

SHOP TEST: 19 TABLESAW BLADES

AMERICAN WOODWORKER[®]

APRIL 1998 #65

***Build a
Master's
Workbench***

***Fast, Easy
Cabinet Doors***

***Foolproof
Antique Finish***

Plus Plans
■ Wall Clock
■ Mystery Box
■ Resaw Jig

\$3.95 US \$4.95 CAN

04 >



www.americanwoodworker.com

Materiale protetto da copyright

GRIZZLY INDUSTRIAL

PURVEYORS OF FINE MACHINERY

EXCELLENT REFERENCES!

If you are interested in a specific Grizzly tool or product, just call our operators and we'll locate a customer in your area who's using the equipment you're shopping for — so you can get a first-hand, unbiased report.



ALL MACHINES F.O.B. OUR WAREHOUSE



Z SERIES

6" X 48" COMBO SANDER

MODEL G1014Z
ONLY \$169.95

FREE
"Z Series Hat"



1-1/2 H.P. SHAPER
MODEL G1035 ONLY \$449.00



Z SERIES

14" BANDSAW
MODEL G1019Z
ONLY \$325.00

FREE
"Z Series Hat"



BENCH-TOP DRILL PRESS
MODEL G4014
ONLY \$89.95

2 H.P. DUST COLLECTOR
MODEL G1029
SPECIAL PRICE
\$255.00



12" PLANER
MODEL G1017 ONLY \$399.95



10" H.D. TABLESAW
MODEL G1022 ONLY \$375.00



HEAVY DUTY BENCH-TOP DRILL PRESS
MODEL G4008
ONLY \$189.95



HEAVY DUTY FLOOR DRILL PRESS
MODEL G4009
ONLY \$239.95



6" X 47" JOINTER
MODEL G1182 ONLY \$349.95

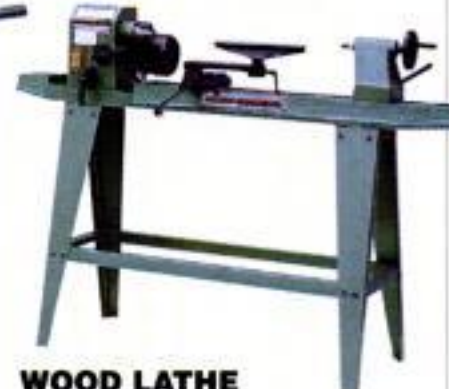


15" PLANER WITH STAND
MODEL G1021 ONLY \$795.00

PLANES
HARDWOOD
EASILY!



10" H.D. TABLESAW
MODEL G1023
SPECIAL PRICE \$695.00



WOOD LATHE
MODEL G5979 ONLY \$295.00

CALL TODAY FOR YOUR FREE 1998 WOODWORKING CATALOG — ORDER 24 HOURS A DAY!

162797658

1 - 8 0 0 - 5 2 3 - 4 7 7 7

CUSTOMER SERVICE: (717)326-3806 FAX: (800)438-5901 WEBSITE: <http://www.grizzlyindustrial.com>

VISIT OUR 3 SHOWROOM LOCATIONS:

73C

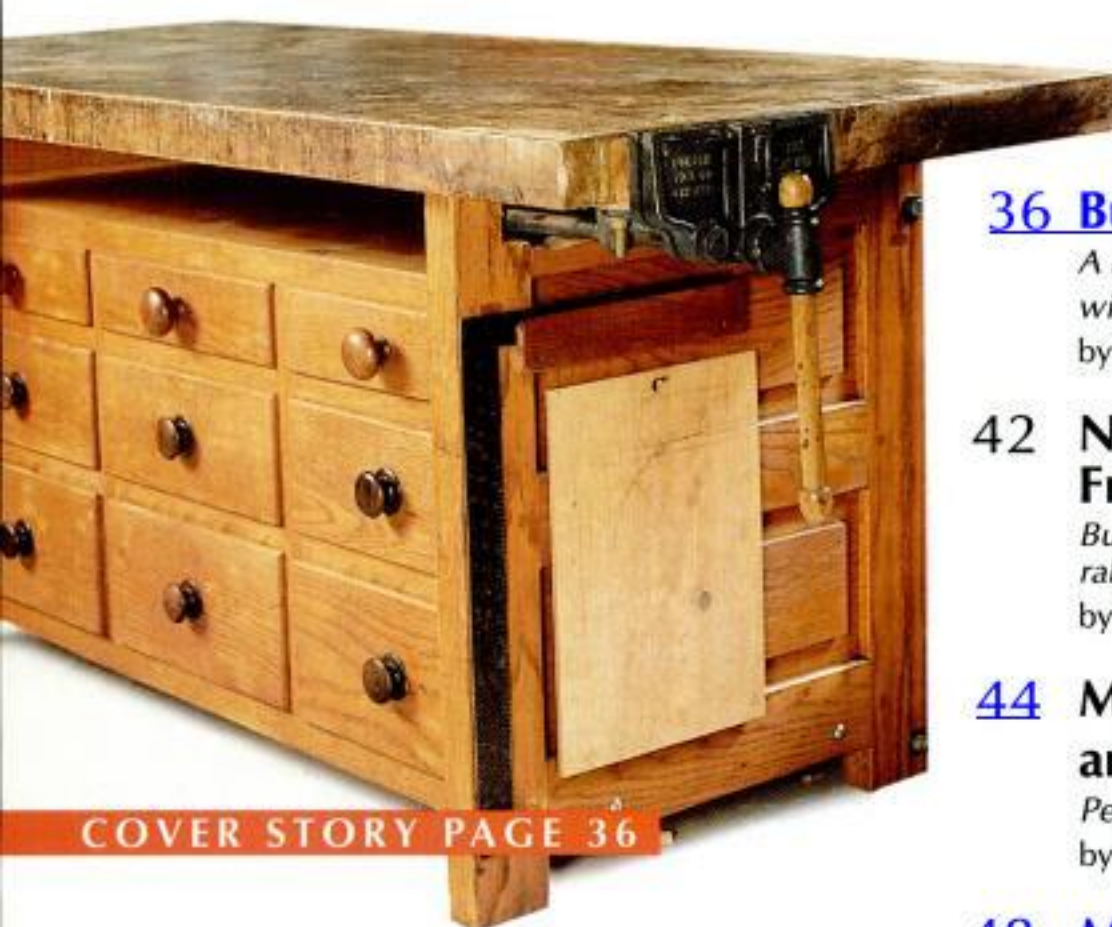
MEDIA CODE

1821 Valencia St., Bellingham, WA — 4651 Hickory Hill Rd, Memphis, TN — 2406 Reach Road, Williamsport, PA

CIRCLE NO. 32 ON PRODUCT INFORMATION FORM



Materiale protetto da copyright



COVER STORY PAGE 36



Page 54 Using hide glue



Page 70 Instant antique finish

Features

36 Build a Master's Workbench

A rock-solid bench
with plenty of storage
by Robert Whitley

Page 44

Great gauges

42 No-Fuss Frame-and-Panel Doors

Build beautiful doors fast with a
rabbeting bit and applied molding
by Paul Levine

44 Marking, Cutting, and Mortise Gauges

Perfect joints start with a razor-fine line
by Ian J. Kirby and John Kelsey



48 Mystery Box

Precise fits, pivoting trays,
and a secret compartment!
by Eugene Watson

52 Turning Antler

Create precious vessels
from a renewable resource
by Kip Christensen

54 Hide Glue

Learn why this ancient adhesive
still has a place in your shop
by R.S. Wilkinson



Page 48

Mystery box

58 Shaker Wall Clock

Hidden dovetails let the simplicity shine through
by Robert Treanor

64 SHOP TEST Combo Blades

We test and rate 19 tablesaw
blades designed to cut solid
wood and sheet goods

70 Dry Brushing

Add age and character
with this simple technique
by Michael Dresdner



Page 64 We test combo blades

On the cover: Master craftsman Robert Whitley shows you how to build his workbench. Page 36

PHOTO BY JOHN HAMEL/RODALE IMAGES

AMERICAN WOODWORKER™



A RODALE PRESS PUBLICATION

Departments

6 **A Word**

from the Editor
Room for opinions

10 **Letters**

Andy Rooney's odd legs

18 **Q&A**

Harvesting bark

26 **Offcuts**

Tips for kids' woodworking

32 **Tech Tips**

Mortises with a dado blade

76 **Shop Shot**

Robert Whitley

82 **Wood Facts**

Cocobolo

86 **Just Finishing**

Safe and legal ways to recycle used solvents

92 **Toolbox**

Better miter measurement

94 **Shop Test**

DeWalt DW477 benchtop tablesaw

98 **Gallery**

Vessels, chairs, canes, and cabinets

104 **Shop Solutions**

Vacuum resaw jig



Page 26 Kids in the shop



Page 94 Shop Test: DeWalt's new benchtop saw



Page 104 Vacuum resawing jig



Page 98 Outstanding work by readers



AMERICAN WOODWORKER™

EDITORIAL & ADVERTISING OFFICES
33 E. Minor St., Emmaus, PA 18098
Phone: (610) 967-5171 • FAX: (610) 967-7692

EDITOR & PUBLISHER David Sloan

EXECUTIVE EDITOR Tim Snyder

ASSOCIATE EDITORS Andy Rae, Dave Freedman

PRODUCTS COORDINATOR Dave Sellers

PRODUCTION MANAGER Susannah Hogendorn

COPY EDITOR Kathy Dvorsky

SHOP MANAGER Paul Anthony

WEST COAST EDITORS

Simon Watts, Sandor Nagyszalanczy

CONTRIBUTING EDITORS Lonnie Bird, Stephen Blenk, Jim Cummins, Michael Dresdner, Mike Dunbar, Frank Klausz

ONLINE HOST Jim Cummins

DESIGN SHOP Fred Matlack

ASSISTANT TO THE PUBLISHER Tracy Jones

OFFICE MANAGER LaVerne Walker

ART DIRECTOR Kitty Pierce Mace

ASSOCIATE ART DIRECTOR Melanie Powell

EXECUTIVE EDITOR, NEW VENTURES
Ellis Valentine

ADVERTISING DIRECTOR Don Schroder

NATIONAL ACCOUNTS MANAGERS

Henry Nagel, Jay Ricci

MARKETPLACE/CLASSIFIED Ian Tauber

DETROIT SALES REPRESENTATIVE Donald Hollinger
Rodale Press, Inc., 901 Wilshire Drive, Suite 300,
Troy, MI 48064, (810) 269-8880

AMERICAN WOODWORKER SHOW™ MANAGER
Jonathan I. Frank

ADVERTISING PRODUCTION MANAGER &
SHOW COORDINATOR Lisa Unruh

ADMINISTRATIVE ASSISTANT Betsy Horvath

PRESIDENT/MAGAZINE DIVISION John Griffin

VICE PRESIDENT, SINGLE COPY SALES Richard Alleger

DIRECTOR, RETAIL SALES Chuck Tripp

NATIONAL MARKETING DIRECTOR

Diederik Terlaak Poot

GROUP CONSUMER MARKETING MANAGER

Nancy Small

CONSUMER MARKETING MANAGER Nancy Elsner

ASSISTANT CONSUMER MARKETING MANAGER

Jennifer Blasko

SUBSCRIPTION SERVICES MANAGER Donna Laubach

DIRECT SALES MANAGER Charlotte M. Walker

ATTENTION RETAILERS: To carry this title in your store,
call the Direct Sales Department at (800) 845-8050.

AMERICAN WOODWORKER (ISSN 1074-9152) is published seven times a year in February, April, June, August, October, November, and December by Rodale Press Inc., 33 E. Minor St., Emmaus, PA 18098, (610) 967-5171. ©1998 by Rodale Press, Inc. J. Rodale, Founder; Ardath Rodale, Chairman of the Board; Robert Teufel, President of Rodale Press. SUBSCRIPTION RATES: U.S. one-year, \$23.88; two-year, \$47.76. Single-copy, \$3.95. Canada one-year, \$31.88; two-year, \$58 (Canadian funds). GST #R122988611. Foreign surface one-year, \$35; two-year, \$65 (U.S. funds). Foreign air one-year, \$42; two-year, \$80 (U.S. funds). U.S. newsstand distribution by Curtis Circulation Co., Hackensack, NJ 07610. PERIODICALS POSTAGE: Paid at Emmaus, PA and additional mailing offices. POSTMASTER: Send address changes to AMERICAN WOODWORKER, P.O. Box 7591, Red Oak, IA 51591. IN CANADA: Postage paid at Gateway, Mississauga, Ontario; Canada Post International Publication Mail (Canadian Distribution) Sales Agreement #738867. Send returns and address changes to AMERICAN WOODWORKER, 100 Armstrong Ave., Georgetown, Ontario L7G 5S4; GST #R122988611. CONTRIBUTOR GUIDELINES: Available upon request, (610) 967-8315.

Printed in USA.



SUBSCRIPTION QUESTIONS & ADDRESS CHANGES

At AMERICAN WOODWORKER, your satisfaction is important to us. For questions about your subscription and all address changes, please write to:

AMERICAN WOODWORKER Magazine
Box 7591, Red Oak, IA 51591-0591

Please include a recent mailing label with all correspondence.

Fax: (712) 623-5731 Or call: (800) 666-3111

Look To The Leader When It Comes To A Joiner.

Powerful 7.5 Amp motor is most powerful motor on the market.

Bail handle is attached to the fence, not the motor, to keep your hand firm and the fence positioned and steady during every cut.

Seven position depth stop provides the widest range of cutting depths among all plate joiners.

Tilt fence does not have to be removed for flush cuts.



Micro adjustment knob for "perfect" placement of biscuits.

Dust port accepts standard bag or can be connected to a vacuum for a clean work environment.

135 degree tilt fence lets you position your cut from the outside face of your work. Any mismatch in material thickness stays on the inside where it doesn't show.



Ability to join face frame stock as narrow as 1 1/2" with our new, exclusive face-frame biscuit.

Porter Cable's tradition of innovation continues with the new 557 plate joiner kit, combining industry-leading power with unequalled precision and flexibility. Now with 2" and 4" diameter blades for both standard, and our new, smaller face-frame biscuits. So if you're looking to "join" follow the leader to your local Porter-Cable retailer. Or call 1-800-487-8665 (519-836-2840 in Canada) for the dealer nearest you.

PORTER-CABLE

Professional Power Tools Since 1906

<http://www.porter-cable.com>

Porter-Cable is proud to be a co-underwriter of The New Yankee Workshop on public television.



This One



NQ1J-8YC-8YSG

CIRCLE NO. 12 ON PRODUCT INFORMATION FORM



A wide stance does more than just make Dakota look athletic. It increases stability.

We gave Dakota quick-ratio, variable-assist power steering, for speedy response and a solid feel.



The recline of civi

DAKOTA

We stand behind the name Dakota, with our Customer One Care™ 3-year or 36,000-mile bumper-to-bumper warranty and 3/36 Roadside Assistance.¹



You can opt for a little extra convenience, a little extra security with remote keyless entry.



CDs, cell phones and other everyday necessities can be conveniently stowed away in Dakota's optional mini business console.

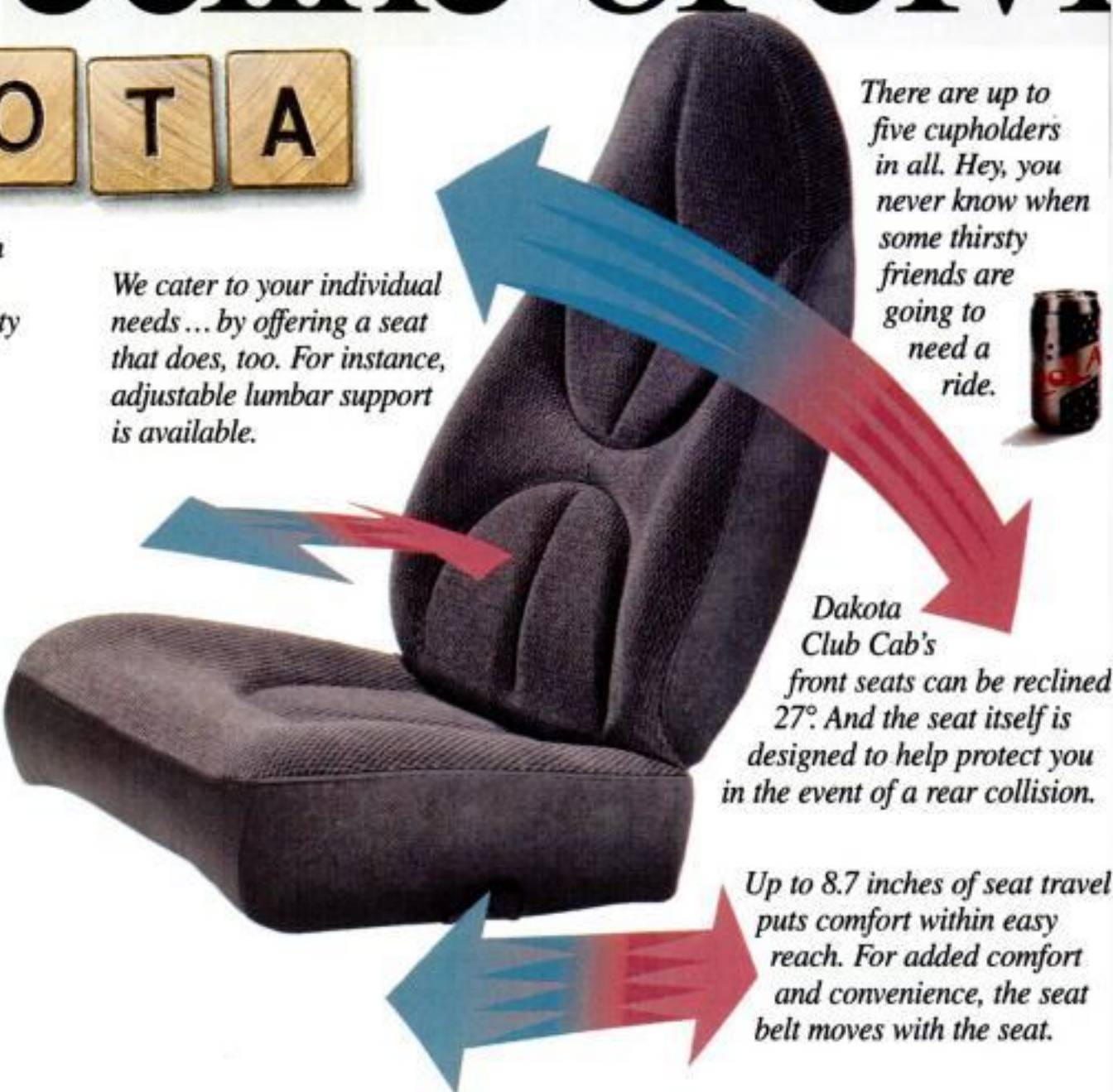
We cater to your individual needs... by offering a seat that does, too. For instance, adjustable lumbar support is available.

There are up to five cupholders in all. Hey, you never know when some thirsty friends are going to need a ride.



Dakota Club Cab's front seats can be reclined 27°. And the seat itself is designed to help protect you in the event of a rear collision.

Up to 8.7 inches of seat travel puts comfort within easy reach. For added comfort and convenience, the seat belt moves with the seat.



We designed the buttons and switches in Dodge Dakota to push your buttons, so to speak. It's those little touches, after all, that make driving more enjoyable.

The front shoulder belts feature five different height adjustments. It's a little convenience that turns into a very big convenience on long trips.



You can opt for a premium Infinity® stereo system with cassette and CD player in Dodge Dakota. Eight speakers in six locations kick out some real concert-quality sound.

lization.



Dakota is the roomiest truck in its class. There's even a forward-facing rear seat in Dakota Club Cab, with enough hip room to seat three across. Your passengers will be beside themselves with comfort.

Surprise. Dodge Dakota just received the J.D. Power and Associates award for "Most Appealing Compact Pickup" in the first year since its redesign.²



Club Cab Sport 4x4

Dakota The New Dodge

For more info, call 1-800-4-A-DODGE. Or visit our Web site at www.4adodge.com

¹See limited warranty & restrictions at dealer. Excludes normal maintenance & wear items. ²J.D. Power and Associates 1997 APEAL Study, Automotive Performance, Execution, and Layout Study™. Study based on 29,187 consumer responses.

Always use seat belts. Remember a backseat is the safest place for children. Rearward-facing child seats can be used in the front seat only with the passenger airbag turned off.

Opinions Are Important

Different designs, ideas, and approaches help us to be better woodworkers



Bench press. Kitty Mace (our art director) and I rub shoulders with Robert Whitley during a break in the workbench photo session.

Get together with any group of woodworkers and you can count on plenty of opinions—most of them offered with a great degree of enthusiasm. Debates on favorite brands, techniques, materials, and mail-order suppliers are bound to ensue. And all for good cause.

The great thing about woodworking is that there's always another approach or viewpoint to consider. That's why Robert Whitley's workbench—featured in this issue—is quite a bit different from the bench that Ian Kirby designed and built for our April '97 issue (#58). These two seasoned woodworkers have both earned recognition for traditional and contemporary work, but their workbench preferences are clearly distinct. Whatever your preferences, these experts offer plenty of ideas for building your next workbench.

Speaking of different approaches, check out Paul Levine's fast, easy technique for making frame-and-panel doors. (See page 42.) Levine has built a custom cabinet

business around this no-fuss method, which requires little more than a hand-held router, a rabbeting bit, and some applied molding.

At AMERICAN WOODWORKER, we want to promote an ongoing dialogue among woodworkers because it's a great way to share different ideas. Sure, we could gather this information and then recreate the projects, jigs, and techniques in our own shop, like some other woodworking magazines do. But then the dialogue between woodworkers would disappear. So would the diversity and personality that comes with a publication that's largely reader written. That's why we try to take you right to the source whenever possible.

AMERICAN WOODWORKER isn't just reader written—it's reader directed. Your feedback is still the best way we have to build better issues. Please keep the ideas, criticism, and comments coming. ▲

Tim Snyder
Executive editor

PLAY IT SAFE

Woodworking can be dangerous. Safety equipment can greatly reduce your risk of injury; so can common sense and caution. Remember, if a procedure feels dangerous to you, don't try it—find a safe alternative. Your safety is your responsibility.



M

eeting Your Clamping Challenges...



PC Series



MSP



MGS 100



GSP sets



Edge Gluing



KS series



HZ series

German Tool Quality for the American Craftsman



- Innovative Engineering
- Superior Quality

Gross Stabil Corporation
 P.O. Box 368 • Coldwater, MI 49036
 toll free: 800-671-0838 • 517-278-6121
 fax: 517-278-5523

CIRCLE NO. 34 ON PRODUCT INFORMATION FORM

6 AMERICAN WOODWORKER ▲ APRIL 1998

Materiale protetto da copyright



This Delta exclusive gives you a lock on snipe control. Patent-pending cutterhead snipe control lock stabilizes the cutterhead during operation, for complete rigidity.



Those who've had a sneak preview have nice things to say about it. Priced in the middle of the pack—we're betting it'll end up at the head of its class.



Quick-change 2-knife system includes two high-speed steel, double-edged, reversible knives, a wrench and installation tool for quick and accurate knife changes.

Plane your own stock up to 12½" wide and 6" thick. All the way down to 1/8" thick.



Easy-to-read English/Metric Scale makes fast work of depth-of-cut settings.

Beware of snipers.



Grab it and go. Weighing in at only 65 pounds, it'll go to work wherever you want it to. Stash it out of the way when it's not in use.



Properly adjusted infeed/outfeed tables can go a long way toward snipe reduction. A low-friction stainless steel base, in combination with these adjustable infeed/outfeed tables, gives you a large smooth surface for moving stock through your planer.

Practical as they are, most portable planers are notorious snipers. If you're looking to minimize sniping without sacrificing portability, check out Delta's new 12½" Portable Planer (Model 22-560), with its exclusive snipe control lock. Call toll free for the name of your nearest Delta dealer. Delta International Machinery Corp., 800-438-2486. In Canada, 519-836-2840.

<http://www.deltawoodworking.com/delta>

CIRCLE NO. 22 ON PRODUCT INFORMATION FORM

**THE
POWER
OF THE
PROS**



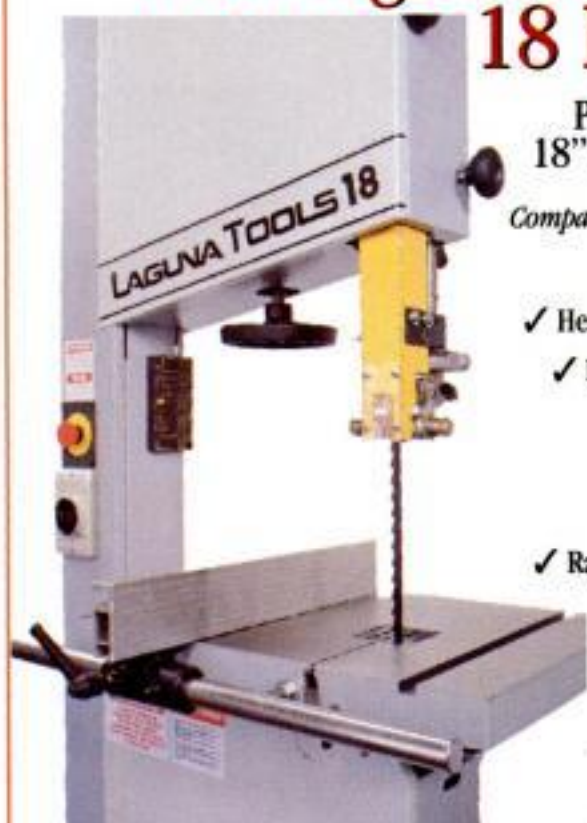
DELTA
WOODWORKING MACHINERY
A Pentair Company



Proud sponsor
of The New Yankee
Workshop on PBS.

materiale protetto da copyright

The Laguna Tools New 18 Bandsaw.



PROBABLY THE BEST
18" BANDSAW EVER BUILT!

Compare to other manufacturers:

- ✓ 3 HP motor
- ✓ Heavy-duty cast iron trunion
- ✓ Dynamically balanced cast iron flywheels
- ✓ Heavy duty fence
- ✓ Foot brake
- ✓ Rack-and-pinion adjustment of upper guide
- ✓ European-style guide bearings
- ✓ Optional mobility kit
- ✓ Optional heavy-duty miter-gauge
- ✓ 12" resaw capacity
- ✓ Tension indicator
- ✓ Excellent dust collection

Call now for a free video!

LAGUNA TOOLS

(800) 234-1976

(714) 494-7006

<http://www.lagunatools.com>

2265 Laguna Canyon Road
Laguna Beach, CA 92651

CIRCLE NO. 47 ON PRODUCT INFORMATION FORM

Sharpen Router Bits



Hones
Carbide
and
HSS

Quickly sharpen router bits and shapers on DMT Diamond Whetstones™ and:

- ◆ Eliminate Grinding Service Cost and Excessive Carbide Removal
- ◆ Extend Tool Life 5-7 Times
- ◆ Enjoy clean cuts - no burn marks!

A shop with just 10 router bits can save \$1,600! For detailed information, circle the reader service number.



Diamond Machining Technology, Inc.
Marlborough, MA 1-800-666-4DMT

CIRCLE NO. 23 ON PRODUCT INFORMATION FORM

HEGNER – the Better Scroll Saw



Multimax 22v



HEGNER Scroll Saws are better because they are smoother, faster and easier to operate. Thousands of HEGNER owners, as well as major woodworking publications, agree that HEGNER saws offer many advantages over all other brands.

Try one yourself and discover the benefits:

- clean, accurate cuts with no sanding
- easy blade change
- smooth quiet operation
- long blade life
- safety-stop upper arm
- space-saving design
- 6 year warranty

Call or write for your FREE Catalog

1.800.322.2226

(Please mention Ad 854)

ADVANCED MACHINERY

Dept. 854 • P.O. Box 312 • New Castle, DE 19720

www.advmachinery.com

CIRCLE NO. 4 ON PRODUCT INFORMATION FORM



☐ Send me FREE information on HEGNER Scroll Saws!

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ 854

HEGNER makes it better!

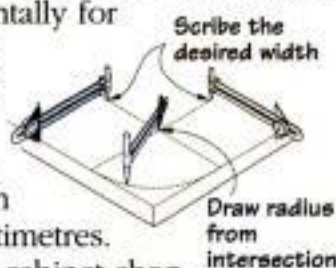
Lee Valley & Veritas®



Lee Valley Tools and Veritas® Tools, the manufacturing arm, bring you a selection of products from their full-color 252-page catalog.

A. Veritas® Carpenter's Gauge

The Veritas® Carpenter's Gauge was specifically designed to be carried in an apron or pocket. It is both a direct-reading compass and a marking gauge, two things that carpenters frequently need but find hard to carry. This tool has a rotatable head, which locks vertically for use and horizontally for storage and tip protection. It is direct reading, both for radius and diameter, in inches and centimetres. It is useful in a cabinet shop because of the direct-reading feature, which substantially reduces errors, as well as for the fast corner radiusing. Made of brass, stainless steel and high-impact ABS, it is 7½" long overall, and will scribe circles up to 12" diameter.



AW414 Carpenter's Gauge **\$14.95**

A Tape for Cabinetmakers

A customer recently wrote to say, in essence, "Why can't you sell a decent 10-foot tape that I can slip in my apron pocket without it weighing me down? Everything you sell is long, wide, and heavy. I want something slim, light, and handy." Here it is and, better yet, we offer it in right-to-left reading version (which we call a "right-hander's" tape) as well as the usual left-to-right reading version (a "left-hander's" tape). The vast majority of tape measures made today read from left to right, which is OK for just measuring, but becomes a major problem when a right-hander needs to measure and mark something; you end up either having to hold the pencil in your left hand or switching the tape to your left hand and then having to read tape markings that are upside down. The solution is a tape that reads right-to-left. Then you can hold the tape in your left hand and mark with your right hand.

This tape is perfect for keeping on the bench or in an apron and, at just over 2½ oz, you hardly notice it in your apron pocket. So that left-handers can enjoy it also, we made it in a left-to-right reading version as well.

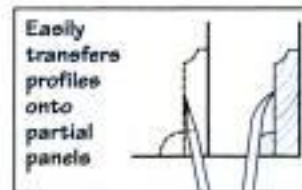
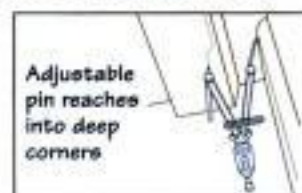
B. AW417 RH Cab. ½" x 10' Tape **\$3.95**
(right-to-left)

C. AW418 LH Cab. ½" x 10' Tape **\$3.95**
(left-to-right)

D. Veritas® Transfer/Log Scribe

The Veritas transfer scribe is ideal for transferring the contours of one shape onto another. This is what makes it an ideal log scribe.

But this also makes it an ideal carpenter's scribe as well. It can translate that not-so-straight, 100-year-old wall profile onto a cabinet panel, letting you get a perfect match. With a maximum capacity of 12", it is calibrated so that any opening can be used once the double bubbles are set for a given pin and pencil projection. The rotatable double-level post can be adjusted and locked in any position on either axis. The pointed end of the steel pin is for compass work; the blunt curved end is non-marring for transfer scribing. Other components are non-corroding brass and zinc aluminum. Usable with any standard pencil, it comes with a now-hard-to-find indelible pencil.



AW413 Transfer/Log Scribe **\$62.50**

A Catalog Of Solutions

Our 252-page, full-color catalog has the widest selection of woodworking hand tools in the market. With a few exceptions, the copy in this ad has been taken directly from our catalog to show you the detailed information you can expect to find about each tool.

Call: 1-800-871-8158

or fax: 1-800-513-7885

Our catalog is \$5 (refunded with first order) or FREE with any purchase from this ad.

N.Y. residents, add sales tax.
Overseas, call: 1-613-596-0350 or fax: 1-613-596-6030.

Odd Legs?

Andy Rooney's table legs, shown on the front cover of AW #63, are not the same. Was this intentional on Andy's part or was it an honest mistake? Anyway, what counts is that it is a nice table regardless of the legs. It can always be a conversation piece.

Joseph DeMelo
Quebec, Canada



I fully agree with Andy Rooney that there is never enough wood, nor enough space to store it with all those tools getting in the way. But I have one question: Were the mismatched legs on his end table intentional? I like it a lot anyway.

Enn Veskimets

The article on Andy Rooney is excellent. His commentary on wood collecting was required reading for my spouse—my shop is overflowing, too. After seeing the table legs, she is convinced that we went to the same school.

Kermit Moffitt
New Bern, NC

Andy Rooney replies: It is not what some of your readers called an "odd leg." The world's obsession with symmetry is not shared by me. If we have one of something on one side, why are we obliged to have another just like it on the other? I have a duplicator on my lathe but seldom use it because it amuses me to turn four different legs—or bedposts.

Andy's Wife Is Not Alone

After reading Andy Rooney's article in AW #63, which describes my husband to a T-square, all I can do as a sympathetic therapist and co-sufferer is offer a support group to his wife and the spouses of similarly afflicted individuals.

Louise Marcigliano, M.S.W.
Port Washington, NY

Not in Favor of the Inch

I read with interest Mr. J.R. Beall's article entitled "In Favor of the Inch" (AW #63). Many times in my professional day, I hear negative comments from some Americans regarding the metric system. People prefer what they have grown up with or what they have been trained on.

I have used both systems and can attest that the metric system is much easier, faster, and less prone to mistakes. I can do most of the metric problems in my head or with an ordinary calculator. We are used to visualizing lengths in the "English" system, so we find it easier. But if math is involved, the metric system wins hands down.

Luckily for metricphobes we are moving to the metric system so slowly that most of us will be dead by the time it is fully adopted. Our minds are already made up, but our children should be permitted to learn and use both systems so they can make their own decision.

James Wagner
Mound, MN

I feel that J.R. Beall makes mistakes and misses the point in "In Favor of the Inch." The biggest problem with

his essay is that it is built on doing something that woodworkers should not be doing anyway: measuring and calculating divisions. Measuring tools lose accuracy, and it is much more accurate to use marking sticks and calipers to transfer measurements rather than use a ruler and write them down. A centering ruler, whether metric or English, or a dividing stick does a better job of dividing than does a ruler and a calculation.

Mike Firth
Dallas, TX

J.R. Beall replies: I agree that the conventions of the English system are unrealistic. In my essay I tried to point out that the metric system is hardly more helpful in this regard. I also agree that adding and subtracting fractions with different denominators is more difficult than using metric measurements. I, too, think that the metric system should be taught in schools and that, with the possible exception of the centimeter in the world of woodworking, it makes excellent sense. In my essay, I state clearly that it is only the centimeter that I find lacking. If it were about twice as long and divided into fractions, I would view it with fondness.

Making It Easy

I enjoyed building Lonnie Bird's Queen Anne lowboy (AW #38), and I think Lonnie is a pretty talented fellow, not only in his artistic ability as a gifted woodworker, but also in his ability to put down on a couple of pages sufficient



Lovely lowboy.

Chatt McGonagill built this Queen Anne classic from plans in issue #38.

STAY IN TOUCH! If you have comments, corrections or news to share, we want to hear from you.

- ❖ To write us, address letters to: Editor, AMERICAN WOODWORKER, 33 E. Minor St., Emmaus, PA 18098.
- ❖ You can fax us at (610) 967-7692.
- ❖ Too busy to write? Call our Letterline: (610) 967-7776.
- ❖ For e-mail correspondence, send letters to: AWLetters@aol.com



= Electronic Mail

When You Own The World's Most Versatile Dovetail Jig System, You'll Create A Lot More than Dovetails.



The D4 Dovetail Jig
Create through, half-blind and sliding dovetail joints with the D4 Jig

At the center of the Leigh Router Jig System is the amazing 24" D4 Dovetail Jig.

Create through, half-blind and sliding dovetails with *infinite adjustment* of joint spacing and tightness of fit in wood up to 1 1/2" thick.

Add the F1 Finger Joint Template for an incredible range of square or unique *rounded* finger joints from 1/2" down to a tiny 1/16". All infinitely adjustable for fit with the Leigh Variable Guidebush System (VGS).

With the Multiple Mortise and Tenon Attachment you'll rout perfectly snug rows of multiple mortises and tenons, in virtually any layout you can imagine, and in material from 5/16" to 1 1/2" in thickness.

And finally, the *world's first* organically-shaped *interlocking* joints are easy to cut with our NEW Isoloc™ Templates. Three different Isoloc templates create six unprecedented joints that are *impossible* to cut by hand. And again, you have complete control of joint tightness with the VGS.

Precision, strength and beauty are the hallmarks of every Leigh joint. Create them all, from the dovetail and beyond with the world's best router jig system.



Create Square and Rounded Finger Joints with the F1 Template



Create Multiple Mortise and Tenons with the MMT Attachment



Create 6 Isoloc Joints with the I1 Joint Templates

NEW

Call For Your Free 32-Page Catalog Now!

1-800-663-8932

Leigh Industries Ltd., PO Box 357, Port Coquitlam, BC, Canada
V3C 4K6 Tel. 604 464-2700 Fax 604 464-7404



LEIGH

Joining Tradition With Today

instructions to enable a novice like me to complete a project like this.

Thanks for the help. You guys at AW do mighty good work. Wish you could come down and show me a few tricks around the shop.

Chatt McGonagill
Lauderdale, MS

A Shocking Possibility

Regarding the shop tip titled "Securing Outlet Boxes" ("Tech Tips," AW #61), I am seriously concerned about the safety of the suggested installation. Steel columns in basements can very easily conduct electrical current in deadly doses. Especially in damp basements. A stainless steel band so close to the conductors invites disaster.

In basements, depending on the local code, plastic receptacle boxes are often required. These might be damaged by the clamping force of the band. A more prudent choice would be to firmly anchor the receptacle box to an insulating nonconductor (such as a piece of

wood), which in turn should be firmly attached to the column. This defeats the purpose of semiportability, but some shortcuts are simply not worth the risk.

Dale Ferguson
Granite City, IL

Sticky Feet

I agree with Verne Collins' reply ("Letters," AW #63) to Michael Dresdner's "Slip-Proof Floor Finish." A dance floor is supposed to be slippery; a totally non-skid surface will not do.

In ten years of dancing, I never encountered an unwaxed floor that was unsafe. Adding a non-slip material to the finish might be okay for little kids and perhaps older beginners, but it will not be suitable for adults or more experienced dancers.

The best solution to the questioner's problem would be to buy some rubberized stage flooring and roll it out for the kids' classes. If that doesn't suit, perhaps he could try the simplest, cheapest, most traditional solution: a rosin box.

Just build a 16-in. by 16-in. box with 1½-in.-high sides and put it in a corner of the studio. Throw in a few chunks of rosin and have the dancers crunch around in it occasionally. Rosin won't make a truly slick floor safe, but it will usually make the difference on a marginally slippery floor.

Brian Leavy, Ph.D.
Albuquerque, NM

Radial-Arm Saw Safety

If licensed drivers were to treat their cars the way Dr. Leibovic ("Letters," AW #63) wants us to treat a radial-arm saw, we would never drive in snow. Just as you can lose an arm or your life in a car if you drive it unsafely, you can also lose a finger, hand, or arm if you don't know the capacity of a radial-arm saw.

After someone lost fingers unclogging his running lawnmower, he was told to use his head in the future. The very same is true for a radial-arm saw. It is the most versatile tool available, yet, arguably, the most dangerous. You need

EXACTLY THE PRESSURE YOU NEED EVERY TIME EVERY PROJECT

The Adjust-a-Clamp, a new, lightweight spring clamp from the Adjustable Clamp Co.

Made with light yet strong plastic and a heavy-duty tempered steel spring for years of reliable service, Adjust-a-Clamps will accommodate openings of up to 2 inches.

Adjust-a-Clamp™

Easy to open. Easy to use. Highly versatile.
Available at fine hardware stores and home centers.
Adjustable Clamp Co., 406 N. Ashland, Chicago, IL 60622

With a simple turn of the screw, clamping pressure is set to precise requirements of the project at hand. Soft, pivoting jaw pads hold irregular surfaces together without damage, securely gripping them with light or up to 50 lbs. of clamping force.

Made in USA

CIRCLE NO. 126 ON PRODUCT INFORMATION FORM

A Stroke Of Genius.



New profile sander offers variable speed and 50% longer sanding stroke.

At Porter-Cable, simply eliminating the tedium of hand sanding isn't enough. That's why we've improved upon our already innovative

profile sander—now with a 50% longer sanding stroke and variable speed control of 2,100 to 6,000 strokes per minute. This new variable speed profile sander also features improved

cloth-backed pre-sized, abrasive sheets that last up to four times longer than ordinary paper-backed abrasives. So next time you're faced with hard-to-reach corners and curves, pick up Porter-Cable's new variable speed profile sander. It's one smart move. Call 1-800-487-8665 (519-836-2840 in Canada), for the distributor nearest you.



All Porter-Cable Profile Sander Kits come complete with hook & loop corner sanding pad and 17 different sanding profiles.

PORTER-CABLE

Professional Power Tools Since 1906

<http://www.porter-cable.com>

Porter-Cable is proud to be a co-underwriter of The New Yankee Workshop on public television.



to think about every cut you are going to make. Don't do anything stupid, and don't rush any of your work.

Bruce Falink
Minneapolis, MN

Dusty Solution?



In "Tech Tips," AW #63, Andy Olerud suggests that a bucket screwed to the bottom of his router table could be connected to his dust collector to collect the chips. I'm concerned about this idea. The fans in router motors are designed to draw cooling air from the top down through the tool, toward the bit. It seems to me that the dust collector could end up pulling chips and dust into the motor windings. Since the router is already upside down, it's already fighting a battle with gravity to keep out the dust.

John Doud

Mike Whitman of Porter-Cable informs us that a dust-collection setup like Mr. Olerud's could result in the need for more

frequent cleaning and maintenance of the router. Dust and debris can cause router problems, including heat buildup and premature failure. Routers should be blown out regularly with compressed air.—Eds.

AW Online for the Rest of Us



As a subscriber to your magazine for about eight years now, I have read each and every issue from cover to cover and enjoy each one more than the last. But I am disappointed with your dedication to AOL.

I am sure that I speak for many others when I say that we'd like to be able to access your great online site from any Web browser.

James C. Boggio

We've been swamped with requests like yours, James, and we're doing something about it. By the time you read this, AW will have launched its new Web site (www.americanwoodworker.com). We think you'll agree it's been worth the wait.—Eds.

Shop Shot Hits Home

I very much enjoyed your "Shop Shot" of Joe Susco and his garage-based workshop (AW #61). It reminds me a lot of myself, since my own shop is probably about the same size as Joe's. I noticed several other similarities as well—the picture of the Studley tool chest, all the Delta equipment, and the recycled kitchen cabinets.

I think there are lots of small-shop woodworkers out there who are encouraged by guys who turn out high-quality work in these conditions with a little imagination and creativity.

One solution I have found is to specialize in small projects like Joe's humors (I build toys). They require only short pieces of lumber that are inexpensive, easy to store, and easy to maneuver in a small workspace. It is also important to finish each project and clear off the space it is taking before starting in on another one,

Steve Schutte
Columbus, OH

The Newest Combination



- 12" Jointer
- 12" Thickness Planer
- 10" Table Saw
- Sliding Table
- Slot Mortiser/Horizontal Borer
- 3 3HP 230V Motors
- 2 Speed Shaper

EuroShop
SC-30
\$4695.

The world's largest line of combination woodworking centers just got bigger. Find out why the pros select EuroShop. Call:

800-203-0023

OLD WORLD
MACHINERY CO.
San Clemente, CA



Bandsaws



Jointer/Thickness Planers



FESTO
TOOLTECHNIC

MADE IN GERMANY

Known Worldwide for Over 70 Years

- Sophisticated Guide System
- Durable Precision
- Innovative Design
- Systematically Mobile
- Dust Extractable
- Uniquely Quiet
- Ergonomic
- Reliable Investment

CALL FOR FULL CATALOG

1-888-337-8600

SEE US AT BOOTH #130 AT THE AMERICAN WOODWORKER SHOW
OPENING NEW HORIZONS FOR THE AMERICAN ARTISAN

TOOLGUIDE
CORPORATION

FESTO
SOLE DISTRIBUTOR FOR TOOLTECHNIC

CIRCLE NO. 81 ON PRODUCT INFORMATION FORM

CIRCLE NO. 163 ON PRODUCT INFORMATION FORM



Let your imagination run wild.

Create beautiful edges, from a classic round over to decorative molding — Freud bits can turn your router into a real dream machine.

Freud router bits cut super smooth profiles that you never have to sand. That is because we grind every cutting edge **precisely** so the bit simply slices through the wood. This is a time-consuming process, but we are committed to giving you the best cutting edge possible.

Our **micro-grain carbide** tips are the thickest in the industry. This makes them less prone to chipping and insures a long resharpening life. **Tri-metal** brazing bonds the carbide to the bit body. This special process produces a strong joint, free of residual stresses that other bits frequently have.

Your safety is always most important, so we've made every Freud router bit with a special **anti-kickback design** that really works. It doesn't interfere with the speed or performance of your bit, but it does help keep you safe.

When you need just the right profile to turn your project into a masterpiece, Freud offers the **widest selection of bits** for any woodworking application (Including hard to find architectural and complex moulding profiles). Try one and you'll see why Freud is **precisely what you need.**

freud[®]

Precisely what you need.

CIRCLE NO. 27 ON PRODUCT INFORMATION FORM

Call us for a free catalog 800-472-7307.

CUTTING THE COMPETITION
WITH A "TOP-TO-BOTTOM"
5 YEAR WARRANTY!*



RBI presents the Hawk Ultra Saws with America's #1 Clock Designers, Ray & Dan Wilckens.

Ray & Dan Wilckens choose the RBI 220 and 226 precision scroll saws for RBI's fast & easy blade change system, sand free finishes, easy cutting control and our "Top-to-Bottom" 5 Year Warranty.*



They think you should choose the RBI Hawk Ultra family too!

CALL 1-800-487-2623
FOR YOUR FREE CATALOG!

If you're interested in seeing more projects by Ray & Dan Wilckens created on their Hawk Ultras...read "Creative Woodworks & Crafts Magazine."



r b industries

America's Woodworking Machinery Manufacturer

1801 Vine Street
Harrisonville, MO 64701

*Commercial Rated at 356 days a year x 5

H126

Grip-TiteTM magnetic featherboard



3 second,
one-handed setup
No clamping!
Lexan® springs push
wood down and against
the fence.

"Tremendous Power"
Fine Woodworking

Use it on table saws,
jointers, shapers.

Call

1-800-475-0293

for a dealer near you!
Satisfaction Guaranteed
30 day full refund.

MESA VISTA DESIGN
804 Tulip Road
Rio Rancho, NM 87124

CIRCLE NO. 53 ON PRODUCT INFORMATION FORM

Lion Miter Trimmer

**A good miter
is hard to find...**

now you
know where
to look!



Made in New England

POOTATUCK CORPORATION

P.O. Box 24 • Dept. AW498
Windsor, VT 05089 • 802/674-5984

Name _____

Address _____

Zip _____

CIRCLE NO. 62 ON PRODUCT INFORMATION FORM

WAGNER

Shoeline L609 Moisture Meter

*Packed With
Value Priced Features*



• Wagner's
Proven Pin-Free
Electromagnetic
Wave Technology

• Easy To Read
Led Display

• Pocket Size

• Narrow Sensor
Ideal For
Testing
Moulding
and Trim

**It's So Easy
to Use!**

WAGNER
ELECTRONICS

"The Moisture Meter People"

1-800-944-7078

326 Pine Grove Road
Rogue River, OR 97537
Tel: (541) 582-0541
Fax: (541) 582-4138



© 1997 Wagner Electronic Products, Inc.

CIRCLE NO. 64 ON PRODUCT INFORMATION FORM

Lok it for less.

Carry it for nothing.



Here's an offer that's
hard to refuse.

ControlLok™ - Starrett's

new ergonomically designed model at an unbelievably low price
plus a **FREE** heavy duty carrier.

- ◆ Blade auto-locks when thumb-pressure is released. No snap backs!
- ◆ Top-lever position eliminates accidental retraction (common in bottom-lever designs).
- ◆ Compact size and contoured design features rubber top-grip for comfort and ease-of-handling.
- ◆ Rugged, high visibility yellow case with heavy-duty 1"x25' blade and triple riveted Tough-Tip® blade protector to eliminate breakage.

ControlLok. A great deal on a great tape. Ask for it today.



AMERICAN MADE
Starrett®

Innovation with value - nobody else measures up!

The L.S. Starrett Company, 121 Crescent Street, Athol, MA 01331 • Tel: (508) 249-5330 • FAX: (508) 249-8495

CIRCLE NO. 46 ON PRODUCT INFORMATION FORM



**EAGLE AMERICA
ROUTER BITS**

**Over 800
Different
Router Bits!**

**BUILT
TOUGH**
in the
USA

Better and Thicker Carbide
Hardened Steel Body
Precision Ground & Balanced
Total Quality Checked
100% Guaranteed
The Industry's Quality Leader

FREE CATALOG
1-800-872-2511

AW 3-98

CIRCLE NO. 24 ON PRODUCT INFORMATION FORM

SINCE



1972

**The Only Time Tested
Proven Polyurethane**

Longest Shelf Life & Working Time

Waterproof • **Shortest Cure Time** • Solvent Free
Bonds Wood, Stone, Metal, Ceramics, Plastics, & More

Now At Your Local Hardware/Home Center

If not, tell the big ape who runs the place to get it for you.

A portion of every sale of Gorilla Glue *has been*
and always will be donated to The Gorilla Foundation.

1-800-966-3458 24 Hour • **1-888-367-4583** Trade Direct
The Gorilla Group • 122 Powers Ave., Santa Barbara CA 93103

ORIGINAL FORMULA • ENVIRONMENT FRIENDLY

CIRCLE NO. 30 ON PRODUCT INFORMATION FORM

Give Yourself Some ^{More} Breathing Room.

**The Best Just
Got Better!**

**Introducing The New
Model 350**

- **55% More Air Flow**
- **Ultra Quiet**
- **95% Ashrae tested
main filter**

- **Lifetime Warranty**
- **30 Day Money Back
Guaranty.**



*Better Homes and Gardens®
WOOD * Magazine (Nov. 95)

JDS AIR-TECH 2000™

Recent medical studies show that breathing wood dust can be hazardous to your health. The JDS AIR-TECH 2000 will dramatically improve the quality of the air you breathe.

Our model 350 delivers 550 CFM of filtered air. This will clean the air in a 20 x 20 x 8 foot area ten times per hour. For larger areas, our dual speed model 8-12 will deliver 800 or 1,250 CFM of filtered air for only \$495. Our model 10-16 will deliver 1,000 or 1,600 CFM of filtered air for \$695.

The JDS AIR-TECH 2000 systems will remove 99% of particles as small as five microns and 80% of the particles as small as one micron.

Our unique design makes both ceiling installation and filter changing quick and easy. For the removal of odors, fumes and smoke, our optional charcoal filter is available.

Another quality product from
Manufactured in the U.S.A.

To place an order or for the dealer nearest you call us toll-free.

And give yourself some breathing room.

\$259.00
Model 350

**JDS
COMPANY**
1-800-382-2637

CIRCLE NO. 41 ON PRODUCT INFORMATION FORM

Harvesting Hickory Bark

Q I want to weave a hickory-bark seat for a chair I made. Can I harvest the bark myself?

Kendra Marshall
Johnson City, TN

A Hickory bark must be harvested in the spring. The peeling season starts when the leaves first emerge, and lasts for about two months, until the hickory nuts start to fall. During this time, you can easily peel the inner bark from the tree. The inner bark is a layer of pliable, living bark tissue between the dead, dry outer bark and the sapwood.

Shagbark hickory is best for chair seats; its thin inner bark makes the supplest strips. Find a tree that will yield a log 5 to 10 in. dia. and 10 to 12 ft. long. The trunk doesn't have to be very straight, but fewer branches make an easier harvest. Try shaving off some of the outer bark with a drawknife before you fell the tree. It should shave cleanly and quickly, or harvest will be messy and difficult.

To avoid straining your back, harvest the bark right where the tree falls, and work in a kneeling position. I chop a V-shaped notch in the tree stump and rest one end of the log in the V, with the other end on a rock or some leftover wood.

You want to remove all the outer bark and some of the inner bark, until there's just $\frac{1}{8}$ in. of inner bark left on the whole length of the log. Grab your drawknife and start at one end of the log. (See top left photo.) Take long, light strokes and work slowly, with the drawknife bevel-up. Check the thickness of the remaining inner bark by looking at the end of the log. The inner bark will show as a



Remove the outer bark. Shave with your drawknife bevel-up, until the inner bark is $\frac{1}{8}$ in. thick.



Peel off the strips. Start at one end of the log, and peel off full-length strips one at a time.

layer between the outer bark and the growth rings. When you're down to $\frac{1}{8}$ in., look at the light and dark growth patterns on the shaved part of the inner bark. Proceed down the log, shaving away the bark until you see the same pattern.

Use a pocketknife to score vertical lines $\frac{3}{4}$ in. to 1 in. apart, down the length of the tree. (See top right photo.) Cut all the way through the inner bark, so it peels off easily. (See bottom left photo.) As the strip gets longer, it's better to stand up and walk your way down the log.



Slice the inner bark. Score the inner bark into $\frac{3}{4}$ - to 1-in.-wide strips that run down the length of the log.



Roll up the strips. To store the bark, roll each strip into a loop and tie it with a thinner strip. Store in a dry place.

You can use the fresh strips of bark right away or store them indefinitely. For storage, roll up each strip and tie it with a thinner strip of bark. (See bottom right photo.) Keep the rolls from each tree together, and hang them in a dry place with good air circulation to keep mold from forming. When you're ready to use the dried bark, soak it in hot water until it's completely saturated and pliable.

Owen Rein, Chairmaker
Mountain View, AR

The Best Blade Height

Q I do most of my cutting on the tablesaw with a 50-tooth combination blade. What's the best blade height to use when cutting different materials?

Carl Rickel
Rochester, NY

A The "ideal" height for either type of combination blade (see page 64) puts the blade's primary gullet about $\frac{1}{8}$ in. above the workpiece at its highest point. On combination blades with alter-

nate top bevel and raker (ATB&R) teeth, the primary gullets are the smaller ones.

In some cases, there may be advantages to setting the blade a little higher or lower. For example, when you're cutting stock under $\frac{1}{2}$ in. thick, lower the blade so there are more teeth in the workpiece at all times. This gives a smoother cut, and helps minimize chipout on the bottom face of plywood, since the teeth are cutting forward instead of downward. Keep in mind that lowering the blade increases the chances of kickback, since a lowered

blade is pushing back at you rather than pushing the board down against the table.

On the other hand, raising the blade above ideal height reduces wear on the teeth, because each tooth remains in the cut a shorter time and doesn't heat up as much. You can feed a board faster when there are fewer teeth in the cut. Keep in mind, however, that a raised blade can increase your risk of injury, since more teeth are exposed above the workpiece.

David B. Stokes
American Carbide Saw Co.

Free Catalog

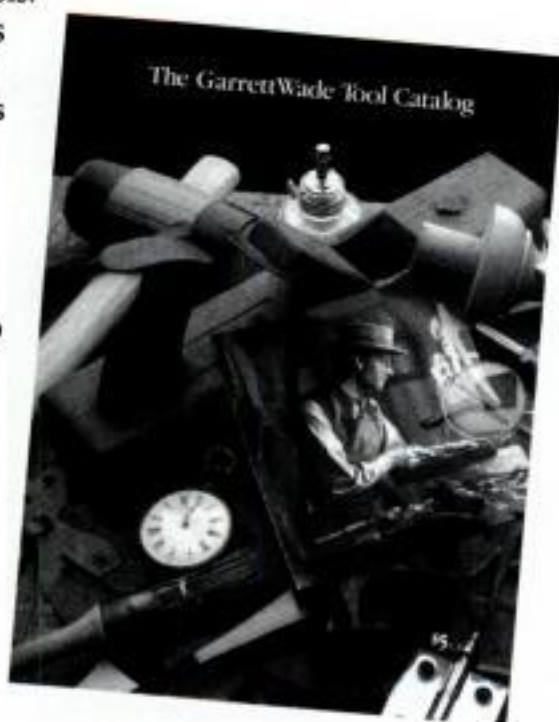
High quality woodworking supplies and tools are easy to find in the Garrett Wade Catalog. We have everything from traditional old-style hand planes and saws to the very latest in modern power tools.

As well as solid brass hardware, old world varnishes, stains, oils and much more.

For a Free Catalog send us a post card or letter with your name and address to the address below or call Toll Free:

Garrett Wade Co.
161 6th. Avenue
NY, NY 10013

800-221-2942
800-566-9525 -fax



From Garrett Wade

CIRCLE NO. 29 ON PRODUCT INFORMATION FORM

Stop getting by. Get real.

The Laguna Tools 16.



- ✓ 9" resaw capacity
- ✓ 1.5 HP motor
- ✓ Cast iron table
- ✓ Cast iron flywheels
- ✓ Dynamically balanced
- ✓ Optional mobility kit
- ✓ Optional miter-gauge
- ✓ Rip fence included
- ✓ Tilting table
- ✓ Made in Italy

LAGUNA TOOLS

(800) 234-1976

(714) 494-7006

<http://www.lagunatools.com>

2265 Laguna Canyon Road
Laguna Beach, CA 92651

Call now for a free
video!

CIRCLE NO. 48 ON PRODUCT INFORMATION FORM

THE UNDISPUTED HEAVYWEIGHT CHAMP



IRONWOOD'S MODEL 512 - 70LB. CAST IRON

ROUTER-SHAPER-TABLE

and at ONLY \$249.00 plus S & H...it's the

UNDISPUTED BEST VALUE!

STANDARD FEATURES INCLUDE:

- IRONWOOD BRAND'S heavy-duty 70lb. cast iron router table with T-Miter Slot. Large 27x 21 in. surface. Accepts virtually any size router. Use large shaping bits with confidence & ease.
- Sturdy 5/16" thick aluminum drop-in plate - 4 leveling & 2 snugging screws=bumpless-vibrationless operation.
- Heavy duty 14 gauge steel base/router enclosure.
- Adjustable, cam lock, T-slot guide fence w/insert mounting hardware...mount accessories...4 key hole slots for mounting split fence...use as an edge jointer.

AND HERE'S THE BEST PART!

The Model-512 is completely expandable into a *full function* MILL•RIGHT™ 3-Axis Router Milling Center without any modification-the features for adding accessories are already there. Add our X-Positioner, Auxiliary Milling Table, Router Carriage and Extension Table and you have a **3-Axis Router Milling Center.** Browse through our catalog to see all our accessories. You can add all the features that have made the MILL•RIGHT™ the most innovative new tool for the home workshop - **And You Can Add Them As You Need Them, When You Want Them.**

CAST IRON SOAKS UP VIBRATION & NOISE!

To Order, Call TOLL-FREE: 1-888-478-2453

Or send check or money order for \$249.00 + \$49.00 S&H to:
IRONWOOD/MILL•RIGHT
1737 Union St. BOX 620, Dept. 2100, Schenectady, NY 12309
Visit our Website: www.ppi-NY.com - or e-mail at ppinewyork@aol.com
also: Call, write, e-mail for our **FREE PRODUCT CATALOG!**

CIRCLE NO. 66 ON PRODUCT INFORMATION FORM

Fixing a Broken Spindle

Q For our first grandchild, I designed a crib with more than 80 hand-turned spindles. Our third grandchild kicked a spindle and broke it in the center. I can duplicate the spindle but have no idea how to put it back in the crib, short of tearing the rails loose. Any ideas?

Jim Murphy
Germantown, TN

A When a spindle breaks, you've got two basic options: repair or replace. The former is easier. If you have to replace the entire spindle, the spindle size and shape will determine which method you use.

To replace a thin, straight spindle like you find in a chair back, drill through

WOODWORKING QUESTIONS?

Send them to: "Q&A," AMERICAN WOODWORKER, 33 E. Minor St., Emmaus, PA 18098. Or e-mail them to: AWQA@aol.com

REPAIRING A SPINDLE



Breaks along the grain can usually be repaired by gluing. Clamp the joint by wrapping it with masking tape.



Breaks across the grain require dowel reinforcement. If possible, drill through rail and spindle, then insert a smaller-diameter dowel.

REPLACING A SPINDLE



To replace a straight, thin spindle, drill through rail and spindle. Slip old spindle out and new one in.



To replace a contoured spindle, cut a small patch to remove it; then insert new spindle and patch.

the rail and pull the broken spindle up through the hole. Insert the new spindle through the same hole, then plug the hole and finish it to match the crib.

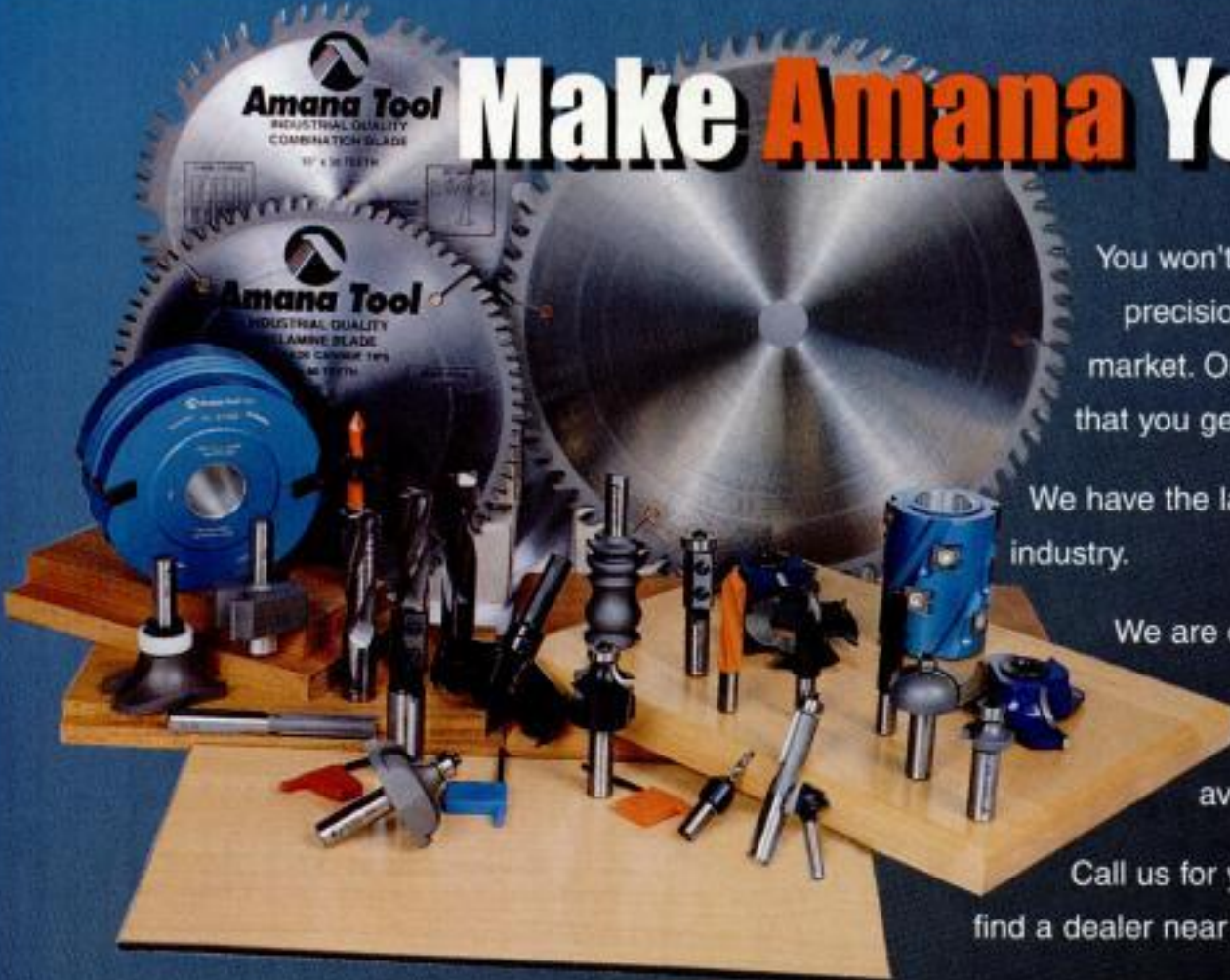
If the spindle's profile keeps it from clearing the rail, cut a small rectangle out of the least visible side of the rail. This will expose the mortise so you can remove and replace the old spindle.

Before patching the rectangle, be sure there's enough area on each side of the mortise for a strong face-to-face glue joint. Glue in the patch, plane it flush, and finish the new wood to match.

Michael Dunbar
Windsor chairmaker
and AW contributing editor
Hampton, NH



Make Amana Your Choice



You won't find a smoother cutting, longer lasting precision blade, bit or shaper cutter on the market. Our standards are the highest, ensuring that you get the finest quality possible.

We have the largest inventory and selection in the industry.

We are constantly adding new items to our line to better meet your cutting needs, and our experienced staff is always available to answer your questions.

Call us for your local dealer or visit our web site to find a dealer near you.



Amana Tool®

Call (800) 445-0077 for the dealer nearest you. Visit our new web site at <http://www.amanatool.com>

CIRCLE NO. 6 ON PRODUCT INFORMATION FORM

FREE!

CherryTree

Woodcrafting Catalog



See our **Lighthouse Birdfeeder** & dozens more **NEW** projects!

- Clocks & Parts
- Whirligigs
- Toys
- Wood Parts
- Craft Supplies & more!

Affordable prices, guaranteed quality & fast delivery!

Check out our WebSite at:

www.cherrytree-online.com

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Cherry Tree • Box 369-AW038
Belmont, OH. 43718-0369
or call **TOLL FREE**
1-800-848-4363 ext. AW038

CIRCLE NO. 14 ON PRODUCT INFORMATION FORM

FREE TOOL CATALOG

Helping You Become a Better Woodworker



highland hardware

Our giant tool catalog gives more than just manufacturer's specs. We provide detailed tool descriptions, useful techniques, as well as a schedule of educational seminars.

Visit us on the Internet at
<http://www.highland-hardware.com>
Call TOLL-FREE for FREE catalog

888-500-4466

CIRCLE NO. 36 ON PRODUCT INFORMATION FORM

ROUSSEAU COMPANY

Featuring Precise Stops Up To 84"

Fits Most Saws.

Call 1-(800)-635-3416 for a FREE Catalog.

www.rousseauco.com

CIRCLE NO. 69 ON PRODUCT INFORMATION FORM

Quality Kiln Drying

It's Easy and Affordable with a Nyle DH Kiln! Made in USA

Call today for free facts on our compact, easy to use dehumidification kilns.

800-777-NYLE

<http://www.nyle.com>
EASY PAYMENTS AVAILABLE

nyle
DRY KILN SYSTEMS

PO Box 1107 Bangor ME 04402-1107



16 fact-filled pages—call for yours today!

CIRCLE NO. 57 ON PRODUCT INFORMATION FORM

THE STANDARD IN SANDERS

The smooth way to tackle virtually any sanding job.

- Your solution for contour sanding
- Benchtop & full size professional models
- Quick-change drums
- Large table surface
- Built-in dust port
- Premium Baldor induction motor
- Made in U.S.A.



Call for a **FREE** Shop Solutions Catalog.

1-800-971-5050

Clayton Machine Corp.

Royal Oak, MI 48068-0520

CIRCLE NO. 16 ON PRODUCT INFORMATION FORM

FREE CATALOG

1-800-684-9371

Sherline mini lathe systems
Lathe accessories & tools
Pen, pencil & project kits
Wide selection of woods & pen turning materials
HUT Wood Finishes

HUT Products for Wood
Highest Quality! Best Service! Competitive!
NEW! HUT Carriage Control System
Produce Pens Quicker on the
Most Versatile Mini Lathe Available



CIRCLE NO. 38 ON PRODUCT INFORMATION FORM

The Professional's

Choice

for over 60 years

Titelbaan®

Tech Service
1-800-347-GLUE

Customer Service
1-800-669-4583

©1998 Franklin International

CIRCLE NO. 26 ON PRODUCT INFORMATION FORM

Airwatts vs. CFM

Q I recently went shopping for shop vacuums. I found that most manufacturers rate shop vacuums in airwatts, not in cfm as with dust collectors. What is an airwatt? Is it related to cfm?

David Banks
Milwaukee, WI

A Airwatts measure the energy of air flowing through an opening—just as watts measure the amount of electrical energy moving through a wire.

The airwatt rating is a reliable way to compare the power of different shop vacuums. That's because all manufacturers use the same airwatt test, which measures airflow over a mandatory range of opening sizes. Cfm measures airflow at only one size, which varies from one manufacturer to the next. This makes power comparisons difficult.

An airwatt rating is also a better measure of suction power than cfm—which is appropriate, since shop vacuums should be able to pick up small offcuts

and stray debris. The suction measurement for dust collectors is usually given as cfm at a specific static pressure.

Susannah Hogendorn
"Q&A" editor

A Bug-Free Finish

Q I made a mahogany coffee table, brushed on the last coat of shellac, and left it on the veranda to dry. When I came back later, there were insects stuck in the finish. How can I fix this?

George Whitefield
Belize City, Belize

A You're in luck. Shellac, like lacquer, forms a brittle film that you can scrape to remove imperfections. Lightly scrape the buggy areas clean with a cabinet scraper, then apply another coat of finish.

If you'd used varnish, you would have had a problem. Varnish and its relative, polyurethane, form an elastic film that doesn't scrape well. With these, you should carefully pick out any bugs or other debris with a toothpick or fine

tweezers while the finish is wet. Once the finish cures, you'll have to do a lot of messy sanding and recoating to remove trapped bugs.

To avoid this in the future, I'd recommend finishing in a clean, enclosed room—or screening in your veranda.

Sandor Nagyszalanczy
West Coast editor of AW
Santa Cruz, CA

WHERE TO FIND IT

Weaving a Hickory Bark Seat, a video from chairmaker Owen Rein, is available for \$23.90 (including shipping) from Hickory Bark Video, c/o 13th Floor Productions, 500 Wall St., Ste. 1302, Seattle, WA 98121.

"Hollywood" veneered wood cylinders for furniture legs, kaleidoscopes, and boxes is available in oak, cherry, mahogany, and other woods from BrandNew, 6125 Pedernal Ave., Goleta, CA 93117, (800) 964-8251.

ASK WOOD-KOTE

MIRROR SMOOTH FINISHES

Q: I am building a mahogany table. I would like to achieve an ultra smooth factory-like finish. I have been told furniture manufacturers and restorers use paste wood filler to get such a finish. What is paste wood filler and how is it applied?

B. Schoenbauer,
Charlotte Hall, MD

A: Wood Kote manufactures a paste grain filler called **WoodPerfect™** so the consumer will not confuse it with a wood patch. Paste grain (or wood) fillers are used to fill the pores in the grain of "open" woods such as walnut, oak and mahogany. They are not formulated to fill scratches, knicks or nail holes. Generally,



the time and effort spent using **WoodPerfect™** is repaid by reducing the number of coats of clear finish required to attain a mirror smooth finish. It will also reduce the amount of sanding required between coats. Sand the surface as required, then apply **Wood Perfect™** in a circular motion with a plastic blade over the wood surface. Scrape off any excess and allow the surface to dry for at least 20 minutes or until it turns dull. Then rub the surface with a coarse cloth against the direction of the grain. Clean with a soft cloth leaving filler only in the pores. Allow the surface to dry for at least 24 hours before applying a top coat.

Have a staining or finishing question? Ask Wood-Kote!
Please write to Dept. Q.
P.O. Box 17192
Portland, OR 97217
or Fax to (503) 285-8374
<http://www.woodkote.com>



**"The Professional
Woodworker's
Choice Since
1945"**

**THE ENTIRE PRODUCT LINE IS AVAILABLE THROUGH MASTER
RETAILERS LIKE WOODWORKER'S CENTRAL IN FRESNO, CA.**

CIRCLE NO. 85 ON PRODUCT INFORMATION FORM



FULL SIZE TEMPLATES

NEW ADIRONDACK TETE-A-TETE.....	\$ 12.95
CHAIR.....	\$ 10.95
FOOTREST.....	\$ 4.95
(plus \$3.00 S&H)	

Specialty Furniture Designs

797 W. Remus Rd.

Dept. AW34, Mt. Pleasant, MI 48858

1-800-892-4026



Color Catalog \$3.00, free with order. Visa/MC/Disc MI add 6%

CIRCLE NO. 303 ON PRODUCT INFORMATION FORM

Woodworkers Only



Winter
Inventory
Sale

**Save
up to
60%**

SAVE ON SELECT SIZES
**25X34 • 30X46
40X56 • 50X116**

- America's #1 Arch-Type Manufacturer
- 20 Year Warranty • Easy Financing Available
- Easy Do-It-Yourself Construction
- Free 16 Page Brochure

STEELMASTER.

**Save Thousands
Call Today 1 800 888-4606**

CIRCLE NO. 78 ON PRODUCT INFORMATION FORM



We Just Made It Easier To Realize The True Art Of Your Craft.

The look and feel of beautiful natural wood. New *Olympic*® Interior Wood Stain, with its unique *Absorption Control*™ Formula, minimizes blotches, streaking and lapmarks to make it easier than ever to get the results you dream about.

Then protect with the unique *Smooth Flow*™ Formula in new *Olympic*® Interior Polyurethane for a tough, durable finish.

Call 1-800-441-9695 for a retailer near you.

Visit our web site at www.ppgaf.com.



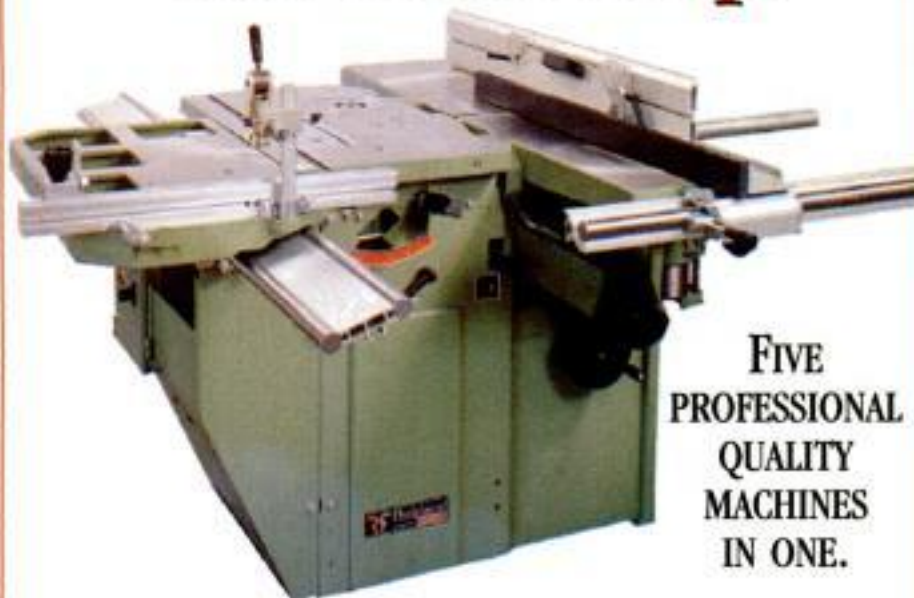
Ordinary stain

Olympic



CIRCLE NO. 65 ON PRODUCT INFORMATION FORM

The Intelligent One-Man Shop.



**FIVE
PROFESSIONAL
QUALITY
MACHINES
IN ONE.**

Call now for a free video!

LAGUNA TOOLS

(800) 234-1976

(714) 494-7006

<http://www.lagunatools.com>

2265 Laguna Canyon Road

Laguna Beach, CA 92651

- ✓ 3 HP 10" tablesaw with 50" crosscut sliding table and 38" rip capacity.
- ✓ Cast iron mortiser
- ✓ Cast iron tables
- ✓ 3 HP shaper
- ✓ 12" jointer
- ✓ 12" planer
- ✓ 20-second function change

CIRCLE NO. 49 ON PRODUCT INFORMATION FORM

FREE WOODWORKING CATALOG!

The **ONLY** source you need for...all your woodworking projects! Name brand power tools...beautiful hardwood lumber...high quality hardware...great new woodworking plans!



Call 1-800-403-9736

<http://woodworkerstore.com>

Since 1954

The Woodworkers' Store

Dept. 98045

Hardware, Wood, Tools & Know How

4365 Willow Drive
Medina, MN 55340

CIRCLE NO. 93 ON PRODUCT INFORMATION FORM

TOTAL TOOL CARE



**Remove Resin
Gum and Pitch**



**Lubricate and
Prevent Rust**



**Clean Rust
and Stains**

— Available at Better Tool Stores —

Questions? Call 1-800-962-1732

Trademark and Technology licensed by THE BOEING COMPANY

CIRCLE NO. 13 ON PRODUCT INFORMATION FORM

FREE CATALOG!



**NEW! Bed Posts
& Chairs**

- ~ Grain Matched Legs
- ~ In Stock for Fast Delivery
- ~ Ready-to-Finish

TOLL FREE 800-843-7405

Classic Designs

by **MATTHEW BURAK**

P.O. Box 329, DEPT. AW107
ST. JOHNSBURY, VERMONT 05819

CIRCLE NO. 15 ON PRODUCT INFORMATION FORM

Enjoy the benefits of HVLP with a SUPER System!



Our SUPER model offers you the most powerful 3-stage turbine motor made by Ametek-Lamb.

"Quality of atomization rated 9.8 out of 10... This system includes an excellent three-stage turbine... the gun atomizes beautifully and has a full range of features."

— American Woodworker

FUJI
INDUSTRIAL SPRAY
EQUIPMENT LTD.

- High transfer efficiency
- Soft, easy to control spray
- Compact and portable

65 Martin Ross Ave, #5, Toronto, Ontario, Canada M3J 2L6
1-800-650-0930 • Fax: (416) 663-6238 • <http://www.fujispray.com>

CIRCLE NO. 28 ON PRODUCT INFORMATION FORM

SPEED

Bring new life to your old Surform® with a Microplane® Replacement Blade. Microplanes® are made from hardened, stainless steel and cut 10X FASTER with less effort than similar products.

1-800-555-2767

• dealer inquiries encouraged

www.microplane.com email: info@microplane.com

Microplane
A Product of Grace Manufacturing

CIRCLE NO. 31 ON PRODUCT INFORMATION FORM

ShopBot
The Work Shop Robot



Affordable at \$2495*

Expand your creative possibilities ...

- Make crafts, signs, cabinets, arches, trim, tables, joints and curves using a new Robotic shop tool ... ShopBot!
- Add the creative power of computers to your projects.
- A large 4 foot by 8 foot CNC work area.

Visit our web site:
www.ShopBotTools.com

PROVEN PERFORMANCE, call for the facts.

ShopBot Tools, Inc. Tel 919-933-2993
5622 Turkey Farm Rd. Durham, NC 27705

CIRCLE NO. 74 ON PRODUCT INFORMATION FORM

The Mirrora™ Collection Beveled Mirrors

Your beautiful handcrafted projects deserve the best ... a beveled mirror from Shapes + Surfaces!

We carry over one million pieces in stock for quick shipment and can fabricate almost any shape, color or size of mirror you may need. Call today to place your order and to receive a copy of our color catalog. *Circles, ovals, squares, rectangles & octagons.*

1-800-647-7670

1649 Sycamore Ave., Bohemia, NY 11716

SHAPES + SURFACES

CIRCLE NO. 73 ON PRODUCT INFORMATION FORM

NEW!
INCRU RULES
A NEW Concept in Precision Protractors

Precision Marking Protractor

- One-half degree increments
- Removable T-Bar
- Centering Rule
- And more...



This

21st century

Marking Protractor

has micro-fine guide holes at every 45°, 30°, 22.5°, 5°, 1°, and 0.5° interval to plot any angle with ease and absolute accuracy. A metal T-Bar and see-through crosshairs provide perfect alignment against the edge of your workpiece. Remove the T-Bar to work on flat surfaces or to use the 6" centering scale. FOUR angle scales, including one for marking narrow stock, suit every need. It's easy on the eyes, incredibly accurate, and just plain fun to use! *Patents pending*

To learn more about INCRA's extraordinary NEW line of precision **Marking Protractors, Marking Rules, Bend Rules, T-Rules, and Centering Rules** call, write, or fax:

Taylor Design Group, Inc.

P.O. Box 810262, Dallas, TX 75381

Tel: (972) 484-5570 Fax: (972) 243-4277

E-Mail: TDGIncr@AOL.com

stainless steel

CIRCLE NO. 79 ON PRODUCT INFORMATION FORM

The Bridgewoodworkers' Edge Begins With The Right Tools

The Bridgewoodworker's edge begins with the right tools designed and priced for the serious woodworker

BW-002A Dust Collection System—Portable, compact, self-contained 43.5-gallon capacity, two 4" hose inlets

BW-15P Planer—professional design with moving table and stationary cutterhead, 3 knife cutterhead with jack screw adjustment

BW-6R 6" Jointer—45-1/2" adjustable table with mirror smooth finish, 3-knife cutterhead with jackscrew adjustment, fence tilts inward and outward to 45 degrees

TSC-10C Table Saw—10-inch, tilt arbor, 1-1/2" H.P. motor, dust collection hookup, cast iron extension wings, magnetic on-off switch

Bridgewoodworkers take pride in their work. They know the value of having the right tools for the job. Wilke Machinery Company offers a full line of woodworking machines and power tools that are designed for any job. Bridgewoodworkers also know that one of the most important purchase decisions is from whom you buy. The Wilke sales staff pays special attention to customer support while offering competitive prices. The Service Department ensures your continued satisfaction with in-stock parts and technical know-how.

Call today for our **FREE** catalog showing the entire Bridgewoodworkers line.

BRIDGEWOOD
PROFESSIONAL
The woodworker's edge

WILKE machinery company

3230 Susquehanna Trail, York, PA 17402

1-800-235-2100

internet: www.wilkemach.com

email: info@wilkemach.com

Ask about easy
Bridgewoodworker
LEASE PLANS

BRIDGEWOOD ■ PLANERS ■ JOINTERS ■ LATHES ■ MOULDERS ■ BANDSAWS ■ DUST COLLECTORS ■ BORING MACHINES ■ DRILL PRESSES ■ PIN ROUTERS ■ MORTISERS ■ WIDE BELT SANDERS ■ SPINDLE SHAPERS ■ RIP SAWS ■ TABLE SAWS ■ SCROLL SAWS ■ BELT DISC SANDERS ■ PANEL SAWS ■ TENONERS ■ GRINDING PRODUCTS ■ SAW BLADES ■ CUTTING BLADES ■ SAFETY EQUIPMENT ■ ACCESSORIES ■ BRIDGEWOOD

offcuts

Bits and pieces of woodworking news

Philly Cheers World Record Bowl



Thumbs up. Mortimer signals triumph after removing the tenon stub from the world's largest bowl (above). Four people caught the bowl as it came off the lathe. It was lighter than expected—about 250 to 300 lbs. (right).

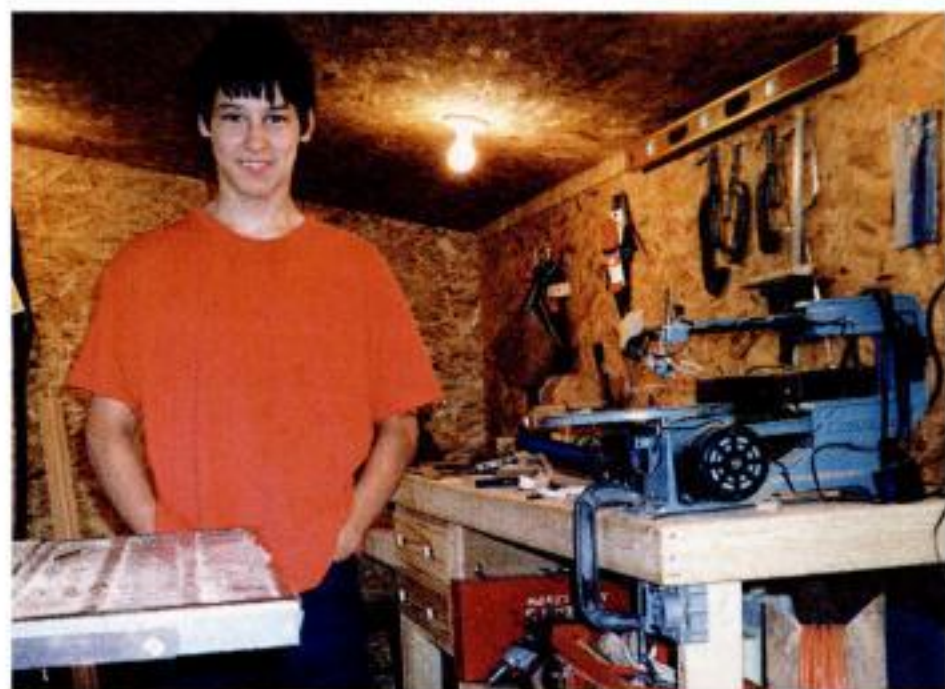
Excitement was high at last November's AMERICAN WOODWORKER Show™ in Fort Washington, PA (near Philadelphia), as our gigantic Sitka spruce bowl neared completion. The 7-ft., 9¾-in.-dia. vessel is the largest bowl ever turned on a lathe.

Hundreds of woodworking enthusiasts cheered as the bowl finally came off the lathe and rested on the floor on the last day of the show. Shortly afterward, AMERICAN WOODWORKER applied to *The Guinness Book of World Records* to secure official recognition for the world's largest turned bowl. Guinness is currently in the process of verifying the record.

Renowned British turner Stuart Mortimer turned the bowl on a Multico/Tyme Highlander lathe at speeds of less than 25 rpm.



IT'S AMAZING WHAT A KID CAN DO



A place of his own. Adam Decker, 13, converted an old chicken coop into a workshop.

Before his 14th birthday, Adam Decker had built several impressive furniture projects and remodeled his workshop, making room for new tools purchased with money he had earned. (See photo, left.)

Adam's parents, Lee and Beth Ann Decker of northern Ohio, nourished Adam's interest in woodworking and fostered his sense of responsibility, confidence, and concern for safety. Here's some of their best advice for encouraging a young woodworker:

- **Don't underestimate kids' abilities** or limit their expectations. They often develop talents and skills beyond what you might expect.
- **Let them make mistakes.** "Lessons learned by trial and error are the strongest ones, and unsolicited advice isn't always appreciated. They'll ask for guidance when they need it. Telling them that they're doing something the wrong way can sometimes be discouraging."
- **Safety first.** Kids should use power tools only when a parent is nearby.

10 tools
1 machine

Own the ultimate home shop

**SUPER
SHOP**

Call today for your **FREE** SuperShop info pak and special limited-time offer. Now is a great time to get a deal on a SuperShop!

SuperShop® or Shopsmith®—You can SEE the difference



SuperShop Model 720®
\$2595*

Shopsmith Mark V®
\$2795*

*Current prices at time of publication.

"My SuperShop isn't the Cadillac®, it's the Mercedes® of combination woodworking tools. My old 5-in-1 is going to be very lonely over in the corner." —Edward Zych (TN)

or writer: SuperShop • Dept. AW, PO Box 1517 Ann Arbor, MI 48106-1517

Call now—
(800) 277-1125

Ask for operator AW

CIRCLE NO. 76 ON PRODUCT INFORMATION FORM

NEW

Woodworker's "HOT TANK"

Stainless Steel



SAFELY HEATS:
Varnish, Shellac,
Lacquer, Sealers,
Stain, Wax, Glue,
Contact Cement,
Etc...

CAN CUT DRYING TIME IN HALF
Perfect application in any weather
Eliminate Blushing & Moisture Problems
Increases flow without thinning

Only

\$24.95

Plus \$5.00 S/H

• VISA • Mastercard

Satinwood

P.O. Box 502

Amador City, CA 95601

(800) 365-7305

CIRCLE NO. 71 ON PRODUCT INFORMATION FORM

CONSTANTINE WOODWORKER'S CATALOG

Over 5000 products to
**BUILD, REPAIR,
RESTORE, REFINISH**
anything made of wood!

Our NEW 1998 Catalog is jam-packed with fine woods, veneers, tools, finishing supplies and more – shipped fast and fully guaranteed, at discounts of 5% to 15% on orders of \$50 or more!

CONSTANTINE

Serving Woodworkers for 186 years

Dept. 40803, 2050 Eastchester Rd., Bronx NY 10461

CALL TOLL FREE 1-800-223-8087

CIRCLE NO. 5 ON PRODUCT INFORMATION FORM

NEW! Ingra RULES

A NEW Concept in Precision Steel Rules

Precision T-Rules



PRECISE, versatile, and easy to use are the words which best describe the NEW INCRA T-Rule. Think of it as a combination square for marking or measuring that's *simultaneously* set to every scale position with perfect, instant accuracy. Why? ... Because like all INCRA RULES, we've put micro-fine marking holes and slots at every scale line to *instantly* locate your sharp pencil or scribe *exactly* on target with zero uncertainty and no eye strain!

When accuracy counts ... **INCRA RULES!**

Available in 6", 12" and 18" lengths. Patents pending

To learn more about this extraordinary line of precision Marking Rules, Bend Rules and T-Rules, call, write, or fax:

Taylor Design Group, Inc.

P.O. Box 810262, Dallas, TX 75381

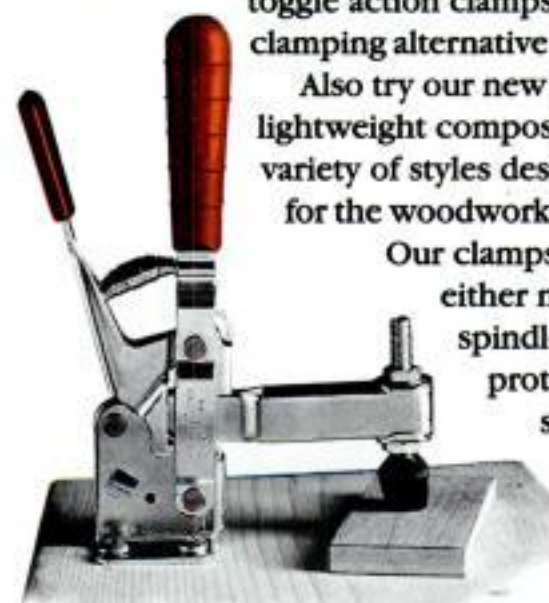
Tel: (972) 484-5570 Fax: (972) 243-4277

Stainless Steel

CIRCLE NO. 79 ON PRODUCT INFORMATION FORM

HOLD FAST

Regardless of your clamping needs, De-Sta-Co has the right product for you. Choose from our broad range of toggle action clamps, the hold-fast clamping alternative.



Also try our new durable, lightweight composite clamps, in a variety of styles designed specifically for the woodworker.

Our clamps are available with either neoprene-tipped spindles or soft pads to protect your fine wood surfaces.



Call for your
FREE catalog.

DE-STA-CO Industries

P.O. Box 2800, Troy, MI 48007

(248) 594-5600 (800) 245-2759

FAX: (800) 682-9686

<http://www.destaco.com>

e-mail: cust.serv@destaco.com

CIRCLE NO. 19 ON PRODUCT INFORMATION FORM

Perfect shop starter mix

**6" x 52" and 8" x 72"
Extended Bed Jointers**

4-Blade Cutterhead (8")

- 2HP motor (6" has 1HP motor)
- Extra long, cast iron tables feature a precision machined finish to ensure accuracy

Our 6" & 8" jointers earned high ratings for performance and value in *WOOD* Magazine, December, 1995



Geotech



CT-38B

15" Two Speed Planer

Add HTC mobile base for only 98⁰⁰

- 3HP motor with magnetic controls
- 3 Blade, spring loaded cutterhead

CT-204L

1-800-929-4321

ALL MACHINES
BACKED BY A FULL
1 YEAR WARRANTY

SUNHILL
MACHINERY

**Celebrating
19
YEARS**

The Best Machinery Value in America.™

Sunhill Machinery, 500 Andover Park East, Seattle, WA 98188

toll-free: 1-800-929-4321 • fax: 206-575-3617 • e-mail: sunhill@sunhillinc.com

CIRCLE NO. 9 ON PRODUCT INFORMATION FORM

offcuts

FACTOID

How much veneer in a year?

The U.S. and Canada produce an estimated 3.5 billion sq. ft. of sliced hardwood veneer* each year, enough to cover both countries 17 times.



*Sliced veneer is used on fine furniture, cabinetry, and plywood facing.

Source: Hardwood Plywood and Veneer Association, Reston, VA

A NEW SPIN ON PAINT STIRRING

I have a paint mixer that (according to the instructions) fits into my power drill. But I had an even better idea: I chucked the mixer into my drill press so I wouldn't have to hold the drill.

While mixing a gallon of latex paint, I thought I should lower the mixer a bit to let it stir up the paint on the bottom of the can. That was my big mistake. The can spun around violently, and almost the whole gallon of paint flew all over me, my shop, and just about every tool in it. Next time I'll follow the instructions.

—John Piatt
Perrysburg, OH

WIN \$50 Funniest Shop Stories

Send us your funniest-ever woodworking blunder, and tell us what you learned from it. (Surely you learned something!) If we decide to print it, we'll pay you \$50. Send your story (maximum 200 words) to:

Shop Stories
"Offcuts"
AMERICAN WOODWORKER
33 E. Minor St.
Emmaus, PA 18098

CHALLENGE YOUR DESIGN SENSE!

The second annual Furniture Society Conference, which will be held June 25-27 in San Francisco, will join design philosophies from the worlds of high art, studio furniture, traditional crafts, and academia. The theme of this year's conference is

"East Meets West," referring to design influences from the Far East—chiefly Japan and Australia.

For details on the 1998 conference, write or call The Furniture Society, Box 18, Free Union, VA 22940, (804) 973-1488.



New ideas. Samples of experimental wood finishes are displayed during last year's Furniture Society Conference.

Buying a Tool?

Check AMERICAN WOODWORKER ONLINE tool reviews first



Must-know information. AW's tool reviews are the best in the business. Don't buy your next power tool until you've checked our reviews.

Before you invest in your next power tool, check out AW's online library of tool reviews on the America Online (AOL) computer service. You'll find all the charts, ratings, and AMERICAN WOODWORKER editors' recommendations for dozens of categories of woodworking machines, power tools, and accessories we've tested in AMERICAN WOODWORKER magazine.

AOL membership is only \$19.95 a month. Phone (888) 265-8001 for a 30-day free trial. Once you've logged on to AOL, type the keyword "wood" to enter AMERICAN WOODWORKER ONLINE.

Visit Our New Web Site!

If you've been waiting for AW ONLINE to appear on the World Wide Web, your wait is over! In February 1998, we're launching our new Web site at:

<http://www.americanwoodworker.com>

Check in often so you won't miss the great new features we'll be adding throughout the year.

The right tools The right time



XACTA SAW™ RIGHT
Model No. JTAS-10X
OR
XACTA SAW™ LEFT
Model No. JTAS-10XL

\$1,399*

The right choice!

If you were thinking of choosing a Delta Unisaw® or a Powermatic 66, think again. The XACTA SAW™, comparably equipped, sells for up to \$435 less than the competition.

"The first thing we noticed was that the fit and finish were exceptional"

-Fine Woodworking Magazine

"Good performance and value, Delta and Powermatic, look out"

-American Woodworker Magazine

*Shown with optional extension table and legs

CIRCLE NO. 43 ON PRODUCT INFORMATION FORM

For a free 29 minute video (#900040) or for the name of your local JET dealer, call 1-800-274-6848 or visit our website at <http://www.jet.com>



JET is the first to offer you the choice of two different 10" saws with features that are better than the competition. One XACTA SAW™ tilts to the right and the other tilts to the left.

Both saws have the features you want for power and performance: 3 or 5 horsepower; 3V-belt drive; built-in dust port; hinged motor cover; the largest cast iron work surface; and a convenient up-front switch...all standard. Plus, JET includes the highly acclaimed 50" commercial XACTA FENCE™. The whole package is backed by a 2-year warranty. Make the right choice, choose JET.

J E T
EQUIPMENT & TOOLS

Materiale protetto da copyright

Wide Belt Performance ...At about 1/3 The Cost!



- 5-Year Warranty
- 30-Day Free Trial!
- Made in U.S.A.

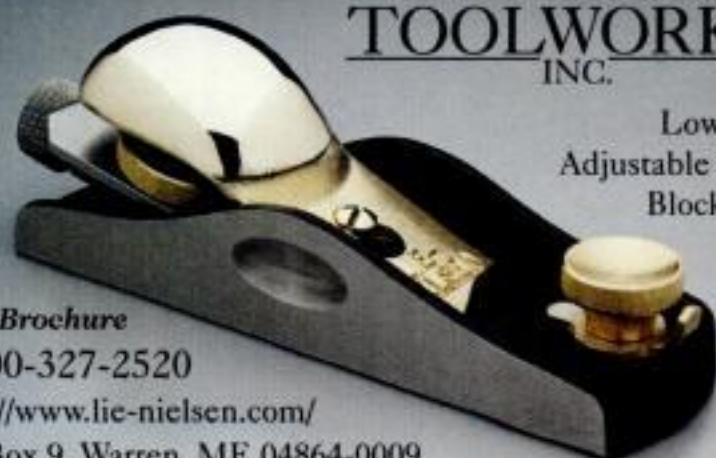
FREE FACT KIT!

Cabinet shop owners across the U.S. call Woodmaster's 26" and 38" drum sanders "the best kept secret in woodworking." These commercial-duty sanders fill the niche between slow hand methods and expensive wide belt sanders. And there's no sacrifice in quality. But don't take our word for it... call today for free information and the names of Woodmaster owners nearest you. This way, you can find out first-hand how a Woodmaster sander might be just the machine you've been looking for.

1-800-821-6651 ext. DB16

Woodmaster Tools, Inc. 1431 N. Topping Ave. Dept. DB16
Kansas City, Missouri 64120

Lie-Nielsen
TOOLWORKS
INC.



Low Angle
Adjustable Mouth
Block Plane
\$145⁰⁰

Free Brochure

1-800-327-2520

<http://www.lie-nielsen.com/>

PO Box 9, Warren, ME 04864-0009

Makers of Heirloom Quality Tools™

CIRCLE NO. 10 ON PRODUCT INFORMATION FORM

QUARTZ MOVEMENT

"Six-Pack"
\$18.95

INCLUDES:

- 6 QUARTZ CLOCK MOVEMENTS
- 6 PAIRS OF 2" BRASS HANDS
- 6 PAIRS OF 2 1/4" BRASS HANDS
- 6 BRASS SECOND HANDS
- 6 SETS HANGERS and HARDWARE

Shipping & Handling
Included in
Continental USA

Please choose one
shaft length per "Six-Pack"

- ☐ 5/16"
- ☐ 7/16"
- ☐ 11/16"
- ☐ 15/16"



PRECISION MOVEMENTS

4251 Chestnut Street

Dept. R2/98

Emmaus, PA 18049

FREE CATALOG 1-800-533-2024

CIRCLE NO. 67 ON PRODUCT INFORMATION FORM

Econ-Abrasives

WE MAKE ABRASIVE BELTS ANY SIZE, ANY GRIT!

ABRASIVE SHEETS:

(9 X 11)

CABINET PAPER

	50/pk	100/pk
40D	\$18.90	\$35.60C
50D	17.80	32.25
60D	16.70	30.00
80D	15.60	27.80
100 thru 150C	14.50	25.60

FINISHING PAPER

80A	\$11.15	\$18.90C
100 thru 280A	10.00	16.70

WET/DRY PAPER

220 thru 600	\$15.56	\$26.67C
--------------	---------	----------

NO LOAD PAPER

180 thru 400A	\$12.25	\$21.25C
---------------	---------	----------

C = 100 SHEETS

ABRASIVE BELTS

PLEASE SPECIFY GRITS

1X30	\$.81 ea.
1X42	.81
1X44	.81
2 1/2X16	.85
3X18	.86
3X21	.90
3X23 3/4	.93
3X24	.93
3X27	.96
4X21 3/4	1.06
4X24	1.10
4X36	1.35
6X48	3.50
2 1/4X80	3.25

Other sizes priced
upon request

JUMBO ROUTER PAD(24" x 36")

It will not allow small blocks of wood
to slip out under router or sanding
applications. **ROUTER PAD**
ONLY \$8.95ea.

* OTHER PRODUCTS *

- *WIDE BELTS*ROLLS*FLAP WHEELS*PUMP SLEEVES
- *PSA DISCS*ROUTER BITS*WOOD GLUE*WOOD BITS

VELCRO® VACUUM DISCS

8 Hole pattern
For Bosch Sanders

<u>Grit</u>	<u>Price</u>	<u>Dia.</u>	<u>Grit</u>	<u>Price</u>
5" 60	\$.48 ea.	6"	60	\$.65 ea.
5" 80	.46	6"	80	.63
5" 100*	.45	6"	100*	.62

Note: * = thru 320 grit * Now in 5 hole pattern *

Nuisance Dust Mask

This double absor-
berent filter material
screens out dust,
and lets air
pass freely!



ONLY
\$10.50/box of 50

STEEL BAR CLAMPS

Size	Price
2-1/2 x 6	\$6.50 ea.
2-1/2 x 12	7.00
2-1/2 x 24	7.75
2-1/2 x 36	9.50

SPRING CLAMPS

Clamps come with PVC tips
and grips.

Size	Price
4"	\$1.75 ea
6"	2.25
8"	3.50

Lint-Free Wiping Cloths

Handy for all your
cleaning or finishing
jobs around the shop
or home.



3LBS. FOR
\$4.50

TACK CLOTHS



1-10 - \$.95 ea.
Box of 10 - \$7.60

- *MINIMUM ORDER \$25.00
- *MasterCard, VISA, Check or C.O.D
- *SATISFACTION GUARANTEED!!!
- *CALL FOR FREE CATALOG
- TX & NV Add Sales Tax
- Continental U. S. Shipping
Charges add \$5.50

ORDERING LINE

(800)367-4101



Econ-Abrasives

P. O. Box 1628

Frisco, TX 75034

(972) 377-9779

CIRCLE NO. 2 ON PRODUCT INFORMATION FORM

FREE TOOL CATALOG!



**Your Best Work
Starts With Us!**

With over 6,000 of the
finest woodworking tools in
the world, Woodcraft can
help you work more efficiently
and skillfully than ever.
Call for your Free copy today.

1-800-542-9115
WOODCRAFT™

Helping You Make Wood Work™
www.woodcraft.com

210 Wood County Industrial Park Dept. 98WA04S
PO Box 1686, Parkersburg, WV 26102-1686

CIRCLE NO. 86 ON PRODUCT INFORMATION FORM

Tools No Toolbox Should Be Without!

Serving You
For 50 Years!

POWERMATIC INTL

1660760 66 Saw 3 HP
w/50" Accu-fence
\$1999

1660802 66saw 3hp,30" fnc1899
1791223 64 Artisan w/Accu-fnc749
1791208 osc. spindle sander 299
1791209 New 15" planer1329
17910516" jointer with stand 549
1791215 14" 1hp bandsaw 649
1791070 1200 cfm dust col. 399
1791071 1900 cfm dust col. 679
1610050 8" long bed jointer1799
1270100 3hp wood shaper2149

PORTER+CABLE

The Woodworker's Choice

9444 P
Profile
Sander Kit
\$99

9444VS vs profile kit 119
333 5" Quicksand dstls sander65
332 5" Quicksand PSA sander 59
334 5" dustless PSA sander 65
97355 5" vs sander w/case 145
97366 6" vs sander w/case 149
DA250A
1"-2-1/2" Finish
Nailer Kit
\$229

FN250A16g 2-1/2"finsh nail kt 189
BN200 18g 2" finish nail kit 149
BN12518g 1-1/4"finsh nail kt 99
NS10018g 1/4"crowns stplr kt 99
NS150 18ga 1-1/2"finsh stplr169
FC350 2 - 3-1/2" clip hd nailer289
FR350 2 - 3-1/2" full hd nailer289
RN175 coil roof nailer 299
CF2400 2 hp oil free comp 329
352VS
3x21 VS
Belt Sander
\$175

7810 tool triggered vacuum 269
557 New plate joiner 214
556 plate jointer w/cs & fnc 139
360 3x24 sander with bag 214
362 4x24 sander with bag 229
360VS 3x24 vs belt sander 229
362VS 4x24 vs belt sander 239
9862 12v 3/8" dr kit w/2 bat 174
9872 14.4v drill kit w/2 bat 194
743K 7-1/4"15 amp saw w/cs 129
843 LH 7-1/4" saw w/bk 144
693PK
1-1/2 HP Plunge
Router Kit
\$199

97310 laminate trimmer kit 189
7539 3-1/4hp 5 spd plng rtr 289
691 1-1/2 hp D handle router 169
697 router table w/router 234
75183-1/4 hp 5 speed router 289
7403 paint remover 179
9737
Quick Change
Tiger Saw Kit
\$164

7499 New cut-out tool 69
97549 top handle vs jigsaw 144
7800 drywall sander 339
693 1-1/2 hp plunge router 184
6931 plunge router base 84

PERFORMAX PRODUCTS, INC.

16-32 PlusK
16" - 32" Bench
Drum Sander
\$899

Includes Infeed
& Outfeed
Tables

Wap

60113
Turbo
Vacuum
\$489

OCCIDENTAL LEATHER

5080
Pro Framer
Tool Belt
\$139

8080 oxy light pro framer 129

Panasonic

EY6100FQKW
12 V 3/8" Drill
Kit w/2
Batteries
\$184

EY6230 15.6v 1/2" drill kit 219

SENCO

SFN40K
1-1/2 - 2-1/2
Finish Nailer
\$349

SN325+ 6d - 12d nailer 369
SFN-1 Plus 1"-2" finish nailer 319
SN60 full hd stick nailer 419
SLP-20 5/8"-1-5/8" brd nal kt 269
SLS20 finish staplr w/cs 259
SKS 1/4" crown finish stapler 279

HITACHI

C8FB2
8-1/2" Compound
Mitre Saw
\$449

C10FS 10"side compound 649*
P12RA 12" planer/6" jointer 999
C10FC 10" compnd mitre saw 199
C10RA 10" table saw w/stand 319
C7BD 7-1/4" circ. saw w/bk 119
DN10DYK vs 9.6v R.A. drill 179
M12V 3-1/4 hp vs pl. router 219
CB75F resaw bandsaw 2399
NR83A full head stick nailer 379
NR83AAclipped head stick nlr 329
NV45AB coil roofing nailer 379
NT65AA angled finish nailer 349
EC12 2hp air compressor 289
*Price after mail in rebate
Rebate expires 3-31-98

FUJI

HVLP
High Volume
Low Pressure
3-Stage Sprayer
\$599

Hours: M-F 7:00 - 7:00 CST
Saturday 8:00 - 4:00 CST

David White

LP6-20
20X Sight
Level Package
\$219

LP6-20XL New sight level pkg. 279
MPL-200A visible beam laser 899
LT8-300 26 x transit 499
LT8300P 26 x opt. transit 579

BIESEMEYER

DELTA

78-900
50" Commercial
w/12" Left
\$329

78-907 30" com fence 299
78-934 52" homeshop fence 279
78-931 40" homeshop fence 259
78-930 28" homeshop fence 249

freud

FT-2000E
3.25 HP
VS Router
\$179*

JS102 plate jner cs &adj fnc 124
TR215 8-1/2" slide saw 249
*Price after mail-in rebate
Rebates expire 3-31-98

JDS COMPANY

AT2000
Air Filtration
System
\$259

8-12 air filtration system 489
10-16 air filtration system 689
18-34accu miter gauge w/bar 149

4045

Construction
Master IV
Calculator
\$69

44045 bench top Const Master 79

MSXE-636-2

VS Triangular Oscillating
Sander w/Case
& Paper
\$174

9-55-13 Turbo II vacuum 249

STANLEY BOSTITCH

N60FN-2 Kit
1-1/4" - 2-1/2"
Finish Nailer
\$299

N80S-1 16d stick nailer 339
N80C-1 New coil nailer 339
RN45B-1 New roofing nailer 369
MillIFS floor stapler 539
S32SX 1/2-1-3/8 stapler kit 149



Makita

LS1011
10" Compound
Mitre Saw
\$419

Includes Carbide
Blade

LS1013 10" dual slide saw 549
6233DWAE 14.4v drill kit 184
5007NBK 7-1/4" saw w/case 129
2708W 8-1/4" tbl saw ct blade289
3612C 3hp plunge router 279
LS121112" compnd mitre saw 729
9820-2 blade sharpener 224
3901 New plate joiner 209

Milwaukee

6527-6
Variable Speed
Super Sawzall
\$174

5377-61/2"kyllss hmr drill kt 199
5371-6 1/2" hammer drill kt 194
5397-6 3/8" hammer drill kit 144
0234-61/2"vsr 0-850 magnm 129
0236-6 1/2" drill w/case 159
6496-6
10" Slide
Compound Saw
\$579

6497-6 10" comp saw w/acc 639
6368 7-1/4" saw w/ct bl, cs,fn139
0380-13/8" keyless angle drill 179
0375-13/8" close quarter drill 149
6767-15amp hd screwsht set 129
5460 7" vs 0-1750 polisher 159

BOSCH

1587AVSK VS
Top Handle
Jig Saw w/Case
\$154

1584VSKbarrel jigsaw w/case 164
1634VSK vs recip saw kit 179
3107DVSK 5" rdm sdr kt 114
3107DVS dstls rdm orb sdr kt94
3315K 12v T-handle w/2 bat 159
3615K 14.4v 3/8" vsr 2/bat 174
11224VSR
7/8" Bulldog SDS
Rotary Hammer
\$219

11304 Brute breaker hammr1249
1194VSRK1/2" hmr drill w/cs 159
1276DVS 4x24 vs belt sander 219
1275DVS 3x24vs sdr w/bg 209
1274DVS 3x21 vs sdr w/bag 159
1604 1-3/4 hp router 144
1613EVS
2 HP, VS,
Microfine
Plunge Router
\$189

3725DVS 5" H&L vs sander 139
3727DVS 6" H&L vs sander 144
B3915 10" slide compnd saw 549
1609KX laminate trimmer kit 229
B4050 in-line jigsaw 99
3296K 3-1/4" planer kit 179

FREE
FREIGHT!

SAME DAY
SHIPPING

EG2500XK1A

2500 Watt
Construction
Generator
\$799

EG5000XK1A 5000 w gen 1399
EG6500SX 6500 w generator2479
EX1000A 1000 wt generator 659
EM3500SXK1A 3500elec strt1629
EM5000SXK1A 5000elec strt1999
ES6500K1A 6500 elec strt 2679
For optimum safety & performance we recommend
you read the owner's manual before operating your
Honda Power Equipment. Connection of generators
to house power requires transfer device to avoid
possible injury to power company personnel.
Consult a qualified electrician.

DELTA

36-800
3 HP White
Unisaw w/50"
Biesemeyer
\$1599*

36-820 3hp unisw w/52"uni1499*
36-820L unisaw left tilt 3hp 1499*
36-821L unisaw left tilt 3hp1499*
36-830 3hp unisaw 30"unif 1399*
36-8213hp unisw w/50" Bies1499*
36-8313hp unisw w/30"Bies1399*
34-445Z
10" Cont.
Saw w/30"
Unifence
\$799*

36-460 10" cont saw 28"Bies729*
36-470 10" cont saw 40"Bies779*
36-480 10" cont saw 52"Bies799*
34-444 10" cont. saw 619
28-280Z
14" 1 HP
Bandsaw
\$799*

28-275 14"3/4hp cp st brds 549*
17-90016-1/2" floor drill prss 399
23-710 sharpening center 169
43-379 3 hp hd 2 spd shapr 1349
36-220 10" compnd mitre saw 209
22-675Y
15"
Planer
\$1149

37-350A 8" jointer w/stand 1599*
37-190 6" jointer w/stand 449
31-280 sanding centr w/stand749*
40-650 New18"vs scroll saw419*
22-560
12-1/2"
Portable
Planer
\$399

22-540 12" port planr&knives 309
31-780 osc spindle sandr 194
36-250 10" sliding comp. 499
36-235 12" compnd mitre saw 309
36-210 10" compd mtr saw 219
11-990 12" bench drill press 189
46-700 12" vs wood lathe 469
43-505 router/shaper 299
11-090radial drill press w/std 309
14-650 mortising machine 249
37-070 6" vs bench jointer 259
*Price after mail in rebate
Rebates expire 3-31-98

DEWALT

DW708
12" Sliding Dual
Compound
Miter Saw
\$679

DW733 12-1/2" port planer 449
DW788 20" vs scroll saw 489
DW744 10" port table saw 549
DW995KS-2
18 Volt Contractors
Combo Kit
\$389

DW995KC-2 18v drill/recip kit 379
DW938K 18v recip saw kit 269
DW936K 18 v crdls saw kit 249
DW935K 14.4 cdls saw kit 239
DW621 2hp vs plng router 219
DW625 3hp vs plunge router 279
DW673K laminate trimmer kit 189
DW321K
VS Jigsaw
With Case
\$164

DW705 12" compnd mitr saw 349
DW364K 7-1/4" saw w/case 159
DW677K 3-1/8"planer w/case 164
DW682K
Plate Jointer
Kit
\$199

DW421K 5"h&l rand sdr w/cs 74
DW423K5"vs rdm sander w/cs94
DW443 6" RA H&L rdm sdr 144
DW431 3"x21"vs belt sander 189
DW995K
18 Volt 1/2"
VSR Drill Kit
\$229

DW991K-22 14.4v3/8"dw/dr k 209
DW991KS-214.4v drill/saw kt 349

JET

JTAS-10X
10" Jet Saw
3 HP w/50"
XACTA Fence
& Motor Cover
\$1399

JPM-13 13" planr/moulder 799
JWTS-10JF 10" saw, Jet fnc 599
JWBS-14CS14"1hp wd bds 579
JJ-6CSX 6" long bed jointer 489
JWP-15HO 15" 3hp w plnr 1099
DC-650 1 hp 650 cpm clectr 209
DC-1200 2hp1200cfm clectr 369

Emglo

AM78-HC4V
1-1/2 HP Vertical
Twin Tank
\$309

M79-HC4V 1-1/2 hp v ank 339

TORMEK

2004-T
Wet Grinding
Machine
\$389

To Order or for Technical Support Call TOLL-FREE

1-800-358-3096

Box 14040 • Grand Forks, ND • 58208-4040

FedEx
FAX US YOUR ORDER!
1-800-343-4205

*Any comparable National ad in this issue.
We reserve the right to verify competitors
price and stock. Limited to stock on hand.



TOOL CRIEB
OF THE NORTH



AWW
Mar/April 98 Visit Our Web Site at <http://www.toolcribthenorth.com>

•• FULL LINE DISTRIBUTOR •• FREE FREIGHT IN 48 CONTIGUOUS USA •• FACTORY AUTHORIZED SERVICE •• ERRORS AND PRICES SUBJECT TO CHANGE ••

CIRCLE NO. 80 ON PRODUCT INFORMATION FORM

Materiale protetto da copyright

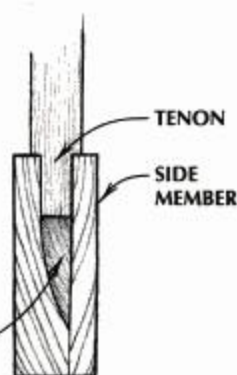
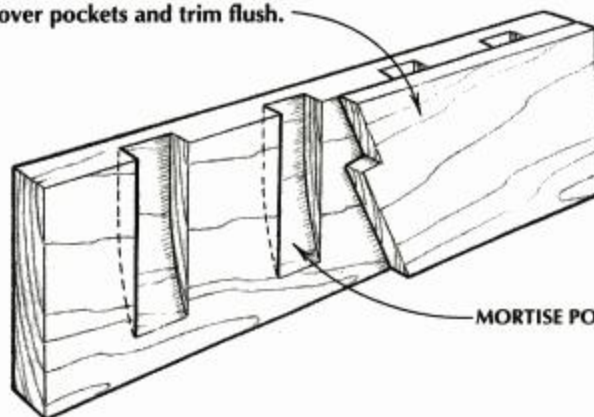
Easy Mortises

Best tip of the issue

I recently needed to cut over 100 equally spaced mortises. To save time, I set up a stop on my tablesaw and cut identical mortise pockets with a dado blade. I then closed the mortises by gluing a side member over the dados. After trimming, the glue line was imperceptible.

Bill White
Williston, VT

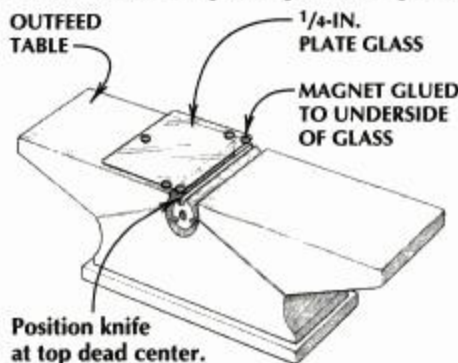
Glue oversize side member over pockets and trim flush.



Best tip wins \$200. Know a better way of doing something? Designed a clever jig? Send your original woodworking tips, along with a sketch or a snapshot to: "Tech Tips," AMERICAN WOODWORKER, 33 E. Minor St., Emmaus, PA 18098. We'll pay \$50 for each tip we publish and \$200 for the best tip of the issue.

Setting Jointer Knives

If your jointer knives are not spring loaded, this is a handy jig for setting them. Take a square piece of plate



glass (not the thin window variety) and glue $\frac{3}{8}$ -in.-dia. rare-earth magnets as shown, (available from Lee Valley, 800-871-8158). This is best done by laying the glass directly on a steel or iron surface, putting a drop of cyanoacrylate glue on the glass, then positioning the magnet. Magnetic force holds everything in place while the glue sets. Set the jig on the outfeed table, position the knife at top dead center so it contacts the leading magnets, and tighten the retaining screws.

Lorne Davidoff
Stouffville, Ontario

Shop-Made Guide Blocks

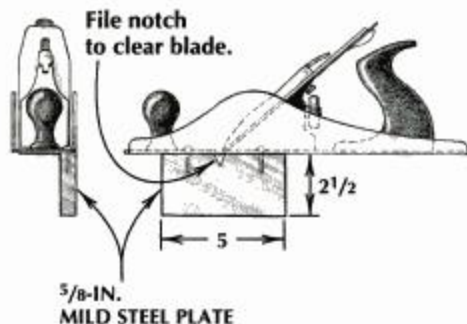
I replaced the metal guide blocks in my bandsaw with guide blocks made from hard maple. The wood blocks give

excellent support to the blade without damaging the teeth. Also, when using narrow blades ($\frac{1}{8}$ in. or less) I can bury the blade within the blocks for better control. When the blocks become worn, they are easily replaced or trued up on a disc sander.

Lonnie Bird
Gallipolis, OH

Squaring the Edge

By adding a steel guide plate to my iron plane, I can plane the edge of a board exactly square. Choose a plane 14 in. or longer and remove both handles along with the central casting, or "frog." Centerpunch and drill two holes in the plane body using a drill press, then drill



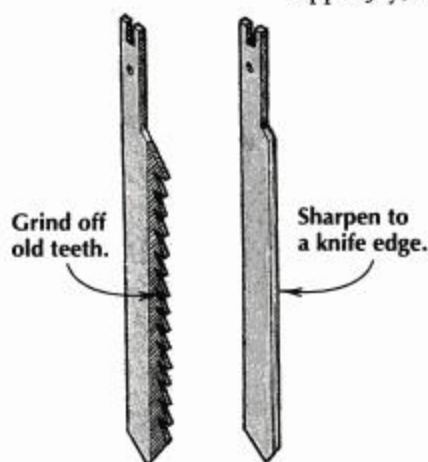
and tap the plate for #10-32 machine screws. File a V-notch in the plate to clear the blade. Make a trial cut and adjust the skew of the blade until the edge of the board is exactly 90° to the face.

Ray Hannula
Delafield, WI

Born-Again Blades, Again...

When saber saw blades become too dull for wood, they can be adapted to cut paper, foam-core board, cardboard, cloth, etc. Just grind off the teeth and then sharpen the blade as you would a knife.

Howard Moody
Upper Jay, NY



Flossing the Teeth

After soaking my gummed-up circular saw blades in solvent for a couple of hours, I "floss" the teeth. I do this by clamping the blade between two pieces of scrap and then running a piece of rope—braided cotton clothesline works well—back and forth in every gullet and across every tooth. This removes the softened pitch much more effectively than a brush would.

David Leard
Mobile, AL

WOOD PARTS FROM MIDWEST DOWEL WORKS

Compare Our Low Prices!



	Qty.	Cost
3-1/2" Poplar Shaker Peg	\$18/100	—
1-3/4" Mini Shaker Peg	\$7/100	—
3-1/2" Country Wall / Mug Peg	\$18/100	—
2-1/2" Country Shorty Peg	\$14/100	—
Large Bean Pot Candle Cup	\$17/100	—
Brass Inserts	\$11/100	—
1-1/2" Mini Candle Cup	\$10/100	—
1-1/2" Toy Wheel	\$11/100	—
2" Toy Wheel	\$19/100	—
Axel Pegs	\$5/100	—

SMOOTH SANDED HEARTS

3/4" x 1/8" Hearts	\$3/100	—
3/4" x 1/2" Hearts	\$5/100	—
1" x 3/16" Hearts	\$5/100	—
1" x 3/8" Hearts	\$7/100	—
1-3/8" x 1/8" Hearts	\$6/100	—
1-3/8" x 1/4" Hearts	\$8/100	—
1-3/8" x 1/2" Hearts	\$11/100	—
2" x 1/2" Hearts	\$19/100	—

Great Buys!



	Qty.	Cost
3/8" x 36" Standard Dowels	\$34/100	—
3/4" x 36" Oak Dowels	\$19.80/10	—
3/8" Maple Buttons	\$2.25/100	—
1/2" Maple Buttons	\$2.35/100	—
1-1/2" Maple Spindles	\$10/100	—
2-1/8" Maple Spindles	\$20/100	—

ORDER NOW

☐ MC/Visa ☐ Check Enclosed

Total Cost

Handling \$3.00

Ohio residents add 5% sales tax

Final Cost

MC/Visa Number

Expires

Phone

Name

Address

City/State/Zip

FREE! 16-PAGE CATALOGUE

MIDWEST DOWEL WORKS

4631 Hutchinson Rd., Cincinnati, OH 45248

513-574-8488

Same Day Service/
Order Before Noon

Factory Direct/
Satisfaction Guaranteed

CIRCLE NO. 54 ON PRODUCT INFORMATION FORM

Simply the Best...

Performax® owners agree – no other competitor model can compare.

Only Performax offers eleven different models. Only Performax offers patented features and exclusive technology. And only Performax offers the opportunity to see a Performax demonstrated at 200+ dealers nationwide.

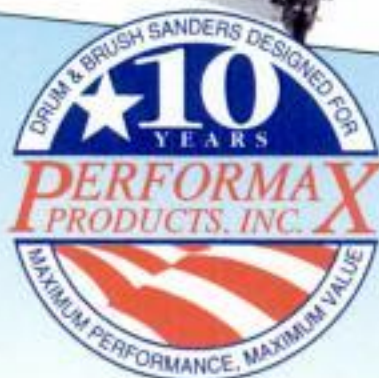


We are the sanding specialists. Whether your sanding needs are a few hours on the weekend or all day, everyday, Performax has the model to fit your budget and your needs.

Call us today, let's talk abrasive planing, dimensioning and fine finish sanding in your shop.

1-800-334-4910

12257 Nicollet Ave. So. Burnsville, MN 55337 (612) 895-9922



CIRCLE NO. 61 ON PRODUCT INFORMATION FORM

AWW/N 98 3



TOLL FREE

STAR TOOLS, LLC.

1-888-678-8777

MON - FRI, 7:00 AM - 5:00 PM (Pacific Time)

E-mail address: Startools@aol.com

WE HAVE A COMPLETE INVENTORY OF REPLACEMENT PARTS IN STOCK!
CALL FOR NEW STAR TOOLS CATALOG AND WEEKLY SPECIALS

2 YEAR WARRANTY NOW INCLUDED

ON MOST MACHINES

8" JOINTER

- 2 H.P. 220 V
- JACKSCREW CUTTERHEAD
- DUST PORT

S3107N

\$785.00

SHOWN WITH OPTIONAL MOBILE BASE

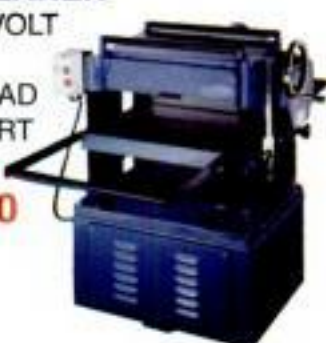


20" 5 H.P. PLANER

- 5 H.P. /220 VOLT
- 4 KNIFE CUTTERHEAD
- 5" DUSTPORT

S3725

\$1,400.00



WE NOW CARRY A PREMIUM GRADE OF OLD GROWTH RECLAIMED LUMBER. WE OFFER ANTIQUE PINE, CYPRESS, POPLAR, ANTIQUE GUM AND WIDE BOARD FLOORING. ALL SPECIES ARE 6% MOISTURE OR LESS; AVAILABLE IN ROUGH, S2S & S4S; STARTING AT \$4.00 BF. OTHER SPECIES AVAILABLE.

PRICES & SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

10" 3 H.P. HEAVY DUTY CABINET SAW

- 3 H.P. 220 VOLT 15 AMP
- MOTOR COVER
- 4" DUST PORT
- MICRO ADJUSTER
- FREUD BLADE

S3202

\$1,075.00

12" 5 H.P. & 10" 5 H.P. ALSO AVAILABLE



SHOWN WITH OPTIONAL MOBILE BASE

25" DUAL DRUM SANDER

- 5 H.P.220/30 AMPS
- 2 SPEEDS REVERSIBLE
- CAST IRON PLATEN

S3409

\$1,345.00

18" MODEL AVAILABLE

\$995.00



OSCILLATING SPINDLE SANDER

- 1 H.P. 110/220 VOLT
- 1725 RPM
- 24" X 24" TABLE TILTS 45°

S3407

\$485.00



2 H.P. DUST COLLECTOR

- 2 H.P. 220 V
- FREE 10 FT. CLEAR HOSE
- 1182 CFM

S3820

\$270.00



WEST COAST

MAIN OFFICE SHOW ROOM

9825 PIONEER BLVD.

SANTA FE SPRINGS, CA. 90670

TEL: 562-654-3065

FAX: 562-654-3066

OPEN:

MON - FRI 8:00 a.m. - 5:00 p.m.

ALL MACHINERY SHIPPED F.O.B. SANTA FE SPRINGS CA. OR CLARKSBURG WV.



EAST COAST

SHIPPING WAREHOUSE

SHOWROOM

12 ARMORY ROAD,

CLARKSBURG, WV. 26301

TEL: 304-624-6685

(TECH SUPPORT ONLY)

FAX: 304-624-8928

WEST VIRGINIA STORE OPEN:

MON - FRI 8:00 a.m. - 5:00 p.m. and 1st & 3rd SATURDAY, 9:00 a.m. - 1:00 p.m.

20" BANDSAW

- 3 H.P. 220 VOLT
- 4" DUST PORT
- 12" RESAW CAPACITY

S3506

\$1,295.00

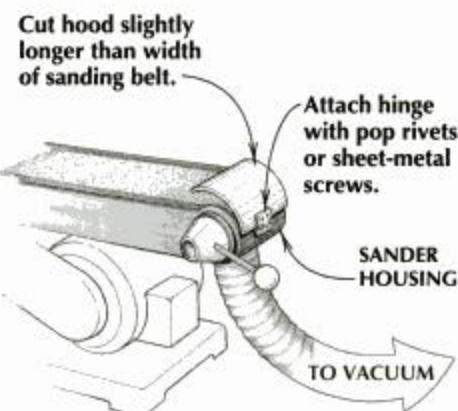


CIRCLE NO. 77 ON PRODUCT INFORMATION FORM

Materiale protetto da copyright

Belt-Sander Dust Hood

This attachment greatly improves dust collection from a stationary belt sander when connected to a vacuum. First,

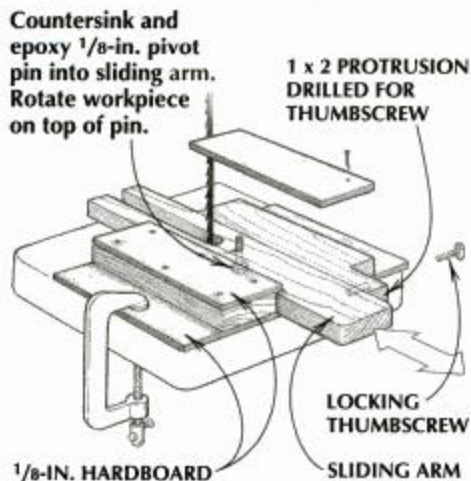


make a curved hood by cutting a piece of 4-in.-dia. PVC pipe into thirds lengthwise with a hacksaw. Attach the hood to the guard on the machine with a hinge so you can flip it down out of the way when sanding long pieces.

Herbert Akers
Rockville, MD

Circle-Cutting Jig

I made this jig so I could cut accurate circles on my benchtop bandsaw. The jig can readily be adapted to suit a



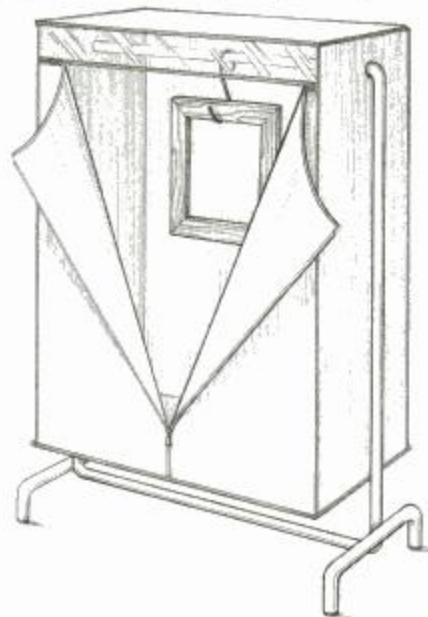
machine of any size. If you don't want a hole through the center of the work, grind a point on the pivot pin and let the workpiece rotate on that.

Merton Slutz
Chattanooga, TN

Closet Finishing

I needed some way to apply finish to components in my shop and still keep working—and making dust. My solu-

tion was a pre-fab clothes closet that could be assembled and disassembled in less than five minutes and stored in a corner of the shop. The units come with a zippered door and rods from which you can hang small items while the finish is drying. For larger pieces, I strengthened the fabric floor with a square of pegboard. Anything really heavy could

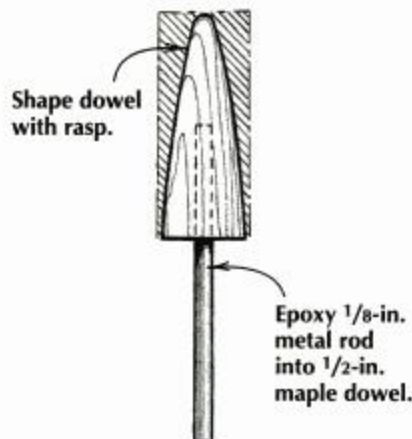


be supported on blocks underneath. Units 34 in. by 22 in. by 63 in. are available from Wal-Mart, Home Depot, etc., and cost around \$25.

Chuck Steger
Warrenton, VA

Carvers' Burnishing Tools

I burnish my finished carving in order to polish and darken the wood. For small carvings, I chuck a short length of 1/8-in. maple dowel in my flexible-shaft tool and run it at high speed—30,000 to 40,000 rpm. For larger carvings, I use a piece of 1/2-in. maple dowel, epoxying a



steel shaft into the dowel. I then shape the dowel with a rasp, as shown, and run it somewhat slower—15,000 to 20,000 rpm. Stroke the surface of the carving with the burnishing tool and keep it moving constantly to avoid burning the wood.

Chuck Malven
Bremerton, WA

Filing Flat Surfaces

The copper nail heads on a lapstrake boat are often uneven and need to be dressed down flush with the plank.

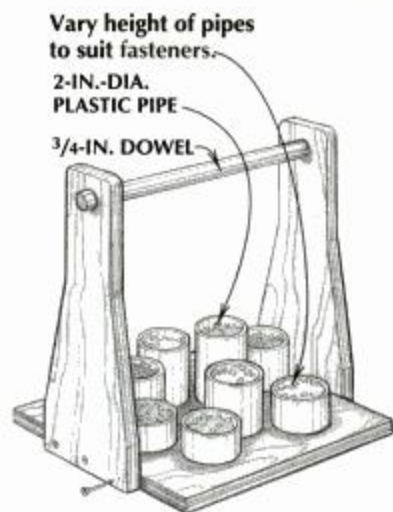


But holding a file flat on the work is awkward. My solution was to bend the tang of the file in a metal vise and then make a wooden handle to fit it.

Robert Darr
Sausalito, CA

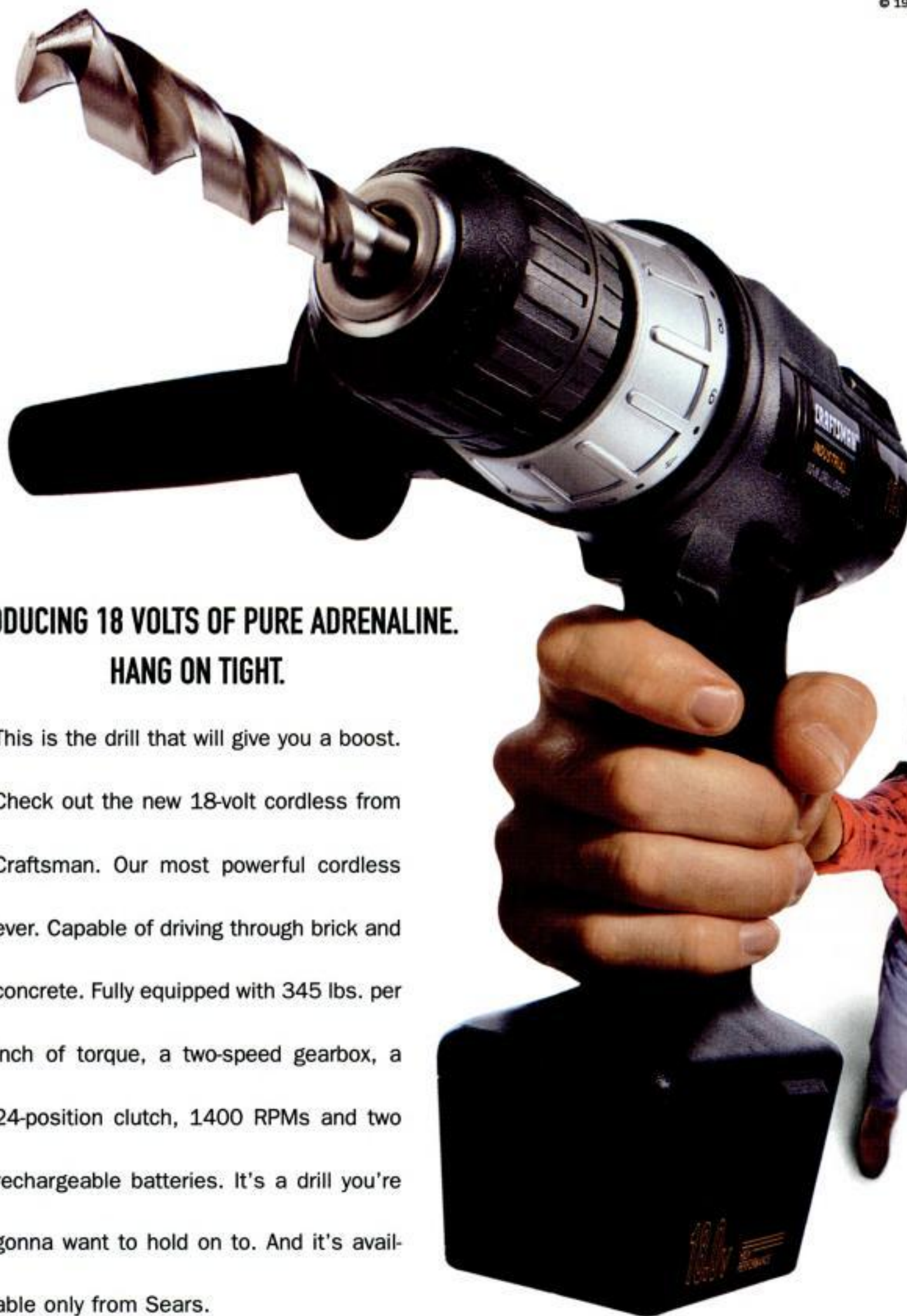
Fastener Caddy

This is a handy way to keep a supply of similar fasteners—nails, screws, rivets, etc.—in one place but still keep them portable. I made the tray of 1/2-in. plywood and the containers of 2-in.-dia.



thin plastic pipe. Each piece of pipe is cemented both to its neighbors and to the plywood base. If you don't care for plastic, substitute sections of a cardboard mailing tube.

Bill Wong
Markham, Ontario



INTRODUCING 18 VOLTS OF PURE ADRENALINE. HANG ON TIGHT.

This is the drill that will give you a boost. Check out the new 18-volt cordless from Craftsman. Our most powerful cordless ever. Capable of driving through brick and concrete. Fully equipped with 345 lbs. per inch of torque, a two-speed gearbox, a 24-position clutch, 1400 RPMs and two rechargeable batteries. It's a drill you're gonna want to hold on to. And it's available only from Sears.

CRAFTSMAN

MAKES ANYTHING POSSIBLE

www.sears.com/craftsman

CIRCLE NO. 72 ON PRODUCT INFORMATION FORM

Robert Whitley's WORKBENCH

*Raised panels, plenty of drawers, and a
patternmaker's vise distinguish
a master woodworker's favorite bench*

by Robert Whitley

*F*or many years my workshop has been right next to my furniture showroom. It's been natural for customers to step into the shop to see work under way. This has made the organization and appearance of my shop doubly important. It has to serve my woodworking needs, while also conveying a strong sense of craftsmanship. My workbench meets both of these requirements with ease. In this article, I'll tell you why I like this particular bench, and explain the details behind its construction.

Doing Away with the Tool Tray

I've had many opportunities to use different versions of the traditional European-style workbench, which has a tool tray built into the benchtop. I've found that the tray seems to invite accumulations of debris, from sawdust and shavings to pieces of hardware and stray tools.

By doing away with the tool tray, I get a broader benchtop that more easily supports large work, from tabletops to entire case pieces. The bigger top is an advantage in restoration work, when I need a broad, flat surface for fixing panels, face frames, and other assemblies that have gone out of flat or square. The shelf underneath the top provides plenty of clearance for clamping and can also hold tools.

Hardworking Vises

Vises aren't difficult to install on my bench, since the benchtop overhangs each end panel by 10 in. My bench is fitted with two vises—an antique but fully functioning Emmert patternmaker's vise, and a standard steel-face end vise. I end up using the patternmaker's vise most often. With its pivoting and tilting jaws, the vise can hold your work at just about any angle. One trick I've learned is to tilt the jaws vertically and grip a sandpaper-backed platform. This slip-free work surface puts carvings or other small pieces at a comfortable level. ([See bottom photo, page 39.](#))

Emmert vises aren't made anymore, though you can find them for sale at auctions and in the classified section of local newspapers. New patternmaker's vises are available from Lee Valley (800-871-8158) and AMT (800-435-8665).

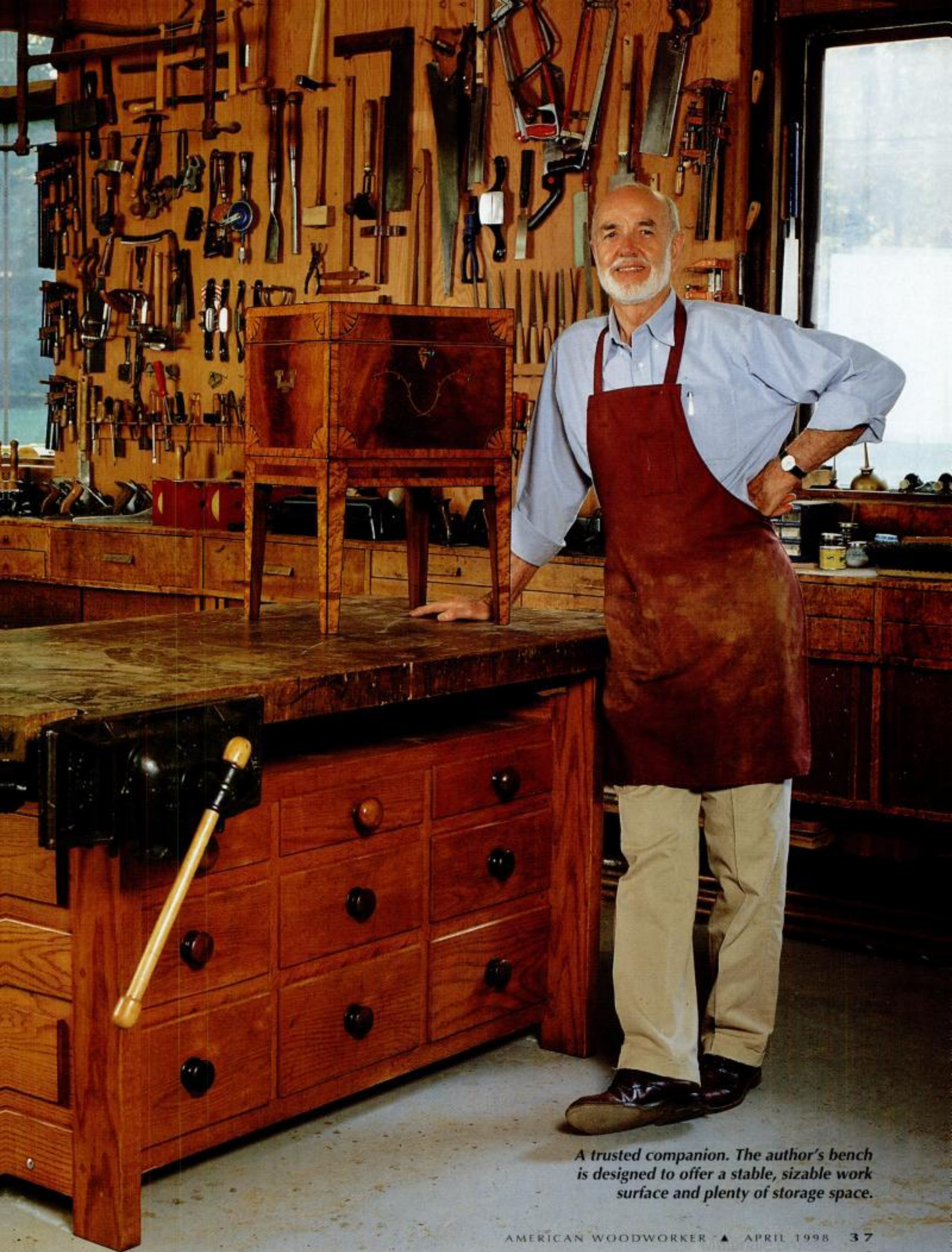
Sturdy Drawers

I'm not in favor of an open-style base for a workbench. The storage potential of the base is simply too great to waste, especially in a small shop like mine. I divided the space beneath my benchtop into three bays of drawers, and there are three different drawer sizes.

I made sure to build extra-sturdy drawers for two reasons. The first is obvious: The drawers need to survive years of heavy use without coming apart. The second reason is explained in the top photo on page 39: I often slide a drawer out and ask it to serve as a support for something I'm working on.

PHOTOS BY JOHN HAMEL/RODALE IMAGES

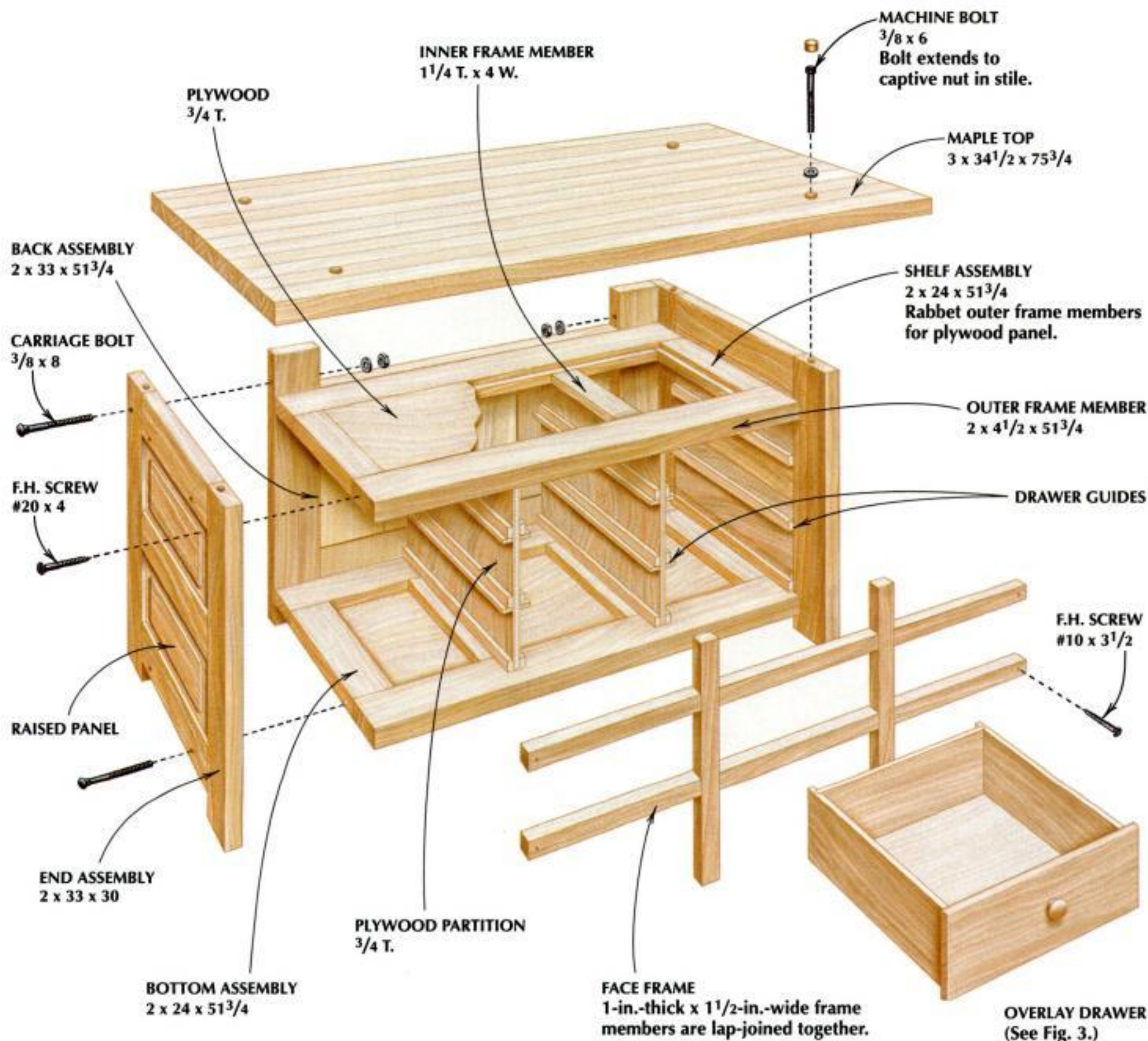




A trusted companion. The author's bench is designed to offer a stable, sizable work surface and plenty of storage space.

FIG. 1: WHITLEY'S WORKBENCH

The bench consists of five major assemblies: two end assemblies, a back, and identically dimensioned shelf and bottom assemblies. Carriage bolts extend through frame members to join these parts. The front legs of the end assemblies extend 4 in. beyond the front edges of the shelf and bottom assemblies.



Construction Details

Oak is a great choice for the base of the bench. It's strong, easy to work, and relatively inexpensive. The combined weight of the base frame-and-panel assemblies gives the bench great stability. For the top, it's best not to compromise. Edge-glued hard maple, 3 in. thick, will deliver years of solid service.

There's plywood in my bench too, but I used it sparingly to keep it out of sight. It lends strength to the shelf and bottom assemblies, where it's let into the frame-

work. And it divides the drawer compartment into three bays. (See Fig. 1.)

Building the base is an exercise in frame-and-panel construction. The stiles on the end and back assemblies also serve as legs at the base corners. The bottom and shelf assemblies are identical in size and construction. Only the orientation of their 3/4-in.-thick plywood panels is different. On the top assembly, the panel is flush with the frame's top edges. On the bottom, the panel faces down. (See Fig. 1.)

Build the two end panels and the back panel first. I joined stiles and rails with mortises and tenons, and cut 3/4-in.-wide, 1/2-in.-deep grooves in the frame members to hold solid oak panels. All the raised panels are 2 in. thick. Raise and rabbet each panel edge so that its inside face will be flush with the inside face of the frame that surrounds it. A flat inside surface makes it easier to attach drawer guides. It also allows me to screw each upper end panel to the shelf frame.

Build the shelf and bottom assemblies next. As shown in Fig. 1, the frame members are 2 in. thick. The inner frame members are 1 1/4 in. thick to accommodate the thickness of the plywood. After assembling each frame, rabbet the inside of the 2-in.-thick members with a router and square up the rabbeted corners to let in a 3/4-in.-thick plywood panel.

Glue the plywood to the shelf and bottom frames and you'll have a pair of rigid platforms that form the core of the base. The platforms tie the end and back assemblies together by means of carriage bolts and screws. These fasteners extend through end and back assemblies and into frame members in the shelf and bottom assemblies.

Once the back, end, shelf, and bottom assemblies are bolted together, you can start installing the partitions. I fastened the plywood partitions to the shelf, bottom, and back assemblies by driving screws in pocket holes.

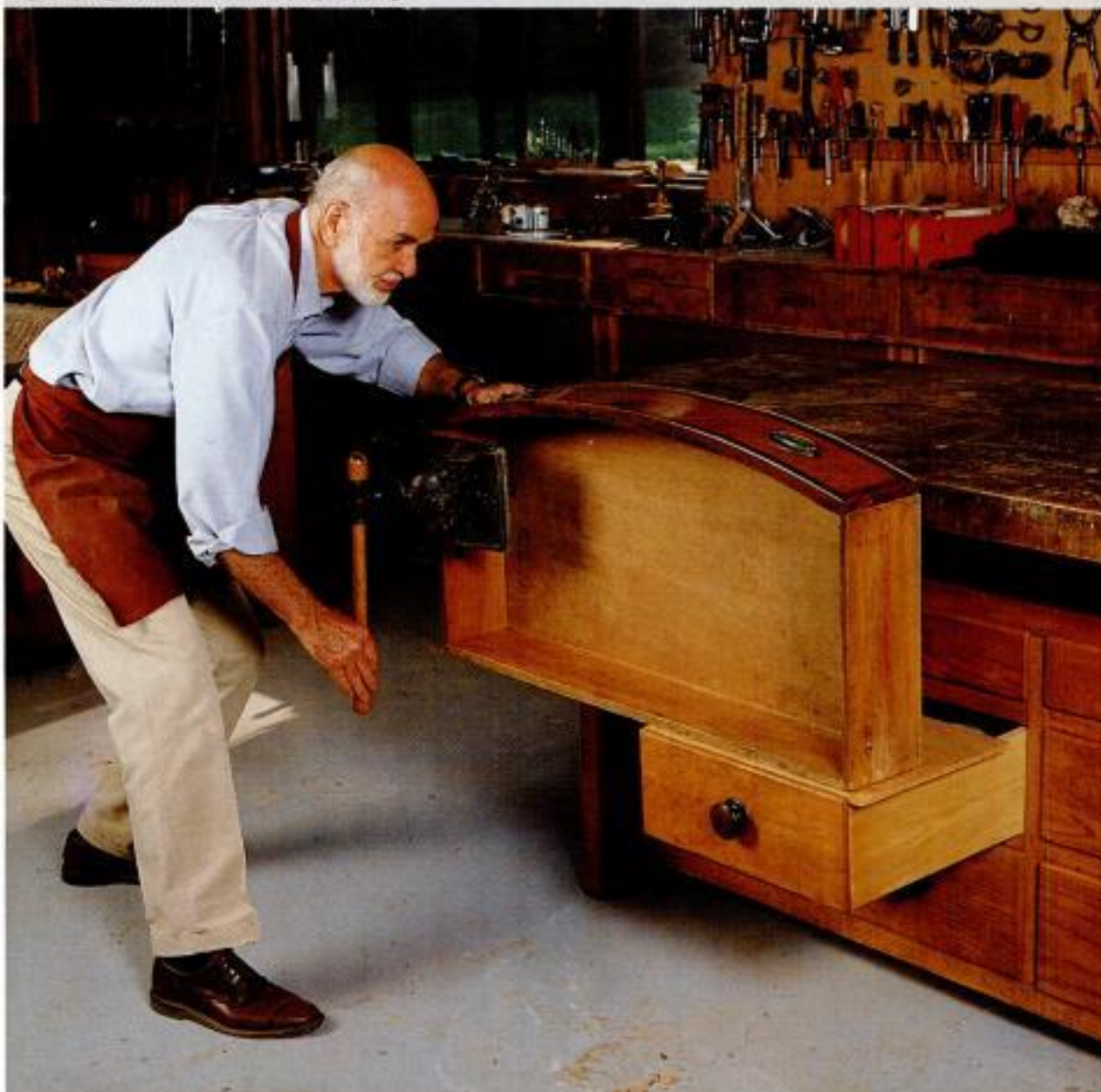
With the partitions in place, make and install the face frame next. I cut lap joints in the frame's stiles and rails, glued the assembly together, and then fastened it to the plywood partitions with finishing nails.

The next step is to install the drawer guides, using your face frame to align the guides. There are two types of guides in this case. The guides that are attached to the plywood partitions have an L-shaped profile, made by screwing and gluing two straight lengths of maple together. They guide the drawer side and also provide support for the drawer bottom. The one-piece guides screwed to the inside face of each end panel need only support the drawer bottom. Screw the ends of the face-frame rails into the guides that they butt against.

The drawers aren't difficult to make. (See Fig. 3.) The fronts are solid, 1-in.-thick oak, rabbeted for joinery with drawer sides and also for overlaying the face frame. The overlay details need some explaining. The bottom of each drawer front does not overlay the face frame. The three center bay drawers overlay along their top and end edges. The right- and left-bay drawers overlay at the top, but not along the ends that abut the end panels.

Size your drawers based on the face-frame openings. I subtracted 1/8 in. from the opening height to get the width of my drawer sides. This clear-

SPECIAL FEATURES



Drawers that store and support. Coupled with a patternmaker's vise, drawers do double duty as work supports.

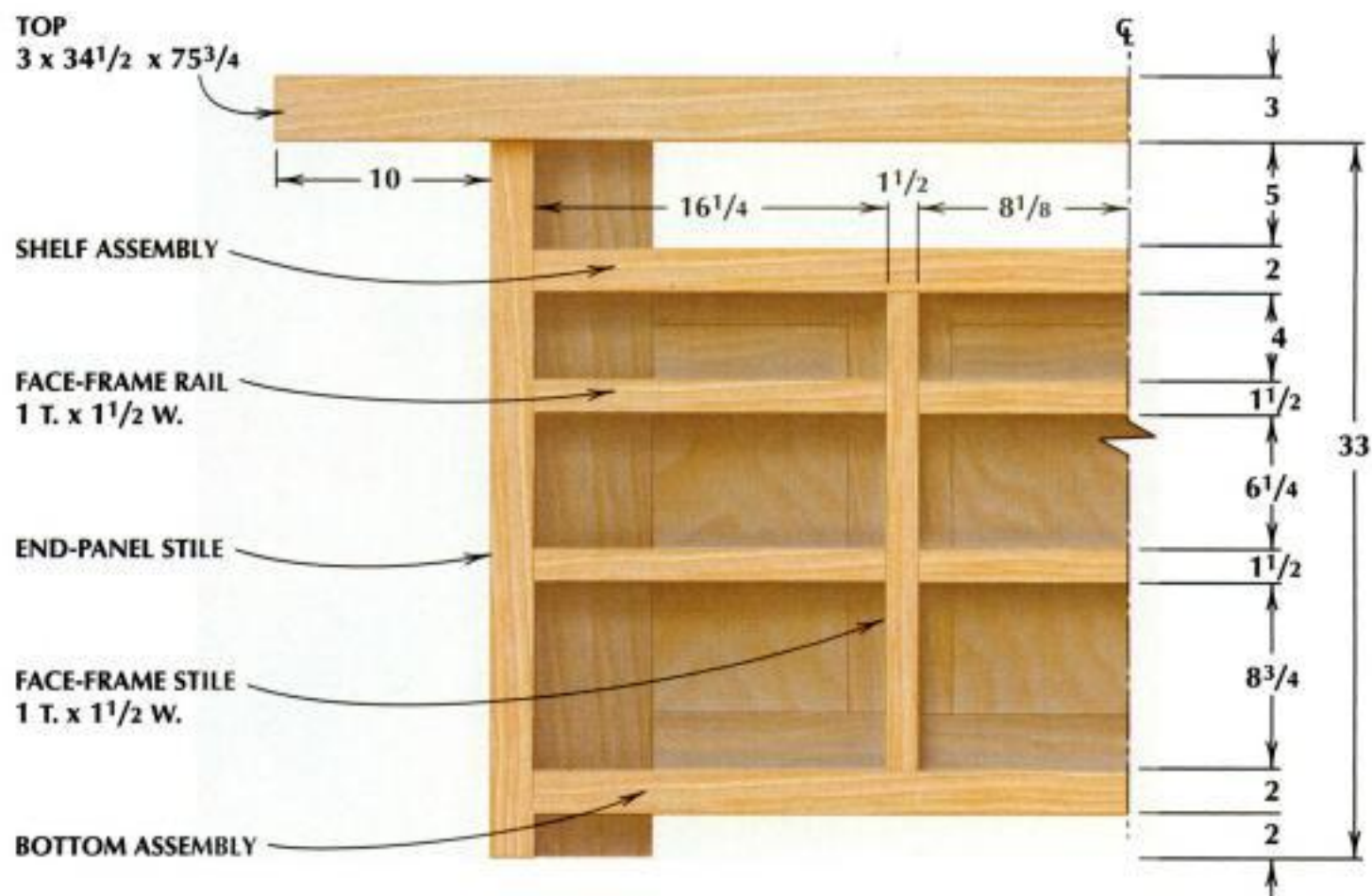


Versatile vise. To hold delicate work at a comfortable height, Whitley orients vise jaws vertically and grips an abrasive-backed work board.

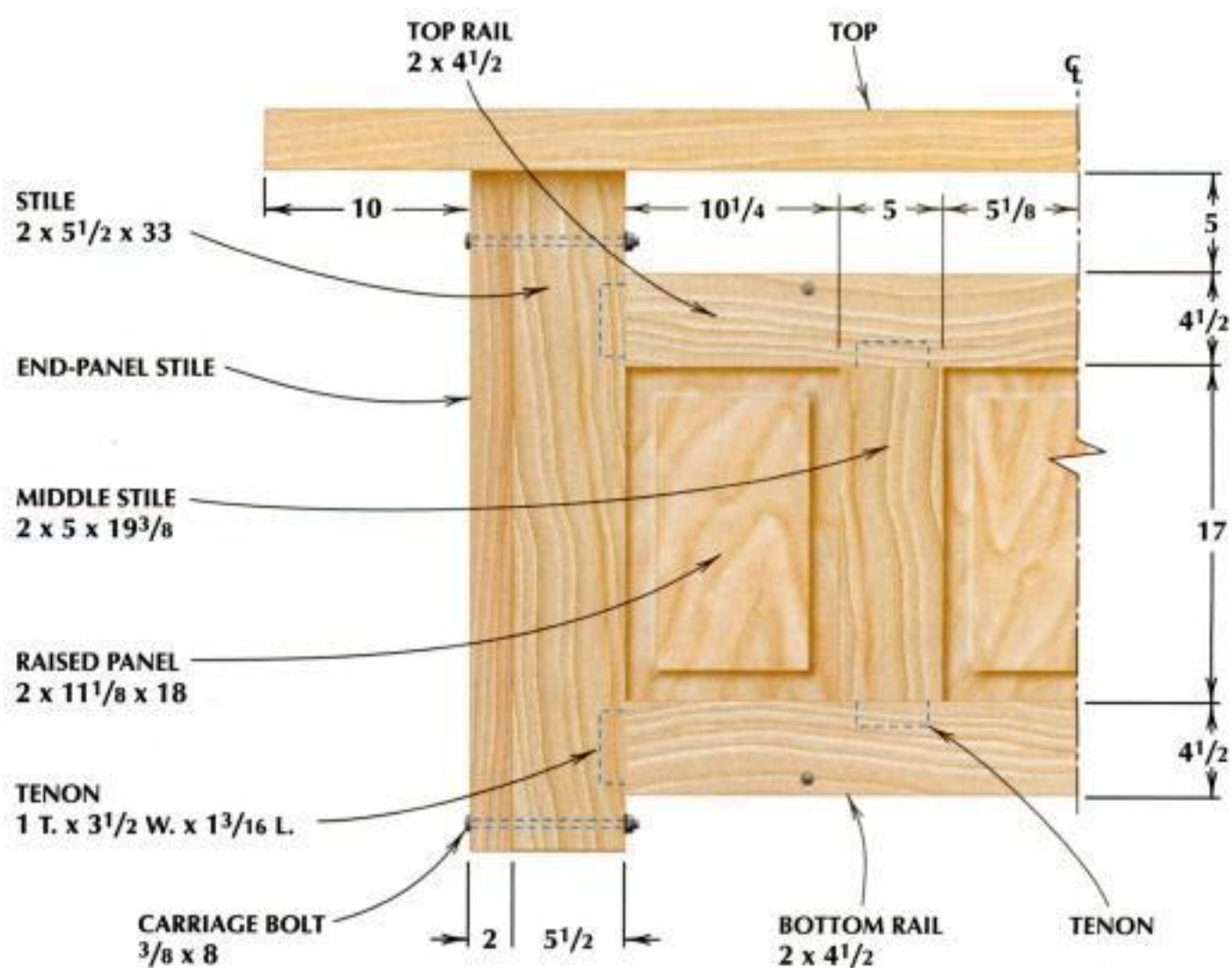
FIG. 2: WORKBENCH ELEVATIONS

Half elevations are shown for the front and back of the base to provide greater detail. Bore holes in panel assemblies as shown for screwed and through-bolted connections.

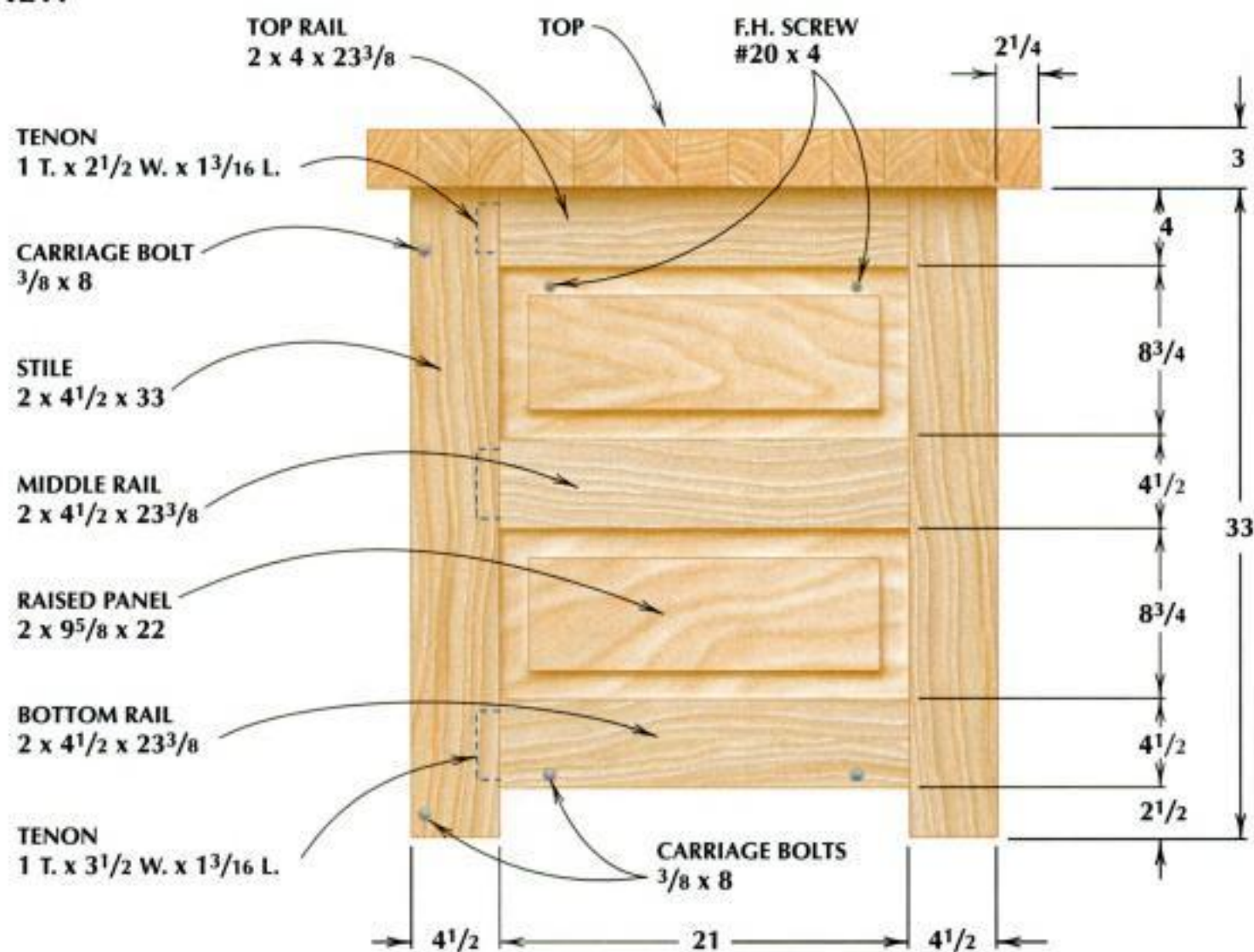
FRONT VIEW



BACK VIEW



END VIEW



ance ensures that I'll be able to open and close the drawers easily, or even withdraw them completely. I often place a drawer on my bench so I have full access to its contents.

Top off your workbench with 3 in. of maple. As shown in the drawings, the top will overhang the base on all four

sides and give you a solid holding place for clamps.

To attach the top, I used counter-bored bolts that fasten to captive nuts in four end-assembly legs. Wooden plugs fill the counterbores and the leg holes I drilled for the nuts. I admit that this anchoring method amounts to overkill.

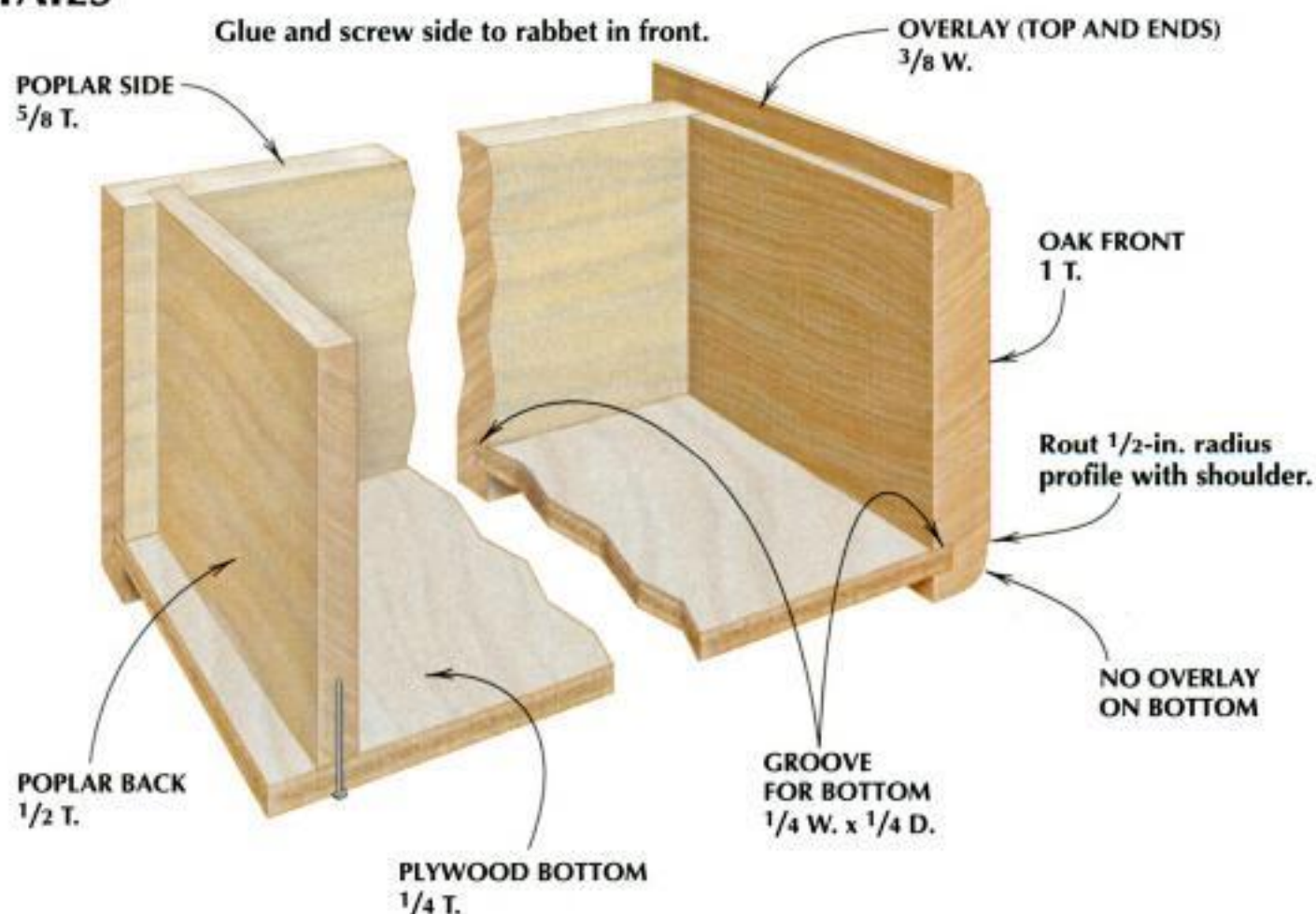
An easier approach would be to register the top to the legs with 1-in.-dia. dowels. You can be sure the weight of the top will prevent it from lifting off. ▲

ROBERT WHITLEY'S home and shop is located outside of Philadelphia, PA. For more on his work, see page 76.

FIG. 3: DRAWER DETAILS CUTAWAY VIEW

Sizing information: Measure the face-frame opening for each drawer. Opening height minus 1/8 in. = width of side. Opening depth minus 1/8 in. = length of side.

Overlay information: The center drawers overlay the face frame at the top and ends of drawer fronts. Remaining drawer fronts overlay the face frame at the top and one end only—the end nearest the center bay.





The easy way. This door-making technique is an attractive alternative to cope-and-stick joinery.

NO-FUSS *Frame-and-Panel Doors*

Build beautiful doors fast with a rabbeting bit and applied molding

by Paul Levine

Mention cabinet doors to most woodworkers and you're likely to start a discussion about shapers or router tables and matched sets of cutters or bits for milling cope-and-stick profiles. But there's a much easier way to make frame-and-panel doors. Instead of relying on expensive bits and tricky setup work to create the molded profiles in a door frame, you do the work with a rabbeting bit, a handheld router, and a chop saw.

The applied-molding technique for making cabinet doors and drawer fronts is a great alternative to traditional cope-and-stick profiling. The construction steps are easy, and the results are beautiful. (See top photo.) The photo above shows how applied-molding doors are made. The door frame is

rabbeted rather than grooved to hold the panel. Installing a rabbeted molding around the frame effectively traps the panel. Here's how you can make applied-molding doors for your cabinets.



Rabbets instead of grooves. Levine's doormaking technique holds the panel between a rabbeted frame and an applied molding that's also rabbeted.

Make the Frame

Most of my cabinet doors have stiles and rails made from square-edged, 1-in.-thick stock. But this frame-and-panel technique can work well on doors of any size, including large entry doors.

I join my frames together with $\frac{3}{8}$ -in.-thick loose tenons and plunge-routed mortises. But it's also fine to join stiles and rails in other ways—for example, traditional mortises and tenons or biscuits.

Sand or plane the faces of the frames flush after they're assembled. Then rout a $\frac{3}{8}$ -in.-wide, $\frac{3}{4}$ -in.-deep rabbet all the way around the inside of the assembled door frame. (See top photo, opposite.) I use a $\frac{3}{8}$ -in. rabbeting bit and make several passes until I reach $\frac{3}{4}$ -in. depth.

Rout from the front face for doors where you want the molding to show, or from the back face for Shaker-style doors that will show a square inner edge. When you're finished routing the rabbet, use a chisel to square up the rounded corners of the rabbet.

Miter the Molding

You can use a wide variety of moldings in this type of door, from simple to complex. You can either start with stock moldings or custom-make your own molding, which I frequently do. But all moldings need to be rabbeted, as shown in the bottom photo, opposite. This will create an L-shaped back that hooks over the edge of the rabbeted frame, leaving a gap about $\frac{1}{4}$ in. wide for the panel.

Mitering the molding is a lot like mitering the pieces for a picture frame. The shoulder on the back of the molding should fit snugly over the edge of the rabbet. Getting the exact mitered length takes a little practice. I recommend cutting your first pieces a little long, then sneaking up on a tight fit. This is ideal chop saw work. Fit all the mitered moldings around your door opening, but don't fasten anything yet.

Make the Panel and Finish the Job

Plywood or solid lumber will work as panel material. If I'm using plywood, the dimensions of my panel can match the shoulder-to-shoulder dimensions of the rabbeted frame. For a solid wood panel, I subtract $\frac{1}{4}$ in. from the width of the rabbeted opening and $\frac{1}{8}$ in. from its height. This clearance is necessary so the panel can expand or contract in response to humidity changes.

Once the panel has been cut to size, you'll need to rabbet its edge so that the edge thickness matches the width of the opening between the rabbeted frame and the molding. You want to aim for a snug fit.

At this point, assembling the door is simple. Just drop the panel into its rabbet and center it from side to side. Hold it in place with a brad driven through the panel and into the top and bottom rails. Keep each brad near the centerline of the panel, and near the panel's top and bottom edges; this way, the brad will be hidden by the molding. Then install your molding pieces over the frame and panel, as shown in the photo at right, taking care to keep the miters aligned and tight. You're all done. ▲



Rabbeting the frame. Once the frame is together, it's quick work to rabbet the frame's inner edges. Then chisel the four corners of the rabbet square.

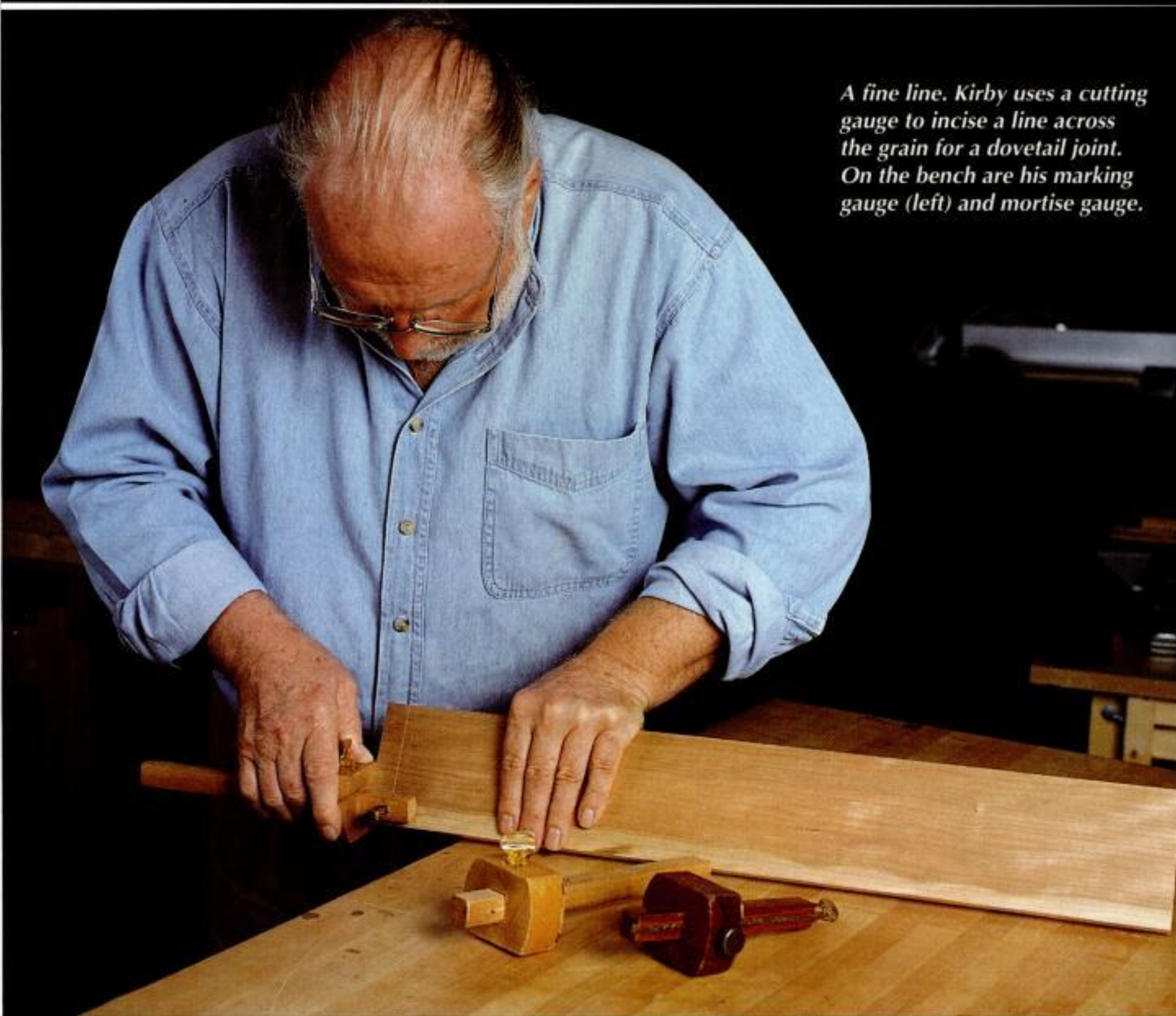


Trapping the panel. Four pieces of mitered molding fit over the panel and cover the rabbet in the door frame. The door is done.



PAUL LEVINE

is the author of *Cabinets and Built-Ins* (Rodale Press, 1994), from which this article is adapted.



A fine line. Kirby uses a cutting gauge to incise a line across the grain for a dovetail joint. On the bench are his marking gauge (left) and mortise gauge.

Three Gauges

Perfect joints start with a razor-fine line

by Ian J. Kirby and John Kelsey

To do accurate woodworking, you need good marking tools. That includes chalk line, knife, and three gauges: marking, cutting, and mortise. The one thing each of these gauges does that no other tool can do is scribe a fine line parallel to a board's straight edge or flat face—quickly and accurately.

The ability to mark a fine, unambiguous line is critical for dimensioning stock or laying out joints, whether you're using hand tools or machines to cut the wood. A pencil line and a chalk line have thickness, which is okay for rough layout work. A gauged line has no thickness because it's a cut in the wood's surface; it's visible largely because of the shadow cast by the cut

fibers. Such a line precisely divides the waste from the work. And despite its fineness, a gauged line can hold a chisel's edge.

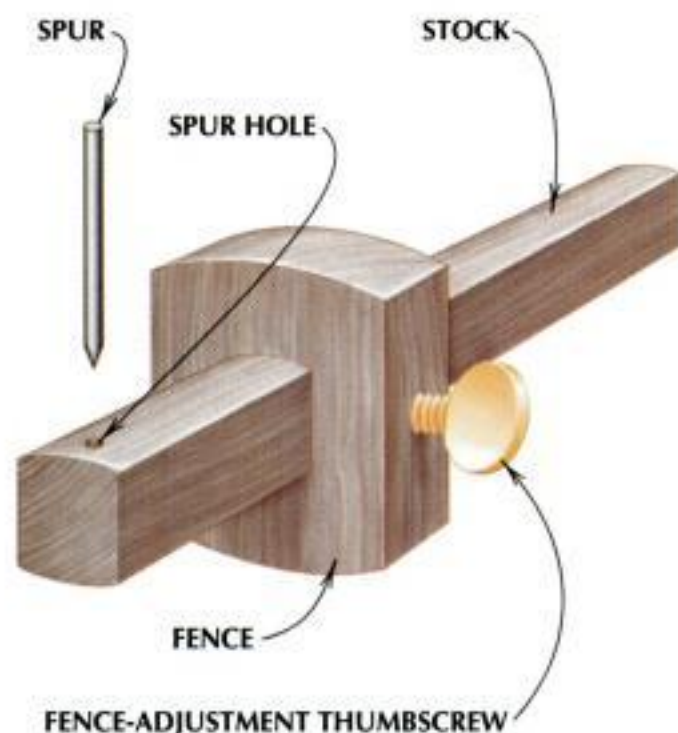
Gauges are simple, ancient tools. They exist in all of the world's woodworking traditions. A Japanese craftsman's gauges are hardly different from our Western ones. And although today's marketplace offers a variety of deluxe and reinvented gauges, none of them really improve upon the workmanlike gauges shown in this article.

You can buy marking, cutting, and mortise gauges from almost any tool dealer and through most woodworking catalogs. In fact, their general availability attests to their widespread popularity and usefulness.

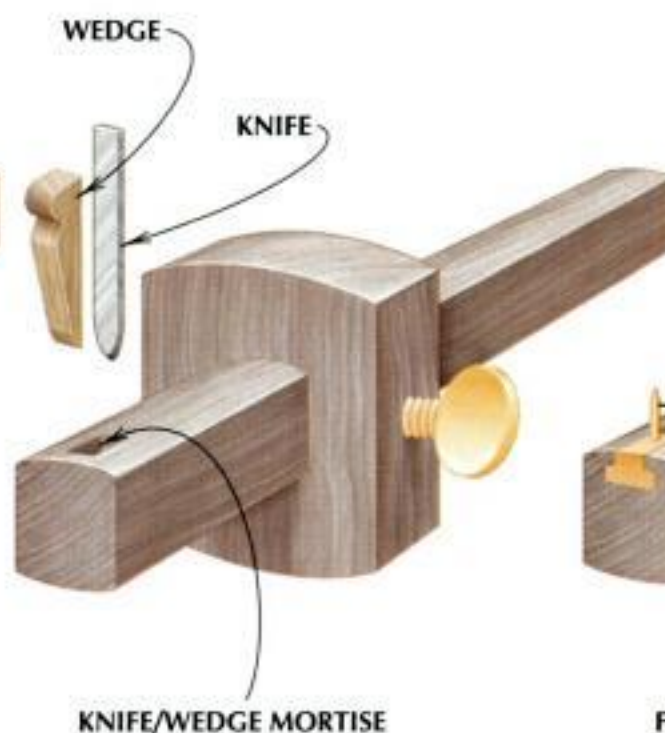
THREE GAUGES

Manufactured and shop-made gauges may differ in detail, but they all have at least three basic parts: fence, stock, and knife or spur. The mortise gauge has two spurs, plus an internal threaded rod that lets you adjust the distance between the spurs.

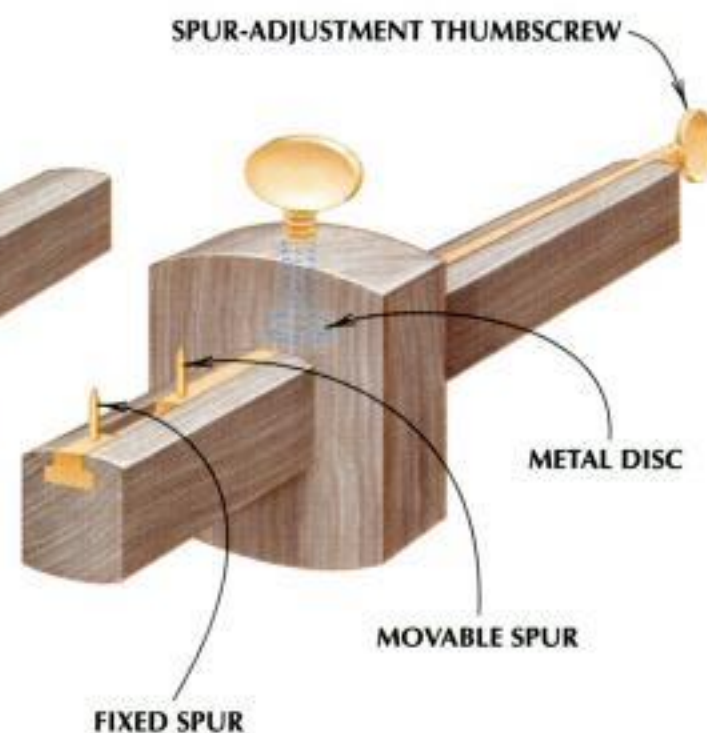
MARKING GAUGE



CUTTING GAUGE



MORTISE GAUGE



With the grain. The marking gauge has a pointed spur that parts the wood fibers for incising a line parallel to a board's edge. It also marks on end grain.



Across the grain. The cutting gauge has a knife edge that incises a line across the wood fibers, or on end grain. Turn the blade's bevel to the waste side of the cut.



Two spurs. The mortise gauge has two pointed spurs. The distance between spurs is adjustable. Use this gauge to scribe two parallel lines with the grain and on end grain.

How the Gauges Work

The cutting and marking gauges work almost the same way. Each gauge consists of a wooden fence, a stock that slides through the fence, and a bit of metal stuck through the stock to mark the workpiece. (See drawing.)

The shape of that piece of metal depends on which direction relative to the grain it's intended to mark. The marking gauge has a pointed spur that incises lines with the grain and on end

grain. (See left photo, above.) The cutting gauge has a small knife that cuts across the grain and also on end grain. (See middle photo, above.)

When you loosen the thumbscrew on the cutting or marking gauge, the stock can slide in or out to adjust the distance between the fence and the knife or spur. As you push the fence along the prepared surface of the workpiece, the knife or spur incises a line parallel to that surface.

Despite their similarities, these tools are not interchangeable. You do need both. You can't fiddle with one to make it do the work of the other—anyway, they're cheap enough that you can buy both.

Whereas the marking and cutting gauges are essential for all woodworking, you need a mortise gauge—which is expensive—only if you make mortise-and-tenon joints. The mortise gauge is essentially a marking gauge with two spurs, one fixed and one adjustable. (See

THE MARKING GAUGE

The marking gauge has a steel spur sharpened like the point of a pencil. The spur scribes a line by parting the fibers of the wood, so it works beautifully with the grain, but tears up a mess across the grain. The spur is made of extremely hard steel, too hard to sharpen or reshape with a file, so you have to use a sharpening stone. A new marking gauge usually comes ready to use. If you're looking at a used one, make sure the

spur hasn't been replaced with a nail or brad, which are too soft to hold a sharp point.

The spur should stick out $\frac{3}{16}$ in. from the stock. Since it usually extends through to the back side, you can adjust it with hammer taps. To tighten a loose spur or reposition it, drill a new hole and hammer the spur in. If you try to drive it without a pilot hole, it probably won't go in straight and you might split the stock.



Using the marking gauge. To mark the board's face (above left), start with the gauge up on one corner of the stock, then roll it into the work. Make several light passes instead of digging the spur in deep. When marking the face far out from the edge before ripping to width, support the stock with your thumb (above right).



THE CUTTING GAUGE

The cutting gauge marks with a small steel knife, which is held in its mortise by a wedge of cast brass. The knife makes a line by slicing across the fibers of the wood. If you use it with the grain, it leaves a mark that's too fine to see, and it's liable to wander with the grain.

The knife typically comes from the manufacturer with a sharp point, but it works better rounded. (See middle photo, page 45.) You can grind it and stone it like any other knife edge. Keep the bevel on one side, with the

other side flat and smooth—same as a chisel. You can remove the wedge to turn the bevel toward the waste side of the line. Tighten the wedge when you replace it by tapping with a small hammer.

The knife has to be parallel to the face of the fence, so a gauge with a square knife hole is better than a gauge with a drilled hole for the knife. If the wedge is a rough casting, you can file it smooth so it will seat better against the knife. If the wedge gets lost, make a new one out of hardwood.



Using the cutting gauge. When you incise a line across the grain on the board's edge (above left), keep the fence flat against the end. To make a fine adjustment you can leave the thumbscrew snug and tap the gauge stock one way or the other on the edge of the bench (above right).



THE MORTISE GAUGE

The mortise gauge is a deluxe item with a brass mechanism for moving and locking the second spur. It's hard to find one without brass inlays (see main text), but you can reverse the fence to work off its wood face.

Often it's necessary to disassemble the mortise gauge and dab a little grease on the threaded rod that adjusts the second spur, to help it move smoothly. If it still binds, look for a particle of crud or a lacquer drool that may be clogging the works. You may have to pick out the culprit at knifepoint.

When you disassemble the mortise gauge, watch out for a little metal disc that sits under the stock's locking

thumbscrew. It keeps the thumbscrew from chewing up the movable brass strip, so if it gets lost, you must replace the disc.

Some mortise gauges have a third spur on the back side of the stock. The idea is that this spur can be used like a regular marking gauge—two tools for the price of one. The economy is false because regular marking just wears out the expensive mortise gauge's fence sooner than necessary. What's worse, the day will come when you plant that third spur bone-deep in your thumb. So pull it out and save it for replacing the spur in an old marking gauge.



Using the mortise gauge. If you start by pressing the spurs into the wood where the lines are to stop, you'll feel the gauge click into the marks at the end of the cut (above left). To center a mortise (above right), press the spurs into the wood from both sides, then split the difference between the marks. (The same trick works with a marking gauge.) Keep your thumb inboard of the fence for protection.

right photo, page 45.) It makes two parallel lines, for laying out the shoulders of both a mortise and a tenon.

The techniques are the same for all three gauges, and it'll take you only a few minutes' practice to get it right. Don't try to make a deep line the first time. You can go back and forth to make it as deep as you want. Note that a deep line is more visible and helps prevent tearout at the joint's edges. A shallow line is easier to erase later by planing or sanding.

Choosing and Tuning a Gauge

When you buy a new or used gauge, avoid the model with two brass strips inlaid into the fence. The brass is supposed to counteract wear, and it's cosmetically pleasing. But because brass and wood expand and contract at different rates, a plain wooden fence will stay flat longer than an inlaid version. And if the fence isn't flat, you'll get a crooked line when you gauge across a board's thickness. (See lower left photo, opposite.) If

you already own a gauge with brass inlays, turn the fence around to work off its plain face.

Next, make sure that the fit between the fence and stock isn't sloppy. You can usually relieve a too-tight fit, as long as it isn't frozen, by buffing some paraffin wax into the stock or by taking a single shaving off it with a plane. The latter may require removing the spur, which you can do by levering it out with pliers, or by grabbing it in a machinist's vise and tapping the stock away from it. But you can't do anything about looseness, so don't buy a gauge with this problem.

Be sure the fence and stock are square to each other throughout the sliding range. Notice that the stock itself isn't square. It has two flat faces and two curved ones. The knife or spur comes through the curved face. On a quality fence, the through-mortise has flat and curved walls corresponding to the stock's faces, to help orient the two, and to give the thumbscrew a flat bearing surface.

When you buy a mortise gauge, make sure the spurs are firmly seated—they shouldn't wobble like loose teeth. Also check to be sure the two spurs are exactly the same shape and height—if not, reject the tool. ▲



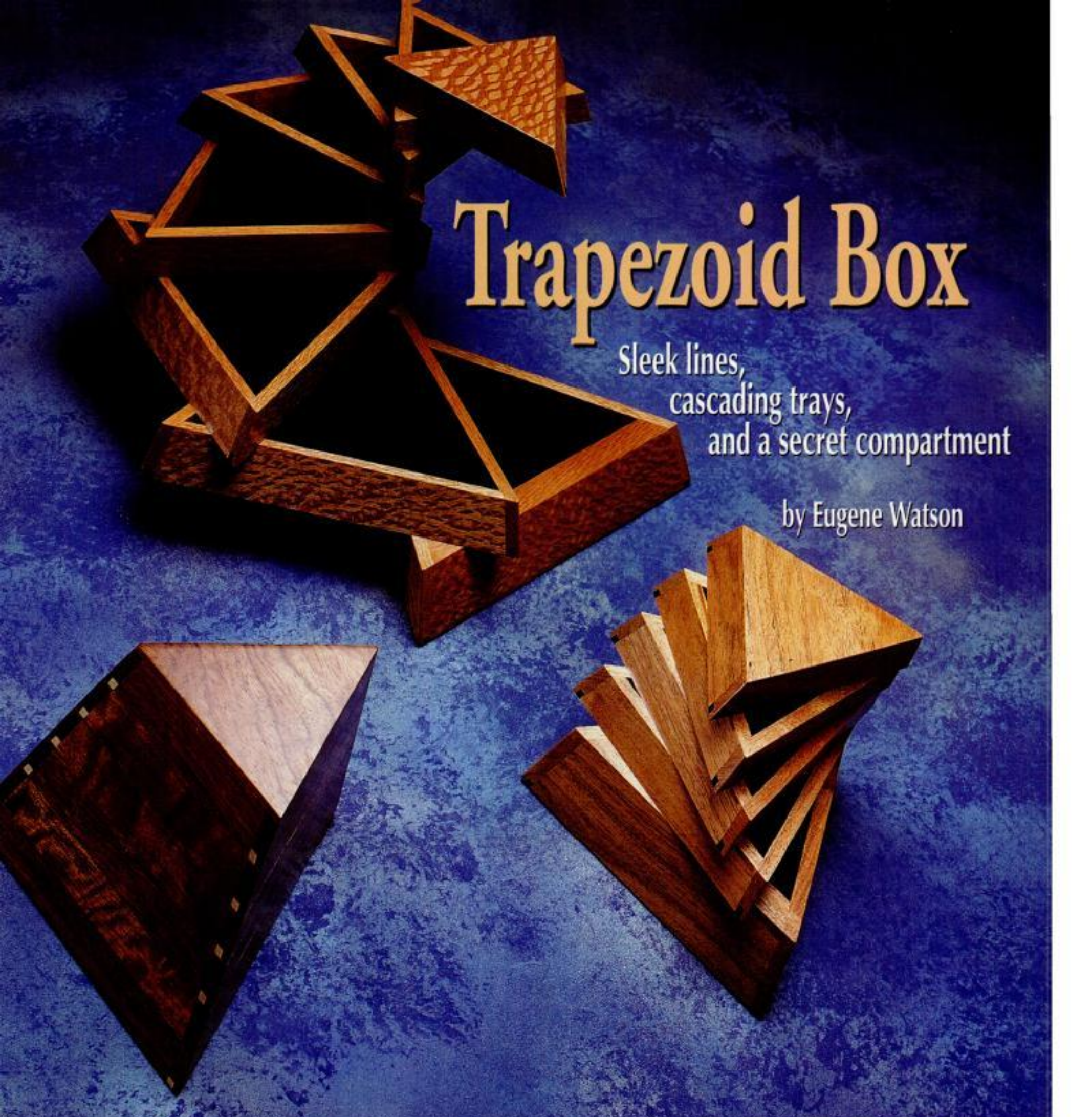
IAN J. KIRBY

is a furniture designer and woodworking teacher with studios in Connecticut.



JOHN KELSEY

is a writer and occasional woodworker in Connecticut.



Trapezoid Box

Sleek lines,
cascading trays,
and a secret compartment

by Eugene Watson

Beautiful blocks. The author's boxes look like sleek-sided blocks of wood until you pivot open a stack of storage trays. Watson makes five- and eight-layer versions.

I enjoy the challenge of creating jewelry boxes with as few 90° angles as possible. So many of the boxes you see in galleries and art fairs are square and boxy, and I want mine to be distinctive.

But it can be tricky to break out of the basic box. I spent weeks experimenting with angles, dimensions, and joinery before I came up with the design shown here. A geometry professor might describe it as a five-sided polyhedron, but I prefer to call it a trapezoid because that's what it looks like from the front. As you can see in the photo above, I make the trapezoid box in two different sizes—one with eight trays and one with five trays. The dimensions provided in the drawing opposite are for the five-tray trapezoid.



Tray assembly. Glue each tray's sides together using a simple assembly jig. Two spring clamps hold the front tightly against the sides. The thin sides can run long; you'll trim them to final length later.



Rod support. Glue a rod-support wedge into each back corner. Hold it with your thumb for about 10 seconds.

Now it's time to glue up the trays—almost. First, epoxy a steel bar into the groove you made earlier in the front of the base tray. Then cut six rod-support wedges. (See Rod-Support Wedge detail, page 49.) The accuracy of the 60° angle in the back of the wedge is critical.

The third trick to tray assembly is the jig I use to glue up each tray. (See photo, above.) To create the jig, simply make a triangular 60° cutout in a piece of 3/4-in. plywood, melamine-coated particleboard, or MDF. This 60° angle must be precise. I drilled a 3/8-in.-dia. hole centered on the peak of the cutout to allow for glue squeeze-out during glue-up. Make each side of the cutout at least 7 in. long. Glue the cutout piece to a hardboard base.

To assemble a tray, first spread glue on the two 30° ends of the sides and fit them together against the jig's 60° angle. Then apply glue on the 60° ends of the front, and press it into place between the two sides. Keep everything together with a couple of spring clamps, as shown in the photo above. A thin spacer under the clamps keeps clamping pressure near the centerline of the front. You'll have to use a larger spacer for the base tray.

When the glue sets, while the tray is still clamped in the assembly jig, glue a rod-support wedge into the tray's back corner. Don't drill the hole yet. Just press each wedge into place with your thumb and hold it for about 10 seconds. (See photo, above right.) In the bottom tray,

glue and stack two wedges together for support. The top of each wedge should be flush with the top edges of its tray.

Plug Holes and Sand

You'll see that the rabbets you cut earlier in the sides are exposed in front. I fill these square holes with little plugs of contrasting wood—usually maple or ebony. (See drawing.) Cut them so that they fit in place with slight friction, and glue them in—no clamping necessary. Although the plugs are made of square stock, after you bevel the fronts they'll look like parallelograms. They become a strong decorative element in the finished box. If necessary, trim the plugs flush with the bottom edges of each tray.

Make sure the top and bottom edges of each tray are exactly parallel, so that when you stack the trays they'll all be parallel to each other. I sand the bottom edge of each tray very lightly on a belt sander to get it flat, then feed the trays through a thickness sander to level off the top edges. The extra-long sides of the two smallest trays help stabilize the trays in the thickness sander. If you don't have access to a thickness sander, you can carefully sand the top edges on the belt sander and use calipers to ensure that the top and bottom edges are parallel.

Drill the Rod Holes

One of the keys to the success of this project is accurately drilling the holes in the rod-support wedges. First, they have

to be perpendicular to the bottom edges of the trays, so setting your drill press table exactly perpendicular to the bit is important. Second, the holes have to be vertically aligned from one tray to the next. To accomplish this, I clamp the assembly jig to the drill press table to position all the trays uniformly for drilling. (See left photo, opposite page.)

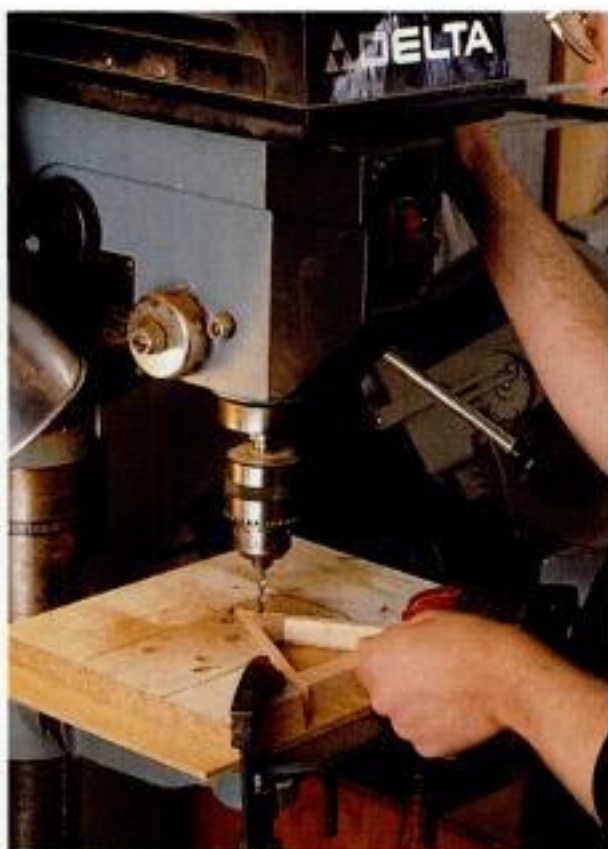
I use a 3/16-in.-dia. brad-point bit, set the drill speed to 2,100 rpm, and feed the bit slowly to minimize wandering. Drill all the way through the wedges in the four upper trays, but only three-fourths of the way through the base tray.

Insert your 3/16-in.-dia. brass rod through each hole to check the fit. The rod should slide easily into the hole, and rotate freely. If not, ream the hole lightly with a 13/64-in.-dia. drill bit.

Install the rod in the base and stack all five trays together on the rod. Check once more to make sure the trays are parallel to each other. Then cut the rod to its final length, so that it almost reaches the top of the hole in the lid.

Top It Off

Make a 1/8-in.-thick top panel out of solid wood, using the top tray as a template. It's okay to make the panel slightly oversize and trim it flush later. Glue it down to the rim of the top, and tape it in place to keep it from shifting while you clamp it with small C-clamps. Use soft clamping pads or thick cardboard to avoid marring the wood.



Hole alignment. Clamp the same assembly jig to your drill press table to position each tray for drilling.



Beveling the fronts. Set your miter gauge to 30° and the blade to 26° from vertical. Clamp a mitered stop block to the fence to help position the tray. Back up the tray with a wood scrap to prevent tearout.

Bevel the Fronts

Now you're ready to bevel the front of each level on the tablesaw. Set your miter gauge to 30° and the blade to 26° from vertical (64° to the table). (See photo, above right.) Run each tray through the blade upside down, with the blade tilting away from the fence.

Start with the base, and bevel its front so that you shave just $\frac{1}{16}$ in. or less off the bottom edge of the front.

The rod is your alignment tool for laying out the remaining bevel cuts. Insert the rod into the base and stack tray #2 onto the base. The bevel on tray #2 should begin at the top of the base bevel. Mark your cut, cut the bevel on tray #2, and then repeat the process for successive trays.

Sand the Faces Flush

Stack the five trays together on the rod, lay the box on one side, and tape the front with masking tape so that the two sides stay fairly flush. Then sand each side flush and smooth on a stationary belt sander, with the platen set 90° to the table. (See photo, right.) I start out with 80-grit sandpaper and work my way up through 180 grit.

Sand the beveled face of the assembled box last, again using tape to keep the trays aligned. If possible, tilt your sander's table 26°. Otherwise, use a 26° ramp to hold the box at a 64° angle to the belt. Getting the face nice and flat requires patience, so go slowly.

I fine-sand all five trays, but I'm careful not to round over their crisp top and bottom edges. Then I apply two coats of $1\frac{1}{2}$ -lb.-cut shellac, followed by a coat of 2-lb.-cut shellac, sanding between coats with 320-grit paper. Carefully avoid getting finish on the rabbets along the bottom edges of the four lower trays.

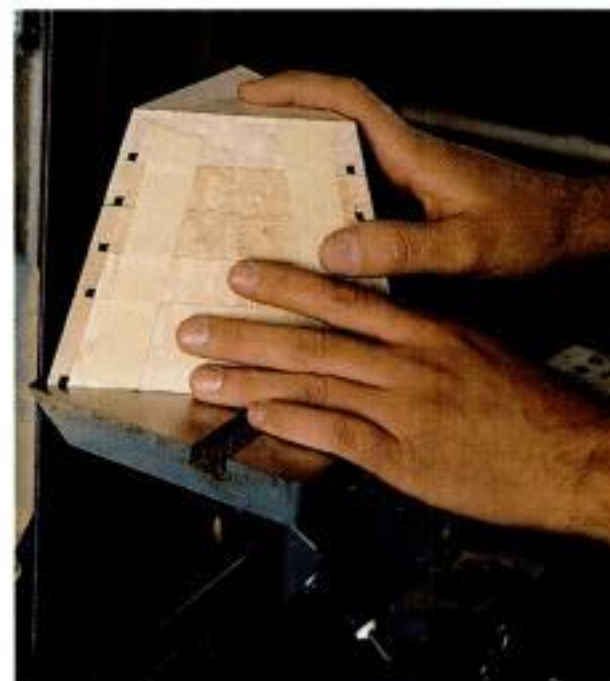
Installing the Bottoms

Determine the dimensions of the five tray bottoms individually, by measuring from the shoulders of the rabbets. They should fit into the rabbets with slight friction. I make the bottoms from the high-quality, $\frac{1}{8}$ -in.-thick birch plywood sold at hobby shops.

After cutting all bottom pieces to size, line the four lower bottoms with velvet. To do this, glue oversize pieces of velvet to the panels with spray adhesive, then trim with a rotary fabric cutter (available at fabric shops).

Glue the bottoms into their rabbets, except for the top tray. I apply a bead of glue in the rabbets' corners—I don't bother spreading the glue. Press the bottom in place and clamp it to the tray. I use two triangular clamping blocks for each tray and apply pressure with C-clamps. The glue will soak into the velvet and form a surprisingly strong bond with the wood.

Under the top tray is a secret compartment. Cut the bottom panel so that it press-fits nice and tight. Then shave $\frac{1}{32}$ in. off the front edge and apply a thin



Sanding faces flush. Tape two sides of the assembled trays together while sanding a third side flush.

bead of hot-melt glue along this edge. The glue can be compressed for a tight fit and easy removal of the lid with a finger, as shown in the photo on page 49.

Final Assembly

Glue one end of the brass rod into the base with epoxy or cyanoacrylate glue. Then buff a coat of paste wax onto the rod so the upper trays can pivot freely. Fit the four upper trays onto the rod again. Finally, cut three triangular pads from a sheet of self-stick felt and apply them to the bottom corners of the box. ▲



EUGENE WATSON
makes jewelry boxes
in the Rocky
Mountains of
Colorado.

Turning Antler

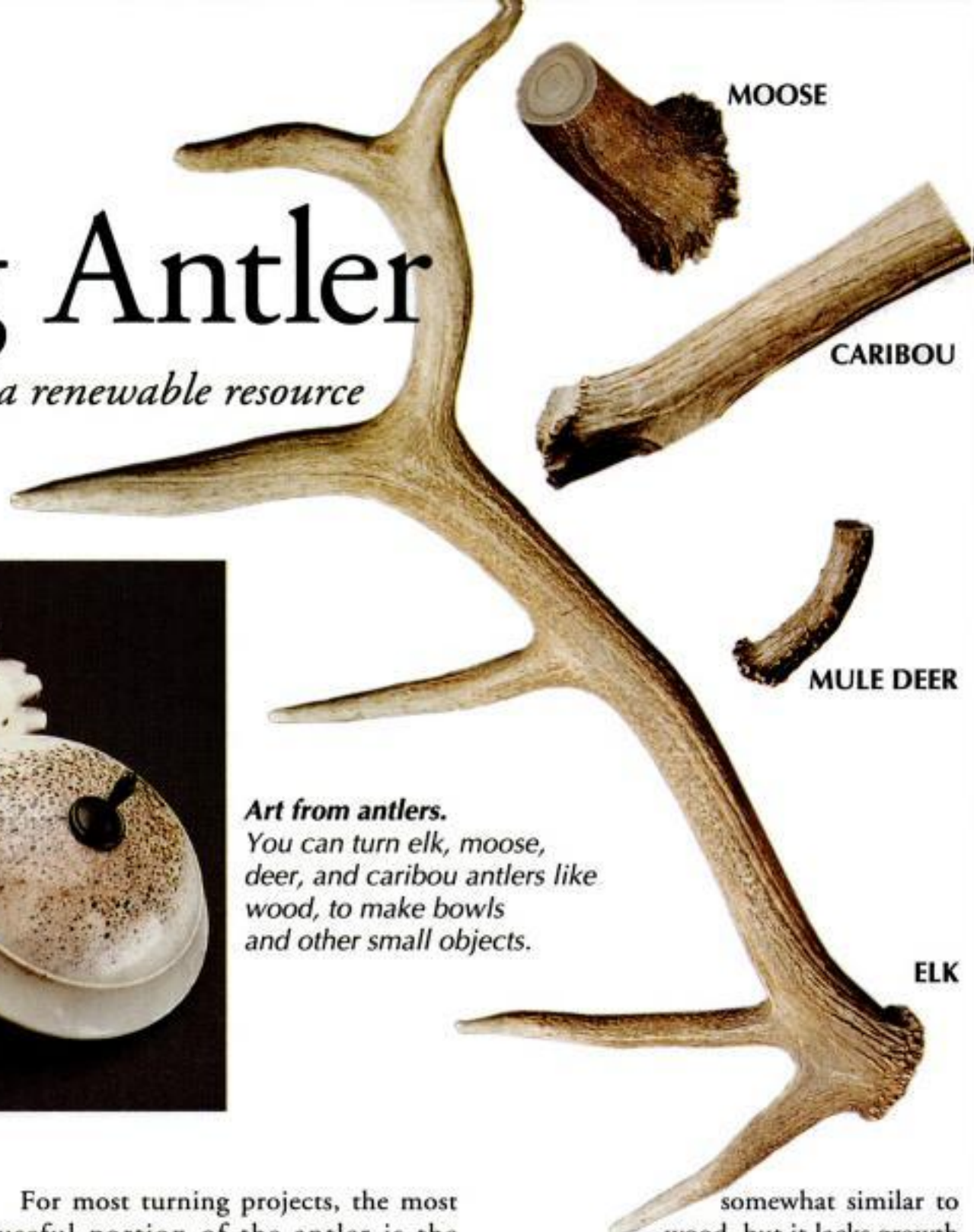
Create precious vessels from a renewable resource

by Kip Christensen



Art from antlers.

You can turn elk, moose, deer, and caribou antlers like wood, to make bowls and other small objects.



Antlers serve as weapons and status symbols when they adorn the head of a deer, elk, or moose. But I've discovered that when this bony headgear is shed, it's also a unique and beautiful medium for lathe work. Antler has excellent working qualities and is just the right size for small boxes, bowls, and lidded vessels.

Unlike horns and tusks, antlers are shed naturally once a year—so there's no need to harm animals that produce them. When antlers die, they separate from the head and fall to the ground; new ones grow in three to four months. You can find cast-off antlers in the wild, or buy them at flea markets or from hunters. You can also buy pieces of antler from Craft Supplies USA (800-551-8876).

Antler's Turning Properties

While it is very hard, antler is more resilient and less brittle than bone. On the downside, all antlers have a porous inner section that must be reinforced with cyanoacrylate adhesive (CA) regularly during the turning process.

For most turning projects, the most useful portion of the antler is the "burr"—a ring of bone at the base of the antler, just above the animal's scalp. Elk burrs are my favorite—they have the largest diameter, and the burr's scalloped rim forms an elegant natural edge. Elk burrs are also the most colorful, with irregular dots ranging from dark burgundy to gray and black on the whitish, porous inner section. Moose antler is denser than elk and can yield impressive-size burrs, but it lacks color variations. Caribou and deer antlers have relatively small burrs; the latter is a good size for small turnings such as pens, letter openers, and key-chain fobs.

Antler responds well to traditional turning techniques—shearing, scraping, and shear-scraping—with standard turning tools. It's surprisingly abrasive and will dull cutting edges faster than most woods, although I haven't found carbide tools necessary. Turned antler shavings are similar to wood: Shearing produces curls, and scraping creates powder. Antler has a grain direction

somewhat similar to wood, but it lacks growth rings. The end grain of antler also responds well to chatterwork. Use the same lathe speeds you would for small-diameter wood projects.

A word about dust. I'm not aware of any health-hazard studies about antler dust, but common sense tells me it's unwise to inhale dust from any turned material. When turning antler, always use dust collection and/or wear a proper dust mask—one that is TC-21-C- or P-series rated, with two straps. Better yet, wear a dust helmet. Helmets will also help suppress the odd odor of antler dust, which I'll leave to you to experience for yourself. ▲



KIP CHRISTENSEN

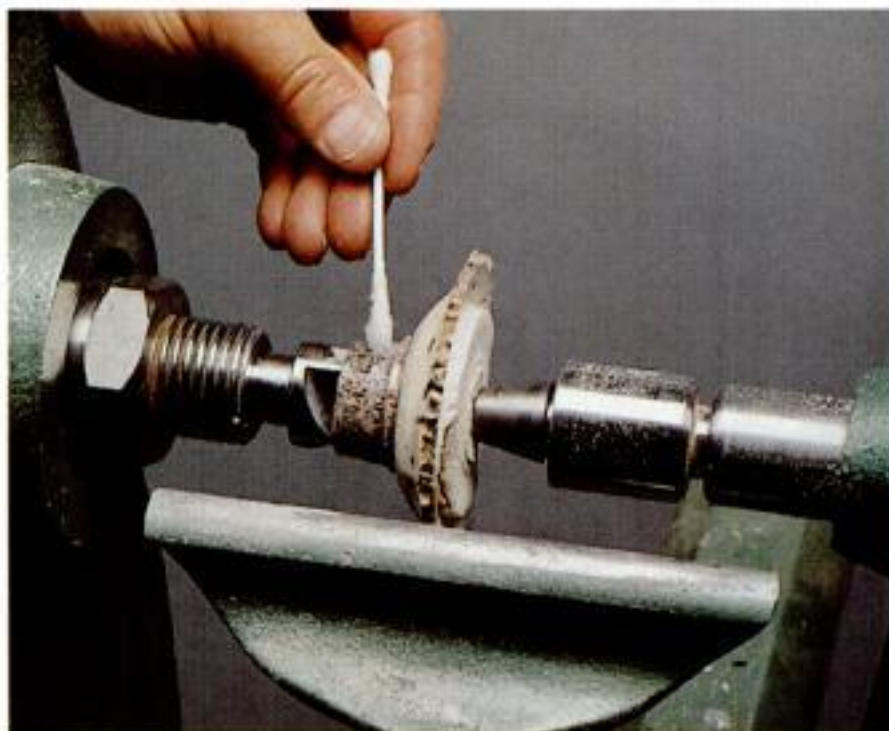
is a professor of technology education and coordinator of the woodworking program at Brigham Young University.

Turning an elk-antler bowl

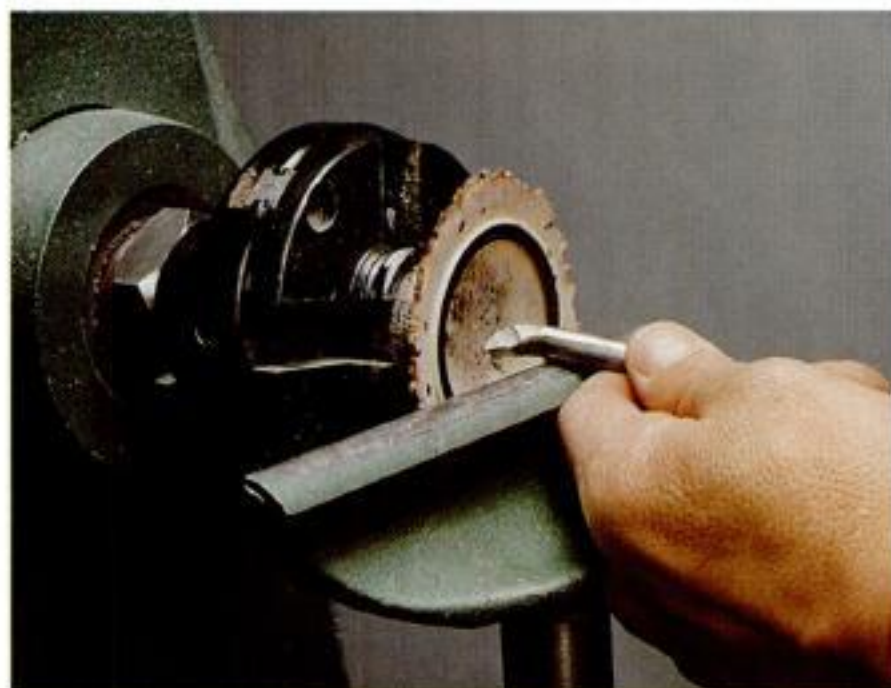
The photos below show how to turn a small natural-edge bowl from an elk burr. I often give elk bowls an ebony inlay to contrast with the antler's natural coloring. You can use the same process to make a lid for the bowl, or other small vessels. —K.C.



Step 1: Rough-turn the bottom and rim. Saw the burr from the base of an elk antler and center it between a spur drive center and ball-bearing tailstock. Face the larger end of the burr away from the headstock and apply light pressure with the tailstock. A $\frac{3}{8}$ -in. spindle gouge (shown here) works well for concave cuts. For convex cuts, the author recommends a $\frac{1}{8}$ -in. modified parting tool (Henry Taylor brand, available from Craft Supplies USA, 800-551-8876).



Step 2: Fortify with glue, and finish-turn the outside. Rough-turn a shoulder at the spur center end, about 1 in. dia. and $\frac{1}{4}$ in. long. Turn the lathe off, and apply thin cyanoacrylate adhesive (CA) with a cotton swab to the inner antler. Add gap-filling CA to reinforce the pores; cure it with CA accelerator. Finish-turn the shoulder and mount it in a scroll chuck. With the tailstock in place, turn the bottom and edge to final shape and thickness. Leave the natural edge $\frac{1}{16}$ in. thick.



Step 3: Add the inlay; turn and finish the inside. Turn an inlay disc—the author makes his $\frac{1}{8}$ in. thick—and cut a matching recess on the burr. Attach the disc with CA, then part away the center as shown here, leaving a ring about $\frac{1}{4}$ in. wide. Now turn the inside of the bowl to final shape. Sand the inside to 600 grit, then sand with 0000 steel wool. Finish the turned portions with padding lacquer or paste wax, or with a plastic polish on a rag. (Don't catch the rag on the delicate edge!)



Step 4: Turn the foot. Part or saw the bowl off the lathe, leaving enough material at the bottom for a base or foot. Mount a block of scrapwood to a center-screw faceplate, and turn it to roughly fit the inside of the antler bowl—not too tight, not too loose. Secure the bowl with masking tape, leaving the base area exposed. Take very light cuts on the base, reinforcing porous areas with CA. Sand and finish as before.

Hide Glue

Learn why this ancient adhesive still belongs in your shop

by R.S. Wilkinson



Old standby. Hide glue kept the Pharaohs' furniture intact 4,000 years ago—and it's just as useful today. You can even choose different strengths and "recipes" to fit your particular application.

Hide glue has been used since the dawn of woodworking, and with good reason. This simple animal glue offers woodworkers several advantages that today's high-tech adhesives just can't match. You can choose different strengths of hide glue for different situations. And by adding a few ingredients, you can extend the glue's working time, improve its adhesion, or

make the cured glue more elastic. You can even disassemble a cured hide-glue joint and start over.

In this article I'll tell you how to select, mix, and apply hide glue. I'll also share some of my favorite recipes for different gluing situations. (See sidebar, opposite page.) Finally, on page 57 I'll show you how to use hide glue to repair old furniture.

Types of Hide Glue

Hide glue is derived from *collagen*, which is present in animal hides and bones. Hides undergo extensive washing to remove excess acids and water-soluble salts. This process creates a refined gelatin that we know as hide glue. The glue is dried to form pearls or smaller granules. These odorless particles, which vary in color from light amber to dark

HIDE GLUE RECIPES

Unlike many modern glues, hide glue is marvelously malleable. Dry hide glue is identified by gram strength, a comparative number. The higher the number, the faster the glue will set. Grades 135 to 379 are normally used for woodworking; you can modify working qualities by following the recipes below. Mixing ratios are by weight.

GRADE OF GLUE (GRAM STRENGTH)	WATER TO GLUE RATIO (G) FOR POROUS WOOD (PINE)	WATER TO GLUE RATIO (G) FOR NONPOROUS WOOD (MAPLE, BIRCH, ETC.)	BENEFIT
135	1 ¹ / ₄ : 1	1 ¹ / ₂ : 1	Long open time
251	2 ¹ / ₄ : 1	2 ¹ / ₂ : 1	Good general-purpose mix
315	2 ¹ / ₂ : 1	2 ³ / ₄ : 1	Very shock-resistant
379	3 : 1	3 ¹ / ₄ : 1	Strongest

To extend the open time—Add 15% urea (available at pharmacies) or table salt by weight. For example, this recipe will extend the working time of 251-grade glue from 1 minute to approximately 5 minutes.

To improve adhesion—Replace 5% of the water by weight with white vinegar.

For a softer-curing glue—Add 5% to 15% glycerin (available at pharmacies) by weight. Softer glue will better accommodate wood movement—good for situations such as applying the bonnet board to the top of a highboy.

brown, are sold in dry form that you can mix up in your workshop to make a liquid. (See Sources, page 57.)

There are different grades, or *gram strengths*, of hide glue. Woodworking hide glues have gram strengths from 135 to 379. The higher the number, the stronger the glue. Each grade has slightly different working properties, which comes in handy for the wide range of professional work I do. (See sidebar, above.) But even the weakest of these is plenty strong for general use: If your joinery is tight, the wood will fail before the glue does.

You can also buy premixed liquid hide glue at many hardware stores and home centers. It's reversible like the homemade stuff but has a longer open time—15 to 20 minutes instead of one to five. It also has a longer shelf life. But since store-bought liquid hide glue isn't pure (it contains preservatives), it's risky to add other ingredients. This makes it less versatile than dry pearls or granules.

Mix up a Batch

The best way to understand hide glue is to mix up a batch yourself and try it out. You'll need a double boiler or glue pot, a metric scale, a brush, a glass jar with a lid, some water, and hide-glue granules. (See photo at right, and Sources.)

Measure your ingredients in the proper ratios, according to the sidebar above. Then mix the dry and wet ingredients completely in a clean glass jar. Once the hide-glue granules are completely wet, let the mixture stand for one to two

hours. During this time the granules will swell as they absorb water.

When the granules stick together in a jellylike form, and no free water is visible, put the jar in your heating device. I use a Hold Heet brand automatic glue pot, but you could also use a double boiler. Most glue pots maintain a temperature around 140°F. Whichever heating device you use, keep the temperature between 100°F and 140°F, so the glue heats but doesn't burn. You can test temperature with a candy thermometer. Once the glue is between 130°F and 140°F, it's ready for glue-up.

Preparing for Glue-Up

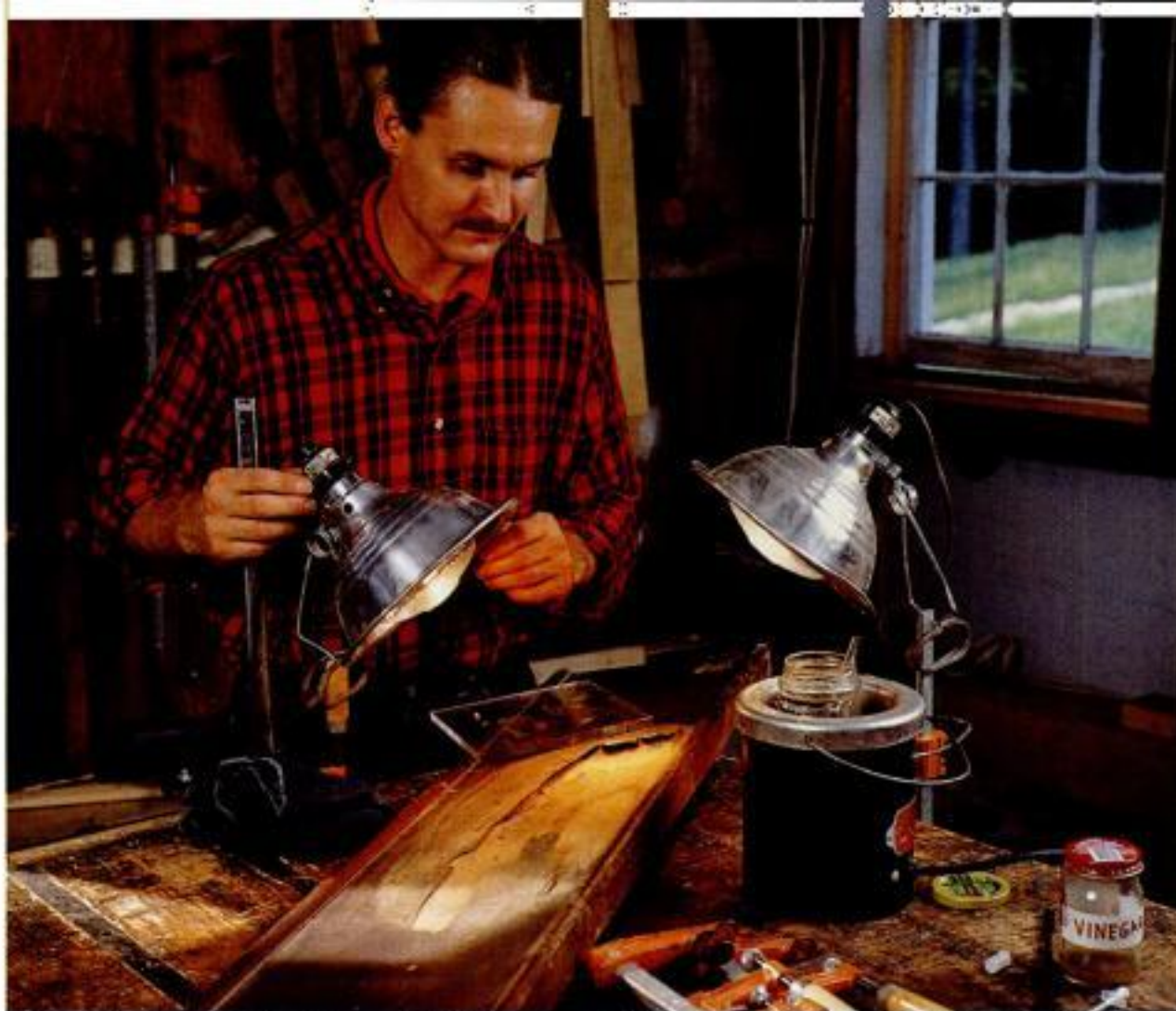
Because hide glue has a shorter open time than most other adhesives—one minute for standard 251 grade—glue-up goes fast. You can extend the open time by adding urea. (See sidebar, above.) But you still need to be well prepared. For an easier glue-up, follow this advice.

Always do a dry assembly first. Look carefully at the fit of your joints; unlike epoxy, hide glue can't compensate for sloppy joinery.

Consider which clamps you'll need, and lay them out prior to glue-up. Hide glue has a strong initial tack,



Important ingredients. Shown clockwise from left: hide-glue granules, glycerin, premixed liquid hide glue, table salt, distilled white vinegar, glue pot and lidded glass jar, metric scale, and brushes.



Warming up. Hide glue will hold better if the wood isn't cold. If your shop is chilly, move the wood to a warmer spot for a few hours before glue-up. Or use heat lamps, as shown here.

which is why some woodworkers eschew clamps and make "rub joints" instead—rubbing the two surfaces together to form a tack bond. I do use clamps on edge joints and for other structural joints, and I clamp or weight veneered surfaces.

For best results, your shop should be 65°F to 70°F. At lower temperatures, the glue will set to a jelly before it has a chance to form the initial "tack" bond—so it won't adhere right. The air should also be fairly dry; high humidity can alter glue consistency and affect adhesion.

If your shop is below 65°F, it's a good idea to warm the wood surfaces beforehand. Store your parts in a heated area before you move them to the shop for glue-up, or use heat lamps or large floodlights to warm the wood onsite. (See photo, above.) You can even use a heat gun on smaller parts—but only heat the wood until it's warm to the touch.

A Quick Glue-Up...

Since glue-up goes fast with hide glue, it's best to break a large project into smaller assemblies, unless you have sev-

eral friends available to help you get the piece clamped together quickly.

Brush the glue onto both joint surfaces as shown in the photo at left below. I like to have some squeeze-out; that way, I know the joint is saturated. It's easy to clean up, as I'll discuss below.

Keep the glue jar covered when you're not actually dipping into it. If the glue is left uncovered, the water will evaporate, affecting the viscosity and setting time.

...And a Quick Cleanup

It's easiest to clean up squeeze-out while it's still wet, using an artists' palette knife (available at art supply stores) or a damp rag. (See photo, below right.) But you can remove dried glue by sanding or scraping, or by scrubbing it gently with a lightly dampened rag. Don't be too concerned if a tiny bit of glue remains. Hide glue is stainable; in fact, 18th-century craftsmen used it as a pore filler for this reason.

As for the leftovers, hide-glue granules can be stored indefinitely, but the home-mixed liquid doesn't keep well. You can refrigerate it in a tightly sealed container for about a week before it begins to spoil. (Old glue is easy to identify—it smells rotten.) But I recommend mixing a fresh batch for each glue-up. ▲



R.S. WILKINSON
makes 18th-century reproductions in Connecticut. He is also studying furniture conservation at the Smithsonian.

APPLYING HIDE GLUE



Brush on. When the glue is between 130°F and 140°F, brush it onto both surfaces of the joint.



Roll off. Close the joint, clamp it, and scrape off the excess using an artists' palette knife or a damp rag.

REPAIRING ANTIQUES WITH HIDE GLUE

Hide glue is your best choice for repairing old furniture. Most pre-1950s furniture was assembled with hide glue. If you use hide glue to repair such furniture, you'll avoid the adhesion problems that can occur where two different glues meet. What's more, if the original joints are well cut, your hide-glue repair will outlive its maker—unless you choose to break the bond.

REPAIRING LOOSE VENEER

First, examine the old glue. Carefully lift the edge of the veneer with a palette knife (available at art supply stores) or any other thin, flexible blade. Be careful not to break the veneer. If there is old glue under the veneer, and it's in good condition, inject or brush some warm water under the veneer to reactivate the glue. (See photo, right.) Then put a caul over the veneer, clamp it, and allow it to dry overnight.

You can also reactivate old glue with heat using a household iron or a tack iron, also called an edge-banding iron. (See Sources.) I wouldn't recommend this on any piece where the finish is valuable—it may damage the finish. But heat works very well along an edge, and it also works on cracked veneer. Set your iron to low or medium heat, without steam. To help avoid finish problems, place several layers of rags between the veneer and the iron, and try to keep the heat localized. Sweep the iron slowly back and forth over the surface, applying gentle pressure. Clamp or weight the veneer, and let it dry.

If the old glue looks powdery, you'll need to add new glue. But first inject or brush on some warm water, to help soften the old glue. Gently scrape away the old glue with a palette knife, if you can do so without damaging the veneer. Then brush on fresh hide glue, clamp with cauls, wipe off any squeeze-out, and let the piece dry overnight.



Handle with care. To fix delicate veneer without disturbing the finish, inject warm water or dab on some fresh hide glue.

REPAIRING STRUCTURAL JOINTS

Examine the old glue. If the joint is only partially loose, inject or brush warm water into it to loosen it up. (See photo, right.) Let it sit for five to 10 minutes, then gently pull the joint apart. Remove the bulk of the old glue with a palette knife or a rag before you add any new glue. Then brush on some fresh glue, clamp the joint, wipe off any excess hide glue, and allow the joint to dry.

If the joint is still stuck, try injecting white vinegar; it's more aggressive than warm water. If this doesn't work, either the old glue isn't hide glue, or the joint is pinned or wedged somehow. In this situation, adding hide glue is a "Band-Aid" at best. This reconstituted joint won't be as strong as a cleaned and freshly glued joint, but it is a reversible project and a much better solution than epoxy.

—R.S.W.



Loosen up. To undo an old hide-glue joint, inject warm water into the crevice. In five to 10 minutes, pull it apart. If water doesn't work, try vinegar—it's more aggressive.

SOURCES

HIDE GLUE

Bjorn Industries
(704) 364-1186
Circle #601

Constantine's
(800) 223-8087
Circle #602

Lee Valley Tools
(800) 871-8158
Circle #603

Garrett Wade
(800) 221-2942
Circle #604

Highland Hardware
(800) 241-6748
Circle #605

Woodcraft Supply
(800) 225-1153
Circle #606

METRIC SCALES

Cole-Parmer
Instrument Co.
(800) 323-4340
Circle #607

PALETTE KNIVES

Lee Valley Tools
(800) 871-8158
Circle #603

GLUE POTS

Woodworker's Supply, Inc.
(800) 645-9292
Circle #609

The Woodworkers' Store
(800) 279-4441
Circle #610

TACK IRONS

Constantine's
(800) 223-8087
Circle #602

Shaker Wall Clock

*A simple exterior hides
handmade mitered dovetails*

by Robert Treanor

The old clock on the wall said it was 8:45. An hour later, the old clock on the wall said it was 8:45. The time was obviously right for a new clock on the wall.

This small, elegant wall clock fills the need nicely, and it can just as easily be used on a shelf. It is based on an original made by Brother Isaac Newton Youngs of the New Lebanon, NY, Shaker community. Brother Isaac learned clockmaking as a youngster from his uncle, Benjamin. He continued making clocks after he joined the Shakers in 1807—and he also kept extensive journals, which are treasured by historians today.

My version of Brother Isaac's clock offers two techniques that put your hand skills to the test. First is the blind mitered dovetails that join the case. Second is the mitered sticking on the frame-and-panel portion of the door. I'll address each of these techniques in sidebars on pages 60 and 63. In the main text, I'll discuss general construction. The drawing on the opposite page gives the dimensions you'll need to build the clock.

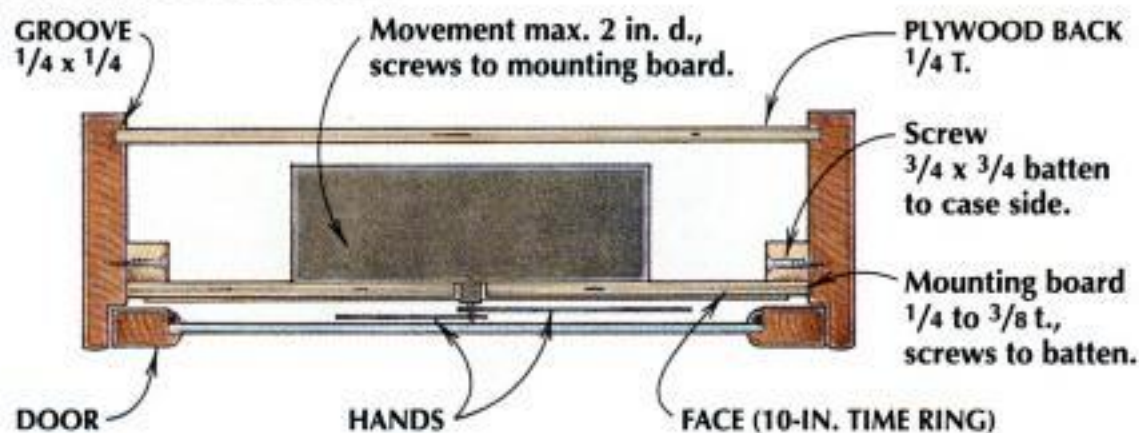


Keeping time. This simple-looking clock conceals strong, elegant joints that will challenge your hand-tool skills.

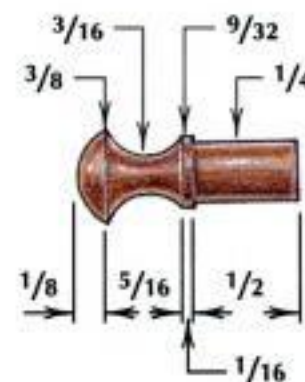
WALL CLOCK

The most challenging aspects of the clock's construction are the blind mitered dovetails that join the case, and the mitered sticking that joins the frame-and-panel portion of the door. For more on these joints, see the sidebars on pages 60 and 63.

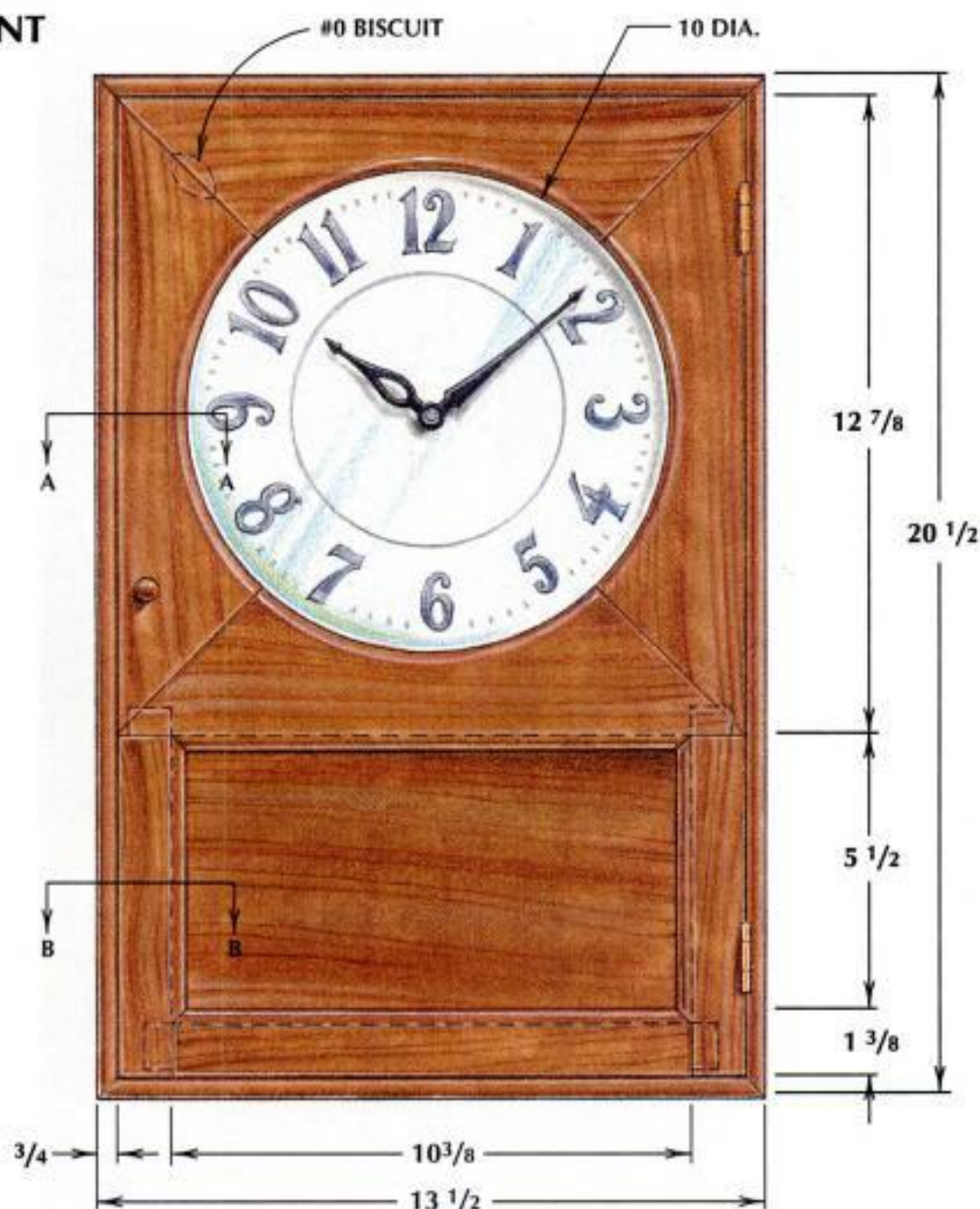
SECTION THROUGH TOP



PULL DETAIL



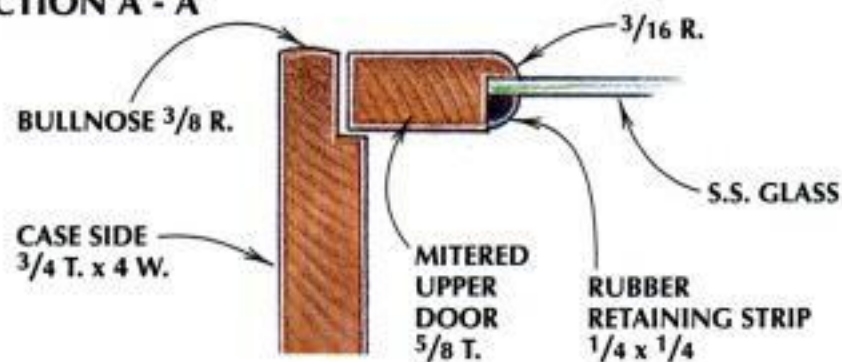
FRONT



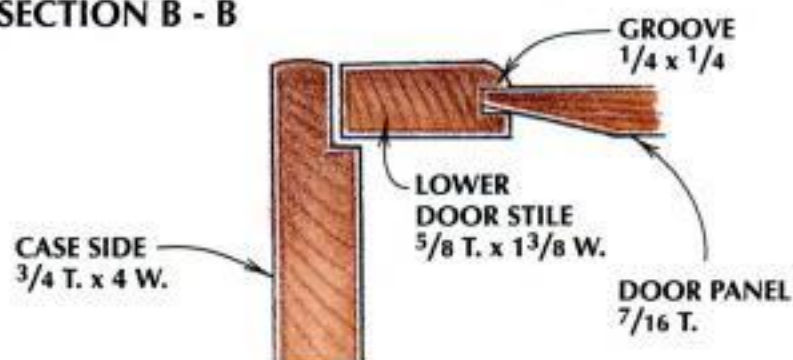
SIDE



SECTION A - A



SECTION B - B



BLIND MITERED DOVETAILS

The blind mitered dovetails that join the clock case are very strong, but they do not detract at all from its simplicity. I suppose you could view them as an example of Shaker humility—accurate layout, sharp tools, and a bit of skill will result in a well-made joint nobody will see.

Baselines, miter lines, and rabbets—Use a marking gauge to scribe baselines on the insides of all the case pieces. Make each baseline as wide as the piece is thick. Next, lay out a miter line on both edges of each end. The miter line starts where your baseline meets the edge of the board, and it must exactly intersect the outside corner of the board.

Now lay out a $\frac{1}{4}$ -in.-wide by $\frac{1}{2}$ -in.-deep rabbet on the inside face of the end of each board. Cut the rabbet with

a back saw, securing the work against a bench hook. I used chisels and a sharp rabbet plane to clean up the rabbet.

The pins—Because of the rabbet, I couldn't use a sliding T-bevel to lay out the pins as I usually do. Instead, I made a stiff paper template and indexed it over the end of the rabbet. Use a marking knife or thin leaded pencil to mark your pins, and mark the waste with an "X" to avoid confusion. (See 1.) Be sure to account for the rabbet in the front edges that will hold the door, and the groove on the inside edges that will hold the back in place. The drawing opposite will guide you.

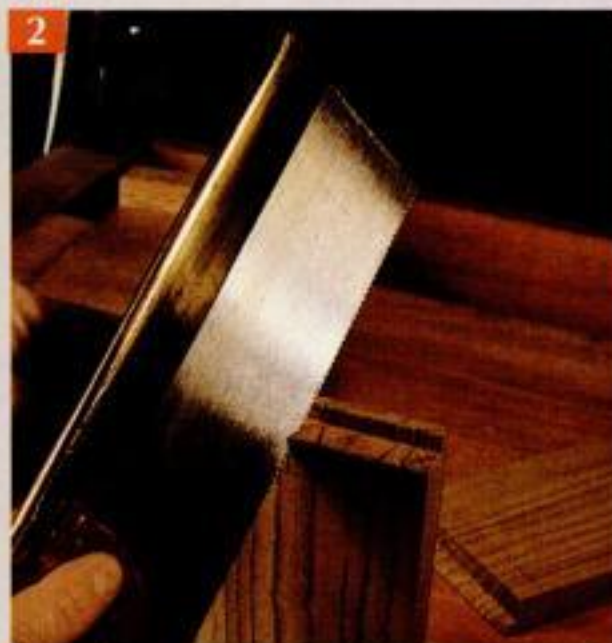
To cut the pins, hold your saw at a fairly steep angle, and saw on the waste side of your layout lines. (See 2.) You needn't worry if the saw cuts lightly mark the lap—you'll miter the lap soon.

Clean up any waste with sharp chisels. I like to clamp a square, hardwood guide block across the stock at the baseline, to guide the chisel on downward cuts. (See 3.) First chop straight down against the guide block, to form a stopping mark. Then pare in from the end of the board to remove the chip. Keep doing this until all the waste is removed. You've reached final depth when you've pared to the thickness of the rabbet lap.

Mitering method—Mitering proceeds after you've cut the pins or tails on a board. You can use the same two-step method for both pin and tail pieces. First, miter the "chunks" of excess wood on each side of the pins. Approach the miter lines with a handsaw, staying on the waste side. Then pare to the line with a chisel. I clamp a mitering template to the



1 *Lay out the pins.* Make a stiff paper template to lay out the pins first. Note the lap left behind the pins—evidence of the rabbet cut before joint layout.



2 *Sawing protocol.* Keep your saw at a steep angle, and cut on the waste side. Don't worry about shallow marks on the rabbet lap.



3 *Pare to the rabbet lap.* Carefully pare down to the thickness of the rabbet lap. The clamped-down board supports the chisel on downward cuts.

A word of good news: The clock requires only a minimum of wood. Cherry or butternut are the historically correct choices, but any wood will do. I used red elm lumber, salvaged from trees on city streets. ([See Sources, page 62.](#))

Case Construction

The case is joined with blind mitered dovetails, as shown in the sidebar above. Before you cut any joints, dimension, plane, and scrape both sides of your stock. Also sand the inside surfaces at this point—doing so after dovetailing risks jeopardizing the fit of the joint.

After you've cut the case joints but before assembly, cut the rabbet for the door and the groove for the back of the case. To make the rabbet, I used a $\frac{3}{4}$ -in. dado set on the tablesaw, and cut $\frac{1}{4}$ in. deep. I sawed the groove $\frac{1}{4}$ in. wide and $\frac{1}{4}$ in. deep.

This is also the time to put the $\frac{3}{8}$ -radius bullnose on the case's front edge. You can use a router or a hand plane to make the bullnose. Cut the $\frac{1}{4}$ -in. birch plywood back to size, and then you're ready to glue up the case.

If you cut your case joints accurately, glue-up should proceed smoothly. The

joints tend to be self-squaring, especially with the back fit into its groove. When the glue is dry, final-sand the exterior of the case.

Door Construction

The door of the clock is something of a hybrid. The top half is mitered, while the bottom half is a more traditional frame and panel with mitered sticking. ([See sidebar, page 63.](#)) I can only assume that Brother Isaac made it this way because his expertise was in clock-making and not cabinetmaking. Regardless, this peculiar design makes

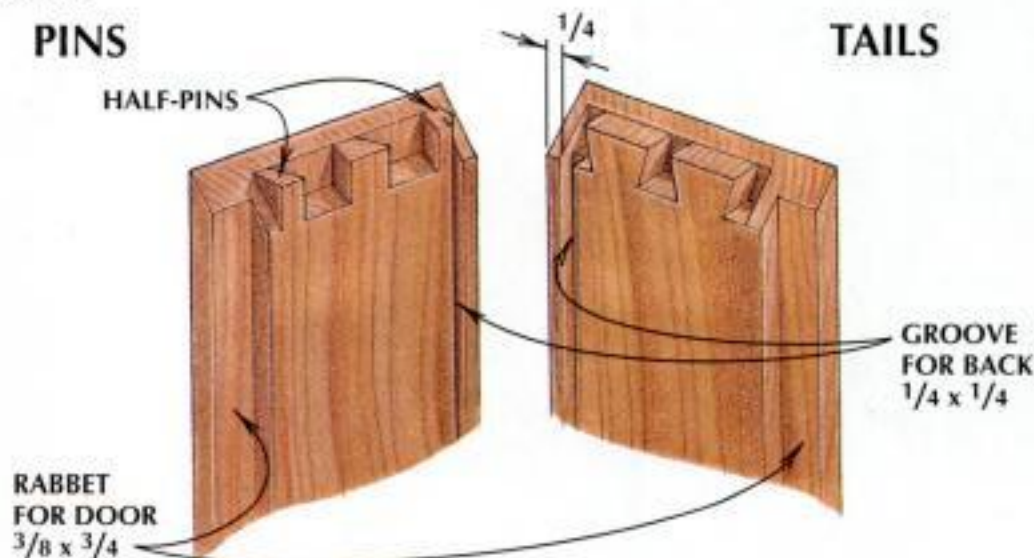
board to guide my paring—nothing more than a hardwood block cut to exactly 45° and rabbeted on one edge to wrap around the case stock. (See **4**.)

Second, miter the in-between part—the remaining length of the lap created when you cut the rabbet. (See **5**.) This step gets rid of any saw marks you made in the lap. To make the mitering template for this portion, saw a piece of hardwood, wider than the case sides, to exactly 45°. Then clamp it in line with the end of the case sides. Guide a sharp rabbet plane or chisel along it, and you'll trim the end to a perfect miter.

The tails—To lay out the tails, superimpose the pins on your tail piece. (See **6**.) Be careful to line up the pins with your tail baseline. As with the pins, mark with a layout knife or pencil, and put an "X" on the waste.

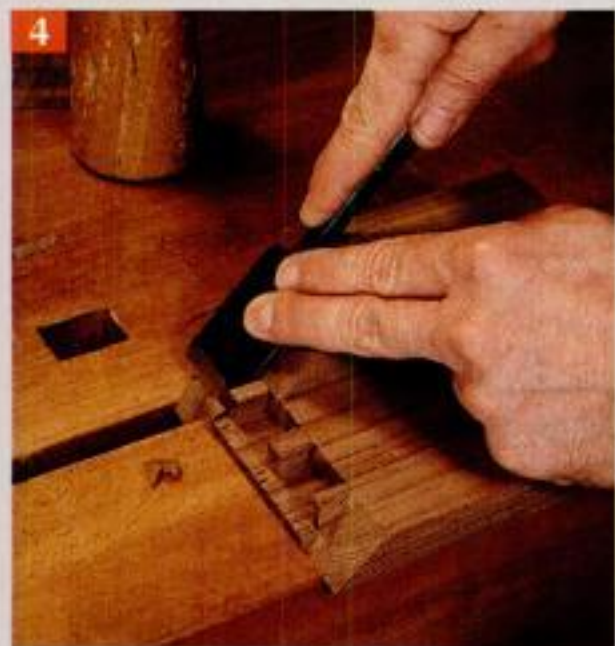
BLIND MITERED DOVETAILS

Blind mitered dovetails combine the simple look of a miter with the strength of dovetails.



Sawing, chopping, and paring is the same as for the pins. And once again, there's no need to worry about shallow saw marks in the lap, since you'll cut the miter soon. Use the same mitering templates as before to get an accurate

miter above and around the tails. With tails and miters cut, you can dry-fit the joints and touch them up as necessary. Then cut the rabbet for the door and the groove for the back of the case. (See main text.) —R.T.



Miter the ends. Saw, then pare away the "chunks" outside the pins. A mitered template wraps around the stock to guide your chisel.



Miter the middle. Another template guides the rabbet plane as you miter the length of the rabbet lap. This removes stray saw marks on the lap.



Use the pins to lay out the tails. Scribe your tail lines by holding the adjacent pins carefully against the baseline.

both the project and the finished piece more interesting.

Mitered top half—Make the mitered frame for the top part of the door first. Given the mitered dovetails that join the case, you might assume a sophisticated joint for the door. Not so: I cut the frame joints on the chop saw and reinforced them with #0 biscuits. (The Luddite in me cringes to admit it.) But a hand-cut lapped miter is also a good choice.

After you've cut these joints, glue up the top half and set it aside to dry. You'll chop the mortises for the bottom half and cut the circle for the glass later.

Frame-and-panel bottom half—Now turn your attention to the bottom portion of the door. After dimensioning your parts, plane or rout the round-over along the inside edges of the frame members, and on the bottom edge of the mitered frame. Also cut the groove for the panel. The width of this groove— $\frac{1}{4}$ in.—sets the thickness of the tenon and the width of the mortise.

Instead of relying on power tools to make the mortises and tenons, I decided to do the joinery work the same way that Brother Isaac would. Here's the hand-tool approach:

A tenon saw is my tool of choice for cutting the tenons. Clamp the piece to be tenoned in a vise, pointing up and away from you. Start the cut in the near corner, sawing down along the waste side of the line on the edge and end of the board. (See top photo, page 62.) Stop when you reach the shoulder line. Then reposition the work so it points toward you, and make the corresponding cut. Make the final cheek cut with the work held vertically in the vise. The two previous cuts will guide you.

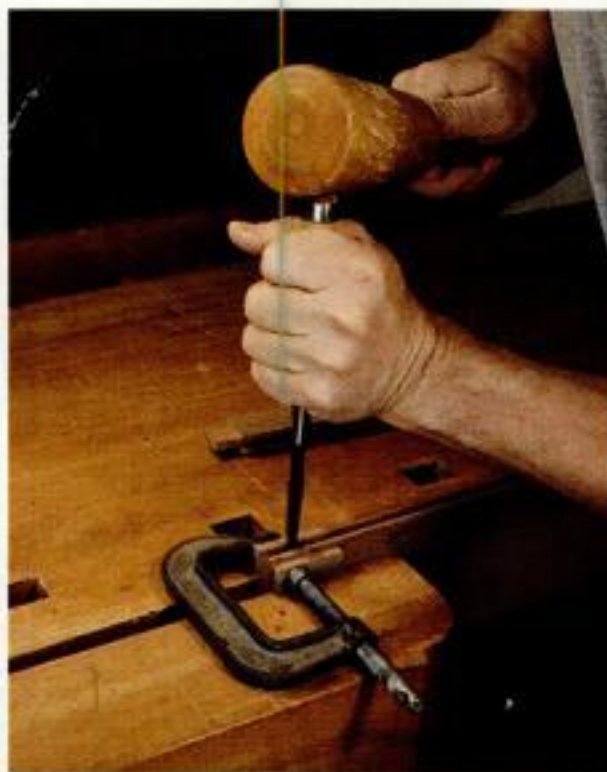
To cut the tenon shoulders, support the work against a bench hook and use



Saw the tenon cheek. Make the first cut with the work pointing away from you. Then flip the work so it points toward you. Complete the cheek cut with the work clamped vertically.



Groove along the tenon shoulder. A shallow groove pared along the tenon's shoulder line will help keep your saw square.



Support for mortising. Pads on each side prevent blowout as you chop a mortise in the groove. Note the round-over on the edge of the stock.

SOURCES

Red elm "urban salvage" is available from Eco Timber International, 1020 Heinz Ave., Berkeley, CA 94710, (510) 549-3000 *Circle #613*

Battery-operated quartz movement with mechanical strike (part #1003327) is available from Precision Movements, Box 689, Emmaus, PA 18049, (800) 533-2024 *Circle #614*

Clock dial (part 7416S) and hands (part 4870X) are available from Woodcraft Supply, Box 1686, Parkersburg, WV 26102, (800) 225-1153 *Circle #615*

a chisel to score deeply along the shoulder line. Now pare the scored line to form a shallow channel, square along the shoulder line. (See bottom left photo.) This channel will guide your saw, keeping the shoulder cut square to the edge.

Since the mortises are small, I chop them with a $\frac{1}{4}$ -in. mortising chisel instead of bothering to drill out the waste. It's a good idea to reinforce the stock with a clamp and some wood scraps, to help prevent the work from splitting. (See bottom right photo.) At this point, you can also chop the mortises in the top half of the door.

When you're done making the tenons and mortises, you'll need to miter the round-overs on the inside edges, so you can fit the frame members snugly together. The sidebar opposite explains this in greater detail.

The solid panel for the door frame is thicker than the groove that holds it, so you'll need to raise its inside face. (See Section B-B, page 59.) I do this with a sharp hand plane.

Final-sand the parts, then glue up the door. Make sure that the assembly is square, and that the top and bottom sections lie in the same plane. Once you've removed the clamps, cut the circular opening for the glass in the top portion of the door—I use a scroll-saw—and rout the rabbet for the glass. I tack a quarter-round strip of rubber, sold at local glass suppliers, behind the glass to cushion it. (See Section A-A, page 59.)

At this point, I cut the mortises for the hinges and fit a half-mortise lock in the door. (For more on fitting half-mortise locks, see AW #56.) But you could substitute a small pull and a friction catch. ([See Pull Detail, page 59.](#))

Final Notes

I finished this clock with tung oil, then installed the clock dial and battery-powered quartz movement. If you prefer to use a mechanical movement (available from Klockit, 800-556-2548) you'll need to enlarge the case slightly. ▲



ROBERT TREANOR writes and works wood in northern California. He specializes in early American and Shaker furniture.

MITERED STICKING

If you look closely, you'll see that a neatly mitered round-over runs around the inside edge of the clock's door frame. (See photo, right.) This molding is planed or routed into each frame member before joinery—it's not a separate piece tacked on later. This is why it's called "stuck" molding, as opposed to "applied" molding. It's this inner molding, or "sticking," that must be mitered at each corner of the door frame. (See drawing.)

Despite the semantics, mitered sticking is not difficult to make. Once you've cut your tenons and chopped your mortises, you simply trim away the excess molding on the mortised pieces, and miter the molding on each piece where mortise meets tenon.

Scribe guidelines down the face of each mortised piece as shown in 1. These will help you saw away the excess and line up your mitering template accurately. No need for guidelines on tenoned pieces; you'll simply line up the mitering template with the tenon shoulder.

Trim away the bulk of the molding below each mortise with a handsaw, as in 1. Do the final paring with the molding depth line clamped flush to your bench, as in 2. Check your progress with a small try square. Be especially careful to keep your edges square on the mortised pieces—otherwise a gap will show in the finished joint.

To miter the molding on both mortised and tenoned pieces, guide your paring chisel along the same wraparound mitering template that you used to miter the ends of your case pieces. (See 3.)

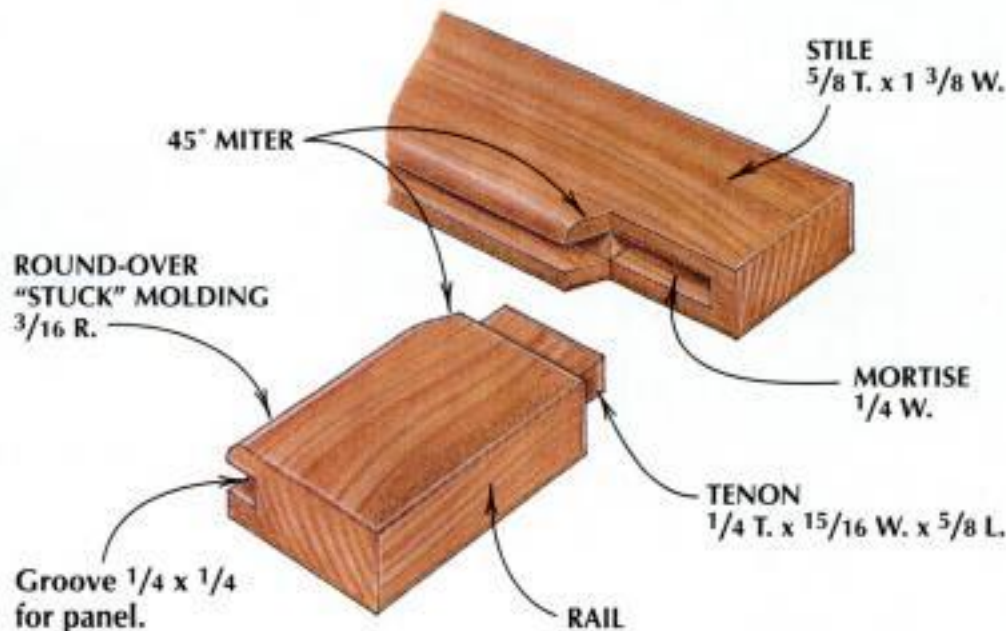
—R.T.



A perfect fit. Mitering the integral, or "stuck," molding on adjoining stiles and rails is a traditional doormaking technique.

MITERED STICKING

Molded stiles and rails must be shaped to accommodate the frame joinery. The easiest solution is to miter the molded portion, as shown here.



Saw the bulk. Use a handsaw to trim away most of the excess molding on the end of the mortised stock. A diagonal line will help you miter the molding accurately.



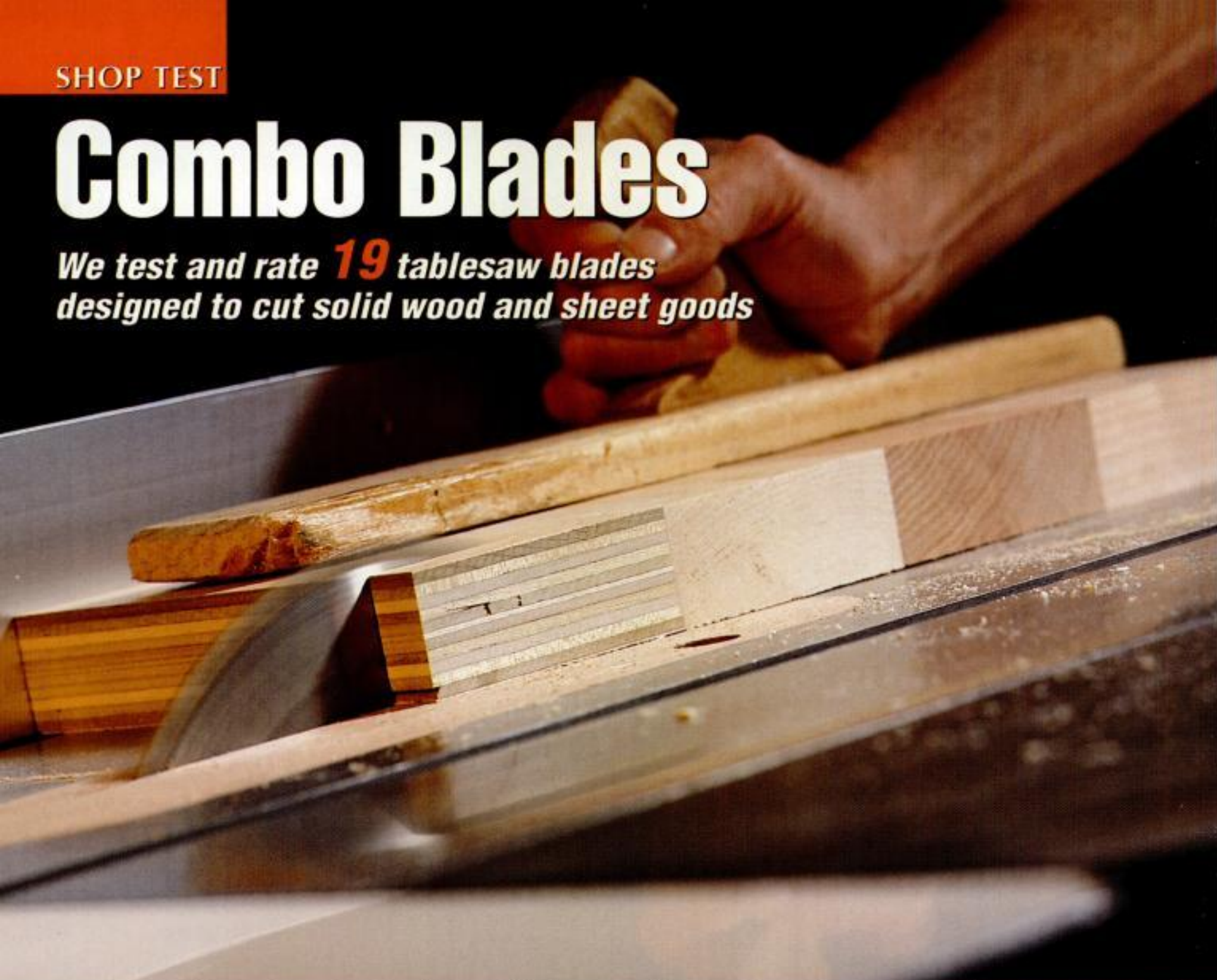
Pare the rest. Clamp the mortised stock in your bench vise, keeping the molding depth line flush with the benchtop. Then pare to the line with a chisel.



Miter the molding. Clamp each frame member—mortised or tenoned—to the wraparound mitering template you used on the case joints. Pare the molding flush to the template.

Combo Blades

We test and rate **19** tablesaw blades designed to cut solid wood and sheet goods



Cutting versatility. Today's crop of combination blades can produce good to excellent cuts in solid wood and sheet goods.

Wouldn't it be great if you could buy just one carbide blade and leave it on the tablesaw all the time? The perfect all-purpose blade would make glass-smooth crosscuts and glue-line rips in solid wood, and also produce clean, chip-free edges in plywood and other sheet materials. Does such a blade exist?

Not quite. But the steady improvement in the quality of carbide-tooth "combo" blades over the past 15 years shows that manufacturers are pushing hard to develop that ideal all-purpose tablesaw blade. For this buyer's guide, we tested a total of 19 10-in. blades priced from \$45 to \$119. Our findings will help you decide which blade is best for your budget and the kind of woodworking you do.

Combo vs. All-Purpose

There are two kinds of carbide-tooth combination blades on the market today: the traditional 50-tooth combo blade and the newer 40-tooth "all-purpose" blade. (See sidebar, opposite.) Don't be confused by the terminology. Combination and all-purpose blades are meant to do the same thing: make smooth, accurate cuts in solid wood and most sheet materials. How well they deliver is the subject of our performance tests.

Tune First, Then Test

To get the best results from any tablesaw blade, your saw needs to be fine-tuned. Before we tested the blades, we super-tuned a 3-HP Jet cabinet saw. We measured the runout of the arbor flange at less than 0.001 in. (We consider less than 0.003 in. runout acceptable.) Then we adjusted the tabletop's position on its base to get the blade perfectly parallel with the miter slots, and we made sure that the rip fence was straight and exactly parallel with the miter slots. (For more on super-tuning a tablesaw, see AW #43.)

Most of our performance tests involved cutting into three species of solid wood—pine, oak, and hard maple—and two different sheet materials, birch plywood and melamine-coated particleboard (MCP). But before we started slicing through those materials, we checked out two other important factors. First, we measured each blade's arbor hole to make sure that the diameter was exactly $\frac{5}{8}$ in. If you can feel slop between the blade and the arbor when installing the blade, or if the blade fits too tightly on the arbor, this will adversely affect the cut. None of our test blades had either of these problems.

Second, we measured each blade's noise level. Noise originates primarily from blade vibration and air turbulence in the

spinning blade's gullets, and is amplified by the steel plate. Some manufacturers laser-cut narrow slots in their plates to reduce amplification.

We used a decibel (dB) meter to take noise readings at ear level for an average-size (5-ft., 10-in.) woodworker. We measured with each blade spinning freely, and when the blade was cutting $\frac{3}{4}$ -in. plywood. The quietest free-spinning blade was the Freud F40 (78.2 dB), while the Ridge Carbide was the quietest cutter (87 dB). (See chart, page 66, for complete ratings.) To give you a point of reference, the Occupational Safety and Health Administration (OSHA) recommends hearing protection for decibel ratings above 85 dB for eight hours' duration. We recommend that you always wear hearing protection when operating a tablesaw.

Finally we were ready to make sawdust. We set the height of each blade so that its primary gullet cleared the workpiece by $\frac{1}{8}$ in. (For more on setting blade height, see "Q&A," page 18.) An experienced woodworker fed the stock at a steady, comfortable rate for each particular blade—never hesitating or pushing too hard.

With each blade we made at least three rips and four crosscuts in $\frac{3}{4}$ -in. pine, $\frac{3}{4}$ -in. oak, and $\frac{6}{4}$ hard maple. We also cut $\frac{3}{4}$ -in. cabinet-grade birch plywood (across the grain of the face veneer) and $\frac{3}{4}$ -in. MCP.

General Findings

Our main interest in the performance tests was to see what kinds of cuts you can expect from different combo blades in different materials. Before getting into specific results, here are some general observations that we made:

- **A finely tuned saw is crucial.** As an experiment, we adjusted the rip fence slightly out of alignment, and we got rougher cuts from all blades when ripping solid wood and cutting plywood.

- **Rips are most revealing.** The rip cuts we made in hard maple revealed the biggest differences in cutting quality. We got the smoothest rips in $\frac{6}{4}$ maple from the Forrest Woodworker II blade—in fact, they look and feel like they just came off the jointer, ready for glue-up. Yes, you can actually rip glue-line edges with a few of these combo blades. (See chart.) But there's a tradeoff in feed rate: Because a combo blade has more teeth than a dedicated ripping

Text continued on page 68.

THE COMBO COMPROMISE

First there were dedicated rip blades and dedicated crosscut blades. Then manufacturers combined some features of each to make a combination blade that would rip and crosscut. But combining the features resulted in a tradeoff: While the combination blade is versatile and convenient, it doesn't cut with the grain as quickly as a dedicated rip blade, and it doesn't cut across the grain as smoothly as a dedicated crosscut blade.

Tooth Talk

You'll better understand the tradeoffs if you know some basic saw-tooth geometry. A 10-in. dedicated rip blade typically has just 24 or 30 teeth. On most rip blades the teeth are ground flat on top, so they can chip away at the wood like little chisels. Relatively large gullets between the teeth allow efficient removal of chips for fast ripping.

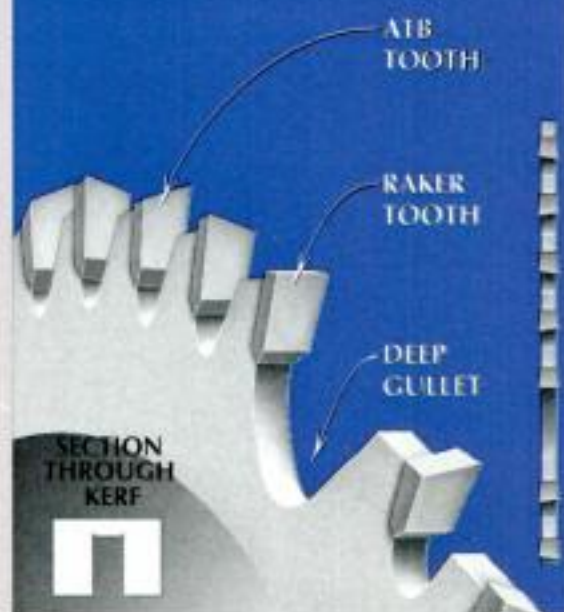
Dedicated crosscut blades (also used for mitering) have 60 or 80 teeth, and they're beveled on top in alternating directions. Because of this, they're often called alternate top bevel (ATB). The sharp points on the teeth cleanly shear the wood fibers on both sides of the kerf with little or no tearing or splintering. Usually the more teeth, the smoother the cut.

Traditional combo blades compromise with 50 teeth—usually four ATB teeth to one flat-top "raker" tooth. (See drawing, below left.) In front of the raker there's a large gullet for clearing chips. But since a traditional combo blade has more teeth and mostly smaller gullets than a dedicated rip blade, it won't rip as fast. And because it has fewer ATB teeth than a dedicated crosscut blade, it won't crosscut quite as smoothly.

The newer "all-purpose" blades commonly have 40 teeth, all ATB. (See drawing, below right.) It's a different compromise: fewer teeth like a rip blade, but all ATB grind like a crosscut blade. But their performance is similar to the 50-tooth ATB&R combos. (See chart, page 66.)

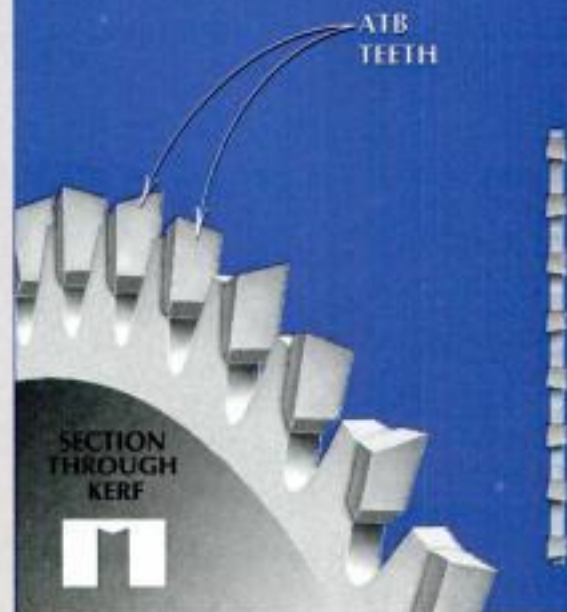
One notable difference between the two kinds of combination blades is the kerf profile that the teeth make. The ATB teeth produce a slight peak in the bottom of the kerf. The ATB&R blade produces a flatter-bottom kerf thanks to the flat-top raker. (See section drawings, below.)

TRADITIONAL COMBINATION BLADE



ATB&R. The traditional combo blade has 50 teeth. For every four alternate-top-bevel (ATB) teeth, there's one flat-top raker (R), preceded by a deep gullet.

ALL-PURPOSE BLADE



ATB. The newer "all-purpose" blade typically has 40 teeth, closer to a rip blade's 30. But all are alternate-top-bevel (ATB) grind like a crosscut blade.

COMBINATION TABLESAW BLADES

Brand & Model	No. of Teeth, Profile ¹	Price	NOISE RATING (DB) Free spinning/ Cutting	PERFORMANCE RATINGS					
				Crosscut 3/4 Pine	3/4 Oak	6/4 Maple	Rip 3/4 Pine	3/4 Oak	6/4 Maple
Forrest Woodworker II (800) 773-7111 <i>Circle #620</i>	 40 ATB	\$107	83.7/ 88.6	4.5	5	4.5	5	5	5
Ridge Carbide TS-2000 (800) 443-0992 <i>Circle #621</i>	 40 ATB	\$119	81.6/ 87	5	4.5	4.5	5	5	4.5
Oldham 100-7150 (800) 892-4866 <i>Circle #622</i>	 50 ATB&R	\$79	83.8/ 91.8	4.5	5	4.5	5	5	4.5
Craftsman 32035 Master Combo See your local Sears store. <i>Circle #623</i>	50 ATB&R	\$70	83.1/ 91.2	4	4.5	3.5	5	5	4.5
Craftsman 27082 See your local Sears store. <i>Circle #623</i>	40 ATB	\$50	78.5/ 90.3	4	4.5	4	4.5	5	4.5
Oldham 100-W40 (800) 892-4866 <i>Circle #622</i>	40 ATB	\$80	81.6/ 87.2	4	4.5	4	5	5	4.5
Freud LU84R (800) 334-4107 <i>Circle #624</i>	50 ATB&R	\$60	82.5/ 90.6	4	4.5	4.5	4.5	4.5	4
Jesada 110-500 Maxi-Combo (800) 531-5559 <i>Circle #625</i>	50 ATB&CR	\$67	85.2/ 91.4	4	4.5	4	4.5	4	4.5
DML 74020 (800) 626-1802 <i>Circle #626</i>	50 ATB&R	\$70	83.3/ 91.4	4	4.5	3.5	4.5	4	4
DML 74010 (800) 626-1802 <i>Circle #626</i>	40 ATB	\$70	80.5/ 90.9	4	4.5	3.5	4.5	4	4
Systematic Budke (800) 426-0000 <i>Circle #627</i>	 50 ATB&R	\$45	79.3/ 92.7	4	4.5	4	4.5	4.5	4
Delta 35-617 (800) 438-2486 <i>Circle #628</i>	50 ATB&R	\$45	80.7/ 90.6	3.5	4.5	3.5	4.5	3.5	3.5
Delta 35-614 (800) 438-2486 <i>Circle #628</i>	48 ATB	\$45	80.4/ 89.4	4	4.5	3.5	4	3.5	3.5
Amana 610504 (800) 445-0077 <i>Circle #629</i>	50 ATB&R	\$50	82.9/ 93.1	4	4.5	3.5	4	3.5	3
Amana 610400 (800) 445-0077 <i>Circle #629</i>	40 ATB	\$50	82.9/ 88.6	4	4.5	3.5	4	3.5	3
DeWalt DW-7150 (800) 433-9258 <i>Circle #630</i>	50 ATB&R	\$60	79.4/ 89	4	4	4	4	3.5	3
Freud F40 (800) 334-4107 <i>Circle #624</i>	40 ATB	\$55	78.2/ 87.2	4	4.5	3.5	3.5	3.5	3
Tenryu RS25548CBN (800) 951-SAWS <i>Circle #631</i>	48 ATB	\$55	80.9/ 90	4	4.5	3	4	3.5	2.5
CMT 215.050.10 (800) 228-2487 <i>Circle #632</i>	50 ATB&TC	\$59	85/ 91.1	3.5	3.5	3.5	3.5	3.5	3

Guide to ratings: 5 = excellent, 4 = very good, 3 = good, 2 = acceptable, 1 = poor

¹Tooth Profiles: ATB = Alternate top bevel, ATB&R = Alternate top bevel and flat-top raker, ATB&CR = Alternate top bevel and chamfered raker, ATB&TC = Alternate top bevel and triple-chip raker

3/4 Birch Plywood	OVERALL RATING				
	1	2	3	4	5
4					
4.5					
4					
4					
4					
3.5					
3.5					
4					
4.5					
4.5					
3.5					
4					
4					
4					
4					
3.5					
3					

HIGHS & LOWS

SMOOTHEST RIP CUTS IN HARDWOOD

Forrest Woodworker II

ROUGHEST RIP CUTS IN HARDWOOD

Tenryu

SMOOTHEST CROSSCUTS IN HARDWOOD

Forrest Woodworker II and Oldham 50-tooth

ROUGHEST CROSSCUTS IN HARDWOOD

CMT and Tenryu

SMOOTHEST CUTS IN BIRCH PLYWOOD

DML 50-tooth, DML 40-tooth, and Ridge Carbide

ROUGHEST CUTS IN BIRCH PLYWOOD

CMT

LOUDEST BLADE

Jesada Maxi-Combo (free spinning): 85.2 dB

Amana 50-tooth (cutting): 93.1 dB

QUIETEST BLADE

Freud 40-tooth (free spinning): 78.2 dB

Ridge Carbide (cutting): 87 dB



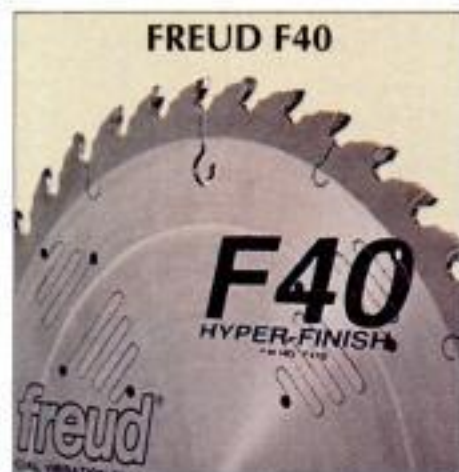
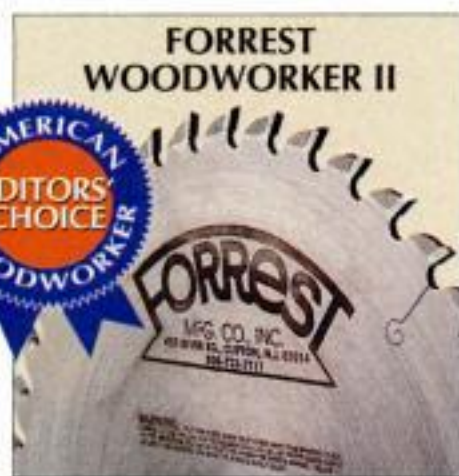
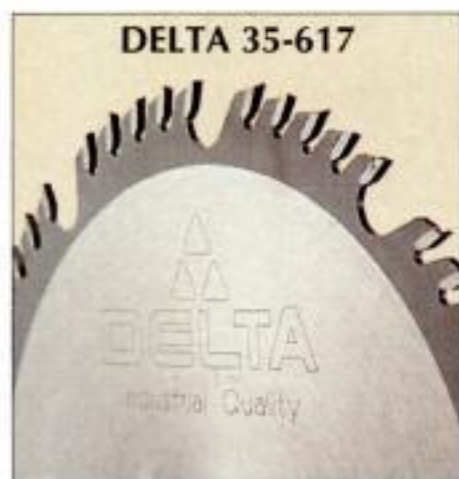
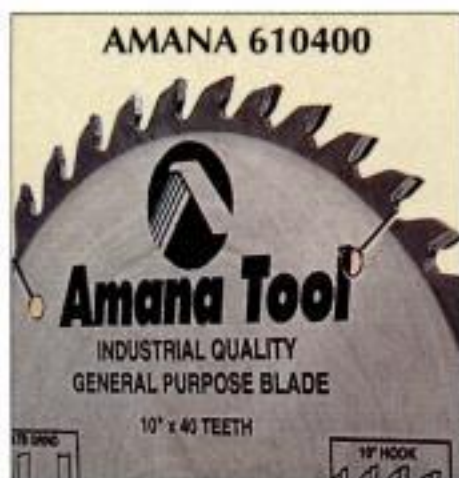
Best & worst rips. Saw marks are barely detectable in the smoothest rip cuts made by a combo blade in 6/4 hard maple (left). The roughest rip needs a couple of good passes with a hand plane (right).



Best & worst crosscuts. The finest crosscut in 6/4 hard maple (left) looks very smooth. The worst cut (right) is still acceptable.



Best & worst plywood cuts. The best cuts in cabinet-grade birch plywood left almost no chipping on the bottom edge (left). The worst cut produced obvious chipping (right).



blade, combination blades rip more slowly.

•**Crosscuts are very, very good.** We compared the crosscut edges produced by our combo blades with the edges produced by an 80-tooth crosscut blade. The best of the combo blades came pretty close, but they couldn't duplicate an 80-tooth blade's mirror finish. (See Best & Worst photos, page 67.)

•**Material makes a difference.** A blade's cutting smoothness varies with the materials and the type of cut. Some blades did better cross-cutting than ripping (the Freud LU84R, for example), and some blades, such as the two DML models, produced better results cutting plywood than solid wood. (See chart.)

•**Expect chipping in MCP.** None of our test blades produced chip-free cuts in MCP. To achieve excellent cuts without chipping the brittle, super-thin melamine coating, we recommend a "high-ATB" or "triple-chip ATB" blade made especially for man-made materials. Or you can score along the cutting line with a mat knife before cutting with a combo blade.

Picking the Winners

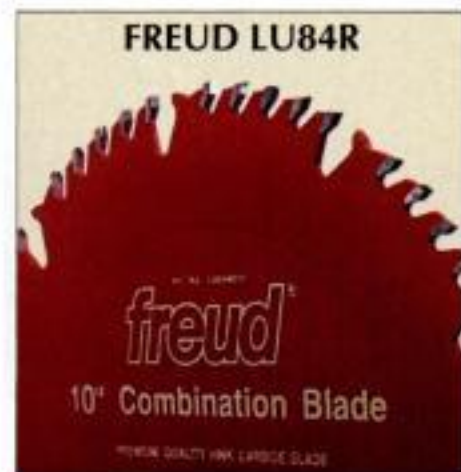
We got good to excellent overall results from every blade we tested. Even the lowest-rated blades delivered acceptable cuts: sawn edges that can be made into finished surfaces with a pass on the jointer or a couple of passes with a hand plane. Take a look at our performance ratings and you'll see plenty of 4's and 4.5's—very good and better. In fact, the top 11 blades in our tests all earned overall ratings between very good and excellent.

Editors' Choice—The two most expensive blades—the Forrest Woodworker II at \$107 and Ridge Carbide at \$119—came away with the highest overall scores. They were followed closely by the Oldham 50-tooth blade at \$79. This trio earns our Editors' Choice award for best performance regardless of price. They produced super-smooth ripped edges in 3/4-in. pine and oak, with absolutely no saw marks visible to the naked eye.

With these top three blades, we also got excellent crosscuts, surpassed only by an 80-tooth dedicated crosscut blade. The crosscut edges were slightly rough to the touch but with no tooth marks and with no chipping on the bottom face. And we got very good plywood cuts with only minor chipping of the bottom face veneer. (See Highs & Lows, page 67.) If super-smooth cuts from the tablesaw are important to you, and you're willing to part with \$79 or more, you will find any of our three Editors' Choice winners to be a great investment.

Close on their heels were the 40- and 50-tooth blades from Craftsman and the Oldham 40-tooth blade. These blades made very good cuts in most of the categories.

Best Buy—Our Best Buy award (best performance for the price) goes to the Systimatic Budke blade. It's got a rock-bottom price among the blades we tested: \$45. But it produced very smooth rips and crosscuts in 3/4-in. oak, with tooth marks barely visible on the edges. The crosscuts showed very slight chipout on the bottom face of 3/4-in. oak. ▲





BLADE MAINTENANCE

Keep them clean and sharp

Saw blades are like automobiles. If you neglect their maintenance, they'll disappoint you. A blade with a lot of pitch, gum, and resin buildup will run hot, cut poorly, and get dull quickly. A dull blade cuts rough and burns wood. Here's how to keep blades performing like new:

Clean often. Remove any brown, gunky buildup on the carbide teeth with a commercial blade cleaner or pitch remover, available from most woodworking supply catalogs and stores. There are many effective cleaners on the market. For a light buildup, simply spray on the cleaner and scrub with a nylon brush. For heavier buildup, soak the blade in the liquid for several minutes, then scrub with a strong nylon or brass brush. After rinsing, dry the blade with a paper towel or hair dryer—a damp blade will rust.

Sharpen promptly. To determine if a blade needs sharpening, look at the cutting edges of the teeth with a 5x magnifying glass or loupe (available for under \$10 from Edmund Scientific Co., 609-573-6250). If you see the edges starting to round over (reflected light makes the round-over shine), they need sharpening. Other signs that a blade is dull include poorer performance and higher noise levels. Most blades can be resharpened at least several times, depending on the amount of carbide in the tooth. A quality blade can perform well for decades in a small shop.

All the blades we tested can be sharpened by a reputable local sharpening service—there's no need to send a blade back to the manufacturer for sharpening, even though some recommend that you do. (For more on sharpening services, see AW #45.)



Give it a bath. To clean a blade, spray it with (or soak it in) commercial cleaner and scrub with a stiff nylon or brass brush. Then rinse and dry thoroughly. Blade cleaners are available in a wide variety of formulas.



DRY BRUSHING

Add age and character with this simple technique

by Michael Dresdner



An instant antique. With a badger or China-bristle brush and a bit of Japan color, you can enhance wood grain, create fake grain patterns, or “antique” a surface like this white cabinet door in just minutes.

Dry brushing is a finishing technique that lets you add instant grain pattern or color to raw or painted wood. It gives you more control over your work than any other coloring technique. Other coloring methods, like staining, glazing, and shading, use liquid color, which can run or drip where you don’t want it. With dry brushing, you “scrub” just the tips of a dry brush through a small, creamy puddle of Japan color. (See top center photo, opposite.) Then you glance the dirtied bristles against your workpiece. Since the bristles are almost dry, the color stays right where you put it.

In this article, I’ll show you how to use dry brushing to enhance the existing grain of flat wood surfaces, to add fake grain or figure where there is none, or to accentuate the high spots on carvings, turnings, or moldings. Then I’ll wrap up with an antique white finish that looks exactly like aged white paint.

How Dry Brushing Works

Even finely sanded wood is a rough surface, littered with pores and irregularities. Pigment-loaded bristles hang up on these spots, leaving color behind.

Dry brushing works well on any rough or porous surface, including raw wood

and rough paints such as white primer. It doesn’t work well on perfectly smooth surfaces, such as gloss lacquer or varnish.

Tools of the Trade

Buy the best natural-bristle brush you can afford. Poor-quality brushes have bristles that are ragged and uneven at the tip, and that will make it more difficult to control the color. My two favorites are a 2-in. double-thick badger brush and a 2-in. double-thick China bristle brush.

You’ll also need a flat palette to load the color from, a small brush to transfer your color mixture to the palette, and a

LOADING THE BRUSH

Place a small amount of color on your palette (left) and lightly “scrub” just the tips of the brush through the color (center) until the patch of color on the board looks dry (right).



cup or can to mix the color in. I use a piece of raw wood or plywood at least 1 ft. square for a palette, and a small round brush about the size of a glue brush to stir and transfer color.

Choosing, Mixing, and Testing the Color

I prefer Japan colors for dry brushing, but you can use artists' oil colors too. Japan color is pure pigment ground into linseed oil, plus heavy metal salts called Japan driers to speed up the drying time. If you use artists' oils, add a few drops of Japan drier to the mix. You can buy Japan colors from most common wood-working mail-order catalogs, or at your local art supply store. Art supply stores also carry Japan driers and artists' oils.

For a natural-looking result, choose Japan colors that are substantially darker than the wood and that contrast nicely with it. I often use raw umber, burnt umber, burnt sienna, Van Dyke brown, and black. If you need a custom color, you can mix two or more together.

Three or four ounces of Japan color will do several chairs or an average-size table. Thin your Japan mixture with naphtha until it's the consistency of heavy cream. Now put a dollop of the color mixture onto your palette. (See top left photo.) You'll need several dabs of color on the palette for the first loading. Gently scrub the tips of the bristles of your brush through the color puddle (see top center photo) until the puddle looks dry. (See top right photo.)

Test your color-laden brush on a scrap board. A glancing drag of the brush should leave textured color. If no

color comes off the brush, the bristles are too dry—go back to the palette and add more. If you get dark streaks, the brush is too wet. Scrub the too-wet board with a piece of 000 steel wool until you're happy with the color deposit. (See photo, below.) To adjust the too-wet brush, scrub it on the palette again without adding any more color.

When your brush no longer deposits any color with gentle to moderate pressure, add just another dab of color to the palette, and reload the brush.

Techniques for Flat Surfaces

Dry brushing is great for enhancing the grain on flat surfaces, or for adding grain pattern where there is none. These two situations call for different techniques:

To enhance existing grain, take long, sweeping strokes in the direction of the grain, using the full width of the brush. (See top left photo, next page.) This works especially well on open-pore woods like oak or mahogany. You can darken the wood uniformly by brushing the whole board, or pump up the contrast by brushing every second or third cathedral arch. (See top right photo, next page.)

To create grain pattern on a plain board, take short, choppy strokes in any pattern you like. I use the thickness, not the width of the brush, to make graceful fake cathedrals and other shapes. (See center photos, next page.)

Techniques for Carvings, Turnings, Moldings, and Edges

Dry brushing is a convincing way to “age” three-dimensional surfaces such as carvings and turnings. Years of wear and

use typically rub away the finish on just the high spots, leaving dirt in its place. Since dry-brushed color will stay put without puddling in crevices, you can mimic that aging process very realistically. (See bottom photos, next page.)

High spots and edges take color faster than flat surfaces. They'll take color even with a brush that's almost out of color. Because of this, if I'm dry brushing a raised panel I'll brush the flat areas first, then quickly hit the sharp edges before reloading the brush. And if I'm dry brushing a turning, carving, or molding, I'll brush most of the color onto a scrap board before I approach the workpiece.

Take very light strokes that just glance off the high spots, using the full width of the brush. (See bottom left photo, next page.) The quicker your strokes,



Too wet. If the brush leaves a smear, it's too wet. Steel-wool the color off the board, and scrub the bristles on the palette until they are drier.

DRY BRUSHING FLAT SURFACES



To enhance existing grain, take long, brisk, uniform strokes with the full width of the brush (left). Or accentuate cathedrals (right) by brushing every second or third arch.



To add grain to bland woods like this piece of alder, take short, choppy strokes using the thickness of the brush.



DRY BRUSHING RAISED AREAS



To highlight carvings or turnings, strike the bristles across the high spots using the full width of the brush, just glancing off the surface.



For an antique white finish as on this fluted molding, prime the wood white, then dry-brush a "dirty" color using light, glancing strokes.

the more natural your results will look. It took me less than 10 seconds to highlight all the eagle feathers in the photo.

An Antique White Finish

Antique white mimics white paint that's gotten dirty over time. (See bottom right photo.) High spots such as edges and corners pick up the most dirt over the years, so these are the spots to hit with your dry brush.

First, seal the wood with white primer. My favorite is Zinsser's BIN, a shellac-based primer that will seal in stain, wax, and even oil contamination. It's available at paint and hardware stores.

Now choose a typical "dirt"-colored Japan. Raw umber, burnt umber, or a mixture of the two will look the most realistic. Brush out most of the Japan color on a scrap first: Even if the brush is almost out of color, the contrast will be dramatic. Take light, glancing strokes using the full width of the brush, as you would on a turning or carving.

To Top It Off...

Since dry-brushed color is just a thin layer of pigment, it will be happy under virtually any topcoat you choose—shellac, lacquer, varnish, polyurethane, or water-based finish. Any sheen will look fine on a grain-enhanced or fake-grain surface. For antiqued pieces, stick to a matte or satin finish—I'm partial to dead-flat lacquer.

Cleaning Up

Japan color is very difficult to remove once it's dry, so clean your brushes immediately. If mineral spirits won't dislodge all the color, use lacquer thinner. Wash the brushes in solvent until you get all the color out, then wash them in lots of warm water and soap. Rinse the bristles, then wrap them in brown-bag paper. (For more on brush care, see "Just Finishing," AW #61.)

Opened cans of Japan color tend to form a skin. To avoid that, lay a piece of plastic wrap directly onto the wet surface of the Japan before you replace the lid. ▲



MICHAEL DRESDNER
is an industrial
finishing consultant
and contributing
editor to AW.



With your choice of fences, 3 or 5 hp motor, single-phase or three-phase, with or without LVC switches. More options than you can shake a stick of cherry at. And now you can multiply everything by two. Two blade tilting options give you 26 different configurations of Unisaw.*



We invented it. And today we can provide parts for almost every Unisaw built since 1937. Sixty years of performance and serviceability is quite a track record. Which brings up the most important option of all. A saw with the Delta name, rather than a lesser machine.

Have it your way. Introducing our new Left Tilt Unisaw. (For the same price as our standard right tilt.) Delta is the only manufacturer to offer this option without charging a premium. Choose either a Biesemeyer® Fence or a Unifence® Saw Guide and you've got the ultimate sawing machine.



Quality is not optional. Every single arbor is flange-faced *after* assembly to reduce run-out. An extra step that other manufacturers don't bother with.



Both right and left tilt saws start at \$1599. But from now until March 31, 1998, Delta will sweeten the deal by sending you a check for an additional \$100. That makes it yours for \$1499.

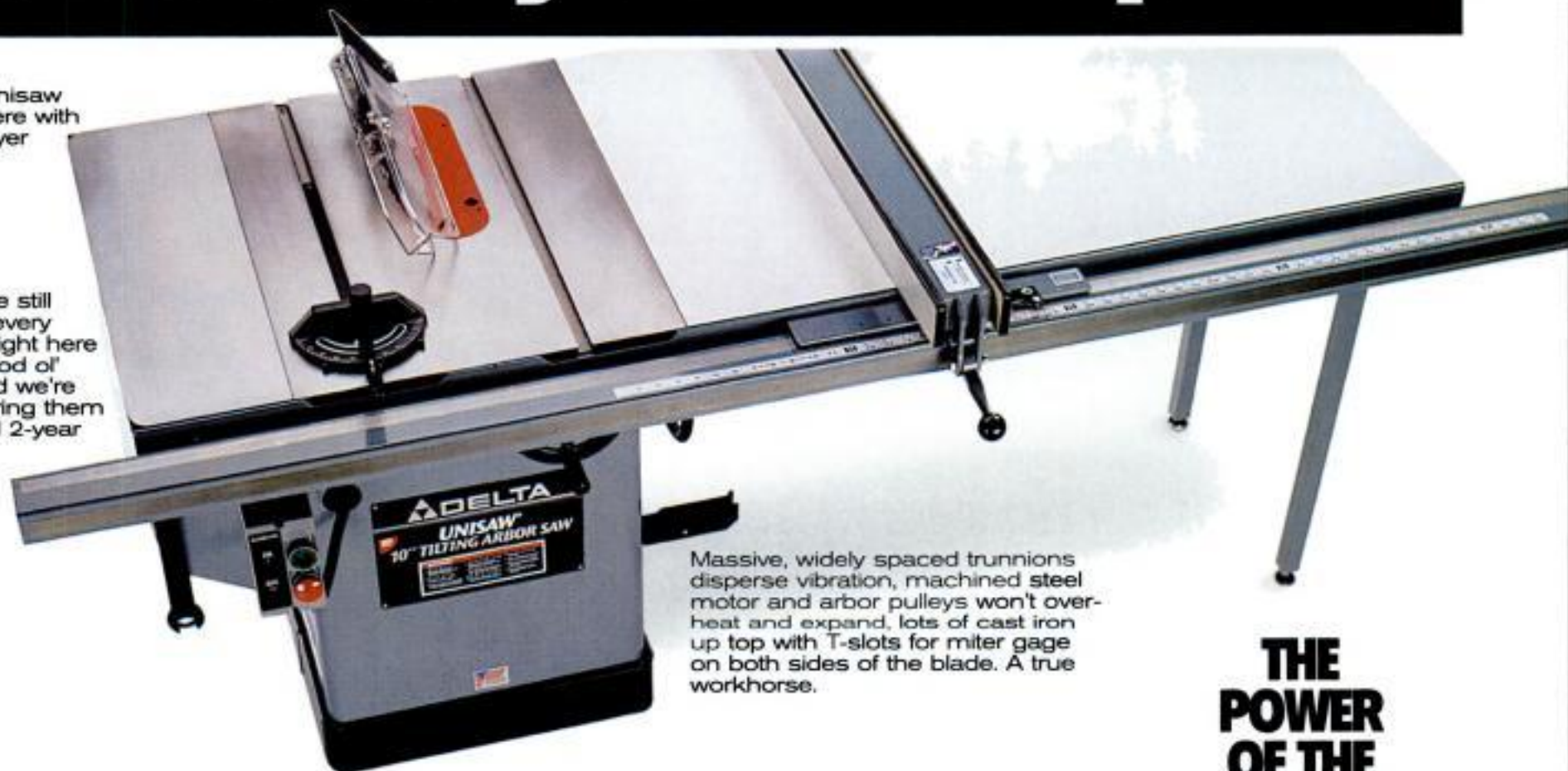
Right Tilt Unisaw shown here with Unifence Saw Guide.



Choose your weapon.

Left Tilt Unisaw shown here with Biesemeyer Fence.

Yes, we're still making every Unisaw right here in the good ol' USA. And we're still covering them with a full 2-year warranty.



Massive, widely spaced trunnions disperse vibration, machined steel motor and arbor pulleys won't overheat and expand, lots of cast iron up top with T-slots for miter gage on both sides of the blade. A true workhorse.

Proud sponsors of The New Yankee Workshop on PBS.



Choose from a full arsenal of Unisaws. Some 26 variations to be exact. Now there's a Delta Unisaw to fit everybody. Call toll free for the name of your nearest Delta dealer. Delta International Machinery Corp., 800-438-2486. And visit our web site at www.deltawoodworking.com.

CIRCLE NO. 21 ON PRODUCT INFORMATION FORM

**THE
POWER
OF THE
PROS**

DELTA
WOODWORKING MACHINERY
A Pentair Company

FEATURED PRODUCTS

BINKS

HVLP Spray Gun

Use with only 1-1/2 H.P. compressor! Now you don't have to rely on a limited turbine. Great for a wide range of materials. Includes gun and one quart cup, 25 ft. 3/8" air hose with connection and air regulator with gauge. #BKS 98-1121

CALL FOR SPECIAL PRICE!

BOSCH

1613EVS 2HP Plunge Router w/ FREE Deluxe Guide & Router Mat (\$52.67 value).....\$206.90
1276DVS 4x24 Variable Speed Belt Sander.....\$218.00
3310K 12V Cordless Drill Kit w/ Case & 2 Batteries.....\$159.00
3610K 14.4V Cordless Drill Kit w/ 2 batt., case & charger.....\$173.90
3107DVS 5" H.D. R/O Sander-Polisher.....\$94.60
3725DVS 5" H.D. R/O Sander-Polisher.....\$138.00
3915 10" Slide Compound Miter Saw.....\$542.90
NEW! 1295DH 5" Swift Sand R/O Palm Sander.....\$86.50

SKIL

NEW! 1910-02 Scraper/Carver Kit.....\$94.95
HD2745-04 12V Cordless Drill Kit w/ 2 batt., case & charger.....\$127.95
HD5680 8-1/4" 13 amp Circular Saw w/ 60° Pro Bevel.....\$168.00

SENCO

SLP20 Brad Nailer \$208.95
SFN1-1/2" Finish Gun \$292.95
SFN40 1-2" Finish Gun w/ case.....\$385.00
SKS Med. Duty Stapler.....\$248.00
SN325+ Framing Nailer.....\$368.00
SCN40R Roofing Nailer.....\$387.90
SN60 Full Round Head Nailer \$388.90
PC0701 A9 Palm Nailer.....\$159.00

STANLEY BOSTITCH

BT35B-2KIT 1/2"-1 1/2" Brad Tacker Kit.....\$128.00
BT50B-2KIT 1 1/2"-2" Brad Tacker Kit.....\$174.90
S32SX-KIT 1/2"-1 1/2" Fin. Stap \$146.50
N60FN-2KIT 1 1/2"-2 1/2" Finish Nailer Kit.....\$294.50
RN45B-1 1/2"-1 1/2" Coil Roofing Nailer.....\$367.90
N60SB-1-2 3/4" Framing Stick Nailer.....\$348.00

DREMEL

3955 Var. Spd. Moto-Tool Kit with 72 accessories.....\$81.80
3956 Var. Spd. Tool Kit with 72 accessories and flex.....\$88.90
7365 HD Flex Shaft Kit.....\$179.00
290 Engraver.....\$19.80

FEIN

FEIN Turbo II - Dust Free Vacuum Powered by 2-stage motor w/ bypass cooling to assure motor runs cool even if the hose or filter is blocked. Excellent Quality! FIN 9-55-13.....\$259.00

PORTER-CABLE

18-Gauge Brad Nailer Kit

18 ga., 2" brad nailer kit accepts 3/4" - 2" brad nails. Quick-release nosepiece so you can quickly clear jams without disassembly. #PCT BN200 List Price \$248.00

SUPER SALE.....\$129.90

PORTER-CABLE

Brad, Finish & Framing Nailer Kits All kits include case
BN125 18G 1/2"-1 1/2" Brad \$87.00
NEW! GF14001 HP Compressor w/ FREE air hose & couplers (\$21.30 value) \$196.50
BN200 18G 1/2"-2" Brad.....\$129.90
DA250A 15G 1 1/2"-2 1/2" Finish.....\$234.90
FN 250A 16G 1 1/2"-2 1/2" Finish.....\$187.90
AS150 18G 1 1/2"-1 1/2" Crown Stapler \$168.00
FC350 Clipped Head 2"-3 1/2" Framing Nailer Kit.....\$287.50
FR350 Full Round Head 2"-3 1/2" Framing Nailer Kit.....\$287.50

690 1 1/2" H.P. Router \$139.90
90690 SP Edition Router w/case.....\$158.00
691 1 1/2" H.P. HDL Router.....\$159.00
7539 3 1/2" H.P. Plunge Router - Plus Free Fine Depth Adjuster (\$26.50 Value).....\$284.90
7518 3 1/2" H.P. 5SP Fixed Base Router.....\$279.90
693 Plunge Base Router.....\$178.00
6931 Plunge Base Only.....\$82.00

NEW! 693PK 690 Router w/ 6931 Plunge Base & case.....\$188.90
6911 D-Handle Base Only.....\$72.00
42000 8 pc. Template Guide Kit \$29.95
97310 Laminate Trim Kit.....\$187.50
697 Router Table w/ 1 1/2" H.P. Router \$233.00
698 Router Table w/out motor \$133.50

9862F 12V Cordless Drill Kit w/ flashlight.....\$183.50
9872 14.4V Cordless Drill Kit w/ two batteries, case & charger.....\$198.50

9444 Sander.....\$97.50
330 Speed Block Sander.....\$64.65
332 5" Quicksand Palm Sander.....\$57.95
333 5" Quicksand R/O Dustless Sander Hook & Loop.....\$64.00
334 5" Quicksand Random Orbit Dustless Sander.....\$64.00

352VS VS Belt Sander.....\$175.60
7335 5" VS R/O Sander.....\$132.00
97355 5" VS R/O Sander with Dust Collection & Case.....\$149.00
552 Prod. Pocket Cutter.....\$565.00
97549 Jig Saw.....\$138.90
7800 Drywall Sander.....\$337.90
5554 1000 Pc. Asst. Biscuits \$22.50

QUICK-GRIP

AMT 53006 4-1/2" Micro.....\$7.50
AMT 00506 6" Bar Clamp.....\$12.95
AMT 00512 12" Bar Clamp.....\$15.45
AMT 00518 18" Bar Clamp.....\$16.70
AMT 00524 24" Bar Clamp.....\$17.95
AMT 00536 36" Bar Clamp.....\$20.55
AMT 00550 50" Bar Clamp.....\$24.65

RYOBI

RYB WDS1600P 16/32" Drum Sander with FREE stand (\$85.00 value) only.....\$568.90
RYB DBJ50 Detail Biscuit Joiner \$68.90

STOCK YOUR SHOP!™

DELTA

12-1/2" Planer

Features: •Quick change knife system
•Exclusive cutterhead-snipe control lock
•Easy-to-read English and Metric scale.
#DEL 22-560 List Price \$568.00

SUPER SALE.....\$387.90

30" Fence CTE 273.....\$23.90
52" Fence CTE 2747.....\$28.90

Uni-Saws With Biesemeyer or Uni-fence

NEW! 36-800 White Classic Edition Unisaw w/50" Biesemeyer Fence.....\$1599.00*

36-830 3HP. w/30" Uni-fence.....\$1399.00*

36-831 3HP. w/30" Biesemeyer T-Square Fence.....\$1399.00*

36-820 3HP. w/52" Uni-fence (Special Edition).....\$1499.00*

36-821 3HP. w/50" Biesemeyer 52" T-Square Fence.....\$1499.00*

*Price after Delta rebate. Ends 3/31/98

34-445Z Contractors Saw w/30" Uni-fence and \$200 in accessories FREE.....\$799.00*

34-182 Tenoning Jig.....\$79.90

11-990P 5SP Drill Press w/Free 17-905 Mortiser Attach. (\$38.90 value).....\$192.00

14-650P Hollow Chisel Mortiser w/ FREE 17-908 (1/4") & 17-910 (3/8") Mortiser Bits (\$87 value).....\$268.90

NEW! 50-850 1 1/2" HP 1200 CFM Dust Collector \$334.90

NEW! 50-851 2HP 1200 CFM Dust Collector \$497.00

NEW! 36-865 Versa-Feeder.....\$267.90

22-675Y 15" Planer w/50-655 stand (\$260.55 value) \$1144.95*

28-275 14" Open Band-Saw.....\$497.90*

28-280 14" Enclosed Band Saw 1 HP.....\$679.00*

28-280Z 14" Closed B/S w/\$225 accys FREE.....\$779.00*

31-780P Oscillating Spindle Sander Bonus Buy. Includes Sanding Spindle Set (\$65.70 Value).....\$218.95

31-780 Osc. Spindle Sander.....\$192.50

40-540P 18" VS Scroll Saw w/Free 36 asst. blades (\$14.50 value) \$188.90

40-650P Q-3 18" Scroll Saw w/Free 36 assorted blades (\$14.50 value).....\$388.90*

37-190 6" Deluxe Jointer.....\$429.00

37-350A 8" Jointer w/stand.....\$1498.00*

43-379 Special Edition Shaper.....\$1349.00

43-505 Router/Shaper.....\$294.60

50-345 Universal Mobile Base.....\$47.90

31-280 Sanding Center.....\$749.00*

BIESEMEYER

78-900 50" Right 12" Left Fence System.....\$327.00

JDS COMPANY JDS 350 550 CFM Filtration System.....\$259.00

JDS 8-12 1570 CFM Filtration System \$488.00

DEWALT

DW 682K Biscuit Jointer with FREE 100 Biscuits (8 value).....\$194.90

DW621 2 HP VS Router.....\$212.90

DW625 3 HP Router.....\$267.00

DW421 Sander.....\$69.96

DW 423 5" EVS R/O Sander w/H&L & Dust Collector \$88.90

DW 708 12" Cmp. Sld. Miter w/ Free Dust Bag (\$18 Value) \$679.00

DW 991KS-2 14.4V Combo Drill & Saw Kit w/case.....\$337.90

DW 995KS-2 18V Combo Drill & Saw Kit w/case.....\$377.00

DW 321K 5.8A Jig Saw Kit.....\$162.00

DW972K-2-RECON Recon. 12V Adj. Cich. Cdis w/2 Batt. \$148.95

DW991K-2-RECON Recon. 14V Adj. Cich. Cdis w/2 Batt. \$169.90

Makita

LS1211 12" Compound Miter Saw.....\$769.00

3901 Plate Joiner w/ Free 100 Biscuits (\$8 Value) \$205.00

3612C 3HP Plunge Router with Brake.....\$258.90

9820-2 Blade Sharpener.....\$224.00

GEO800 Die Grinder.....\$89.90

6221DWLE 9.6V Cdis Drill, 2 Batt. & Flashlight.....\$114.95

6213DWAE 12V Cordless Drill Kit.....\$169.00

6233DWAE 14.4 Cordless Drill Kit.....\$193.50

Milwaukee

NEW! MLW 6516-22 18V Cdis. Sawzall w/2 batt & case.....\$319.95

MLW 6496-6 10" Slide Compound Saw with FREE Deluxe Folding Stand \$564.50

MLW 6266-6 Orbit Action Jig Saw \$158.00

MLW 0234-6 1/2" Electric Magnum Drill.....\$133.00

MLW 0235-6 1/2" Electric Magnum Drill (Keyless).....\$133.00

MLW 6546-1 Cdis. Screwdriver Kit.....\$88.50

POWER AND PRECISION FOR TODAY'S WOODTURNERS



- Bed design: Many times more rigid than competitive models at similar cost
- Headstock: Large, hardened and ground 4 bearing alloy spindle
- Tailstock: Precision, heavy duty with ground quill
- The best clamping banjo tool rest combination (pat. pend)
- HP 1 1/2 standard (2 & 3 opt.) all electronic variable
- Control Panel swings to most convenient location.

"ONEWAY has taken a giant step forward, introducing a new standard of excellence for all lathe manufacturers to try and equal"

David Lancaster

"The ONEWAY is probably the best lathe that's ever been invented!"

John Jordan, Antioch TN

ONEWAY MANUFACTURING

241 Monteith Avenue, Stratford, Ontario, Canada, N5A 2P6

1-800-565-7288

CIRCLE NO. 60 ON PRODUCT INFORMATION FORM

CARTER CONVERSION KITS CUT COST!

Add precision, durability and value! Band Saw Guide Conversion Kits for Delta 14" & 20", Jet 14", Mini-Max 18", Grizzly 16" & 18", General 15", Grob, Davis & Wells 20" and other saws 14" and larger.

Send \$1.00 for Brochures

Carter PRODUCTS CO., INC.

437 Spring St., NE • Grand Rapids, MI 49503

(616) 451-2928 • FAX: (616) 451-4330

E-Mail: sales@carterproducts.com

Visit our Website at: www.carterproducts.com

CIRCLE NO. 161 ON PRODUCT INFORMATION FORM

Add that Distinctive Look to your woodworking projects. Quality handcrafted yet reasonably priced panels. Many finishes & designs. Do it-yourself materials & kits, too! Large colorful catalog \$5.00/ sample pack \$19.95 ppd. MasterCard/Visa accepted.

pierced tin

Country Accents® P O Box 437, Dept. AW-98, Montoursville, PA 17754 • Ph. 717-478-4127 • M-F 9-5

CIRCLE NO. 501 ON PRODUCT INFORMATION FORM



Visit our web site: www.ai-supply.com email: aisupply@mtco.com

401 Radio City Dr.
Rt. 29 - Auto Row
N. Pekin, IL 61554

FREE SHIPPING!

(On orders over \$75
in the Cont. U.S.)

To ORDER CALL TOLL FREE:

1-800-260-2647

Ask For Our FREE 154-Page Catalog!

24 Hr. Fax Orders: (309) 382-1420

Limited Quantities & Prices
Subject to Availability



CIRCLE NO. 1 ON PRODUCT INFORMATION FORM

Create Classic Raised Panel Doors

with your 1/4" or 1/2" Router, or your 1/2" or 3/4" Shaper.

Our professional production quality router bits make it quick and easy to produce attractive raised panel doors. Our reversible combination bit makes a matching rail and stile frame. The panel raising bit with ball bearing guide makes a perfect raised panel every time!

Includes instructions and Professional Tips!

RAISED PANEL DOOR SETS			
SET #	BIT STYLE	LRG. DIA.	SET PRICE
#1301	1/4" Shank Router	* 2"	\$69.95
#1302	1/2" Shank Router	* 3-1/2"	\$79.95
#1303	1/2" & 3/4" Shaper	4-5/8"	\$99.95

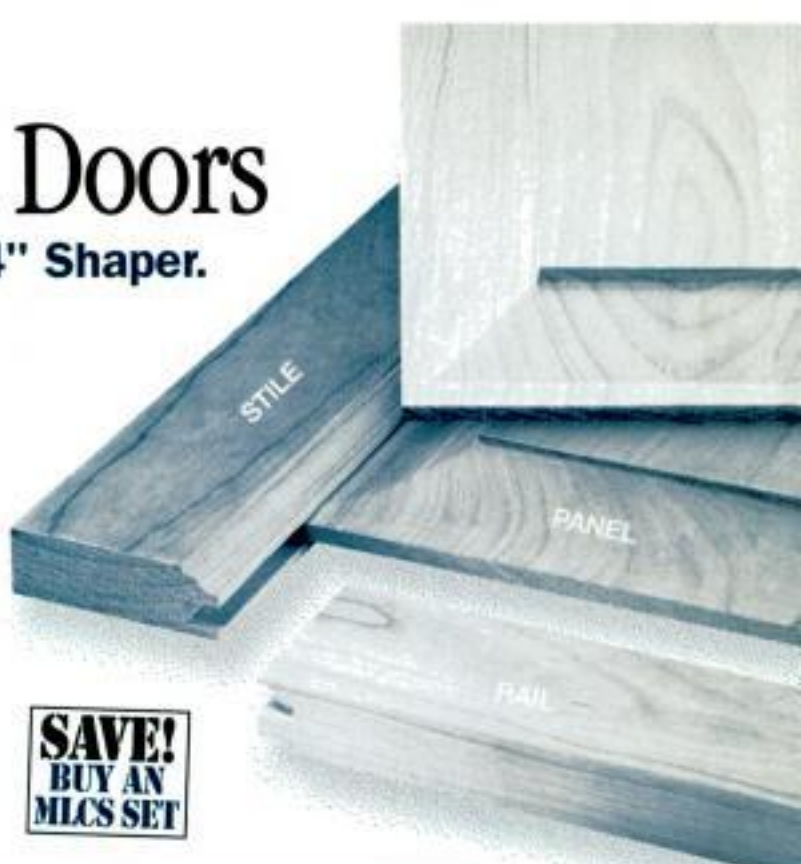
*Ball bearing included



*Raised Panel Router Bit



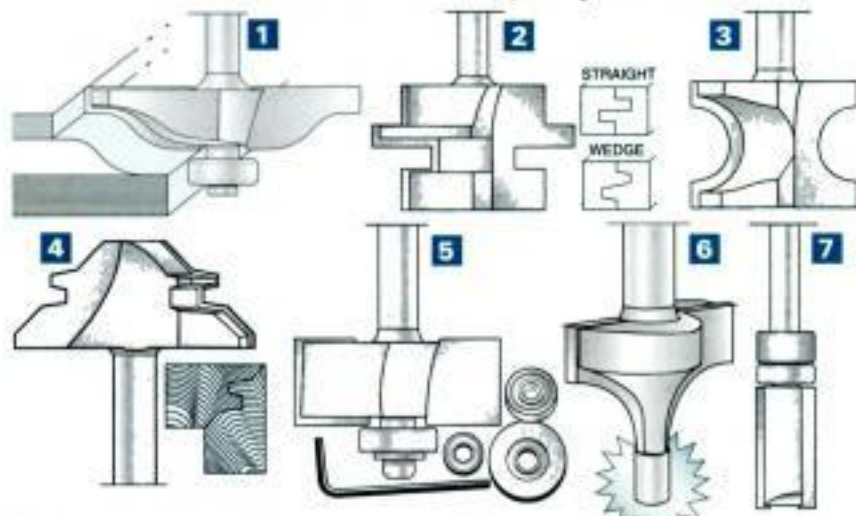
*Reversible Combination Rail & Stile Bit
Works with stock from 11/16" to 7/8".



SAVE!
BUY AN
MLCS SET

1/4" Shank Carbide Tipped Router Bits

Professional Production Quality Guaranteed!



1 OGEE RAISED PANEL

#1423 2" Large Diameter\$29.95

2 TONGUE AND GROOVE

#1333 Straight\$29.00

#1335 Wedge\$29.00

3 BULL NOSE

#1330 1/2" Dia. of Circle\$16.00

#1331 3/4" Dia. of Circle\$21.00

4 LOCK MITRE BIT

#1433

2" Dia., Stock thickness: 1/2"-3/4" ..\$37.50

5 RABBETING KIT

Ball bearing guides allow 4 depth of cuts: 3/8", 7/16", 5/16", 1/4". Set: 1/4" shank rabbeting bit, 4 bearings (3/8", 1/2", 5/8", 3/4") & hex key.

#1425 1-1/4" Large Diameter.....\$25.00

6 BRASS PILOTED

Router into tight spaces and sharp corners. These bits have Brass Pilots, measuring only 5/32" in dia., instead of the usual 1/2" ball bearing.

#1428 1/8" R Round Over\$16.00

#1429 1/4" R Round Over\$17.00

#1430 3/8" R Round Over\$19.00

7 PATTERN/FLUSH TRIM

#1340

1/2" Dia., 1" Cutting length.\$15.00

#1341

3/4" Dia., 1" Cutting length\$17.00

QUANTITY DISCOUNT!
When ordering 3 or more router bits deduct \$1.00 from each!



25 piece Brad Point Drill Bit Set

Drill accurate holes in wood, plastics & composites.

Bit sizes from 1/8" to 1/2" by 1/64" increments. Bits are deep fluted to clear chips quickly.

ITEM #1413
REG. \$34.95 **SALE \$18.95**

METAL CASE & BIT HOLDER INCLUDED!



Biscuit Joining Set

5/32" Slot Cutter-1/4" Shank and 250 #20 Biscuits

"Biscuit Joining with your Router", Instructional sheet included.

ITEM #1385
REG. \$35.00 **SALE \$29.95**

FAST AND EASY



MERLE The ADJUSTABLE CORNER CLAMP

- Adjustable, uniform clamping pressure on all corners • Great for wide cabinet frames (for center or edges)
- Forces a frame into perfect square
- Almost NO capacity limitation, ships with 23 ft. reel of steel banding!
- Aluminum & Steel construction



ITEM #1420
REG. \$39.95 **SALE \$24.95**

★★★★★
Performance & Value
Editors Choice
Wood Magazine

1/4" Shank Carbide Tipped Round Over/Beading Bit Set

Set includes: 4 Round Over Bits with 1/2" OD bearing: (1/8", 1/4", 3/8", 1/2"), plus 3/8" OD bearing & allen wrench.



ITEM #1434
\$72 Individually... **SALE \$39.95**

1/4" Shank Carbide Tipped Cove Bit Set

This production quality set includes 4 Cove Bits: (1/8" R, 1/4" R, 3/8" R, 1/2" R).



ITEM #1435
\$65 Individually... **SALE \$37.95**



SOLID BRASS Router Inlay Set

Makes perfect fitting recesses and inlays!

Easy to use inlay kit follows a 1/4" thick pattern template of almost any shape to produce the recess. Fits Porter Cable*, Black & Decker* or any router with an adaptor for Porter Cable bushings. Kit includes 1/8" solid carbide downcut spiral bit, brass bushing, brass template guide, brass retainer nut & instructions.

ITEM #1426 REG. \$35.95 **SALE \$21.95**

Expert Technical Help Before & After Sale

FREE CATALOG



©1997 IN CONTIGUOUS USA FOR ALL ITEMS
CIRCLE NO. 56 ON PRODUCT INFORMATION FORM



VISA AMERICAN EXPRESS
Order By Credit Card or Send Check To:
MLCS, Ltd.,
P.O. Box 4053AJ
Rydal, PA 19046

Two Worlds of Woodworking

In the shop with master craftsman Robert Whitley



The old. Whitley built this copy of Aaron Burr's desk, using what he learned when hired to repair the original.



The new. Whitley's forest console shows the smooth, graceful lines of his own contemporary designs.

Enter Robert Whitley's showroom and you immediately step into two worlds of woodworking. One half of the room is filled with contemporary furniture distinguished by graceful curves and contrasting woods. On the other side of the room, you'll marvel at the selection of restored antique furniture and flawless reproductions of 18th-century pieces.

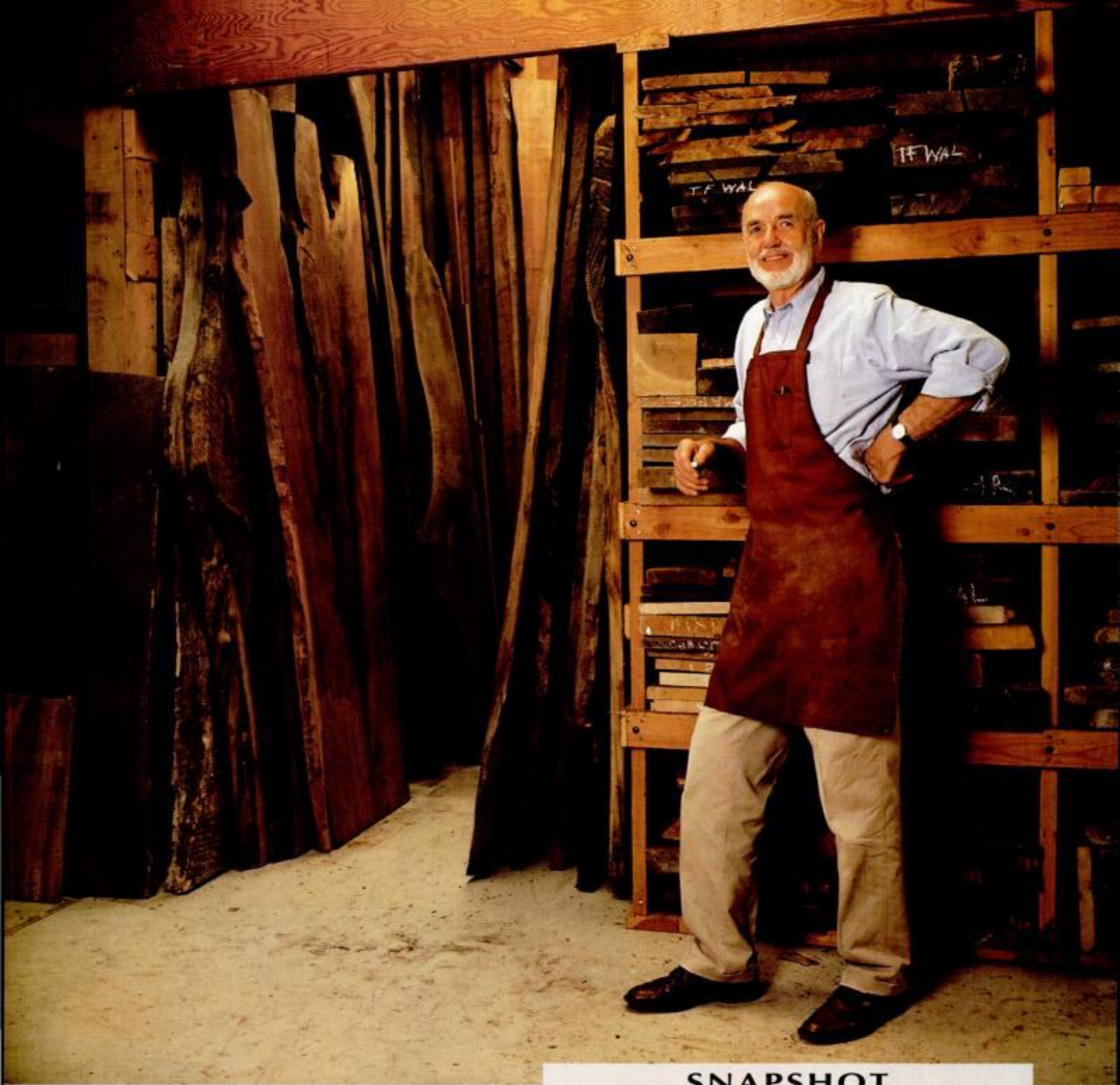
In a career spanning nearly half a century, Robert Whitley has crafted a reputation that is unique because of its diversity. Since the early 1950's, museums, antique dealers, and private collectors from across the country have brought their damaged antique furniture to Whitley for repair. Before long, Whitley's restoration work brought in customers who wanted period reproductions built. Both types of work flourished, but the success of these parallel ventures didn't trap Whitley in the 18th century. In the midst of his historical work, he explored new territory in contemporary furniture design. Several of these pieces—his shaved spindle rocker and forest console, for example—have become classics in their own right.

Whitley believes there is a natural connection between the old work and the new. "Good design is timeless, no matter what style it happens to be," he offers. "My father and grandfather were woodworkers. For as long as I can remember, there have been old pieces of furniture in the workshop, needing repair. I learned about proportions and joinery by dismantling and examining hundreds of antique pieces. Over time, you develop good instincts for what works and what doesn't. It's really a matter of learning the rules first, then seeing which ones you can break."

Whitley's place is tucked into a hillside, off a narrow winding road outside of New Hope, PA. His workshop and residence share the same roofline in a post-and-beam structure that Whitley started to build in 1970. The shop space is divided into four main rooms—one for finishing, one for bench and machine work, one for sanding and stripping, and a storage space that holds a little bit of everything, from injured furniture to ancient cast-iron machinery.

The central room where the workbenches, machinery, and hand tools reside is just 36 ft. by 36 ft., and Whitley often shares this space with Ervin Hart, who has worked for him for more than 30 years. For a small, busy, two-person workspace, it seems to stay remarkably neat. Whitley's explanation is instructive: "It's because I don't store things on shelves. I discovered long ago that shelves just collect dust and debris; they tend to look cluttered and messy even when everything is in the right place. I try to store everything I can in drawers." And there are drawers everywhere, even built in beneath Whitley's workbench. (For more on this bench, see page 36.)

Elsewhere on the property, another Whitley-built structure houses a selection of lumber that any woodworker would envy. (See photo, opposite.) Many of the hardwood boards have a history—Whitley remembers the trees that yielded the wood and the sawyers who turned the logs into lumber.



A bounty of boards. Whitley's wood collection includes many wide hardwood planks milled from local trees.

Whitley has a large inventory of old furniture parts stored between ceiling joists and in smaller racks: chair and table legs, dovetailed sides from disassembled drawers, veneered panels, mullions from glass-fronted cabinets, you name it. From this catalog of furniture fragments, he often finds a replacement part he can use to repair an antique. And sometimes, he can cut out a section of wood from an old part to make a patch. "The best way to patch an antique is to match not just the wood species, but also the age of the wood," he says. "That's the best way to get the same patina in your repair." ▲

SNAPSHOT

Name: Robert Whitley

Age: 73

Home and shop location:
Bucks County, PA

Shop size:
2,520 sq. ft.

Specialties:
Period furniture restorations, period reproductions, unique contemporary furniture

In business since: 1948

Most recent project:
Reproduction of Aaron Burr's desk (see photo, opposite)

Most significant commission:
Reproduction of the "Resolute" desk for permanent exhibition in Boston's John F. Kennedy Library

Most unusual commission:
Reproduction of an 1835 mahogany billiard table for Bent's Old Fort in La Junta, CO

AMERICAN WOODWORKER

magazine brings you a one-of-a-kind opportunity to polish your wood-working skills and upgrade your workshop with some of the best deals available on tools and supplies!

The AMERICAN WOODWORKER SHOW™ is a woodworker's dream—three big days of demonstrations, seminars and one-stop bargain-hunting that simply can't be matched. Don't miss the fun and excitement!

Where Great

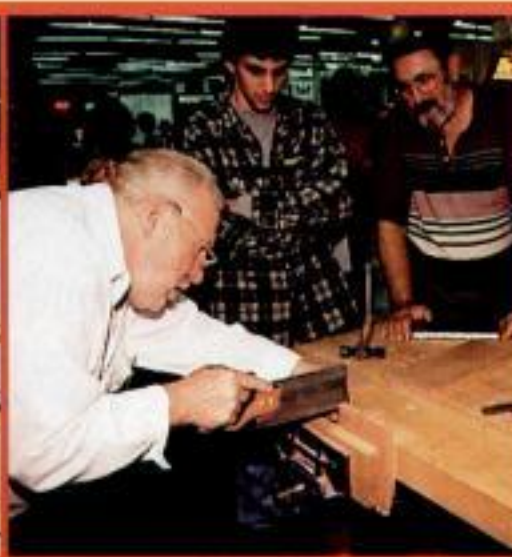
DEALS

Come Out of the Woodwork

The AMERICAN WOODWORKER Show™

- **See, try and buy** all the newest tools and equipment.
- **Learn the latest techniques** at exciting demonstrations and seminars.
- **See the work** of master craftsmen and talk face-to-face with the experts.
- **Meet the editors** of AMERICAN WOODWORKER magazine.





All the Tools and Equipment

This is the show that brings the pages of *AMERICAN WOODWORKER* magazine to life. Here you'll get a hands-on look at all the latest tools, state-of-the-art equipment and new product introductions from the nation's leading manufacturers—Delta, Freud, Bosch, DeWalt, Ryobi, Porter-Cable and more. Plus hard-to-find specialty items you won't be able to see anywhere else.

More Bargains than Anywhere Else

If you're looking for a great buy, you can't do better than this! Hundreds of exhibitors are ready to offer you special show discounts on all the tools, shop accessories, materials and supplies you can imagine!

The Newest Techniques, Information and Ideas

A full program of demonstrations and seminars presented by leading woodworkers lets you sharpen your skills and increase your knowledge. Turn page for complete seminar schedule.

Rub Elbows with Master Craftsmen

The *AMERICAN WOODWORKER* SHOW puts you face-to-face with the experts and legends of woodworking. See their creations and watch them at work.

■ **The Wood Shop on the Show Floor**—editors of *AMERICAN WOODWORKER* demonstrate skills and techniques.

■ **The Show Gallery**—a wealth of ideas and inspiration to take back to your own workshop, featuring some of the best creations by today's top craftsmen.

NEW GREAT LOCATION!

Ontario Convention Center

Ontario, California
(Suburban Los Angeles)

March 6, 7, 8, 1998

Friday & Saturday 10 am-6 pm
Sunday 10 am-5 pm

FOR MORE INFORMATION
CALL

1-800-914-9395

or

visit our web site

www.americanwoodworkershow.com



The New Dodge

Register to Win a
'98 Dodge Ram
Pickup!*



The AMERICAN WOODWORKER Show™

SEMINARS

Sponsored by

MINWAX®

**Avoid Lines!
Save Money!
Register Now!**

(800) 914-9395

**SAVE
\$10**

**Advance Registration
One Day Package:
\$30**

Includes one day general admission
and one seminar
(Additional seminars \$20 each)

**SAVE
\$20**

**Advance Registration
Two Day Package:
\$55**

Includes two days general admission
and two seminars
(Additional seminars \$20 each)

**At the Door:
\$10 per day general admission
\$30 per seminar**



SEMINAR SCHEDULE

GETTING THE MOST FROM YOUR ROUTER

Friday 1:00pm-3:00pm
Saturday 8:30am-10:30am
Ernie Conover

In this seminar, you'll learn how to:

- Select the right router for your needs
- Choose and use router bits
- Perform router table operations and joinery
- Rout safely and efficiently
- Work with router fences and dovetail jigs
- Use template guide bushings

Who should attend: Beginning to intermediate woodworkers

About the presenter: Ernie Conover has been a woodworking teacher and demonstrator for 20 years. He and his wife Susan run Conover Workshops, a woodworking school in Parkman, OH.

GETTING THE MOST FROM YOUR TABLESAW

Friday 1:00pm-3:00pm
Saturday 4:00pm-6:00pm
Mark Duginske

In this seminar, you'll learn how to:

- Use the tablesaw for joinery—tenons, finger joints, variably-spaced dovetails
- Make and use tablesaw jigs and fixtures
- Work safely with the tablesaw
- Align and troubleshoot your tablesaw for top performance
- Choose the right blade for the job
- Use dado heads and molding heads

Who should attend: All woodworkers

About the presenter: A fourth-generation Wisconsin woodworker, Mark Duginske is a prolific writer, designer and inventor. His work has appeared in numerous magazines and books, including *Cutting Shapes and Profiles* (Rodale Press, 1997).

SHARPENING SECRETS

Friday 4:00pm-6:00pm
Saturday 8:30am-10:30am
Leonard Lee

In this seminar, you'll learn how to:

- Sharpen chisels and plane blades
- Sharpen cabinet scrapers
- Sharpen carving and turning gouges
- Check an edge for sharpness
- Choose the right grindstones, bench stones, microabrasives and polishing compounds

Who should attend: All woodworkers

About the presenter: Author of books and magazine articles on planemaking and sharpening, Leonard Lee has been a woodworker for over 35 years. He is president of Veritas Tools Ltd. and Lee Valley Tools.

DESIGN AND BUILD GREAT FURNITURE

Friday 4:00pm-6:00pm
Saturday 1:00pm-3:00pm
Ian Kirby

In this seminar, you'll learn how to:

- Design and make joints—butt joints, mortise and tenon, dovetail
- Make the best design decisions
- Design to accommodate wood movement
- Choose adhesives and clamping methods
- Design with alternate surface treatments—veneer and leather
- Integrate the key design elements—form, space, proportion and function

Who should attend: All woodworkers

About the presenter: Trained in England as a furniture maker, designer and wood technologist, Ian Kirby has taught and written extensively on woodworking in the United States and England for over 30 years.

FEARLESS FINISHING

Friday 8:30am-10:30am
Saturday 4:00pm-6:00pm
Michael Dresdner

In this seminar, you'll learn how to:

- Select the best finish for the job
- Get a professional-looking finish on your project—from surface preparation to final polish
- Choose the right brush
- Understand wood stains and use them correctly

Who should attend: All woodworkers

About the presenter: A contributing editor of *AMERICAN WOODWORKER* magazine, Michael Dresdner writes our "Just Finishing" column and hosts our finishing "chat room" on the America Online computer service every Sunday night. He is the author of *The Woodfinishing Book* (Taunton Press, 1993).

SETTING UP SHOP

Friday 8:30am-10:30am
Saturday 1:00pm-3:00pm
Sandor Nagyszalanczy

In this seminar, you'll learn how to:

- Decide which tools to buy, in which order
- Buy the right quality tools and equipment
- Stretch your tool budget
- Lay out your shop for best results
- Make the most efficient use of space
- Get dust and chips under control

Who should attend: Beginning to intermediate woodworkers

About the presenter: Furniture designer and author of four books, with 18 years of woodworking experience and six years as an editor of *Fine Woodworking* magazine, Sandor Nagyszalanczy writes and lectures frequently on woodworking topics.

AMERICAN WOODWORKER Dodge Truck Giveaway Official Rules NO PURCHASE NECESSARY

1. To enter, obtain, complete and deposit an official entry form at The American Woodworker Show™ in Novi, MI, Fort Washington, PA or Ontario, CA; or print your full name, address, and daytime telephone number on a 3" x 5" piece of paper, place in a stamped envelope and mail to: The American Woodworker Dodge Truck Giveaway, 33 East Minor Street, Emmaus, PA 18098; or visit us on the internet at www.americanwoodworkershow.com and follow the instructions there.

2. Limit one entry per person. All entries must be deposited or postmarked by the Sweepstakes ending date of March 20, 1998. Mailed entries must be received no later than March 20, 1998. Mechanically reproduced, damaged, lost, late, postage due, misdirected, incomplete, or illegible entries are not eligible. All entrants agree to be bound by the official rules and the decisions of the judges.

3. Winner selected by random drawing from eligible entries on or about March 23, 1998. Odds of winning depend on the number of entries. Winner will be notified by phone and/or mail. Winner will be required to sign and return an Affidavit of Eligibility and Release within 14 days of receipt of notification. Noncompliance or return of any prize notification as undeliverable, will result in the disqualification of the entry and selection of an alternate winner. The winner must consent to the use of his or her name and/or likeness for promotional purposes without additional compensation, except where prohibited by law.

4. Grand Prize: One 1998 Dodge Ram 1500 Laramie SLT 135" WB truck with an estimated MSRP value based on 1997 pricing of \$23,270 (including destination) or less, to be delivered to the authorized Dodge dealer nearest the winner's residence in the United States. (If the winner is from Massachusetts, New York or California, add \$102 to the MSRP for a state-mandated emissions package.) No transfer or substitution of prize is permitted except by sponsor due to prize unavailability. All taxes, insurance, licensing and other associated fees are the responsibility of the winner.

5. Sweepstakes open to legal residents of the 50 United States, only, who, as of March 23, 1998, are 18 years or older. Winners must reside in the United States at time of prize delivery. Employees (and members of their immediate families) of Rodale Press, Inc., the Chrysler Corporation, their subsidiaries and dealers are not eligible. The winner agrees to hold harmless the Chrysler Corporation and Rodale Press, Inc., and each of their respective affiliates, officers, directors, employees, representatives, agents, successors and assigns from any and all loss, liability, damage, cost and expense arising out of the Giveaway. Void where prohibited, and subject to all federal, state and local laws.

6. For the prize winner's name, available after April 30, 1998, send a self-addressed, stamped envelope to The American Woodworker Show™, Show Management Division, 33 East Minor Street, Emmaus, PA, 18098. Requests received after May 15, 1998, will not be honored.

Materiale protetto da copyright

HVLP Spray Painting Made Easy!



Turbinaire Minipro Plus Model 1235
3-stage turbine-powered HVLP spraying system with built-in variable speed controller.
"...outstandingly smooth atomization... excellent spray performance... ideal for spraying water-based urethane" - *Canadian Workshop*

Turbinaire VSC-15 Electronic Speed Controller
Control the speeds of your routers and sanders with our CSA approved electronic speed controller.
"Turbinaire unit is head and shoulders above the others" - *Canadian Workshop*



TURBINAIRE For more information, contact us directly or visit our booths at the '98 American Woodworker Shows.

T: 1-800-866-HVLP, F: (514) 828-5007, E-mail: sales@turbinaire.com

CIRCLE NO. 82 ON PRODUCT INFORMATION FORM

POWERMATIC
WOODWORKER'S
DEPOT
INC.

www.woodworkersdepot.com

CMT
MADE IN ITALY

WE HAVE
IT ALL IN
WOODWORKING
SUPPLIES

**3001 RAMADA WAY
GREEN BAY, WI 54304
1-800-891-9003
FAX (920) 336-8683**

PROFESSIONAL QUALITY AT WAREHOUSE PRICES

CIRCLE NO. 90 ON PRODUCT INFORMATION FORM

WOODLINE ARIZONA, Inc.
P.O. Box 1530 • Payson, AZ 85547

Great Router Bits and Shaper Cutters!

With our 1-PIECE PANEL RAIL & STILE CUTTER, just raise the bit approx. 3/8" to make the matching cut. 5 profiles available: NEW Double-Roundover and NEW Wedge, Ogee, Roundover, Cove & Bead, Dressed w/ heat-resistant, super slick finish.

- Great fit
- No changing bits.
- No reversing the pieces.
- Just raise, cut—that's all!

For your Shaper
3/4" Bore **\$89**
1-1/4" Bore **\$99**

Our PANEL RAISER WITH UNDERCUTTER, 5 profiles available: Ogee, Convex, 12" Face Cut w/ Qtr. Rnd., Traditional, Wave, Dressed with a heat-resistant, super slick finish. Always makes just the right tongue thickness to perfectly match the groove in your Rail & Stile—everytime—what could be easier!!

3/4" Bore or 1-1/4" Bore Shaper Cutter Panel Raiser **\$59**

ALL WOODLINE ARIZONA BITS & CUTTERS FEATURE:
• EUROPEAN CARBIDE • ANTI-KICKBACK DESIGN • SUPER-SLICK FINISH

• All Major Credit Cards Accepted
• Shipping is only \$3.75 per order
• Most items in stock
• Same-day shipping!!
• Order 24 hours-7 days a week **1-800-472-6950**

FREE NEW catalog with over 100 NEW BITS & CUTTERS!

DOING JOINING? WE'RE JOINING HEADQUARTERS!
Best Prices, Best Selection, Top quality!

NEW Don't throw those "shorts" away! Now an affordable router bit **FINGER JOINER WL-1429** only \$39.
For the Shaper WL-1580 **only \$89.**

GLUE JOINTS in 2 sizes, for up to 5/8" (also is drawer joint cutter).
1/4" shank **WL-1430-1** only \$24.
1/2" shank **WL-1430-2** only \$24.
for up to 1-1/4" material
1/2" shank **WL-1430** only \$35.

For the Shaper
Glue Joint **WL-1706** only \$35.
Lock Mitre **WL-1581** only \$40.

NEW "V" FACET & G router bit for up to 1-1/8" material. **WL-1488** only \$30.
2 PC. SET "V" FACET & G now in 2 sizes for the shaper 3/8" to 5/8" **WL-1571** only \$119.
3/4" to 1" **WL-1572** only \$139.

T & G FLOORING CUTTERS
For the Router **WL-1488-1** only \$39.
For the Shaper **WL-1584** only \$59.
T&G Router bit For 1/4" to 1/2" material **WL-1488-2** only \$30.

Router bit **CORNER LOCK MITRES** in 3 sizes
WL-1420-2 (1/4" shank-up to 5/8" material) only \$25.
WL-1420-1 (1/2" shank-1/2" to 3/4" material) only \$30.
WL-1420 (for material to 3/4" to 1-1/4") only \$38.

NEW Carbide tip ROSETTE CUTTERS
cutting width—2-1/4" \$39. 3-1/4" \$49.

SUPER BUY!!
These great sets are packaged in an attractive wooden box! Available in both 1/4" and 1/2" shank.

- 8 pc. Joint Making Set **\$49.**
- 6 pc. Roundover Set **\$55.**
- 5 pc. Cove Set **\$49.**
- 3/16" 1/4" 5/16" 3/8" 1/2" radius **\$129.**

SUPER SALE!!
CUTTERS and BEARING SETS (to change depth of cut) Two-Flute Cutters in 1/4" or 1/2" shank. Allen wrench incl.

Price at only **\$15. ea.**
\$39. Set of 3

- 5/32" kerf w/3 bearings, cuts slot to fit all biscuit sizes. Sample bag of biscuits incl.
- Rabbeting Bit with 4 bearings for rabbets of 1/4", 3/8" & 1/2" depth
- 1/4" kerf Slot Cutter with 4 bearings for cutting slots of 1/4", 3/8" & 1/2" depth

CIRCLE NO. 88 ON PRODUCT INFORMATION FORM

Dust-Free Sanding

Eliminate hazardous dust Before it becomes airborne



Airborne dust is now being recognized as a major health hazard. Imagine sanding in a dust-free environment, where 98% of the dust created by sanding is gone.

How It Works

Dust produced by sanding is immediately sucked away through holes located in the sandpaper, the bottom of the sander's pad, AND around the outside edge of the pad (a FEIN exclusive). The extracted dust is contained by a powerful vacuum.

Unbeatable Finishes

Typically when you sand with normal sanders, your sander ends up riding on a bed of dust and broken abrasive. With the FEIN Sanding System, this "bed" of dust doesn't exist. Your paper cuts faster, cleaner, and lasts up to 10 times longer. You simply can't get the same finish by any other sanding method.

Automatic Vacuum

When you turn your Fein sander on, the vacuum starts. When you switch your sander off, the vacuum stops... automatically. The Fein Turbo II Vacuum is built to handle large amounts of super-fine dust.

It's easy to get more information, simply call and ask for a free color brochure: (800)441-9878

FEIN Power Tools Inc.

3019 West Carson St.,
Pittsburgh, PA 15204
(412)331-2325 fax: (412)331-3599



CIRCLE NO. 25 ON PRODUCT INFORMATION FORM

Cocobolo

by Paul L. McClure

As a teenager, I loved to hang out at old Tony's cabinet shop. Tony was about 70 and had been collecting wood since his youth. One day I stumbled on a little offcut, nestled in the sawdust on the floor. This offcut was unlike any other wood I'd ever seen: When the sunlight hit it, the freshly planed wood gleamed like a rainbow in shades of red, orange, yellow, purple, and black. "That's cocobolo," said Tony. "You can have it."

I still have that offcut, and though it's now dark with age, I know the rainbow is just beneath the surface—all I have to do is plane it.

Appearance

Cocobolo is part of the rosewood family. Its sapwood is a nondescript grayish white, but the freshly milled heartwood is a riot of color. On exposure to air and light, the heartwood slowly turns a subtler orangey-red with black streaks. It eventually turns a very dark red-brown with almost indistinguishable black accents.

Cocobolo heartwood has very tight pores and fine texture. The pores are filled with volatile oils that give the wood a waxy feel. Flatsawn cocobolo can exhibit wild swirling patterns, and the quartersawn stock can display striking ribbon stripe or broken mottle figure. The wood has a slightly pungent odor that intensifies when you work it.

Workability

Caution: Some people have allergic reactions to the volatile oils in cocobolo, including rashes and sneezing. These reactions get worse with each exposure to the wood. If you become allergic to cocobolo, don't work it, and stay away from places where the wood is being sawn or sanded.

Cocobolo is very stable. It works well with both power and hand tools but tends to dull edges, so it's best to use carbide-tipped cutters. The wood nails and screws well, though I prebore all fastener holes. It turns easily and holds detail very well.

It's best to scrape cocobolo; the oils tend to clog sandpaper. These oils also inhibit glue bond. You're best off with mechanical joints such as mortises and tenons, tongues and grooves, or splines. Prewash edge joints with lacquer thinner or acetone, and glue up as soon as the solvent has evaporated.

Cocobolo's volatile oils pay off in the finishing department: Left to their own devices, they build up like wax, protecting the wood from moisture and forming a lustrous patina. For a high polish, just rub the unfinished surface with a lint-free cloth. Many hard finishes, including polyurethane and shellac, do not adhere well to cocobolo. Lacquer does, because it dissolves the surface oils.

Uses

Cocobolo is often used for knife and tool handles; you can immerse it in soapy water without damage. It's also used for inlay, musical and scientific instruments, knobs, jewelry boxes, and chess pieces. ▲

COCOBOLO

SPECIES AND COMMON NAMES

Dalbergia retusa—Cocobolo, cocobola, Nicaragua rosewood; sometimes mistakenly called granadillo (*Platymiscium* spp.)

GROWING REGION

Along the Pacific coastline from central Mexico through Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and Panama

SPECIFIC GRAVITY

0.99 to 1.22

DENSITY

62 to 76 lbs. per cubic ft.

WOOD MOVEMENT¹

Tangential (flatsawn): small (less than 1/4 in. per ft.)

Radial (quartersawn): small (less than 1/4 in. per ft.)

DURABILITY

Resistant to decay and insect attack

SUSTAINABILITY

Sustainable at current harvest levels. Not on the CITES or Endangered Species lists

AVAILABILITY

Specialty hardwood lumber and veneer dealers

SIZE

Thicknesses: 4/4 through 8/4 for lumber; 1/16 in. for veneer. Widths: 3 to 6 in. for lumber; 8 to 10 in. for veneer. Lengths: 2 to 6 ft. for lumber; 6 to 8 ft. for veneer

COST

Lumber: \$18 to \$30 per bd. ft., depending on thickness

Veneer: \$6 to \$18 per sq. ft., depending on figure and quality

¹Indicates wood movement across the grain from 6% to 12% moisture content



STEVE WALL LUMBER CO.

LUMBER	SIZE	GRADE	BOARD FOOT*	UPS SPECIALS**
Ash	4/4	Select	\$2.15	\$73.00
Basswood	4/4	Select	\$1.90	\$59.00
Birch	4/4	Select	\$2.30	\$77.00
Butternut	4/4	1C	\$2.00	\$65.00
Cedar	4/4	1C+Btr.	\$1.60	\$62.00
Cherry	4/4	Select	\$3.60	\$94.00
Cypress	4/4	Select	\$2.20	\$70.00
Hickory-Pecan	4/4	Select	\$1.95	\$67.00
Mahogany	4/4	Select	\$3.70	\$94.00
Maple (Hard)	4/4	Select	\$2.80	\$81.00
Maple (Soft)	4/4	Select	\$2.20	\$68.00
Poplar	4/4	Select	\$1.55	\$60.00
Red Oak	4/4	Select	\$2.35	\$76.00
Walnut	4/4	Select	\$3.25	\$91.00
White Oak	4/4	Select	\$2.35	\$75.00
White Pine	4/4	F.G.	\$1.10	\$51.00
Yellow Pine	4/4	Clear	\$1.70	\$61.00

*100' quantities of kiln-dried rough lumber sold by the board foot. FOB Mayodan, NC. Call for quantity discounts. Other sizes & grades available. **20 board feet bundles of clear kiln-dried lumber 3'-10" wide, 3'-7" long (random widths & lengths). Surfaced 2 sides or rough. Delivered UPS prepaid in continental U.S. SEND \$1.00 FOR LUMBER CATALOG.

Box 287, Mayodan, NC 27027 • (910) 427-0637 • (800) 633-4062 • FAX (910) 427-7588

CIRCLE NO. 164 ON PRODUCT INFORMATION FORM

Custom Raised
Panel Doors.
Call for quotes.

Quality Hardwoods
& Woodworking
Machinery for
the Craftsman &
Educational
Institutions

CONOVER LATHE



Thinking of moving up? Need a machine with greater length, more horsepower, greater rigidity?

Most of our customers have exceeded the capacity of smaller machines.

Heavy cast iron construction, precisely machined, produces a lathe with 16" swing. With user supplied 2" x 6" timbers, this lathe can be sized to fit your workshop or project. Excellent for faceplate or spindle work. Guaranteed to please and compliment even the most discerning of craftsmen.

The Conover Lathe. A long tradition of pride in American-made quality.



Conover Lathe Div.
Alpha Fabrication Inc.

P.O. Box 418, Mentor, Ohio 44061-0418
www.conover-lathe.com

WOODWORKING SUPPLIES

*FASTENERS *HAND TOOLS *BITS
*ABRASIVES *FINISHES *CLAMPS
*GLUES AND MORE!!

800-423-0030

FAX 800-423-0542

US & CANADA

JAMESTOWN DISTRIBUTORS

PO BOX 348
JAMESTOWN, RI
02835

1236 TRASK PKWY
SEABROOK, SC
29940

FREE CATALOG

CIRCLE NO. 40 ON PRODUCT INFORMATION FORM

Full-Size Professional Plan MORRIS CHAIR

Build this comfortable Bow-Arm Arts & Crafts chair with 3-position back. Footrest included.

Chair size:
33" W 38 1/2" H 33 1/2" D

Plans (postpaid).....\$22.50
Catalog (Free with order)
Catalog only.....\$3.00



Fine Furniture plans since 1968
FURNITURE DESIGNS, INC., Dept NM-38
1827 Elmdale Ave., Glenview, IL 60025
M/C - VISA orders call: 1-800-657-7692

CIRCLE NO. 302 ON PRODUCT INFORMATION FORM



Largest selection of Router Bits & Shaper Cutters in the U.S.A.
Over 650 models and 200 styles to choose from!

Special
Price!

STEELEX
FINE TOOLS

Top-quality carbide and high-tensile, silver brazing make these sets the choice among professionals!



15-pc. Router Bit Set

1/4" Shank #C1710
Reg. \$69⁹⁵

Sale
\$54⁹⁵

Router Bits

Four-Piece Roundover Bit Set

1/4" Shank, 1/8"r, 1/4"r, 3/8"r, 1/2"r #C1706

Reg. \$39⁹⁵
Sale
\$29⁹⁵

Call 24 hours a day for your
FREE 190 Pg. CATALOG featuring world-famous Bits & Cutters.

To order, call:

1-800-523-4777

Fax: 1-800-438-5901

Customer Service: 717-326-3806

Visit us at <http://www.grizzlyindustrial.com>

MEDIA CODE

73D



158897658

CIRCLE NO. 33 ON PRODUCT INFORMATION FORM

We've Clinched the Competition!

Our New Clincher Fence Machine™ Delivers Automatic Symmetry...
The Competition Doesn't.

Clincher, heart of Jointech's
CabinetMaker's System®,
gives more capabilities:

- Jewelry Boxes
- Blanket Chests
- Picture Frames
- Book Shelves
- Moldings
- Humidors
- Cabinets
- Furniture
- Drawers
- Tables
- Hinges



Jointech Routing Center
(Plans and Video Available)



All Jointech Woodworking Systems include
a 2 hour video and a Full-color Handbook with
60, 16" long templates for making dovetails,
box joints, double-inlay joints, etc.

JOINTECH
ULTRA-PRECISION WOODWORKING SYSTEMS



**MACHINING
WITH
ABSOLUTE
PRECISION
AND CONTROL.**

Call, Write or Fax for a Free Catalog
& Special Introductory Offer Details!

P.O. Box 790727 • San Antonio, TX 78279
Toll Free: (800) 619-1288 Fax: (210) 377-1282

CIRCLE NO. 44 ON PRODUCT INFORMATION FORM

HEARNE HARDWOODS

Specializing in

Pennsylvania Cherry

Plain & Figured Cherry from 4/4 to 16/4

Also: Premium Walnut, figured Maples & a large variety of
exceptionally fine domestic & imported lumber including free form
slabs, turning blanks, burls, & Instrument grade lumber.

200 Whiteside Drive, Oxford, PA 19363

Toll Free 888-814-0007 Fax 610-932-3130

National & International Shipping



CIRCLE NO. 35 ON PRODUCT INFORMATION FORM

VEGA SAW FENCES ARE SUPERIOR!

NEW COMMERCIAL MODEL AVAILABLE

Vega Fences will add unequalled accuracy,
productivity, and convenience to
your Table Saw ... Pro, Utility and
Commercial Models are ideal for
Cabinet to Contractors Saws. Accessories
are available for greater convenience
and productivity. Vega uses only the
finest materials available.



THE RESULT IS THE *FINEST* FENCE SYSTEM YOU CAN BUY

Call or write for free literature

Vega Enterprises RR3 Box 193 Decatur IL 62526 800-222-VEGA (8342)

CIRCLE NO. 83 ON PRODUCT INFORMATION FORM

BOSCH

12750VS	3" X 24" VS DUSTLESS BELT SANDER	213
12760VS	4" X 24" VS DUSTLESS BELT SANDER	228
1584VS	CLIC BARREL HANDLE JIG SAW, VS	142
1584VSW	1584VS JIG SAW W/CASE & 10 BLADES	159
1587AVSK5050TH	ANNIV JIG SAW KIT W/13 BLADES	156
1587VS	TOP HANDLE JIG SAW, VAR SP	142
1587VSW	1587VS JIG SAW W/CASE & 10 BLADES	159
1613EVS	2 HP VAR SP PLUNGE ROUTER	198
1613EVSK	1613EVS 2WRA1061 DELUXE EDGE GUIDE	208
3315K	12V CORDLESS W/ HANDLE W/2 BAT, CS & CHRG	174
3615K	14.4V CORDLESS DRILL KIT W/2 BATTERIES	194
37250VS	5" DUSTLESS VS RANDOM ORBIT SANDER	144
3727DVS	6" DUSTLESS VS RANDOM ORBIT SANDER	149
3915	10" SLIDE COMPOUND MITER SAW	538

SKIL

HD1805-02	BISCUIT JOINER KIT	134
HD3400	10" TABLE SAW W/CARBIDE BLADE & STAND	196
HD77	7 1/4" WORM DRIVE CIRCULAR SAW	159

Jorgensen

ITEM	JAW LENGTH	OPEN CAP	OUR PRICE EACH	BOX OF 6
STYLE 37 2 1/2" THROAT 3/4" X 3/4"				
3706	6"		6.00	32.50
3712	12"		6.50	36.95
3718	18"		7.50	40.75
3724	24"		7.85	43.50
3730	30"		8.80	47.75
3736	36"		9.85	53.95
PONY CLAMP FIXTURES				
#50	3/4" BLACK PIPE CLAMPS		8.10	
	BOX OF 12		\$91.95	

HITACHI

C8FB2	8 1/2" SLIDE COMPOUND MITER SAW	456
C10FC	10" COMPOUND MITER SAW	194
C10FS	NEW 10" SLIDE COMPOUND MITER SAW	758
M12V	3 HP VAR SPEED PLUNGE ROUTER	258

POWERMATIC

ALL PRICES INCLUDE FREIGHT IN CONTIGUOUS U.S.A.		
15	15" PLANER	1295
54	6" JOINTER W/ENCLSD STAND & XTRA KNIVES	545
64	1 1/2 HP TABLE SAW W/ACCU-FENCE	745
66	3 HP, 1 PH 10" T.A. SAW W/50" FENCE	1965
66	5 HP, 1 PH 10" T.A. SAW W/50" FENCE	2095
73	1 1/2 HP DUST COLLECTOR	398

INTERNATIONAL TOOL CORPORATION

ALL CHECKS WILL BE HELD 10 BUSINESS DAYS
WE ACCEPT VISA, MASTERCARD, DISCOVER, & AMERICAN EXPRESS

INTERNATIONAL TOOL CORPORATION

BUSINESS HOURS:
MON-FRI 8-5 PM EST.
SATURDAY: 9-12 EST

2590 DAVIE RD., DAVIE, FLORIDA 33317
FAX US YOUR ORDER AT 1-954-792-3560

FREE FREIGHT & SAME DAY SHIPPING ON MOST UPS ORDERS OVER \$50 MINIMUM PURCHASE WITHIN THE CONTIGUOUS U.S.A.

1-800-338-3384

GIFT CERTIFICATES AVAILABLE

VISIT OUR WEBSITE AT
HTTP://WWW.INTERNATIONALTOL.COM

QUANTITIES LIMITED - NOT RESPONSIBLE FOR TYPOGRAPHICAL ERRORS - PRICES SUBJECT TO CHANGE WITHOUT NOTICE

PORTER+CABLE

Model 9444 Profile Sander Kit		OUR PRICE
includes 17 pc sandpaper assortment & case		\$96.00
BN125	18 GA. BRADNAILER KIT 5/8" - 1 1/4"	87
BN200	18 GA. BRAD NAILER KIT 3/4" - 2"	134
DA250	15 GA. ANGLE FINISH NAILER KIT 1 1/4" - 2 1/2"	199
DA250A	15 GA. ANGLE FINISH NAILER KIT 1 1/4" - 2 1/2"	234
FN250A	16 GA. FINISH NAILER KIT 1" - 2 1/2"	188
FR350	FRAMING NAILER W/CASE 3 1/2" CAPACITY	289
NS100	NARROW CROWN STAPLER KIT 1/2" - 1"	94
NS150	NARROW CROWN STAPLER KIT 1/2" - 1 1/2"	157
330	SPEED BLOCK FINISHING SANDER	65
332	QUICKSAND 5" RNDM ORB W/STIKIT PAD	58
333	QUICKSAND W/HOOK & LOOP, DUSTLS	64
334	QUICKSAND W/STIKIT, DUSTLESS	64
340	1/4 SHT FIN SANDER W/DUST PU	54
347K	7 1/4" FRAMERS SAW, 15 AMP WITH CASE	128
352VS	3" X 21" BELT SANDER DUSTLESS W/VAR SP	164
360	3" X 24" BELT SANDER W/DUST BAG	214
360VS	3" X 24" BELT SANDER, VS WITH DUST BAG	228
362	4" X 24" BELT SANDER W/DUST BAG	223
362VS	4" X 24" VAR SPD BELT SANDER W/DUST BAG	238
505	1/2 SHT FIN SANDER	138
556	BISC JOINER W/CASE & TLT FENCE	136
690	1 1/2 HP ROUTER W/1/4" & 1/2" COLLETS	136
691	1 1/2 HP "D" HANDLE ROUTER	162
693PK	1 1/2 HP PLUNGE ROUTER, FIXED BASE, CASE	196
693PKX	693PK W/WEDGE GUIDE & TEMPLT GUIDE SET	229
697	SHAPER TABLE W/ 1 1/2 HP ROUTER	232
698	SHAPER TABLE	134
6981	PLUNGE ROUTER BASE	82
7116	NEW 24" OMNUIG	299
7310	LAMINATE TRIMMER, 5.6 AMP	102
7335	5" RANDOM ORBIT SANDER	134
7336	6" RANDOM ORBIT SANDER	137
7518	3 1/4 HP FIXED BASE ROUTER-5 SPEED	282
7539	3 1/4 HP PLUNGE ROUTER-5 SPEED	278
7800	DRYWALL SANDER	338
7810	POWER TOOL TRIGGERED WET/DRY VAC	266
9444	PROFILE SANDER KIT WITH ACCESSORIES	96
9444VS	VAR. SPEED PROFILE SANDER KIT	112
9737	RECIPRG TIGER SAW, 9.6A, QUICK CHNG CHUCK	159
9862	12V CORDLESS DRILL KIT W/2 BATT & CASE	174
9872	14.4V CORDLESS DRILL KIT W/2 BATT. & CASE	198
97310	LAMNT TRIMMR KIT W/3 BASES & CS	188
97549	JIG SAW W/CASE & 3 BLADES	139

Panasonic

EY6100EOKW	12V KIT W/KEYLESS CHUCK, 2 IRONMAN BAT, CHARGER & CASE	178
EY6230FQKW	15.6V CORDLESS KIT COMPLETE	208
SUPER SPECIAL!		\$168
636	OSCILLATING TRIANGULAR SANDER INCLUDES CASE & PAPER ASSORTMNT	
FEN	TURBO II VACUUM	\$248.00

Most tools under 70 lbs. shipped Fed Ex Express Service for \$9.00. call for details! Fed Ex

CIRCLE NO. 39 ON PRODUCT INFORMATION FORM

Makita

60850WE	9.6V CORDS DRILL KIT W/2 BAT	124
62130WAE	12V CORDS KIT W/2 BATTERIES	169
62330WAE	14.4V CORDLESS KIT W/2 BAT	194
LS1211	12" COMPOUND MITER	778
LS1013	10" DUAL COMP MITER SAW	566

DELTA

22-560	NEW 12" PORTABLE PLANER	389
23-710	SHARPENING CENTER	174
28-185	BENCH TOP BAND SAW	167
31-460	4" BELT & DISC SANDER	124
31-780	B.O.S.S. OSCILLTING SPINDLE SNDR	193
36-800	GREAT WHITE UNSAW AFTER REBATE	1599
37-070	NEW 6" VS BENCH JOINTER	264
40-540	16" SCROLL SAW, VAR SPEED	188

DEWALT

DW423	5" DSTLS RNDM ORB VS SNDR, V/CRO	93
DW621	2 HP VS DUSTLESS PLUNGE ROUTER	214
DW625	3 HP HVY DTY PLUNGE RTR, VAR SP	268
DW682K	BISCUIT JOINER KIT	192
DW708	NEW SLIDING COMP MITER SAW	667
DW733	NEW 12 1/2" PORTABLE PLANER	446
DW744	10" PORTABLE TABLE SAW	539
DW788	NEW 20" VAR SPEED SCROLL SAW	479
DW972K2	NEW 12V CORDLS KIT W/BATT & CS	178
DW991K2	14.4V CORDLESS DRILL KIT W/2 BAT	208
DW991KS2	14.4V CORDS DRILL & CIRC SAW KIT	338
DW995K	18V 1/2" DRILL W/BATT, CHRG & CS	224

RYOBI

AP12	12" PORTABLE PLANER	369
DC500K	DC500 KIT W/CS & 5 PC CHISEL SET	62
HT20VSK	MULTITORY TOOL W/CS & 101 PC AST	45
DBJ50	DETAIL BISCUIT JOINER	68

freud

JS100	BISCUIT JOINER	94
JS102	BISC. JOINER W/VAR. ANGLE FENCE	118
FT2000E	3 1/4 hp VS PLUNGERROUTER	204
LU84M010	10" X 50T ATB COMBO BLADE	40
LU85M010	10" X 80 T ATB FOR MIRROR FINISH	58
SD308	8" SAFETY DADO WITH CASE	116
SD508	NEW 8" SUPER DADO SET	167



JESADA TOOLS

There's more to Jesada than fine router bits!

You've seen the rave reviews of Jesada Tools' router bits, now take a look at what editors of the leading woodworking magazines say about our blades. They've tested our blades and dado set against the best on the market and they're convinced. Now you can take advantage of our great prices and convince yourself.

AMERICAN WOODWORKER



Here's what the editors of American Woodworker said when they gave their "Editor's Choice" Award to our 8" Dado Set:

- ★★★★★ Excellent in oak veneer plywood cross grain.
- ★★★★★ Excellent in Melamine-faced particleboard
- ★★★★★ Excellent in solid oak cross grain
- ★★★★★ Excellent in solid pine cross grain.

WOOD

"...I was surprised by the 110-500 Maxi-Combo Blade. Not only is it the quietest blade I've used, but it gave me excellent crosscuts and rip-cuts in any material..."

"If you don't like to change blades, or can only afford one blade, this one outperforms any combination blade I've seen." Dave Henderson, WOOD MAGAZINE

Fine WoodWorking

"Intended for cutting double-faced laminated stock, (the) Ultra-Cut circular sawblade also is great for cutting cabinet-grade plywood..." Chipping is virtually eliminated on both faces"

"The blade was noticeably quieter than my other blades..."

"In my miter saw, the Ultra-Cut produced superbly finished cuts in solid stock"

Dennis Preston, FINE WOODWORKING

Joint-Master™ Anti-kickback Dado Set. It's the editor's choice!

The Joint Master™ carbide tipped dado features outside blades with 24 teeth, six 4-wing chippers, anti-kickback design and a 5/8" arbor. This package also includes a free Precision Dado Shim Set for those in-between cuts.

Dado Set Specifications:

Diam.	No. of teeth (blades)	No. of wings (Chippers)	Arbor	Cutting width
8"	24	4	5/8"	1/4" to 29/32"

Chipper dimensions:

Includes four 1/8", one 1/16" & one 3/32" Ply-Groove™ Chipper

108-2405 8" Anti-kickback Dado Set

List: \$268.40 SALE: ~~\$179.00~~

After Instant Rebate: **\$164.00**

Maxi-Combo™ and Ultra-Cut™. Get the finest cuts you've ever seen!

The Maxi-Combo™ features our unique Chamfered Raker Teeth that virtually eliminate chipping in plywood and veneer. The Ultra-Cut™ delivers chip-free cuts in two-sided laminates. That performance is the result of the 40° top bevel on the teeth, which slice the edges of the kerf before removing the bulk of the material.

Specifications: (both blades 10" diameter with 5/8" arbor)

Item #	No. of Teeth	Kerf Width	Hook Angle	List Price	Sale
110-500 Maxi-Combo	50	.125"	12°	\$78.40	\$66.60
110-800 Ultra Cut	80	.125"	5°	\$100.90	\$85.80
110-233 Maxi-Combo & Ultra Cut Set				\$179.30	\$119.00

The Cabinetmaker's Ultimate Blade Package:

Includes: Joint Master 8" Dado Set, 10"x80 Ultra-Cut™ & 10"x50 Maxi-Combo™ Blades

110-333

List: \$447.70 SALE: ~~\$284.40~~ *Best Buy!*

After Instant Rebate: **\$254.40**

Does your saw seem a little underpowered? Our Thin-Kerf blades are the answer!

Our Thin-Kerf blades feature the same careful design and engineering as their standard-kerf counterparts, but with a thinner plate and tooth profile. We recommend the use of Blade Stabilizers (sold below) with thin-kerf blades.

Specifications: (both blades are 10" diameter with 5/8" arbor)

Item #	No. of Teeth	Kerf Width	Hook Angle	List Price	Sale
210-240 Thin-Kerf Ripping	24	.097"	20°	\$69.00	\$58.65
210-500 Maxi-Combo Lite	50	.097"	12°	\$79.00	\$64.90
210-222 Both Thin-Kerf Blades				\$148.00	\$99.90
SBS-005 5" diam. blade stabilizers (set of 2)				\$25.20	\$19.90

Collect your instant rebate **now!**

♦ \$15 rebate ♦ on any \$150 purchase

♦ \$30 rebate ♦ on any \$250 purchase

♦ \$50 rebate ♦ on any \$350 purchase



Maxi-Combo's chamfered raker teeth virtually eliminate chipping.

Ultra-Cut's 40° top bevel slices the outside edges of the kerf first for chip-free cuts in 2-sided laminates.



Visit us on the Web!

<http://jesada.com>

Over 60 pages of products, instructions, tips & a factory tour!

E-Mail: jesada@packet.net

Call for our **Free Catalog**

To order, call toll-free 24-hours:

1-800-531-5559

Toll Free FAX: 1-800-870-7702

\$5.00 shipping & handling on all orders

Dealer inquiries welcome!

Export orders: (813) 891-6160 FAX: (813) 891-6259

JESADA TOOLS,
310 Mears Boulevard, Oldsmar, FL 34677

In Canada, call:
ToolTrend Ltd. 1-800-387-7005

What to Do with Used Solvents

Reuse them when you can, retire them when you must

by Michael Dresdner



Due to the thankless task of cleaning up spray guns, brushes, pads, and containers, I actually use more thinner than coatings. I'm often left with a container of "used" solvent that's volatile, dangerous, and toxic, along with some pressing questions: "Should I dump it down the drain, put it out with the trash, pour it out on the driveway, or simply store it forever?" For the record, the answer to all of the above is "no."

But before you despair, there are some wise and cost-effective ways to deal with used solvents such as mineral spirits, lacquer thinner, naphtha, turpentine, denatured alcohol, and others. I'll cover a few of them just ahead.

Safety First

We all know enough to spray or brush finish only in a booth or room with good ventilation, and to wear a respirator to boot. But it's easy to forget that the rules of finish safety also apply when cleaning up and handling solvents. Use goggles to protect your eyes from splashes and neoprene gloves for your hands. Whenever possible, use the same active air flow you would use for spraying, since you'll be filling the air with vapors. In low-airflow situations, use a respirator. Remember that most of these solvents are flammable, so keep away from open flames or sparks.

Reuse It

You don't have to use new solvent every time you clean spray guns and brushes! You can save a lot of money and protect the environment by reusing solvent, especially if it's mixed with clear coatings. In some cases you can remove pigments from thinner and use it again. When spraying lacquer, I even use lacquer thinner from a previous cleanup to cut the next batch of lacquer.

Spray guns—When I get finished spraying clear lacquer, I pour about a cup of lacquer thinner into the sprayer,

Retirement by evaporation. When solvent is too "dirty" to use again, pour it into a box lined with plastic and newspaper, and let it evaporate. Then discard the paper. You can use the box and plastic again.

slosh it around the cup to clean the interior, and spray some through the tip by triggering the gun for about two seconds. The remaining "used" thinner stays in the gun until it is time to spray again, when I use it to thin down my next batch of lacquer. If the lacquer needs no thinner, I pour the thinner into a container until I am done spraying, then use it again to clean the gun. The same process works for clear varnish, except that the thinner is mineral spirits or paint thinner instead of lacquer thinner.

Note that you may need to use more than a cup of thinner for a pressure pot, depending on the size of the pot.

Since I spray a bit through the gun to clean out the tip each time, the thinner-lacquer residue mix gets depleted. As it

does, I add a bit more clean thinner, so the concentration of lacquer or varnish in the thinner never gets very high, if you don't use it to cut the next batch.

Of course, when I do use the dirty thinner to cut the next batch, I start over with 100% new thinner at cleanup time.

Brushes—As with guns, you can use the thinner from cleaning brushes after clear coatings like varnish, shellac, or lacquer to thin your next batch of the same finish, or save it to clean brushes another day. However, since it gets used up more slowly, you may come to a point where there is too much varnish in the thinner. When that happens, it's time to either recycle

the thinner or dispose of it and start with more clean thinner. I'll talk more about those options later.

Colored finishes—Things are a bit trickier when you clean up coatings that have pigment or dye in them. Whether through a gun or from a brush, you can use this soiled solvent to thin a batch of new finish if you're using the same color finish again. Otherwise, it depends on whether the coating contained dye or pigment.

If the colorant is dye, there is no way to get it back out of the thinner, and you'll have to recycle or retire it.

On the other hand, if the colorant was pigment—which is commonly found in paints, glazes, and some stains—you can usually strain it out of mineral spirits and use the thinner again. Do this by pouring the thinner through a fine paint strainer, a coffee filter, several layers of nylon from used stockings, or even several layers of fine cheesecloth.

An easier (but slower) alternative is to leave the solvent in a covered clear glass container until the pigment settles to the bottom. When the solvent above the settled pigment is clear, you can carefully





The easy way to protect beautiful wood from life's bumps and spills.

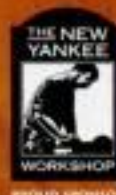


Now, beautifying and protecting wood is as easy as brushing on Minwax® Polycrylic® Protective Finish. Polycrylic dries fast and cleans up with soap and water, allowing you to complete projects in less time. And its remarkable clarity and smooth, durable finish let wood's natural beauty shine through. Polycrylic, the easy way to keep wood beautiful.



Makes And Keeps Wood Beautiful®
www.minwax.com

©Minwax and Polycrylic are registered trademarks. ©1998 Minwax. All rights reserved.
CIRCLE NO. 55 ON PRODUCT INFORMATION FORM



©1998 Minwax, Inc. All rights reserved.

decant the solvent to reuse for cleanup.

Take the gunk that remains in the strainer or the bottom of a decanted container and spread it on newspaper to dry. When it's dry, it can go in the trash.

Retire It

If you feel there is simply too much dissolved finish in the used solvent, or if there is color that you cannot remove, it is time to get rid of the solvent. Small amounts of solvent—say, less than a quart—can be evaporated off.

Line a shallow cardboard or metal tray with a sheet of polyethylene film, then lay several layers of newspaper in the bottom. (See photo, page 86.) Pour the solvent onto the newspaper and place the tray outdoors. Make sure it is not raining, or place it under an overhang. Cover it with fencing material to protect children, pets, and wildlife. When the solvent evaporates and only the dried residue remains, roll up the newspaper and put it out in the trash (not the recycling bin). You can roll up the poly

sheet and save it for the next time you must evaporate off solvent.

You are not permitted to pour any of the common finish solvents (naphtha, mineral spirits, lacquer thinner, acetone, etc.) down the drain or in the sewer system. However, there is one exception.

Cleanup water from water-based coatings or latex paints can be poured down the sink or flushed down the toilet. But do NOT pour this water down storm drains out in the street. Most residential areas have sewer systems capable of dealing with this low level of contaminated water, but the street drains often go directly to rivers and streams.

Recycle It

The "greenest" alternative for dealing with unwanted solvents and finishes is to take what you have to a recycling center or toxic waste disposal site. There it will either be reused in its current form, "cleaned" in a solvent still to make it reusable, or destroyed safely. Which path the solvent takes depends

both on how clean it is and the capabilities of the local center.

Some recycling centers have "barter stores" where you can drop off containers of clean solvent, or pick up partially full cans of unused solvents that others have dropped off. I would not trust such solvents for thinning coatings, because they could be contaminated. But this is a great way to get free cleanup thinner.

You can usually find a recycling center by calling your local fire department, health department, or environmental protection agency. ▲



Join Michael Dresdner live

on America Online Sunday nights from 9:30 pm to 10:30 pm eastern time for answers to your finishing questions. Keyword "wood" takes you to AMERICAN WOODWORKER Magazine Online. Click the "Shop Talk" icon to enter the chat room.

Small Shop MAGIC

FREE VIDEO!

MADE IN U.S.A.

Short on shop space? The Shopsmith MARK V gives you the five most important woodworking tools – table saw, lathe, drill press, disc sander and doweling machine – all in one unit. It takes no more space than a bicycle and turns any spare corner into a complete, professional-quality home shop.

Get the facts and learn how to have the shop you've always wanted, to build the projects you've always dreamed of.

Free Video and Information Kit!
1-800-543-7586
 ASK FOR DEPT. AMW-4
Shopsmith Inc.
 6530 Poe Avenue • Dayton, OH 45414

CIRCLE NO. 75 ON PRODUCT INFORMATION FORM

118 SIPHON GUN

AN ECONOMICAL WAY TO SPRAY:

STAINS LACQUERS
PAINTS ADHESIVES

Ideal for many woodworking projects!
**EASY TO OPERATE
 EASY TO CLEAN
 CONE SHAPED SPRAY PATTERN**

TOO STANDARD SEALER JAR IS IDEAL FOR STAINING, DIFFERENT COLOUR STAINS OR PAINTS FOR QUICK, EASY SETUP

Available at:
 Lee Valley Tools Ltd. 1 800 871-8158
 Woodworker's Supply 1 800 645-9292
 The Woodworkers' Store 1 800 279-4441

CRITTER
 SPRAY PRODUCTS

CALL TOLL FREE 1 800 982 9438

CIRCLE NO. 18 ON PRODUCT INFORMATION FORM

ARTS & CRAFTS STYLE CHAIR & FOOTSTOOL

Introducing the finest plan on the market today! Pages of directions and 36 by 48 CAD generated plan. This comfortable chair has a 4 position back. Dim. - 34 inches wide by 40 inches high by 39 inches deep

AMERICAN FURNITURE DESIGN
 P.O. BOX 300100 ESCONDIDO, CA 92030
 CHAIR PLAN \$19.95 + \$3.50 S&H
 CATALOG \$3.00
 760 743-6923

MORRIS CHAIR #182

CIRCLE NO. 301 ON PRODUCT INFORMATION FORM

Save Money

sawing your own lumber.

Make Money

sawing for others.

- Saw trees up to 36"D. or 45'L. on site (w/optional bed extension(s))
- Portable and stationary models
- Optional hydraulic log handling
- Professional sawmills from \$7595

Free \$2 Catalog

Personal sawmills from: \$4495

Wood-Mizer®
 8180 West 10th Street Dept. AW39
 Indianapolis, IN 46214-2400
 www.woodmizer.com

Professional LT40 Super Hydraulic Sawmill

1-800-553-0219

*With the purchase of All Products Video @ \$30.00

CIRCLE NO. 202 ON PRODUCT INFORMATION FORM



WE'RE NOT SAYING THE HEAVENS OPENED UP THE MOMENT THE BT3000 WAS CREATED. THEN AGAIN, IT WAS RATHER BRIGHT THAT DAY.

[Shown with optional accessories.]



First, we gave the BT3000 capability no contractor table saw could touch. Then, to raise the BT3000 even further above mere, mortal table saws, we created many accessories. From oversized tables to a micro-positioning device. Thus creating something truly unique. A precision woodcutting system with unmatched versatility. At a price that's far more down to earth.

RYOBI
POWER TOOLS

Available at participating home centers and hardware stores. For more information call 1-800-525-2579 or visit our website at www.ryobi.com. © Ryobi America Corp., 1997.

PRO FEATURES, AFFORDABLE PRICES.

Materiale protetto da copyright

Sand-Rite Pneumatic Drum/Brush Head Sander



Sand irregular surfaces without loss of shape or detail.

Pneumatic sanding drum. Available in five diameters, 2" to 8". Operator-regulated inflated drum conforms abrasive sleeve to contoured work.

Model No. DB-612
Made in U.S.A.

Eliminate Tedious Hand Sanding!

Call for a **FREE**
Catalogue and
Price List
800-521-2318

CIRCLE NO. 70 ON PRODUCT INFORMATION FORM



PLAN #27 — \$11.97

WOOD WORKERS & TRAIN LOVERS - You'll be the envy of all your friends when you show them this exact replica of the 1949 READING T-1 Steam Freight Locomotive & Tender. This "trace & cut-out" PLAN also has easy to follow instructions for assembly. Complete with Track instructions, details include 8 working Drivers, working Trucks, and even a swinging Bell.

Send \$11.97 U.S. check or money order for the above PLAN to:

GATTO PLAN SUPPLY
55 Dogwood Road
Hamburg, PA 19526

For a brochure only of other plans available - send \$1.25

CIRCLE NO. 162 ON PRODUCT INFORMATION FORM

From
OLSON®

If it doesn't say
PGT®, it's not
the real thing!

PGT Scroll

Free Blade Offer

The experts agree, PGT's are
"The Best" scroll saw blades!

Precision **Ground** Blades are the
smoothest cutting, most accurate &
longest lasting scroll saw blades made.

Available from your Olson Dealer.
5" Plain End Blades with Reverse Teeth.
Univ. Sizes 5, 7 & 9.

Send for your **FREE BLADE**
in the size of your choice.



(circle size #5, 7 or 9)

Name _____

Address _____

City _____

State _____ Zip _____

The Olson Saw Company

16 Stony Hill Road, Dept. AW

Bethel, CT 06801

Fine Quality Saw Blades Since 1918

CIRCLE NO. 58 ON PRODUCT INFORMATION FORM

RIPSAW

**PORTABLE
SAWMILL**

Weights only 45 lbs. Can easily be carried
and operated by one person. Cuts up to 20"
diameter logs into
lumber, from 1/8 to 9"
thick and up to 14" w.



Better Built Corporation
789 Woburn Street, Dept. AW
Wilmington, MA 01887-4600
Phone: 978-657-5636 Fax: 978-658-0444

Website: <http://www.ripsaw.com>
E-mail: info@ripsaw.com
MasterCard, Visa, Discover accepted

Video
\$10.00

CIRCLE NO. 8 ON PRODUCT INFORMATION FORM

ARROWMONT
SCHOOL OF ARTS & CRAFTS

P.O. Box 567 • 556 PKWY • GATLINBURG, TN 37738
423-436-5860 • Fax: 423-430-4101 • e-mail: arrowmnt@aol.com

WOODTURNING - Hugh McKay, Ron Kent, Vic Wood,
Alan Stirt, Gael Montgomerie, John Jordan, David Ellsworth,
Johannes Rieber/**FURNITURE** - Paul Sasso, Glen Elvig, Rick
Brunner, Jo Stone/**CLAY/METAL/ENAMEL/FIBER/**
SURFACE DESIGN/MIXED MEDIA/PAPER/
DRAWING/PAINTING/BOOK ARTS/PHOTOGRAPHY

Graduate/Undergraduate Credit
Assistantships/Scholarships/Residencies
Year-Round Gallery Exhibitions/Library/Bookstore - Open to the Public
Elderhostel/Community Classes/Conferences

FORMAL OPPORTUNITY INSTITUTION

**One-Two Week Workshops
JUNE 1 - AUGUST 7, 1998**

CIRCLE NO. 7 ON PRODUCT INFORMATION FORM

**IF YOU DEMAND FAST, ACCURATE
MOISTURE MEASUREMENT,
RAISE YOUR HAND.**



Get a grip on our J-Series wood moisture
meters with convenient one-hand operation
and the flexibility of using the integral con-
tact pins. Available in three models to meet
your needs and your budget.

Best of all, these are pin-type meters. The
only instruments that can help you identify
surface and core moisture content. The
result? Readings you can rely on, fewer de-
fects and better quality control.

Delmhorst Instrument Co., 51 Indian Lane
East, Towaco, NJ 07082 FAX 201-334-2657

Call us toll free at 800 PINS DIC (746-7342).

DELMHORST
INSTRUMENT CO.

PINPOINTING MOISTURE PROBLEMS FOR 50 YEARS

CIRCLE NO. 20 ON PRODUCT INFORMATION FORM

**Some dovetail
jigs promise you
everything...**

**The Keller Dovetail
System only promises
what it can deliver.**

Fast setup. No test cuts. Precision
joinery. Unlimited widths. Classic
and variable spacing. Compound,
acute and obtuse angles. Curved
dovetails. Box joints. Made in USA
since 1976. 20-yr. warranty. 30-day
money-back guarantee.

"Your best choice. It's the
easiest of all the jigs to use
and great for production use."

— Woodworker's Journal

VIDEO: \$8.95 + \$2 P/H

To find out more, contact your Dealer or



KELLER & CO.
1327 'I' Street, Dept. R38
Petaluma, CA 94952
1-800-995-2456
707-763-9336

Keller Dovetail System
Simple. Fast. Accurate. Enjoyable!

CIRCLE NO. 45 ON PRODUCT INFORMATION FORM

Free Workshops • Prizes • Hundreds of Products • Seminars by Mastercraftsmen

See the Widest Variety of Woodworking Products All Under One Roof!

★ THE WOODWORKING SHOWS ★
tools • supplies • education

THE NATION'S PREMIER WOODWORKING TOUR

VISIT THE SHOW NEAR YOU!

• Atlanta	• Detroit	• Nashville	• So. California
• Baltimore	• Harrisburg	• New Hampshire	• St. Louis
• Charlotte	• Houston	• No. California	• Tampa
• Chicago	• Indianapolis	• North Jersey	• Twin Cities
• Cleveland	• Kansas City	• Portland	• Washington, D.C.
• Colorado	• Massachusetts	• Sacramento	• plus others
• Columbus	• Milwaukee	• Seattle	

Call for free brochure Monday - Friday 8:30 am - 5 pm Pacific Time
1-800-826-8257 or 310-477-8521 e-mail: woodshow@earthlink.net

CIRCLE NO. 94 ON PRODUCT INFORMATION FORM

Unique Catalog Fine Woodworking Handtools

Hand tools you never thought existed! They're unique and high quality. Thousands shown. 114 pages includes books and finishing materials. Oh yes, we'll give you a free spokeshave on your first order of \$50.00 or more and keep you on our mailing list for future catalogs. Catalog cost \$5.00.

FREE SPOKESHAVE

VISA or MC **1-800-648-1270**

Frog Tool Co. Ltd. 2169 IL Rt. 26, Dept. K
Dixon, IL 61021

CIRCLE NO. 502 ON PRODUCT INFORMATION FORM

SQUARE DRIVE SCREWS

Simply the Best

Square Drive Beats Driver Slippage
Deep Thread for Super Grip
Hardened Steel for Superior Strength
Made in the US or Canada!

Send \$5 for Samples, Catalog, & \$5 Off Coupon

McFEELY'S PO Box 11169 • Dept AWW
SQUARE DRIVE SCREWS Lynchburg • VA • 24506
Call Toll Free: 1-800-443-7937

CIRCLE NO. 52 ON PRODUCT INFORMATION FORM

For that "SPECIAL" project
Made In Tennessee

Table Bases

Table Legs

**IN STOCK
NO MINIMUM
VARIOUS WOODS**

FREE COLOR CATALOGUE

Kits Ready to Assemble & Finish

Adams Wood Products™ L.T.D., L.P.
974 Forest Dr., Dept. AW23
Morristown TN 37814 • Phone (423) 587-2942

CIRCLE NO. 3 ON PRODUCT INFORMATION FORM

Enjoy unlimited opportunity! Be your own boss! BE A HOME INSPECTOR!

Work Part-Time Hours... Make A Full-Time Income!

The average home inspection takes only a couple of hours... and Home Inspectors across the country are charging anywhere from \$100.00 to \$300.00 per job for their specialized services. You can make a very comfortable income just working on the weekends, if you like.

No Previous Experience Needed! Start Your Own Business!

Now you can train at home, in your spare time, for a good paying career or business of your own. ICS® — the world leader in distance-learning career training — has specially prepared this program so you can get started fast toward a great future in this booming career field. Home Inspectors are in demand across the country as banks, mortgage companies, and concerned consumers

want to know about a house before they put their money on the line. YOU can be the expert they turn to!

Learn How to Spot Trouble Throughout the Home:

- WIRING
- FOUNDATION
- PLUMBING
- ROOF
- WINDOWS
- INSULATION

Get Valuable Training on Environmental Concerns!

- INSECT INFESTATION
- ASBESTOS
- LEAD

Take advantage of the proven ICS "Quick-Learn" method of instruction. Keep your present job while we teach you the skills to get a better one. Everything is explained in plain English. Help is available via a simple, toll-free phone call. There is no better way to get started toward a rewarding future in Home Inspection than with ICS!



GET YOUR FREE CAREER KIT!

YES! Tell me how I can train at home in my spare time for a better job, more money, and a new career or business of my own! No obligation. No salesman will visit. CHECK ONE ONLY!

- | | |
|--|---|
| ☐ 15 HOME INSPECTOR | ☐ 89 Small Engine Repair |
| ☐ 06 Electrician | ☐ 01 Programming in BASIC |
| ☐ 27 PC Repair | ☐ 158 Auto Body Repair Technician |
| ☐ 07 High School | ☐ 148 Drywall Installer & Finisher |
| ☐ 31 Locksmith | ☐ 105 Computer Graphic Artist |
| ☐ 151 Plumber | ☐ 104 Carpenter |
| ☐ 152 Mason | ☐ 145 Home Remodeling & Repair |

Name _____ Age _____
Street _____ Apt. # _____
City/State _____ Zip _____
Phone () _____



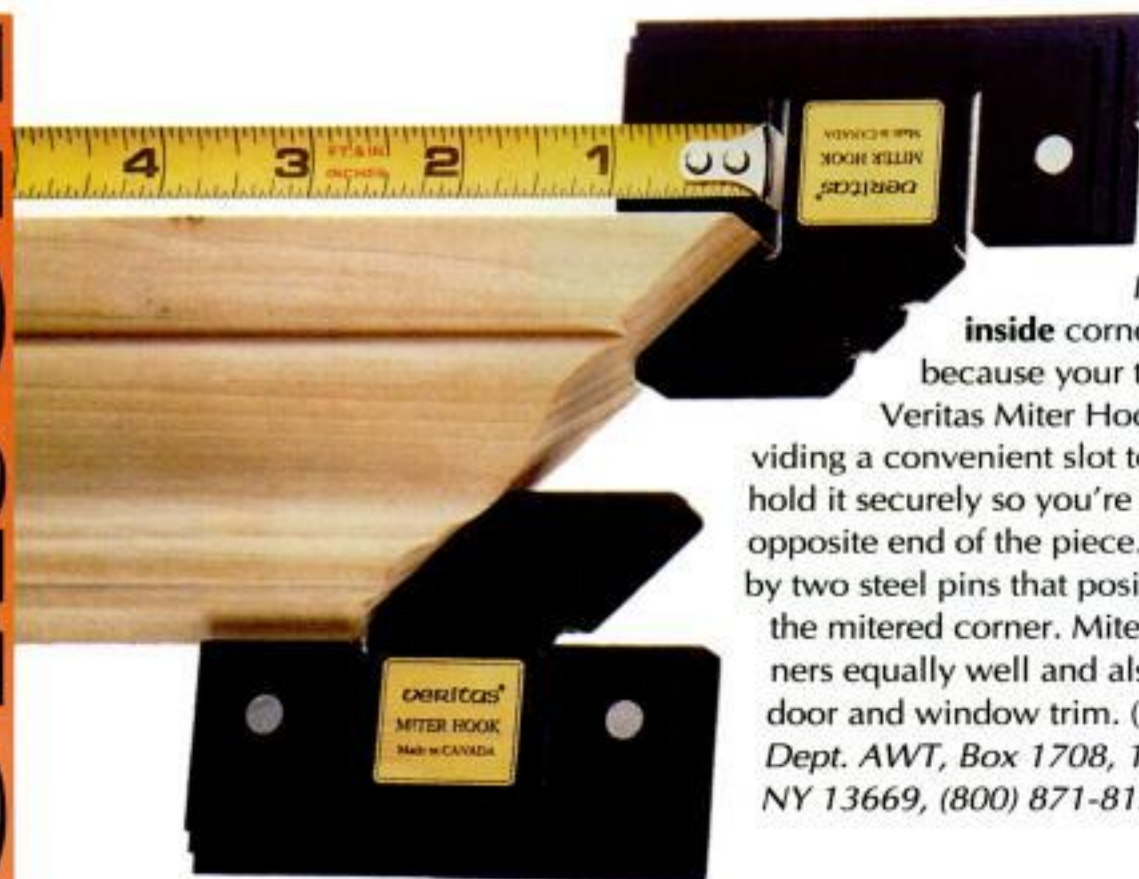
School of Property Management
Dept. A2P038S
925 Oak Street, Scranton, PA 18515

If You Like To Work With Your Hands As Well As Your Head, Send For Free Facts Now! ▶▶▶

OR CALL TOLL-FREE: **1-800-595-5505** ext. 1960
<http://www.icslearn.com>

CALL ANYTIME—
24 hours a day,
7 days a week.

Great
stuff
for
your
shop



Measuring Mitters

Measuring accurately to the **inside** corner of mitered pieces is a pain because your tape has nowhere to grab. The Veritas Miter Hook solves that problem by providing a convenient slot to align the tape and a magnet to hold it securely so you're free to read the tape at the opposite end of the piece. Proper registration is assured by two steel pins that position the tape slot precisely at the mitered corner. Miter Hook measures outside corners equally well and also lets you mark a reveal for door and window trim. (Price: \$6.95) *Lee Valley Tools, Dept. AWT, Box 1708, 12 E. River St., Ogdensburg, NY 13669, (800) 871-8158. Circle #616*

New Cordless Nailers

With Porter-Cable's line of "Bammer" nail guns, you'll never have to drag around an air hose or hook up to a compressor. Instead, the new guns use the explosive force of compressed gas to drive nails. Porter-Cable engineers have simplified the design by eliminating troublesome parts like the batteries and chargers you'd find on other gas-powered nailers. A replaceable fuel cell (about \$7) will fire about 3,000 shots. When we test-fired pre-production guns, they drove nails smoothly and quietly without jamming. Bammer guns are available in 15-gauge and 16-gauge finish nail versions and in a 16-gauge medium crown stapler. Prices are expected to be under \$400. *Porter-Cable Corp., Dept. AWT, Box 2468, Jackson, TN 38302, (800) 487-8665. Circle #617*



Low Cost Lineup From Jet

This spring, Jet will introduce a new line of stationary and benchtop machines. "Shop Line" is for the serious home-shop woodworker looking for quality at an affordable price. Among the new machines will be a 12-in. bandsaw (\$299), a 10-in. tablesaw (\$399), a 6-in. jointer (\$399), a 12-in. portable planer (\$399), a 14-in. drill press (\$299), and a single-stage dust collector (\$199). *Jet Equipment & Tools, Dept. AWT, Box 1349, Auburn, WA 98071, (800) 274-6848. Circle #618*

HARDWOODS

LUMBER • VENEER • TURNING STOCK

Exotic and Domestic

Over 100 Species



WOODWORKERS SAMPLER

30 Gorgeous Woods

From around the world.
1/2" x 3" x 6"
Sanded Finish, Labeled.

AND

Book of Fine Hardwoods

Over 70 woods shown in full color. Charts compare physical properties.
60 pgs.

GREAT REFERENCE TOOL!

\$59.00

*postage paid in Cont USA

WOODWORKERS Source

1-800-423-2450

IT IS FAST AND EASY. SATISFACTION GUARANTEED

CIRCLE NO. 92 ON PRODUCT INFORMATION FORM

HARDWARE

Reproduction Brass and Iron Hardware



- Lighting Fixtures • Fireplace Accessories •
- Furniture Hardware • Builder's Hardware •



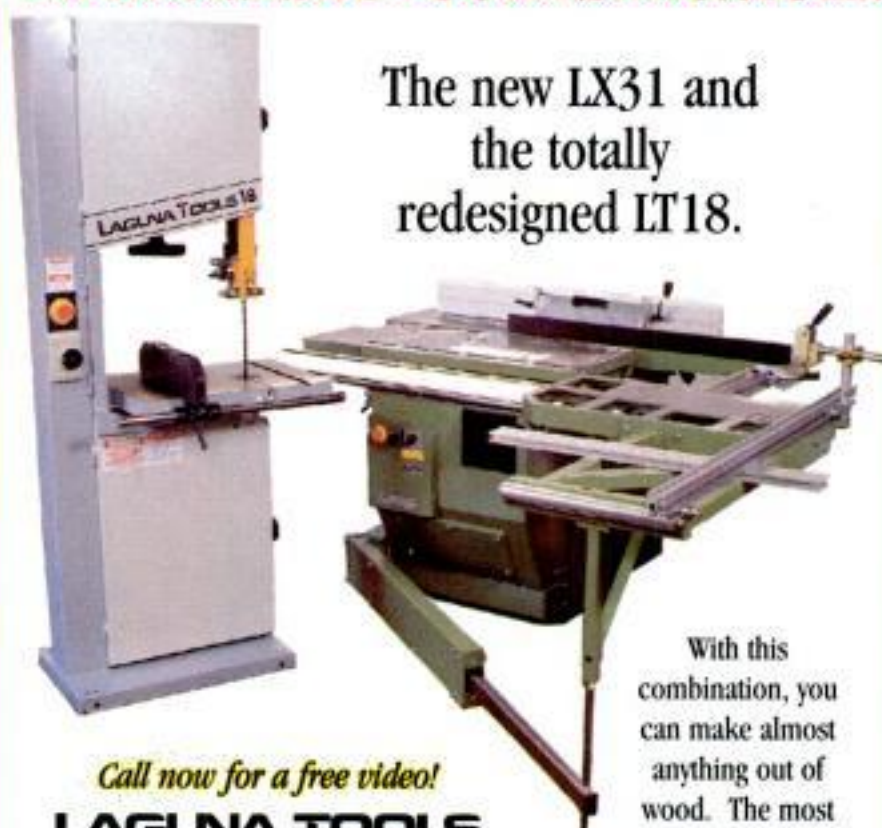
For details, call, write or visit our web site:

www.ballandball-us.com

Or, send \$7.00 (refunded on 1st order) for our 108 page catalog.

463 W. Lincoln Highway • Exton, PA 19341
Phone: 610-363-7330 • Fax: 610-363-7639
Orders: 1-800-257-3711

Incredible Combination!



The new LX31 and the totally redesigned LT18.

Call now for a free video!

LAGUNA TOOLS

(800) 234-1976

(714) 494-7006

<http://www.lagunatools.com>

2265 Laguna Canyon Road
Laguna Beach, CA 92651

With this combination, you can make almost anything out of wood. The most economical way to set up a dream workshop and at the same time, save space and money!

CIRCLE NO. 50 ON PRODUCT INFORMATION FORM

One Good Turn ...



... deserves the Gold Standard in micro-lathes from **WoodWrite**. Ready to-run, assembled, aligned, the **ALL NEW Model 160** (shown above) features:

- 1/3 hp AC induction motor with foot switch;
- 400 - 5700 rpm (6 steps); 16-1/2" between centers; 5-1/2" swing over bed; 2-3/4" swing over saddle; high speed ball bearings - head and tail stocks; screw-type live center included;
- the **ALL NEW E-Z Glide™** crank (4 turns to move saddle 1");
- carbide tipped cutting tool; tool mount; 7mm mandrel, knurled nut;
- dynamic dust collection manifold.

The **ALL NEW Model 260** includes all of the above **PLUS** a motorized saddle drive - works so smoothly you'll hardly ever need sandpaper!

And, check out the **ALL NEW Copy-Cat™** duplicator - the easiest way to copy from patterns or other work.

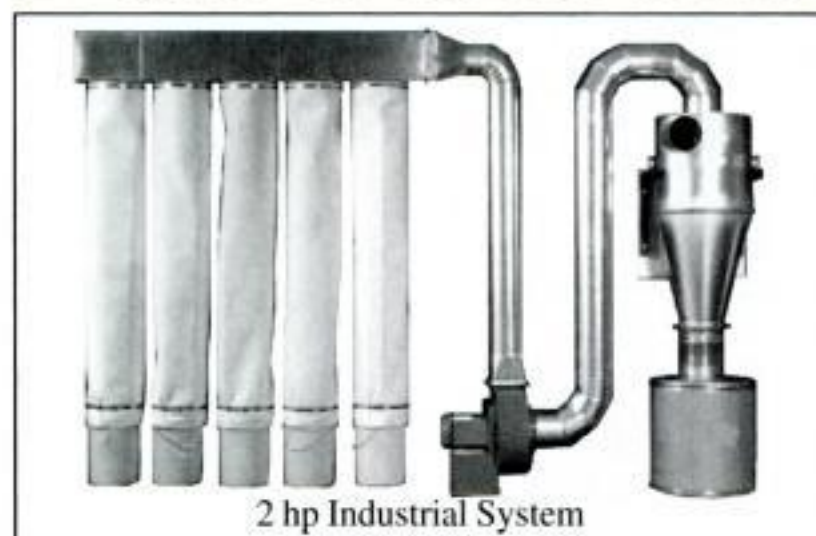
WoodWrite Ltd.

2121 Abell Lane, Bldg. 404
Sparks, MD 21152 USA
Tel: 1-888-966-3974
410-771-4444
Fax: 410-771-4879

e-mail: woodwrite@worldnet.att.net

CIRCLE NO. 95 ON PRODUCT INFORMATION FORM

Dust Collection



2 hp Industrial System

1.5 hp to 15 hp Industrial Systems

- 15 Years Experience in Air Filtration
- Custom Engineering & Technical Assistance
- Free Sizing & Duct Design
- Complete Ductwork Packages
- Cyclones & Filter Media
- 100% U.S. made

ONEIDA AIR SYSTEMS, INC.™

(315) 476-5151 FAX (315) 476-5044
1005 W. Fayette St. Syracuse, N.Y. 13204
Email: oasinc@dreamscape.com www.dreamscape.com/oasinc

CALL or WRITE for a FREE BROCHURE

CIRCLE NO. 59 ON PRODUCT INFORMATION FORM

DeWalt Benchtop Tablesaw

by Joe Hurst-Wajszczuk

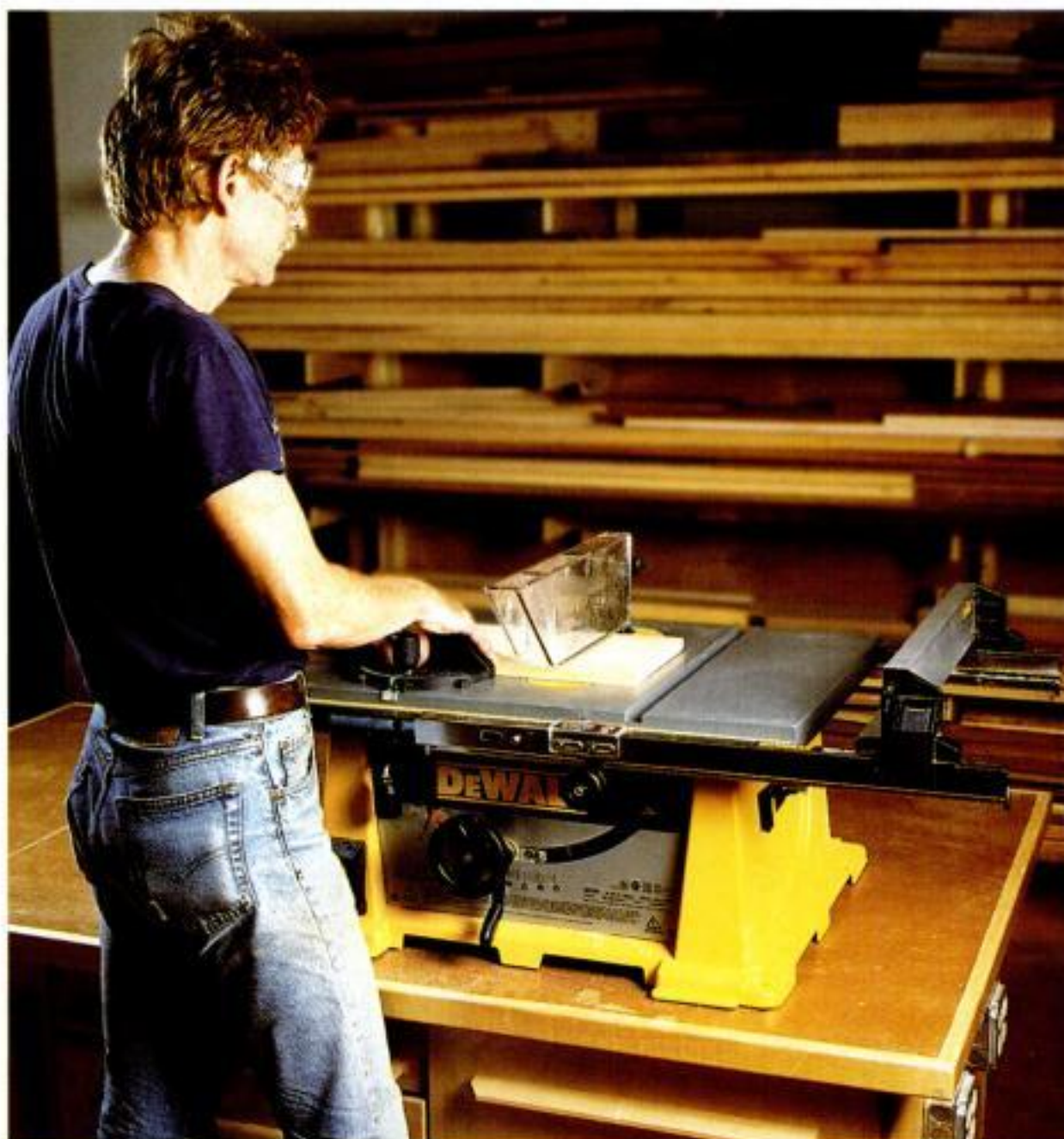
DeWalt's DW477 10-in. benchtop tablesaw sets a new standard for woodworkers like me who depend on benchtop machines as their primary workhorses. Its power and accuracy closely approach a stationary contractor's saw, yet it's portable for jobsite duty. Add in features like a unique telescoping fence that cuts up to 24½ in. wide, and you'll find that working with a benchtop saw is no longer a compromise.

Setup took about fifteen minutes, and blade alignment to the miter gauge slot and the fence was right on. Smooth controls make it easy to adjust the depth of cut and bevel angle, and I like the cam adjusters for setting the 45° and 90° bevel stops.

Compared to the rudimentary fences on other benchtop saws, the DW477's fence is a joy to use. A rack and pinion system engages the front and rear rails to ensure that the fence stays parallel to the blade. A large adjustment knob allows you to "dial in" a setting, and you can trust the clear, easy-to-read scale without having to use a tape measure. The telescoping rails extend to a maximum rip capacity of 24½ in. (15½ in. to the left of the blade), yet with the rails retracted, the saw will fit through doorways—that's real versatility. When the fence is extended beyond the tabletop, a flip-down ledge helps support wide panels.

The saw comes with a 10-in., 24-tooth carbide blade, which made surprisingly smooth crosscuts with no significant splintering when cutting oak plywood. But I'd recommend using a top-rated combination blade for best results with this saw. (See page 64.) As for power, the DW477 had no trouble ripping 1¾-in.-thick oak or plowing ¾-in.-wide dadoes.

Other noteworthy features include an oversize paddle switch that you can find without groping, and a powder coating on the aluminum top that won't stain your stock. The guard is an improvement over those of other saws, since it mounts to the motor housing instead of the



Versatile saw. Equally at home in the shop or on a jobsite, the DeWalt DW477 delivers plenty of power with portability.

tabletop. This means that the splitter moves up and down with the blade, always staying close and helping to prevent stock from pinching. Optional accessories include a folding stand (\$100) and side work-support rails (\$80).

The only downside for me is noise and weight: The DW477's universal motor is a screamer, and at 64 lbs., the saw is heavier than most other saws in its class.

Overall, the DW477 sets a new benchmark for benchtop saws. Whether you're looking for a jobsite saw or a primary shop saw, the DW477's combination of power, portability, and precision is hard to beat. (Street price: \$559) DeWalt Industrial Tool Co., Dept AWT, Box 158, Hampstead, MD 21074, (800) 433-9258. **Circle #619**

Joe Hurst-Wajszczuk works wood in New Jersey.

General 10" Table Saw w/3hp, Mag Switch 50" T-Square Fence*



\$1,799

100% North American Made

*NOTE: Table board (\$85) and legs (\$49/pair) optional



2625 Beaver Avenue, Des Moines, IA 50310

1-800-835-5084

<http://www.augusthome.com>

Your Complete Store For: Power Tools, Hand Tools, Hardwoods, Finishes, Books, Hardware

More General Machinery

- 15" Band Saw (#490-1) 1HP.....\$1,199
- 12" Lathe (#160-2) 1HP.....\$1,349
- 12" HD Lathe (#260-VD).....\$2,695
- 8" Jointer (#480-1).....\$1,699
- 6" Jointer (#1180-1) 1HP.....\$ 899
- 15" Drill Press (#34-01).....\$ 799

CIRCLE NO. 89 ON PRODUCT INFORMATION FORM

WOOD MOISTURE METERS



- Universal - Accurate -
Pin-point moisture problems from the surface to the core! For heavy timbers to veneer, for rough, smooth and curved surfaces. For wet and dry wood.

New color brochure
- Lignomat USA -
Po Box 30145
Portland, OR
97294
-503-257-8957

Lignomat :: 800-227-2105

CIRCLE NO. 51 ON PRODUCT INFORMATION FORM

MAKE YOUR SHOP PERFECT

You've invested a lot into your workshop. Now get the most out of your equipment.

- Mobile bases
- Pedestal rollers
- Outfeed rollers
- Tool tables
- Shop accessories and more

For a **FREE** full-color catalog, call:
1-800-624-2027

HTC Products, Inc., Royal Oak, MI 48068-0839



CIRCLE NO. 37 ON PRODUCT INFORMATION FORM



When it comes to hardware selection, we get the same reaction every time.

From brass pulls to jig and fixture knobs, Woodcraft's extensive selection of hardware will put a smile on your face. For a free catalog call:

1-800-542-9115

www.woodcraft.com



WOODCRAFT
Helping You Make Wood Work™

210 Wood County Ind. Park, Dept. 98HAWAS,
PO Box 1686, Parkersburg, WV 26102-1686

CIRCLE NO. 87 ON PRODUCT INFORMATION FORM

Make Your Workshop PAY OFF BIG!



30-Day Free Trial!

**NOW!
Plane, Mold,
Sand and
Saw with
Infinitely
Variable
Power-Feed!**

Put this versatile power-feed tool to work in your own shop. See how fast it pays for itself! Quickly converts low-cost rough lumber into valuable finished stock, quarter-round, casing, base mold, tongue & groove ... all popular patterns ... even custom designs! Choose from 12-in., 18-in. or 25-in. models

Variable Feed Makes The Difference!

Now, just a twist of the dial adjusts your planer from 70 to over 1,000 cuts-per-inch! Produces a glass-smooth finish on tricky grain patterns no other planer can handle. Converts to Drum Sander, Molder or Gang Rip Saw in under five minutes.

1-800-821-6651 ext. PY44
Woodmaster Tools, Inc.
1431 N. Topping Ave. Dept. PY44
Kansas City, MO 64120

THE WOODTURNERS CATALOG

Call for your **FREE** copy of our 112 page color catalog.

Featuring:

- ♦ Pen Kits and Supplies
- ♦ Project Kits
- ♦ Mini lathes
- ♦ Turning Squares
- ♦ Dymondwood

all at the best prices



Call **1-800-551-8876** for your **FREE** copy of
THE WOODTURNERS CATALOG

CIRCLE NO. 17 ON PRODUCT INFORMATION FORM

No Splintering, No Tearout, Life-Long Performance.

**Made &
Serviced in
AMERICA**

Now *That's* Precious Metal.

**FREE
SHIPPING**
1-800-733-7111
through 6-30-98

A quarter of a million satisfied woodworkers agree: the Forrest Woodworker II blade is worth its weight in gold. Maybe more. And it doesn't take a jeweler to see why. It rips through thick hardwoods with no scratches or tearouts. Miters and cross-cuts with flawless precision. It makes short work of one-sided laminates and splintery oak plywoods... flawlessly. In short there are saw blades... and there are Forrest blades.

Here's why. The hardness of C-4



carbide, combined with the low breaking point of C-2 carbide, creates a tooth that's as permanently tough as it is sharp. Once that tooth is hand-brazed to the plate, the blade is hand-straightened to a perfect flatness—and an astonishing $\pm .001$ " runout for peak performance.

Sawing is believing. Prove it to yourself—completely without risk! Call today—(800) 733-7111—for your chance to try a premium Woodworker II blade or any other Forrest blade in your own shop.

FORREST WOODWORKER II: 6"-14" dia. avail.

All-purpose—tablesaws and portable circular saws.

Special 10% Discount! Take 20% off second blade of your choice.

	Sale Price	10% Off First Blade	20% Off Second Blade
10" x 30 T (1/8" or 3/32" K)	\$99	\$89	\$79
10" x 40 T (1/8" or 3/32" K)	\$119	\$107	\$95
12" x 40 T	\$129	\$116	\$103
8" or 8 1/4" x 40 T	\$99	\$89	\$79
7 1/4" x 30 T	\$69	\$62	\$55

BLADE STIFFENER

Make all your blades cut better and quieter with a blade stiffener!

• 4"...\$21 • 5"...\$24 • 6"...\$25

FORREST DADO-KING: 6"-12"

Unmatched Precision on Every Dado Cut!

The Forrest Dado-King gives you flat-bottomed grooves and no splintering—even when crosscutting oak plys and melamine. This award-winning set comes with six 4-tooth chippers (including 3/32" chipper), two 24-tooth outside blades plus shims. Cuts 1/8" to 29/32" grooves.

FREE \$21 value
10" BLADE RUNNER
CARRYING CASE!

Protects and holds up to 10 blades. Shipped with 6", 8" or 10" Dado Sets.

	Sale Price	10% Off First Dado	15% Off Second Dado
6" set	\$269	\$242	\$229
8" set	\$289	\$260	\$245
10" set	\$349	\$314	\$297



WOODWORKER I: 7 1/4"-14" dia. avail.

Designed for radial arm or tablesaws—fine crosscut.

	Sale Price	10% Off First Blade	20% Off Second Blade
8", 8 1/4", 7 1/4" x 60 Tooth	\$109	\$98	\$87
10" x 60 Tooth	\$129	\$116	\$103
12" x 60 Tooth	\$139	\$125	\$111

DURALINE HI A/T: 7 1/4"-16" dia. avail.

Cuts melamine and plywoods perfectly. 220 mm & 300 mm available.

	Sale Price	10% Off First Blade	20% Off Second Blade
8", 7 1/4" & others available			
10" x 80 T (1/8" or 3/32" K)	\$159	\$143	\$127
12" x 80 T (1" hole, 1/8" K)	\$181	\$163	\$145

FORREST

FORREST MANUFACTURING COMPANY, INC.

457 River Road, Clifton, NJ 07014

Phone 800/733-7111 • In NJ, call 201/473-5236 • Fax 201/471-3333

**2-4 Days
Sharpening
ON ALL MAKES OF
CARBIDE BLADES**

CHOP MASTER BLADE: 6 1/2"-15" dia. avail.

Specially designed for sliding compound and miter saws.

	Sale Price	10% Off First Blade	20% Off Second Blade
8 1/4" x 60 T	\$99	\$89	\$79
8 1/2" x 60 T	\$109	\$98	\$87
10" x 80 T	\$129	\$116	\$103
12" x 80 T	\$139	\$125	\$111

EXTRA BONUS! 9 AT \$5 EACH!

Buy a blade or dado and get \$45 worth of sharpening discount coupons from Forrest, good on any make blade or dado set you own.

For Info, Tech Help, or to Order, Call:

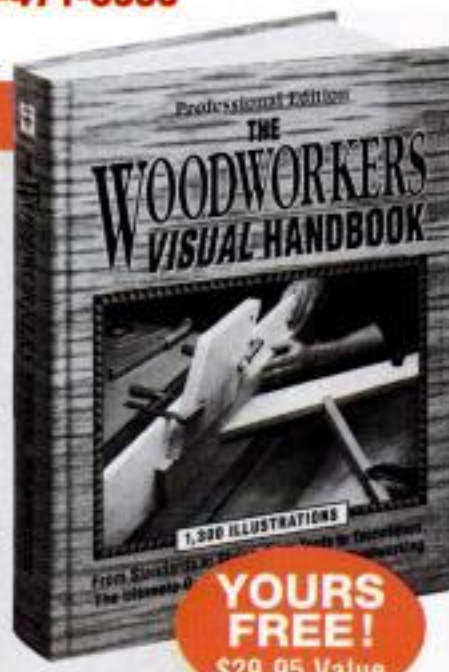
1-800-733-7111

201-473-5236 • Fax 201-471-3333

All Major Credit Cards Accepted
FL, NJ, NY residents please add sales tax.

EXCLUSIVE OFFER

The ultimate step-by-step woodworking guide! This 438-page book retails for \$29.95 but is yours **FREE** with any saw blade or dado purchase from this ad. You must mention you saw this offer in AMERICAN WOODWORKER magazine at time of purchase. **Hurry!** This special offer is limited while supplies last. Offer expires June 30, 1998. One book per order.



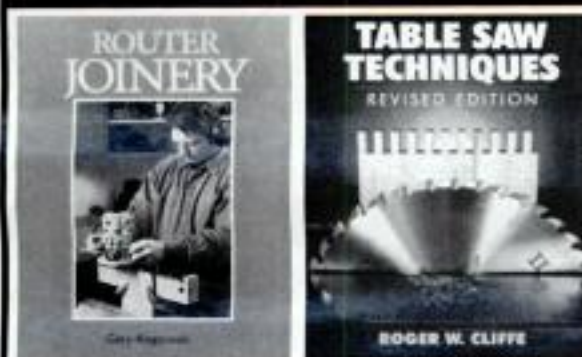
**YOURS
FREE!**
\$29.95 Value

Unconditional Money-Back Guarantee

Use any of these blades for a month. If you are not completely satisfied, return the blade for a complete refund. No other blade company will make that kind of guarantee—because there's no other blade like a Forrest blade!

advertiser index

Woodworking Books for LESS!



\$21

\$16

- Over 400 books, videos, plans
- Discounts up to 20%
- Free same-day shipping (3 or more items)

Call us to order!

Woodworkers' Discount Books

800-378-4060

735 Sunrise Circle, Woodland Park CO 80863
Inquiries 719-686-0756, Fax 719-686-0757
e-mail: orders@discount-books.com
WWW Catalog: www.discount-books.com

Free Catalog

CIRCLE NO. 91 ON PRODUCT INFORMATION FORM

MATCH POINT

When putting out a
campfire, drown the fire,
stir it, and drown it again.

REMEMBER, ONLY YOU CAN
PREVENT FOREST FIRES.



A Public Service of the USDA Forest
Service and Your State Forester.



IMPORTED & DOMESTIC LUMBER

- Architectural Plywood
- Custom Millwork
- Veneers
- Mouldings
- Turnings
- Trims

M.L. CONDON COMPANY Inc.

240 Ferris Ave • White Plains NY 10603
Call 914-946-4111 • FAX 914-946-3779
Call for a FREE price quote!

Send \$2 for NEW LUMBER Catalog

CIRCLE NO. 201 ON PRODUCT INFORMATION FORM

	Page	Circle #		Page	Circle #
Accents Plans & Patterns	100	203	Leigh Industries	11	—
Adams Wood Products, Inc.	91	3	Lie-Nielsen Toolworks	30	10
Adjustable Clamp Co.	12	126	Lignomat USA Ltd.	95	51
Advanced Machinery Imports	8	4	L.S. Starrett Company	16	46
Airware America	101	96	Maurice L. Condon Co. Inc.	97	201
A&I Supply	74	1	McFeely's	91	52
Amana Tool	20	6	Mesa Vista Design	16	53
American Coaster	101	165	Microplane Tools	25	31
American Furniture Designs	88	301	Midwest Dowel Works	33	54
American Structures	100	121	Minwax Co.	87	55
American Woodworker Show	78,79,80	125	MLCS Ltd.	75	56
Arrowmont School of Arts/Crafts	90	7	Murray Clock Craft Ltd.	100	204
Baklund-Hellar, Inc.	101	97	Niagara Lumber	101	107
Ball & Ball	93	—	Northern Hardwoods	101	109
Beall Tool Co.	100,101	98,99	North Star Lumber	100	108
Better Built Corporation	90	8	Norwood Sawmills	100	110
Blue Ox Brand	101	166	Nyle Corporation	21	57
Boeshield	24	13	Old World Machinery	14	163
Carter Products	74	161	Olson Saw Company	90	58
Cherry Tree/Furniture Plans	21	14	Olympic Stains	23	65
Classic Designs	24	15	Oneida Air Systems	93	59
Clayton Machine Corp.	21	16	Oneway Manufacturing	74	60
Colonial Times Clock Company	100	100	Packard Woodworks	102	111
Conover Lathe	83	—	Paragraphics	101	112
Conover Workshops	103	—	Performax Products, Inc.	33	61
Constantine's	27	5	Pisgah Logging and Forest Products	101	113
Country Accents	74	501	Polymeric Systems, Inc.	100	106
Craft Supplies USA	95	17	Pootatuck Corporation	16	62
Critter Spray Products	88	18	Porter-Cable	3,13	12,63
Crown City Hardware	101	—	Powermatic	Cover 3	64
Cutting Edge, Inc.	102	167	Precision Movements	30	67
De-Sta-Co	27	19	Primark Tool Group	Cover 4	68
Delmhorst Instruments Co.	90	20	RBI Industries, Inc.	16	—
Delta Int'l. Machinery	7,73	21,22	Rousseau Company	21	69
Diamond Machine Technology	8	23	Router Bits on the Web	102	—
Dodge Dakota	4,5	—	Ryobi America Corporation	89	—
Eagle America Corporation	17	24	Safety Speed Cut, Mfg.	100	114
Econ-Abrasives	30	2	Sand-Rite Manufacturing	90	70
Electrophysics	101	—	Sandy Pond Hardwoods	102	115
E-Z Pivot	100	—	Satinwood	27	71
Fein Power Tools	81	25	Sears Craftsman	35	72
Festo Tooltechnic	14	81	Shapes & Surfaces, Ltd.	25	73
Forrest Mfg.	96	—	ShopBot Tools, Inc.	25	74
Franklin International	21	26	Shopsmith Inc.	88	75
Freud	15	27	Sign Design Custom Products	100	116
Frog Tool Company Ltd.	91	502	Specialty Furniture Designs	22	303
Fuji Spray Equipment, Ltd.	24	28	Star Tools	33	77
Furniture Designs	83	302	Steelmaster Buildings	22	78
Garrett Wade	19	29	Steve Wall Lumber	83	164
Gatto Plan Supply	90	162	Sunhill Machinery	27	9
Good Hope Hardwoods	100	101	SuperShop	27	76
Gorilla Glue	17	30	Target Enterprises	101	117
Gougeon Brothers Inc.	102	102	Timberking	100	118
Grizzly Imports, Inc.	Cover 2,83	32,33	Tool Crib of the North	31	80
Groff & Groff Lumber Inc.	100	103	Tuckaway Timber	102	119
Gross Stabil Corporation	6	34	Turbinaire	81	82
Hardwood Store of N. Carolina	101	104	U.S. Mahogany Corp.	102	120
Hearne Hardwoods	84	35	Vega Enterprises	84	83
Highland Hardware	21	36	Wagner Electronic Products	16	84
HTC Products	95	37	Waterlox Coatings	101	122
Hut Products	21	38	West Penn Hardwoods	101	123
INCRA Rules	25,27	79	Wilke Machinery	25	—
International Correspondence School	91	—	Willard Brothers Woodcutters	101	124
International Tool Corp.	84	39	Woodcraft Supply Corp.	30,95	86,87
Ironwood Mill-Right	19	66	Wood-Kote Products, Inc.	22	85
ISI	102	105	Woodline Arizona	81	88
Jamestown Distributors	83	40	Woodmaster Tools	30,95	—
JDS Company	17	41	Wood-Mizer Products, Inc.	88	202
Jesada Tools	85	42	Wood-Ply Lumber Corp.	100	168
Jet Equipment & Tools	29	43	Woodsmith Store	95	89
Jointech Corp.	84	44	Woodworkers Depot	81	90
Keller Dovetails	90	45	Woodworkers Discount Books	97	91
Laguna Tools	8,19, 24,93	47,48, 49,50	Woodworkers Source	93	92
Lee Valley/Veritas	9	503	Woodworkers' Store	24	93
			Woodworking Shows	91	94
			Woodwrite, Ltd.	93	95

Outstanding Work



◀ "Oldearth Series" by Christian Burchard, Ashland, OR. Cuban mahogany, ash, maple burl, cocobolo, and aniline dye. Dia: 5 in. to 11 in.

PHOTO BY ROB JAFFE



◀ Side table by Rob Hare, Kingston, NY. Cherry and wrought steel. W: 18 in. D: 18 in. H: 20 in.

PHOTO BY RALPH GABRINER

"Willy's Chair" ▶ by Henry Fox, Fox Brothers Furniture Studio, Newburyport, MA. Curly maple and ebony. W: 18 in. D: 20 in. H: 40 in.

PHOTO BY BILL TRUSLOW





▲ Hepplewhite corner cabinet by Frank Klausz, Frank's Cabinet Shop, Pluckemin, NJ. Mahogany, crotch mahogany veneer, satinwood, ebony, and holly. W: 32 in. D: 26 in. H: 82 in.

PHOTOS BY BILLY PROUTY

Want to see your work in "Gallery"? Send color slides or larger transparencies to: "Gallery," AMERICAN WOODWORKER, 33 E. Minor St., Emmaus, PA 18098. Please include a title, a brief description of techniques used, materials, dimensions, name of photographer, your name, address, and phone number. We'll pay you \$35 per entry published. If you want your photos returned, enclose a self-addressed stamped envelope. Please note that we do not provide plans for the works shown.



◀ "Marilyn" vanity by Gregg Lipton, Cumberland, ME. East Indian satinwood veneer, MDF substrate, and maple. W: 54 in. D: 28 in. H: 64 in.

PHOTO BY STRETCH

Walking sticks by Chris Shatsby, ▲ ▲ Shatsby Bronze, Lewisburg, OH. Sticks of pink ivorywood, snakewood, ebony, greenheart, African ironwood. Handles of black Micarta, Paaka Wood, bloodwood, and chak te kok (redheart). Bronze tips and ferrules. L: 35 in. Dia: 1 in.

PHOTOS BY JERRY ANTHONY



marketplace

For more information write, call or fax: AMERICAN WOODWORKER,
Ian Tauber, 33 East Minor Street, Emmaus, PA 18098, (610) 967-8343. Fax: (610) 967-7692.

PANEL SAWS AND PANEL ROUTERS

- Quick change from cross-cut to rip
- Fully assembled and aligned
- Standard industrial-duty saw motor
- One-person operation
- Easy to use, quick setup



SAFETY SPEED CUT
Building professional panel saws for over 35 years
Safety Speed Cut
13460 Highway 65, Anoka, MN 55304
1.800.599.1647 FAX 1.612.755.6080
www.panelsaw.com

CIRCLE NO. 114 ON PRODUCT INFORMATION FORM

North Star Lumber

(207) 764-0301
FAX (207) 764-5138
E-Mail: NRTHSTR@AOL.COM
16a Dyer Street
Presque Isle, ME 04769
FREE CATALOG

- Domestic & Exotic Lumber & Veneer
- Thin Woods 1/8"-1/2"
- Specialties: Curly & Bird's eye Maple Spalts, Flame Birch, Curly Cherry, Quartersawn Oaks, Designer Veneers, Burls
- Variety Packs, Bowl Blanks, Veneer Packs

CIRCLE NO. 108 ON PRODUCT INFORMATION FORM

ONE-MAN SAWMILL TURNS TIMBER INTO CASH!

Call NOW for FREE FACTS!
1-800-942-4406
ask for ext. SY12
TIMBERKING, INC. Dept. SY12
1431 N. TOPPING AVENUE
KANSAS CITY, MISSOURI 64120



CIRCLE NO. 118 ON PRODUCT INFORMATION FORM

Personalize all Your Woodworking Projects

You work hard on a project - Let others know who did it!
Put a custom engraved brass nameplate on everything you do
and be remembered forever.

Gold Silver & Black Brass Available

Hand-Crafted by
Dennis Kandziora

Custom Sizes & Lg. Qty. Disc. Available

Size: 5/8" x 3 1/2"	10 - 24 \$4.50 ea.	25 - 49 \$4.00 ea.	50+ \$3.75 ea.
Size: 1 1/2" x 3"	10 - 24 \$4.25 ea.	25 - 49 \$3.75 ea.	50+ \$3.50 ea.

*Please add \$4.50 S&H to each order. *Orders ship within 2 bus. days Reg UPS!
WI Residents add 5.1% Sales Tax All plates come with brass brads VISA/MC

Put YOUR Signature on Everything! Call for Details

Hand-Crafted by
Dennis Kandziora

Sign Design Custom Products, Inc. 1-800-274-9161
644 Perkins Dr., Mukwonago, WI 53099 Fax 1-888-374-9161

CIRCLE NO. 116 ON PRODUCT INFORMATION FORM

GROFF & GROFF LUMBER, INC. DBA FORMERLY GROFF & HEARNE LUMBER

OVER 70 DOMESTIC AND IMPORTED SPECIES
Curly Cherry 4/4 to 16/4 • Birdseye & Tiger Maple
Premium Walnut & Cherry, etc. and Many Unusual Species!
Matching Ratches, slabs to 40" wide
K.D. Nationwide & International Shipping
No Order Too Large or Too Small

(717) 284-0001 800-342-0001 FAX (717) 284-2400
858 Scotland Road, Quarryville, PA 17566

CIRCLE NO. 103 ON PRODUCT INFORMATION FORM

COLONIAL TIMES

North America's Largest Selection of Clock Kits

- Clock Movements • Dials • Kit Furniture
- Hard-to-make Parts • Plans • Unique Items

Colonial Times Clock Company
564 Weber St. N., Unit 2, Waterloo, Ontario, Canada N2L 5C1
• Phone: (519) 884-2511 • Fax: (519) 884-2512
• Email: colonial@infoarmp.net
• Visit our website: www.colonialtimes.com

Send or call for your free 32 page catalogue.

CIRCLE NO. 100 ON PRODUCT INFORMATION FORM

The Woodworker's Dream

Repair and restore fine furniture fast and easily.
Quikwood® Epoxy...when fillers, putty, or glue won't do:
■ Shapes like modeling clay; sets like wood in 1/2 hour
■ Easy to sand/carve, drill/tap, paint/stain/finish
■ Solvent-free; won't stink or shrink!
Request free literature. Polymeric Systems, Inc.
Visit our web site → www.polymeric.com

CIRCLE NO. 106 ON PRODUCT INFORMATION FORM

SAWMILL \$3795.

FREE INFORMATION
Norwood Sawmills
90 Curtwright Dr.
Unit 3
Amherst N.Y. 14221
1-800-661-7746



CIRCLE NO. 110 ON PRODUCT INFORMATION FORM

Good Hope Hardwoods, Inc.

Fine Lumber - Personal Service

Tiger Maple

4/4 - 16/4 RWL & Matched Sets
Figured Cherry
Highly Figured Claro Walnut
Quarter Sawn White Oak
Figured Mahogany
Plain Cherry and Walnut
Plank Flooring
(610) 274-8842
1627 New London Road
Landenberg, PA 19350

CIRCLE NO. 101 ON PRODUCT INFORMATION FORM

Build a Clock!

Clock kits, from grandfather to shelf clocks, including plans, movements, and dials. Send \$2.00 for a full-color catalog, and receive a \$5.00 credit voucher toward your first purchase.

MURRAY CLOCK CRAFT

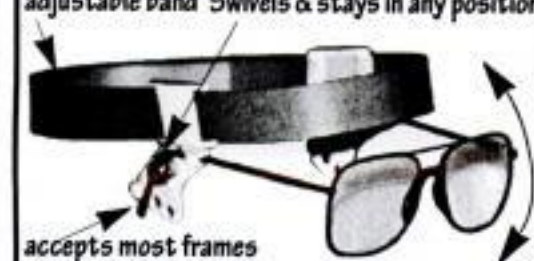
512 McNicoll Ave., Willowdale, Ont. M2H 2E1
Tel: (416) 499-4531, Fax: (416) 499-3686
E-mail: clock@interlog.com
www.murrayclock.co



CIRCLE NO. 204 ON PRODUCT INFORMATION FORM

E-Z PIVOT

adjustable band Swivels & stays in any position



accepts most frames

With a flick of a finger, your eyeglasses are out of the way or at any position for overhead or bench work

Only \$19.95 + S&H
1-888-317-4868

EXOTIC & DOMESTIC HARDWOODS

LUMBER • PLYWOOD • VENEERS • TURNING BLOCKS • BURLS

We specialize in small to medium size orders!
Over 70 species of hardwood in stock.

Wood-Ply Lumber Corp.
100 Bennington Ave., Dept. AW
Freeport, NY 11520

CALL FOR PRICE LIST:
516-378-2612
FAX 516-378-0345

CIRCLE NO. 168 ON PRODUCT INFORMATION FORM

American Structures, Inc.

MADE IN USA BY AMERICAN STEEL SPAN

Buy Steel Buildings Factory Direct

Nut & Bolt Construction
Maintenance Free
Trussless Roof
20 Year Warranty
Special Savings On Overstocked Models

800-340-4398



CIRCLE NO. 121 ON PRODUCT INFORMATION FORM

FULL SIZE PATTERNS

- Fun • Profitable • Guaranteed!
- 100 YARD ORNAMENTS - Animals, birds, signs & more!
- 25 Fun & Profitable "wind-action" WHIRLIGIGS.
- SHOW STOPPERS II - 22 Crafts Show best-sellers!
- Attractive DUTCH WINDMILL - 5 feet tall.
- 200 CREATIVE CUT Patterns for scroll, band or jigsaw.
- Create over 20 "Quick & Easy" BIRD HOUSES.

SEND \$8.00 per SET • PICK 3 for \$19.50 • ALL 6 only \$36.00 • FREE S&H!
MC/Visa • Fax/Voice Mail (603) 332-4579 • Catalog \$2.00 (free w/order)

ACCENTS, Offer MQ48, PO Box 7387, Gonic, NH 03839

CIRCLE NO. 203 ON PRODUCT INFORMATION FORM

Humidor Supplies

Nonpareil Humidifiers • Hygrometers
Hinges • Locks • Lid Supports
Spanish cedar boards & veneer

Nonpareil

THE HINGE WIZARD

A fast & accurate mortising fixture for box & quadrant hinges

Dept. AW
THE BEALL TOOL CO.
541 Swans Road, N.E. • Newark Ohio 43055 • Toll Free 1-800-331-4718
Fax 1-614-345-5880 • See our Web Page at: www.bealltool.com

CIRCLE NO. 98 ON PRODUCT INFORMATION FORM

THE AMERICAN COASTER
7106 Lake Road, Dept. AW9, Montrose, MI 48457
1890 to 1930 Miniature Farm Wagon
28" H x 18" W x 40" L
6 sheets each
set (30 x 36)
\$29.95
Plan #10



Easy-to-read
full-scale blueprints
(810) 639-7004
9:00 am-11:00 pm, E.S.T.
BROCHURE \$1.00
(Free with order)

CIRCLE NO. 165 ON PRODUCT INFORMATION FORM

THE HARDWOOD STORE OF NORTH CAROLINA, INC.
Gibsonville, NC
Call Toll-Free for a FREE Price List
1-888-445-7335
<http://www.netpath.net/~hardwood>
Lumber, Plywood, Burls, Cabinet Doors and More!



CIRCLE NO. 104 ON PRODUCT INFORMATION FORM

Having Fun Making Money
Engraving • Airbrushing • Sandblasting



Keith Hone, a career woodworker now enjoys making money with his Paragraphics Engraving System. Using simple patterns that he just traces and our new ultra-high speed drill (amazing 300,000 r.p.m.) it allows even a non-artist to produce professional results fast and easy. For your free video demonstration call the number below. (refundable deposit required)

Paragraphics
1455 W. Center Orem, Ut 84057
1-800-624-7415
Financing available

CIRCLE NO. 112 ON PRODUCT INFORMATION FORM

Find center fast!



25' Standard Tape Measure Includes Center-Finding Scale

CENTER POINT
BARKLUND-HELLAR INC.
RT. 1, BOX 623,
EASTSOUND, WA 98245

16.95 + 4.25 SH
VISA/MC, WA res. 7.8% tax
1.800.540.6604

CIRCLE NO. 97 ON PRODUCT INFORMATION FORM

BUY QUALITY HARDWOODS DIRECT!
NO MIDDLEMAN!
1-800-972-4625



Disgah
Logging & Forest Products

4/4 KD Sel & Btr Cherry \$2.60 bf
4/4 KD Sel & Btr Walnut \$2.99 bf
Many Other Species Available

CIRCLE NO. 113 ON PRODUCT INFORMATION FORM

Sawmill Kiln Hardwoods Exotics



WILLARD BROTHERS WOODCUTTERS
300 Basin Road, Trenton, NJ 08619
CALL 1-800-320-6519
FOR PRICE LIST AND CATALOG

CIRCLE NO. 124 ON PRODUCT INFORMATION FORM

Racal Airmate 3
FREE SHIPPING



Perfect for Woodworking Dust
AIRWARE AMERICA
Box 975, Elbow Lake, MN 56531
1-800-328-1792 www.mid-web.com/airware

Call for Free Info
Credit Cards Accepted

CIRCLE NO. 96 ON PRODUCT INFORMATION FORM

Traditional Beauty Modern Technology
OXFORD HYBRID VARNISH SERIES



Our new Oxford Hybrid Varnish Series is an oil/water hybrid that provides the craftsman with the deep, rich color tones of oil-modified varnish, and the safety of waterborne urethanes. The final results of Oxford Hybrid Varnish is a depth-of-image and clarity never before seen in a water-based finish. For a hand-rubbed effect try our HYBRID SATIN, or for a stunning gloss, try HYBRID GLOSS. Our HYBRID SPAR is perfect for fine marine applications. Quarts start at \$19.95. Quantity discounts available.

TARGET ENTERPRISES
PO Box 1582, Rutherford, NJ 07070
800-752-9922 • 201-804-0993
Dealer Inquiries Invited



CIRCLE NO. 117 ON PRODUCT INFORMATION FORM

WIDE SELECTION OF HARDWOODS



Mahogany, Quartersawn White Oak, Curly Maple, Cherry, Walnut, Basswood
Wide & Thick Stock
800-758-0950
P.O. Box 582, Buffalo, NY 14207
<http://www.blueoxhardwoods.com>

CIRCLE NO. 166 ON PRODUCT INFORMATION FORM

The Wood Buff



Easy, inexpensive, three-step wood polishing system produces astonishing results on bare or oiled wood. Perfect for turnings.

For information call or write: Dept. AW
THE BEALL TOOL CO.
541 Swans Road, N.E. • Newark Ohio 43055 • Toll Free 1-800-331-4718
Fax 1-614-345-6880 • See our Web Page at: www.bealltool.com

CIRCLE NO. 99 ON PRODUCT INFORMATION FORM

WEST PENN HARDWOODS, INC.
CHECK OUT OUR "BEST VALUE" ROUGH PACK.
100BF, ROUGH, 3'-5' L, 3"-10" W, CLEAR 1-FACE.
SHIPPING \$50-\$90 EAST OF MISSISSIPPI
RED OAK \$200, CHERRY \$240, SOFT MAPLE \$165.
WALNUT \$270, POPLAR \$135, ASH \$155.
NO MINIMUM ORDER! SMALLER PACKS AVAILABLE
FREE CATALOG 1-888-636-WOOD (9663)
117 S. 4TH STREET, OLEAN, NY 14760

CIRCLE NO. 123 ON PRODUCT INFORMATION FORM

Northern Hardwoods
A Mead Company
Curly, BIRDSEYE, Flame
for the Craftsman and Woodworker
Figured Woods

From the Glacial Forests of Michigan's Upper Peninsula

P.O. Box 189
South Range
Michigan 49963-0189

Toll Free: (800) 285-TREE
Phone: (906) 487-6400
Fax: (906) 487-6415




<http://www.northernhardwoods.com>
E-mail: sales@northernhardwoods.com

CIRCLE NO. 109 ON PRODUCT INFORMATION FORM

TUNG OIL FINISHES
USED BY
WOODWORKING PROFESSIONALS
FOR OVER 80 YEARS.



For a FREE Product Catalog:
Call: (800) 321-0377 Fax: (216) 641-7213
E-Mail: info@waterlox.com
HomePage: <http://www.waterlox.com/>

CIRCLE NO. 122 ON PRODUCT INFORMATION FORM

The AUTHENTIC REPRODUCTIONS!
Classical Collection



Quality handcrafted European hardware. Perfect for restoration or recreation of fine cabinetry, furniture, doors, and windows. Many hard to find iron, brass, wood, and porcelain old world pieces. Beautiful catalog, nothing else like it! Over 1000 items pictured at actual size. 200 pages with brief history of European Styles.

Since 1916

Send \$35.00 to:
Crown City Hardware Co.
1047 N. Allen Ave. Dept. A92
Pasadena, CA 91104

ALSO AVAILABLE - General Restoration Catalog, \$6.50

QUALITY NORTHERN APPALACHIAN HARDWOOD

FREE delivery. Bundled, surfaced shrink-wrapped. Satisfaction Guaranteed.

NIAGARA LUMBER & WOOD PRODUCTS, INC.
47 Elm Street, East Aurora, NY 14052
(800) 274-0397

CIRCLE NO. 107 ON PRODUCT INFORMATION FORM

To PIN ... or NOT to PIN?
WE HAVE THE ANSWER!



TWO-WAY MOISTURE METER
... PIN-TYPE OR PINLESS
INSTANT PUSHBUTTON SELECTION
WIDE RANGE 0% - 99% DIGITAL
WOOD SPECIES COMPENSATION
NEW DUAL-MODE MODEL CMT-908
... ASK FOR FREE CATALOG OF ALL OUR MOISTURE METERS

END WOOD WARPING NIGHTMARES
PIN-TYPE & PINLESS MOISTURE METERS FROM \$69
www.odyssey.on.ca/~electrophysics

Electrophysics
1-800-244-9908

Box 1143, Station B
London, Ontario
Canada N6A 5K2

TUCKAWAY TIMBER CO.

- Over 16 Species of Hardwood Lumber •
- Clear White Pine up to 24" Wide •
- Figured Lumber • Carving Woods •
- Hardwood Burls & Burl Slabs •
- Extra Wide, Thick & Thin Lumber •

Free Price List

PH: 603-795-4534 • FAX: 603-795-4607

Rt. 10, Lyme, N.H. 03768

CIRCLE NO. 119 ON PRODUCT INFORMATION FORM

Router Bits on the Web



www.routerbits.com

Get a Free Copy of our
CATALOG for
WOODTURNERS

Call Toll Free...

1-800-683-8876

or write... Packard Woodworks PO Box 718 Tryon, NC 28782

E-Mail Address... PACKARDWW@AOL.COM

CIRCLE NO. 111 ON PRODUCT INFORMATION FORM



"The Woodturners' Source"

WEST SYSTEM[®]

BOATBUILDERS SWEAR BY IT, and so will you.

Strong, waterproof WEST SYSTEM[®] Brand epoxy is more than a 2-part adhesive. It's a complete system of resin, hardeners, fillers and additives from which you can easily create the perfect bonding, coating and sealing agents for your wood or composite project. For a free copy of the 33-page WEST SYSTEM[®] Technical Manual & Product Guide, write:

Gougeon Brothers, Inc.
Dept. 42, P.O. Box 908
Bay City, MI 48707

CIRCLE NO. 102 ON PRODUCT INFORMATION FORM

Sandy Pond Hardwoods, Inc.

AMERICAN EXOTICS

Birdseye & Tiger Maple
Curly Cherry, Flame Birch
Lumber & Flooring
800-546-9663
717-284-5030

Visit us at our Web site:
<http://www.figuredhardwoods.com>
or e-mail us: sph2prlg@ptdprolog.net



CIRCLE NO. 115 ON PRODUCT INFORMATION FORM

GIANT HARDWOOD SELECTION

The finest selection of hardwoods, veneers, turning squares and hard to find exotics. All in stock and ready for prompt shipping. FREE CATALOG

U.S. MAHOGANY CORP.

746 Lloyd Road • Aberdeen, NJ 07747

(908) 583-6300 • Fax (908) 583-6303

Serving the woodworking industry since 1954.

CIRCLE NO. 120 ON PRODUCT INFORMATION FORM

A Complete Turner's & Carver's Supply

- Henry Taylor Turning and Carving Tools •
- Hi-Tec Turning Tools By Jerry Glaser •
- Tools For Hollow Turning By D. Stewart •
- OneWay Bowl Chucks and Ring Tools •
- Harmen • Ken Helvie • Foredom • Automach

Write or Call For Free Catalog
7123 SouthWest Fwy
Houston, TX 77074
Phone: 713/981-9228
Fax: 713/981-6104

The CUTTING EDGE, Inc.
A Woodworker's Tool & Supply

CIRCLE NO. 167 ON PRODUCT INFORMATION FORM

QUARTZ CLOCK MAKING SUPPLIES

Free 42 page catalog of Quartz Clock Movements, Fit-ups, Clock Hands and Dials, Weather Instruments and Humidor Supplies



11869 Teale St., Dept. 75

Culver City, CA 90230

1-800-421-4445

CIRCLE NO. 105 ON PRODUCT INFORMATION FORM



DAVID SLOAN

AMERICAN WOODWORKER

Publisher,
AMERICAN WOODWORKER

Subscriber Service Information

Your satisfaction is important to us. If your subscription ever requires our attention in any way, please let us know immediately and we'll take care of it.

"Your Absolute Satisfaction is Guaranteed."

To Change Your Address:

Call our toll-free number with your new address 6 to 8 weeks prior to moving. Remember, the Post Office will only forward mail for 60 days following notification.

If You Receive a Bill After You've Paid:

Please disregard any bill or renewal notice received after mailing your payment or order. Our letters probably crossed in the mail. (However, if you continue to receive bills or renewal notices, please let us know.)

To Screen Mailing Lists:

If you do not want to receive mailings from other companies besides AMERICAN WOODWORKER and Rodale Press, please let us know by calling our 1-800 number.

To Know When Your Subscription Expires:

Your printed address label on every issue includes the date your subscription will expire. This date appears as a month and year. (Issues with renewal offers attached have this information listed near your name and address.)

If Your Issue is Damaged or Missing:

Contact us by calling the toll-free number above. We'll replace the damaged/missing issue or extend your subscription, whichever you prefer. (Remember, AMERICAN WOODWORKER magazine prints seven issues yearly, in February, April, June, August, October, November and December.)

CALL TOLL-FREE

Mon-Fri: 8 am-12 pm

Eastern Standard Time

Sat & Sun: 9 am-7 pm Eastern
Standard Time

1-800-666-3111

Fax: (712) 623-5731

E-Mail: AmerWood

DM@aol.com

(Outside U.S. & Canada)

1-515-242-0288

WW38927

classifieds

Classified rates — \$7.00 per word, 15 word minimum. For more information write, call or fax: AMERICAN WOODWORKER, Ian Tauber, 33 East Minor Street, Emmaus, PA 18098, (610) 967-8343. Fax: (610) 967-7692.

CABINET DOORS

CABINET DOORS and drawer fronts. Top quality, low prices. Call (205) 870-1085 for catalog.

ANTIQUE TOOLS

ANTIQUE & USED TOOLS. Hundreds of quality handtools. Many Stanley. On the Internet at <http://www.olympus.net/bktools>. Visa/MC. Bob Kaune, Dept. AW398, 511 W. 11th, Port Angeles, WA. 98362. (360) 452-2292, Mailorder only.

BLADES

BAND SAW BLADES. Low Tension Swedish Silicon Steel, 1/16" thru 1 1/2". Free Catalog. Suffolk Machinery (800) 234-7297.

BOOKS/VIDEOS/SOFTWARE

www.connectedlines.com, Windows95 software, pattern-making, furniture style guide, information databases, inventory, more. Connected Lines, PO Box 140, Stratham, NH 03885.

FINISHING SUPPLIES

SPRAY-ON SUEDE. FREE brochure and sample. New Mini-Flocker. Donjer Products, Ilene Ct., Building 8A, Bellemead, NJ 08502. (800) 336-6537.

HARDWARE

MORE & MORE PRODUCTS coming to a computer near you at www.profhdw.com—Professional Hardware and Supply, (800) 248-1919.

INSTRUCTION

APPRENTICESHIP—One year, hands on—fine furnituremaking with rare solid woods, design, and marketing. Tuition. Jeffrey Greene (215) 348-5232.

PLANS/KITS



BUILD YOUR OWN circular saw jig. Jig produces repetitive accurate cuts, project plans included. Send \$9.95 plus \$1.45 S/H, check or money order to: Wooden Designs, P.O. Box 7323, Somerset, NJ 08875-7323.

ONE SHEET PLYWOOD PICNIC TABLE. Travel friendly. For plans send \$10.99 to: Sim-Ply, P.O. Box 59592, Renton, WA 98058.

MUZZLELOADING RIFLE KITS:

Assemble your own Pennsylvania or Kentucky rifle, 1861, 1863 Springfield, Brown Bess, Charleville, or other muzzleloading rifles with one of our kits. Order the GIANT 750-pg. Dixie Gun Works catalog today! Send \$5 or \$8.50 COD to: Dixie Gun Works, Dept. AW, P.O. Box 130, Union City, TN 38261. Or call: (901) 885-0700.

WOODEN WAGON WHEELS and jig patterns. For all skill levels. Sales in 10 countries. For free information send large SASE to: Windy Hill Woods, P.O. Box 308, Central City, IA 52214.

CHILD'S ROCKER PLANS. Airplane \$14, Dinosaur \$10. Send \$2 for brochure. Greco's Wooden Toy Co., 47-261 B Hui Iwa St., Kanehoe, HI 96744. (808) 239-4792, Fax (808) 239-4851.

FURNITURE PLANS. Rolltop desk, Cradle, Winerack, and many conventional designs. Catalog \$3. Lake Superior Design, Box 751, Grand Marais, MN 55604-0751.

SAWMILLS

CALL SAWMILL EXCHANGE to buy/sell used portable sawmills (Wood-Mizer, TimberKing, etc.). Also, "Portable Sawmill Encyclopedia" (800) 459-2148, <http://www.sawmill-exchange.com>

TOOL ACCESSORIES

BUILD YOUR OWN QUALITY TABLESAW RIP FENCE. Free information. Plan #RFAW2. Shopstuf, 9864 E. Grand River, Suite 110 #209, Brighton, MI 48116.

TOOLS/EQUIPMENT

TASHIRO'S SHARP JAPANESE TOOLS since 1888. Free ZETA™ saw system catalog. 2939 4th Avenue South, Seattle WA 98134. (206) 621-0199. FAX (206) 621-0157.

CUSTOM BRANDING IRONS—

Any logo, design, signature. Absolutely lowest custom prices. Money back guarantee. Visa/MC. Brochure \$2. BrandNew, Dept. AW-4, 6125 Pedernal, Goleta, CA 93117.

WOOD/VENEERS

CALIFORNIA'S FINEST QUALITY BURLWOODS. 30,000 pieces: Redwood, Maple, Buckeye, Manzanita, Madrone, Myrtlewood, Walnut, etc. Any size/use/guaranteed/direct, established 27 years. Burl Tree, (800) 785-BURL.

FIGURED MAPLE, KNOCK YOUR

SOCKS OFF curl, quilted, burl, and spalted. Boards, blocks, and instrument. Myrtle. Randle Woods, P.O. Box 96, Randle, WA 98377. (800) 845-8042.

HARDWOODS CUT TO ORDER.

120 species in stock from 1/4" to 4" thick, burls for turners, wood ID kits \$59.95, veneers, woodworker's supplies. Colonial Hardwoods, Springfield, VA (800) 466-5451.

THINWOODS—1/16" TO 3/8"

thickness. Ash to Zebrawood. Call for FREE informative brochure. Sheerwoods (800) 514-3449.

SAWMILL DIRECT: Ebony, cocobolo, chac-te-koke, bocote, tulipwood, kingwood, lignum vitae and 70 other species. Quantity discounts, good freight rates. Quality at a fair price. SASE: Tropical Exotic Hardwoods, PO Box 1806, Carlsbad, CA 92018. (760) 434-3030. Visa/MC. Mitch Talcove.

LONGLEAF (HEART) PINE lumber and flooring. Resawn from salvaged timbers. 4-12 inch width. Specialty Lumber: (706) 541-1039. (GA)

BADGER HARDWOODS OF WISCONSIN. Nineteen species of hardwoods. Free catalog (800) 252-2373. Website www.badgerwood.com. E-mail badgerwood@badgerwood.com.

HOMESTEAD HARDWOODS—(800) 241-3770; (330) 889-3770. Alva Hardwoods, 7307 Route 80, Alva, FL 33920, (941) 728-2484; Florida (888) 894-6229. Great domestic/exotic selections. Quality inventory, facilities, and personalized service.

FANTASTIC INVENTORY—Logs, lumber, turning blanks, instrument woods. Catalog \$2. Gilmer Wood Co., 2211 NW St. Helens Rd., Portland, OR 97210. (503) 274-1271.

ATTENTION WOODTURNERS: Quality Oregon hardwoods. Discount prices. Free catalog. Call Central Valley Wood Products (800) 353-7999.

OLD GROWTH QUARTERSAWN WHITE & RED OAK. Wide Quartersawn & Curly Sycamore. Precision sawn lumber and book-matched flitches. Talarico Hardwoods, RD #3, Box 3268, Mohnton, PA. 19540 (610) 775-0400. VISA/MC

SCHOOLS/INSTRUCTION

HANDS-ON WOODWORKING CLASSES. Yestermorrow Design/Build School of Warren, Vermont offers 2 day and 1 week courses, from novice to advanced, including cabinetry, furniture and woodturning. Call for free catalog. (888) 496-5541.

BUSINESS OPPORTUNITIES

\$100 PER HOUR, woodworking from your garage, full or part-time, no selling. Free brochure: Satinwood (800) 456-4987.

HELP WANTED

CONESTOGA WOOD SPECIALTIES, a major manufacturer of custom wood products located in rural Lancaster County, is now hiring skilled woodworkers. Compensation will be based upon experience. Excellent benefits. Mail resume or request an application: Contestoga Wood Specialties, Box 158-TR1, East Earl, PA 17519.

READERS ONLY!

BUY OR SELL

your used tools
and accessories

through

AMERICAN

WOODWORKER'S

"Wood & Tool

Exchange."

At only \$7 per line,

it's an

inexpensive

way to reach over

300,000 fellow

woodworkers.

Mail us your

ad today.

Vacuum Resaw Jig

by Daya Piyasena

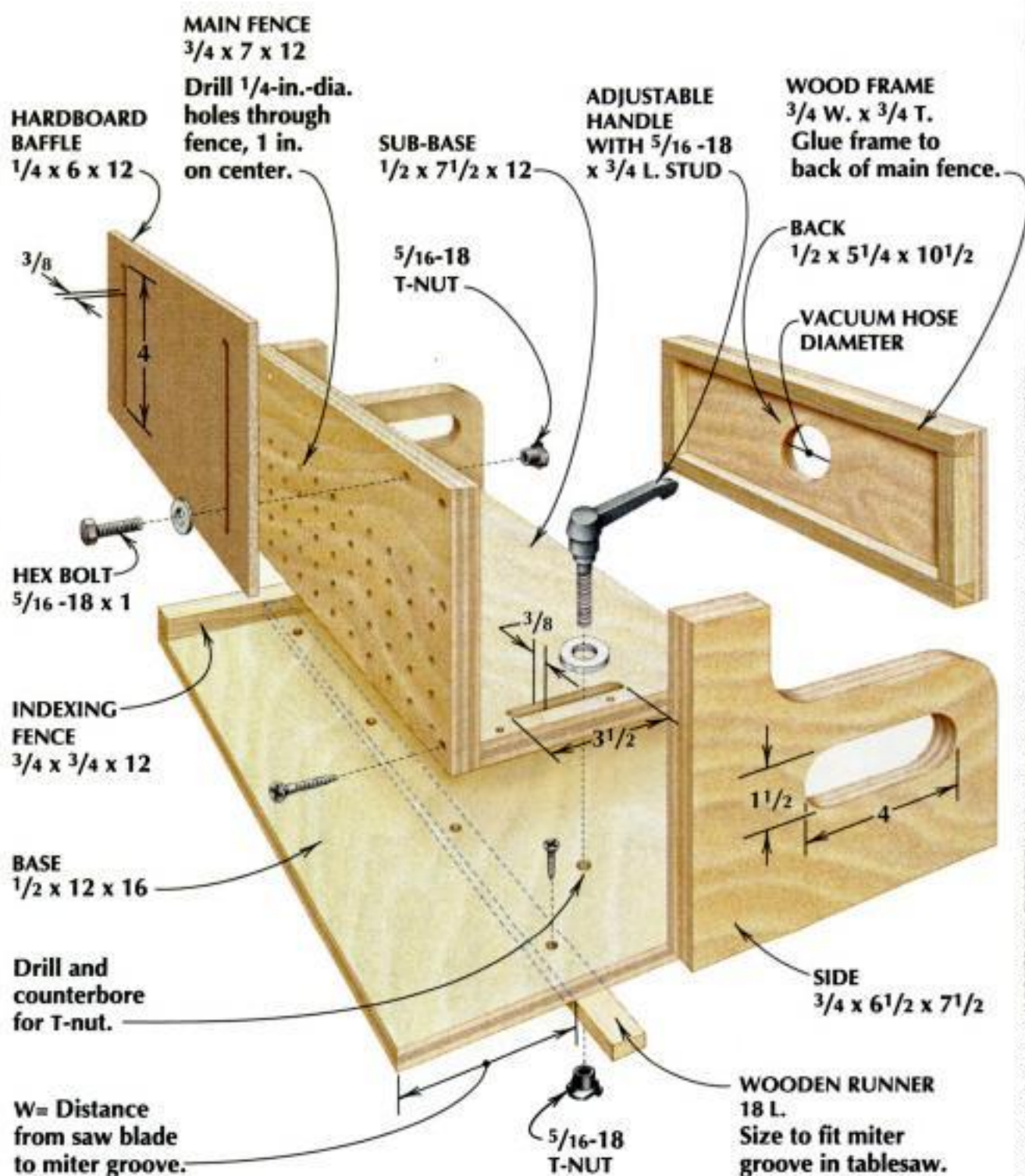


Safe hands and slim slices. Suction from a shop vacuum holds the workpiece tight to the jig when you rip veneer, keeping your hands out of the danger zone.

Ripping small, thin strips on the table-saw is scary business. It's difficult to hold the stock securely, and your hands usually come dangerously close to the blade. To make it safer to rip the small veneer I use on my jewelry boxes, I designed the jig shown here. It relies on the suction power of a shop vacuum to hold the workpiece securely as you run the jig and the work past the saw blade.

With a 10-in.-dia. blade, the jig can handle stock up to 2½ in. high and 3 in. wide. To adjust the distance between the jig's main fence and the saw blade, loosen two adjustable handles, available from Reid Tool (800-253-0421, part #KHA-120). Locate the two slots in the sub-base for the handles so the fence will zero into the blade, then rout the slots to 3½ in. long.

A hardboard baffle bolted to the fence caps any unused holes in the fence to maximize suction power. When installing the cover, put a dab of thread-locking



compound on the bolts, then screw in the bolts just enough so the cover slides freely up and down without binding.

For maximum efficiency and holding power, I suggest using at least a 7-amp shop vacuum. To slice consecutive sheets of veneer, adjust the distance between the fence and the blade to the desired veneer thickness. Limit the amount of wood that overhangs the jig to 1 in. or less, and make sure the stock

butts firmly against the indexing fence. When working with stock over 1 in. wide, adjust the fence to the width of the stock minus the desired veneer thickness. Make sure to use a zero-clearance insert to prevent thin slices of veneer from jamming the blade. ▲

DAYA PIYASENA is a software designer and amateur woodworker. He lives in Georgia.

BEST SOLUTION WINS!

Have a shop jig or fixture you'd like to share? Send a photo or sketch with an explanation to "Shop Solutions," AMERICAN WOODWORKER, 33 E. Minor Street, Emmaus, PA 18098. Next issue's contributor will receive this Porter-Cable CF1400 Jetstream compressor, valued at \$348.



POWERMATIC 

MODEL 66
Tilting Arbor 10" Table Saw

**Select either Powermatic Model 66
and you've made the best choice.**

It's a win win situation. Select the Powermatic Model 66 Industrial Standard Edition table saw and equip it with optional accessories to fit a precise need in your shop... or select the well-equipped Model 66 Home Workshop Special Edition and you have the best 10" Table Saw made. Check out the special savings available on both today.

But hurry, these are limited-time offers.



*Shown on the optional
Mobile Base*

Model 66
**INDUSTRIAL
STANDARD
EDITION**

Limited-Time Value-Added Package:

- Standard Model 66 10" Table Saw
- Accu-Fence System with 50" Rail
- Two Cast Iron Extensions
- Free 28" x 36" Extension Table
- Free Adjustable Steel Support Legs
- Free Dado Insert
- Free Motor Cover
- Free Combination Carbide-Tipped Blade
- Free \$100 U.S. Savings Bond

*This offer is valid from March 1, 1998 through June 30, 1998.

Model 66
**HOME WORKSHOP
SPECIAL EDITION**

- Standard Model 66 10" Table Saw
- Accu-Fence System with 30" Rail
- One Cast Iron Extension
- 3-HP, Single-Phase 230v Motor only
- Free 28" wide by 24" long Extension
- Free Motor Cover
- Free Combination Carbide-Tipped Blade
- Free \$100 U.S. Savings Bond

*This offer is valid from January 1, 1998
through June 30, 1998.



Made in the U.S.A.*

*These machines are
made of high-grade
American cast iron

Shown on the optional Mobile Base

POWERMATIC  **BETTER BY DESIGN™**

Call 1-800-248-0144 for Your Nearest Powermatic Dealer • Internet Home Page: <http://www.powermatic.com> or e-mail, powermatic@worldnet.att.net

CIRCLE NO. 64 ON PRODUCT INFORMATION FORM

Materiale protetto da copyright



Our router bits cut everything, including downtime.

A router bit that just gets the job done is only doing half the job. Because industrial applications are volume applications, the tools you use have to be able to handle the most rigorous conditions efficiently, without chipping, burning and dulling when the going gets tough.

DML brand is a major supplier of router bits to the woodworking market with one of the industry's broadest lines of bits engineered and manufactured to the toughest tolerances. Top quality router bits in every configuration. In every size. For portable or fixed equipment. Available

right out of stock or custom designed to your specs. We have router bits that can handle any job you've got, including bits in patterns and shapes for fabricating today's popular solid surface materials. Plus our most popular profiles feature the control cut design.

So if you want router bits that are tough enough to cut downtime as efficiently as they cut everything else, give us a call.

DML
Cutting everything but corners.

Primark Tool Group
1350 S. 15th Street
Louisville, KY 40210-1861
TEL: 502-635-8100
FAX: 800-833-5460

PRIMARK
TOOL GROUP™

MAGNA PROFESSIONAL TOOLS • DML
MAGNA • FOREST CITY • HAWVERA

CIRCLE NO. 68 ON PRODUCT INFORMATION FORM

Materiale protetto da copyright