

WIN JET'S \$5,000 DREAM MACHINE GIVEAWAY p.8

ISSUE 217 MARCH 2013

Better Homes and Gardens®

# WOOD

The World's Leading Woodworking Resource

## Build your own Cabinets

*The Easy Way*

### Plus more great projects:

- ▶ Hide-away Phone-charging Station p.38
- ▶ Heirloom Tool Chest p.46
- ▶ Frank Lloyd Wright-inspired Prairie-style Box p.58
- ▶ Build-it-your-way Study Desk p.26
- ▶ Magnetic Paper-clip Caddy p.54

**"I Wish I'd Known That When I Started Woodworking"** p.20

**No-fuss Fixes for Stuck Router Bits** p.24

**63**  
Shop Tips  
Inside!

**Shop Test: One-hand Bar Clamps** p.42

Display until March 12, 2013





# Grizzly Industrial

## PURVEYORS OF FINE MACHINERY®, SINCE 1983!

- OVER A MILLION SQUARE FEET PACKED TO THE RAFTERS WITH MACHINERY & TOOLS
- 2 OVERSEAS QUALITY CONTROL OFFICES STAFFED WITH QUALIFIED GRIZZLY ENGINEERS
- HUGE PARTS FACILITY WITH OVER 1 MILLION PARTS IN STOCK AT ALL TIMES
- TRAINED SERVICE TECHNICIANS AT ALL 3 LOCATIONS • MOST ORDERS SHIP THE SAME DAY

### 10" CONTRACTOR TABLE SAWS With Riving Knife

- Motor: 1½ HP or 2HP, 110V/220V, single-phase
- Precision-ground cast iron table wings: 27"D x 44"W
- Arbor: ½"
- Arbor speed: 4200 RPM
- Table height: 35½"
- Footprint: 26"W x 26¼"D
- Capacity: 3¼" @ 90°, 2¼" @ 45°
- Rip capacity: 36" R, 12" L
- Approx. shipping weight: 328 lbs. (G0713) 338 lbs. (G0661)



1-3/4 HP, LEFT-TILTING, SINGLE-PHASE

**G0713 ONLY \$895<sup>00</sup>**

2 HP, LEFT-TILTING SINGLE-PHASE

**G0661 ONLY \$925<sup>00</sup>**



### 10" HYBRID TABLE SAW With Riving Knife

- Motor: 2 HP, 110V/220V, single-phase
- Precision-ground cast iron table size w/ wings: 27" x 40" • Arbor: ½"
- Arbor speed: 3850 RPM
- Capacity: 3¼" @ 90°, 2½" @ 45°
- Rip capacity: 12" L, 30" R
- Cast iron trunnions
- Approx. shipping weight: 404 lbs.



BEAUTIFUL WHITE COLOR!

INCLUDES BOTH REGULAR & DADO BLADE INSERTS



**G0715P ONLY \$795<sup>00</sup>**



### 12" BABY DRUM SANDERS

- Sanding motor: 1½ HP, 110V, single-phase
- Conveyor motor: ¼ HP, 110V, single-phase, variable speed 5-35 FPM
- Max. stock thickness: 3¼"
- Min. stock length: 8"
- Sanding drum size: 4"
- Sanding belt: 3" x 70" hook & loop
- Dust collection port: 2½"
- Approx. shipping weight: 160 lbs.



MADE IN TAIWAN

CLASSIC GRIZZLY GREEN COLOR  
**G0459 ONLY \$595<sup>00</sup>**

POLAR BEAR® DAZZLING WHITE COLOR

**G0459P ONLY \$595<sup>00</sup>**



### 8" JOINTERS

- Motor: 3 HP, 220V, single-phase, TEFC
- Precision-ground cast iron table size: 9" x 72¼"
- Max. depth of cut: ½"
- Max. rabbeting depth: ½"
- Cutterhead dia.: 3"
- Cutterhead speed: 5000 RPM (G0656P) 5350 RPM (G0656PX)
- Cuts per minute: 20,000 (G0656P) 21,400 (G0656PX)
- Approx. shipping weight: 500 lbs.



FREE SAFETY PUSH BLOCKS  
BUILT-IN MOBILE BASE

WITH 4 KNIFE CUTTERHEAD  
**G0656P ONLY \$825<sup>00</sup>**

WITH SPIRAL CUTTERHEAD  
**G0656PX ONLY \$1225<sup>00</sup>**



### 15" PLANERS

- Motor: 3 HP, 220V, single-phase
- Precision-ground cast iron table size: 15" x 20"
- Min. stock thickness: ¾"
- Min. stock length: 8"
- Max. cutting depth: ¼"
- Feed rate: 16 FPM & 30 FPM
- Cutterhead speed: 5000 RPM
- Approx. shipping weight: 662 lbs. (G0453P) 666 lbs. (G0453PX)



BUILT-IN MOBILE BASE

WITH 3 KNIFE CUTTERHEAD  
**G0453P ONLY \$1095<sup>00</sup>**

WITH SPIRAL CUTTERHEAD  
**G0453PX ONLY \$1695<sup>00</sup>**



### 20" PLANER

- Motor: 5 HP, 240V, single-phase
- Max. cutting width: 20"
- Max. cutting height: 8"
- Min. stock thickness: ¾"
- Min. stock length: 8"
- Max. cutting depth: ¼"
- Feed rate: 16 FPM & 20 FPM
- Cutterhead diameter: 3¼"
- Cutterhead speed: 4800 RPM
- Feed rolls: solid serrated steel
- Overall dimensions: 55½"L x 39½"W x 45½"H
- Approx. shipping weight: 920 lbs.



BUILT-IN MOBILE BASE

CSA US 208624  
**G0454 ONLY \$1650<sup>00</sup>**



### 14" DELUXE BANDSAW

- Motor: 1 HP, TEFC, 110V/220V, single-phase (prewired 110V)
- Amps: 11 at 110V, 5.5 at 220V
- Blade size: 93½" long (½" - ¾" wide)
- Cutting cap/throat: 13½"
- Max. cutting height: 6"
- Overall size: 67½"H x 27"W x 30"D
- Footprint: 23½" x 16½"
- Table height above floor: 43"
- Table tilt: 45° right, 10° left
- Approx. shipping weight: 246 lbs.



Cast Iron Wheels

**G0555LX ONLY \$545<sup>00</sup>**



### 14" BANDSAW

- Motor: 1 HP, TEFC, 110V / 220V single-phase, 1725 RPM
- 4" dust port
- Cutting capacity/throat: 13½"
- Max. cutting height: 6"
- Overall size: 66½"H x 26¼"W x 30¼"D
- Precision-ground cast iron table size 14" x 14"
- Table height: 43½"
- Tilt: 45° R, 10° L
- Fence construction: Deluxe extruded aluminum
- Blade speeds: 1500 & 3200 FPM
- Blade size: 92½ - 93½" (½" to ¾" wide)
- Approx. shipping weight: 196 lbs.



**G0555P ONLY \$525<sup>00</sup>**



### 2 HP DUST COLLECTOR With Aluminum Impeller

- Motor: 2 HP, 240V, single-phase, 9A, 3450 RPM
- Air suction capacity: 1550 CFM
- Max. static pressure: 11"
- Bag capacity: 5.7 cu. ft.
- Impeller: 12¼" balanced steel, radial fin
- Height w/ bags inflated 78"
- Portable base: 21¼" x 33½"
- Approx. shipping weight: 122 lbs.



MADE IN TAIWAN  
**G1029Z2P ONLY \$325<sup>00</sup>**



PRICING CODE  
13WOODM  
MENTION THIS CODE  
WHEN PLACING YOUR ORDER  
15460



# 1-800-523-4777

3 GREAT SHOWROOMS!

BELLINGHAM, WA • MUNCY, PA • SPRINGFIELD, MO

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



FREE CATALOG  
764 PAGES  
HUGE SELECTION OF HIGH  
QUALITY MACHINES & TOOLS  
AT INCREDIBLE PRICES

# In this issue

54



26

## PROJECTS

- 22 Drill-press Mobile Base
- 26 Build-to-suit Study Desk
- 38 Phone-charging Station  
Corral the clutter of electronics and cords inside this handsome under-cabinet addition.
- 46 Heirloom Tool Cabinet
- 54 Mysteriously Attractive Paper-clip Caddy
- 58 A Prairie Hideaway  
Build a beautiful box inspired by the architectural lines of Frank Lloyd Wright.

## SKILL BUILDERS

- 16 Sticky Situations  
Using spray adhesive and double-faced tape.
- 32 Cover Story: Building Frameless Cabinets

## TOOLS & MATERIALS

- 24 How to Loosen a Stuck Router Bit
- 42 SHOP TEST: One-hand Bar Clamps
- 74 Shop-Proven Products  
Magnetic bandsaw fence and more.

## DEPARTMENTS

- 4 Editor's Angle
- 6 Sounding Board
- 8 Shop Tips
- 20 Unvarnished  
"5 things I wish I'd been told when I started woodworking"
- 68 Ask WOOD®
- 84 What's Ahead



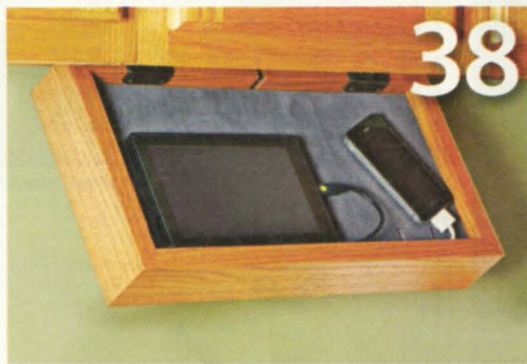
46



58



42

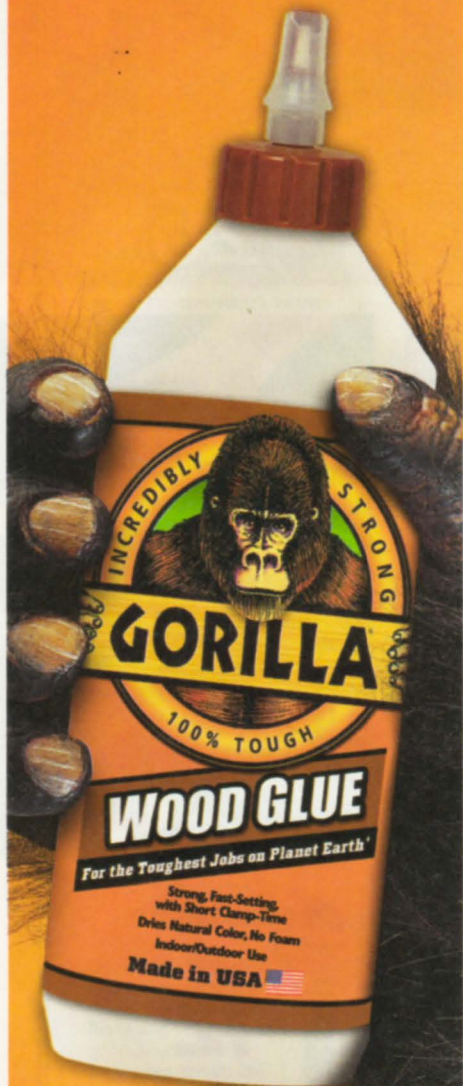


38



The WOOD® magazine difference:  
We build every project, verify every fact,  
and test every reviewed tool in our workshop to  
guarantee your success and complete satisfaction.

# TOUGH Dries Natural Color, No Foam GLUE



Gorilla Wood Glue's premium formula creates a cross-linking bond to provide superior strength with a Type II water resistance, indoors and out.



**For the Toughest Jobs  
on Planet Earth®**

[www.gorillatough.com](http://www.gorillatough.com)

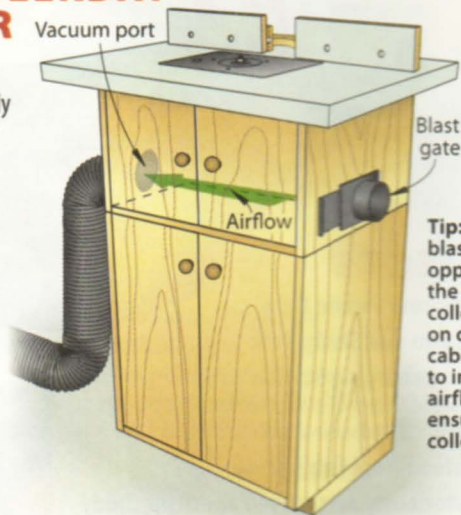
©2013 The Gorilla Glue Company

On our website  
[woodmagazine.com](http://woodmagazine.com)

## NEW TIP EVERY WEEKDAY OF THE NEW YEAR

The "Shop Tip of the Day" app at [woodmagazine.com/tips](http://woodmagazine.com/tips) gives you a handy tip every weekday. You can also search for past tips and find...

- Tons of tablesaw tips  
[woodmagazine.com/tablesawtips](http://woodmagazine.com/tablesawtips)
- A bevy of bandsaw tips  
[woodmagazine.com/bandsawtips](http://woodmagazine.com/bandsawtips)
- A fat pile of finishing tips  
[woodmagazine.com/finishingtips](http://woodmagazine.com/finishingtips)
- Reams of router tips  
[woodmagazine.com/routingtips](http://woodmagazine.com/routingtips)
- A giant-size stack of joinery tips  
[woodmagazine.com/joinerytips](http://woodmagazine.com/joinerytips)



Tip: Add a blast gate opposite the dust-collection port on closed-cabinet tools to improve airflow and ensure better collection.

## GET YOUR WOOD FIX TWICE WEEKLY

Your email inbox does double its woodworking duty when you subscribe to both WOOD eNewsletters at [woodmagazine.com/newsletter](http://woodmagazine.com/newsletter).

### WOOD

WOOD e-Newsletter  
by Nate Granow  
General Interest Editor, [woodmagazine.com](http://woodmagazine.com)

What's HOT: Construction Shop Toy Series, The Composite Juice Series, PFD, PFD



**Give the Power Tools a Rest**  
We used mostly power tools around my Dad's shop, and for years I viewed hand tools as just old technology. The first time I used a hand plane, that all changed. Do like I did. Out of grandma's tool and check out these tips and techniques to get some impressive results.  
• A Newbie's Tip on Choosing Chisels  
• Don't Waste It: A Chisel Guide  
• Take A Screenshot Check for a Spline Surface

**Tools for Accuracy**  
• Make Slotted Joints Accurate  
• A Guide to Machine Chisels  
• The 10 Best Levels

**Enter Quick!**  
Judging happens tomorrow for the first round of Paul's Edge Shop Wood Tool Series. Upload a photo for a chance to win!

**Handmade Hand Tools**  
• Shop, Check Hand Tools  
• Perfect Square Machine Layout  
• Clean, Grease, Polish

**Keep 'em Sharp**  
• Sharpen, Quik Sharpen  
• Check & Edge Sharpeners  
• Sharpening With Handplanes

More Stuff from WOOD Magazines:  
[WOOD](#) [WOOD](#) [WOOD](#)

WOOD's weekly eNewsletter delivers dozens of free tips, techniques, and woodworking news to your inbox every Thursday.

## 50% OFF

Downloadable Woodworking Project Videos!

Buy one downloadable project video at regular price and get another of equal or lesser value for **HALF PRICE!**

Choose from numerous videos, including:

<p>Regular Price: \$14.95 As low as: \$7.48</p>	<p>Regular Price: \$14.95 As low as: \$7.48</p>	<p>Regular Price: \$14.95 As low as: \$7.48</p>
---	---	---

The eBlast newsletter features can't-miss offers from WOOD magazine, [woodstore.net](http://woodstore.net), and our partners every Tuesday.

## GO BIG! BUILD A NEW SHOP

Not only can you find detailed plans for the best shop projects and organizers at [woodmagazine.com/plans](http://woodmagazine.com/plans), you can also find plans for building the entire shop! Check out [woodmagazine.com/garages](http://woodmagazine.com/garages).



Two- or Three-car, Eave-entry, Cape Cod Garage Plan



The "How to Build" Garage Plan



One-car Garage Plan



22' & 24'-Deep, Eave-entry, 2/3-Car Garage Plan

**WOOD editors helped improve needy homes for Meredith's "Rebuilding Together" Day (rebuildingtogether.org).**



EDITORIAL CONTENT CHIEF **DAVE CAMPBELL**

DEPUTY EDITOR **CRAIG RUEGSEGER**

ART DIRECTOR **KARL EHLERS**

DIGITAL CONTENT MANAGER **LUCAS PETERS**

SENIOR DESIGN EDITOR **KEVIN BOYLE**

DESIGN EDITOR **JOHN OLSON**

TOOLS EDITOR **BOB HUNTER**

GENERAL-INTEREST EDITOR **NATE GRANZOW**

ADMINISTRATIVE ASSISTANT **SHERYL MUNYON**



CONTRIBUTING CRAFTSMEN **JIM HEAVEY, ERY ROBERTS, BRIAN SIMMONS, BOB BAKER, TOM BRUMBACK, BOB SAUNDERS, STEVE FEENEY, MATT SEILER, DEAN FIENE, DOUG LEY**  
PHOTOGRAPHERS **DEAN SCHOEPFNER, JASON DONNELLY, JAY WILDE**  
CONTRIBUTING ILLUSTRATORS **TIM CAHILL, LORNA JOHNSON**  
PROOFREADERS **BABS KLEIN, IRA LACHER, STEPHANIE RIVA, JIM SANDERS**

**ADVERTISING AND MARKETING**

VICE PRESIDENT/GROUP PUBLISHER **TOM DAVIS**  
DIRECT RESPONSE ADVERTISING REPRESENTATIVE **LISA GREENWOOD 312-853-1225**  
ONLINE MEDIA KIT [woodmagazine.com/mediakit](http://woodmagazine.com/mediakit)

BUSINESS MANAGER **DARREN TOLLEFSON** CONSUMER MARKETING DIRECTOR **LIZ BREDSON**  
CONSUMER MARKETING MANAGER **WILL WOOD** RETAIL BRAND MANAGER-NEWSSTAND **JESS LIDDLE**  
PRODUCTION MANAGER **SANDY WILLIAMS** ADVERTISING OPERATIONS MANAGER **JIM NELSON**

**MEREDITH NATIONAL MEDIA GROUP**  
PRESIDENT **TOM HARTY**

**EXECUTIVE VICE PRESIDENTS**

PRESIDENT, MEDIA SALES **RICHARD PORTER** PRESIDENT, BETTER HOMES AND GARDENS **JAMES CARR**  
PRESIDENT, PARENTS NETWORK **CAREY WITMER** PRESIDENT, WOMEN'S LIFESTYLE **THOMAS WITSCHI**  
CREATIVE CONTENT LEADER **GAYLE GOODSON BUTLER** CHIEF MARKETING OFFICER **NANCY WEBER**  
CHIEF DIGITAL OFFICER **LIZ SCHIMEL** CHIEF REVENUE OFFICER **MICHAEL BROWNSTEIN**  
CHIEF INNOVATION OFFICER **JEANNINE SHAO COLLINS** GENERAL MANAGER **MIKE RIGGS**  
DIRECTOR, OPERATIONS & BUSINESS DEVELOPMENT **DOUG OLSON**

**SENIOR VICE PRESIDENTS**

MEREDITH WOMEN'S NETWORK **LAUREN WIENER** CHIEF TECHNOLOGY OFFICER **JACK GOLDENBERG**  
AUDIENCE DEVELOPMENT AND COMMERCE **ANDY WILSON** DIGITAL SALES **CAROLYN BEKKEDAHL**

**VICE PRESIDENTS**

CONSUMER MARKETING **JANET DONNELLY** CORPORATE MARKETING **STEPHANIE CONNOLLY**  
CORPORATE SALES **BRIAN KIGHTLINGER** DIRECT MEDIA **PATTI FOLLO**  
RESEARCH SOLUTIONS **BRITTA WARE** COMMUNICATIONS **PATRICK TAYLOR** NEWSSTAND **MARK PETERSON**



CHAIRMAN AND CHIEF EXECUTIVE OFFICER **STEPHEN M. LACY**  
PRESIDENT, MEREDITH LOCAL MEDIA GROUP **PAUL KARPOWICZ**

VICE CHAIRMAN **MELL MEREDITH FRAZIER**  
IN MEMORIAM — **E.T. MEREDITH III (1933-2003)**

**HOW TO REACH US**

- **For woodworking advice:** Post your woodworking questions (joinery, finishing, tools, turning, dust collection, etc.) on one of our online forums at [woodmagazine.com/forums](http://woodmagazine.com/forums).
- **To contact our editors:** E-mail [woodmail@woodmagazine.com](mailto:woodmail@woodmagazine.com); post on our Facebook at [facebook.com/woodmagazine](https://www.facebook.com/woodmagazine), or write to WOOD magazine, 1716 Locust St., LS-221, Des Moines, IA 50309.
- **Subscription assistance:** To contact us about your WOOD subscription, visit [woodmagazine.com/help](http://woodmagazine.com/help); e-mail [wmdcustserv@cdsfulfillment.com](mailto:wmdcustserv@cdsfulfillment.com); call 800-374-9663, option 1; or write to WOOD, PO Box 37508, Boone, IA 50037. Include your name and address as it appears on the magazine label, renewal notice, or invoice. For digital subscriptions, visit [woodmagazine.com/zinio](http://woodmagazine.com/zinio).
- **To find past articles:** Search our online article index at [woodmagazine.com/index](http://woodmagazine.com/index).
- **To order past issues and articles:** For past issues of WOOD magazine in print or on DVD-ROM, our newsstand-only issues, or downloadable articles, visit [woodmagazine.com/store](http://woodmagazine.com/store).
- **Updates to previously published projects:** For an up-to-date listing of changes in dimensions and buying-guide sources from issue 1 through today, go to [woodmagazine.com/editorial](http://woodmagazine.com/editorial).

Our subscribers list is occasionally made available to carefully selected firms whose products may be of interest to you. If you prefer not to receive information from these companies by mail or by phone, please let us know. Send your request along with your mailing label to Magazine Customer Service, PO Box 37508, Boone, IA 50037.

© Copyright Meredith Corporation 2013. All rights reserved. Printed in the U.S.A.

Retail Sales: Retailers can order copies of WOOD for resale by e-mailing [jennifer.buser@meredith.com](mailto:jennifer.buser@meredith.com)



# SHARP TOOLS MAKE ANYTHING POSSIBLE



**WS3000 THE WOOD TOOL SHARPENER**

**NEW!** Tool Bar Attachment for the WS3000. Increased precision and repeatability for lathe tool sharpening.

**SHARPENS:** lathe tools, chisels, plane irons, carving tools, and more. Knife & Scissor and Wide Blade sharpening attachments available.



WATCH DEMO

**WORK SHARP**

[WorkSharpTools.com](http://WorkSharpTools.com)

## Editor's Angle

# Leaner, cleaner for the new year

Every year, I take time off between Christmas and New Year's Day to enjoy the holidays with my family. On one of those days, I love to give my shop a deep cleaning, weeding out some of those "gotta-have" tools and gadgets that turned out to be "never-use" tools and gadgets. The freshly organized shop always reenergizes me.

As *WOOD* magazine begins its 29th year, we've flipped through the pages and "tidied up our shop," so to speak, to make it even better for you.

► **More projects.** You asked for more variety, so starting with this issue, we'll devote about 50 percent more pages to projects, and target a broader range of skill levels. And we'll still build and prove each of those projects in our own shop to guarantee your success.

► **Dangerous new voices.**

We've found a lot of talented woodworkers with different ways of looking at our craft and we want to share their insights with you. So we've offered them a voice in *WOOD* magazine. It's like taking advice from a buddy instead of your dad—a little rebellious, sometimes unorthodox, but just as effective. Steve Ramsey kicks off the new series on page 20.

► **Bigger rewards.** You could win a bunch of great woodworking tools valued at more than \$5,000 in the "Jet Dream Machine Giveaway." It's our way of thanking you for your loyal readership. Check out the equipment and the details on page 8.

And, just as you wouldn't toss out a favorite old hand plane, we've kept all the things you told us you find most



useful, including Ask *WOOD*, Shop Skills, the most reliable tool reviews in the business, and more.

I'd love to hear what you think about the changes. My e-mail box is always open for you. 🌲

See you in the shop!

Dave Campbell  
dave.campbell@meredith.com

**WOOD magazine** March 2013



COMPLETELY CUSTOM  
MADE TO ORDER

## TABLE APRON KITS



# 866.963.5580

WWW.BUN-FEET.COM

TABLE SLIDES



EQUALIZER SLIDES

## YOUR SOURCE FOR TABLE SLIDES



Scan code to see  
entire product line.





# INNOVATIVE PRODUCTS SINCE 1989!



SHOP FOX<sup>®</sup> machines are backed by a 2 Year Warranty!

## TRACK SAW

- Motor: 120V, 9A, 1100 watt, 5500 RPM
- Blade diameter: 160mm (6¼")
- Cutting capacity:  
With track: 1<sup>31</sup>/<sub>32</sub>" @ 90°, 1<sup>7</sup>/<sub>16</sub>" @ 45°  
Without track: 2<sup>5</sup>/<sub>32</sub>" @ 90°, 1<sup>5</sup>/<sub>8</sub>" @ 45°



**W1832** Track Saw  
Track not included

**D4362** Track

**D4363** Guide Rails

## 14" BANDSAW

- 1 HP, 110V/220V
- Precision ground cast iron table measures 14" x 14" x 1½"
- Blade Size: 9<sup>3</sup>/<sub>2</sub>" (½" to ¾" wide)
- Cutting capacity 13½" (throat)
- Cast iron frame and wheels
- Ball bearing blade guides
- Includes fence and mitre gauge

*Feature packed, and an incredible value*

**W1706** 14" Bandsaw



## 5 HP SPINDLE SHAPER

- Motor: 5 HP, 220V, single-phase, 25A, 3450 RPM
- Precision ground cast iron table measures 35½" x 28" x 2½"
- Spindle travel: 3¼"
- Spindle sizes: ¾", 1", 1¼"
- Spindle capacity: 4¼", 4½", 5½"



**W1827** 5 HP Spindle Shaper

## 10" TABLE SAWS with Riving Knife

- 3 HP, 220V, single-phase motor
- Cast iron table size:  
27" x 40¼" (W1819) 53¾" w/extension, (W1820) 74" w/extension)
- Max. rip capacity: (W1819) 29½", (W1820) 50"
- Camlock fence with HDPE face

*Free 10" Carbide-Tipped Blade*



**W1819** 10" Table Saw

**W1820** 10" Table Saw w/ Long Ext. Table

## SLIDING TABLE and ROUTER TABLE ATTACHMENTS for W1819 & W1820



SAW NOT INCLUDED

**W1821** SLIDING TABLE ATTACHMENT

- Industrial grade anodized aluminum table size: 47" x 9"
- Max. cross cut: 48"

**W1822** ROUTER TABLE ATTACHMENT

- Precision-ground cast iron table size: 27" x 20"
- Universal router mount

## OSCILLATING BENCHTOP SPINDLE SANDER

- ½ HP, 120V, single-phase, 3.5A
- Table size: 15" L x 11½" W
- 58 Oscillations per minute
- Stroke length: ¾"
- 2000 RPM (½" spindle)



**W1831** Oscillating Benchtop Spindle Sander

## OUTSTANDING SHOP FOX<sup>®</sup> DUST COLLECTORS

### PORTABLE CYCLONE



*Only 70½" Tall!*

- Motor: 1½ HP, 110V/220V, pre-wired 110V, single-phase
- CFM: 806
- Filter: 2.0 micron, pleated
- 20 gal. steel collection drum with casters
- Inlet: 6" (or 4" x 2" with included Y)
- Maximum static pressure: 10.4"
- Includes remote control

**W1823** 1½ HP Portable Cyclone Dust Collector



### WALL DUST COLLECTOR



- Motor: 1 HP, 110V/220V, single-phase
- Air suction capacity: 537 CFM
- Bag capacity: 2 cubic feet
- Standard bag filtration: 2.5 micron
- Static pressure: 7.2"

**W1826** Wall Dust Collector



### 3-SPEED HANGING AIR FILTER



- Motor: ½ HP, 120V, 60Hz, 1A single-phase
- Air flow: 260, 362, and 409 CFM
- Outer filter: 5.0 micron
- Inner filter: 1.0 micron



INCLUDES TIMER AND REMOTE!

**W1830** Hanging Air Filter

WOODSTOCK INTERNATIONAL, INC. IS ALSO HOME TO PRO-STICK<sup>®</sup>, PLANER PAL<sup>®</sup>, JOINTER PAL<sup>®</sup>, AND MANY OTHER FINE BRANDS. PLEASE VISIT OUR WEBSITE OR CALL TOLL FREE TO FIND AN AUTHORIZED DEALER NEAR YOU.

# SHOPFOX.BIZ

sales@shopfox.biz WHOLESALE ONLY



# 1-800-840-8420

SHOP FOX<sup>®</sup> is a registered trademark of Woodstock International, Inc.

## Need a lift? Make and mount one to your tablesaw

Heaving heavy sheet goods onto your tablesaw might be the most physically demanding task in woodworking.

Here's a solution: Add this simple, removable lift to your tablesaw and easily swing even full sheets of plywood or MDF onto the saw table without damaging the stock—or your back. To make it, fit a 12"-long hardwood insert to your tablesaw's fence tube. Then, attach the 3/4"-plywood A-frame so that it just touches the shop floor.

To use the lift, place one edge of the sheet onto the A-frame and slide it until it's centered. Lifting with your legs, swing the A-frame up until the top edge of the sheet rests on the saw table. Nudge the sheet off the frame and onto your tablesaw.

—Dan Martin, Galena, Ohio



Photography by Wendy George



**TOP SHOP TIP**

We chose our fave Shop Tip; now choose yours! Vote online now at [woodmagazine.com/shoptipoftheyear](http://woodmagazine.com/shoptipoftheyear).



For sending this issue's Top Shop Tip, Dan receives an 8"-diameter Dado King from Forrest Saw Blades and a Jet mortiser valued at \$650.

## HAVE A WOOD-WORTHY TIP?

Tell us how you've solved a workshop stumper. If we print your tip, you'll receive up to \$150. And, if the idea garners Top Shop Tip honors, we'll also reward you with a tool prize from Jet Tools worth at least \$300!

Send your best ideas, along with photos or drawings and contact info, to [shoptips@woodmagazine.com](mailto:shoptips@woodmagazine.com) or Shop Tips, WOOD magazine, 1716 Locust St., LS-221, Des Moines, IA 50309-3023.

Because we try to publish original tips, please send yours only to WOOD® magazine. Sorry, submitted materials can't be returned.



## DREAM MACHINE GIVEAWAY!

Win woodworking machines worth more than \$5,000 from Jet Tools!



Go online today, and you could be enjoying all of the Jet machines shown at left by the end of this summer! Visit [woodmagazine.com/jetdreammachines](http://woodmagazine.com/jetdreammachines) to sign up. Enter every day, if you like, to increase your chances of winning!

NO PURCHASE NECESSARY TO ENTER OR WIN. Subject to Official Rules at [www.woodmagazine.com/jetdreammachines](http://www.woodmagazine.com/jetdreammachines). The Jet Dream Machine Giveaway begins at 12:01 a.m. CT on 01/07/13 and ends at 11:59 p.m. CT on 6/26/13. Open to legal residents of the 50 United States, and the District of Columbia, 21 years or older. Limit one (1) entry per person and per email address per day. Void where prohibited. Sponsor: Meredith Corporation.

# PRECISION MEETS INTUITIVE DESIGN

The PM2800B Drill Press is a great example of when intuition and engineering come together to create something that is as easy to use, as it is precise.



#### MECHANICAL VARIABLE SPEED SYSTEM

Choose from a full range of speeds from 250 - 3000 RPMs with no belt change.



#### ENHANCED QUILL TRAVEL

Get a full 6" of depth with one full revolution of the handle.



#### FENCE WITH FLIP STOP

Combines legendary Powermatic fence quality with innovation for repetitive tasks.



VISIT: [POWERMATIC.COM](http://POWERMATIC.COM)  
TO LEARN MORE



# Tired of Cleaning Clogged Filters?

## The Dust Cobra™

A unique All-in-One high suction dust collector. (70" SP in inches of WC)

Perfect for the small shop!

For example:

12" planer, 6" jointer, portable table saw, all bench top and portable tools.

### Rapid Pulse™ Filter Cleaner

Internally cleans the HEPA filter in seconds. No filter removal - no mess!

▶ Full unit HEPA certification - Meets EPA RRP requirements including lead.

▶ Approx. 4' 4" tall and 20" x 20" with Mobile Cart.



See Dust Cobra video at [www.oneida-air.com](http://www.oneida-air.com)



Oneida Air Systems is a proud sponsor of Rough Cut-Woodworking with Tommy Mac

Like Us On Facebook



Call Today for FREE Catalog!  
1.800.732.4065  
[www.oneida-air.com](http://www.oneida-air.com)



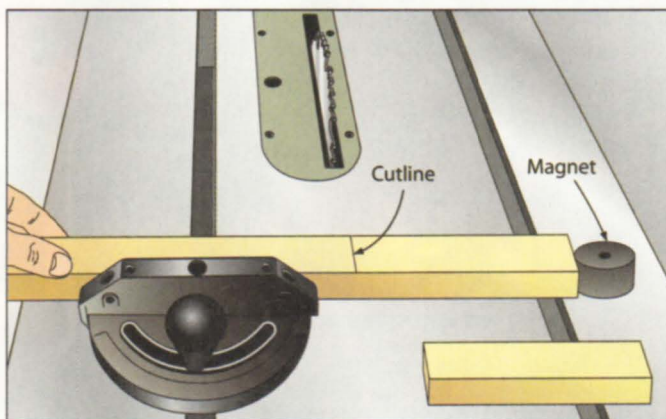
Dust Collection Since 1993.

## Shop Tips

### Stick on a stop for consistent crosscuts

For a down-and-dirty way to get accurate, repeatable crosscuts on your tablesaw, use a large round magnet (no. 444003, \$6.20, 888-878-1887, [centaurforge.com](http://centaurforge.com)). Line up the first cut with the blade, place the magnet at the end of the workpiece, and make the cut. For each subsequent cut, slide the workpiece over until the end rests against the magnet (being careful not to jar the magnet), and cut again.

—Bob Milko, Mentor, Ohio



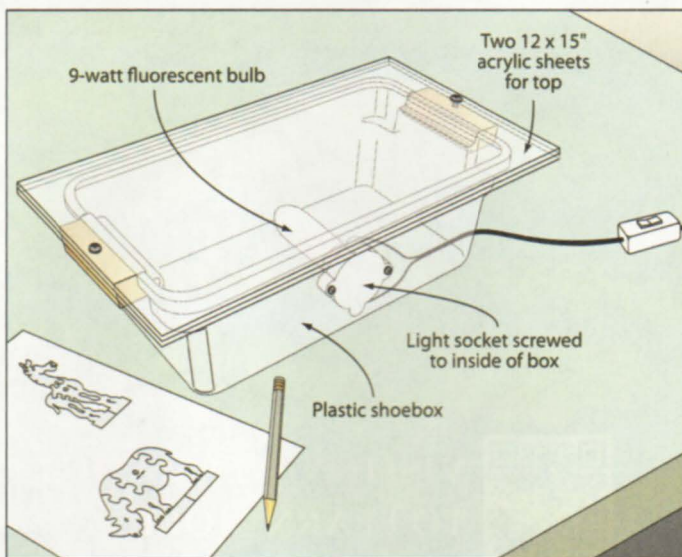
### Shop-made light box = poor man's copier

Without a photocopier at home, I found myself going to the office supply store regularly to make copies of woodworking patterns. To avoid this inconvenience, I made a simple light box for tracing patterns by hand.

To make your own, install a porcelain or plastic light socket in a clear plastic shoebox, as shown. Top the box with two 12x15" acrylic sheets secured by pieces of rabbeted scrapwood.

To use the box, slide the pattern between the sheets of acrylic, lay a blank piece of paper directly above the pattern on the top piece of acrylic, turn the light on, and trace.

—Maurice Farrier, Raleigh, N.C.

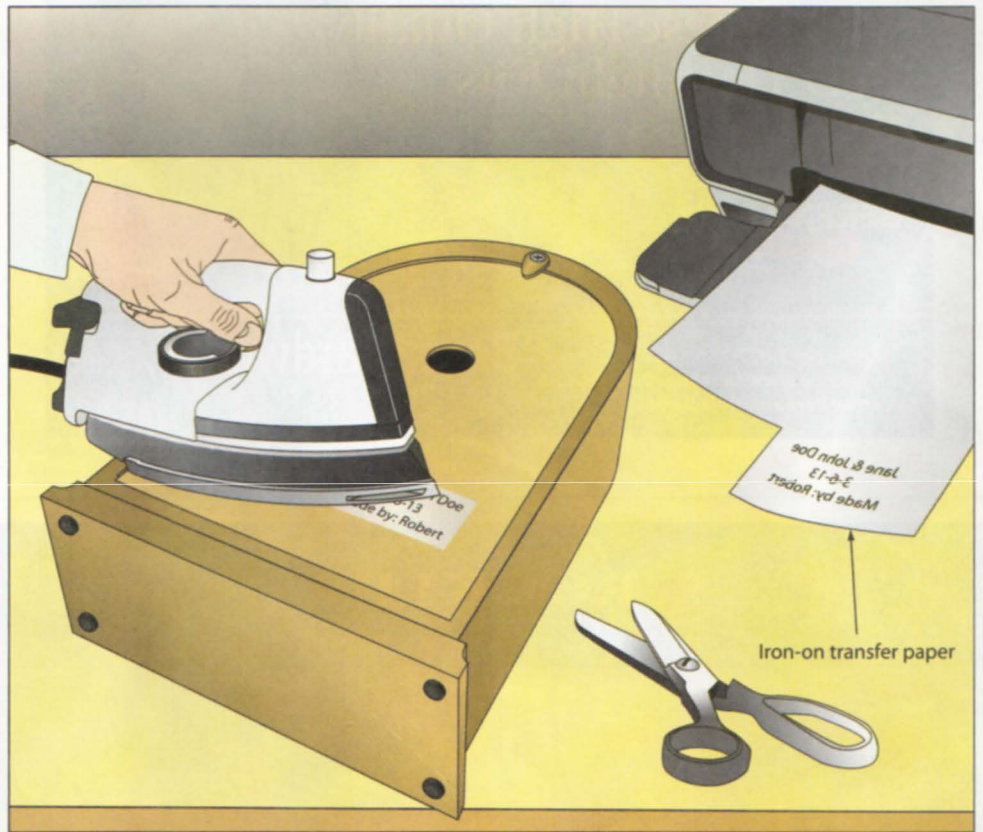


## Projects wear your mark with iron-on tee-shirt labels

After building a wedding gift for friends, I wanted to mark the couple's names and the date of their big day on it. I found that iron-on transfer paper—the kind used to print tee shirts and available at many office supply stores—provided a professional look for just pennies.

To make it work, first design your "imprint" using your computer's word-processing software. (You'll need to reverse or "mirror" the text so it reads correctly when ironed on to your workpiece). Then, print the label on the transfer paper and iron it onto a smooth, discreet place on your project.

—Robert Sawdey, Rockton, Ill.



continued on page 12

woodmagazine.com

11

Save up to **50%** or more on heating costs



Made in the USA

**envi**<sup>TM</sup>  
wall-mounted room heater

consumes less. **warms more.**

- energy saving** heats a room for only 4 cents\* per hour!
- ultra-safe** leave unattended 24/7, cool to touch
- healthy** fanless - will not circulate dust or dry the air
- effective** 100% Pure Stack Convection, gentle whole room warmth!
- silent** fanless design, auto dimming power-light
- easy install** installs in minutes, no drill required  
hardwired and plug-in models available
- stylish** slim space saving design  
only 19" wide by 2" thin!

economical. safe. simple.

**eheat.com**

**1-800-807-0107**

Free Shipping On all Orders!

Limited Time 15% Discount! Coupon Code: WOOD12C15

Make These High Quality,  
LED Flashlight Kits  
And More

**BEREA Brand**  
**QUALITY**  
Writing Pen Kits Comprising  
Parts for Making Writing Pens



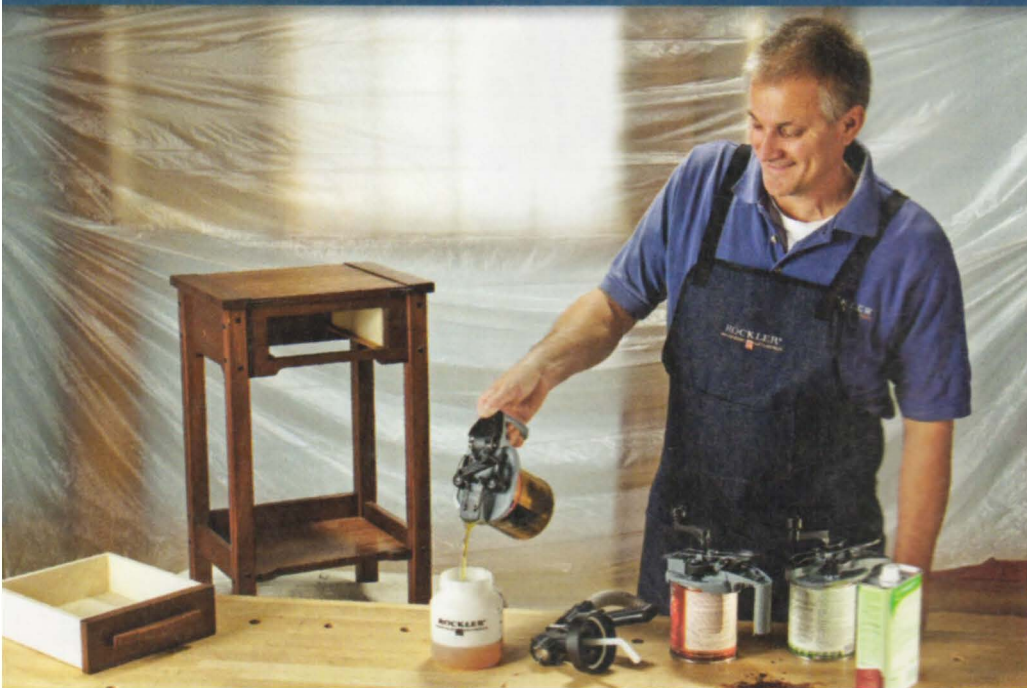
To Order call 1.877.736.5487 or go to  
our website [www.bereahardwoods.com](http://www.bereahardwoods.com)  
or email [bereahard@aol.com](mailto:bereahard@aol.com)

**BereaHardwoods, Co. Inc.**  
SINCE 1980

18745 Sheldon Rd • Middleburg Hts., OH 44130

**ROCKLER**  
WOODWORKING AND HARDWARE

Create with Confidence™



## Mix, pour and store finish with no mess!

Crank the handle and an auger-style paddle lifts the solids from the bottom of the can for a perfect mix. Press the thumb lever and pour — no drips, no mess ... no wasted finish! Mixing Mate™, another Rockler innovation, designed to help you *Create with Confidence*.



Mixing Mate Quart  
(44360) \$14.99

For a store near you or free catalog visit [Rockler.com](http://Rockler.com) | 1-877-ROCKLER

Materials code: 463

## Shop Tips

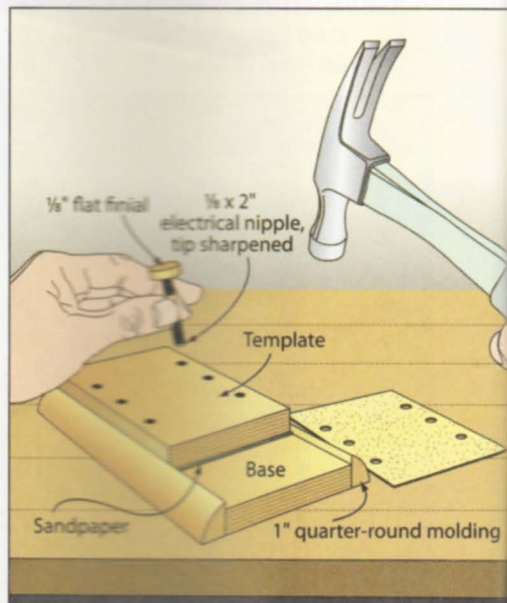
### Punch your way to better dust collection

Palm sander manufacturers often include a plastic punch plate for making dust-collection holes in replacement sandpaper. But the jagged holes mine produced didn't allow for much air to move through. To improve dust collection, I made a simple jig for punching perfectly round holes.

First, make a base and template from  $\frac{3}{4}$ " plywood the same width as your palm sander's pad. Crosscut the template to the same length as the sander's pad. Add 1" quarter-round molding to both edges of the base to hold the template in place during use. Now transfer the hole locations from the factory punch plate (or a sheet of sandpaper with holes already punched) to the template. Drill through the template at each marked location.

To make the punch, chuck a  $\frac{1}{8}$ " x 2" electrical nipple into your drill press, and sharpen one end using a file. Screw on a  $\frac{1}{8}$ " flat lamp finial (found at home centers) to the unsharpened end. Slip a piece (or pieces) of sandpaper between the template and base, insert the punch in a hole, strike it with a hammer, and repeat for the other holes.

—Alan Hoffman, North Hills, N.Y.



continued on page 14



Exclusively at  
Penn State Industries.  
Patent Pending

Bolt action handle  
smoothly advances  
and retracts the refill!

# “Wow! You made a Bolt Action Pen?”

Discover the joy of making this completely original and irresistibly fun Bolt Action pen, a gift that will be hard for any hunting or target-shooting enthusiast to put down.

## Completely Authentic

Every detail, from the one of a kind bolt-action mechanism to the precisionengineered components, was carefully designed to ensure uniqueness and reliability. The realistic bolt-action handle smoothly advances and retracts to securely lock the refill in place. Includes a bolt-action rifle clip and replica 30 caliber cartridge and rose gold tip for added authenticity.

## Our Customers Love Their Bolt Action Pens!

Rod R. of VA wrote, “This pen kit is Awesome - I LOVE IT! Looks and operates beautifully!”

Daryell S. of TN wrote, “I am extremely delighted with this pen. The look and feel is remarkable and the craftsmanship is perfect. This already has become my best selling ink pen.”

## Easy to Make

So easy to make, no one will believe you made something of this quality in 15 minutes. Requires a lathe, pen blank, pen mandrel, bushings (Item #PKCP3000BU \$5.95) and 3/8" drill bit (Item #PKEXEC-3/8 \$3.95).

## Easy to Start with a FREE DVD!

We have helped thousands of woodworkers discover the joys of pen making. Our FREE 45 minute instructional pen making DVD is packed with all of the info you need to start making pens from day one. Includes getting started, drilling, gluing and mounting your pen blanks, turning the pen blanks on a lathe, sanding and finishing, and assembling your pen parts.



\$20.95 Value  
Order Online  
Item #DVD



Gun Metal shown with refill advanced



24kt Gold shown with refill retracted



Black Enamel with Gun Metal tip and clip

		1-4	5-24	25-49	50+
Chrome	#PKCP8010	\$12.95	\$12.05	\$11.15	\$10.25
Gun Metal	#PKCP8020	\$12.95	\$12.55	\$11.15	\$10.25
24kt Gold	#PKCP8000	\$14.95	\$13.95	\$12.95	\$11.95
Black Enamel	#PKCP8030	\$13.95	\$13.05	\$12.15	\$11.25

## 3 Bolt Action Pen Kit Starter Pack

You get one pen in Chrome, one in Gun Metal and one in 24kt Gold plus the Bushing Set and 3/8" Drill Bit  
#PKPCPBAPAK **SAVE \$8 Only \$42.75 SAVE 16%**

## Penn State Industries

Top Quality, Great Prices and Expert Advice!

1-800-377-7297 • www.pennstateind.com

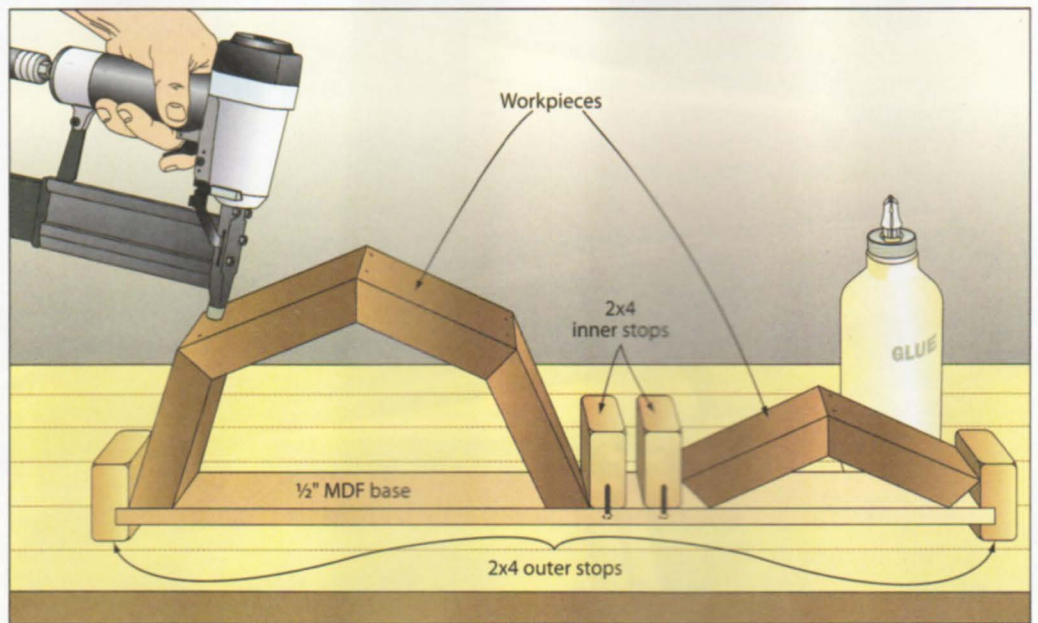
## Shop Tips

### Jig works like extra hands for mitered piece assembly

When building an octagonal frame for an outdoor ring-toss game, I struggled to hold the mitered pieces together during assembly. So I came up with this simple holding jig.

I made the jig to join two segments at one end and a pair of two-segment assemblies at the other. After building the base from MDF and 2x4s, I held two segments together as they would be when assembled—with an end against one of the outer stops—and marked the opposite end of the assembly on the base. Then, I attached one inner stop on that line. After repeating the process for a four-segment assembly at the opposite end, the jig was complete. Now, when I go to assemble the workpieces, they're fully contained, making assembly much easier.

—Robert Frost, O'Fallon, Ill.



✓Yes



✓Yes



xNo



✓Yes



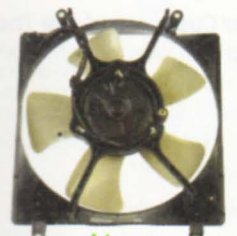
✓Yes



✓Yes



✓Yes



✓Yes

- ✓ Reliably Low Prices
- ✓ Easy To Use Website
- ✓ Huge Selection
- ✓ Fast Shipping

**ROCKAUTO.COM**  
ALL THE PARTS YOUR CAR WILL EVER NEED

GO TO [WWW.ROCKAUTO.COM](http://WWW.ROCKAUTO.COM) ROCKAUTO, LLC (EST. 1999)

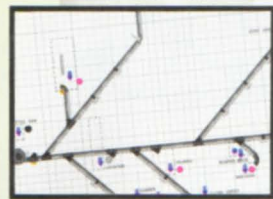
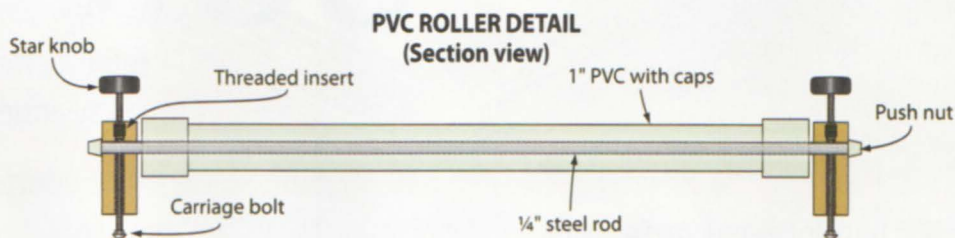
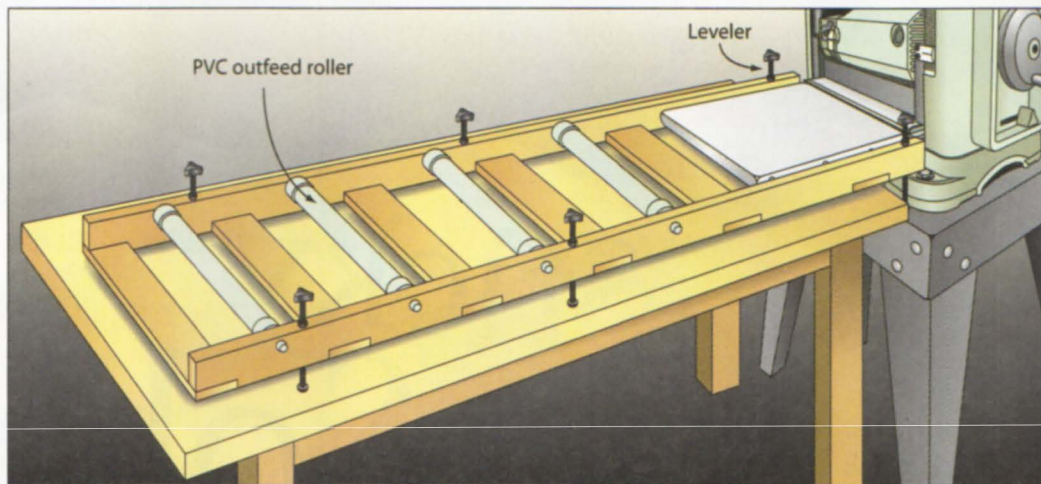
## No-rock, easy-roll planer outfeed conveyor

My benchtop planer used to snipe until I came up with this inexpensive outfeed support that rests on my benchtop.

After moving my planer (on its stand) beside my workbench, I measured the height difference between the planer's outfeed table and the workbench and used that dimension to determine the approximate height of the conveyor frame.

I built the frame from 3/4" stock and installed simple "rollers" made from 1" PVC tubing with end caps drilled for 1/4" steel-rod axles. I inserted the rods through holes drilled in the frame and capped the exposed rod ends with push nuts. Finally, six levelers, made from carriage bolts, star knobs, and threaded inserts, help fine-tune the rollers to align them with the planer's outfeed table. When not in use, the conveyor stores vertically to save space. 🌱

—Don Riley, Marietta, Ohio



**FREE** Ductwork Plan  
Plus Save \$100 when you purchase any S-series Tempest™ cyclone!  
Use Code WOOD24  
Call 1-800-377-7297 to redeem  
Offer expires 6/1/13. Offer not valid online. Prices subject to change without notice.

Clean Air! Clean Shop! Clean Tools!

# Nanofiber eats the competition's dust!

## (FREE with any Tempest Cyclone!)

**The best value in dust collection is now the cleanest.**

Our Tempest Cyclone Dust Collectors now include Nanofiber filters as a **FREE** upgrade (a \$54 value). Industry leading, MERV15 rated Nanofiber filters combined with our cyclonic separation process captures 99.98% of wood chips and dust particles to below 1/2 micron. You achieve near surgical quality air and cleaner tools, while practically eliminating dust clean up forever! In addition, Tempest Cyclones never clog and require almost no maintenance.

- 2.5 HP - 1450CFM - \$1095
- 3.5 HP - 1700CFM - \$1295
- 5.0 HP - 1800CFM - \$1495
- 2.0 HP - Portable 1025CFM - \$995

**Ask about our solutions for smaller shops starting at only \$295.**

**SAVE on any system you buy!** PSI offers a variety of discounts and offers on dust collectors too numerous to list here. We're your complete resource for everything you need to get the job done right! To get the best deal on the system sized perfectly for your shop and number of tools, call Bill at (215) 676-7606 x16.

**Penn State Industries**  
Top Quality, Great Prices and Expert Advice!

1-800-377-7297 • www.pennstateind.com



# Sticky Solutions

Build better projects by mastering the use of spray adhesives and double-faced tape.

**F**rustrated by patterns you can't remove? Overwhelmed by the assortment of double-faced tapes and spray adhesives at the home center? Ease your mind with these helpful tips.

## Spray adhesive: Perfect for patterns

When choosing a spray adhesive to apply paper patterns, you want one with a gentle hold—just enough to keep the pattern in place while cutting. Look

for words like “temporary” and “repositionable” on the can, and avoid those with words like “permanent” or “high-strength.” A good spray adhesive shouldn't make the paper pattern soggy, and should allow you to reposition it on the workpiece if necessary. In the *WOOD*® shop, we prefer using 3M's Spray Mount Artist's Adhesive for those same reasons.

To properly use spray adhesive, begin by spraying the back of your pattern, as

shown *bottom left*. Let it sit for 15–30 seconds. Unlike most gluing tasks in woodworking, you're not racing a setup time; in fact, applying the pattern immediately after spraying will often, depending on the adhesive used, create an even stickier bond.

If you rush the job and the pattern bonds a little too well, no worries. After machining the workpiece, simply apply mineral spirits to a rag and rub it on the pattern to dissolve the adhesive (*below*).

*continued on page 18*

### SPRAY RIGHT TO STICK WELL



Kraft paper covers benchtop

Apply a light, even coat when spraying an adhesive, and protect your hand and tabletop from overspray.

### WIPE IT ON TO TAKE IT OFF



Mineral spirits break down the glue bond so you can cleanly remove the pattern. Plus, it doesn't affect how the surface accepts oil-based finish.

## Marquetry Kits

These wood marquetry artworks are unique designs from artist Christy Oates and feature laser-cut wood veneer parts, high-bond adhesive applied to a backer board, and easy to follow instructions. No gluing or sanding required. Kits include only high quality paperbacked veneer in Douglas fir, bubinga, wenge, walnut, and purpleheart species; completed kit measures 8" x 8".



154706 Template



154704 Belcerebon Kit



154702 Aldebaran



154703 Altairian



154704 Belcerebon



154705 Betelgeusian

For A Free Catalog Or To Find Your Local Woodcraft Store, Visit [woodcraft.com](http://woodcraft.com) Or Call 800-225-1153.

For Information On Woodcraft Retail Franchise Opportunities, Call 1-855-923-7326 Or Visit [woodcraftfranchise.com](http://woodcraftfranchise.com)

13WI03P

## Double-faced tape: Two types, two strengths

Double-faced tape comes in two types suitable for woodworking: cloth-backed and paper-backed. As with spray adhesives, you choose the type of tape that gives just enough grip for the task at hand. See the chart (bottom) to learn the best uses for each kind.

Before applying either, first wipe clean the surfaces to be attached. Dust and oily films will prevent the tape from taking a firm hold.

After making a cut or completing an operation, you may find that the pieces you taped together won't separate (which can happen if you leave pieces taped together too long). Don't force them apart and risk damaging the wood grain. Instead, drizzle mineral spirits into the joint between the two pieces and give it a few seconds to soak in and weaken the adhesive. 🍀

### More Resources

- ▶ For free plans to build a self-contained spray-adhesive drawer, visit: [woodmagazine.com/spraydrawer](http://woodmagazine.com/spraydrawer).
- ▶ For a small fee, download the plan for this wall-hung tape dispenser at: [woodmagazine.com/tapedispenser](http://woodmagazine.com/tapedispenser).



### CLOTH-BACKED PACKS A SUPER STICK





Apply cloth-backed tape sparingly—putting it on the full length of a piece may make it impossible to separate the pieces without damaging them.

### PAPER-BACKED HAS A SOFTER GRIP



Better suited to adhering pieces not subject to much shear force (like this miter-gauge extension), paper-backed tape allows for some repositioning.

## THE LOWDOWN ON DOUBLE-FACED TAPES

Type	Aggressiveness	Cost per 36-yard roll	Attributes	Possible uses	Where to get it if the home center doesn't have it
 <p>Cloth-backed Tape</p>	Aggressive—use small pieces of tape only	\$24	Thicker than paper-backed tape (may leave a slight gap between the two adhered pieces), requires scissors to cut, good strength against shear force (sliding motion of parallel pieces)	Pattern routing, attaching turning blanks to lathe face plates, holding crown molding in place during installation	#15D25, 800-225-1153, woodcraft.com
 <p>Paper-backed Tape</p>	Mildly aggressive	\$19	Thin, doesn't stretch, easily tearable, repositionable	Attaching miter-gauge extensions, holding veneer or multiple small pieces together for scroll cuts, positioning drawer fronts before drilling screw holes	#15D28, 800-225-1153, woodcraft.com

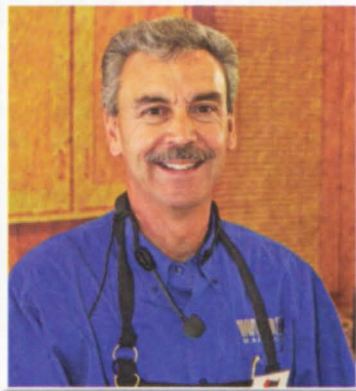
**INTRODUCING**

# Your Ultimate Woodworking Weekend

Step up your skills by spending a few days in the shop with  
Marc Adams, Jim Heavey, *WOOD*® magazine editors, and others.\*



Marc Adams  
Marc Adams School of Woodworking



Jim Heavey  
*WOOD* Magazine Contributing Craftsman



Kevin Boyle  
*WOOD* Magazine Senior Design Editor

## Weekend With **WOOD**™

**May 17–19, 2013 in Des Moines, Iowa**

Attendance is limited to the first 200 registrants!

Small class sizes and big-screen video guarantee an up-close and personal experience.

Learn more at [woodmagazine.com/weekendwithwood](http://woodmagazine.com/weekendwithwood)  
and [facebook.com/weekendwithwood](http://facebook.com/weekendwithwood).

\*Scheduled to appear. Subject to change.

# Unvarnished

Straight talk from the WOOD-wide web

Simply upgrading the blade that came with your power tools can spare years of frustration and save piles of wood from unnecessary tearout.

I wish someone had told me that when I started!

## 5 overlooked tips for new (and experienced) woodworkers

Recently, I asked my Facebook followers to think back to their woodworking beginnings to answer this question: What piece of advice do you wish someone had given you early in your woodworking journey that would have saved you hassle and frustration?

I imagined I would hear about perfecting handsaw techniques, or crafting tight-fitting joints—perhaps wisdom about the importance of buying premium tools. But as the replies rolled in, I got a completely different sense. The things people really wished they'd learned at the start were simple and, for the most part, free. So although the advice aims at brand-new

woodworkers, it serves as a wise reminder for all of us:

### 1 Don't get hung up on tape measures.

Instead, rely on story sticks (*bottom left*) or simply cutting pieces to fit. Sneak up on cuts, testing on scrap first and fitting along the way. If you mark your cuts with a pencil line, leave the line showing and sand to it.

**2 Use sharp tools.** Tear-out and chipping caused by dull blades frustrates all woodworkers. Besides, sharp tools cut with less effort, so they're safer. And because they cut cleanly, they'll save you lots of time sanding. Learn basic sharpening skills and spend a few minutes honing your tools before each use.

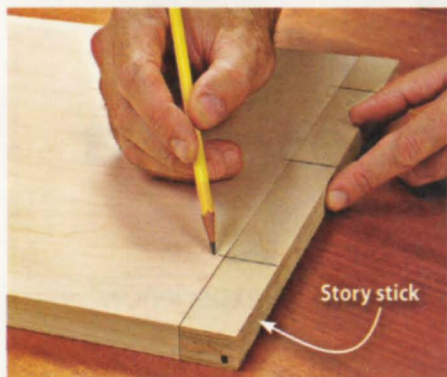
### 3 All woodworkers make mistakes.

Acknowledge them. Learn from them. But, most of all, shut up about them. Most people won't notice mistakes, so stop pointing them out when you show off your project. It will do wonders for your confidence.

**4 Remember that woodworking is a hobby.** It's supposed to be fun and relaxing, so take your time, and enjoy the process. Josh Phillips, one of my very talented viewers, told me that he has "no mania for perfection." I love that line. Build to the best of your ability but don't drive yourself crazy.

**5 Ask for help.** Woodworkers are a helpful bunch, eager to share advice no matter what your struggle. And we live in a time in which we can quickly get answers to anything. Get actively involved in online communities such as [woodmagazine.com](http://woodmagazine.com), Facebook, [WoodworkingForMereMortals.com](http://WoodworkingForMereMortals.com), etc. For my videos, I rely heavily on the help given by woodworkers who continually supply solutions and inspiration that I wouldn't have thought of. 🌲

—Steve Ramsey's quirky woodworking videos and prolific musings can be found at [WoodworkingForMereMortals.com](http://WoodworkingForMereMortals.com) where his goal is to reclaim the woodworking hobby for the average guy.



A story stick ensures marking accuracy, especially when laying out multiple parts or transferring measurements among workpieces.



Fix your goofs—such as slicing away a dried-on finish drip—and then bask in your new-found woodworking confidence.

# See our top selling router tables, bits & jigs at [MLCSwoodworking.com](http://MLCSwoodworking.com)

## "Cabinet Making Set"

Six 1/2" shank carbide tipped router bits make classic kitchen and fine furniture cabinet raised panels and drawers.

Undercutter #8389...\$119.95  
Standard #8387...\$114.95



## "Don't Stand Stock On Edge"

Rout wide stock FLAT on the table with tall bits in horizontal position! The Horizontal Benchtop Router Table is perfect for raised panels and mortise and tenon. The miter T-track accepts accessory tops.

#9767.....\$179.95



## "Tilting Top"

Accessory top tilts up to 45°. Create offset angles that cannot be cut on regular table.

#9764.....\$59.95



## "Mortising Top"

Accessory top. A safer and easier way to cut mortise and tenon joints.

#9766.....\$79.95



## "Route 66"

66 piece carbide tipped router bit set includes straight, round over, chamfer, cove... 30 total profiles! Wood storage box can be wall mounted.

1/2" shank • #8383.....\$189.95  
1/4" shank • #6083.....\$189.95



## "Sliding Table Top"

Free Shipping! The Precision Router Table's large, smooth sliding, extruded aluminum top makes difficult routing easy and exact. Variable opening inserts in "rock solid" fixed cast-iron. Split fence & dust hood.

#9463 .....\$469.95



## "When Any Old Joint Won't Do..."

The Fast Joint System with matching templates makes creative, custom joinery simple. Includes the jig, joint templates, clamps, bushings and router bits. See the 20 Template Set online.

4 Template Set #9411.....\$169.95 • 11 Template Set #9422.....\$269.95

I-800-533-9298  
PROFESSIONAL ROUTER BITS & WOODWORKING PRODUCTS

**MLCS**

**FREE SHIPPING!**  
IN CONTIGUOUS USA • P.O. BOX 165 DM, HV, PA, 19006 \*2012

## Great Ideas For Your Shop

# Drill Press Mobile Base

To make the most use of your shop space, put stationary tools on wheels so you can roll them out as needed and roll them back when not. This easy-to-resize project captures the metal base of your drill press and moves on locking swivel casters.

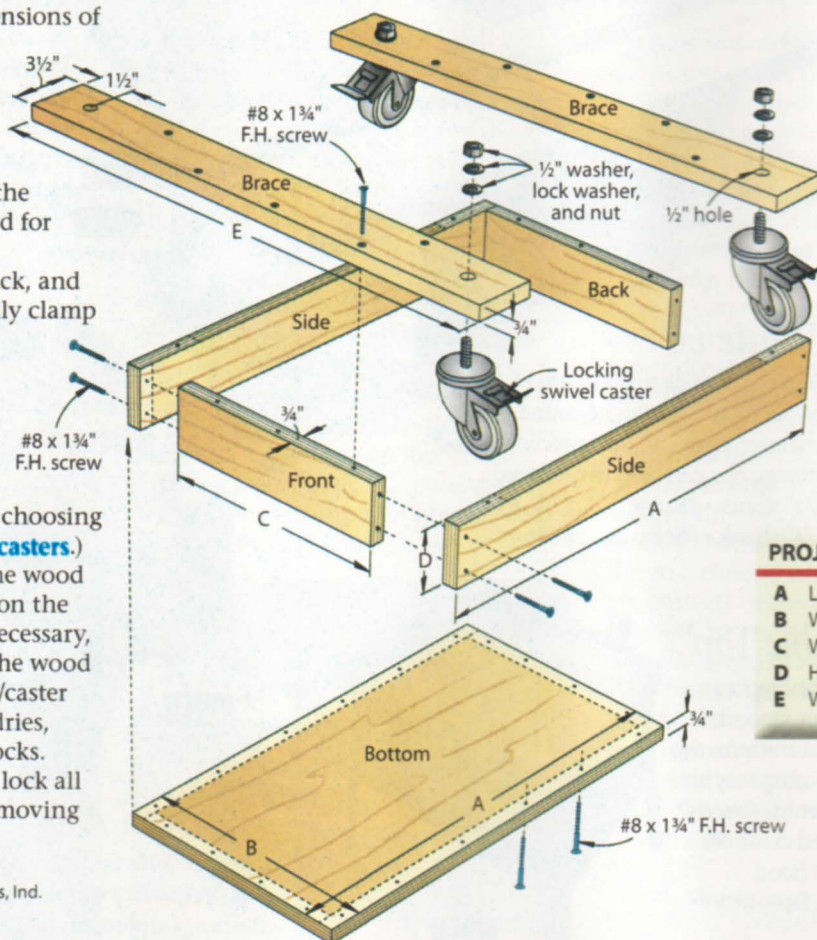
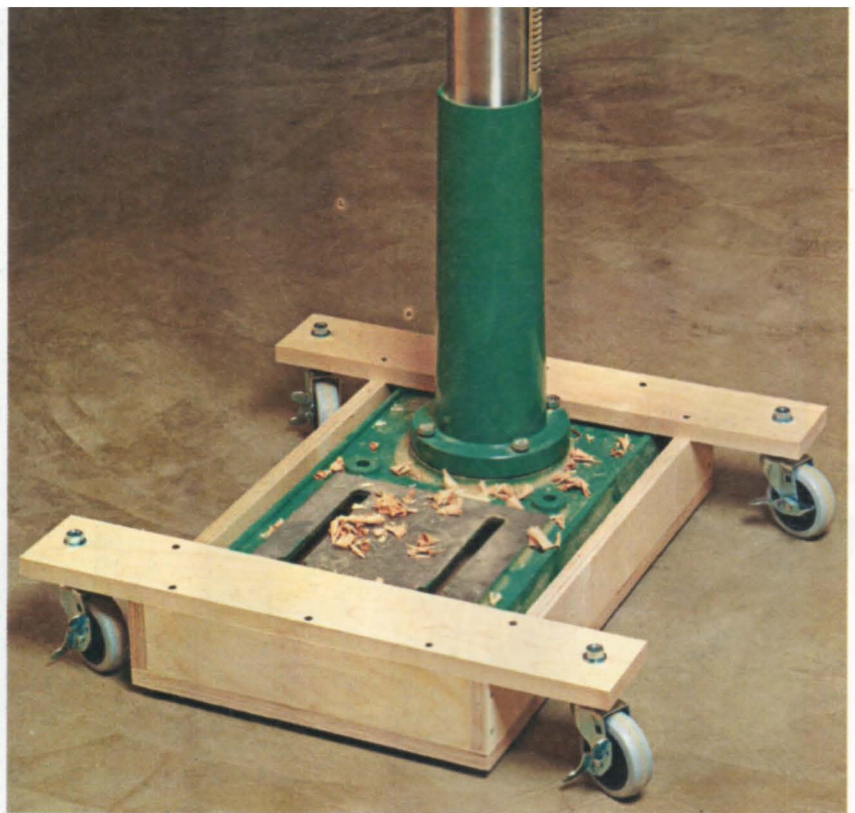
Start by measuring the dimensions of the drill press's base. Then, use the Project Part Calculator (below right) to determine the sizes of the seven wood pieces and cut all of them to size. (We used solid maple for the braces and Baltic birch plywood for the remaining pieces.)

Glue and screw the front, back, and sides to the bottom. Temporarily clamp the braces in place; then drill screw holes through the braces into the front, back, and sides. Remove the clamps, drill the caster mounting holes, and attach the casters. (Learn more about choosing casters at [woodmagazine.com/casters](http://woodmagazine.com/casters).)

For the final assembly, rest the wood base on 1"-thick blocks sitting on the floor. Then, using a helper if necessary, position the drill press inside the wood base. Glue and screw the brace/caster assemblies, and after the glue dries, carefully remove the spacer blocks.

Before using the tool, always lock all four casters to prevent it from moving during use.

Project Design: **Steve Southard**, Santa Claus, Ind.  
Illustration: **Lorna Johnson**



### PROJECT PART CALCULATOR

- A Length of base plus 2"
- B Width of base plus 2"
- C Width of base plus 1/2"
- D Height of base plus 1/4"
- E Width of Bottom plus 9"



# LOVE SHOP

The fire glistened in the background. She lay with her head in Ben's lap, her blue eyes filled with love, love, love. He looked happy, content and in love.

His eyes were glistening, his mouth smiling and his mind was in the garage. Now he had his dream shop, complete with award-winning bandsaw, state-of-the-art table saw and cyclone dust collector from Laguna.

They both sighed with bliss.

**LAGUNA**

17101 Murphy Ave.  
Irvine, CA 92614

[www.lagunatools.com](http://www.lagunatools.com) | 800.234.1976

# How to remove a stuck bit

If raw muscle won't break a bit loose from your router's collet, fear not. Other options wait in reserve.

### Loose nut, stuck bit

#### Arm-wrestle it free

If you've loosened the collet nut but the bit won't release, apply a few drops of penetrating lubricant, such as WD-40 or Liquid Wrench, and let it seep into the collet around the bit shank. Next, hold the spindle with a wrench (or spindle lock, if so equipped). Then, with a thick work glove on your other hand, grab the bit and twist back and forth to free it.



#### Tap in to pop it out

If that doesn't work the bit loose, remove the bearing and washer from the end (if so equipped). With the router standing base-up on a solid surface, hold a hardwood scrap against the bit end (to avoid damaging the threads) and tap it *lightly* with a mallet or hammer. Although driving it deeper into the collet seems counterproductive, a small amount of movement just might free the bit. If that doesn't loosen the bit, strike the block a little harder.



### Stuck nut

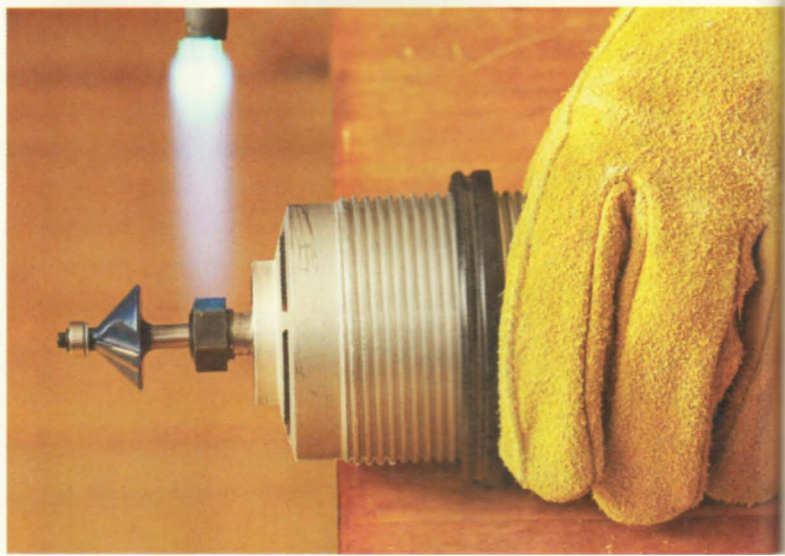
#### Bust the nut loose

If you can't even loosen the collet nut, then support it against a piece of hardwood and tap it lightly with a hammer, as shown. Rotate the nut and tap each face of the nut. Then break it loose with the router wrenches.



#### Torch it

Still stuck? Then it's time to bring the heat. Use a small propane torch to heat the collet and bit shank, as shown. Rotate the router to spread the heat evenly around the shank. Don't get it red-hot, and avoid directing flame toward the router—you don't want to damage the seals around the spindle bearings. After heating it for a short time, go back to your glove and wrench and twist the bit loose. Repeat until the bit works free.



## Where there's a problem, there's a prevention

We spoke to router specialists with several tool manufacturers to get their input on this subject. They shared the following pointers for avoiding stuck bits in the first place.

► **Problem:** Giving up when the nut tightens up after initially loosening

**Prevention:** Although it might sound funny if you're familiar with self-releasing collets, these experts tell us they've helped countless customers who simply needed to continue loosening their collets after feeling them initially loosen. Self-releasing collets—usually identifiable by a snap ring or other device that holds the collet and nut together—have two “break” points: the initial one, and then about two turns later another that releases the bit.

► **Problem:** Dirty collet

**Prevention:** Blow out the collet regularly with a blast of compressed air. If needed, clean the collet and threads with a soft brush and mineral spirits. (For a self-releasing collet, you might have to remove the snap ring to disassemble it.)

► **Problem:** Dirty bit shanks

**Prevention:** Wipe router bit shanks with a cloth and mineral spirits; lightly sand with 320-grit abrasive to remove rust or tough grime.

► **Problem:** Overtightened nut

**Prevention:** You don't need to tighten a collet nut as much as you would bolts while assembling a machine, such as a table saw. Instead, tighten the nut only about one-eighth of a turn after it snugs up.

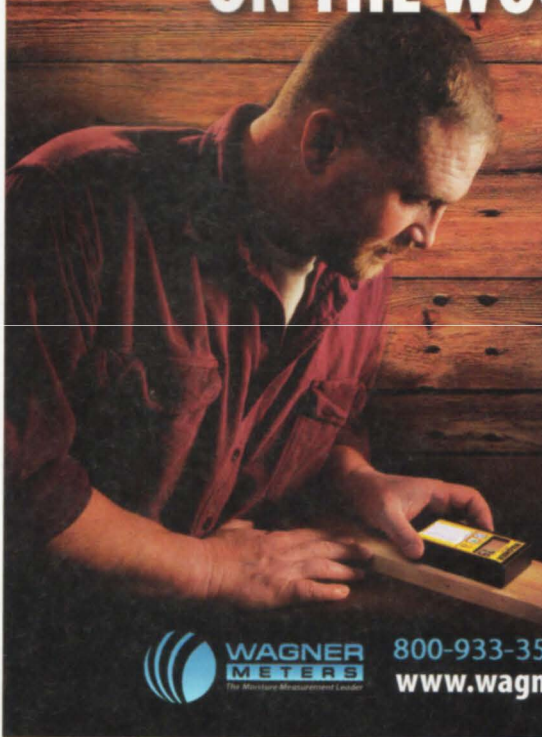
► **Problem:** Bottomed-out bit

**Prevention:** When installing a bit in the collet, push it to the bottom, and then pull it back up about 1/8" before tightening. This gives the collet some room to expand downward while compressing a firm grip on the shank.

► **Problem:** Leaving bits in a router too long

**Prevention:** If you're not using a bit and it's been in the collet more than a few days, remove it from your router. Humidity can cause rust even inside a collet, and that can seize a bit shank inside the collet. 🌱

## Measure Moisture IN THE WOOD NOT ON THE WOOD



Fast + Accurate!



Deep Readings,  
No pins!



Proudly Manufactured  
& Supported in the USA



WAGNER  
METERS  
The Moisture Measurement Leader

800-933-3514

www.wagnermeters.com

## WOODCRAFT®

QUALITY WOODWORKING TOOLS •  
SUPPLIES • ADVICE®

When woodworking is your passion, quality tools, supplies and expert advice from Woodcraft can help take your woodworking to the next level.

### Over 20,000 Woodworking Products!

- Hand & Power Tools
- Power Tool Accessories
- Routers & Accessories
- Carving Tools & Chisels
- Workbenches
- Hardwoods & Exotics
- Sanding & Scraping
- Woodburning
- Vises & Clamps
- Files & Rasps
- Project Kits & Supplies
- Clock Supplies
- Planes & Saws
- Woodboring Tools
- Sharpening Supplies
- Finishing Supplies
- Safety Equipment
- Woodturning
- Hardware
- Marking & Measuring
- Cabinetmaking Supplies
- Shop Accessories
- Books & DVDs

### Our Exclusive Brands:

Woodcraft offers exclusive products to our customers!

Pinnacle WoodRiver

Classic PROJECT PLANS WOODCRAFT PLANS.COM

Classic SHOP PLANS HIGHPOINT

Our Magazine: WOODCRAFT

Publishes Six Great Issues A Year!



To Find Your Local Woodcraft Store Or For A Free Catalog, Visit woodcraft.com Or Call 1-800-225-1153.

# Build-to-suit Study Desk

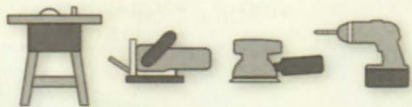
Easy to build, easy to move, and easy to customize, this smart desk will look equally at home in the den and the dorm room.



**BASIC-BUILT™**

GREAT PROJECTS MADE SIMPLE.

## TOOLS NEEDED



Approximate materials cost: \$62

**T**wo base arrangements with the same footprint—a front-facing pedestal and a side-facing bookcase—let you customize this desk to fit your space. The **Materials List** and **Cutting Diagram** on *page 30* detail the parts needed to build the desk as shown, *above*. Adjust accordingly if you choose to build the desk using two pedestals or two bookcases instead.

## Mix or match the pedestal and bookcase

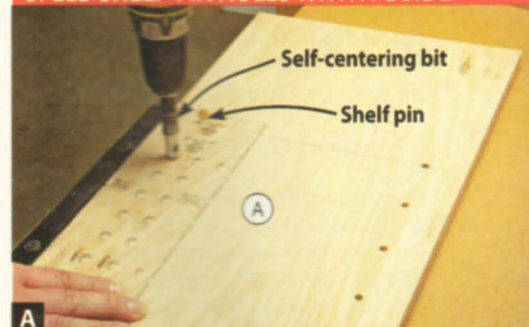
**1** From  $\frac{3}{4}$ " plywood, cut two pedestal sides (A), a pedestal top and bottom (B), and a pedestal shelf (C) for each pedestal you plan to build [**Drawing 1** and **Materials List**]. Cut two bookcase sides (F), a bookcase top and bottom (G), and a bookcase shelf (H) for each bookcase you plan to build [**Drawing 2**]. Cut the desktop dividers (N), bottom (O), top (P), and back (Q) to size [**Drawing 3**].

Edge-band all plywood edges that will be exposed using the directions on *page 34*. Set the desktop parts (N–Q) aside.

**2** Drill  $\frac{1}{4}$ " shelf-pin holes  $\frac{3}{8}$ " deep in the pedestal sides (A) [**Drawing 1**] and bookcase sides (F) [**Drawing 2**]. We used a shelf-pin guide (Rockler no. 32991, \$37,

800-279-4441, rockler.com), as shown in **Photo A**. Or, use a scrap of perforated hardboard as a makeshift drilling guide ([woodmagazine.com/fastshelfpins](http://woodmagazine.com/fastshelfpins)).

## SPEED SHELF-PIN HOLES WITH A GUIDE



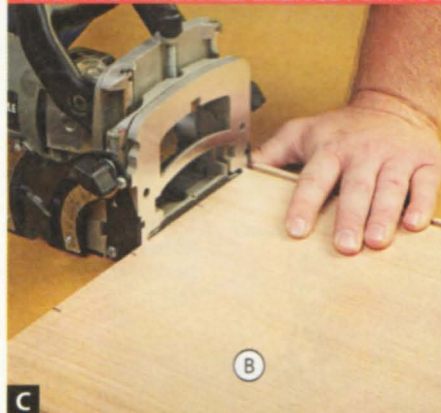
**A** Mark the first shelf-pin hole's location and use the guide when drilling it. Secure the guide with a shelf pin in the first hole and drill the remaining holes.

### MAKE A SCRAP-TESTED GROOVE



After cutting the kerf in the scrap, reset the fence to widen it. Test-fit the  $\frac{1}{4}$ " plywood in the groove before making the second cut on project parts.

### USE A COMMON REFERENCE FOR ACCURATE BISCUIT SLOTS

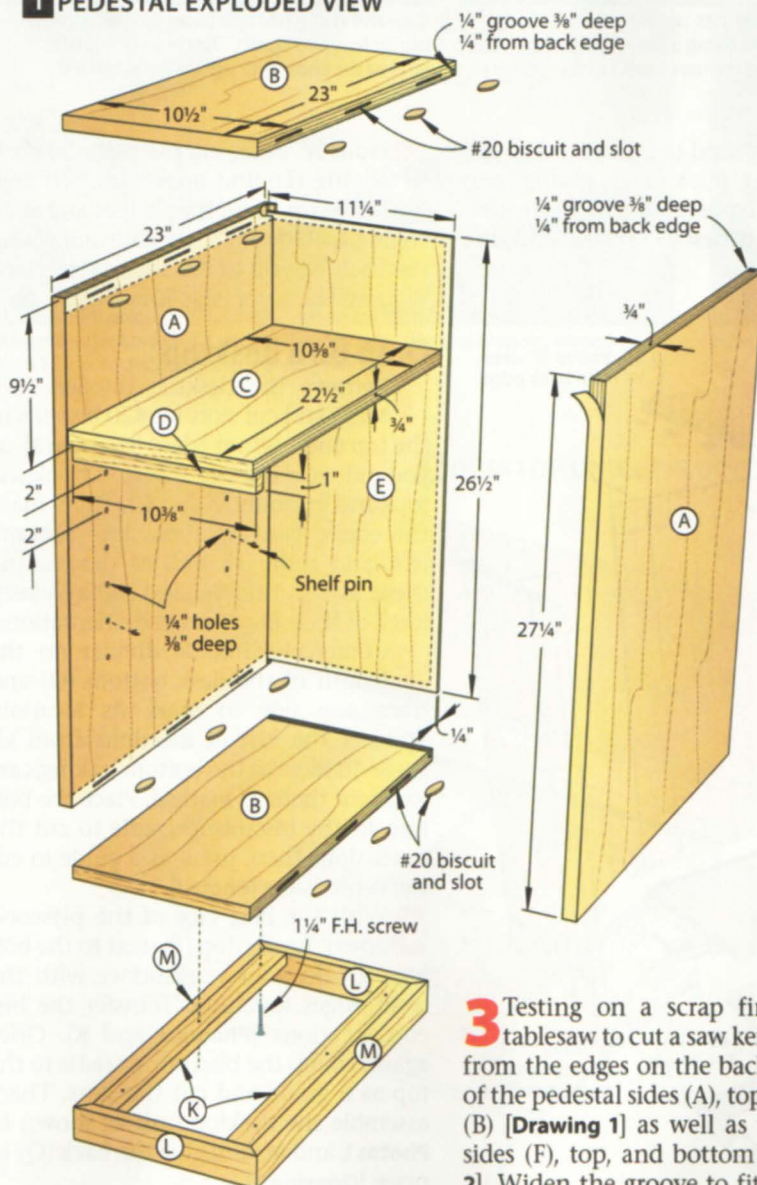


To maintain a common reference surface for slot cutting, fold back or remove the fence. Cut with the joiner base and workpiece resting on a flat surface.



The cradle's upright supports the workpiece and the base serves as the joiner's reference surface to cut slots for #20 biscuits at the marked locations.

### 1 PEDESTAL EXPLODED VIEW



**3** Testing on a scrap first, use your tablesaw to cut a saw kerf  $\frac{3}{8}$ " deep,  $\frac{1}{4}$ " from the edges on the back inside faces of the pedestal sides (A), top, and bottom (B) [Drawing 1] as well as the bookcase sides (F), top, and bottom (G) [Drawing 2]. Widen the groove to fit the backs as shown in Photo B. Then, dry-fit the ped-

### PUT YOUR CLAMPS ON BLOCKS



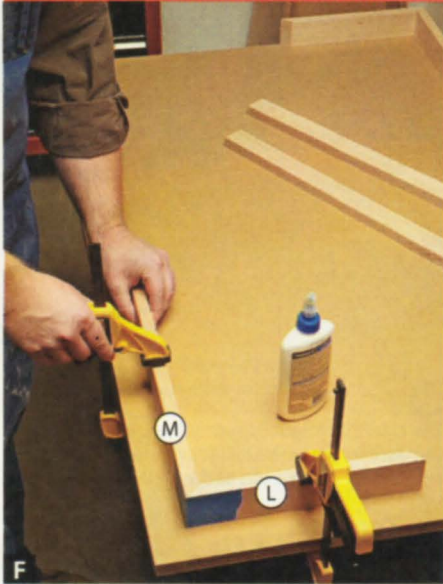
Scrapwood blocks prevent marring and distribute clamping pressure. Temporarily support them with small clamps while you position larger clamps.

estal and bookcase. Measure from the bottoms of the grooves to determine the final dimensions of the pedestal back (E) and bookcase back (J). Then, cut the backs to size from  $\frac{1}{4}$ " plywood.

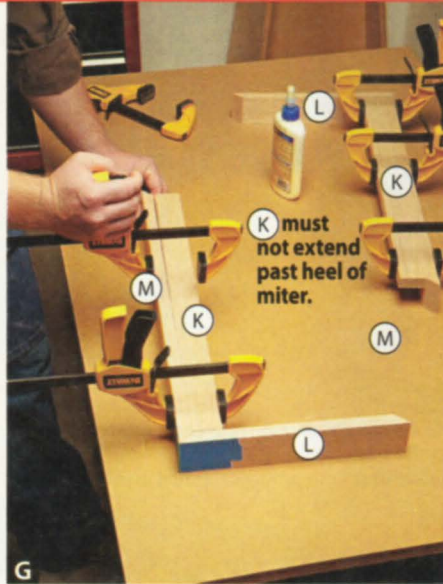
**4** With the outside faces down, mark locations and cut slots for #20 biscuits in the ends of the pedestal top and bottom (B) [Drawing 1 and Photo C], as well as the bookcase top and bottom (G) [Drawing 2]. Transfer the biscuit locations from the tops and bottoms to the inside faces of the adjoining pedestal and bookcase sides (A, F). Glue together scrap plywood into a biscuiting cradle and use it to support the sides as you cut biscuit slots [Photo D].

**5** Sand the pedestal and bookcase sides (A, F), tops and bottoms (B, G), and backs (E, J) to 220 grit. Join the pedestal sides (A) to the bottom (B) using glue and #20 biscuits. Slide the back (E) into its groove, attach the top (B), and clamp the assembly [Photo E]. Assemble the bookcase in the same way.

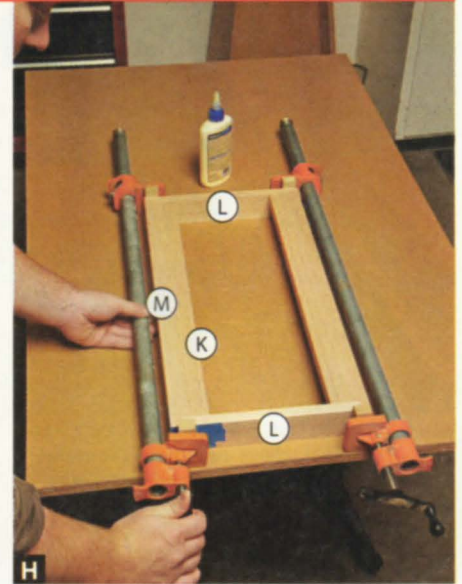
## BUILD A BASE IN THREE EASY STEPS



**F** Tape the base sides (M) and ends (L) together in pairs. Add glue to the miter, fold, wipe away excess glue, and clamp the assembly to your worksurface.



**G** After the miter glue sets, unclamp the assembly (M/L) and glue and clamp a base cleat (K) into each half base, aligning the tops flush. Let the glue dry.

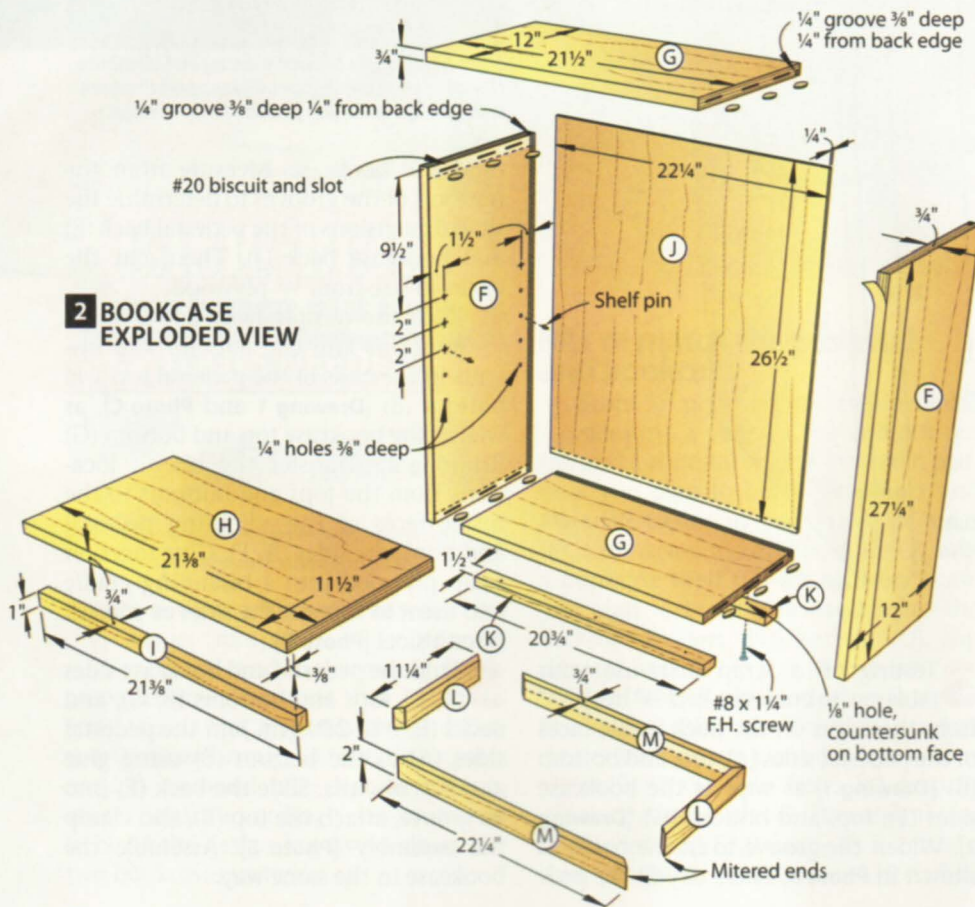


**H** Glue and clamp two half-bases (K/L/M) together using clamping blocks. The cleats (K) register against the ends (L) to square the assembly.

**6** From  $\frac{3}{4}$ " stock, cut the base cleats (K) to size [Drawing 2]. Cut the base ends (L), and sides (M) to size, mitering the ends. Then, follow the steps in Photos F–H to assemble the bases (K/L/M). After

the glue dries, sand the bases to 220 grit before drilling pilot holes, gluing, and screwing the bases, centered, to the bottom of the pedestal (A/B/E) and the bookcase (F/G/J).

**7** From  $\frac{3}{4}$ " stock, cut the pedestal shelf edging (D) and bookcase shelf edging (I) to size. Sand the shelves and shelf edging to 220 grit; then, glue and clamp the shelf edging to the shelves, recessed  $\frac{3}{8}$ " from the front edge [Drawings 1, 2].



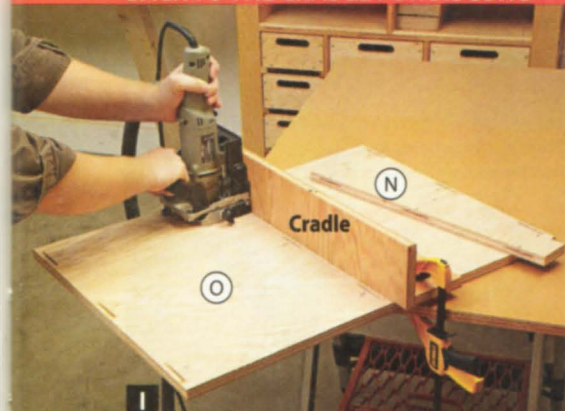
## Drop on a desktop

**1** Retrieve the desktop dividers (N). Mark and cut slots for #20 biscuits in the top and bottom edges [Drawing 3], as you did with the pedestal and bookcase tops and bottoms (B and G). Then, mark the edges, labeling them top, bottom, left, and right, as well as designating them as left, middle, and right to keep track of their locations and orientations.

**2** Center the middle divider on the length of the desk bottom (O) and trace one side to mark its location. Transfer the biscuit locations from all three dividers to the bottom, taking care to orient them as marked. Place the bottom in the biscuiting cradle to cut the outer slots; then, use it as a guide to cut the center slots [Photo I].

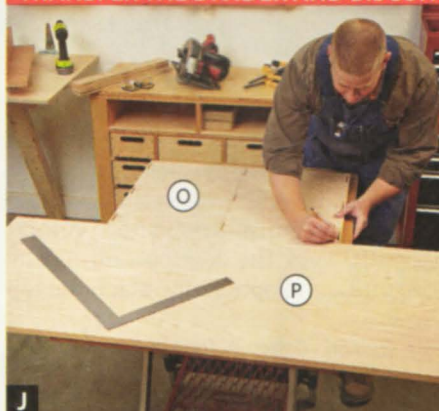
**3** With the best face of the plywood down, lay the top (P) next to the bottom (O) on your worksurface with the front edges touching. Transfer the biscuit locations [Photos J and K]. Once again, clamp the biscuiting cradle to the top as a guide and cut the slots. Then, assemble the desktop unit as shown in Photos L and M, and glue the back (Q) in place [Drawing 3].

### BACK TO THE CRADLE FOR BISCUITS

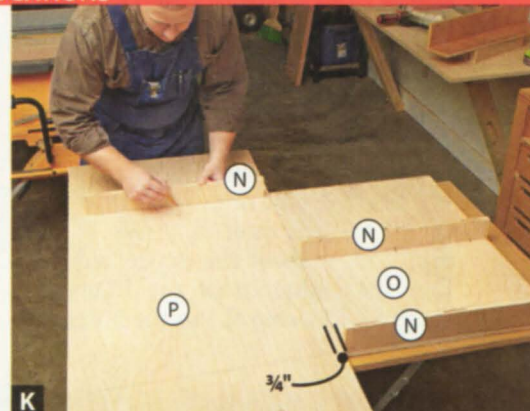


**I** Clamp the biscuiting cradle along the marked line, register the joiner base against the cradle, and cut slots for #20 biscuits at the slot marks.

### TRANSFER THE DIVIDER AND BISCUIT LOCATIONS

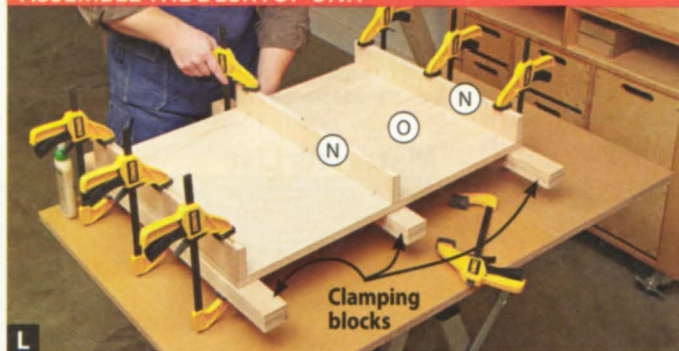


**J** Center the bottom (O) along the top (P) and transfer the locations of the dividers (N). Extend the marks across the top with a framing square.



**K** Flip the dividers (N) end-for-end from the bottom (O) onto their marks  $\frac{3}{4}$ " from the edge of the top (P) to transfer the biscuit locations.

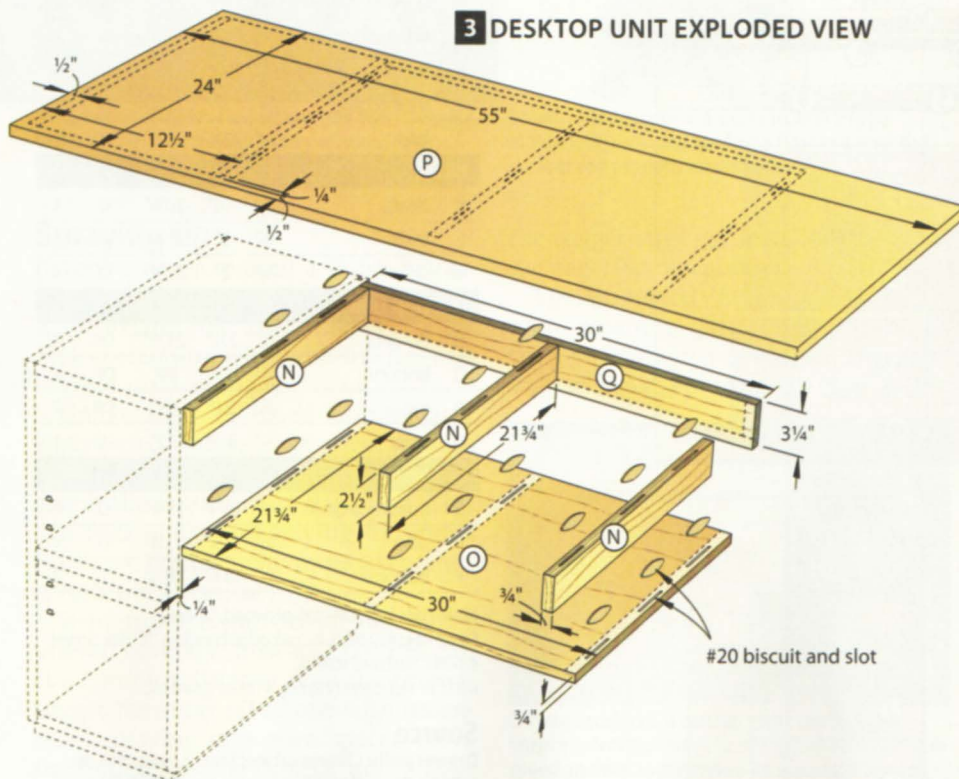
### ASSEMBLE THE DESKTOP UNIT



**L** Assemble the bottom (O) and dividers (N) with glue and biscuits, clamping with blocks to distribute the pressure evenly.

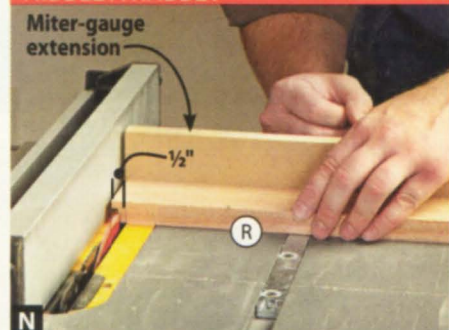


**M** Mount the bottom assembly (N/O) to the top (P) using glue and biscuits. Once again use clamping blocks to distribute clamping pressure.



**3** DESKTOP UNIT EXPLODED VIEW

### NIBBLE A RABBIT



**N** Mark the width of the rabbet on the piece, set your tablesaw fence to stop cutting at the mark, and nibble away with multiple cuts to form the rabbet.

### Fill it out with drawers

**1** From  $\frac{3}{4}$ " stock, cut the drawer fronts and backs (R) to size [Drawing 4]. With an extension attached to your miter gauge and your tablesaw blade set to a height of  $\frac{1}{2}$ ", cut a  $\frac{1}{2}$ " rabbet into both ends of the fronts and backs [Photo N].

**2** From  $\frac{1}{2}$ " stock, cut the drawer sides (S) to size. Using the technique from Photo B, cut grooves  $\frac{1}{4}$ " from the bottom edges of the drawer fronts, backs (R), and

sides [Drawing 4]. Dry-fit and measure for drawer bottoms (T) before cutting them to size from 1/4" plywood. Drill 5/32" holes centered in the drawer fronts (R) for drawer pulls. Then, glue and clamp the drawer assemblies together.

**3** After the glue dries, use a brad-point bit to drill three 1/4" holes 3/4" deep into both ends of the drawer sides (S), into the end-grain of the fronts and backs (R) [Drawing 4]. Pin the holes with

1/4" oak dowel rod [Photo O] and sand the drawers to 220 grit.

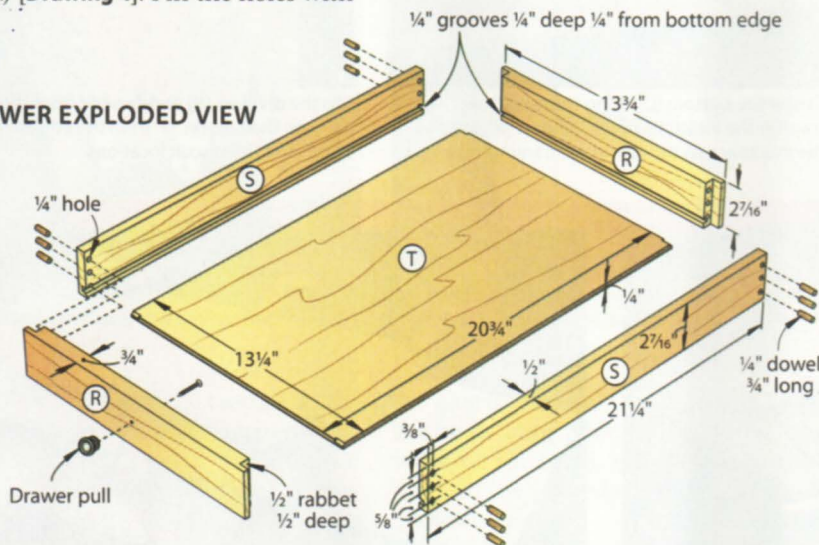
**4** Apply stain, if desired; then, add a clear finish. We used Zar Salem Maple oil-based stain followed by four coats of Old Masters water-based satin polyurethane as shown on the next page.

**5** After the finish dries, attach drawer pulls, stack the desktop unit on the base units, and optionally attach the top

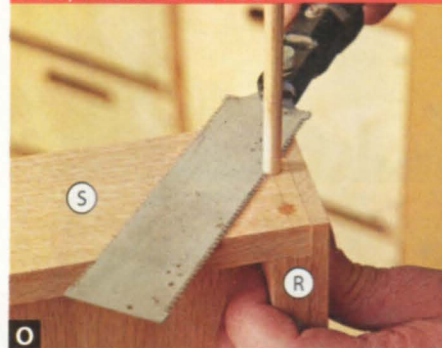
with screws from beneath the bookcase/pedestal tops using 1 1/4" screws. Now add a chair and kick your feet up!

Produced by **Lucas Peters** with **John Olson**  
Project design: **Kevin Boyle**  
Illustrations: **Lorna Johnson**

#### 4 DRAWER EXPLODED VIEW



#### PEG, THEN TRIM FLUSH



**O** Glue the dowel in the peg hole, allow the glue to set, then use a flush-cut saw to trim the excess. Sand the side smooth, removing any blade marks.

### Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
<b>Pedestal</b>					
A sides	3/4"	23"	27 1/4"	OP	2
B top and bottom	3/4"	10 1/2"	23"	OP	2
C shelf	3/4"	10 3/8"	22 1/2"	OP	1
D shelf edging	3/4"	1"	10 3/8"	O	1
E back	1/4"	11 1/4"	26 1/2"	OP	1
<b>Bookcase</b>					
F sides	3/4"	12"	27 1/4"	OP	2
G top and bottom	3/4"	12"	21 1/2"	OP	2
H shelf	3/4"	11 1/2"	21 3/8"	OP	1
I shelf edging	3/4"	1"	21 3/8"	O	1
J back	1/4"	22 1/4"	26 1/2"	OP	1
<b>Bases</b>					
K cleats	3/4"	1 1/2"	20 3/4"	O	4
L ends	3/4"	2"	11 1/4"	O	4
M sides	3/4"	2"	22 1/4"	O	4
<b>Desktop Unit</b>					
N dividers	3/4"	2 1/2"	21 3/4"	OP	3
O bottom	3/4"	21 3/4"	30"	OP	1
P top	3/4"	24"	55"	OP	1
Q back	3/4"	3 1/4"	30"	OP	1
<b>Drawers</b>					
R fronts and backs	3/4"	27 1/6"	13 3/4"	O	4
S sides	1/2"	27 1/6"	21 1/4"	O	4
T bottoms	1/4"	13 3/4"	20 3/4"	OP	2

**Materials key:** OP—oak plywood, O—oak.

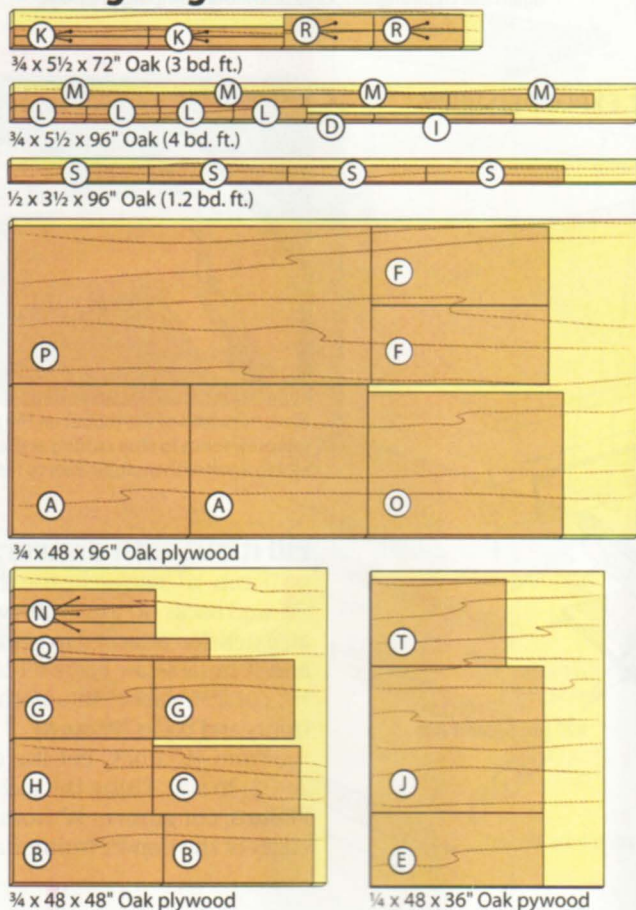
**Supplies:** #20 biscuits, oak edge banding, 1/4" oak dowel, #8x1 1/4" flathead screws.

**Bits:** 1/4" self-centering bit, 3/4" brad-point bit.

### Source

**Drawer pulls:** Chrome cabinet knob (Lowes.com, no. 340653) (2), shelf pins (Lowes.com, no. 323848) (8).

### Cutting Diagram



# The holy grail of finishing: Safe and cheap spraying



If spray-finishing promises silky smooth finishes that go on fast and dry quickly, why doesn't everyone use it? We're all familiar with the objections: HVLP equipment is expensive. The process requires dedicated, ventilated space. Cleanup is a nightmare. And besides, it's unfamiliar territory. But we've discovered the holy grail: a spray-finishing combo that overcomes those hurdles.

**S**pray-finishing is a balancing act between air flow and finish flow. Tip either in the wrong direction and you could end up with spatters and runs or an unsuitably thin coat.

We started our spray-finishing setup with an inexpensive Wagner Control

Spray Max HVLP unit that we modified slightly. (See **Dialing In**, below.) Though it lacks the oomph to spray paint or unthinned varnishes, this sub-\$130 unit started to outperform its price point when we filled it with a water-based polyurethane.

Although its fast dry time makes it difficult to brush, water-based poly brings a ton of advantages to the spraying world: fewer noxious fumes, virtually no combustibility, its low viscosity requires less air volume to spray, and it cleans up easily with water.

## DIALING IN: The photos show you what to look for and how we managed to get the perfect air and fluid flow.



At its minimum finish-flow setting, the gun struggles to atomize even at maximum air pressure. If the spray is readily visible, the finish goes on too thick.



So we added cardboard shims to limit trigger movement, reducing the finish flow to a level the sprayer can properly atomize.



Slowed by the simple modification, the finish atomizes well and the spray becomes nearly invisible to the naked eye.

## Spraying tips

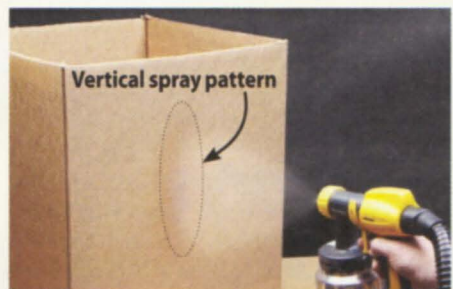
If you've never sprayed a finish before, take some time to polish your technique. A cardboard box, *right*, makes a great project stand-in, with both interior and exterior surfaces to practice on.

Unlike their oil-based counterparts, water-based finishes take a few seconds to begin soaking into the wood grain to give it the familiar wet, dark look. This can trick you into applying too much finish. A raking light more accurately reveals the finish, *far right*.

Swinging the gun in an arc causes uneven coverage. Instead, hold the gun at a constant distance from the project, trigger the spray off of one edge (essentially spraying into open space), move the gun across the project, and release

the trigger after passing over the opposite edge. (See *top photo*.)

The Wagner HVLP kit is a "bleeder" unit—meaning air constantly blows through it whether or not you are spraying. So avoid pointing the gun at the



On large surfaces, a vertical spray pattern and horizontal motion work best. Practice to dial in gun speed and distance needed for a smooth coverage.

project when you aren't spraying to keep from blasting away the wet finish.

Lightly sand between coats using 220-grit sandpaper. Add coats to your liking; for an open-pore wood, like oak, we recommend at least four coats. 🌱



A light shining across your project at a low angle makes the finish more visible as you apply it so you can instantly evaluate your results.

# Fall in Love with Frameless Cabinets

**W**hy go frameless? Two reasons: First, this style of cabinet serves equally as well as a modern, unbroken canvas for displaying gorgeous wood grain as it does for creating a traditional raised-panel kitchen. Second, they build and install easier than their face-framed cousins. But there are many more advantages to a frameless cabinet design:

- ▶ Eliminating the face frame also takes away nearly half the work—milling, math, and machining.
- ▶ No-fuss biscuit joinery speeds case construction.
- ▶ Replacing the toe-kick with a ladder base means shorter sides for the base cabinets. So each sheet of plywood yields two additional base sides for large installations, saving you money.
- ▶ The ladder-base design also makes it easier to install and level this cabinet configuration.
- ▶ Making doors and drawer fronts from edge-banded plywood reduces work, cost, and moisture-induced movement.
- ▶ Innovative hardware provides flexibility and adjustability in door and drawer mounting.

## Materials and measurements

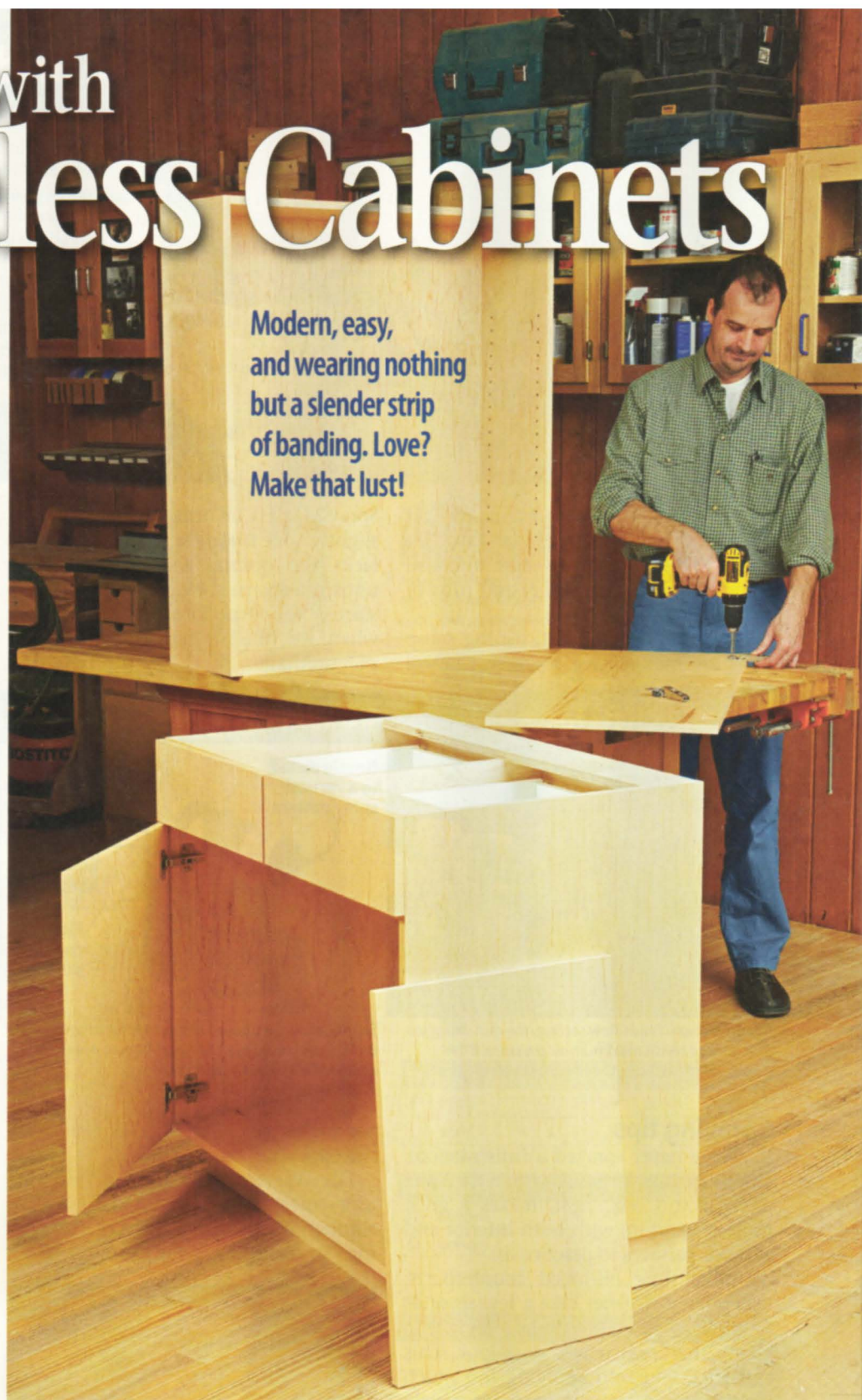
For the cabinets shown, we used maple-veneered plywood. Hardwood-veneered medium-density fiberboard (MDF) or melamine-covered particleboard also work well.

**Note:** Carefully check your material thickness. Sheet-goods' thickness varies, so you'll need to adjust the lengths of the stretchers and bottom slightly to compensate. The dimensions we used assume a true 3/4" plywood.

**Standards provide a design assist.** Cabinet dimensions have been standardized over the years based on an average person's height and comfortable reach.

▶ Standard base cabinets measure 36" high and 24" deep. Frameless cabinet design achieves these measurements with a 30½" case resting on a 4" ladder base and topped with a 1½"-thick, 24"-deep countertop.

Modern, easy,  
and wearing nothing  
but a slender strip  
of banding. Love?  
Make that lust!

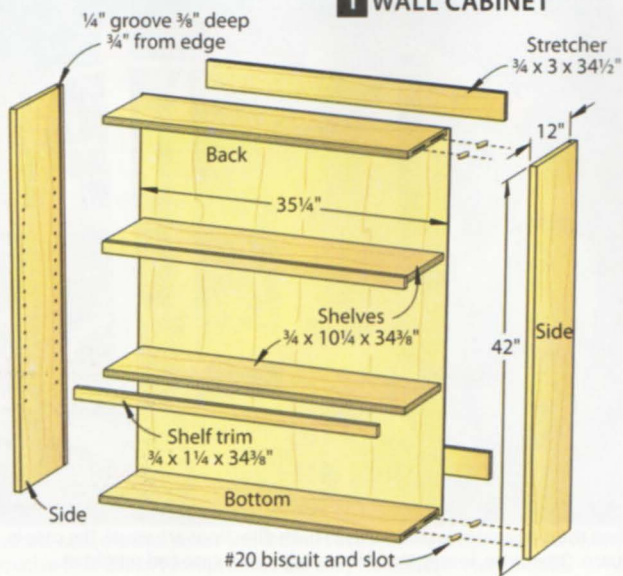


▶ Feel free to adjust the width of the cabinets to fit your space. But keep in mind that the wider the door, the greater its tendency to sag—an error that full-overlay doors amplify. Also, the wider the doors, the more clearance you'll need in front of the cabinet to open them.

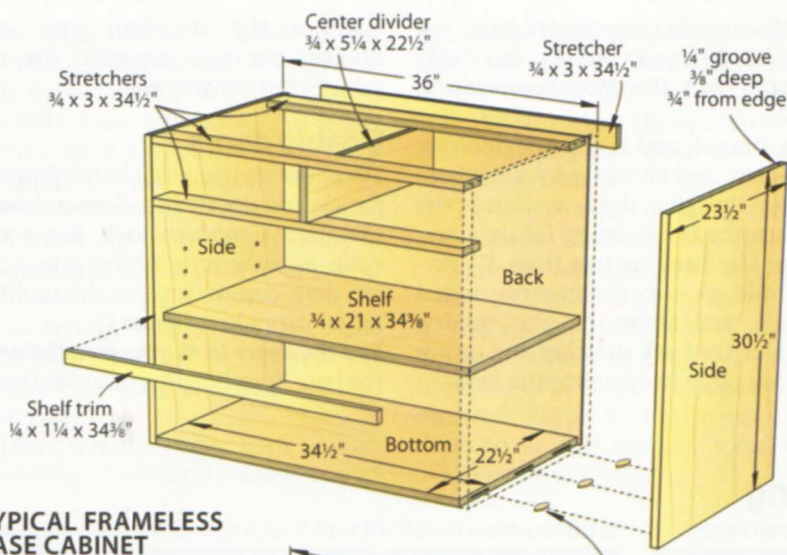
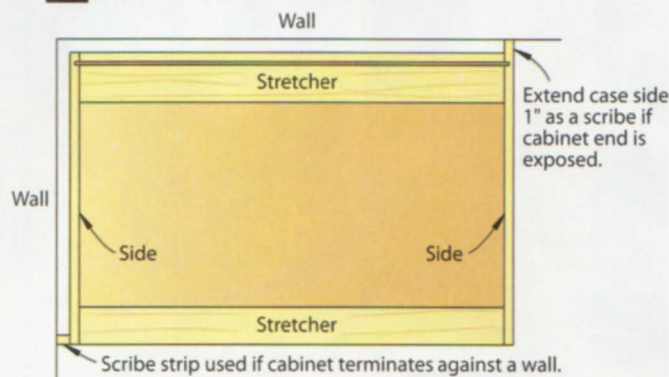
▶ For easy access to the countertop below, standard upper cabinets typically measure 12" deep or less.

▶ Upper cabinets commonly mount 18" above the countertop. This places the tops of our upper cabinets against an 8' ceiling for a floor-to-ceiling look.

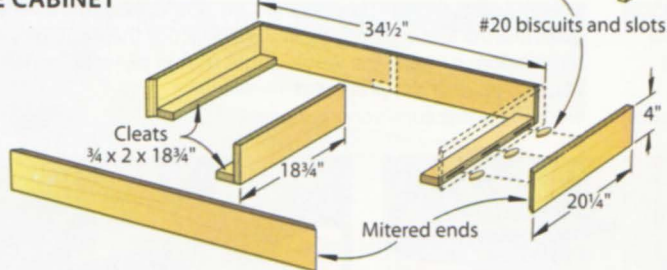
## 1 WALL CABINET



## 2a BASE CABINET TOP DETAIL



## 2 TYPICAL FRAMELESS BASE CABINET



**Customize for your space.** To fit built-in cabinets into an opening, you'll need to allow some margin for out-of-square walls in your design. To do this, make the total width of a set of cabinets at least 2" narrower than the opening, narrowing or widening cabinets to fit. (You'll fill the gap during installation.) To calculate part lengths for cabinets wider or narrower than the one shown in **Drawings 1 and 2**, follow this formula:

1. Measure the opening and subtract 2" for an installation flanked by two walls or 1" for an installation that abuts a wall on only one side.
2. Divide this dimension by the number of cabinets you plan to install in the opening. This is the final width of each cabinet.
3. Multiply the thickness of your cabinet side material by two and subtract this from the Step 2 result. This will be the length of the base cabinet bottoms and

stretchers, as well as the upper cabinet top and bottom. Any shelves will be 1/8" shorter than that.

For example, for a 72" wall-to-wall opening to be filled with two cabinets made from 2 3/32" plywood, cut the base bottom and stretchers and the upper top and bottom 33 1/16" long.

For a set of cabinets with an exposed end, add 1" of additional width to the rear edge of the terminating case side [**Drawing 2a**].

## Case construction

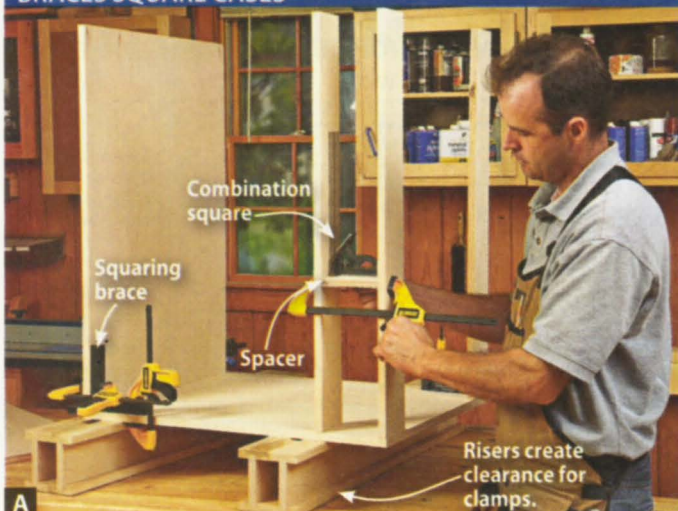
For a base cabinet dimensioned as in **Drawing 2**, you'll cut all the parts except the back from a single 4x8' sheet of plywood. Start by ripping two side pieces to the cabinet's depth; then, crosscut them to length. Label them left and right on the inside faces.

From the offcut, rip four 3"-wide stretchers and crosscut them to length. Rip the center divider 1" wider than the planned drawer-box height, and save a 3"-long offcut. You'll use it as a spacer during assembly. Finally, cut to size the bottom and, if desired, a shelf and, from matching hardwood, a piece of shelf trim. Then, edgeband all front-facing plywood edges as shown on *page 34*, and glue the shelf trim to the shelves.

In your table saw, install a stacked dado set to match the thickness of the back material. Use the thickness of a stretcher to set the fence distance from the blade. With the blade height set to 3/8", cut a groove along the back inside face of each side. If you'll be adding an adjustable shelf, lay out and drill shelf-pin holes on both sides.

**Case assembly.** Mark and cut slots for #20 biscuits where parts adjoin, labeling the

## BRACES SQUARE CASES



**A** Squared up and clamped in place, the spacer maintains the correct stretcher position. Squaring braces align the top rear stretcher and bottom.

## DOUBLE-CHECK THE DIAGONALS



**B** When the diagonal measurements in both directions are equal, the case is square. Otherwise, loosen the clamps, adjust the case and retighten.

locations and orientation of each stretcher before setting them aside. Use the 3"-long spacer you cut earlier to aid in locating the lower front stretcher.

Lay a side panel on your workbench with the grooved face up. (The flatter the assembly surface, the less chance for twists and out-of-square joints.) Add glue and biscuits to the slots in the side; then, glue the adjoining edges and slots of the bottom and the stretchers and add them to the side, squaring as shown [Photo A]. The braces in the photo are

from Woodpecker ([woodpeck.com](http://woodpeck.com), no. CS6075X2, \$35/pair), but you can easily make your own. (See **More Resources** on page 37.)

Glue, biscuit, and clamp the opposite side in place and check for square [Photo B]. After the glue dries, unclamp the case, measure the opening for the back, and cut the back to size from  $\frac{1}{4}$ " plywood. Add glue to the grooves, insert the back, and allow the glue to dry. Then, glue the back stretcher and center divider in place to complete the case.

Minus the stretchers and drawer divider, cut and assemble the upper cabinet in the same way.

## Doable doors

We chose simple, edge-banded plywood panels for doors and drawer fronts to maintain a modern look. But you can easily alter the style by choosing a different door design, such as the traditional raised panel look [Photo C].

**Size the doors to fit your installation.** For the base door heights, measure from the

## Hide the plies with veneer edging

Iron-on edge-banding quickly and reliably covers plywood edges. And with no machining involved, you'll save a ton of time. Veneer edging comes in a variety of species to complement your plywood choice. We chose an edging ([rockler.com](http://rockler.com), no. 21304, \$23 for 50 ft.) with hot-melt ethylene-vinyl acetate (EVA) glue that forms a fast-acting bond. You'll also need a few specialty tools: an electric iron

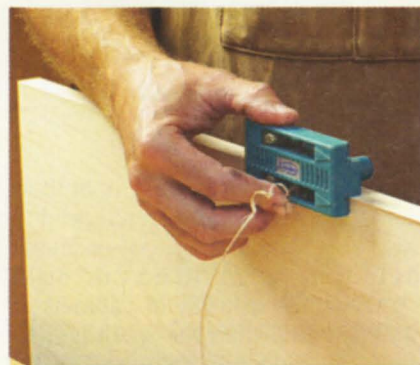
(a laundry-room castoff will work fine), a screwdriver (for burnishing), a veneer edge trimmer ([rockler.com](http://rockler.com), no. 43208, \$22), and a veneer guillotine ([rockler.com](http://rockler.com), no. 28542, \$43). Practice the steps, *below*, on scrap before banding the visible edges of your plywood panels. Watch a video of this process at [woodmagazine.com/irononedging](http://woodmagazine.com/irononedging).



Using a dry iron set on medium heat, press a slightly over-length strip of edging onto the plywood. Position the edging by feel ahead of the iron, maintaining an overlap on both sides.



As the glue cools, seal the banding tight by burnishing it with the shaft of a screwdriver. Then use a veneer guillotine (*above*) to create a flush, square cut at the ends of the panels.



Last, use a veneer edge trimmer to pare away the excess along the faces. A smooth cut requires only light pressure. Clean up all the cuts with a light sanding pass using 220-grit sandpaper.

### A TRADITIONAL ALTERNATIVE



**C** Substitute raised-panel doors and drawers in a frameless cabinet for a stylish alternative that doesn't compromise the easy construction techniques.

### DRILL THE HINGE CUP HOLES



**D** Although the hinge instructions call for 35mm holes to fit the hinge cups, a 1 3/8" Forstner bit matches close enough to save buying a bit.

bottom of the case to the center of the lower stretcher and subtract 1/16" (for a 1/8" reveal). For the width, divide the cabinet width by two and subtract 1/16". (If you're building a bank of cabinets, subtract 1/8" from all but the end doors to maintain an even reveal among multiple doors.)

Find the width of the upper doors in the same way, and make the door height 1/8" less than the height of the cabinet to clear the ceiling. After cutting the doors to size, edge-band all four edges—left and right edges first, and then top and bottom ends.

**Mount the doors.** Thanks to their built-in adjustability, Euro-style hinges make

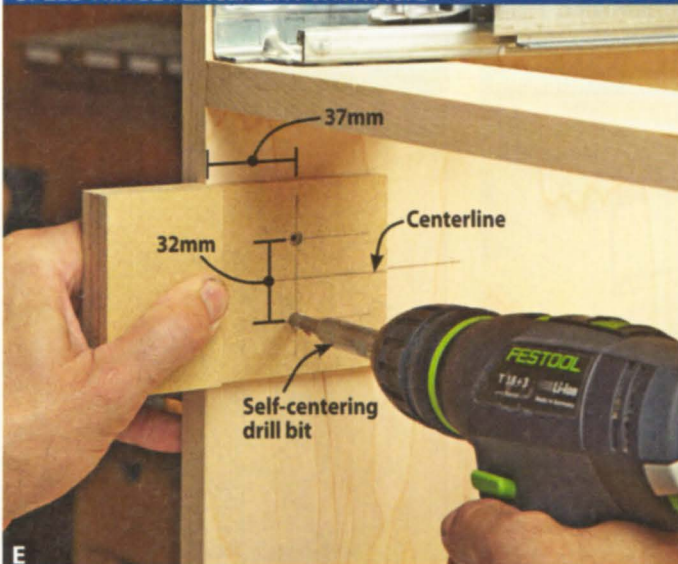
mounting and fitting doors incredibly easy. We chose Blum 120° clip-top hinges (woodcraft.com, no. 142852, \$11). We also added the optional Blumotion snap-on soft close mechanisms (woodcraft.com, no. 147966, \$4) to slow the final few inches of the hinge's closing action to eliminate door slams.

Begin the installation by drilling 1 3/8" holes 1/2" deep with a Forstner bit [Photo D]. We centered the holes 4" from the top and bottom of the door and 1 3/16" from the edge. (And we added a third, centered hinge to the upper cabinet doors to support the additional weight of the oversize door.)

Place a hinge cup in a hole, squaring it with the door edge; then mark the centers of the mounting-screw holes, drill 3/32" pilot holes, and install the hinge with #6 screws.

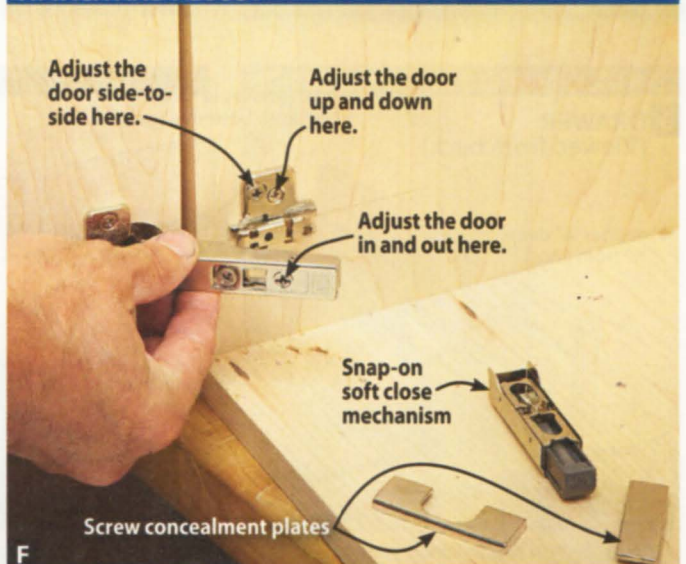
Mark centerlines 4" down from the top of the cabinet's lower cleat and 4" up from the bottom of the cabinet. Build a jig like the one pictured [Photo E] to drill the hinge mounting-plate holes. Then, install the mounting plates, clip the door in place and adjust the door location for a perfectly aligned reveal using the hinge's adjustment screws [Photo F]. Add the snap-on, soft-close mechanisms and the screw concealment plates.

### SPEED HINGE PLACEMENT WITH A JIG



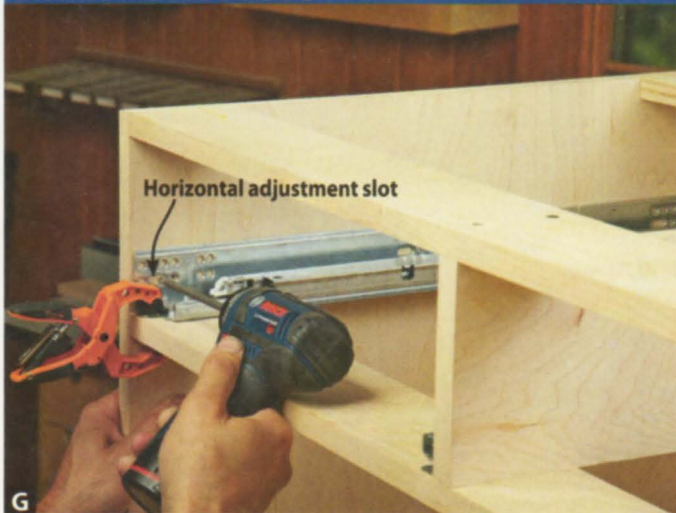
**E** The hinges include directions for screw hole layout. But a simple jig made of layers of 1/4" MDF automatically positions your drill bit.

### ATTACH AND ADJUST



**F** Built-in hinge adjustments give you a fairly wide margin of adjustment. Use these to fine-tune the door position after installation.

### INSTALL THE SLIDE INSIDE



**G** Clamp the slide flat against the stretcher and  $\frac{1}{16}$ " back from the cabinet edge. Screw through the horizontal slot to allow for later adjustments.

### ADD THE LOCKING MECHANISM



**H** The locking mechanism captures the front of the slide and features a side-to-side adjustment wheel that allows for fine-tuning.

## Two options in adjustable drawers

European hardware manufacturers have also driven rapid improvement in drawer slide technology. For these cabinets, we used two drawer-and-slide combinations that have quickly become standards in the cabinet industry due to their easy installation and adjustability.

**Build your own.** The first drawer style is a shop-built lock-rabbit drawer box. A few alterations [Drawing 3] accommodate the Blum undermount, full-extension slides (wwhardware.com, no. B563.5330B, \$24) and optional locking side-to-side adjustment mechanism (wwhardware.com, no. BT51.1901, \$5).

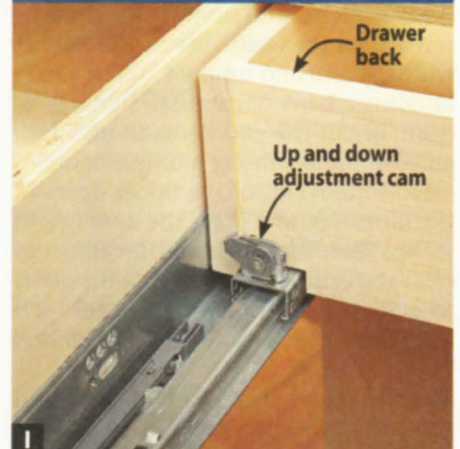
Measure the drawer openings and design the drawer boxes to leave  $\frac{1}{2}$ "

clearance on both the top and bottom and  $\frac{3}{16}$ " on each side. Cut the fronts and backs  $\frac{3}{4}$ " shorter than the intended drawer box width to allow for the  $\frac{1}{4}$ " lock-rabbit joint [Drawing 3]. For the undermount slides we used, the slide itself dictates the drawer length—21", in the case of our 23 $\frac{1}{2}$ "-deep cabinet.

After cutting the grooves, dados, and rabbets in the front, back, and sides of the drawer, use a dado blade and a miter-gauge extension to cut a notch in the drawer back to accommodate the slide [Drawing 3a]. Then drill the adjustment hole where shown.

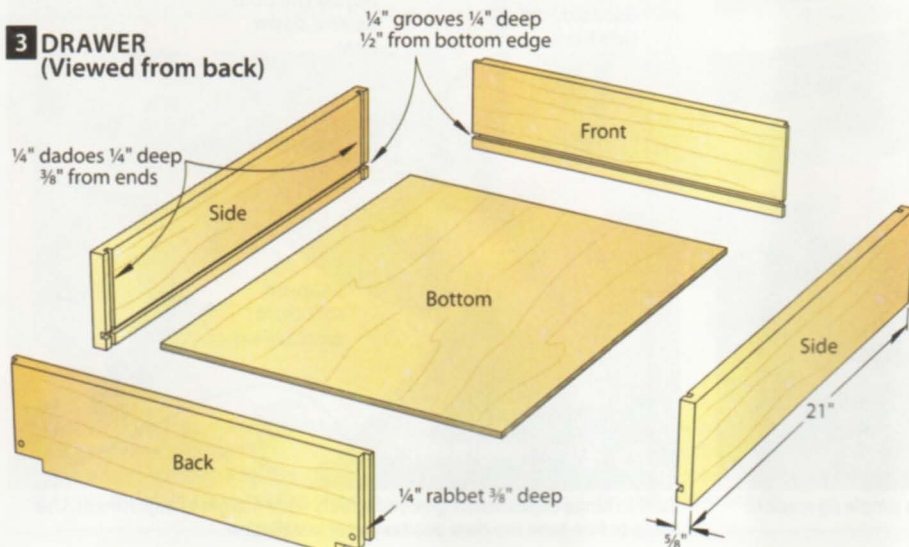
After installing the slides in the cabinet [Photo G] and the adjusters to the drawer boxes [Photo H], attach the boxes to the slides [Photo I].

### INSERT THE DRAWER BOX

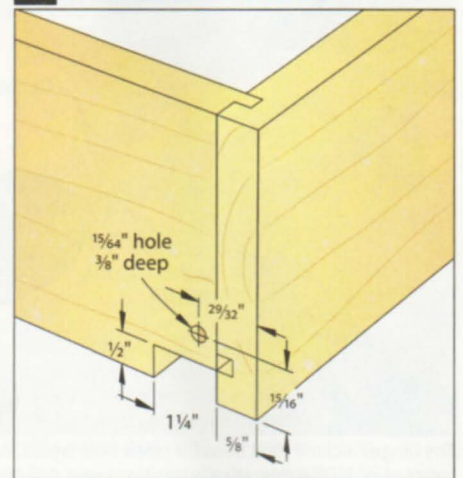


**I** A pin in a cam adjuster fits in the hole in the back of the drawer, allowing you to adjust the drawer up or down to align the drawer with the case.

### 3 DRAWER (Viewed from back)



### 3a DRAWER BACK DETAIL



#### MAINTAIN AN EVEN SPACE AS YOU ADD A FACE



**J** Use shims and double-faced tape to temporarily position the drawer face before drilling and screwing it in place from inside the drawer box.

#### ASSEMBLE A BOXLESS DRAWER



**K** Attach the clips included with side/slide combination hardware to add the drawer face. The clips engage with the adjustment mechanism.

Size the drawer faces as you did the doors, edge-band them, and attach as shown in **Photo J**.

**The hardware alternative.** A time-saving second option—side/slide-mount drawers—eliminates drawer construction altogether. Commonly used in utility rooms or shops, this drawer concept requires you to cut only a bottom, back, and face to the hardware's specifications. We used Hafele's Moovit drawer hardware. The online order form ([hafele.com/us/products/20504.asp](http://hafele.com/us/products/20504.asp)) lets you specify your drawer dimensions and features to order the hardware.

The hardware clips the parts in place to form an integrated drawer/slide [**Photo K**]. Like the undermount slides, these feature full adjustability for worry-free installation.

#### Build a ladder-like base

Constructing the base as a separate component from the case greatly simplifies the leveling and installation process. Assemble the base as shown [**Drawing 2**] and finish all of the cabinet components. Then, level and mount the base through the back stretcher, shimming where necessary between the cabinet and wall.

For cabinet installations terminating against walls, cut a scribe strip slightly wider than the clearance you allowed [**Drawing 2a**]. Tape the strip to the case side and use a compass to transfer the shape of the wall onto the scribe strip [**Photos M and N**]. Cut and sand to the line. Check the fit and repeat if neces-

sary before finishing the strip. Tack the piece in place through the case side.

For open-ended cabinet installations, use the same technique on the case side allowance you left before affixing the cabinet to the wall. 🌱

Produced by: Lucas Peters with Kevin Boyle  
Illustrations: Lorna Johnson

#### More Resources

- ▶ Want to nix raised-panel door goofs? Go to [woodmagazine.com/doorgoofs](http://woodmagazine.com/doorgoofs).
- ▶ For a right-angle clamping brace plan, see [woodmagazine.com/clampingbrace](http://woodmagazine.com/clampingbrace).
- ▶ For a small fee, find instructions for traditional faceframe cabinets at [woodmagazine.com/easycab](http://woodmagazine.com/easycab).

#### LEVEL A LADDER BASE



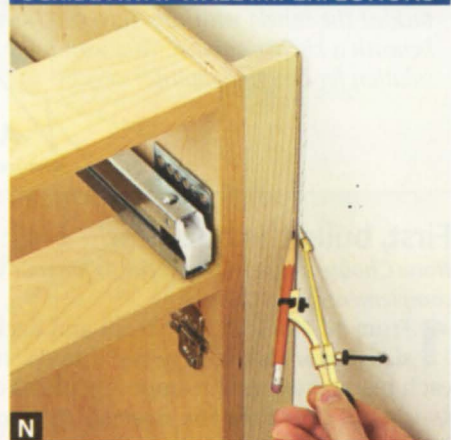
**L** Use shims to level the ladder base in both directions. Once level, attach the base to the floor, screwing through both cleats and shims.

#### MEASURE THE GAP



**M** With the cabinet in place against the wall, set your compass width to match the largest gap between the scribe strip and wall.

#### SCRIBE AWAY WALL IMPERFECTIONS



**N** Draw the compass along the wall to mark an exact replica of any uneven or out-of-level spots before removing the scribe strip for shaping.

# Neat and Discreet Handheld-electronics Valet



If the kitchen counter turns into a rat's nest of charging cords for your family's mobile phones, portable music players, and tablet computers every night, we feel your pain. So we tackled the tangle with this tidy, tuck-away tray that mounts beneath a kitchen cabinet. And wait until you see our one-cord solution for charging multiple devices!

*Nate*

Nate Granzow, General-Interest Editor

## First, build the box

**Note:** Choose a material and finish for your valet that matches or complements your cabinetry.

**1** From  $\frac{3}{4}$ " stock, cut the front and back (A) and sides (B) to size [Materials List, Drawing]. Cut 45° miters on the ends of each piece, making sure opposing pieces are identical lengths.

**Quick Tip!** Dry-fit the box assembly (A/B) to check for tight joints before moving on.

**2** Mark the bottom edges of the front and back (A) and sides (B) with a pencil. Install a  $\frac{3}{4}$ " straight bit in your router

## A RABBET FOR THE BOTTOM

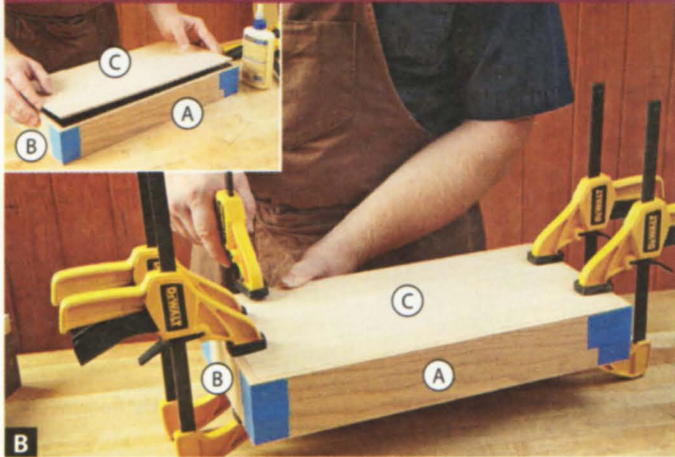


**A** Adjust the bit for a  $\frac{3}{8}$ "-deep cut and set the fence to cut a rabbet that matches the thickness of the  $\frac{1}{4}$ " plywood bottom (C).

table, and rout a  $\frac{1}{4}$ " rabbet  $\frac{3}{8}$ " deep along the inside bottom edge of all four parts [Drawing, Photo A].

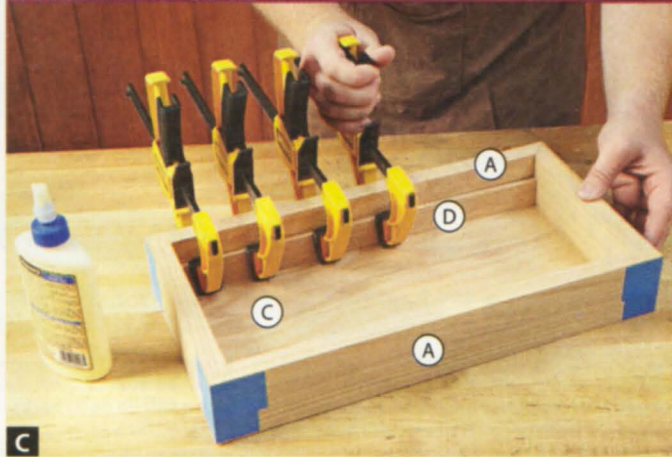
**3** Tape together three of the mitered corners of the box assembly (A/B). Unfold the taped assembly, apply glue to

### DROP IN THE BOTTOM



**B** Apply a thin layer of glue to the rabbets in the front and back (A) and sides (B) before dropping in the bottom (C). Clamp it in place and let dry.

### SUPPORT THE TRAYS



**C** With two tray supports (D) cut to length, glue and clamp them to the inside faces of the valet's front and back (A), tight against the bottom (C).

each miter joint, then roll up the box—taping the final joint to complete the glue-up.

**4** Measure between the rabbets in the box (A/B) to find the bottom (C) dimensions. Cut the bottom to size and glue it in place [Photo B].

**5** From  $\frac{1}{4}$ " plywood, cut the tray supports (D) to size [Drawing]. Trim them to length for a snug fit and glue them in place [Photo C].

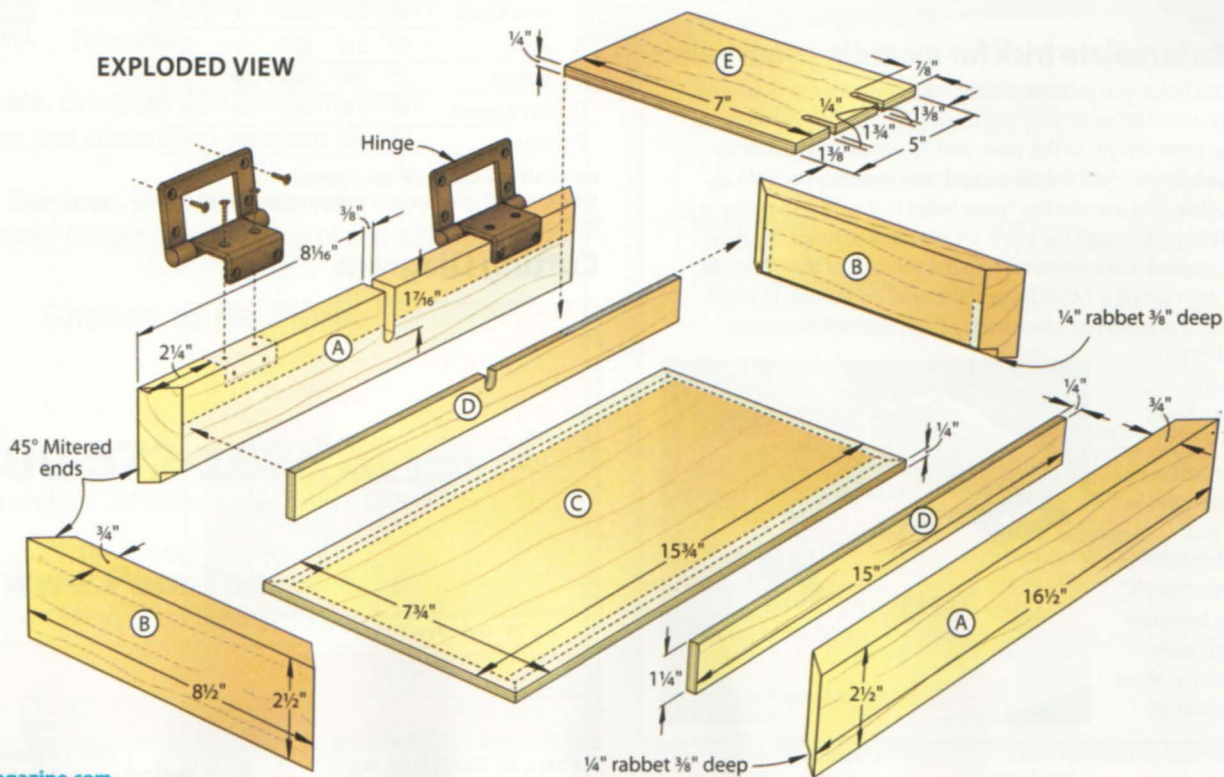
### Now, cut for cords

**1** Lay out the location of the power-cord slot along the back (A)—a  $\frac{3}{8}$ " width should accommodate most power cords. Next, clamp a scrap backing board to the inside face of the back tray support (D) and drill the bottom of the slot with a  $\frac{3}{8}$ " brad-point bit [Photo D].

### CALL IN BACKUP TO DEFUSE TEAROUT



**D** Before drilling the bottom of the power-cord slot, clamp a backing board to the tray support (D).

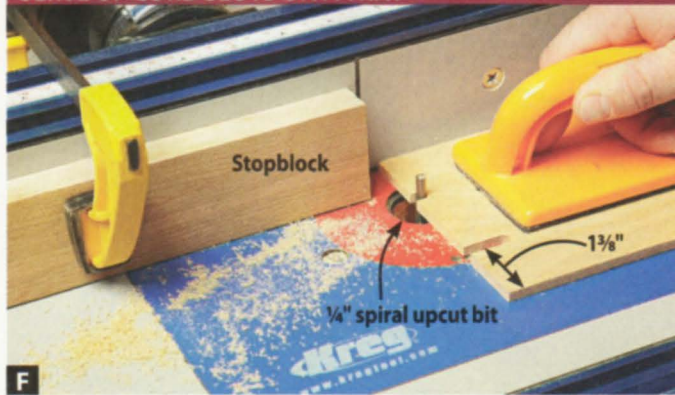


### A HANDSAW MAKES THE CUT



**E** For optimal results, use a short backsaw (a handsaw with a stiff rib on its back) with 14–22 teeth per inch when cutting the slot.

### SERVE UP CORD SLOTS ON A TRAY



**F** Position a 1/4" spiral upcut bit (a 1/4" straight bit will also work) 1 3/8" from the router-table fence. Clamp a stopblock to make 7/8"-long slots.

- 2** Using a handsaw, cut from the top of the back (A) to the drilled hole to complete the slot [Photo E].
- 3** Now, cut the trays (E) to size and test their fit atop the tray supports (D) inside the box (A/B/C). At the router table, apply adhesive-backed high-friction sheet material [Sources] to each—this keeps the electronics from sliding down when opening the charging station.
- 4** Apply finish to your valet to match your cabinets. When the finish dries, install hinges [Sources] on the station's back (A). For help mounting the valet, see **No-fuss template trick for mounting your valet** (below). 🌱

Produced by **Nate Granzow** with **John Olson**  
Project design: **John Olson** Illustrations: **Lorna Johnson**

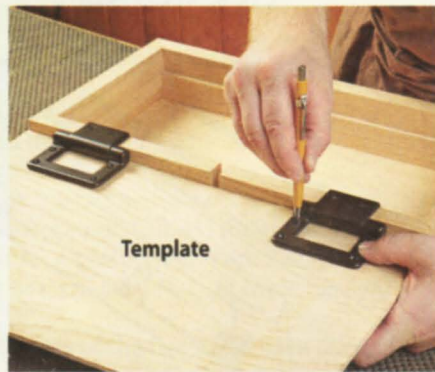
**Sources:** High-friction sheet material, \$9.90, no. 88K59.05, Lee Valley, 800-871-8158, leevalley.com; 60-pound lid-stay torsion hinges [pack of 2], \$53.99, no. 36275, Rockler, 800-279-4441, rockler.com; Belkin Mobile USB hub, \$11.99, no. N82E16817394106, 800-390-1119, newegg.com

### No-fuss template trick for mounting your valet

A template helps you avoid the acrobatics necessary to hold your valet in position while driving the screws. From 1/4" plywood, cut a blank the same length as the valet, and 3/8" wider (to account for the hinge barrels). Hold the blank against the valet's back (A), as shown below, and transfer the hinge holes to it with a sharp pencil. Drill pilot holes through the blank on the marked hinge locations.

Then, apply double-faced tape to the top face of the template, orient it with the pilot holes toward the wall, and stick it in place, tight behind the cabinet's face frame. Drill pilot holes into the cabinet bottom through the template's holes.

Remove the template and mount the valet in place. If your cabinet bottoms are thinner than 3/4", leave the template in place to keep screws from poking into the cabinet.



### QUICK TIP: SLIM USB HUB SAVES SPACE



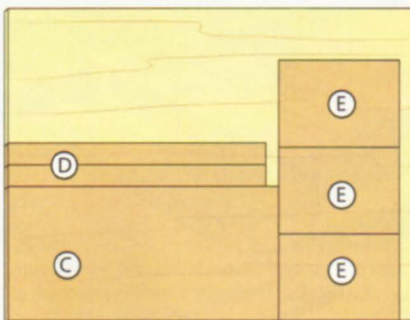
**G** Rather than cram a power strip and chargers under the trays (E), drop in an AC-powered USB hub to charge your devices instead.

### Materials List

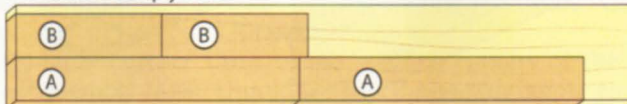
Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A front & back	3/4"	2 1/2"	16 1/2"	O	2
B sides	3/4"	2 1/2"	8 1/2"	O	2
C bottom	1/4"	7 3/4"	15 3/4"	OP	1
D tray supports	1/4"	1 1/4"	15"	OP	2
E trays	1/4"	5"	7"	OP	3

**Materials key:** O-oak, OP-oak plywood.  
**Bits:** 3/4" and 1/4" spiral upcut or straight router bits, 3/8" brad-point bit.

### Cutting Diagram



1/4 x 18 x 24" Oak plywood



3/4 x 5 1/2 x 36" Oak (1.6 bd. ft.)

# TURN YOUR HOBBY INTO A NEW CAREER.

Learn **FURNITURE AND CABINET MAKING**  
with training from Penn Foster.

Our online training program will teach you the advanced woodworking techniques used in furniture and cabinet making. You could work for an established woodworking business or even start a business of your own!

**Flexible and Convenient.** Learn online, at your own pace. And all materials are sent directly to you. Our expert instructors are available to you by phone, message board, or email.

**Accredited.** Penn Foster Career School and High School are regionally and nationally accredited. Penn Foster College is nationally accredited and licensed by the Arizona State Board of Private Postsecondary Education.



**Affordable.** Graduate debt free with our 0% financing and customized payment plans.

**Career Services.** Graduates receive Penn Foster Career Services, free of charge!

**Choose to Be More!**

Call toll free:

**1-800-572-1685 ext. 7338**

Call anytime, 24 hours a day, 7 days a week.

Or visit our website at

**www.PennFoster.edu**

Online enter ID# AW8S13T



**PENN FOSTER CAREER SCHOOL**  
Dept. AW8S13T, 925 Oak Street, Scranton, PA 18515  
www.PennFoster.edu

**• Furniture and Cabinet Maker**

**Building Trades**

- Carpenter
- Home Inspector
- Home Remodeling and Repair
- HVAC Technician
- Landscaping Technology
- Plumber
- Residential Electrician

**Business**

- Small Business Management

**Mechanics**

- Auto Repair Technician
- Diesel Mechanics
- Motorcycle Repair Technician
- Small Engine Repair

**High School**

- Penn Foster High School
- Penn Foster High School w/ Carpentry Concentration
- Penn Foster High School w/ Electrical Concentration

**Technology**

- Computer Support Technician
- Drafting with AutoCAD®
- Electronics Technician
- PC Maintenance and Repair
- Web Page Designer

**Other Exciting Programs**

- Appliance Repair
- Gunsmith
- Private Investigator
- Professional Locksmithing

**PENN FOSTER COLLEGE**

Administrative Office, 14300 N. Northsight Blvd., Suite 120, Scottsdale, AZ 85260  
www.PennFosterCollege.edu

**Associate Degree Programs**

- Accounting
- Business Management
- Computer Information Systems
- Construction Technology
- Criminal Justice
- Engineering Technology

- Finance
- Graphic Design
- Human Resources Management
- Marketing
- PC Maintenance Technology
- Retail Management

TUITION ASSISTANCE  
PLAN AVAILABLE!



SHOP TESTED

# One-Hand Bar Clamps

Only buy these clamps if you intend to work with wood, tools, glue, fasteners, or need to pull two things together. To find the best, we tested 11 models from seven makers.



**B**ecause you can tighten these clamps with one hand while holding your work with the other, every shop needs a selection of one-hand bar clamps. We like 'em so much we have 142 of various lengths and brands in the *WOOD*® magazine shop! (And very few sit idle long enough to gather dust.)

The original clamp in this category, the Quick-Grip, debuted in 1989. But these days you have many models and brands to choose from; so how do you know which to buy? And in what lengths? Read on to find out.

## The force *may* be with you

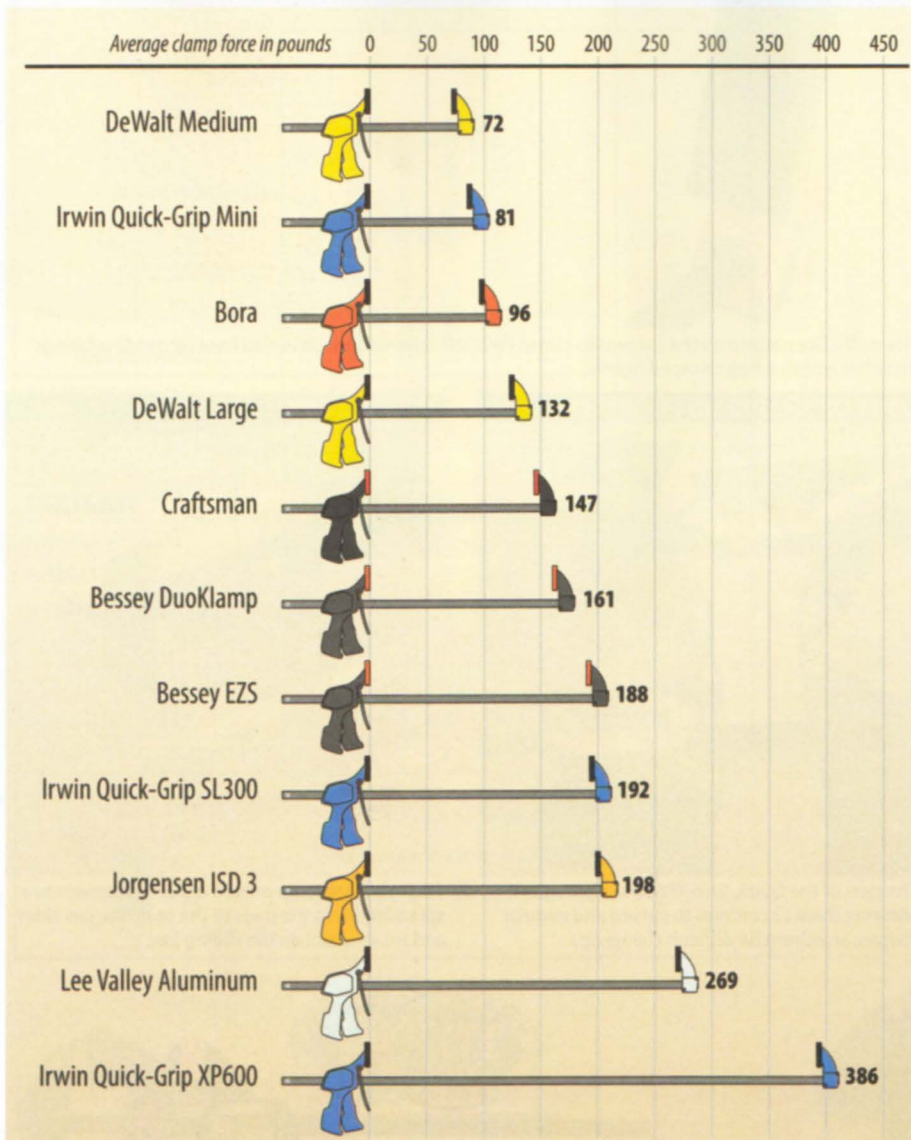
Despite most of the tested clamps being light and made of plastic composites, the majority demonstrated surprising

force. To test this aspect, we asked *WOOD* staff members to use one hand to squeeze a hydraulic ram with pressure gauge in each clamp until they "maxed out" the clamp's potential, as shown *above*. We then averaged the results and multiplied by the surface area of the ram (1.08") to find maximum clamping force. (See the chart on the *next page* for the results of our tests. Your results might vary based on your hand strength.)

Irwin's largest Quick-Grip, the XP600, topped the test with an average of 386 pounds of force. It achieves this with beefy components and the smallest jaw-travel-per-handle-squeeze (1/8") for greater torque. By comparison, only

one other clamp, the Lee Valley Aluminum, averaged more than 200 pounds of force. But you typically need only about 100 pounds of force to pull together well-fitted joints. So most of the clamps we tested will do the job when it comes to gluing up a project. And even the lightweight clamps that fall below this threshold work well enough for holding things in place, such as an auxiliary face to your table saw's rip fence or a workpiece to your benchtop while you chop dovetails.

## ONE-HANDED CLAMPING POWER



In addition to clamping strength, a clamp's jaws should close parallel—and stay parallel—for best results when gluing up assemblies. The Bessey EZS and Jorgensen ISD 3 clamps did this best in our tests. On the other hand, the Quick-Grip XP600 jaws deflected more than the others, especially as we increased the force, causing glued butt joints to slip, slide, and misalign. Still, these clamps—which weigh more than any other in the test—would be suitable for construction and heavy-duty work-holding tasks.

### Let's give the boys a hand

Regardless of a clamp's strength, if it doesn't feel comfortable in your hand, or squeezing the trigger to close the jaws seems unintuitive, you probably won't like it. The Craftsman clamp, shown on

page 44, feels awkward with its ratcheting trigger *behind* the handle, so you squeeze with your palm rather than your fingers. To work around this, we held the Craftsman "backwards," with the fixed jaw nearer to our bodies. Bessey's DuoKlamp, shown on page 44, also differs from the field in that its trigger and handle run inline with the bar rather than a typical pistol-grip style. In some cases, such as clamping below waist level, this orientation works well, but it takes some getting used to.

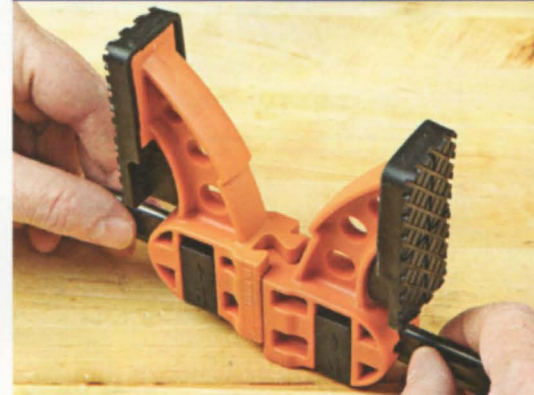
Once you tighten a clamp, at some point you have to release it. All but the Bora disengaged easily with a pull of the trigger release, but the more force we applied, the more difficult some were to unlock. With the Bora we often had to knock the release loose with a mallet.

## Other considerations

► **Clamp lengths.** We like 6" and 12" clamps for their light weight and for work-holding, where their shorter bars won't get in the way. We also like 24" lengths for some larger assemblies because they weigh less than pipe or crank-handle bar clamps. However, these 2-footers lack the clamping force those heavier clamps deliver. (**Quick Tip:** Buy bar clamps in multiples of four because rectangular projects typically require four clamps at a time during assembly.)

All the tested brands have 12" models, and all but Lee Valley offer 6" lengths. DeWalt's Medium and Large clamps, though similar in appearance, perform differently based on their size: The 6" and 12" lengths have only half the strength of the 24"- and 36"-long clamps. The Jorgensen ISD 3 clamps uniquely combine by interlocking, as shown below, to double capacity and possibly save you the cost of buying additional, longer clamps. This works well, but setup takes some time.

### LINK TWO CLAMPS FOR EXTRA REACH



Jorgensen's jigsaw-puzzlelike connectors at the ends of the fixed jaws hook together for added length (above). You must first flip both fixed jaws as shown (below). Either of the sliding jaws will tighten the combined clamp.



## MAKING A BAD IMPRESSION

► **Jaw pads.** Most stay solidly in place, but those on the Bora clamps slipped off routinely. All but two models have smooth pads; the textured pads on the Bora and Jorgensen clamps can mar your wood, as shown at *right*.

Both jaws on the Quick-Grip XP600 pivot 3° upward or 12° downward to accommodate non-parallel assemblies, such as that shown in the *left photo below*. On the Quick-Grip SL300, only the fixed jaw pivots. The jaws on both models lock square to the bar when pivoting isn't needed.

► **Spreading.** Except for the DeWalt Medium and the Quick-Grip Mini, all the clamps feature jaws that reverse for spreading, such as when disassembling a mortise-and-tenon or dovetail project, *far right*. This proves an easy task with all but the Bora clamps, which require a screwdriver to reconfigure.



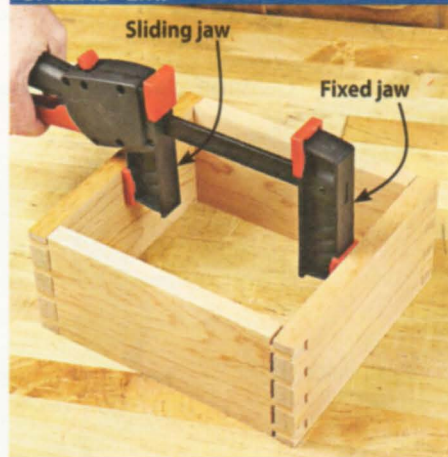
The wafflelike pattern on the Jorgensen clamp pads left indentations (revealed here by pencil rubbings) on softer woods when clamped tightly.

## OUT OF SHAPE? NO PROBLEM



The jaws of the Quick-Grip XP600 can pivot, allowing them to conform to curved and angular shapes, an otherwise difficult clamp-up.

## SPREAD 'EM!



Bessey's DuoKlamps proved easiest to convert to a spreader: Swap the pads to the opposite jaw sides and rotate a dial on the sliding jaw.

## WOOD MAGAZINE'S REVIEW-A-TOOL

Add your own review of these clamps and read more reviews from your fellow woodworkers at [toolreviews.woodmagazine.com](http://toolreviews.woodmagazine.com).



Bessey DuoKlamps  
800-828-1004; [besseytools.com](http://besseytools.com)



Bessey EZS  
800-828-1004; [besseytools.com](http://besseytools.com)



Bora  
866-588-0395; [boratool.com](http://boratool.com)



Craftsman  
800-349-4358; [craftsman.com](http://craftsman.com)



DeWalt  
800-433-9258; [dewalt.com](http://dewalt.com)



Jorgensen ISD 3  
312-666-0640; [adjustableclamp.com](http://adjustableclamp.com)

# ONE-HAND BAR CLAMPS: QUICK, EASY, AND HANDY

BRAND/MODEL	PERFORMANCE RATINGS (1)							DIMENSIONS, INCHES				WEIGHT, LBS-OZ (3)		WARRANTY, YEARS (4)	COUNTRY OF ASSEMBLY (5)	SELLING PRICE (6)
	CLAMPING FORCE	EASE OF TIGHTENING CLAMP	EASE OF RELEASING CLAMP	PARALLEL CLAMPING ABILITY	ABSENCE OF BAR DEFLECTION	PAD RETENTION ON JAWS	EFFECTIVENESS AS SPREADER (2)	JAW TRAVEL PER SQUEEZE	JAW DEPTH	JAW WIDTH	AVAILABLE LENGTHS (MAXIMUM OPENING BETWEEN JAWS)	12" CLAMP	24" CLAMP			
BESSEY DUOKLAMP	B	A	A-	B	A-	A	B	3/16	3 3/8	1 3/16	6, 12, 18, 24	1-9	2-2	1	C	\$18-32
BESSEY EZS	B+	A	A	A	B-	A	A	3/16	3 1/4	1 1/2	6, 12, 18, 24, 36	1-13	2-5	L	T	18-32
BORA	C	C-	D	B	A-	C	D	3/8	3 1/4	1 3/8	6, 12, 18, 24, 36	1-11	2-9	1	I	17-34
CRAFTSMAN	B	B	B-	B	A	A	A	1/4	3 3/8	1 3/8	6, 12, 24, 36	2-10	2-13	L	S	17-27
DEWALT MEDIUM	C-	A-	A-	B	A-	A	N/A	1/4	3	1 1/8	6, 12	0-15.5	N/A	L	C	12-25
DEWALT LARGE	B-	A	A	B	B	A	A	3/8	4 1/8	1 3/8	24, 36	N/A	2-14	L	C	25-40
IRWIN QUICK-GRIP MINI	C-	A	A-	B	A-	B+	N/A	3/16	2 3/8	1	6, 12	0-12.5	N/A	L	C	10-17
IRWIN QUICK-GRIP SL300	B+	A	A	A-	A	A	A	1/4	2 1/8	1 1/2	6, 12, 18, 24, 36	1-8	2-5	L	C	18-30
IRWIN QUICK-GRIP XP600	A	B+	B+	C	B	A	A	1/8	1 1/8	1 7/16	6, 12, 18, 24, 36, 50	2-14	3-10	L	C	20-50
JORGENSEN ISD 3	B+	B	B	A	B-	A	A	1/4	3 3/8	1 3/8	6, 12, 18, 24, 36	1-12	2-5	1	C	18-30
LEE VALLEY ALUMINUM	A-	A-	B	A-	B-	A	A	1/4	3 1/4	1 3/8	12, 24	2-5	2-14	L	G	29-35

1. **A** Excellent  
**B** Good  
**C** Fair  
**D** Poor  
**N/A** Not applicable

2. (N/A) Not reversible for spreader use  
3. (N/A) Not available in this length  
4. (L) Limited lifetime warranty

5. (C) China  
(G) Germany  
(I) Israel  
(S) Slovakia  
(T) Taiwan

6. Price per clamp, current at time of article production and does not include shipping, where applicable. Price range includes all lengths listed in "Available Lengths" column.



**Irwin Quick-Grip SL300**  
800-464-7946; irwin.com



**Irwin Quick-Grip XP600**  
800-464-7946; irwin.com



**Irwin Quick-Grip Mini**  
800-464-7946; irwin.com



**Lee Valley**  
800-871-8158; leevalley.com

## Go for the gold (and blue)

At the end of our tests, we found ourselves reaching most often for the Bessey EZS and the Quick-Grip SL300 clamps. They'll both do a great job with anything you ask of them, and they share our Top Tool award. The Besseys sell for about

20 percent less per clamp—effectively netting you five for each set of four Quick-Grips. But the Quick-Grip SL300 clamp exhibits slightly greater clamping force, weighs a few ounces less in the shorter lengths, and has the pivoting jaw. 🌿

Produced by **Bob Hunter** with **Matt Seiler**

# Rolling Tool Cabinet

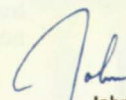
Don't settle for metal. Build a chest beautiful enough to pass for fine furniture.

Dimensions: 30½"W × 21"D × 50¾"H  
Approximate materials cost: Lumber and plywood—\$320. Hardware—\$240.

**T**he inspiration for this cabinet came from the steel mechanics' tool chests seen in so many garages. We took that basic design and classed it up to suit a woodworking shop.

For years to come, you'll gain satisfaction from tugging on the brass knobs and feeling the drawers—sized to hold everything from pencils and chisels to full-size routers—glide open effortlessly on full-extension slides. A lidded top tray provides quick access to frequently used tools and a place to set them while working. Casters hidden below the base allow you to roll everything wherever needed in your shop.

We joined the carcass with biscuits to simplify and speed up construction. And even though each drawer looks slightly taller than the one above it, we designed only three drawer-box sizes to minimize tool setups and reduce stacks of differently sized parts. Simple and strong lock-rabbit joints, cut entirely on the tablesaw with a ¼" dado blade, make drawer construction a snap.



John Olson, Design Editor

## Put an edge on plywood parts

**1** Using a circular saw guided by a straightedge, and following the **Cutting Diagram** on page 52, rip one 8'-long blank 18⅞" wide and another 18⅞" wide from a sheet of ¾" walnut plywood.

**Quick Tip!** To prevent chip-out, use a 60-tooth plywood blade, cut with the good face of the plywood down, and cover the cut-line on the top face with painter's tape.

Set the wider blank aside for the top/bottom panels (E), divider panel (J), and lid panel (GG).

**2** From the 18⅞"-wide blank, crosscut two side panels (A) to 41⅞" long,

stack them with their factory edges flush, and, with your circular saw, cross-cut them to finished length [Drawing 1]; then rip them to final width at the table-saw. Finish-sand the outside faces of the side panels to 220 grit.

**3** Cut the long panel edging (B) and the short panel edging (C)  $\frac{1}{8}$ " wider and 1" longer than finished size [Materials List, page 52]. Cut the top/bottom panel edging (D)  $\frac{1}{8}$ " wider than listed, but to finished length [Drawing 2].

**4** Miter the long panel edging (B) and short panel edging (C) to fit around the side panels (A). Cut a piece of  $\frac{1}{4}$ " plywood to about 16x36" and lay a side panel on it, inside face up [Photo A]. Glue and clamp the long and short panel edging to the side panel. Install a flush-trim bit in your router and rout only the inside face of the edging [Photo B].

**5** Cut the top and bottom panels (E) to size; then glue the top/bottom panel

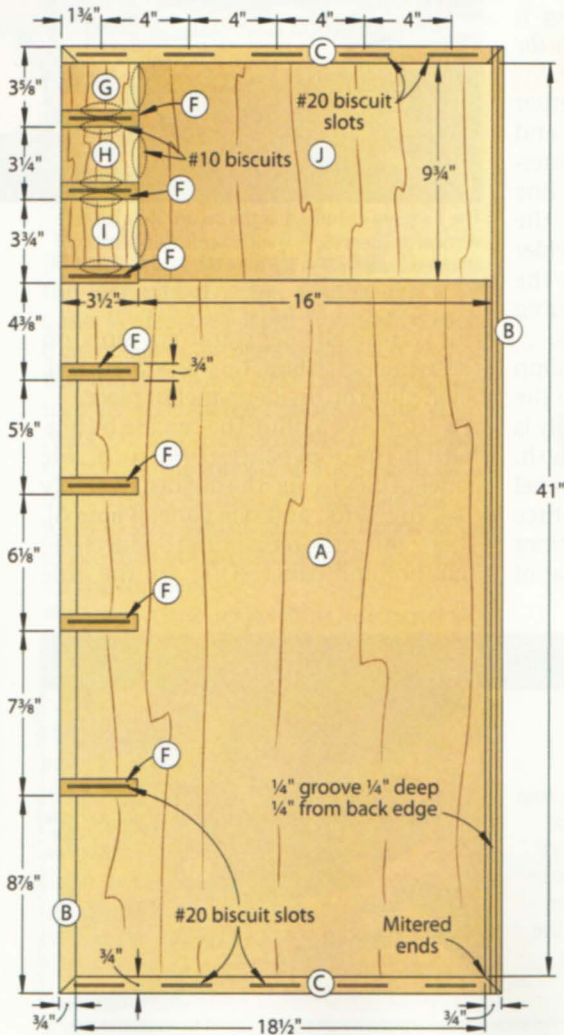


**A SPACER CREATES THE LIP**  
A scrap of  $\frac{1}{4}$ " plywood below the side panel (A) creates an even lip with the long and short panel edging (B, C) on the outside face of the panel.

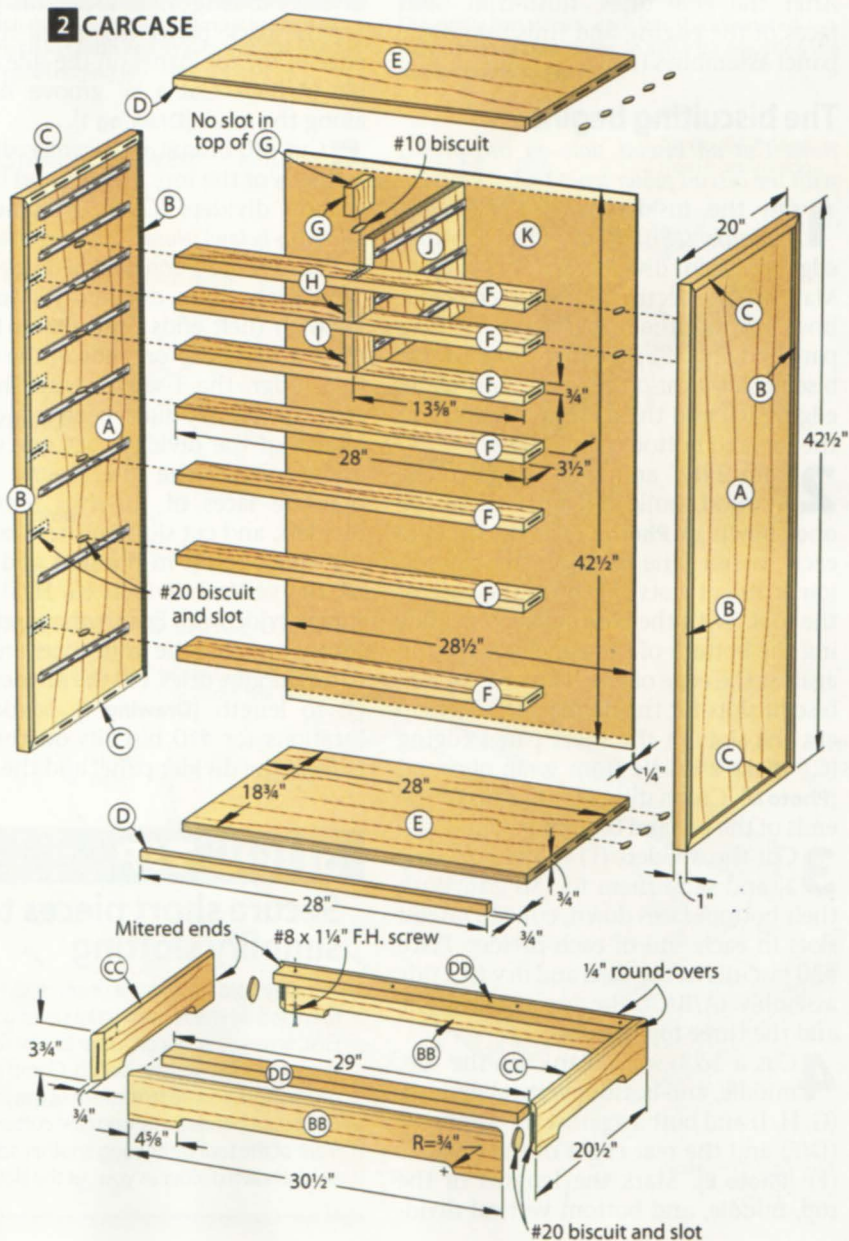


**TRIM ONE EDGE FLUSH**  
Support each side-panel assembly (A-C) on edge while routing the panel edging (B, C) flush with the inside faces of the side panels (A).

**1 SIDE VIEW (Left side, inside face)**



**2 CARCASE**

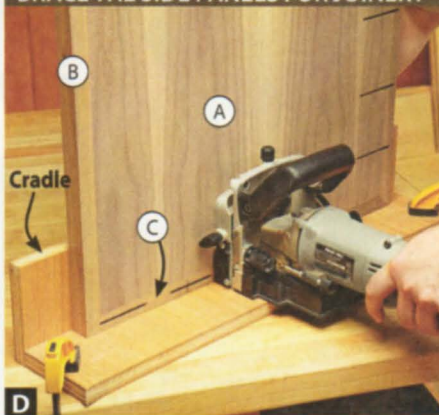


### A T-SQUARE POSITIONS THE JOINER



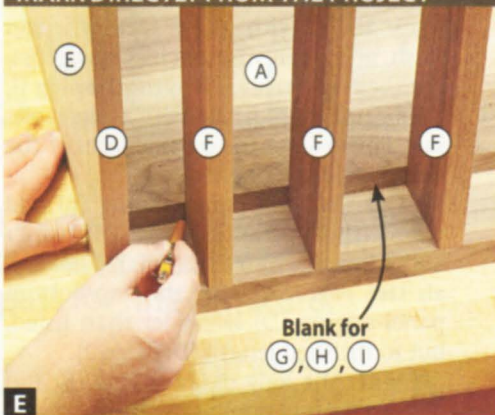
Press the base of the joiner against the T-square and align the mark on the center of the tool's fence with the mark  $1\frac{3}{4}$ " from the front edge. Cut the slot.

### BRACE THE SIDE PANELS FOR JOINERY



The cradle supports the side assembly (A-C) and provides a flat surface for registering the biscuit joiner while cutting the slots.

### MARK DIRECTLY FROM THE PROJECT



Mark along each face of the dividers (F) to determine the exact lengths of the top, middle, and bottom vertical dividers (G, H, I).

edging (D) to the panels [Drawing 2]. After the glue dries, flush-trim both faces of the edging and finish-sand the panel assemblies (D/E).

## The biscuiting begins

**Note:** Cut all biscuit slots on this project with the biscuit joiner fence folded up.

**1** On the inside face of each side assembly (A/B/C), lay out the bottom edge of each divider (F) [Drawing 1]. Mark an intersecting line on each layout line  $1\frac{3}{4}$ " from the front face of the long panel edging (B). Then lay out the five biscuit-slot locations on the short panel edging (C) and the mating locations on the top and bottom panels (D/E).

**2** From  $2\times 12$ " and  $2\times 24$ " scraps of  $\frac{3}{4}$ " plywood, build a T-square like the one shown in Photo C. Clamp it along each layout line and set the biscuit joiner to cut slots  $\frac{3}{8}$ " above the base of the tool. With the base of the joiner facing the bottom of the panel and resting against the edge of the T-square, cut #20 biscuit slots for the dividers (F). To help cut the slots in the short panel edging (C), make a cradle from scrap plywood [Photo D]. Cut mating biscuit slots in the ends of the top and bottom panels (D/E).

**3** Cut the dividers (F) to size [Drawing 2] and sand them to 150 grit. With their bottom faces down, cut #20 biscuit slots in each end of each divider. Place #20 biscuits in the slots and dry-fit a side assembly (A/B/C), the top panel (D/E), and the three top dividers.

**4** Cut a  $\frac{3}{4}\times 3\frac{1}{2}\times 12$ " blank for the top, middle, and bottom vertical dividers (G, H, I) and butt it against the top panel (D/E) and the rear edges of the dividers (F) [Photo E]. Mark the lengths of the top, middle, and bottom vertical divid-

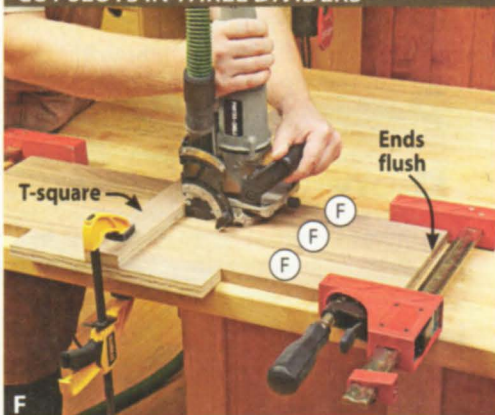
ers; then crosscut the three vertical dividers to length. To locate the groove for the back panel (K), mark the rear edge of the top panel on the side assembly (A/B/C). Cut a  $\frac{1}{4}$ " groove  $\frac{1}{4}$ " deep along the mark [Drawing 1].

**5** Cut #10 biscuit slots centered in the ends of the top, middle, and bottom vertical dividers (G, H, I) [Drawing 1; Shop Tip below]. **Note:** Cut a slot in only the bottom end of the top vertical divider (G).

**6** Clamp three dividers (F) together with their ends flush [Photo F], and mark a line  $\frac{3}{8}$ " to one side of the centerline. Align the T-square with this line and cut biscuit slots centered on the length of the dividers. Set one divider aside, transfer the line around to the opposite faces of the two remaining dividers, and cut slots on these faces.

**7** Glue biscuits in the slots and clamp the vertical dividers (G, H, I) to the three dividers (F). Ensure the assembly is square and that the front edges are flush. After the glue dries, cut the divider panel (J) to length [Drawing 1]. Mark three locations for #10 biscuits on the front edge of the divider panel and the rear of

### CUT SLOTS IN THREE DIVIDERS



The T-square ensures that the biscuit slots for the vertical dividers (G, H, I) align across the centers of all three dividers (F).

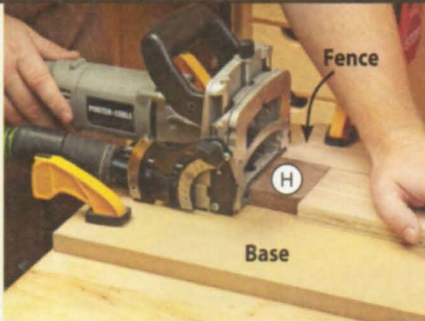
the vertical dividers, and cut slots on these marks [Shop Tip, opposite page]. Then glue the divider panel in place.

**8** Begin assembling the carcass by gluing the top panel (D/E) to a side panel (A/B/C). Glue the divider assembly (F-J) to the top and side panel [Photo G]. Then glue the remaining dividers (F) and bottom panel (D/E) to the side

## SHOP TIP

### Secure short pieces to simplify slotting

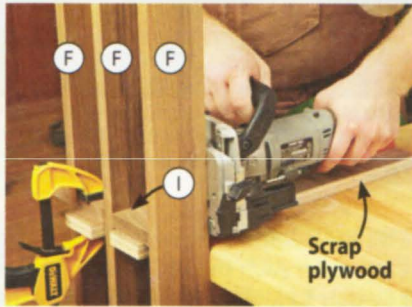
To safely hold the vertical dividers (G, H, I), trap them in a jig made from scrap sheet goods. First, screw your biscuit joiner to a base and clamp the base to your bench. Clamp a fence on the base square to the face of the joiner. Keep your hands away from the cutter at the front of the tool by holding another scrap behind each divider as you cut the slots.



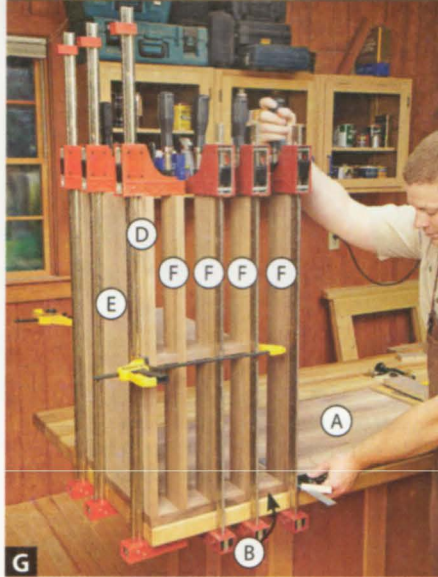
## SHOP TIP

### To cut slots, go over the edge

To support the divider assembly (F-I) when cutting the biscuit slots in the vertical dividers (G, H, I), extend two 3"-wide scraps past the edge of your bench. Clamp the divider assembly to the scraps and rest the biscuit joiner on the scrap when cutting the slots.

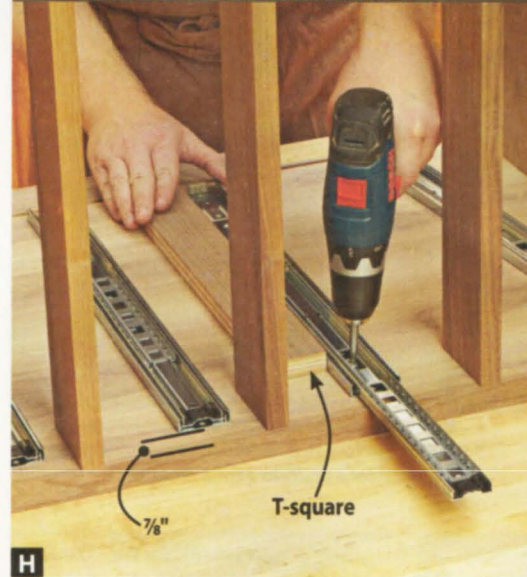


## CONQUER THE DIVIDERS



Check each divider (F) as you clamp it in place to ensure that it lies flush and square with the front of the long panel edging (B).

## ALLOW FOR SLIDE ADJUSTMENTS



Drive only two screws, each into the elongated holes in the drawer slides, to allow for adjusting the drawer positions later.

panel. Glue the remaining side panel in place and check the assembly for square.

**9** Measure for the back panel (K) [Drawing 2], cut it to size, and set it aside.

## Build a bunch of drawers

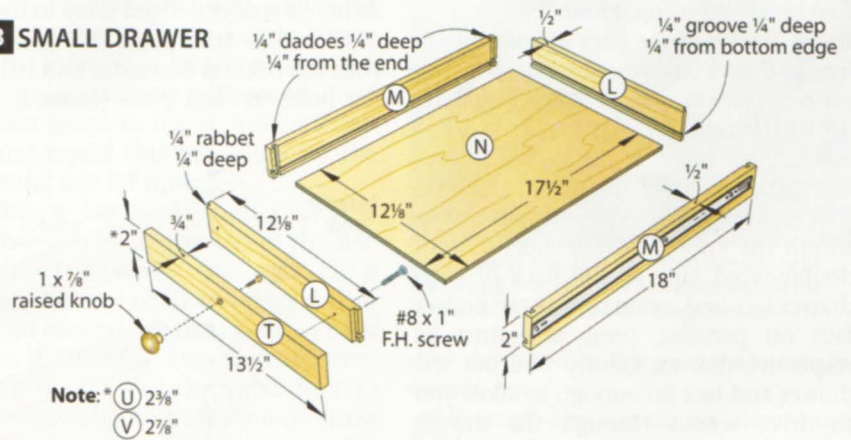
**Quick Tip!** Instead of planing down 3/4"-thick stock for the 1/2"-thick drawer parts, maximize your yield by resawing and planing 6/4 stock.

**1** Cut the drawer fronts and backs (L, O, Q) and sides (M, P, R) to size [Materials List, Drawings 3 and 4]. To form the lock-rabbit joints, rout or cut a 1/4" dado 1/4" deep, 1/4" from the end of each drawer side. Cut rabbets on each end of the drawer fronts and backs to create tongues that fit the dados in the sides. Next, cut a 1/4"-deep groove in each piece to accept the plywood for the drawer bottoms (N, S); then cut the drawer bottoms to size. Finish-sand the inside faces of the drawer parts to 220 grit; then glue up the drawers.

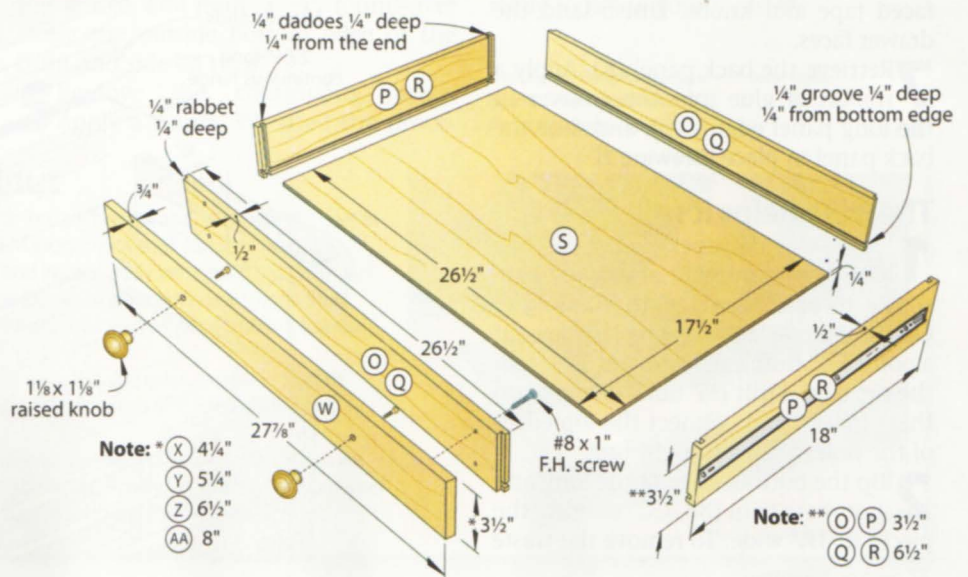
**2** Draw a line across each side panel (A) and the center panel (J) centered in each drawer opening. Center the cabinet half of a drawer slide on each line, using the T-square made earlier to position it, and secure each slide with two screws [Photo H].

**3** Screw the drawer half of each drawer slide to the drawer sides (M, P, R), flush with the front end and centered on the width of the side. Test the fit and operation of the drawers in the carcass. Make any needed adjustments to the drawer slides, then drive the remaining screws into each half of the slides.

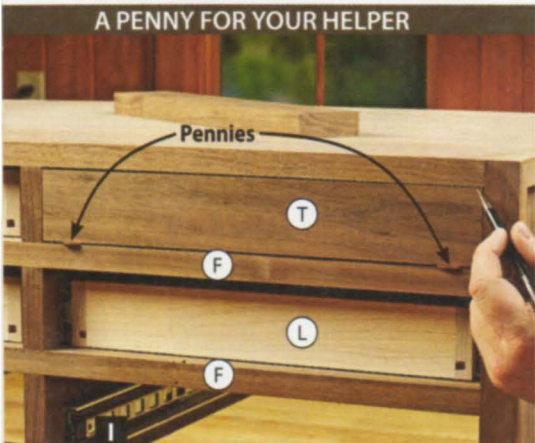
### 3 SMALL DRAWER



### 4 MEDIUM AND LARGE DRAWER



### A PENNY FOR YOUR HELPER



Rest each drawer face (T-AA) on pennies to create a  $\frac{1}{16}$ " gap below; then mark any areas needing to be trimmed for a uniform gap all around.

**4** To allow  $\frac{1}{16}$ " clearance all around, cut the drawer faces (T-AA)  $\frac{1}{8}$ " narrower and shorter than their respective drawer openings. Dry-fit each drawer face in its opening, and scribe any areas that need trimming [Photo I].

**Quick Tip!** Label the back of each drawer face, and mark an arrow pointing up to help you realign the faces when reattaching them.

**5** In the back of each drawer face (T-AA), lay out and drill counterbores and shank holes for the machine screws that secure the knobs [Drawings 3 and 4]. Install the knobs. Affix a short strip of double-faced tape to the back of each drawer face and, again resting the drawer face on pennies, press it against its respective drawer. Gently pull out the drawer and face far enough to allow you to drive screws through the drawer fronts (L, O, Q) and into the faces.

**6** Remove the drawers, detach the faces (T-AA), and remove the double-faced tape and knobs. Finish-sand the drawer faces.

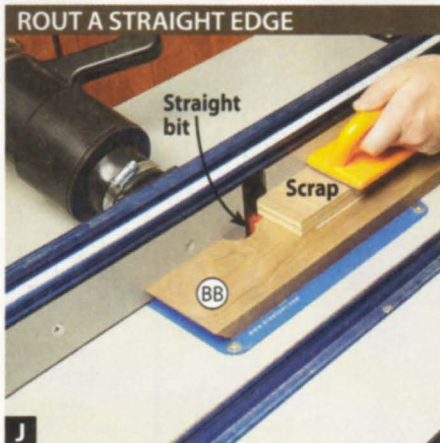
**7** Retrieve the back panel (K). Apply a ribbon of glue into the grooves in the long panel edging (B), and slide the back panel in place [Drawing 2].

### The base helps it roll

**1** From 4"-wide stock, miter-cut the long base trim (BB) and short base trim (CC) to finished length [Drawing 2]. On the outside face of each piece, lay out a point  $5\frac{3}{8}$ " from each end and  $3\frac{3}{4}$ " from the top edge. Drill  $1\frac{1}{2}$ " holes centered on these marks, and connect the top edges of the holes with a straight line.

**2** Rip the bottom edge of the long and short base trim (BB, CC) to bring the pieces to  $3\frac{3}{4}$ " wide. To remove the waste

### ROUT A STRAIGHT EDGE



Align the edge of a  $\frac{3}{4}$ " straight bit with the far side of a hole in a base trim (BB) piece. Lock the fence against the straightedge and rout away the waste.

between the holes, bandsaw to within  $\frac{1}{8}$ " of the line.

**3** Complete the profile by mounting a  $\frac{3}{4}$ " straight bit in your table-mounted router and raising it  $\frac{3}{8}$ " above the table. Adhere a straight-edged scrap to the face of each base trim piece (BB, CC), flush with the bottom edge, and rout between the holes in each piece [Photo J]. Raise

### SECURE THE BASE TO THE CARCASE

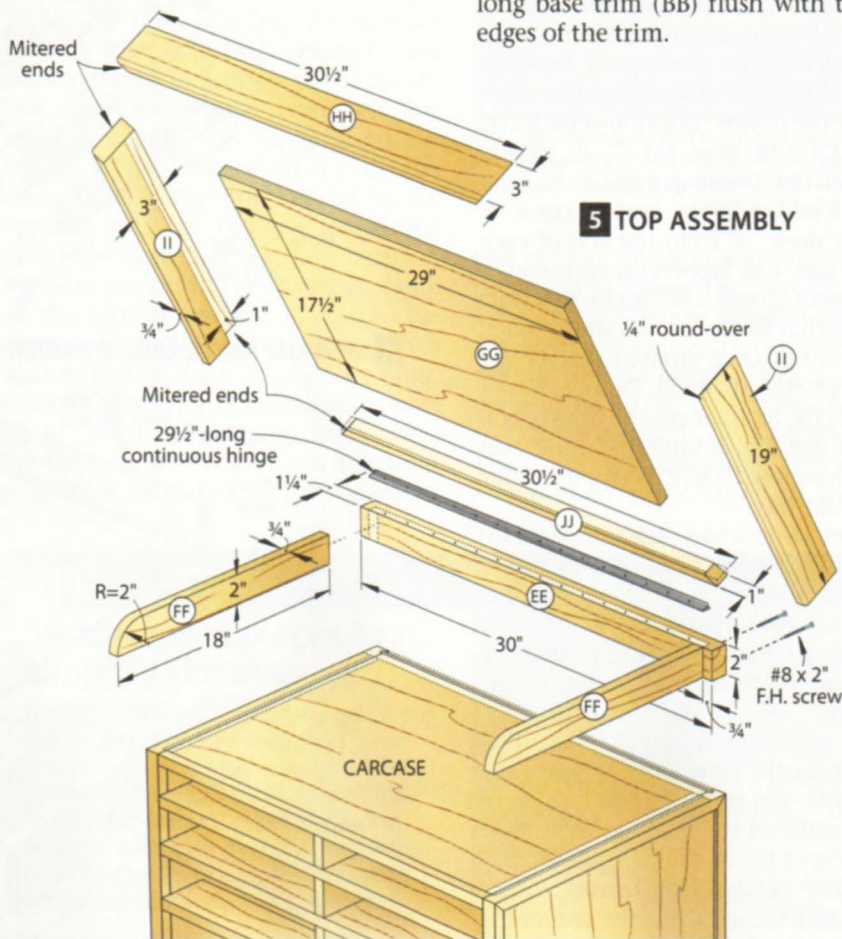


Turn the carcase upside down and center the base (BB-DD) on it. Apply glue to the base cleats (DD) and screw them to the bottom panel (E).

the bit to  $1\frac{3}{16}$ " and rout away the remaining waste on each piece.

**4** Switch to a  $\frac{1}{4}$ " round-over bit in the router table, and round over the top outside edges of the long and short base trims (BB, CC). Cut #20 biscuit slots in the miters, and glue and clamp the base trim pieces together.

**5** Cut the base cleats (DD) to size and glue them to the inside faces of the long base trim (BB) flush with the top edges of the trim.

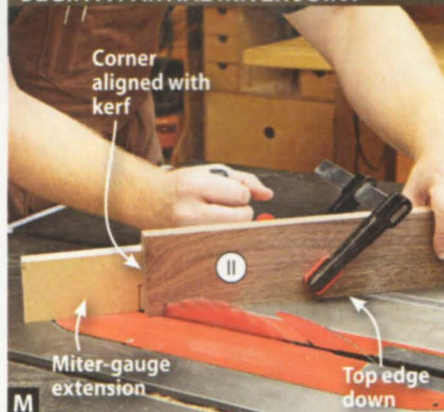


### MAKE IT ROLL



Drill pilot holes for the screws through the holes in each caster; then secure a caster to each corner of the base trim (BB/CC).

### BEGIN A PARTIAL MITER JOINT



Cut a kerf in each side lid trim (II) as deep as the width of the back lid trim (JJ). The kerf should exit right at the corner of the side lid trim.

### COMPLETE THE PARTIAL MITER



Draw lines on the face and end of the side lid trim (II) to connect the ends of the kerf. Saw along the lines with a handsaw to remove the waste.

**6** After the glue dries, glue and screw the base assembly (BB-DD) to the bottom panel (D/E) [Photo K]. Screw a caster [Source] to each corner [Photo L].

### Put a lid on it

**1** Laminate two pieces of  $\frac{3}{4} \times 2\frac{1}{8} \times 30\frac{1}{8}$ " walnut for the tray back (EE). After the glue dries, plane it to  $\frac{1}{4}$ " thick and rip and crosscut it to  $2 \times 30$ ". Cut the tray sides (FF) to size and shape the 2" radius at the front end [Drawing 5]. Glue and screw the tray sides to the tray back. After the glue dries, glue this assembly to the top panel (E) and short panel trim (C), flush at the back and centered from side to side.

**2** Cut the lid panel (GG) to size [Drawing 5]. From  $\frac{3}{4}$ " stock, cut the front, side, and back lid trims (HH, II, JJ)  $\frac{1}{2}$ " longer than listed. Miter-cut the front ends of the side lid trims (II), clamp them to the lid panel, and miter-cut the front lid trim (HH) to fit between them. Fit the back lid trim (JJ) against the back edge of the lid panel and mark the finished length of the side lid trim. Crosscut the side lid trim on the marks.

**3** Set your tablesaw miter gauge to  $45^\circ$  and attach an extension to it. Raise the tablesaw blade to match the width of the back lid trim (JJ) and make a cut through the extension. Clamp a side lid trim (II) to the extension, top edge down, aligning the top outside corner with the near edge of the kerf in the extension, and cut a kerf [Photo M]. Reset the miter gauge to the opposite  $45^\circ$  setting and repeat this procedure for the remaining side lid trim.

**4** With a handsaw, trim away the waste created by the kerf in the side lid trim (II) [Photo N]. Glue and clamp the front lid trim (HH) and side lid trim to the lid panel (GG); then glue the back lid trim (JJ) in place. After the glue dries, position the lid over the tray sides (FF) and screw a length of continuous hinge to the back lid trim and tray back (EE) [Photo O, Drawing 5]. Check that the lid opens and closes, then remove it from the hinge and rout a  $\frac{1}{4}$ " round-over along the outside bottom edge of the front and side lid trim.

**5** Remove the continuous hinge. Apply a finish. We used the proce-

### ATTACH THE CONTINUOUS HINGE



Center the lid (GG-JJ) from side to side on top of the carcass. Press the side lid trim (II) against the tray back (EE) and screw the hinge in place.

cedure described in **Bring out the beauty in walnut**, below.

**6** Reattach the knobs, and screw the drawer faces (T-AA) to the drawers. Position the lid (GG-JJ), secure the continuous hinge, and your new cabinet is ready to house your tools. 🌿

Produced by Craig Ruegsegger with John Olson  
Project design: John Olson  
Illustrations: Lorna Johnson

### Bring out the beauty in walnut

To more closely match walnut's light sapwood with its dark heartwood, we applied a coat of Lockwood water-based dye, no. 43 English Brown Mahogany, over all surfaces. To get a seamless result, apply the dye with a foam brush, and immediately wipe each pass with a moist rag to smear the wet edge and blend the line between adjacent passes, right. Start your strokes away from inside corners and edges where the dye may pool. Instead, use the rag to help work dye into those areas.

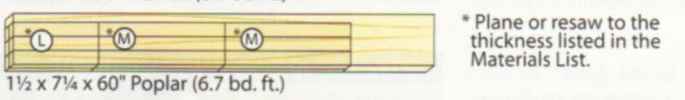
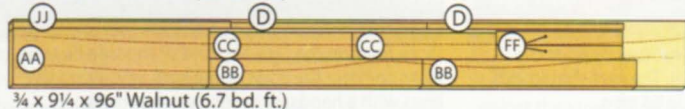
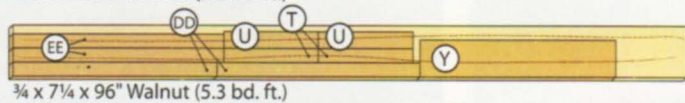
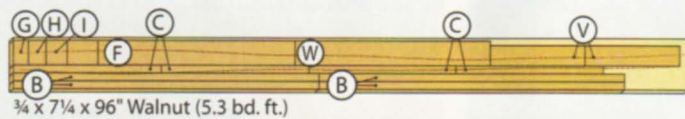
Water may raise the grain, making it feel fuzzy, so after the dye dries, sand lightly with 220-grit sandpaper. If needed, apply a second coat of dye to areas that remain too light, blending the edges with a rag.

The dye evened out the color variations in the walnut, but added a redder tone than we wanted, so we then applied a coat of Varathane stain no. 260 American Walnut for a browner hue. After the stain dried, we sprayed on three coats of a satin-finish oil-based lacquer.

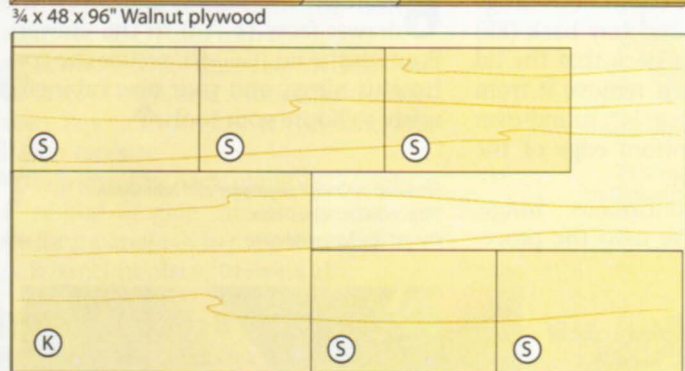
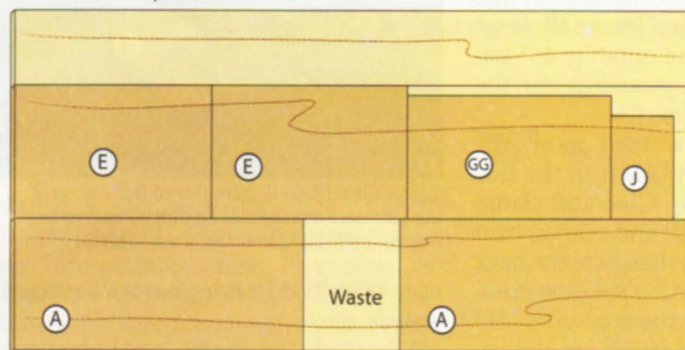
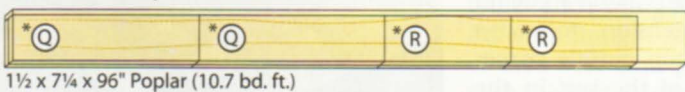
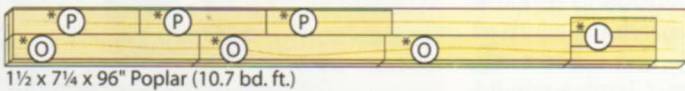


continued on page 52

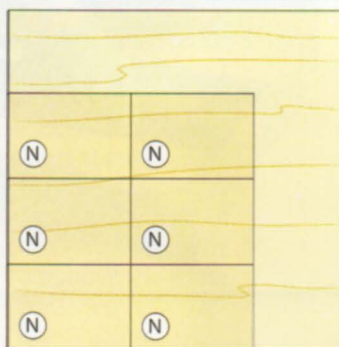
## Cutting Diagram



\* Plane or resaw to the thickness listed in the Materials List.



¼ x 48 x 96" Birch plywood



¼ x 48 x 48" Birch plywood

## Materials List

Part	FINISHED SIZE			Matl.	Qty.
	T	W	L		
<b>Carcase</b>					
A*	¾"	18½"	41"	WP	2
B*	¾"	1"	42½"	W	4
C*	¾"	1"	20"	W	4
D*	¾"	¾"	28"	W	2
E*	¾"	18¾"	28"	WP	2
F	¾"	3½"	28"	W	7
G	¾"	3½"	2½"	W	1
H	¾"	3½"	2½"	W	1
I	¾"	3½"	3"	W	1
J*	¾"	16"	9¾"	WP	1
K	¼"	28½"	42½"	BP	1

<b>Drawers</b>						
L	small drawer fronts/back	½"	2"	12½"	P	12
M	small drawer sides	½"	2"	18"	P	12
N	small drawer bottoms	¼"	12½"	17½"	BP	6
O	medium drawer fronts/back	½"	3½"	26½"	P	6
P	medium drawer sides	½"	3½"	18"	P	6
Q	large drawer fronts/back	½"	6½"	26½"	P	4
R	large drawer sides	½"	6½"	18"	P	4
S	medium/large drawer bottoms	¼"	17½"	26½"	BP	5
T	drawer 1** faces	¾"	2"	13½"	W	2
U	drawer 2** faces	¾"	2¾"	13½"	W	2
V	drawer 3** faces	¾"	2¾"	13½"	W	2
W	drawer 4** face	¾"	3½"	27½"	W	1
X	drawer 5** face	¾"	4¼"	27½"	W	1
Y	drawer 6** face	¾"	5¼"	27½"	W	1
Z	drawer 7** face	¾"	6½"	27½"	W	1
AA	drawer 8** face	¾"	8"	27½"	W	1

<b>Base</b>						
BB*	long base trim	¾"	3¾"	30½"	W	2
CC*	short base trim	¾"	3¾"	20½"	W	2
DD	base cleats	¾"	2"	29"	W	2

<b>Lid</b>						
EE*	tray back	1¼"	2"	30"	LW	1
FF	tray sides	¾"	2"	18"	W	2
GG*	lid panel	¾"	17½"	29"	WP	1
HH*	front lid trim	¾"	3"	30½"	W	1
II*	side lid trim	¾"	3"	19"	W	2
JJ*	back lid trim	¾"	1"	30½"	W	1

\*Parts initially cut oversize. See the instructions.

\*\*Drawer faces numbered from top to bottom.

**Materials key:** WP—walnut plywood, W—walnut, BP—birch plywood, P—poplar, LW—laminated walnut.

**Supplies:** Double-faced tape, #10 biscuits (8), #20 biscuits (38), #8x1" flathead screws (32), #8x1¼" flathead screws (8), #8x2" flathead screws (4).

**Blade and bits:** Dado blade; ¼", ¾", 1½" drill bits; flush-trim, ¼" round-over, ¾" straight router bits.

## Source

**Hardware:** 25x780mm brass-plate piano hinge no. 00D5225 (1), \$7.20; #3x¾" brass F.H. screws [10 pk] no. 91Z0305X (2), \$1.00; Frame casters, no. 00K2501 (set of 4), \$14.90; 18" 100-lb. full-extension zinc drawer slides no. 02K3018 (11), \$13.10; 1x¾" raised knobs no. 02W3200 (6) \$4.20; 1½x1½" raised knobs no. 02W3201 (10), \$4.50. Lee Valley Hardware, 800-871-8158, leevalley.com.

# Paper-Clip Caddy

It's quite attractive...  
in more ways than one!



**M**ysteriously, metal paper clips cling to the top of this wood turning. The secret, of course,

is a rare-earth magnet (see **Source** on page 56) tucked away just below the domed top. With a cleverly hidden and

nearly invisible joint, friends and co-workers will wonder how you got the magnet in there.

## Prepare your materials

**Note:** Most any scrap of wood will make a great-looking caddy. We made ours from quartersawn white oak.

Draw diagonal lines from corner to corner on both faces of a 1 $\frac{3}{4}$ ×4×4" blank to find the centerpoint. From the centerpoint, lay out a 3 $\frac{3}{4}$ " diameter on one

face and a 2" diameter on both faces. Resaw the blank into a 1"-thick piece for the base and a  $\frac{5}{8}$ "-thick piece for the top.

**Quick Tip!** Resaw as carefully as possible so the resawn faces require minimal surfacing on the lathe. This helps hide the joint line in the completed caddy.

Adhere the blanks back together with double-faced tape, and rough-cut them to just over 3 $\frac{3}{4}$ " in diameter. Separate the blanks, cut two  $\frac{1}{4}$ ×2"-diameter circles from scrap material, and glue one centered in the 2" circle on each blank. Allow the glue to dry.

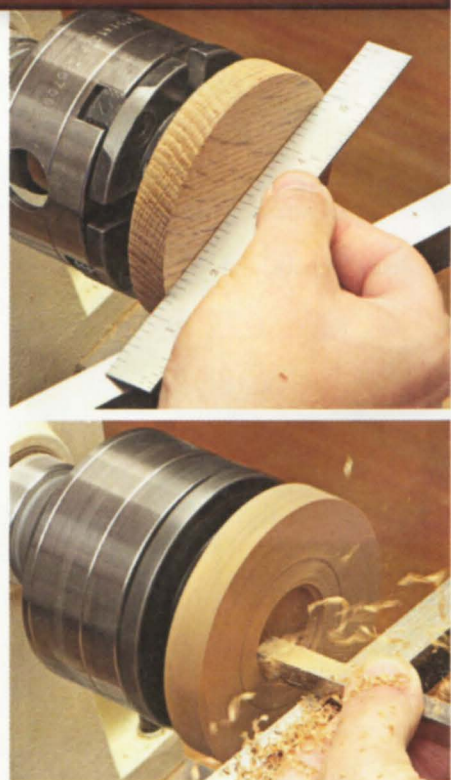
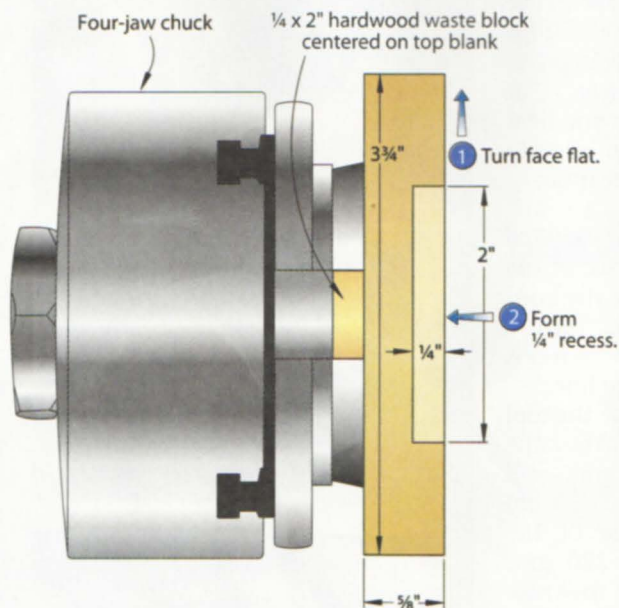
## Shape the inside face of the top

**Tools:**  $\frac{3}{8}$ " bowl gouge, square-nose scraper **Speed:** 1,500 rpm

Mount a four-jaw chuck to the headstock of your lathe and secure the waste block on the top blank in the chuck. Position

the tool rest at about a 30° angle to the face of the blank. Using your  $\frac{3}{8}$ " bowl gouge, flatten the face of the top, working from the center to the outside. Work slowly and stop frequently to check your progress with a straightedge, *right*.

Reposition the tool rest parallel to the face, and mark a 2" diameter on the face of the top as possible. To do this, make a dot with your pencil as near to the center of the top as possible. Then measure 1" from the center of the dot and, with the lathe running, lightly mark the diameter. Cut a  $\frac{1}{4}$ "-deep recess inside the line using a square-nose scraper, *right*. Remove the top from the chuck; you will turn it to its final diameter later.



## Turn the inside face of the base

**Tools:**  $\frac{3}{8}$ " bowl gouge, square-nose scraper **Speed:** 1,500 rpm

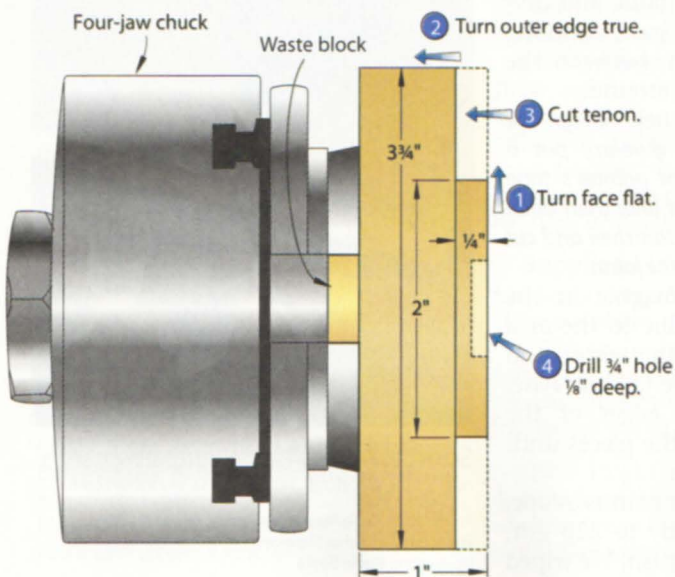
Secure the base blank's waste block in the chuck. With the bowl gouge, true up the face of the blank as you did with the top.

Reposition the tool rest parallel to the lathe bed; then, working from right to left, turn the outer edge to  $3\frac{3}{4}$ " diameter. Mark a 2"-diameter circle on the face of

the blank. Measure  $\frac{1}{4}$ " from the exposed face of the blank and mark a line around the edge at this point. Lock the tool rest parallel to the face of the base.

Switch to the square-nose scraper. Working from the edge toward the center, push the tool forward into the base

to create a  $\frac{1}{4}$ " long tenon, *right*, stopping frequently as you get close to the line to check the fit of the tenon in the recess in the top. Once the tenon fits snug and the top seats on the base with no gap, mount a  $\frac{3}{4}$ " Forstner bit in a drill chuck in the tailstock. Drill a  $\frac{1}{8}$ "-deep hole in the tenon, *right*, and check the fit of the magnet in the hole. The top of the magnet should rest flush with the top of the tenon.



## Give the outside of the base some curves

**Tools:** Parting tool,  $\frac{3}{8}$ " bowl gouge **Speeds:** 1,500 rpm for shaping, 500 rpm for sanding

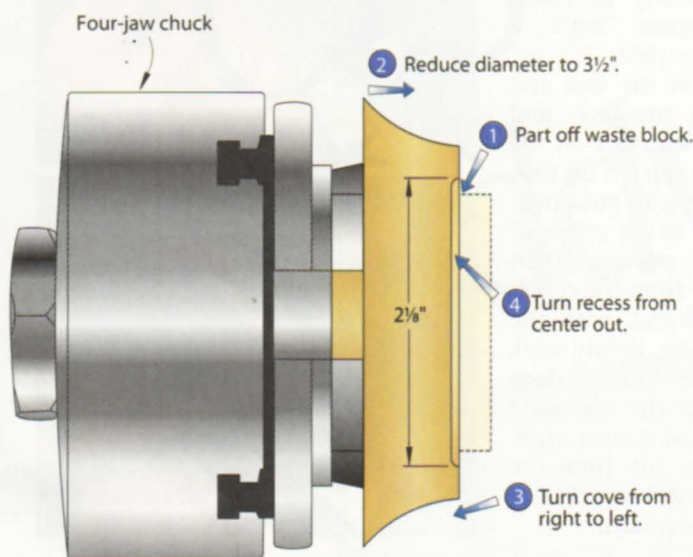
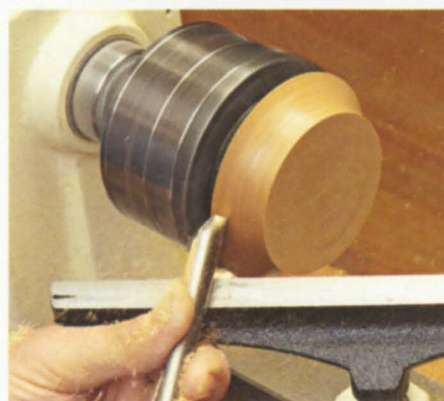
Reverse the base, gripping the tenon in the chuck. Part-off the waste block, right, then true the face of the base.

Continuing with the bowl gouge, reduce the blank's diameter to  $3\frac{1}{2}$ ", cut-

ting from left to right. Mark a  $2\frac{3}{4}$ " diameter on the bottom face. Using the left wing of your bowl gouge, swing the tool's handle to the right to shape a cove between the line and the top outer edge of the workpiece, below right. Cut slowly as you near the outer edge to prevent tear-out.

Mark a  $2\frac{1}{8}$ " diameter centered on the face of the base. Use the bowl gouge to turn a  $\frac{1}{16}$ "-deep recess inside the line.

Remove the tool rest. Slow the lathe to 500 rpm and sand the bottom and edge of the base to 220 grit. Remove the base from the lathe.



## Back to the top for the dome

**Tools:** Parting tool,  $\frac{3}{8}$ " bowl gouge **Speeds:** 1,500 rpm for shaping, 500 rpm for sanding

Mount the top blank to the lathe by expanding the chuck's jaws into the recess. Part-off the waste block; then, true the face with the bowl gouge. Reposition the tool rest and, cutting from left to right, reduce the top's outside diam-

eter to  $3\frac{1}{2}$ ". Mark a dot on the centerpoint of the top's face, and form a crown from the center to the outside edge. Work carefully as you approach the edge.

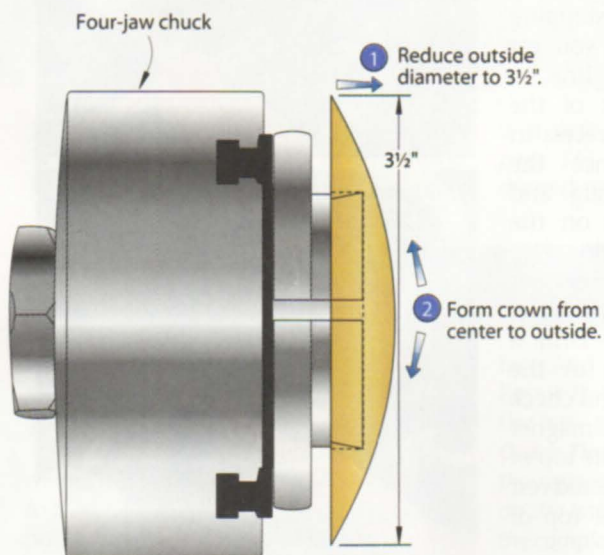
Reduce the lathe speed to 500 rpm and sand the top to 220 grit. Remove the top from the lathe and dry-fit it with the base, checking that the grain between the two aligns all around.

**Quick Tip!** To help realign the pieces during glue-up, put a  $\frac{1}{2}$ "-long strip of painter's tape across the joint line; then open the top like a clamshell and cut the tape along the joint.

Place the magnet in the base, apply glue to the area surrounding the tenon, and reassemble the top and base, aligning the edges of the tape. Clamp the pieces until the glue dries.

Remove the painter's tape, sand the caddy to 320 grit, and apply a finish. We wiped

on three coats of an oil-and-urethane finish, buffing lightly with a 320-grit sanding sponge between coats. 🌱

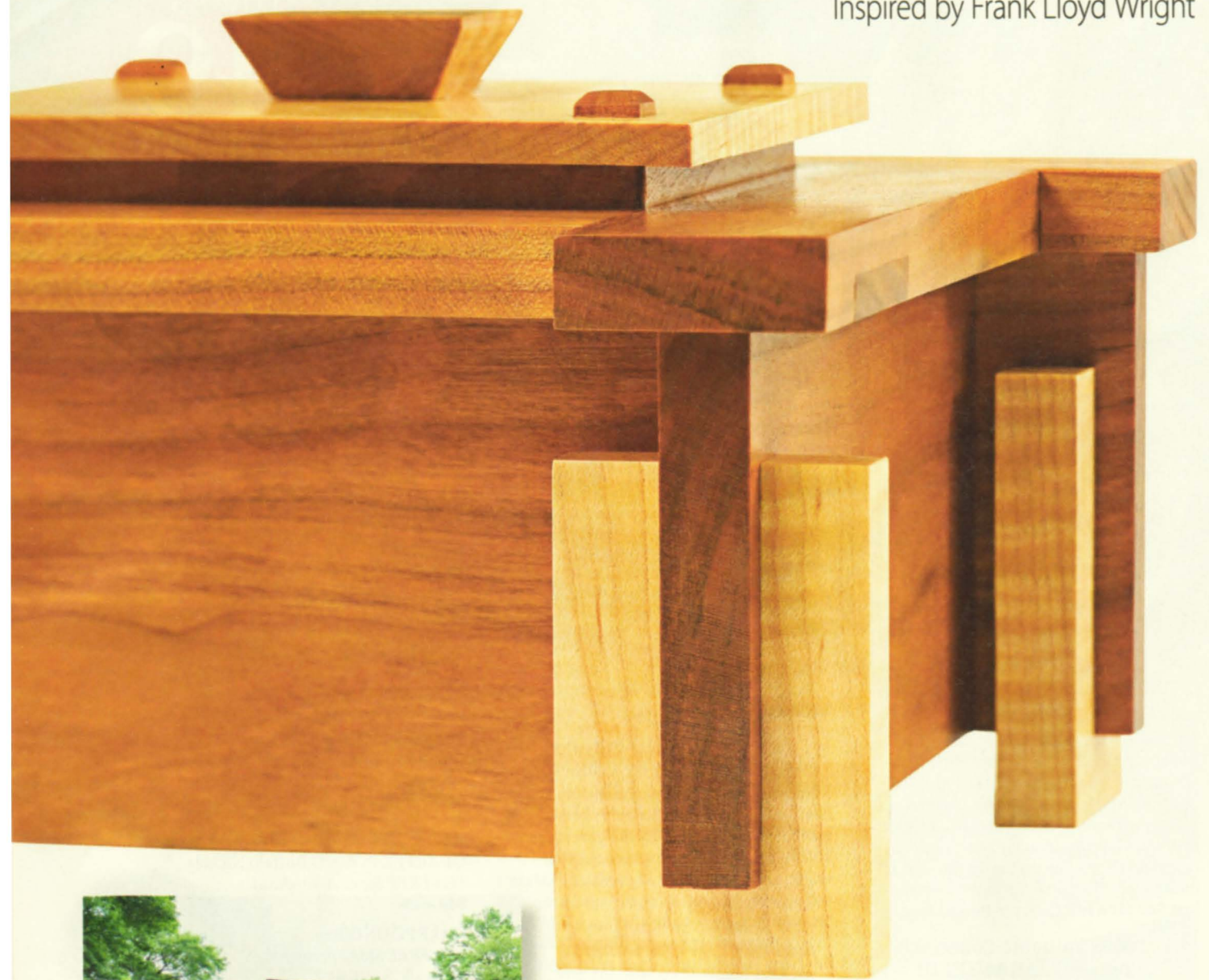


**Source:**  $\frac{3}{4} \times \frac{1}{8}$ " rare-earth magnets [pack of 6], \$15.79, no. 151008, Woodcraft, 800-225-1153, woodcraft.com.

Produced by **Craig Ruegsegger** with **Brian Simmons**  
Project design: **Brian Simmons**  
Illustrations: **Kevin Boyle**

# Finely Crafted Architectural Box

Inspired by Frank Lloyd Wright



**T**his handsome box takes design inspiration from the low profiles and horizontal lines of Prairie School architecture, *left*. Careful machining and attention to detail will reward you with a truly unique tabletop creation.



Dimensions:  
8 $\frac{3}{4}$ " wide  $\times$  8 $\frac{3}{4}$ " deep  $\times$  5" high

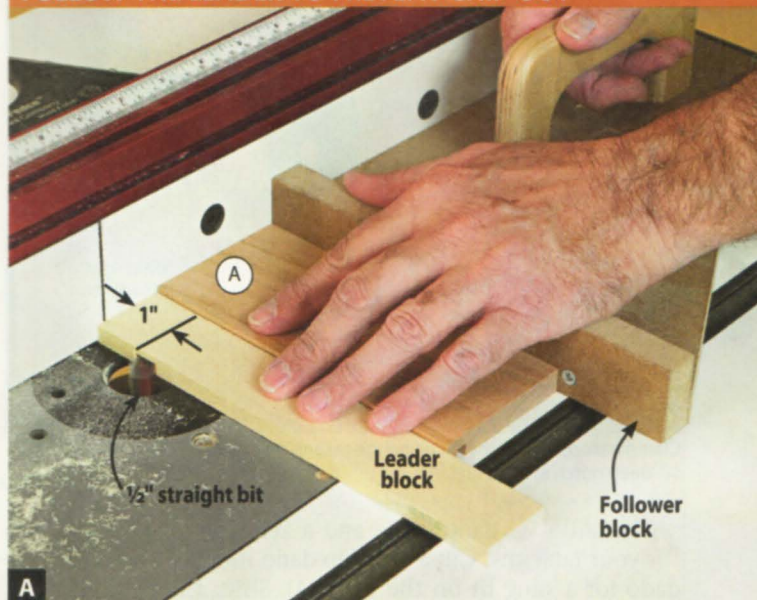
## Build the base

**1** To successfully complete the base, you'll need to carefully control the thickness of the sides (A) and feet (B). Start by installing a  $\frac{1}{2}$ " straight bit into your table-mounted router, and rout a  $\frac{1}{4}$ "-deep dado in a piece of scrap to serve as a thickness guide. Then plane a  $\frac{3}{4}$  $\times$ 3 $\times$ 30" blank for the sides and a  $\frac{3}{4}$  $\times$ 1 $\frac{3}{4}$  $\times$ 15" blank for the feet and handle (I) [Materials List, page 63] using the dado in the scrap as a guide to ensure the finished  $\frac{1}{2}$ " thickness. The parts should fit tightly in the dado. Finish-sanding will make room for glue and allow for a snug assembly after the parts are machined. Cut the foot blank into two 6"-long pieces, and set aside the remaining piece for the handle blank.

**2** Cut the bottom (C) to size from  $\frac{1}{4}$ " plywood, and finish-sand it.

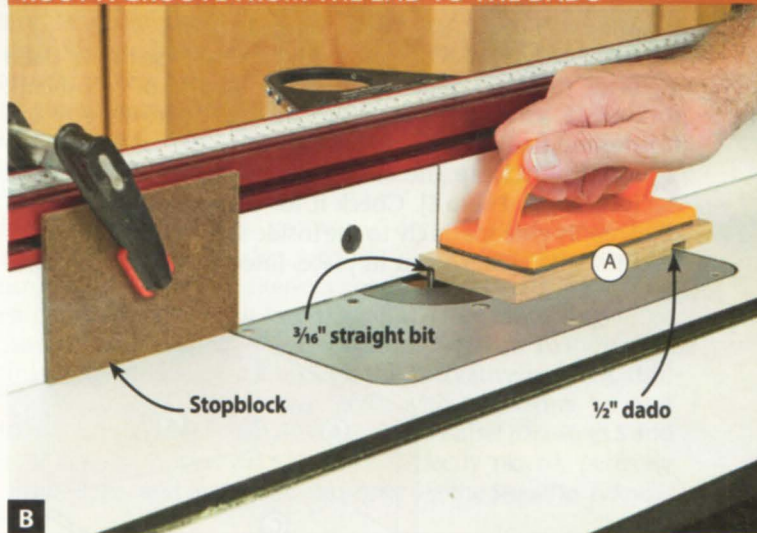
**3** From the planed side blank, cut the sides (A) to their finished size. With the  $\frac{1}{2}$ " straight bit in your table-mounted router, rout  $\frac{1}{4}$ "-deep dados [Drawing 1, Photo A]. Then switch to a  $\frac{3}{16}$ " straight bit and rout a groove for the bottom (C) in each side [Photo B]. Make one pass  $\frac{1}{4}$ " from the bottom edge, reposition the fence, and make a second pass to match the thickness of the plywood bottom.

## FOLLOW THE LEADER TO PREVENT CHIP-OUT



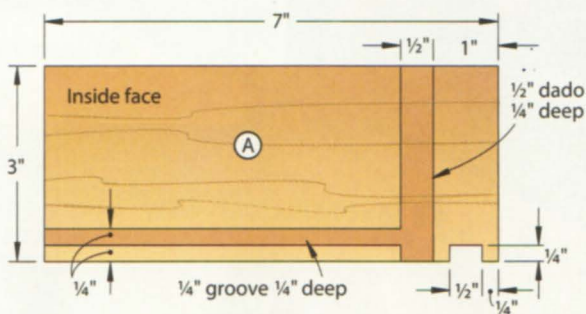
Using a leader block and a follower block to prevent chip-out, rout  $\frac{1}{4}$ "-deep dados in the sides (A).

## ROUT A GROOVE FROM THE END TO THE DADO

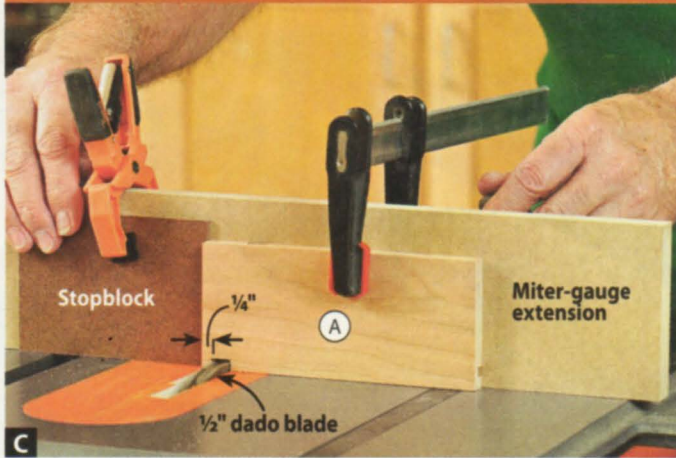


Position a stopblock to stop the sides (A) when the bit reaches the  $\frac{1}{2}$ " dado, and rout grooves for the bottom (C) in two passes.

## 1 SIDES



### CUT A SHALLOW NOTCH TO ACCEPT THE FEET



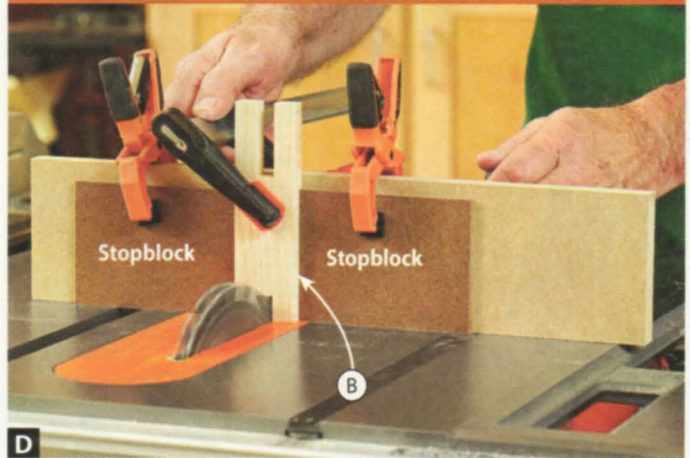
**C** Clamp a stopblock to the miter-gauge extension  $\frac{1}{4}$ " from the blade, and cut a  $\frac{1}{4}$ "-deep notch in each side (A).

**4** Install a  $\frac{1}{2}$ " dado blade and a zero-clearance insert into your tablesaw. Cut a  $\frac{1}{4}$ "-deep dado in scrap and check the dado for a snug fit on the sides (A). Shim the dado blade as necessary. Attach an extension to the miter gauge so the blade will cut through it about 7" from the right end. (We used a  $\frac{3}{4}$ ×4×18" piece of MDF.) Clamp a stopblock to the extension, and cut a  $\frac{1}{4}$ "-deep notch in the bottom edge of each side [Drawing 1, Photo C]. Finish-sand the sides.

**5** Retrieve the two 6"-long foot (B) blanks. Raise the  $\frac{1}{2}$ " dado blade to cut 2" deep, and notch both ends of each blank [Drawing 2, Photo D]. Then crosscut the feet to length and finish-sand them.

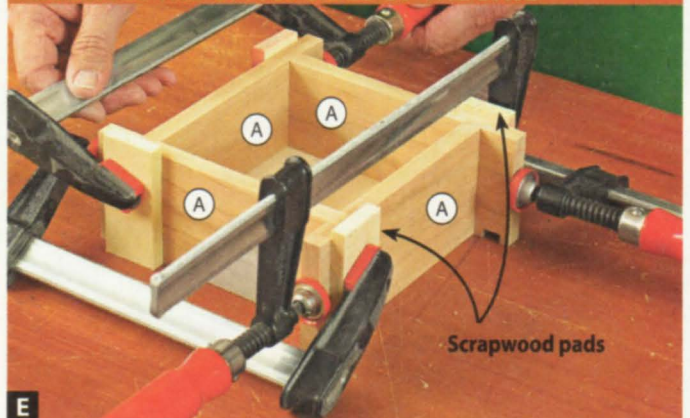
**6** Glue and clamp the side (A) and bottom (C) assembly [Drawing 2, Photo E]. Check it for square. When the glue dries, apply glue sparingly to the inside surfaces of the foot (B) notches, and clamp them in place, interlocking the foot and side notches.

### MAKE MIRROR-IMAGE DADOES TO FORM THE FEET

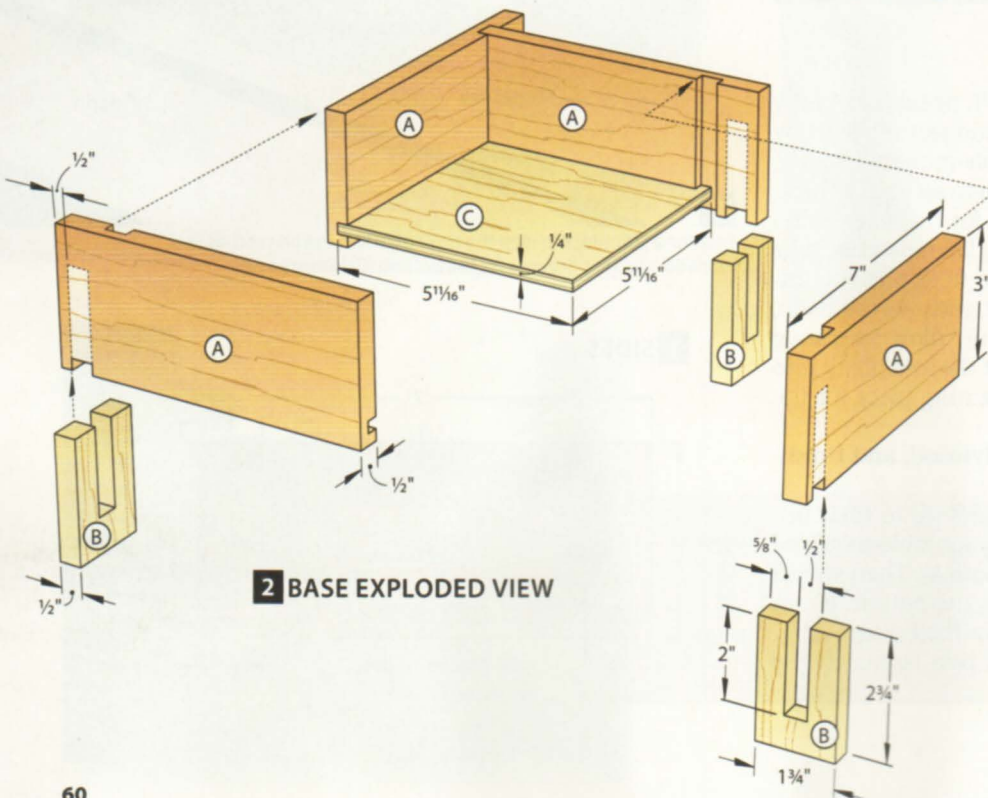


**D** Center the foot (B) blank on the dado blade, and flank it with stopblocks. Cut one notch, flip the blank, and cut a second notch.

### ASSEMBLE THE OFFSET SIDES OF THE BASE



**E** Apply glue sparingly to the side (A), dados, and grooves, and glue and clamp the sides, capturing the bottom (C) within the grooves.

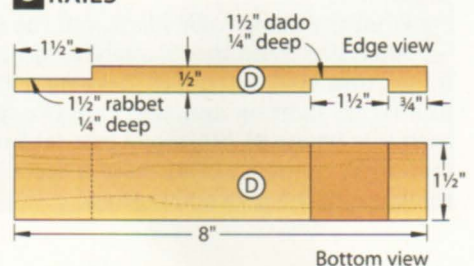


**2** BASE EXPLODED VIEW

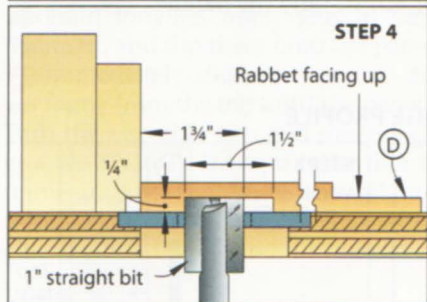
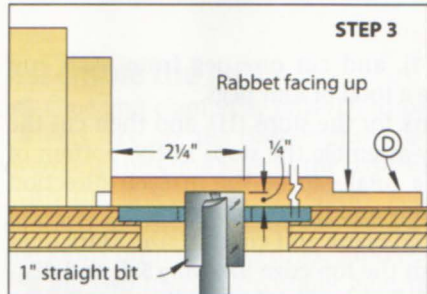
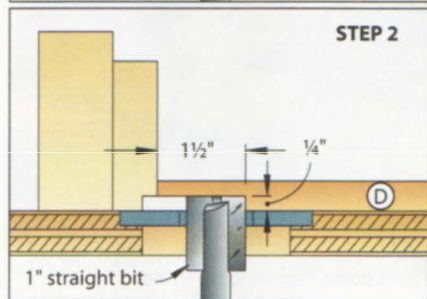
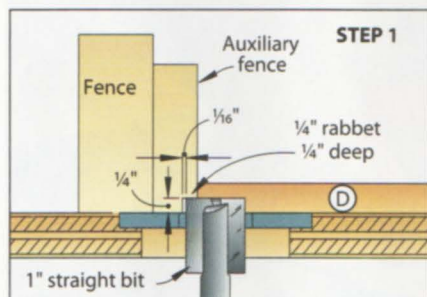
### Make the lid parts

**1** Cut the rails (D) to size, and finish-sand them. To test the router-table setups for cutting the rabbets and dados [Drawing 3], cut and finish-sand several extra parts from scrap. Chuck a 1" straight bit into your table-mounted router and adjust it to cut  $\frac{1}{4}$ " deep. Make test cuts to verify a cutting depth equal to one-half the thickness of the rails. Then to ensure a clean cut at the end of each rail rabbet, rout a  $\frac{1}{4}$ " rabbet  $\frac{1}{4}$ " deep along the edge of an auxiliary fence.

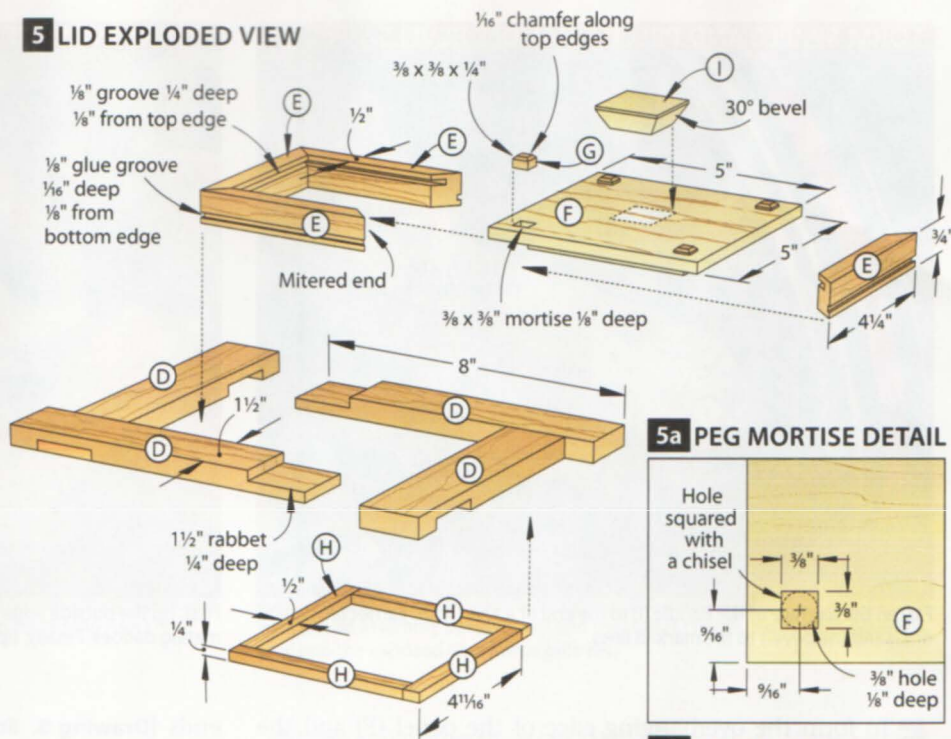
### 3 RAILS



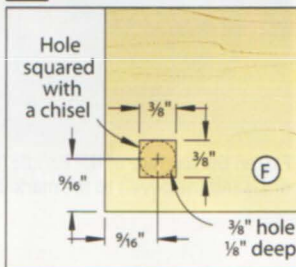
## 4 MACHINING THE RAILS



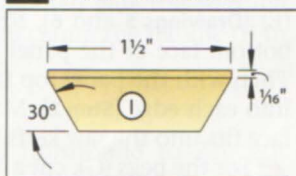
## 5 LID EXPLODED VIEW



### 5a PEG MORTISE DETAIL



### 5b HANDLE DETAIL



**2** Attach the auxiliary fence to the router-table fence and position it so the auxiliary fence partially covers the router bit. Make the first cut on each rail and the test parts [Drawing 4, Step 1]. Use a follower block to keep the parts square to the fence and prevent chip-out. Reposition the fence, verify the setup with the scrap parts, and finish the rabbets [Step 2]. Move the fence, flip the parts over, and make the first cut to form the dados [Step 3]. Reposition the fence, test the setup, and finish the dados [Step 4].

**3** Cut a  $\frac{1}{2} \times \frac{3}{4} \times 18$ " blank for the risers (E). Cut a  $\frac{1}{8}$ " groove  $\frac{1}{4}$ " deep  $\frac{1}{8}$ " from the top edge into the inside face, and a

$\frac{1}{8}$ " groove  $\frac{1}{16}$ " deep  $\frac{1}{8}$ " from the bottom edge into the outside face [Drawing 5]. Miter-cut the risers to length for a snug fit into the rail (D) frame opening.

**4** Cut the panel (F) to size. To form mortises for the decorative pegs (G), drill  $\frac{1}{8}$ "-deep holes with a Forstner bit and square them with a chisel [Drawings 5 and 5a]. To make perfectly placed, perfectly square mortises, see the **Shop Tip**, below.

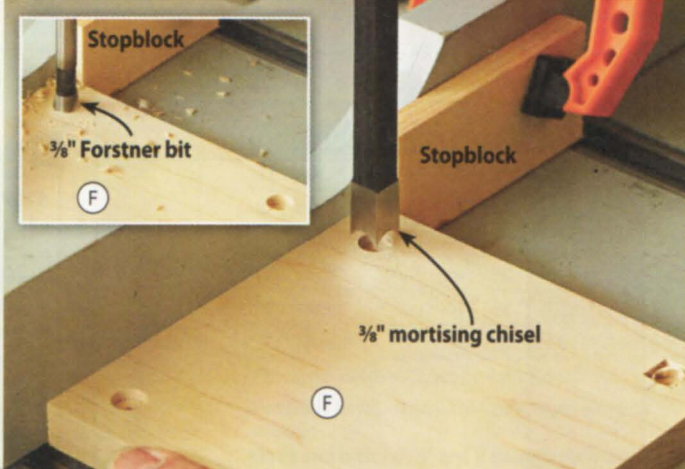
## SHOP TIP

### Make a perfect square from a round hole

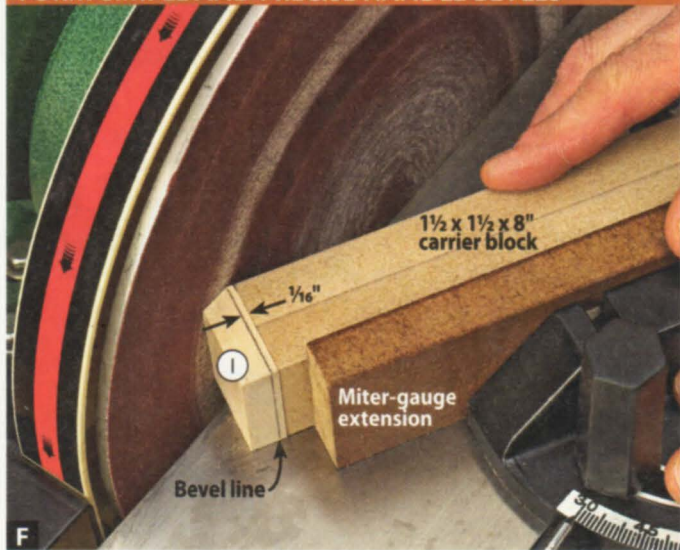
When covering a screwhead with a round plug, carefully matching the grain and color of the plug to the surrounding wood can make the plug nearly invisible. But just as often, what looks perfect in the raw emerges as an unsightly dot during finishing. Using a slightly protruding square peg in a contrasting wood species turns a cover-up into a design element.

In the usual method of drilling a round hole and squaring it with a chisel, the challenge is forming a clean-edged, perfectly square mortise. Using the lid panel (F) as an example, here's how to get flawless results.

Chuck a  $\frac{3}{8}$ " Forstner bit into your drill press, and position the fence and a stopblock to center the bit on the peg (G) locations on the panel (F). Drill a  $\frac{1}{8}$ "-deep hole at each corner, as shown *inset*. Remove the Forstner bit, and chuck a  $\frac{3}{8}$ " hollow mortising chisel (the type made for a mortising machine) into the drill press, aligning the chisel edges with the panel edges. (Visit [grizzly.com](http://grizzly.com) for an inexpensive  $\frac{3}{8}$ " mortising chisel.) Lower the drill-press quill, as shown at *right*, driving the chisel into the wood  $\frac{1}{8}$ " deep. Clean out the mortises with a  $\frac{1}{4}$ " hand chisel.

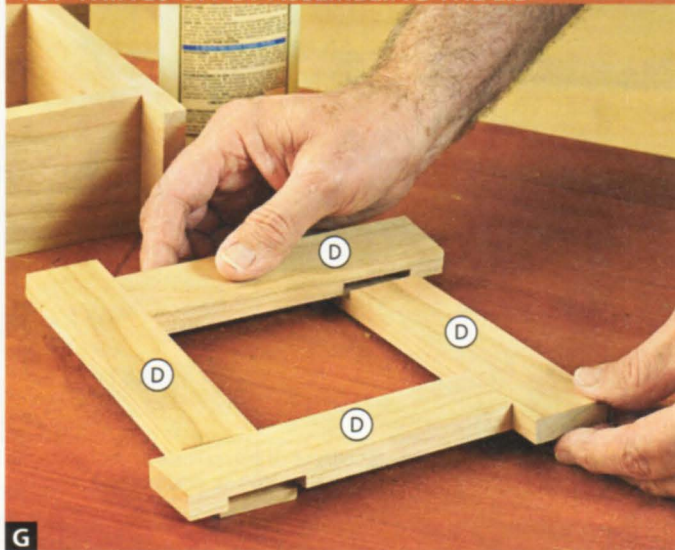


## FORM SIMPLE AND PRECISE HANDLE BEVELS



**F** Fasten the top face of the handle (I) to the end of a 1½×1½×8" carrier block, and disc-sand the bevels to the marked lines.

## TOP THINGS OFF BY ASSEMBLING THE LID



**G** First, tip the outside edge of each rail pair up. Then, slide the rabbets into the mating dadoes. Finally, tip the pairs down, flattening the frame.

**5** To form the overhanging edge of the panel (F) and the tongue that fits into the upper inside grooves on the risers (E) [Drawings 5 and 6], first cut a ¼"-deep saw kerf into the bottom face of the panel near each edge [Drawing 7, Step 1]. Then with the panel top face against the fence, cut a saw kerf into each edge [Step 2]. Make sure the tongue on the bottom face fits into the saw kerfs in the risers (E).

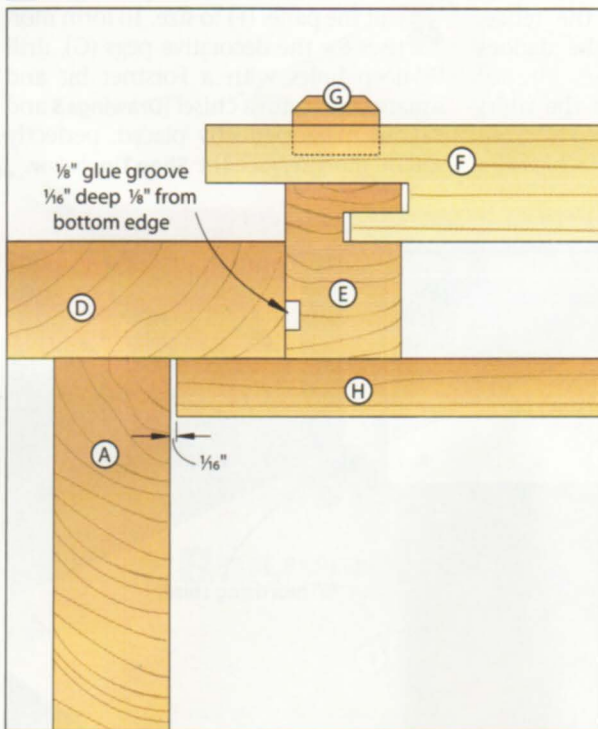
**6** For the pegs (G), cut a ¾×¾×12" blank, testing it for a snug fit into the panel (F) mortises. Sand chamfers on both

ends [Drawing 8, Step 1], and cut one peg from each end [Step 2]. Repeat to make a total of four pegs.

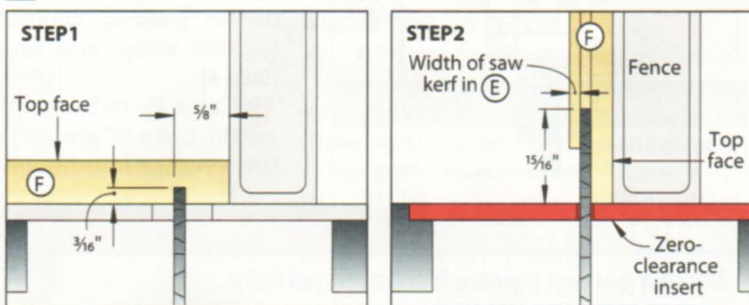
**7** Cut a ¼×½×20" blank for the stops (H), and then cut the parts to length. Dry-assemble the stops in the bottom of the base to check for a total gap of ⅛" in each direction between the stop assembly and the sides (A).

**8** Retrieve the handle (I) blank and cut it to size. Mark lines on the sides ⅛" from the top edge [Drawing 5a], and disc-sand the bevels [Photo F]. Finish-sand the handle.

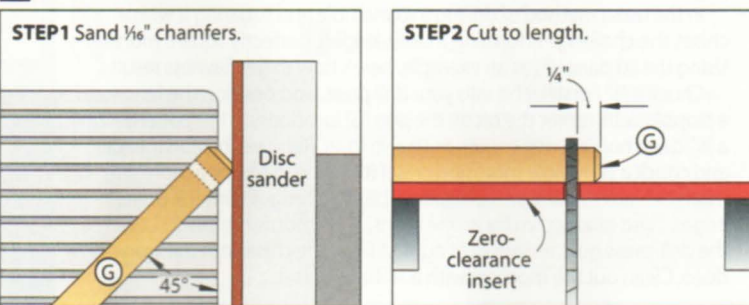
## 6 LID SECTION VIEW DETAIL



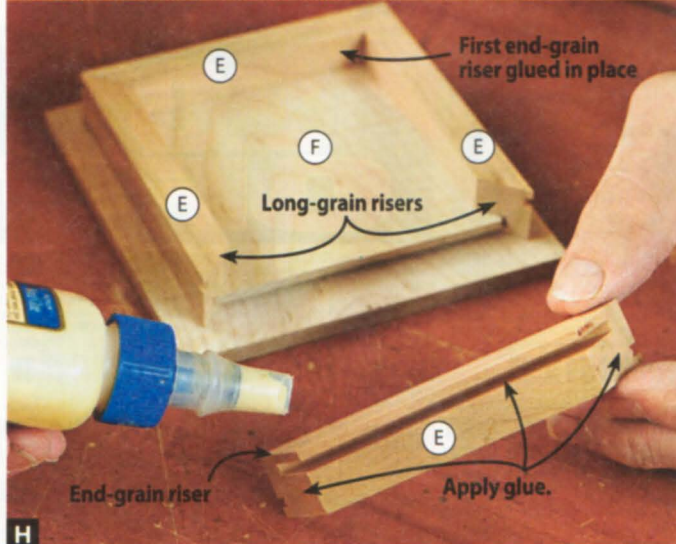
## 7 CREATING THE PANEL EDGE PROFILE



## 8 MAKING THE PEGS

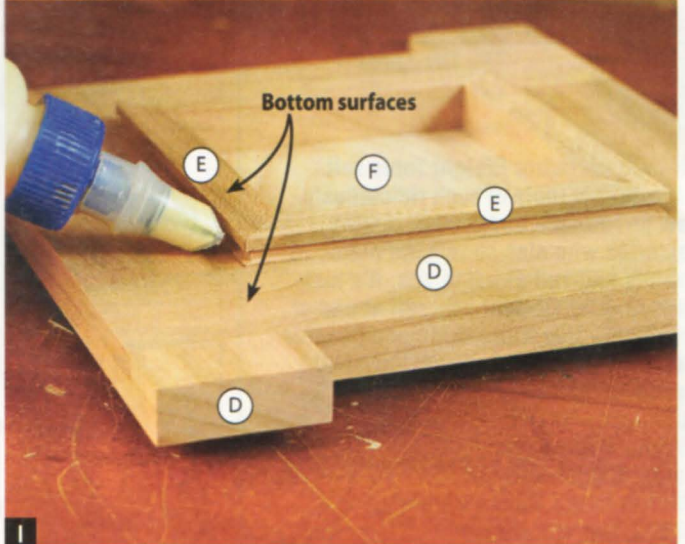


## ASSEMBLE THE RISERS AROUND THE PANEL



**H** Apply glue sparingly onto the mitered ends of the two remaining risers (E) and into the center of each groove.

## THE GROOVES SNEAK GLUE TO WHERE IT'S NEEDED



**I** With the lid assembly upside down and the riser (E) frame protruding, squeeze glue into the exposed riser frame grooves.

## Assemble the lid

**1** Glue and clamp the rails (D) in pairs. Make sure the rabbets face up, the dados down, and that the end offsets overhang the same sides as the base offsets [Drawings 2 and 5]. With the glued pairs dry, apply glue to the center of the exposed rabbets, and assemble the rail frame [Photo G]. Clamp the joints until the glue dries. Sand the joints smooth.

**2** Slip two risers (E), without glue, onto the panel (F) long-grain tongues. Apply glue to the two remaining risers [Photo H], and slip them onto the panel end-grain tongues.

**3** Immediately slide the riser (E) frame into the rail (D) frame from the top until the panel (F) seats onto the rails. Turn the assembly over and squeeze glue into the riser frame grooves [Photo I]. Then push the riser frame back into the rail frame until the riser frame and rail frame bottom surfaces are flush. Wipe away any excess glue with a damp cloth. Let the glue dry, and finish-sand the bottom surfaces.

**4** Glue and clamp the stops (H) to the bottom of the rail (D) frame, centering the stop frame. Then glue the pegs (G) into the panel (F) mortises. Glue and clamp the handle (I) in place, centered on the panel.

## Apply the finish

**1** Inspect all the assemblies and finish-sand to 220 grit where needed.

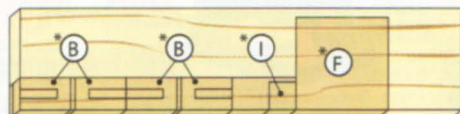
**2** Apply a clear finish. (To bring out the grain of the curly maple and the color of the cherry, we applied a coat of Minwax Antique Oil Finish, and let it dry for 24 hours. Then we topcoated the box with two coats of aerosol lacquer, sanding between coats with 320-grit sandpaper.)

Produced by Jan Svec with Chuck Hedlund

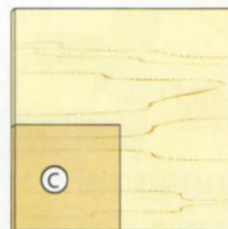
Project design: Jeff Mertz

Illustrations: Roxanne LeMoine

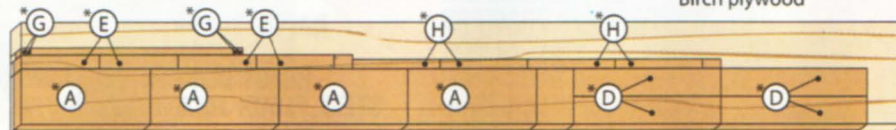
## Cutting Diagram



$\frac{3}{4}$  x  $5\frac{1}{2}$  x 24" Curly maple (1 bd. ft.)



$\frac{1}{4}$  x 12 x 12" Birch plywood



$\frac{3}{4}$  x  $5\frac{1}{2}$  x 48" Cherry (2 bd. ft.)

\*Plane or resaw to the thicknesses listed in the Materials List.

## Materials List

Base	FINISHED SIZE			Matl.	Qty.
	T	W	L		
A* sides	$\frac{1}{2}$ "	3"	7"	C	4
B* feet	$\frac{1}{2}$ "	$1\frac{3}{4}$ "	$2\frac{3}{4}$ "	CM	4
C bottom	$\frac{1}{4}$ "	$5\frac{1}{16}$ "	$5\frac{1}{16}$ "	BP	1
Lid					
D rails	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	8"	C	4
E* risers	$\frac{1}{2}$ "	$\frac{3}{4}$ "	$4\frac{1}{4}$ "	C	4
F panel	$\frac{1}{2}$ "	5"	5"	CM	1
G* pegs	$\frac{3}{8}$ "	$\frac{3}{8}$ "	$\frac{1}{4}$ "	C	4
H* stops	$\frac{1}{4}$ "	$\frac{1}{2}$ "	$4\frac{1}{16}$ "	C	4
I* handle	$\frac{1}{2}$ "	$1\frac{1}{2}$ "	$1\frac{1}{2}$ "	CM	1

\*Parts initially cut oversize. See the instructions.

**Materials key:** C—cherry, CM—curly maple, BP—birch plywood.

**Blade and bits:**  $\frac{3}{16}$ ",  $\frac{1}{2}$ ", and 1" straight router bits; stack dado set;  $\frac{3}{8}$ " Forstner bit.

# HARBOR FREIGHT TOOLS

Quality Tools at Ridiculously Low Prices

**LIFETIME WARRANTY**  
ON ALL HAND TOOLS!

## FACTORY DIRECT TO YOU!

How does Harbor Freight Tools sell high quality tools at such ridiculously low prices? We buy direct from the factories who also supply the major brands and sell direct to you. It's just that simple! See for yourself at one of our 400 Stores Nationwide and use this 20% Off Coupon on one of our 7,000 products\*, plus pick up a Free 9 LED Aluminum Flashlight, a \$6.99 value. We stock Shop Equipment, Hand Tools, Tarps, Compressors, Air & Power Tools, Woodworking Tools, Welders, Tool Boxes, Generators, and much more.

- Over 20 Million Satisfied Customers!
- 1 Year Competitor's Low Price Guarantee
- No Hassle Return Policy!
- 100% Satisfaction Guaranteed!
- Over 400 Stores Nationwide

**Nobody Beats Our Quality, Service and Price!**

**SUPER COUPON!**



**FREE!**  
WITH MINIMUM PURCHASE OF \$9.99

**3-1/2" SUPER BRIGHT NINE LED ALUMINUM FLASHLIGHT**

Item 65020 shown

ITEM 65020/69052/69111  
REG. PRICE \$6.99

**LIMIT 1** - Only available with qualifying minimum purchase (excludes gift value). Coupon good at our stores or website or by phone. Cannot be used with other discount, coupon or prior purchase. Offer good while supplies last. Shipping & Handling charges may apply if not picked up in-store. Original coupon must be presented. Non-transferable. Valid through 5/13/13. Limit one coupon per customer per day.



57646522

**SUPER COUPON!**

**20% OFF**

ANY SINGLE ITEM!

**LIMIT 1** - Save 20% on any one item purchased at our stores or website or by phone. \*Cannot be used with other discount, coupon, gift cards, Inside Track Club membership, extended service plans or any of the following: compressors, generators, tool storage or carts, welders, floor jacks, Towable Ride-on Trencher (Item 65162), open box items, in-store event or parking lot sale items. Not valid on prior purchases after 30 days from original purchase date with original receipt. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



42205221

**SUPER COUPON!**

**PITTSBURGH**



**12" RATCHET BAR CLAMP/SPREADER**

LOT NO. 46807/68975/69221/69222

Item 46807 shown

**SAVE 63%**

**\$199** REG. PRICE \$5.49

**LIMIT 9** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



419124001

**SUPER COUPON!**

**ALUMINUM OXIDE SANDING SPONGES - PACK OF 10**



**SAVE 41%**  
**YOUR CHOICE!**  
**\$349**

**COARSE** LOT NO. 46751  
**MEDIUM** LOT NO. 46752  
**FINE** LOT NO. 46753

REG. PRICE \$5.99

**LIMIT 5** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



31148340

**SUPER COUPON!**

**12" COMBINATION SQUARE SET**  
**PITTSBURGH**

LOT NO. 92471



**SAVE 50%**

**\$499** REG. PRICE \$9.99

**LIMIT 7** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



87175175

**SUPER COUPON!**

**SAVE 66%**

**CENTRAL PNEUMATIC HIGH SPEED METAL SAW**

LOT NO. 91753/60568



**\$999** REG. PRICE \$29.99

Item 91753 shown

**LIMIT 8** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



89151842

**SUPER COUPON!**

**2 HP INDUSTRIAL 5 MICRON DUST COLLECTOR**

LOT NO. 97869

**SAVE \$100**

**\$14999** REG. PRICE \$249.99



**LIMIT 3** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



80657961

**SUPER COUPON!**

**MECHANIC'S GLOVES**



Item 93640 shown

**SAVE 56%**

**LARGE X-LARGE**  
LOT NO. 93640/60447 LOT NO. 93641/60448

**YOUR CHOICE! \$349** REG. PRICE \$7.99

**LIMIT 6** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



29274769

**SUPER COUPON!**

**1500 WATT DUAL TEMPERATURE HEAT GUN (572°/1112°)**  
**drillmaster**

LOT NO. 96289

**SAVE 60%**

**\$799** REG. PRICE \$19.99

**LIMIT 9** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



288514857

**SUPER COUPON!**

**JACK AND PLANE SET**



LOT NO. 92553

**SAVE 33%**

**\$999** REG. PRICE \$14.99

**LIMIT 6** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



41529083

**SUPER COUPON!**

**EIGHT DRAWER WOOD TOOL CHEST**  
**WINDSOR DESIGN**

LOT NO. 94538



Tools sold separately.

**SAVE \$40**

**\$5999** REG. PRICE \$99.99

**LIMIT 3** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



10169942

**SUPER COUPON!**

**CENTRAL PNEUMATIC 18 GAUGE 2-IN-1 NAILER/STAPLER**

LOT NO. 68019

**SAVE 55%**

**\$1599** REG. PRICE \$35.99

**LIMIT 4** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



82774218

**SUPER COUPON!**

**OSCILLATING SPINDLE SANDER**  
**CENTRAL MACHINERY**

LOT NO. 95088/69257

**SAVE \$60**

**\$8999** REG. PRICE \$149.99

**LIMIT 5** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



93800078

**SUPER COUPON!**

**12" DOUBLE-BEVEL SLIDING COMPOUND MITER SAW WITH LASER GUIDE**  
**CHICAGO ELECTRIC POWER TOOLS**

LOT NO. 98194/69684



Item 69684 shown

**\$11999** REG. PRICE \$199.99

**LIMIT 5** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



22348978

**SUPER COUPON!**

**60" WORKBENCH WITH FOUR DRAWERS**  
**WINDSOR DESIGN**

LOT NO. 93454/69054

**SAVE \$90**

**\$13999** REG. PRICE \$229.99

**LIMIT 3** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



89770823

**SUPER COUPON!**

**RAPID PUMP® 3 TON HEAVY DUTY STEEL FLOOR JACK**  
**PITTSBURGH**

Item 68048 shown

**\$6999** REG. PRICE \$139.99

**WEIGHS 74 LBS.**

LOT NO. 68048/69227

**LIMIT 4** - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.



57501265

**HAULMASTER MOVER'S DOLLY**  
 LOT NO. 93888/60497  
  
**1000 LB. CAPACITY**  
**SAVE 46%**  
 Item 93888 shown  
**\$7.99**  
 REG. PRICE \$14.99

**PITTSBURGH 24" CLAMP AND CUT EDGE GUIDE**  
 LOT NO. 66126  
  
**SAVE 46%**  
**\$6.99**  
 REG. PRICE \$12.99

**drillmaster 29 PIECE TITANIUM NITRIDE COATED DRILL BIT SET**  
 LOT NO. 5889  
  
**SAVE 60%**  
**\$9.99**  
 REG. PRICE \$24.99

**CENTRAL PNEUMATIC 3 GALLON, 100 PSI OILLESS PANCAKE AIR COMPRESSOR**  
 LOT NO. 95275/69486/60637  
  
**SAVE 50%**  
**\$39.99**  
 REG. PRICE \$79.99

**4 PIECE WOOD CHISEL SET**  
 LOT NO. 42429/69471  
  
**SAVE 43%**  
**\$4.49**  
 REG. PRICE \$7.99

**Bunker Hill Security WIRELESS DRIVEWAY ALERT SYSTEM**  
 LOT NO. 93068/69590  
  
**SAVE 60%**  
**\$11.99**  
 REG. PRICE \$29.99

**CHICAGO ELECTRIC POWER TOOLS HIGH VOLUME LOW PRESSURE SPRAY GUN KIT**  
 LOT NO. 44677  
  
**SAVE \$40**  
**\$89.99**  
 REG. PRICE \$129.99

**CHICAGO ELECTRIC POWER TOOLS FLUORESCENT WORK LIGHT**  
 LOT NO. 92079  
  
**SAVE 33%**  
**\$9.99**  
 REG. PRICE \$14.99

**CENTRAL PNEUMATIC RETRACTABLE AIR HOSE REEL WITH 3/8" x 25 FT. HOSE**  
 LOT NO. 46104/69234/69266  
  
**SAVE 42%**  
**\$39.99**  
 REG. PRICE \$69.99

**CENTRAL MACHINERY 16" VARIABLE SPEED SCROLL SAW**  
 LOT NO. 93012  
  
**SAVE 25%**  
**\$59.99**  
 REG. PRICE \$79.99

**CHICAGO ELECTRIC WELDING 90 AMP FLUX WIRE WELDER**  
 LOT NO. 68887  
  
**SAVE \$60**  
**\$89.99**  
 REG. PRICE \$149.99

**drillmaster 2 HP FIXED BASE ROUTER**  
 LOT NO. 68341  
  
**SAVE 25%**  
**\$44.99**  
 REG. PRICE \$59.99

**HAULMASTER 500 LB. CAPACITY ALUMINUM CARGO CARRIER**  
 LOT NO. 92655/69688  
  
**SAVE \$60**  
**\$69.99**  
 REG. PRICE \$129.99

**THUNDERBOLT solar 45 WATT SOLAR PANEL KIT**  
 LOT NO. 68751/90599  
  
**SAVE \$90**  
**\$139.99**  
 REG. PRICE \$229.99

**PREDATOR ENGINES 6.5 HP OHV HORIZONTAL SHAFT GAS ENGINES (212 CC)**  
 LOT NO. 68120/69730/60363  
 LOT NO. 68121/69727, CALIFORNIA ONLY  
  
**SAVE \$80**  
**\$99.99**  
 REG. PRICE \$179.99

Order at HarborFreight.com or 800-423-2567  
 We FedEx Most Orders in 24 Hours for as Low as \$6.99

**GRAND OPENINGS** Avondale, AZ Clifton, NJ Union, NJ Pearland, TX  
 Kenneth City, FL East Brunswick, NJ Lawton, OK Federal Way, WA

# HARBOR FREIGHT TOOLS

Quality Tools at Ridiculously Low Prices

**LIFETIME WARRANTY**  
ON ALL HAND TOOLS!

**SUPER COUPON!**

## 6" DIGITAL CALIPER PITTSBURGH

LOT NO. 47257



**SAVE 66%**

Includes two 1.5V button cell batteries.

**\$9<sup>99</sup>** REG. PRICE \$29.99



LIMIT 7 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## CHICAGO ELECTRIC POWER TOOLS

### OSCILLATING MULTIFUNCTION POWER TOOL

LOT NO. 68861/68303/60428

8 Functions: Sanding, Cut Flooring, Cut Metal, Scrape Concrete, Remove Grout, Cut Plastic, Scrape Flooring, Plunge Cut



**SAVE 73%**

**\$15<sup>99</sup>** REG. PRICE \$59.99

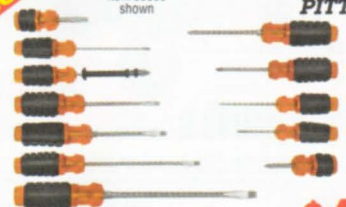


LIMIT 4 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 12 PIECE CUSHION GRIP SCREWDRIVER SET PITTSBURGH

LOT NO. 68868/69421



**SAVE 58%**

**\$4<sup>99</sup>** REG. PRICE \$11.99



LIMIT 5 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 3 PIECE TITANIUM NITRIDE COATED HIGH SPEED STEEL STEP DRILLS drillmaster

LOT NO. 91616/69087/60379



**SAVE 60%**

**\$7<sup>99</sup>** REG. PRICE \$19.99



LIMIT 8 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 11 PIECE WOOD CARVING SET

LOT NO. 4855/60655



**SAVE 40%**

**\$2<sup>99</sup>** REG. PRICE \$4.99



LIMIT 6 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 15" x 13" ALL PURPOSE SHOP TOWELS PACK OF 50

LOT NO. 46163/68442/69649



**SAVE 40%**

**\$8<sup>99</sup>** REG. PRICE \$14.99



LIMIT 6 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

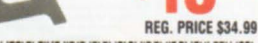
## PITTSBURGH AUTOMOTIVE 3 TON HEAVY DUTY JACK STANDS

LOT NO. 38846/69597



**SAVE 54%**

**\$15<sup>99</sup>** REG. PRICE \$34.99



LIMIT 4 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 12" x 33-3/8" WOOD LATHE WITH REVERSIBLE HEAD

LOT NO. 34706



**SAVE \$150**

**\$199<sup>99</sup>** REG. PRICE \$349.99



LIMIT 4 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## P95 MAINTENANCE-FREE DUAL CARTRIDGE RESPIRATOR

MEDIUM LOT NO. 66554  
LARGE LOT NO. 67727



**SAVE 30%**

**\$13<sup>99</sup>** REG. PRICE \$19.99



LIMIT 5 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 12 SPEED BENCH DRILL PRESS

LOT NO. 44836/60237

**SAVE \$70**  
**\$99<sup>99</sup>** REG. PRICE \$169.99



Item 44836 shown

LIMIT 3 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 10/2/55 AMP, 6/12 VOLT BATTERY CHARGER/ENGINE STARTER

LOT NO. 66783/60581/60653



**SAVE 53%**

**\$27<sup>99</sup>** REG. PRICE \$59.99



LIMIT 4 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## PNEUMATIC ADJUSTABLE ROLLER SEAT

US\*GENERAL

LOT NO. 46319



**SAVE 33%**

**\$19<sup>99</sup>** REG. PRICE \$29.99



LIMIT 4 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 580 LB. CAPACITY FOUR DRAWER TOOL CART

LOT NO. 95659

**SAVE \$130**  
**\$99<sup>99</sup>** REG. PRICE \$229.99



LIMIT 3 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## 3200 RATED WATTS/4000 MAX. WATTS PORTABLE GENERATORS (212 CC)

PREDATOR GENERATORS

LOT NO. 68528/67560/69678/69729



**SUPER QUIET!**  
70 dB Noise Level

**SAVE \$160**

**\$289<sup>99</sup>** REG. PRICE \$449.99



LIMIT 4 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

## HaulMaster

## 2 PIECE STEEL LOADING RAMPS

LOT NO. 44649/69591/69646



**SAVE 50%**

**\$39<sup>99</sup>** REG. PRICE \$79.99



LIMIT 5 - Good at our stores or website or by phone. Cannot be used with other discount or coupon or prior purchases after 30 days from original purchase with original receipt. Offer good while supplies last. Non-transferable. Original coupon must be presented. Valid through 5/13/13. Limit one coupon per customer per day.

**SUPER COUPON!**

**4 PIECE 1" x 15 FT. RATCHETING TIE DOWN SET**  
LOT NO. 90984/60405



**SAVE 52%**  
**\$7.99**

REG. PRICE \$16.99

Item 90984 shown

26911883

**SUPER COUPON!**

**drillmaster ORBITAL PALM SANDER**  
LOT NO. 40070



**11,000 OPM**  
**SAVE 55%**  
**\$8.99**

REG. PRICE \$19.99

96661647

**SUPER COUPON!**

**CENTRAL MACHINERY**  
**4" x 36" BELT/6" DISC SANDER**  
LOT NO. 97181/ 93981



**SAVE \$45**  
**\$54.99**

REG. PRICE \$99.99

59182813

Item 97181 shown

**SUPER COUPON!**

**7 FT. 4" x 9 FT. 6" ALL PURPOSE WEATHER RESISTANT TARP**  
LOT NO. 877/69121/ 69137/69249/69129



**SAVE 60%**  
**\$2.79**

REG. PRICE \$6.99

Item 877 shown

16664277

**SUPER COUPON!**

**Bunker Hill Security® 36 LED SOLAR SECURITY LIGHT**  
LOT NO. 98085/ 69644/69890/60498



**SAVE 28%**  
**\$17.99**

REG. PRICE \$24.99

Item 98085 shown

73162398

**SUPER COUPON!**

**2.5 HP 12" PLANER WITH DUST COLLECTION**  
LOT NO. 95082



**SAVE \$80**  
**\$219.99**

REG. PRICE \$299.99

70365280

**SUPER COUPON!**

**17 PIECE AIR TOOL ACCESSORY KIT**  
LOT NO. 68236



**SAVE 50%**  
**\$4.99**

REG. PRICE \$9.99

CENTRALPNEUMATIC

44301340

**SUPER COUPON!**

**400 WATT CONTINUOUS/800 WATT PEAK POWER INVERTER**  
CHICAGO POWER ELECTRIC SYSTEMS  
LOT NO. 66814



**SAVE 50%**  
**\$19.99**

REG. PRICE \$39.99

20628406

**SUPER COUPON!**

**18 VOLT CORDLESS 1/2" DRILL/DRIVER WITH KEYLESS CHUCK**  
CHICAGO ELECTRIC POWER TOOLS  
LOT NO. 68850



**SAVE 33%**  
**\$39.99**

REG. PRICE \$59.99

97809154

18V NiCd battery and charger included.

**SUPER COUPON!**

**CHICAGO ELECTRIC WELDING MIG-FLUX WELDING CART**  
LOT NO. 69340/90305



**SAVE 41%**  
**\$34.99**

REG. PRICE \$59.99

Welder and accessories sold separately.

Item 69340 shown

42764339

**SUPER COUPON!**

**9 PIECE FULLY POLISHED COMBINATION WRENCH SETS**  
PITTSBURGH  
SAE LOT NO. 42304/69043 | METRIC LOT NO. 42305/69044



**SAVE 53%**  
**\$6.99**

REG. PRICE \$14.99

YOUR CHOICE!

Item 42304 shown

97248622

**SUPER COUPON!**

**HaulMaster TRIPLE BALL TRAILER HITCH**  
LOT NO. 94141/69874



**SAVE 55%**  
**\$19.99**

REG. PRICE \$44.99

Item 94141 shown

20834528

**SUPER COUPON!**

**NEW! US\*GENERAL 44", 13 DRAWER INDUSTRIAL QUALITY ROLLER CABINET**  
LOT NO. 68784/69387



**2900 LB. CAPACITY**  
**WEIGHS 306 LBS.**  
**SAVE \$240**  
**\$359.99**

REG. PRICE \$599.99

Item 68784 shown

46767809

**SUPER COUPON!**

**2000 LB. ELECTRIC WINCH WITH REMOTE CONTROL AND AUTOMATIC BRAKE**  
BADLAND



**SAVE \$50**  
**\$49.99**

REG. PRICE \$99.99

Item 68146 shown

57977118

**SUPER COUPON!**

**AUTO-DARKENING WELDING HELMET WITH BLUE FLAME DESIGN**  
CHICAGO ELECTRIC WELDING  
LOT NO. 91214



**SAVE 50%**  
**\$39.99**

REG. PRICE \$79.99

44143414

Order at HarborFreight.com or 800-423-2567  
We FedEx Most Orders in 24 Hours for as Low as \$6.99

**GRAND OPENINGS** Covina, CA    Lakewood, CO    Chicago, IL    Green Brook, NJ  
Indio, CA    Waterbury, CT    Kansas City, MO    Bronx, NY

# Ask WOOD

Answers to your questions from letters, e-mails, and WOOD Online®

## Have a Question?

For an answer to your woodworking question, write to **ASK WOOD**, 1716 Locust St., LS-221, Des Moines, IA 50309-3023, or e-mail us at [askwood@woodmagazine.com](mailto:askwood@woodmagazine.com). For immediate feedback from your fellow woodworkers, post your questions on one of our woodworking forums at [woodmagazine.com/forums](http://woodmagazine.com/forums).

## Help stop the burn!

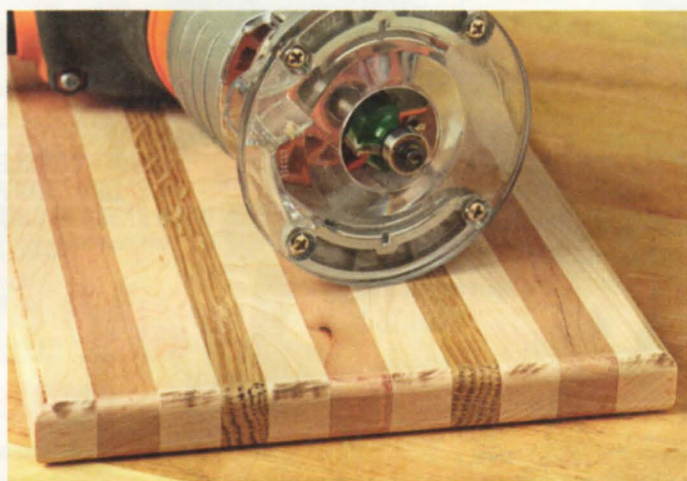
I get burn marks when rounding over the ends of glued-up cutting boards. I thought I was moving the trim router fast enough, and the bit is sharp and clean, so why does the wood scorch?

—Curtis Severson, North Platte, Neb.

Curtis, some wood species, such as cherry and maple, tend to burn easier than others, so your situation is not uncommon. And your idea to use a quicker feed rate usually helps.

If you've ruled out feed rate as the problem, and you have a sharp bit, consider the router as the culprit. If it has a single speed—usually around

25,000 rpm or faster—that high speed could be causing the burns. In that case, rout the profile in two passes, removing most of the wood the first time through, and then following up with a quicker, shaving-thin pass. If your router has variable speed, dial it back to about 18,000 rpm or so. That should alleviate the friction burns.



## How do you sharpen around corners?

I use a spring-loaded corner chisel (below)—and a few mallet taps—to square up corners of hinge mortises and similar recesses. But how do I sharpen it after the cutting edge dulls?

—Jessica Petrey, Danielson, Conn.

Remove the plate that holds the chisel in its housing, Jessica, taking care to not lose the spring concealed inside the

housing. Then use a diamond file (woodcraft, no. 852974, \$35, 800-535-4482, [woodcraft.com](http://woodcraft.com)) to hone the inside bevels of the 90° tip. Keep the file flat against the beveled edges and make about 10–20 strokes per side; repeat until sharp. When finished, make a couple of passes on the flat back side to remove any burr, and reinstall the plate.



## Soak up moisture so your biscuits won't

How can I store biscuits to prevent swelling caused by humidity?

—John Albertson, Gainesville, Fla.

You have an easy fix within reach, John. First, keep your biscuits in a lidded container that seals well; many brands of biscuits come in such containers. Add a silica-gel desiccant pack, as shown at right, to soak up whatever humidity gets trapped in the container. You can often find free ones packed in shipping boxes, or buy them in multi-packs for about 40 cents apiece at office-supply and crafts stores.



# CATALOGS FOR CRAFTSMEN

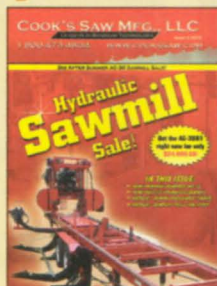


ADVERTISEMENT

Select the catalogs you want from these advertisers. Visit [woodmagazine.com/adindex](http://woodmagazine.com/adindex)



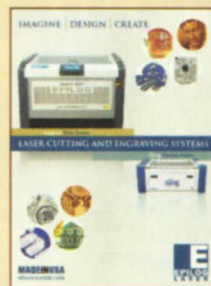
**1 AMERICAN FURNITURE DESIGN** – The leader in woodworking plans for furniture! Over 85,000 copies of our Mission Bed have been sold! CAD generated designs, 36"X48" with instructions. Hardware, hand tools, router bits, finishes & books. [americanfurnitureplans.com](http://americanfurnitureplans.com)



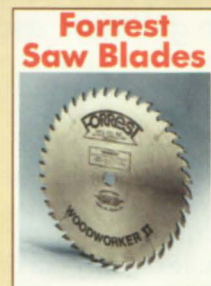
**2 COOK'S SAW MANUFACTURING** – Cook's Saw is a leading manufacturer of Portable Sawmills, Board Edgers, Blade Sharpeners, Tooth Setters, Bandsaw Blades, and Sawmill Parts. FREE Catalog. [www.cookssaw.com](http://www.cookssaw.com)



**3 DETAILED PLAY SYSTEMS** – Features wooden swing sets and backyard playground equipment kits, plans, and accessories to build children's outdoor play structures. Free catalog.



**4 EPILOG** – Add value to woodworking projects with laser engraving systems from Epilog. Customize anything with a touch of a button.



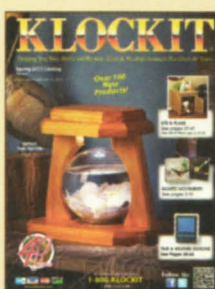
**5 FORREST MANUFACTURING** – The finest, quietest saw blades and dados! Full line of sizes available. [forrestblades.com](http://forrestblades.com)



**6 HUT PRODUCTS** – "Turn to Quality". A comprehensive catalog for Wood Turners from HUT Products. [hutproducts.com](http://hutproducts.com)



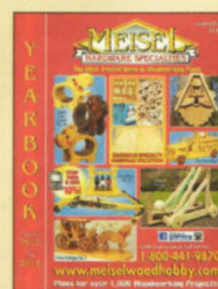
**7 JDS COMPANY** – Providing quality products for over 20 years! Find out more information on JDS Air Filtration, dust collection systems and the amazing Multi-Router!



**8 KLOCKIT** – Whether your next project is to build a beautiful clock or repair a treasured heirloom, Klockit can supply all you need; Plans, Wood Kits and Clock Components. [klockit.com](http://klockit.com)



**9 LIGNOMAT** – Catalog describes full line of wood moisture meters. Convenient, reliable and affordable moisture meters for any hobbyist and woodworker. [lignomatusa.com](http://lignomatusa.com)



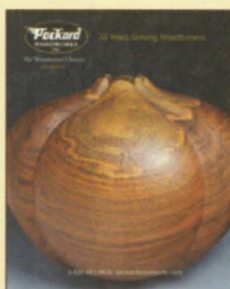
**10 MEISEL HARDWARE SPECIALTIES** – Over 2,000 woodworking project plans for indoor and outdoor furniture, toys, clocks, patriotic, birdhouses, Christmas, etc. Request our full-color catalog.



**11 ONEIDA AIR SYSTEMS, INC.** – Offers the finest quality dust collection systems and a complete line of ductwork and accessories. Free catalog.



**12 OSBORNE WOOD PRODUCTS** – 40 full-color catalog pages containing the latest fresh and innovative product releases, our brand new corbels, bun feet, island legs, and molding. [osbornewood.com](http://osbornewood.com)



**13 PACKARD WOODWORKS** – 20 YEARS SERVING WOODTURNERS! All major brands of Turning Tools, Chucks, Penmaking & Project Supplies, Finishes, Exotic Woods, Books and DVD's, also Carving and Pyrography Supplies and much more! [packardwoodworks.com](http://packardwoodworks.com)



**14 PANEL PRO** – Panel Pro is an economical panel saw that makes it easy to handle those big sheets of wood or plastic and cut them accurately.



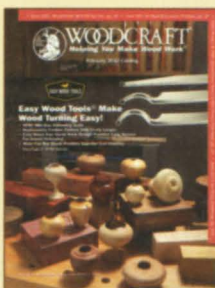
**15 RED HILL** – Supergrit® Abrasives, industrial quality sandpaper and refinishing supplies at wholesale prices. FREE 48-page color catalog.



**16 ROCKLER WOODWORKING AND HARDWARE** – The most complete woodworking catalog featuring over 10,000 items including innovative jigs and tools, rare hardwood, unique molding, and more. Get your FREE catalog today! [rockler.com](http://rockler.com)



**17 WOOD STORE CATALOG** – A free catalog of plans, DVDs, and other products from the editors at WOOD® magazine. [woodstore.net](http://woodstore.net)



**18 WOODCRAFT** – Woodworking hand and power tools, finishing supplies, hardware, exotic woods and more! Exclusive brands and top-quality tools from around the world, plus hard-to-find jigs and accessories. [woodcraft.com](http://woodcraft.com)



**19 WOODMASTER** – 4-Way Money-Maker planes, molds, sands, saws... creates high-profit moldings, picture frames, tongue & groove. 12", 18", & 25" models. [woodmastertools.com](http://woodmastertools.com)



**20 WOOD MAGAZINE BACK ISSUE DVD** – Free catalog containing WOOD's newly updated back-issue DVD and shop-tested plans. [woodstore.net/cowmacoondv.html](http://woodstore.net/cowmacoondv.html)

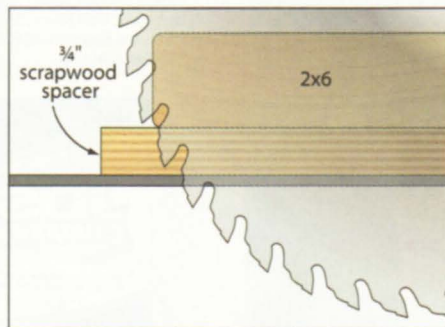
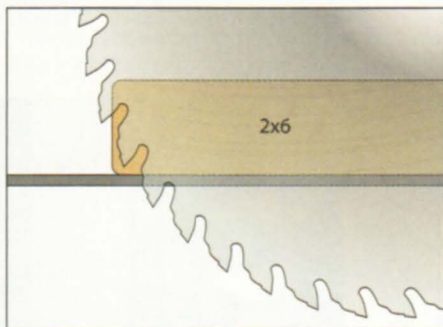
## Ask WOOD

### Add a little height to get more width

My 10" compound miter saw can't quite cut completely through a 2x6, leaving a tiny corner uncut. It's awkward to flip the board and finish the cut without it breaking and splintering, and I don't always get it lined up with the first cut. Is there a way to squeeze just a little more capacity out of my miter saw?

—Mark Silva, Sacramento, Calif.

**A** There sure is, Mark: If you can't cut wider, go deeper. Simply raise the 2x6 by placing a 3/4"-thick scrapwood spacer between the board and your saw's table. By doing this, you use more of the blade's width and cut cleanly through the board in one pass. Be sure to hold the spacer and 2x6 firmly to prevent shifting during the cut. If you need to make more than a couple of cuts, secure the spacer to the miter saw table with double-faced tape.



## Dovetails & Box Joints

Easy with the Leigh R9 Plus Joinery Jig.



See the video  
[leighjigs.com](http://leighjigs.com)  
or call 800-663-8932

**LEIGH**  
Celebrating 30 years

QUICK \$CREWS



- Driver Bits
- Pocket Hole Screws
- Funnel Head Screws
- & More!

Widest Line of  
**WOODWORKING**  
**SCREWS**  
In America!

OVER 1000 Woodworking Fastener Products  
Available in our **New Online Store!**

[www.quickscrews.com](http://www.quickscrews.com)

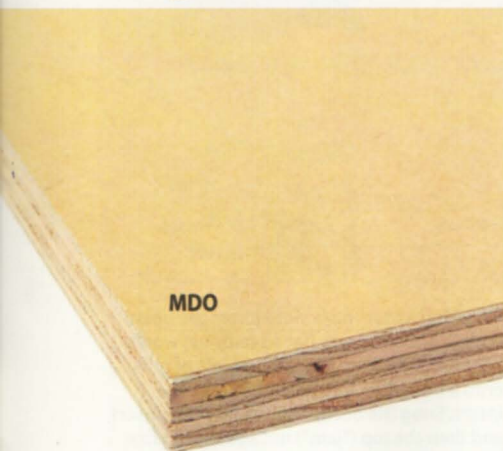
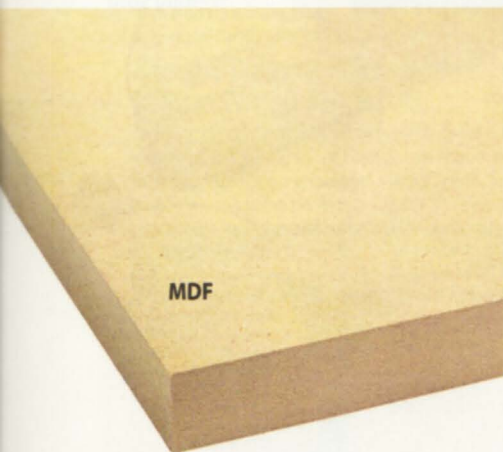
## Is MDO a cousin to MDF?

I've seen you use MDF in projects and jigs many times in *WOOD*® magazine. Then I heard on a TV remodeling show about something called MDO. What's that?

—Greg Montana, North Wilkesboro, N.C.

Medium-density fiberboard (MDF) is manufactured from fine wood fibers and resin bonded together, Greg, and compressed into sheets to give it a smooth, flat surface. Medium-density overlay board (MDO) has a similar, smooth surface about 1/16" thick on each face, bonded to a plywood core. Because MDO's faces contain more resin than MDF, MDO works well for exterior use, such as painted signs. Stronger than MDF, MDO weighs less and doesn't create a cloud of choking dust when you saw it. It also costs about a third more.

You'll find MDO at some home centers, but will have better luck at a lumberyard or hardwood retailer that sells sheet goods.



continued on page 72



## Every issue of **WOOD** on **ONE** space-saving **DVD-ROM!**

Order online at [woodmagazine.com/DVDlibrary](http://woodmagazine.com/DVDlibrary) or by phone at **888-636-4478**

Special pricing for owners of the 27-year collection!

AD#032013

**Old Masters**  
Since 1953

# EFFORTLESS

Easy-to-use wipe on stains and finishes.

Visit [myoldmasters.com](http://myoldmasters.com) for great how-to guides and videos or call us at 800.747.3436 for troubleshooting and project help.

**Old Masters**  
WIPING STAIN  
ESTTERO KNOX, OIL-BASED STAIN WITH RICH CHINA DEEPER FOR USE ON WOOD, FIBERGLASS, METAL & COMPOSITION SHEETS  
One Quart (946 mL)  
American Walnut 13004  
DANGER! COMBUSTIBLE LIQUID AND VAPOR. VAPOR HARMFUL. CAUSES EYE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. See other cautions on back panel.

**Old Masters**  
INTERIOR OIL-BASED  
GEL POLYURETHANE  
Clear Satin 85116  
WARNING! COMBUSTIBLE LIQUID AND VAPOR. VAPOR HARMFUL. HARMFUL IF SWALLOWED. See other cautions on back panel.

INTRODUCING

# Your Ultimate Woodworking Weekend

Step up your skills by spending a few days in the shop with woodworking masters Marc Adams, Jim Heavey, *WOOD* magazine editors, and others.\*

## Weekend With **WOOD**

May 17-19, 2013, Des Moines, Iowa

Learn more at [woodmagazine.com/weekendwithwood](http://woodmagazine.com/weekendwithwood) or [facebook.com/weekendwithwood](http://facebook.com/weekendwithwood)

\*Scheduled to appear. Subject to change.

## Born in the USA

Beautiful but rugged. Eagle America router bits cut clean and like to stay on the job. We don't cut corners and it shows. It's all in the bit.



[www.EagleAmerica.com](http://www.EagleAmerica.com)  
(800) 872-2511



## Ask **WOOD**

### Bolt-on legs come up short

Recently, I bought four short, turned furniture legs from a home center, but hit a brick wall when it came time to install them. How do I attach the short ( $\frac{3}{8}$ " long) threaded studs to my bookcase? There were no instructions included with the legs.

—Henry Watkins, Columbus, Ohio

You'll find the solution at most hardware and woodworking stores, Henry: threaded inserts. Begin by measuring the diameter of the threads, as well as the diameter of the barrel (as if there were no threads). Then drill a hole with a diameter about midway between those measurements, deep enough to seat the insert. (Do this on a drill press, if possible.) Next, install each insert as shown *below*. Finally, thread the legs into the inserts.



Threaded inserts have slots across the open ends, but an ordinary flat screwdriver won't help much. Instead, thread a couple of nuts onto a bolt, then thread the bolt into the insert. Snug the bottom nut against the insert, and then the top ("jam") nut against the first one. Finally, drive the insert flush using a drill and socket on the bolt head. 🌱

# SAVE When You Grow A Zoysia Lawn From Plugs!

From Plugs

To A Fabulous Lawn



Zoysia Lawns are thick, dense and lush!

**GRASS SEED WILL NEVER GROW A LAWN LIKE THIS!**

**Save Water! Save Time! Save Work! Save Money!**

### Grass Seed Is For The Birds!

Stop wasting money, time and work sowing new grass seed each spring, only to see birds eat the seed – or rain wash it away – before it can root. Plant a genuine Amazoy™ Zoysia lawn from our living Plugs only once... and never plant a new lawn again!



Zoysia thrives in partial shade to full sun!

### Zoysia Grows Where Other Grass Doesn't!

Zoysia is the perfect choice for hard-to-cover spots, areas that are play-worn or have partial shade, and for stopping erosion on slopes. North, South, East, West – Zoysia will grow in any soil, no ifs, ands or buts!

### Eliminates Endless Weeds And Weeding!

No more pulling out weeds by hand or weeds sprouting up all over your lawn. Zoysia Plugs spread into a dense, plush, deep-rooted, established lawn that drives out unwanted growth and stops crab-grass and summer weeds from germinating.

### Environmentally Friendly, No Chemicals Needed!

No weeding means no chemicals. You'll never have to spray poisonous pesticides and weed killers again! Zoysia lawns are safer for the environment, as well as for family and pets!

### Cuts Watering & Mowing By As Much As 2/3!

Many established Zoysia lawns only need to be mowed once or twice a season. Watering is rarely, if ever, needed – even in summer!



We ship at the best planting time for you!

### Stays Green In Summer Through Heat & Drought!

When ordinary lawns brown up in summer heat and drought, your Zoysia lawn stays green and beautiful. The hotter it gets, the better it grows. Zoysia thrives in blistering heat (120°), yet it won't winter-kill to 30° below zero. It only goes off its green color after killing frosts, but color returns with consistent spring warmth. Zoysia is the perfect choice for water restrictions and drought areas!

### Our Customers Love Their Zoysia Lawns!

One of our typical customers, Mrs. M.R. Mitter of PA, wrote how "I've never watered it, only when I put the Plugs in... Last summer we had it mowed 2 times... When everybody's lawns here are brown from drought, ours just stays as green as ever!"

### Order Now And Save!

The more Amazoy™ Zoysia Plugs you order, the more you SAVE! And remember, once your Zoysia lawn is established, you'll have an endless supply of new Plugs for planting wherever you need them. Order now!

Each Zoysia Plug You Plant In Your Soil is **GUARANTEED TO GROW** Within 45 Days Or We'll Replace It FREE!

To ensure best results, we ship you living sheets of genuine Amazoy™ Zoysia Grass, harvested direct from our farms. Plugs are not cut all the way through. Before planting, simply finish the separation by cutting T-sq. Plugs with shears or knife. Then follow the included easy instructions to plant Plugs into small plug holes about a foot apart. Our guarantee and planting method are your assurance of lawn success backed by more than 5 decades of specialized lawn experience.

©2013 Zoysia Farm Nurseries, 3617 Old Taneytown Rd, Taneytown, MD 21787

Meyer Zoysia Grass was perfected by the U.S. Gov't, released in cooperation with the U.S. Golf Association as a superior grass.

[www.ZoysiaFarms.com/mag](http://www.ZoysiaFarms.com/mag)

**FREE! PLANTING TOOL** With Order of 500 Plugs or More!

Saves time, work and effort when making holes for Plugs!

**Order Now and Save Over 50% – Harvested Daily From Our Farms And Shipped To You Direct!**

**FREE Shipping On Larger Quantities! Get Up To 900 Plugs — FREE!**

Please send me guaranteed Amazoy plug packs as marked:

Quantity	# PLUGS	+ FREE Plugs	Your PRICE	+ Shipping	YOU SAVE	+FREE Planting Tool
	150	—	\$ 14.95	\$ 5.00	—	—
	500	+ 100	\$45.60	\$ 7.00	<b>\$27.20</b>	Free Step-on Plugger
	750	+ 150	\$74.50	<del>\$10.00</del> FREE	<b>\$45.20</b>	Free Step-on Plugger
	1100	+ 400	\$99.10	<del>\$15.00</del> FREE	<b>\$100.40</b>	Free Amazoy Power Auger
	1500	+ 900	\$147.50	<del>\$25.00</del> FREE	<b>\$171.70</b>	Free Amazoy Power Auger AND Step-on Plugger

Extra Step-on Plugger \$8.95 + \$3 Shipping  Extra Amazoy Power Auger™ for 3/8" Drill \$24.95 + \$5 Shipping

Mail to: **ZOYSIA FARM NURSERIES**  
3617 Old Taneytown Road, Taneytown, MD 21787

Dept. 5035

Write price of order here \$ \_\_\_\_\_ Payment method (check one)  
 Md. residents add 6% tax \$ \_\_\_\_\_  Check  MO  
 Shipping \$ \_\_\_\_\_  MasterCard  
 ENCLOSED TOTAL \$ \_\_\_\_\_  Visa  
 Card # \_\_\_\_\_ Exp. Date \_\_\_\_\_  
 Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_  
 Zip \_\_\_\_\_ Phone \_\_\_\_\_

We ship all orders the same day plugs are packed at earliest correct planting time in your area.

Amazoy is the trademark registered U.S. Patent Office for our Meyer Zoysia grass.

**Order Now! [www.ZoysiaFarms.com/mag](http://www.ZoysiaFarms.com/mag)**

Not shipped outside the USA or into WA or OR

# Shop-Proven Products

These woodworking wares passed our shop trials.

## About our product tests

We test hundreds of tools and accessories, but only those that earn at least three stars for performance make the final cut and appear in this section of our magazine. The products shown here, and those that don't make the cut, are also reviewed at [toolreviews.woodmagazine.com](http://toolreviews.woodmagazine.com). Prices shown are current at the time of article production and do not include shipping, where applicable.

## Easy on, easy off fence holds solidly

Carter Products' newest bandsaw fence eliminates the hassles common with bolt-on fence rails that get in the way of blade changes and the use of some jigs. Instead, the Magfence II installs with two included Magswitch MagJigs that grab the table with a simple turn of the knob on top of each.

The MagJigs held the fence securely even when I resawed planks from a big white-oak slab. To adjust slightly for blade drift, I just released one magnet, nudged the fence, and then reengaged the magnet. As a bonus, the MagJigs dismount from the fence so I could also use them with other shopmade jigs.

The 3×15" Magfence II has T-slots on its face and top for attaching jigs and accessories, such as a 5" UHMW wear plate (MF2-SWF5, \$29.95, shown) available from Carter. There's also a 3" version: MF2-SWF3, \$24.95. You don't need these slick wear plates to rip with the Magfence II—you could instead make your own from wood scraps—but I like them for keeping the aluminum fence safely away from the blade, especially when ripping thin strips or slabs.

—Tested by Bob Hunter,  
Tools Editor



### Magfence II bandsaw fence (MF-II)

Performance ★★★★★  
Price \$100

Carter Products  
888-622-7837; [carterproducts.com](http://carterproducts.com)



## Spray on, buff off, done!

I've gotten great results for years with Briwax Original furniture wax. And I'm just as thrilled with the shine and protection—not to mention ease of application—from Briwax Spray, the same wax formula, but in an aerosol spray. For finished projects, simply spray it on, wait a minute or two, and then buff to a shine. For unfinished projects, buff it and work it into the wood surface while wet. When the shine wears off simply spray on and buff a new coat.

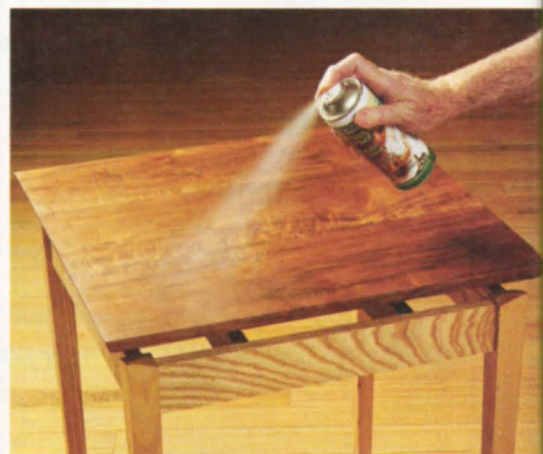
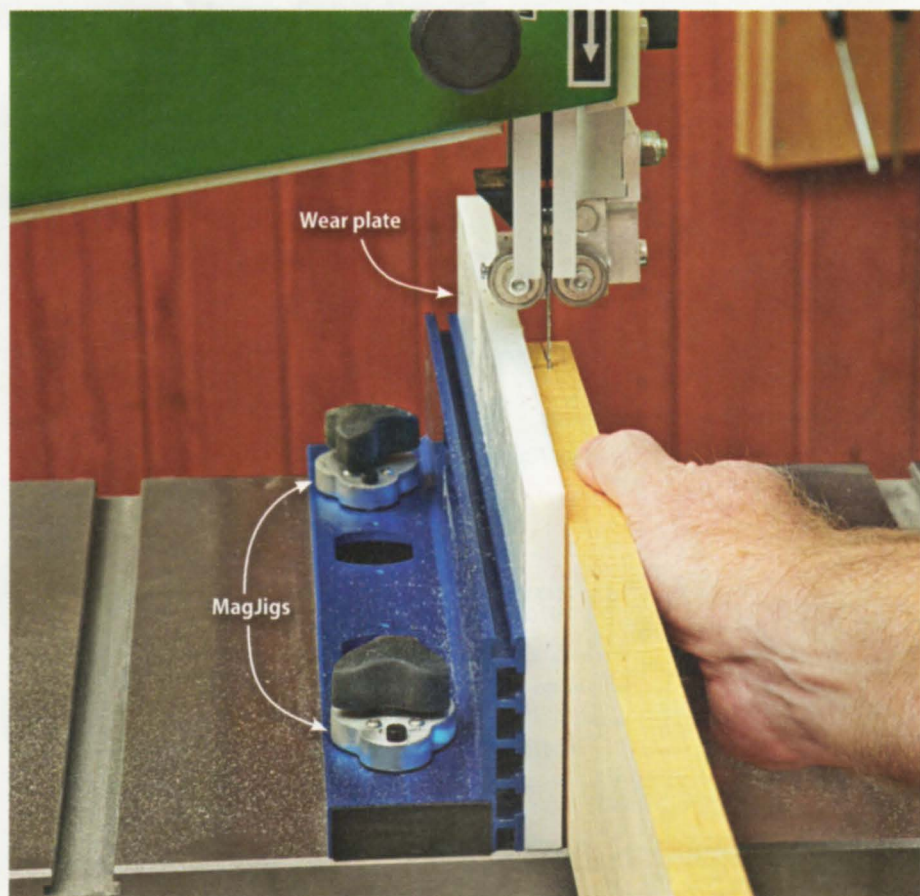
—Tested by Kevin Boyle,  
Senior Design Editor



### Spray wax

Performance ★★★★★  
Price \$21.95

Briwax  
800-527-4929; [briwax.com](http://briwax.com)



## WOOD MAGAZINE'S REVIEW-A-TOOL

Add your own review of these tools  
and read more reviews from  
your fellow woodworkers at  
[toolreviews.woodmagazine.com](http://toolreviews.woodmagazine.com).

continued on page 76

NEW FROM FORREST!

# Ply Veneer Worker Blade

Designed Specifically for Cutting Plywood and Plywood Veneers

This commercial-quality blade is ideal for rip and cross cutting two-sided plywood, whether finished or unfinished. It is also perfect for cross cutting solid woods. In fact, there's no comparable blade on the market today.

The Ply Veneer Worker (PVW) uses the same high-precision technology that's behind our popular Woodworker II blade. Designed for cutting wood products only...

• The PVW's list price is \$23 less than our Duraline Hi-A/T.

• It delivers flawless cuts without splintering or fuzz. You never have to worry about chip-outs on top or bottom surfaces. No scoring blade is needed.

• It lasts up to 300% longer between sharpenings. The PVW is made of super-strong C-4 micrograin carbide for extra durability. Like other Forrest blades, it is hand-straightened to ensure perfect flatness and has a side runout of +/- .001.

The PVW is superbly engineered. It features a 10° hook, 70 teeth, and a high alternate top bevel grind. You can count on this



exceptional product to give you vibration-free performance and long life.

All Forrest blades, including the new PVW, are made in the U.S.A. and have a 30-day, money-back guarantee. So order today from your Forrest dealer or retailer, by going on-line, or by calling us directly.

**FORREST**  
The First Choice of Serious Woodworkers Since 1946

[www.ForrestBlades.com](http://www.ForrestBlades.com) 1-800-733-7111 (In NJ, call 973-473-5236)

© 2012 Forrest Manufacturing Code WM

# Multi-Router

The Ultimate Joinery Machine



**\$2695.00**

- Mortise and Tenon in Seconds!
- Create Box Joints, Dovetails, Mortise, Tenon and More!
- Angles and Compound Angles Easily Done!

800-480-7269



[www.jdstools.com](http://www.jdstools.com)

# KLOCKIT®

Helping You Buy, Build, and Restore Time & Weather Products For Over 40 Years

Ready to begin your next project?

Get Started Now!

Call for Your FREE CATALOG

1-800-556-2548

Mention Dept. WD213



Ready to order?  
Take 10% Off!

Be sure to mention  
Offer: 5B4213  
Expires: 3/31/12

Be sure to visit [www.klockit.com](http://www.klockit.com) for project ideas, free plans & more!

Follow Klockit on:

## Panel Cutting Made Easy!



Limited Time Offer! \$899

- One Person Sawing
- Over 8ft. Of Panel Support
- Requires Little Floor Space
- Portable To The Job Site
- Very Safe To Use
- Quick & Easy Set-Up
- Optional: Lower Extensions, Upper Extension Brackets, Dust Kit & Quick Stop Angle



[www.panelpro.com](http://www.panelpro.com) • 800-599-1655

## Shop Proven Products

### Take a bookcase shortcut

When my son went off to college, he needed basic shelving that transports easily. Rockler's I-Semble Shelf Blocks made it super simple to build a bookcase, TV stand, or utility shelf. I needed only a drill and screwdriver to attach these black-painted, metal brackets to wood panels using the included screws. (You can buy pre-cut, prefinished shelves from a home center, or make your own.) The I-Semble shelving I made is no substitute for fine furniture, but in minutes I had put together a modern-looking, sturdy unit that disassembles quickly when it's time to move again. 🌱

—Tested by Dave Campbell,  
Editorial Content Chief



#### I-Semble shelf blocks (47512)

Performance

★★★★☆

Price

\$21/pair

Rockler Woodworking & Hardware  
800-279-4441; rockler.com



76

WOOD magazine March 2013

### DR® FIELD AND BRUSH MOWER

#### NEW! 25th Anniversary Model

25

Our Lowest Price EVER on a Full-Featured Field and Brush Mower!

We're celebrating the DR® Field and Brush Mower's 25th birthday. To mark the occasion, we're offering a limited edition model at a fantastic price! Accepts all optional attachments.



- CLEAR** meadows, trails, underbrush from woodlots.
- CUT** 6-foot field grass, saplings 3" thick, tough brush.
- CHOP** everything into small pieces.

See all the DR® Field and Brush Mowers including our lineup of Tow-Behind models and discover what a difference they can make on your property. Put one to the test with our 6 Month Trial!

Call for a FREE DVD and Catalog!

TOLL-FREE  
**888-213-2106**  
DRfieldbrush.com



77073X © 2012



Tows behind your  
ATV or Lawn Tractor!

## Turn A Rough Driveway Into A Smooth Ride.

### DR® POWER GRADER

**PATENTED DESIGN** easily fills in potholes, smoothes washboard.

**POWERED ACTUATOR** controls grading depth with a remote control.

**LOOSENS AND REDISTRIBUTES** composite driveway surfaces without the need to haul, shovel, or rake new material.

**CARBIDE-TIPPED SCARIFYING** teeth loosen the hardest surfaces.



77074X © 2012

Call for a FREE DVD and Catalog!

TOLL-FREE  
**888-213-2106**  
DRpowergrader.com



## STUMP REMOVAL FAST & EASY!

Eliminate Landscape Eyesores with a DR® STUMP GRINDER!

- **EXPAND** lawn areas.
- **OPEN UP** fields & meadows.
- **BLAZE** new trails.
- **REMOVE** mowing hazards.

The DR® STUMP GRINDER uses carbide-tipped cutting teeth that take over 360 "bites" per second, to pulverize stumps into a pile of woodchips. Gone forever!



77075X © 2012

Call for a FREE DVD and Catalog!

TOLL-FREE  
**888-213-2106**  
DRstumpgrinder.com



# Refinish your future



Let your passion for wood lead you into a new business with a Furniture Medic® franchise.

- Extensive training
- Low initial investment
- Financing available

800-230-2360

furnituremedicfranchise.com

© 2011 Furniture Medic Limited Partnership. All rights reserved.

The world's largest furniture and wood restoration franchise



## FURNITURE MEDIC®

# Cut it. Mark it. Sell it.

THE FINISHING TOUCH STARTS HERE.

## MADE IN USA

Systems starting at \$7,995

### EPILOG LASER



To request a brochure, DVD, and laser engraved and cut samples visit [www.epiloglaser.com/bhg](http://www.epiloglaser.com/bhg) or call 888-437-4564 today!

## Supergrit® SANDPAPER

MIRKA & INDASA products at best prices!

PREMIUM QUALITY • DISCOUNT PRICES • CLOSEOUTS



WOODWORKING



AUTO BODY & MARINE



METAL WORKING

**BELTS: BEST QUALITY RESIN/RESIN, A.O., "X" CLOTH**

Size	Price/ea.	Size	Price/ea.	Size	Price/ea.	WIDE BELTS
1 x 30	\$.85	3 x 24	\$.90	6 x 80	\$7.00	Heavy "X" weight
1 x 42	.90	4 x 21 or 21½	1.40	6 x 89	7.40	37" x 60" \$30
2½ x 14	1.00	4 x 24	1.50	6 x 108	10.40	37" x 75" \$33
3 x 18	.90	4 x 36	1.90	6 x 186	16.40	all other sizes
3 x 21	1.00	6 x 48	3.80	Spindle Sander Sleeves		
3 x 23½	.90	price quoted 100 grit 10/box				

A/O CABINET-BROWN OR GARNET-ORANGE			2" Kit	3" Kit	MIRKA ABRALON
Grit Size	Sheets/Pack	Price/Pack	Price	Price	6" H&L Disc
40D	50PK	\$20.00	\$18	\$20	GRITS
60D	PREMIUM 50PK	\$17.00	HOOK & LOOP		
80D	9" x 11" SHEETS 50PK	\$16.00	Size	No. of Holes	Price/50
100C	100PK	\$27.00	4½"	8	\$14.00
120C, 150C	100PK	\$26.00	5"	5 or 8	\$15.00
180A, 220A, 320	100PK	\$23.00	6"	6, 8, 16	\$17.00
A.O. Sampler 10 Grits 40-320A	100PK	\$24.00	7" Solid "E" wt.	65¢	180, 360,
DRUM SANDER CLOTH ROLLS			8" Solid "E" wt.	90¢	500, 1000,
1", 2", 3", 4", 4½", 6", WIDE JWT and XWT			9" Solid "E" wt.	\$1.50	2000, 4000
BLACK WATERPROOF S.C.			12" Solid "E" wt.	\$2.50	\$60/20
WHITE NO LOAD S.C.			Grits 150-2500 \$30/100		
			Grits 220-600 \$24/100		

WEILER (USA) Wire Cups & Wheels	Dust Collection Hose, Fittings, Adapters
Nitrile Gloves \$17.50 / 100	9" H & L DISCS Fits PORTER CABLE 7800 DRYWALL SANDER Foam pad + 5 discs per set Grits 80, 120, 150, 180, 220 \$12.50/set
Gator (USA) Sanding Sponges	3" x 5" x 1"   Assorted Grits \$9/10
ABRANET DISCS - 3" \$27/50, 5" \$30/50, 6" \$36/50	FREE 48 Page Color Catalog

RED HILL CORP., P.O. Box 4234, Gettysburg, PA 17325  
TEL (800) 822-4003 FAX (717) 337-0732 [www.supergrit.com](http://www.supergrit.com)

# CherryTree Wildwood

Woodworking Plans, Kits & Supplies

Since 1981



[www.CherryTreeToys.com](http://www.CherryTreeToys.com)

12446 W State Rd 81 • Beloit, WI 53511

1-800-848-4363

# Turn Your Your Wet / Dry Vac into A Super Cyclonic Collector!

The Dust Deputy® wins cyclone separator shootout! by "The Wood Whisperer.com"

Go to Dust Deputy's at [www.oneida-air.com](http://www.oneida-air.com) to watch the review.



**Dust Deputy Deluxe**  
Only **\$89.00**

Retrofits to Any Vacuum.  
Vacuum Not Included.

99% of Dust Here.

- Portable with casters.
- 5 to 30 gal. bins

Kit - Cyclone / (2) 5 Gal. Dust Buckets / Hose / Hardware / Casters

## Keeps Your Filters Clean!

Captures 99% before your vacuum!

## Dust Deputy® Ultimate

Only **\$199.00**

- Designed to fit Festool CT Dust Extractors.
- 9 gal. static dissipating plastic dust box.
- With plastic bag hold-down technology.
- Can be used with any shop vacuum.



Kit - Cyclone / 9 Gal. Bin / Hose / Hardware / Elbow / Bag Hold-Down



Like Us On Facebook



Made in the USA.

Dust Collection Systems & Components Since 1993.

Call for Free Catalog!

Buy Direct!

1.800.732.4065

[www.oneida-air.com](http://www.oneida-air.com)

# WOOD® ADVERTISER INDEX

**AMERICAN FURNITURE:** p.81-83

**AMERICAN STEEL SPAN:** Quality pre-engineered arch-style steel buildings at the lowest cost anywhere. p.81-83

**BEREA HARDWOODS:** Quality pen kits and other turning kits. p.12

**CREATE-A-BED:** Create-A-Bed Murphy bed mechanism includes complete illustrated instructions and DVD. p.81-83

**BYEGONE WORKSHOPS:** p.81-83

**CARTER PRODUCTS:** p.81-83

**CATALOGS FOR CRAFTSMEN:** p.69

**COOK'S SAW MFG., LLC:** Portable sawmills, edgers, sharpeners, band blades... Free catalog. Video available. p.81-83

**COUNTRY HOME PRODUCTS:** p.76

**DETAILED PLAY SYSTEMS:** Wooden swingsets and playground equipment for the backyard. Free catalog. p.81-83

**DR ROTO-HOG POWER TILLER:** p.81-83

**EAGLE AMERICA:** Largest selection of professional quality, American-made router bits + 100's of unique woodworking accessories. p.72

**EHEAT, INC.:** p.11

**EPILOG:** Wood engraving and cutting systems—Low price, high-quality laser systems. p.77

**FORREST MFG. CO., INC.:** Top quality blades and dados for an ultra smooth finish. p.75

**FREUD ROUTER BITS:** p.7

**FURNITURE MEDIC:** Offering franchise licenses to qualified individuals to perform mobile, on-site furniture repair & restoration services. p.77

**GEL PRO PLUSH:** p.81-83

**GRIZZLY INDUSTRIAL, INC.:** Providing quality woodworking & metalworking machines & tools to American workshops & businesses since 1983. Inside cover.

**GORILLA WOOD GLUE:** High strength, shorter clamp time, and no dyes for a natural finish. Try it today on your next building project. p.2

**HARBOR FREIGHT TOOLS:** p.64-67

**HUT PRODUCTS:** Woods, acrylics and supplies for pen and game call turning. p.81-83

**INFINITY CUTTING TOOLS:** p.81-83

**THE JDS COMPANY:** Specializing in the finest air filtration and dust collection equipment. p.75

**KLOCKIT:** The leading supplier of clock-making supplies for over 35 years. p.75

**KREG TOOL COMPANY:** From pocket screws to precision routing and beyond, Kreg provides woodworkers and DIYers with products that help simplify woodworking challenges. Inside back cover

**LAGUNA TOOLS:** Fine woodworking machines. Award-winning bandsaws, European quality machines with over 25 years of experience. p.23

**LEIGH JOINERY JIGS:** The world's best dovetail, mortise & tenon, joinery jigs. p.70

**LIGNOMAT USA, LTD.:** Affordable, reliable, pin and pinless moisture meters for wood. Free catalog. p.81-83

**MEISEL HARDWARE:** p.81-83

**MD HEARING AID:** p.80

**MLCS WOODWORKING:** Router bits, router tables, variety of accessories. Best quality, huge selection, low prices, superior service. Free shipping. p.21

**NORWOOD SAWMILLS:** Portable sawmills, edgers, ATV skidders, hydraulic tractor-mounted skidding winches and wood splitters. p.81-83

**OLD MASTERS: CRAFTSMAN QUALITY STAINS AND FINISHES:**

Quality stains and finishes to protect and enhance wood's beauty and richness. p.71

**ONEIDA AIR SYSTEMS, INC.:** Free informative catalog contains dust collection systems and complete ductwork. pp.10,78

**OSBORNE WOOD PRODUCTS, INC.:** A free catalog of table legs, corbels, and island legs. p.4

**PACKARD WOODWORKS: FREE CATALOG FOR WOODTURNERS!**—Quality lathes, tools and supplies. p.81-83

**PANEL PRO VERTICAL PANEL SAW:** Economical panel saw makes handling and cutting wood/plastic sheets easy. p.75

**PENN STATE INDUSTRIES:** Award-winning dust collection. Collectors, cyclones, ductwork and more. p.15

**PENN STATE INDUSTRIES:** Leading supplier of turning products. Pen kits, project, finishes and more. p.13

**PENN FOSTER:** p.41

**PHASE-A-MATIC, INC.:** Convert 1-phase electric power into 3-phase; run 3-phase equipment anywhere. p.81-83

**POWERMATIC:** Since 1929, Powermatic has set the gold standard for woodworking performance. Visit [www.powermatic.com](http://www.powermatic.com) today. p.9

**QUICKSCREWS INTERNATIONAL CORP.:** Full line of screws made exclusively for the woodworking industry. Buy any selection online. p.70

**RADARCARVE:** Manufacturer of specialized wood carving duplicators. p.81-83

**RED HILL CORP. SUPERGRIT ABRASIVES:** Industrial-quality sanding belts, discs, rolls, sheets at wholesale prices to small consumers. p.77

**ROCKAUTO.COM:** Check out [www.RockAuto.com](http://www.RockAuto.com) for all the parts your car or truck will ever need. p.14

**ROCKLER WOODWORKING & HARDWARE:** Rockler Woodworking and Hardware is one of the nation's premier suppliers of specialty hardware, tools, lumber and other high quality woodworking products. Rockler has 29 retail and 60 partner locations. [www.rockler.com](http://www.rockler.com). p.12

**TITEBOND ULTIMATE WOOD GLUE:** The Best Wood Glue Ever! Back cover

**WAGNER METER:** p.25

**WILDWOOD DESIGNS SCROLLSAW PATTERNS:** Up to 74" clocks, 300+ patterns, books, clock parts, saw blades, tools, wood! p.77

**WOODCRAFT SUPPLY, LLC.:** Quality tools, supplies and expert advice from Woodcraft can take your woodworking to the next level. pp.17,25

**WOOD® MAGAZINE COMPLETE BACK ISSUE COLLECTION:** Every issue of WOOD on one easily searchable digital DVD-ROM. p.71

**WOOD MAGAZINE WEEKEND WITH WOOD™:** Become a better woodworker in one weekend. pp.19,72

**WOODMASTER TOOLS:** Multi-duty planers that mold, sand & saw. p.81-83

**WOOD-MIZER PRODUCTS:** Eight portable sawmills available starting with the LT10 at \$3995. p.81-83

**WOODSTOCK INTERNATIONAL, INC.:** Selling fine quality woodworking & metalworking machines through thousands of dealers since 1989. p.5

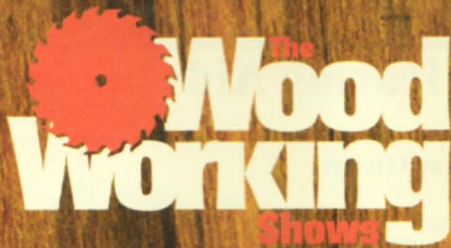
**WORK SHARP:** The Work Sharp 3000 Wood Tools Sharpener is the sharpening and honing solution for woodworkers who want sharp tools quickly and easily. p.3

**WOODWORKERS SOURCE:** Hardwoods from around the world. p.81-83

**THE WOODWORKING SHOWS:** p.79

**ZOYSIA FARMS NURSERIES:** Amazoy Zoysia grass saves you time, work and money. p.73

For more information about these advertisers, visit [woodmagazine.com/adindex](http://woodmagazine.com/adindex)



## HERE'S WHAT TO LOOK FORWARD TO THIS SEASON.

---

### Seminars

Enjoy all new educational seminars from perennial favorites like WOOD Magazine's own Jim Heavey. Immerse yourself in all the offerings from industry professionals and artisans from across the United States and across the pond.

---

### Project Showcase

Every show this season will have a peer-reviewed project contest where the top 3 projects selected will win tools from Bosch. A nationally voted grand prize will be awarded at the closing of the season.

---

### Tools

There will be no shortage of tools to choose from. Find anything and everything you need in one place. Please visit our website for coupons and show specials for every show.

---

### Clubs & Guilds

Every show features multiple woodworking clubs and guilds from your area. They will be providing education, local knowledge and information on how you can get involved in your woodworking community.

**WOOD**  
Proud Partner of  
THE WOODWORKING SHOWS

# CELEBRATING 30 YEARS!



## 2013 SCHEDULE

---

### BALTIMORE, MD

January 4-6

### SPRINGFIELD, MA

January 11-13

### INDIANAPOLIS, IN

January 18-20

### KANSAS CITY, MO

January 25-27

### DENVER, CO

February 1-3

### ST. LOUIS, MO

February 8-10

### MILWAUKEE, WI

February 15-17

### SOMERSET, NJ

February 22-24

### COLUMBUS, OH

March 1-3

### TBD

March 8-10

### TAMPA, FL

March 15-17

### ATLANTA, GA

March 22-24

## SHOWTIMES

---

Friday 12-6; Saturday 10-6; Sunday 10-4

FOR MORE INFORMATION PLEASE CONTACT US.

---



[facebook.com/TheWoodworkingShows](https://facebook.com/TheWoodworkingShows)



[twitter.com/Woodworkshow](https://twitter.com/Woodworkshow)

EMAIL: [info@thewoodworkingshows.com](mailto:info@thewoodworkingshows.com)

WEBSITE: [www.thewoodworkingshows.com](http://www.thewoodworkingshows.com)

# Chicago Doctor Invents Affordable Hearing Aid Outperforms Many Higher Priced Hearing Aids

Reported by J. Page

**CHICAGO:** A local board-certified Ear, Nose, Throat (ENT) physician, Dr. S. Cherukuri, has just shaken up the hearing aid industry with the invention of a medical-grade, affordable hearing aid. **This revolutionary hearing aid is designed to help millions of people with hearing loss who cannot afford—or do not wish to pay—the much higher cost of traditional hearing aids.**

**“Perhaps the best quality-to-price ratio in the hearing aid industry” – Dr. Babu, M.D. Board Certified ENT Physician**

Dr. Cherukuri knew that untreated hearing loss could lead to depression, social isolation, anxiety, and symptoms consistent with Alzheimer’s dementia. **He could not understand why the cost for hearing aids was so high when the prices on so many consumer electronics like TVs, DVD players, cell phones and digital cameras had fallen.**

Since Medicare and most private insurance do not cover the costs of hearing aids, which traditionally run between \$2000-\$6000 for a pair, many of the doctor’s patients could not afford the expense. Dr. Cherukuri’s goal was to find a reasonable solution that would help with the most common types of hearing loss at an affordable price, not unlike the **“one-size-fits-most” reading glasses** available at drug stores.

He evaluated numerous hearing devices and sound amplifiers, including those seen on television. Without fail, almost all of these were found to amplify bass/low frequencies (below 1000 Hz) and not useful in amplifying the frequencies related to the human voice.

## Inspiration from a surprising source

The doctor’s inspiration to defeat the powers-that-be that kept inexpensive hearing aids out of the hands of the public actually came from a new cell

- **Designed By A Board Certified Ear, Nose and Throat (ENT) Doctor**
- **Doctor-Recommended , Audiologist-Tested**
- **★★★★-Rated, #1 Selling Hearing Aid on Amazon.com**
- **FDA-Registered**
- **Save Up To 90%**
- **Free Shipping Available**
- **Batteries Included! Comes Ready To Use**
- **100% Money Back Guarantee**



phone he had just purchased. **“I felt that if someone could devise an affordable device like an iPhone® for about \$200 that could do all sorts of things, I could create a hearing aid at a similar price.”**

## Affordable Hearing Aid With Superb Performance

The high cost of hearing aids is a result of layers of middlemen and expensive unnecessary features. Dr. Cherukuri concluded that it would be possible to develop a medical grade hearing aid without sacrificing the quality of components. The result is the MDHearingAid PRO®, starting well under \$200. **It has been declared to be the best low-cost hearing aid that amplifies the range of sounds associated with the human voice without overly amplifying background noise.**

## Tested By Leading Doctors and Audiologists

The MDHearingAid PRO® has been rigorously tested by leading ENT physicians and audiologists who have unanimously agreed that the **sound quality and output in many cases exceeds more expensive hearing aids.**

**MDHearingAid PRO®** >>>  
THE DOCTOR'S CHOICE FOR AFFORDABLE HEARING AIDS



Proudly assembled in the USA.

**45 DAY RISK FREE TRIAL**



**Doctors and patients agree:**  
**“BEST QUALITY SOUND”**  
**“LOWEST AFFORDABLE PRICE”**

*“I have been wearing hearing aids for over 25 years and these are the best behind-the-ear aids I have tried. **Their sound quality rivals that of my \$3,000 custom pair of Phonak Xtra digital ITE**” —Gerald Levy*

*“I have a \$2,000 Resound Live hearing aid in my left ear and the MDHearingAid PRO® in the right ear. **I am not able to notice a significant difference in sound quality between the two hearing aids.**” — Dr. May, ENT Physician*

*“We ordered two hearing aids for my mother on Sunday, and the following Wednesday they were in our mailbox! **Unbelievable! Now for the best part—they work so great, my mother says she hasn’t heard so good for many years, even with her \$2,000 digital! It was so great to see the joy on her face. She is 90 years young again.**” —Al Peterson*

**For the Lowest Price  
Call Today**

**1-800-873-0680**

**Phone Lines Open 24 Hours  
EVERY DAY**

[www.MDHearingAid.com/CK23](http://www.MDHearingAid.com/CK23)

**Use Offer Code CK23 to get  
FREE Batteries for a Full Year!**

**FREE Shipping Available**

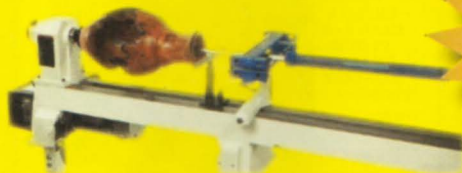


# WOODWORKING INNOVATIONS FOR OVER 80 YEARS

## HOLLOW ROLLER®

Vessel Turning System

Patent Pending

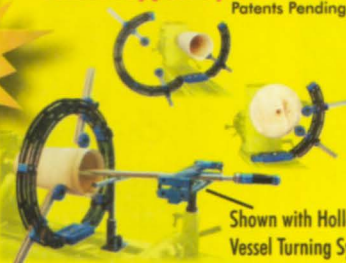


**NEW**

## MultiRest®

Vessel Support System

Patents Pending



Shown with Hollow Roller®  
Vessel Turning System

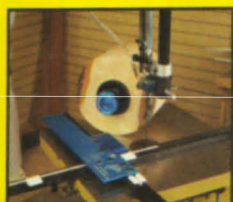
## Stabilizer®

Small Blade Guide System

Patented



**ACCURIGHT® BAND SAW  
LOG MILL™**



**CENTER MASTER™  
BLANK CREATION SYSTEM**



**MAGFENCE® II**



**QUICK RELEASE®  
BAND SAW TENSION DEVICE**



**MICRO ADJUST  
GUIDE UPGRADE KITS**

Band Saw Accessories  
Lathe Accessories  
Circle Cutter



Innovative Solutions for all your Woodworking Needs

Band Saw Blades  
Band Saw Tires  
and More!

**WWW.CARTERPRODUCTS.COM • 616-647-3380 • US TOLL FREE 888-622-7837**

## Moisture Meters

Avoid

Shrinking  
Warping  
Cracking  
Cupping  
Delamination

Don't waste time and money on wet wood, use a moisture meter

With a Lignomat meter you buy Quality and Accuracy Professional Service and a 2-Year Warranty!



Lignomat offers pin and pinless meters

Lignomat: 800-227-2105 [www.lignomat.com](http://www.lignomat.com)  
[www.wood-moisture.com](http://www.wood-moisture.com) Email: [sales@lignomat.com](mailto:sales@lignomat.com)

## Stand in Comfort!

GelPro® Plush is the ultra-comfortable and luxurious floor mat specially designed for those suffering from back or foot pain or for those who stand on hard flooring.

- Plush mats are 50% thicker than classic GelPro® mats
- Therapeutic gel + supportive foam
- 500+ color/pattern/size combinations



**GelPro  
plush**



Don't be fooled by imitations. If it doesn't say GelPro, it's not a gel mat. Call or visit us online to order yours today.

[www.GelPro.com](http://www.GelPro.com)  
1-866-435-6287

## Get Into Wood Sawing Lumber Made Easy!

**MP-32  
Sawmill**

Cut Wood For:  
•Home •Barn •Fencing •Cabinets  
•Stables •Decking and more...

**NEW! Propane  
and EFI power  
options!**



FREE  
Catalog!

**1-800-473-4804**  
[www.cookssaw.com](http://www.cookssaw.com)

TURN  
TO  
PACKARD  
FOR  
QUALITY  
TOOLS  
AND  
TURNING  
SUPPLIES



\*Body Drum Basket #9" by David Nittmann

**1-800-683-8876**  
[PACKARDWOODWORKS.COM](http://PACKARDWOODWORKS.COM)

**Packard  
WOODWORKS  
INC.**

Woodworker's Marketplace

# For the Serious Gardener



## DR® ROTO-HOG™ POWER TILLER

**FAR FASTER & EASIER** to use than hard-to-handle, walk-behind tillers.

**TILLS A 3-FOOT SWATH** with each pass — twice the width of most walk-behind tillers!

**BIG ENGINE POWER** is ideal for large gardens, landscape projects, and food plots.

**CREATE PERFECT SEEDBEDS** with the smooth and deep-tilling action of 24 steel bolo tines.



77076X © 2012

Call for a **FREE DVD and Catalog!**

TOLL-FREE  
**888-213-2106**  
DRrototiller.com



## MAKE LUMBER MAKE MONEY

PORTABLE SAWMILLS  
from just **\$3997**

**IN STOCK**

FREE CATALOG & DVD  
Toll-Free: 800-661-7746 Ext. 392  
www.norwoodsawmills.com/392



## Award Winning Tools & Accessories

# INFINITY

Exclusive Carbide & HSS Knives

## DEWALT DW734 & 735

- ✓ Lasts Longer
- ✓ Thicker
- ✓ Stronger

From \$79.90



infinitytools.com | 877-USA-BITS

Turn to  
Quality

## ENJOY YOUR CREATIVITY!

With Our  
Comprehensive  
Inventory of Game  
Call & Pen Turning  
Supplies



EASY ONLINE  
ORDERING  
hutproducts.com  
1-800-547-5461

## BOW ARM MORRIS CHAIR

This award winning chair has been featured in Magazines and has won woodworking contests across the country. Our assembly directions have over 25 step by step photographs to assure a great project.

WIN A  
GRIZZLY  
BAND SAW  
IN OUR  
YEARLY  
CONTEST



Plan  
#181

FREE  
CATALOG AMERICAN FURNITURE DESIGN  
P.O. BOX 300100 ESCONDIDO, CA 92030  
BOW ARM MORRIS CHAIR \$19.95 + \$5.00 S/H  
Phone 760 743-6923  
www.americanfurnituredsn.com

**DETAILED** Play Systems  
Backyard  
Playground  
Equipment

FREE CATALOG!

Just Add Lumber!

FREE SMILES!

Do it Yourself and Save!  
www.detailedplay.com  
1-800-398-7565

Need more space?  
Build your own  
murphy bed.



Piston-lift  
mechanism kit  
includes  
step-by-step  
construction plans  
and instructional  
DVD

## Create-A-Bed®

Toll Free 1-877-966-3852  
www.wallbed.com

# The Finest Woods

Lumber • Veneer • Turning Stock



- ✓ Expert advice
- ✓ 100 woods in stock
- ✓ Hand selected orders
- ✓ 100% satisfaction

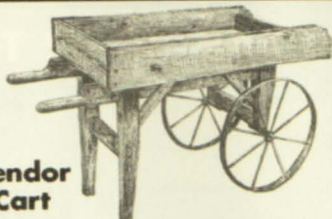
Order your favorite woods  
quickly & securely at our website:

800-423-2450

**www.101woods.com**



**Projects and Plans**



**Vendor Cart**

Kit to build includes 2-24" iron wheels that really work, axles and step-by-step plans. Finished project measures 60"L x 25"W x 34"H. \$87.55 P.P.D.

**ByeGone Workshop**  
888-279-3941 8-5 M-F EST  
www.byegone.com

**PHASE-A-MATIC**

**PHASE CONVERTERS**



**CONVERTS 1-PHASE to 3-PHASE POWER!**  
1-800-962-6976  
www.phase-a-matic.com

**NO MAINTENANCE STEEL BUILDINGS**



**SAVE UP TO 50%**



**Made in the USA!**

**AMERICAN STEEL SPAN**

**www.steelspan.com**  
**800-891-6733 ext 018**

Better Homes and Gardens®

**WOOD MAGAZINE**



For advertising in the Woodworker's Marketplace, please call Lisa Greenwood at 1-800-950-3829 or [lisa.greenwood@meredith.com](mailto:lisa.greenwood@meredith.com)

**Woodworking Plans!**

Propel a soccer ball up to 60 feet!

**FREE** color catalog with plans for over 1,000 different projects. Mention Offer #1468

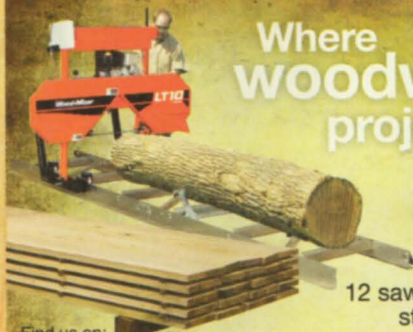


Make This Catapult! Order Plan #W3629

Meisel Hardware Specialties, P.O. Box 70, Mound, MN 55364

Call: 1-800-441-9870 Or visit our website: [www.meiselwoodhobby.com](http://www.meiselwoodhobby.com)

Where woodworking projects **BEGIN**

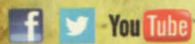


12 sawmill models available starting at \$3,875\*



Highboy by Greg P. LT40 sawmill

Find us on:



**Wood-Mizer**

800.553.0182 SawBoards.com

**Everybody's a critic.**

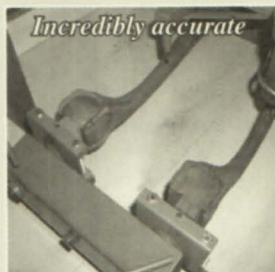
**Now it's your turn.**

**WOOD MAGAZINE'S REVIEW-A-TOOL**

[toolreviews.woodmagazine.com](http://toolreviews.woodmagazine.com)

**WWW.RADARCARVE.NET**  
**Wood Carving Duplicators**

- Furniture
- Gunstocks
- Millwork
- Decoys
- Musical Instruments



*Incredibly accurate*

Thousands of Uses 505-948-0571

**Like Having a Lumberyard Right in Your Shop!**



**60-Day FREE TRIAL**

**4-WAY MONEY MAKER!**

Now, turn a \$5 board into \$75 worth of high-dollar molding in less than one minute! Over 600 patterns plus curved molding, tongue & groove, picture frame stock, custom work. Quickly CONVERTS to molder, planer, sander, saw. 12", 18" & 25" models, 60-Day Free Trial, 5-Year Warranty. Made in USA!

**FREE DVD & BUSINESS STARTER KIT!**



1. MOLDER



2. PLANER



3. DRUM SANDER



4. GANG RIPSAW

**www.woodmastertools.com**

Toll Free 1-800-821-6651 Ext. P367

Woodmaster Tools, Inc. 1431 N. Topping Ave., Kansas City, MO 64120

# What's Ahead

A glimpse inside the  
May issue (on sale March 12)



**Raised planter**  
Put a bed of flowers wherever you like with this simple project made from home-center materials.



**Frame-and-panel bed**  
Inexpensive poplar masquerades as cherry in this first piece of a traditional bedroom set.

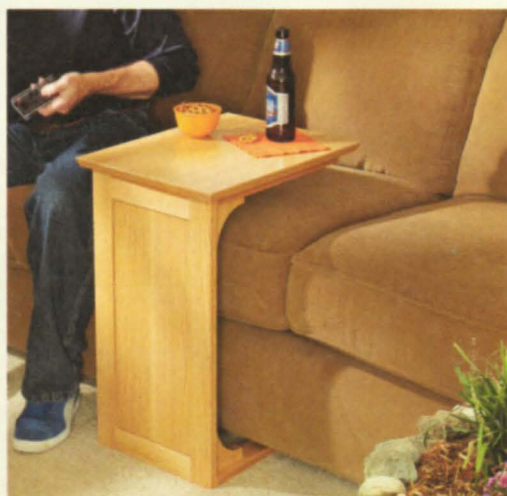


## SHOP TEST

**Whole-shop dust collectors**  
These suckers pack enough punch to pull dust from anywhere in your shop through a system of ducts.



**It's a dust collector, too!**  
A built-in chip separator and high-efficiency filters help this double-duty tool stand keep things tidy.



**Simple-but-stately sofa server**  
This Arts-and-Crafts-style couch companion keeps snacks and remotes close at hand.



**First-class mailbox post**  
Build this sturdy beauty while mastering simple timber-framing skills—no special tools required.

# Kreg Universal Bench

Create a custom-sized workbench, outfeed table, tool stand, or assembly table to fit your shop, your projects, & your needs!

**NEW!**

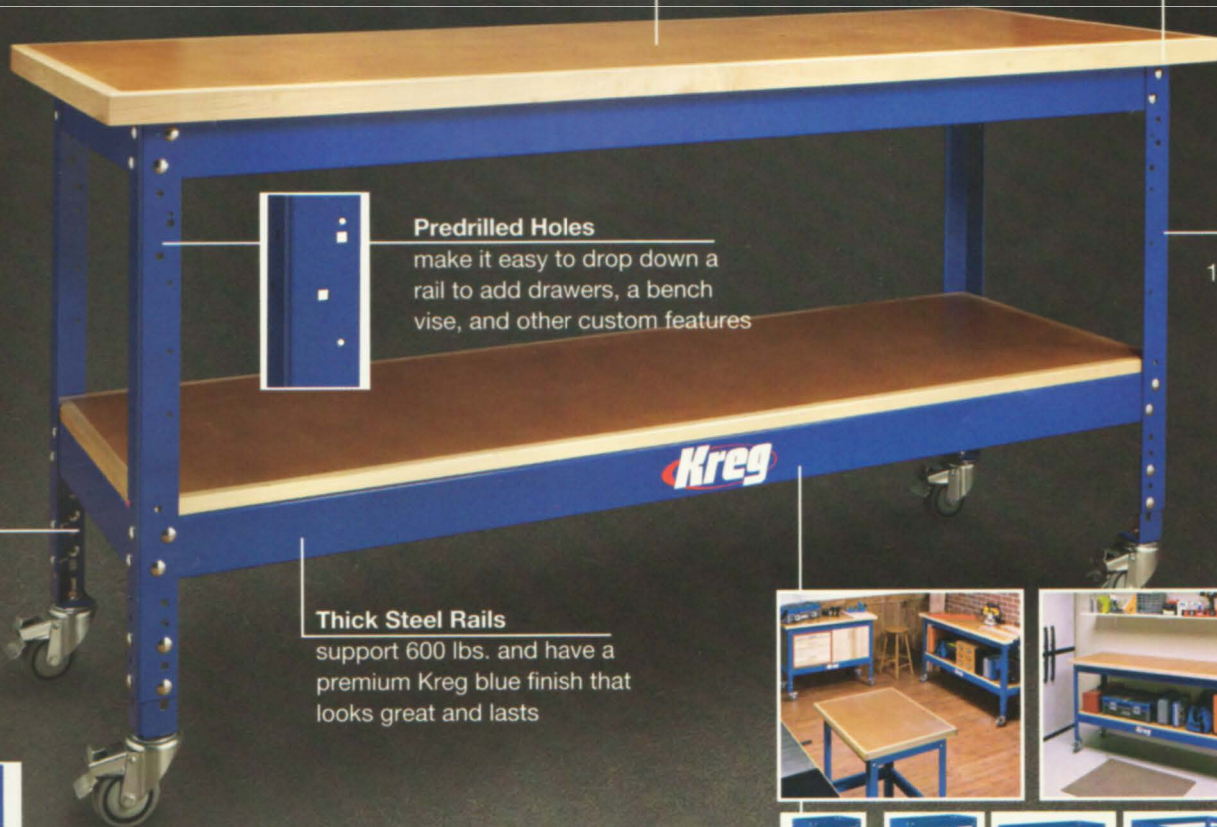


## Bench Top

can be built from your choice of material and easily attached

## High-Quality Hardware

for simple, solid assembly



## Predrilled Holes

make it easy to drop down a rail to add drawers, a bench vise, and other custom features

## Sturdy Legs

made from 12-gauge steel are available in two adjustable heights

## Thick Steel Rails

support 600 lbs. and have a premium Kreg blue finish that looks great and lasts



## Adjustable Leg Levelers & Feet

adjust 6" so you can match the height of your table saw or another bench, and accommodate uneven floors



## 5 Different Rail Lengths

make it easy to create a custom bench that fits your garage or shop

## Any Space, Any Task, Any Size

We make it easy! Just choose your rails to determine the size and select legs to set the height, and you can create a customized bench in one of 15 possible sizes and 2 adjustable heights to fit your space and your projects!



[www.kregtool.com](http://www.kregtool.com) | 800.447.8638



Watch the video at [www.kregtool.com](http://www.kregtool.com)

\*Image shown with optional Casters available separately  
\*\*Image shown with custom-built bench top and shelf

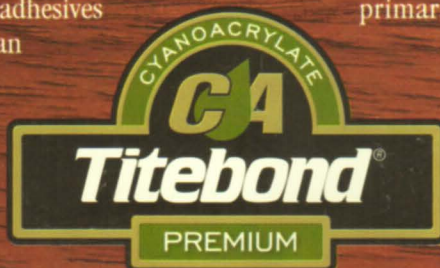
# Think Fast!



## When your woodworking calls for speed...Think Instant Bond!

Although our core Titebond® Wood Glue product line is ideal for a vast majority of woodworking applications, we realize there is a growing need for faster, and in some cases, "instant" adhesion capabilities. For this reason, we now offer the Titebond Instant Bond line of ethyl-cyanoacrylate-based wood adhesives (a.k.a. super glues), complete with an adhesive activator that accelerates the bonding process.

Titebond Instant Bond is a two-part bonding system that takes between 5-15 seconds to set and 30-60 seconds for initial cure. The adhesives provide a strong, permanent bond and are ideal for hard to reach joints or surface areas that are difficult to clamp. Designed primarily for wood and wood products, Instant Bond adhesives are also very effective on a wide variety of materials and substrates.



For more information and details on the adhesives, visit [www.titebond.com/InstantBond](http://www.titebond.com/InstantBond)

1.800.347.4583