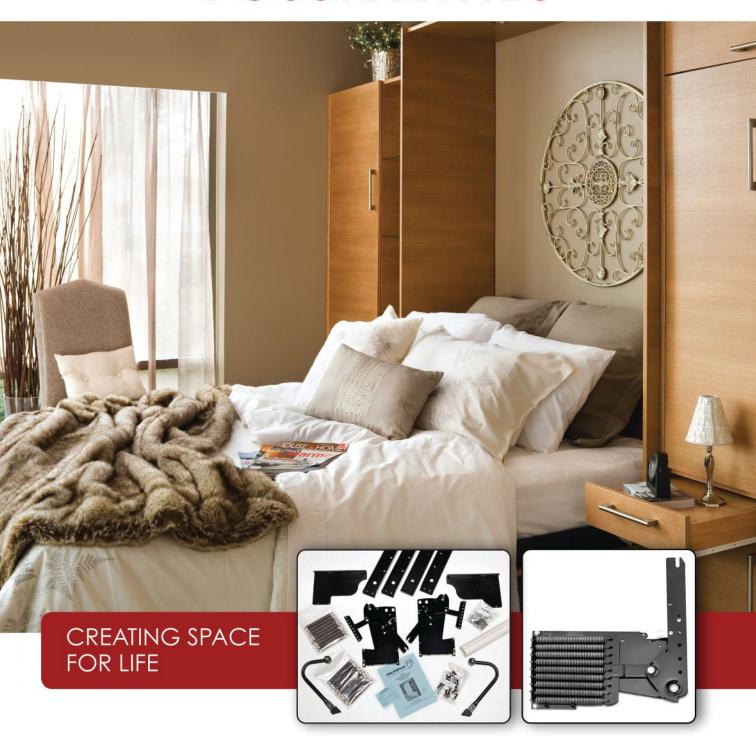
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## Contents



### Features

### Cabinets & Closets Expo

Design Trends **07** 

Slatwall Storage Options 08

Organized Living 15

Concealed Support Brackets **16** 

Closet Drawings **20** 

High-Definition 3D Finishes 23

Still time to exhibit, and registration is now open for Cabinets & Closets Conference & Expo, Feb. 27-Mar. 1, 2013, New Jersey Convention Center. cabinetsandclosetsexpo.com



**30** Keynote: Robert Reiss

32 Schedule At-A-Glance

**33** Houzz Presentation

**33** Meet Corbin Clay, Azure Furniture

33 Cabinet & Closet Factory Tours

**34** Full Conference & Expo Schedule

**27** Ad Index

27 About Us

Cover: Expect crowds at the Cabinets & Closets Conference & Expo.

## Introducing...

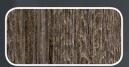
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## International Design Trends

Poliform's Varenna collection. featuring storage units and furniture, was displayed at the 2013 IMM Cologne.

oliform | Varenna showcased its modern home organization and storage solutions and furniture, including bookcases, wardrobes, beds, kitchens, sofas and armchairs, at the 2013 IMM Cologne, an international contemporary furniture fair, held Jan. 14-20 in Cologne, Germany.

Poliform, last featured in Closets, November 2011, showed different types of living rooms, wardrobe and closet systems, as well as kitchen configurations in its 5,382-square-foot booth with a theme of warmth, simplicity and elegance. Wood and neutral colors highlighted the settings, in step with the design trends seen throughout the show.

In fact, the nature theme was one of the overarching show trends, according to IMM Cologne organizers. Additional furniture design trends included:

- Natural themes
- Concealed LED technology
- Variations of oak
- Colors: strong plain colors, blue and grey
- Wall units: high boards, low boards, as well as display cabinets

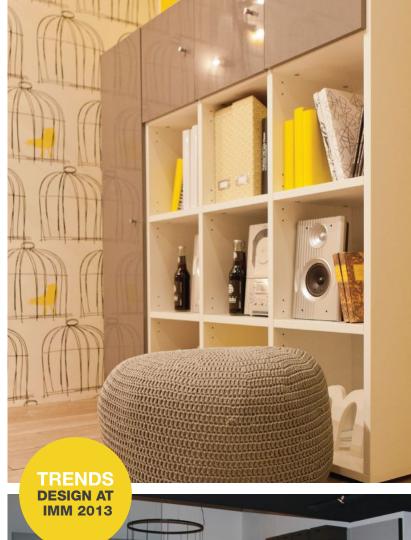
A total of 142,000 visitors from approximately 137 countries flocked to IMM Cologne. Over the seven days of the show, more than 1,250 companies, including Poliform, showcased their latest, innovative furniture and kitchen collections.

With showrooms worldwide, Poliform | Varenna is expected to open a new facility soon in Tucson, AZ.

Read Annette Wildenauer, Northern Contours' director of design and development, review of the 2013 imm cologne show at closetsdaily.com/blogs.

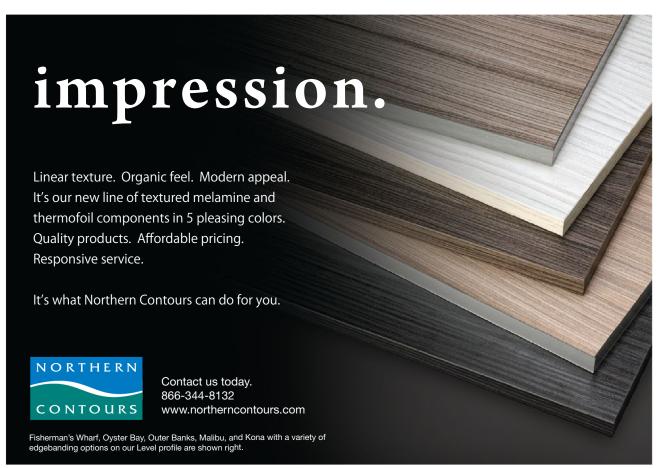








Top and center photos: IMM Cologne. Bottom photo: Poliform | Varenna.



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### **Moduline Cabinets Partners** with Panther Racing

BROCKTON. MA - Moduline Cabinets, manufacturers of custom aluminum storage cabinets, partnered with two-time IndyCar Series Champion Panther Racing to become its official tool storage supplier for custom cabinets, tool chests and workbenches.

"Moduline Cabinets is excited about becoming part of Panther Racing and their primary partner, the National Guard," said Paul L. Gill, Moduline Cabinets president. "We know we can help the team with our cabinets and organization products and we're looking forward to working together."

Moduline will outfit the Panther's headquarters in Indianapolis and its pit and garage areas during the IndyCar Series season.

## **Pinterest**

### View Closets Magazine's Pins

LINCOLNSHIRE, IL — Pinterest is one of the most popular sites on the internet with over 1.5 million visits daily.

Closets' channel features 17 boards and 316 pins of home storage projects shown at closetsdaily.com and around the web. Pin board categories include closets, garages, wall beds, home storage accessories, design inspiration, more.

Check out our pins at pinterest.com/closetsdaily



### Mockett Design Contest Winners Announced

### MANHATTAN BEACH, CA

- Doug Mockett & Co.'s 28th Annual Design contest winners were announced, highlighting furniture parts, components, accessories and hardware.

There are only first place prizes, usually with multiple winners, each receiving a trophy, a \$1,000 prize and future royalties based on sales. This year, there were four winning entries from Ofir Zucker for a table leg, Chris Granneberg for an ipod docking grommet, Harold Baltodano for a table leg, and Andrew Elliot for a wire manager.

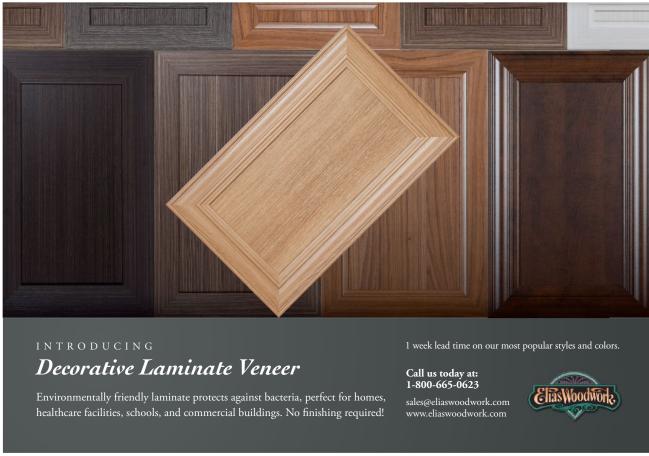
To enter the next contest, send an idea write-up, drawing or model. Send Fedex or Registered Mail to 1915 Abalone Ave., Torrance, CA 90501 attn: Design Competition or email entries to contest@mockett. com (PDF files only). Deadline every year is Sept. 3rd.

### Wind Mill and Boise Cascade Partner on Slatwall

SHEBOYGAN FALLS, WI — Wind Mill Slatwall Products, through a manufacturing and marketing partnership with Boise Cascade, is beginning to offer its Anchor Core slatwall product to customers west of the Rockies

Wind Mill Anchor Core Slatwall Anchor Core slatwall, which Wind Mill said is 50 percent stronger than its slatwall made with standard MDF, is being produced in the Seattle area. The product handles all typical slatwall accessories including waterfall arms, face out arms, down-slant arms, hang bars, hooks and slatwall shelf brackets.





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"I would like to work with a certified closet designer in the Minneapolis, Minnesota area. Can you please send a list of designers in my area who are certified? Thank you."

- Kent C., Minneapolis, Minnesota

This is just one of the **actual consumer requests** for a certified storage designer received via the ACSP website, proof positive that the custom storage consumer is seeing the importance of hiring a designer certified by the Association of Closet & Storage Professionals.

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## 'Handi' Storage Prescription

**STORAGE AND ORGANIZATION** is not only important in the home and garage but in commercial settings as well, providing new market opportunies for closet companies. TCGRx, manufacturer of pharmacy solutions, Powers Lake, WI, launched a new product line in late 2008 that revolutionizes not only the size of pharmacies, but how they operate and store pharmaceutical products.

The Beacon Inventory Management System is a storage and retrieval system that tracks prescriptions and inventory through the use of a barcode-validated process. But just as important as the software used to operate the system are the panels used for its retail fixtures.

Part of the appeal of the Beacon system is that it allows pharmacies to have more storage space in a smaller footprint. The modular retail fixtures incorporate new lightweight shelving and allow more depth for storing medications. HandiWall panels from HandiSolutions, located in Elk Grove Village, IL, were selected to complement this new shelving, in part because of the product's versatility.

The HandiWall panels not only offer easy configuration, says Matt Noffsinger, TCGRx VP sales and marketing, but also add significant value and space-saving solutions by reducing the need for additional space.

Frequently TCGRx's store fixtures incorporate countertops. In a small setting that space is premium. HandiWall products can be used to free up those countertops. Pharmacies can take hangers, dividers, containers and even phones and move them off the counter and hang them onto slatwall panels, allowing technicians to fill prescriptions in a smaller space.

"We can shrink inventory storage space in half to a quarter of the space they are currently using," Noffsinger says. "By shrinking that space, we shrink the pharmacy size."

The impact of this is seen in the pharmacy's return on investment because "every square foot we save a retail store is additional revenue," he adds.

HandiWall also allows pharmacy fixtures to be outfitted with different colors and styles. The cherry panel (photo at right) offers a nice option for workstations.

HandiWall can be installed in full 8-foot or 4-foot panels and also cut to size to fit tighter spaces. **handisolutions.com** 

TCGRx chose Elk Grove, IL-based HandiSoution's HandiWall slatwall product to outfit its new fixtures and workstations. The Handi-Wall panels allow pharmacies to free up valuable countertop space and shrink the size of their retail store.









### Custom Made Slatwall Panels

HandiSolutions, a division of Custom Plastics Inc., manufactures its HandiWall panels at its plant in Elk Grove Village, IL. A family-owned and operated extrusion and injection molding plastics manufacturer for over 60 years, it has supplied American-made products to the domestic and international plastics markets. The proprietary-blended Cellular

PVC used in HandiWall products was synthesized by Custom Plastics, which is ISO 9001:2008 certified and follows rigid quality procedures. View footage of HandiSolutions' plant and TCGRx at closetsdaily.com/video.







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Häfele's Closet Catalog is now available inside Cabinet Vision

### cabinet vision

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## Organized Living Launches

Schulte rebrands as Organized Living, launching an all new website for consumers and dealers.

chulte, famed freedomRail home storage and organization products manufacturer, rebranded as Organized Living, effective January 1, 2013.

A new website, OrganizedLiving.com, also launched on January 1 and includes resources for builders, architects, contractors and professional organizers.

Schulte sells freedomRail among other home organization products, and the new website also supports more than 500 Organized Living dealers with a secure extranet providing marketing tools to grow sales. Resources for dealers include:

- Industry newsletters
- Free online closet design software
- Store and online marketing materials
- Hundreds of high resolution images
- Comprehensive, on-demand training videos
- Ongoing sales leads to grow future business

"We've been selling many brand names through multiple markets and recognized the need to consolidate brands to focus on one master brand," said John Kokenge, president and CEO at Organized Living. "The new name had to convey the company's vision: 'We help people organize their lives,' and had to evoke a powerful connection for customers and consumers."

The company received national coverage on "NBC Today" in January when its spokesperson, Amanda LeBlanc, shared home organization tips with co-hosts Hoda Kotb and Meredith Vieira.

From ClosetsDaily.com: Organized Living's spokesperson, professional organizer Amanda LeBlanc, organizes the closets of "NBC Today" hosts.





### Floating Shelf, Hidden Bracket

Concealed brackets offer versatile shelf placement.

uropean and contemporary cabinetry often feature floating shelves to create the clean, straight lines that are a hallmark of most modern designs.

Floating shelves can add more versatility, especially in tight spaces, and also can be used in a variety of areas including walk-in closets, pantries, home offices, media storage and garages. To execute a floating shelf requires concealed mounting hardware and brackets for support.

Numerous concealed brackets are available from simple blind shelf brackets to heavy-duty brackets.

A&M Hardware, located in Manheim, PA, launched a concealed bracket line on the market last summer as a result of requests from architects, builders and custom woodworkers looking for more flexible options. Pat Crouse, sales manager, says the concealed bracket line complements its product line of standard support brackets. The company now has more than 150,000 brackets in stock.

To highlight its line of concealed brackets, A&M created an island with a floating shelf (top right). Crouse says the island is often used at trade shows in order to illustrate how the brackets can be incorporated into a custom project.

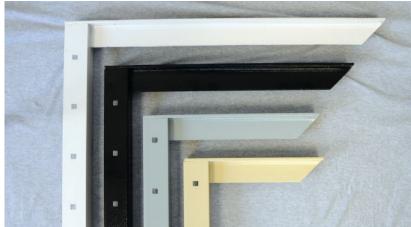
A&M's concealed brackets are constructed of steel and are available in 9, 12, 18 and 24-inch support arms, with or without upper extension. The load limit range is approximately 1,800 pounds to 7,960 pounds per pair. The brackets are finished in black, white, gray and almond powdercoat. **AandMHardware.com** 

Pictured at right, A&M Hardware concealed brackets used in an island and installation of an extended concealed bracket in drywall.

View slide show at ClosetsDaily.com

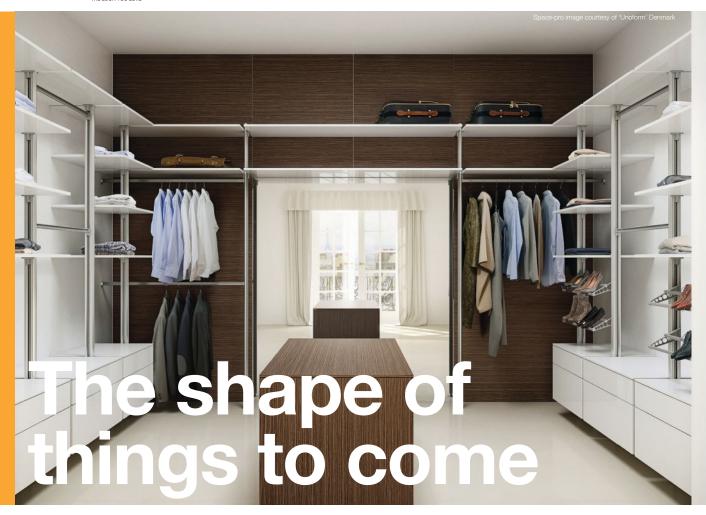






All photos courtesy of A&M Hardware.













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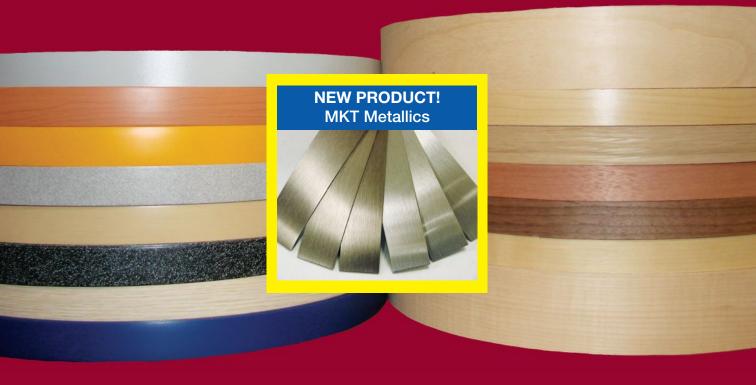
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### Mold Appears **During Closet** Installation

Part 5: Key to a successful closet remodel is staying organized – even when mold is found in the wall.

oing through a closet remodel can require as much patience as organization. It is often the small unforeseen details that greatly influence the project, especially when it comes to ripping out the old closet system and prepping the space for the new.

Joni Rae Russell saw that firsthand during her closet transformation, which Closets has documented over the last few months; from the initial concept, proposal, measurements to drawings and design challenges.

When the workers ripped out the old closet system, it created two challenges for Russell: dealing with unexpected mold and developing a process to store her clothing while the LED lighting (installed in both the ceiling and closet system in sets of twos as part of the design), construction and installation were taking place.

Dealing with the mold was perhaps the easiest of the challenges because the workers simply cut out and replaced the baseboard and replastered the wall. However, storing her clothing required finding and purchasing racks from a local discount store as well trying to arrange them in a manner that would diminish the chaos in her spare bedroom.

Russell says closet companies should consider providing organization services, if they don't already, to help clients during remodeling by providing racks and helping them move their clothing to temporary storage areas. "It makes the move to the finished closet easier." she savs.

Look for the final reveal in the next issue of Closets.

Closet Diary-Part 5: Follow Joni Rae Russell's effort to achieve her design vision, from design to construction and installation at ClosetsDaily.com/articles







## Label Closet Drawings

Assuming that customers know intended purpose of closet designs can lead to mishaps.

nen is a book shelf not a book shelf?

When it was designed to hold the weight of folded garments and not books. A customer called me in a panic. "My closet caved in and everything has fallen down," she said. After I pulled up her design on my computer, I sat there puzzled. The design showed a floor-based system with moderate spans between vertical panels. With the weight on the shelves transferred to the verticals, the system should have held the weight of any normal closet item. When she mentioned 'books,'

Arriving at her home I discovered a total system failure. The design was built around the owner's antique dresser unit with wall-hung shelving units above spanning about 5 feet with a short vertical mid-span. Cleats were supporting the shelves.

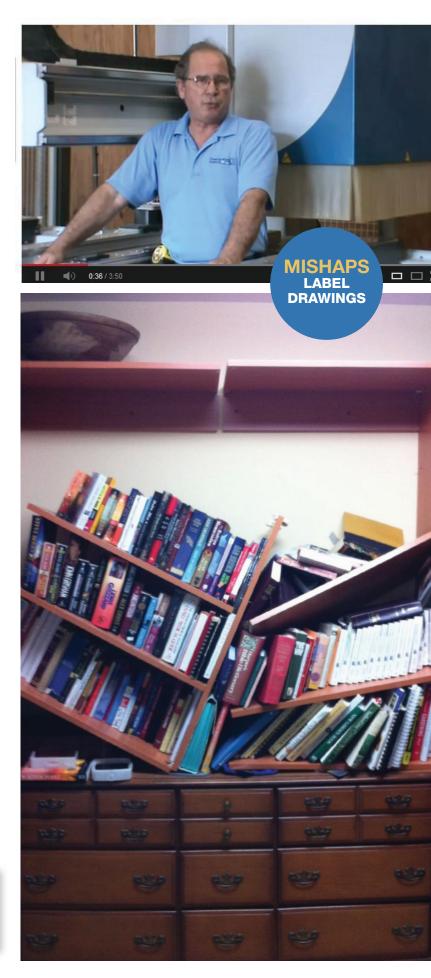
When I opened my file and perused the signed drawings, I was relieved to find that I had clearly labeled the shelves above the dresser as 'folded items.' I ended up replacing the damaged components and all was well. I did not charge the customer. She moved the books to another section.

This could have been a very expensive and explosive situation. Fortunately, the shelving did not damage the antique dresser. And fortunately, no one was injured by flying books and melamine.

Lesson: Don't assume the customer knows the intended function of their closet design. Take an extra minute to label everything. It not only looks more professional during presentation but it may avoid major lawsuits. It could even save your company.

Jeff Klein, Closet Specialist, Savannah, GA, is on the Association of Closet and Storage Professionals Board. Closets.org





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# Virtual Panels: Hi-Def Finish 3D Software

ICA Group developed a software program that highlights wood finishes in 3-D.

loodgrain finishes add a warmth and richness to cabinetry, along with the look of

ICA Group, a manufacturer of interior and exterior wood coatings, has developed a new software program designed to allow customers to view its woodlike finishes virtually in high definition.

With Wood Look, ICA's real-time configurator, customers can select and view their cabinet and furniture designs with the coatings company's simulator that projects high-definition woodgrains and color finishes and effects on 3-D images.

This new software program allows customers to see the final results of applied wood coatings without a prototype. Another benefit is that architects and interior designers can realistically visualize colors, effects and finish combinations.

Wood Look can be used with a variety of ICA finishes including the recently introduced Natural Matter range, which features 15 new shades reflecting the natural beauty of wood and with tones reminiscent of cereals and spices such as barley and cinnamon.

ICA first demonstrated its Wood Look technology at SICAM, the wood industry trade show held in Italy in October 2012.

ICA, based in Civitanova Marche, Italy, was founded in 1971 and employs more than 300 people. For more information, visit icaamerica.biz.

Natural-Look Wood Stain ICA Group introduced the Natural matter range which includes 15 new shades of natural wood. closetsdaily.com/directories







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#### **DESIGN SOFTWARE** by dave robinson



Creating custom closet organizing systems starts with customizing design software tailor-made to fit manufacturers' needs.

company, Sherwood Shelving, which manufactures closet organizers, wanted a software solution that would meet the needs of our growing dealer network. Located in Abbotsford, BC, Canada, we have manufactured custom closet and home organizing products since April 2003.

We have an ever-expanding line of products ranging from simple to high-end closet organizers, including our elegant highend Masfina Collection, our highly recognized and customizable Sherwood Shelving organizers, and our EveryDay Collection, which is available at a smaller price point, as well as garage, pantry, Murphy bed, office, knock-down drawer systems, and even bulk kitchen components. With the depth and variety of our product lines, it became absolutely necessary to have an easy-to-use design solution for our dealers.

Every company is different and has individual needs. We choose KCD software because it was the best fit for our clientele. The software company was more than willing to provide

the support required to help customize the software, including developing a custom library catalog within their software so that designs would be based on our manufacturing procedures; providing a selection of colors and woodgrain options; flexible pricing structure so costs are calculated immediately; and producing different reports that can also be tailor-fit to our needs.

Using KCD's open architecture we integrated the front-end design of KCD and married it with our internal ERP system. Jobs can be electronically processed and sent to the various CNC machines. This direct communication reduces the possibility of manufacturing error and provides a product for the dealer exactly as it was designed.

Dave Robinson, Sherwood Shelving CEO

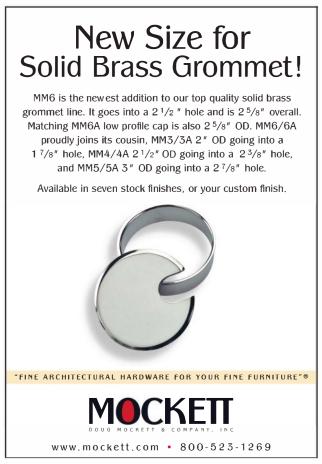
Sherwood Shelving created KCD Software design video tutorials. See How to Build an Island on KCD at ClosetsDaily.com/video





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bhkofamerica.com 800-724-4212	
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CabParts, Inc.	29
cabparts.com 888-398-1802  Capella Hardware Company	CLO-8
capellahardware.com 888-658-5758  Clear Systems	
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Freeborn Tool Co	15
Giles & Kendall	CLO-21
cedarsafeclosets.com 800-225-6738  Grizzly Industrial, Inc.	2,8-9
grizzly.com 800-523-4777  Hafele America Company	CI 0.14
hafele.com 800-423-3531	
Hoffman Machine Co Inc	34
JB Cutting	CLO-24
KCD Software	35-42
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Osborne Wood Products	30
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VPL Enterprises Ltd. vplenterprises.com 877-881-7875	CLO-21
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wagnermeters.com 800-634-9961  WalzCraft	15
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Woodworking Machinery & Supply Expo	19
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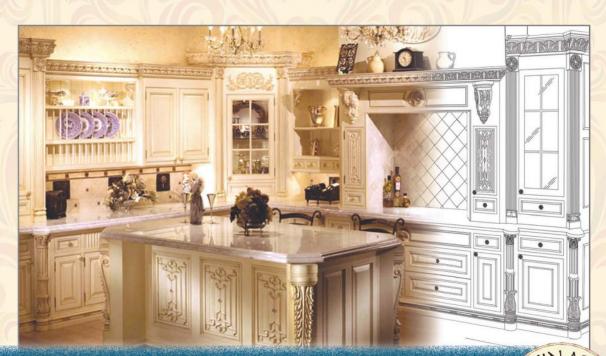
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he 2013 Cabinets & Closets Conference & Expo gets underway this month set against the backdrop of a resurging national economy and massive rebuilding of East Coast communities ravaged by Hurricane Sandy.

The Total Storage Solutions event will bring custom cabinet makers, closet professionals and other home storage system specialists together in Edison, NJ. They'll be joined by representatives of woodworking machinery and supply companies that will display at the Northeast's first wood products related trade show in more than four years.

#### THE CONFERENCE PROGRAMS

An early-bird Closets Executive Forum & Mixer, presented by the Association of Closet and Storage Professionals (ACSP) and *Closets* magazine gets the event rolling at 4:00 p.m. Tuesday afternoon, Feb. 26. It features a trio of presentations on hiring and firing personnel, mentoring and preparing a busi-



# Keynoter to Address 'A New Category of Leadership'

The Transformative CEO...

Robert Reiss, host of the "CEO Show with Robert Reiss" and a columnist of *Forbes*, will deliver the opening keynote presentation at the Cabinets & Closets Conference & Expo, Reiss' presentation – The Transformative CEO ... A New Category of Leadership – will anchor an all-delegate general session on Wednesday, Feb. 27 at the Sheraton Edison Hotel Raritan Center in Edison, NJ.

The "CEO Show with Robert Reiss" is a weekly nationally syndicated radio show featuring interviews with CEOs of major brands, many of them with an exceptional customer and innovation model. Reiss will share secrets revealed by some of the 250 progressive business leaders he has interviewed. Recent additions to Reiss' impressive roster of interviewees includes Bernie Markus, co-founder of the Home Depot; Tony Hsieh of Zappos.com; Tony Archibald of Rolls Royce Motor Cars N.A.; Joe Taylor of Panasonic and James Hackett of Steelcase Inc. Reiss will discuss some of the common denominators and unique qualities that have made these entrepreneurs successful, such as defining and acting on a business strategy and creating a winning company culture.





ness for sale. An hour-long reception break with appetizers and cash bar is the Mixer of the Forums.

The Total Storage Solutions event officially kicks off Wednesday, Feb. 27 with the Cabinets & Closets Conference at the Sheraton Hotel. The day-long event opens with a general session featuring keynoter Robert Reiss, host of the nationally syndicated "CEO Show with Robert Reiss" and highlights of brand new research of the custom cabinet and closet markets presented by Laurel Didier, group publisher of Woodworking Network.

Following the all-delegate general session, the conference program divides into two separate tracks: one tailored for closets firms, the other for custom cabinet professionals. The Closets Conference track will emphasize strategies for increasing sales, including harnessing the power of social media marketing. The Closets Conference is cosponsored by the ACSP and Closets magazine.

The Cabinets Conference is cosponsored by the Cabinet Makers Association



(CMA) and Custom Woodworking Business. In addition to presentations on sales and marketing, the Cabinets Conference will include topics on improving manufacturing flow and breaking into commercial woodworking markets.

The Cabinets & Closets Conference will be capped off by a cabinet/closet industry networking reception featuring presentation of the 2013 Top Shelf, Design Portfolio and ACSP Pioneer awards.

The Cabinets & Closets Expo opens at 10:00 a.m. on both Thursday, Feb. 28 and











ASSOCIATION OF CLOSET AND STORAGE **PROFESSIONALS** 

# Closets

### AT A GLANCE 2013 Cabinets & Closets Conference & Expo

4:00 p.m. to 8:00 p.m. Tuesday, Feb. 26: Early-Bird Closets Executive Forum & Mixer Sheraton Edison Raritan Center, Edison, NJ

8:00 a.m. to 5:30 p.m. Wednesday, Feb. 27: Cabinets & Closets Conference Sheraton Edison Raritan Center, Edison, NJ

5:30 p.m. to 7:30 p.m. Wednesday, Feb. 27: All-Industry Networking Reception & Awards Presentation Sheraton Edison Raritan Center, Edison, NJ

10:00 a.m. to 5:00 p.m. Thursday, Feb. 28: Cabinets & Closets Conference & Expo New Jersey Convention & Exposition Center, Edison, NJ

> 10:00 a.m. to 3:00 p.m. Friday, March 1: Cabinets & Closets Expo New Jersey Convention & Exposition Center, Edison, NJ

> > See full schedule on Closets page 34

Register and view updates at CabinetsandClosetsExpo.com



### **Exclusive Houzz.com Remodeling Study Presentation**

Annie Nozawa of Houzz.com will present highlights of the 2013 Houzz and Home Study in a free presentation at the Cabinets & Closets Expo.

Nozawa, marketing manager for Houzz, will share insights into changing consumer behaviors related to home renovation. Her presentation will include where closet renovations rank in terms of project priorities; who's hiring professional help; and how new tools and technologies are revolutionizing the remodeling process.

This special presentation is scheduled for 4:00 p.m. Thursday, Feb. 28, at the Demonstration Stage of the New Jersey Convention & Exposition Center in Edison. Cabinets & Closets Expo attendees and exhibitors are welcome to attend.

Friday, March 1 at the New Jersey Convention & Exposition Center, also in Edison and about 1.5 miles from the Sheraton Hotel. It will feature product displays from leading suppliers to the cabinet and closet markets, plus free how-to demonstrations throughout the two-day expo.

Special features at the Cabinets & Closets Expo include a pair of "Food for Thought" breakfasts hosted by Osborne Wood Products, special appearances by Corbin Clay, the "pine beetle furniture star,"



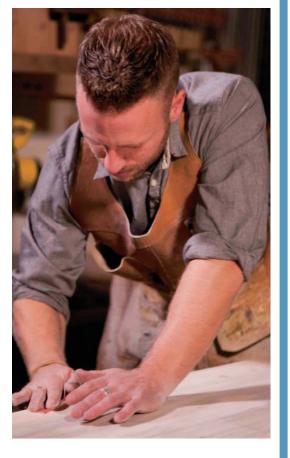
## Meet Corbin Clay, 'Pine **Beetle Furniture** Star'

Corbin Clay has created quite a stir for his creativity in converting pine beetle infested lumber into exquisite custom furniture. Close on the heels of recently being featured in the Wall Street Journal for popularizing the blue cast wood, Clay won the Gentleman's Call competition for socially responsible business ventures. That victory included a \$100,000 prize in the contest run by GQ magazine and Ketel One vodka.

Clay, owner of Azure Furniture of Denver, CO,

will appear at the Cabinets & Closets Expo in Edison, NJ, by special arrangement of Festool Corp. Clay will demonstrate Festool's Domino joinery system on both days of the expo, Feb. 27 and March 1, at the New Jersey Convention & Exposition Center in Edison.

Catch Clay at Eveready Hardware's booth #109.





at Eveready Hardware's booth each day and an exclusive presentation of new consumer remodeling research by Houzz.com set for 4:00 p.m. Thursday.

#### **CABINET & CLOSET FACTORY TOURS**

The event concludes Friday, March 1 with a pair of optional, round-trip bus tours. The first, an all-day event, visits the factory and showroom of transFORM, the New York City showrooms of Häfele America and Closet Factory, plus a stop at the 9/11 Memorial. A 4-hour manufacturing plant tour that begins at 1:30 p.m. will visit Canary Closets and Cabinetry and Artisan Custom Interiors, a high-tech custom cabinet operation.

Catch the latest event updates and register at cabinetsandclosetsexpo.com.



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# 2013 CABINETS & CLOSETS CONFERENCE & EXPO SCHEDULE

## TUESDAY, FEB. 26 – SHERATON EDISON HOTEL EARLY-BIRD CLOSETS EXECUTIVE FORUMS & MIXER

4:00 P.M	How to Fire and Not End Up In Court
5:00 P.M	SCORE: Adding Membership into Your Success Strategy
5:30 P.M	Reception Break
6:30 P.M	Case Study: Preparing Your Business for Sale

### WEDNESDAY, FEB. 27 – SHERATON EDISON HOTEL CABINETS & CLOSETS CONFERENCE GENERAL SESSION

8:00 A.M	Welcome
8:20 A.M	Keynote Presentation: The Transformative CEO A New Category
	of Leadership, presented by Robert Reiss, The CEO Show with
	Robert Reiss
9:40 A.M	State of the Custom Cabinet & Closets Industry, presented by
	Laurel Didier, Group Publisher, Woodworking Network

#### **CABINETS CONFERENCE TRACK**

10:30 A.M	. Tips for Selling & Marketing Custom Cabinets
	.Peer2Peer Networking Lunch
1:15 P.M	. Moving from Residential to Commercial Woodworking Projects
2:00 P.M	. Automating a Custom Wood Production Shop
3:00 P.M	.Costing & Estimating Custom Projects
4:30 P.M	.Open Forum: What's Your Problem?

#### **CLOSETS CONFERENCE TRACK**

OLOGE I O COITI EIL	OLOGETO CONTENENCE THACK	
10:30 A.M	Enhancing Your Digital Marketing Capability	
NOON	Peer2Peer Networking Lunch	
1:15 P.M	Our Product is Closets, Our Power Is People	
3:20 P.M	Sales and Marketing or Is it Marketing and Sales?	
6:00 P.M 8:00 P.M	Cabinets/Closets Industry Networking Reception	
	Includes presentation of the winners of the 20th Annual Custom	
	Woodworking Business Design Portfolio Awards, 7th Annual	
	Closets Top Shelf Awards and 2013 ACSP Pioneer Award.	

## THURSDAY, FEB. 28 - NEW JERSEY CONVENTION CENTER 9:00 A.M. - 10:00 A.M. ... "Food for Thought Breakfast" hosted by Osborne Wood Products

(Space is limited; RSVP required)
10:00 A.M 5:00 P.M Cabinets & Closets Expo Hall Open
11:00 A.M. – 11:20 A.M Häfele America Product Demonstration
2:00 P.M. – 2:20 P.M 'Before' & 'After' Shots - Why They Work, presented by Denise
Butchko, Butchko and Company
4:00 P.M 5:00 P.M "What Your Clients Want," exclusive presentation of new home
remodeling and design research presented by Annie Nozawa of

Plus, meet Corbin Clay, the "pine beetle furniture star" at Eveready's booth, sponsored by Festool

#### FRIDAY, MARCH 1- NEW JERSEY CONVENTION CENTER

Houzz.com

FRIDAI, MARCH 1- NEW JERSET CONVENTION CENTER
8:00 A.M 6:00 P.M Showroom Tour to Transform's manufacturing plant and showroom,
Häfele America's showroom and Closet Factory's showroom, plus a
stop at the 9/11 Memorial
9:00 A.M 10:00 A.M "Food for Thought Breakfast" hosted by Osborne Wood Products
(Space is limited; RSVP required)
10:00 A.M 3:00 P.M Cabinets & Closets Expo Hall Open
1:30 P.M 5:30 P.M Manufacturing PlantTour to Canary Closets & Cabinetry and
Artisan Custom Interiors

Plus, meet Corbin Clay, the "pine beetle furniture star" at Eveready's booth, sponsored by Festool



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