7 OUTSTANDING PROJECTS

- Wall display case
- Sailboat table lamp
- Carved sea dragon
- Keepsake box
- Lidded staved bowl
- Kid's clothes rack
- Cutting board

TOOLS, TOOLS, TOOLS
Our experts review 8 categories of hardworking shop equipment

BUILD-A-TOY® CONTEST WINNERS See Page 72
Wallace Leeker

A real winner in my book

The Navy Cross, our nation's second-highest military decoration for acts of heroism.

Each year in the October issue of this magazine, we offer our sincere thanks to all of you who entered our most recent Build-A-Toy® contest. We also feature some of the winning entries editorially to show off the truly marvelous work our readers are capable of. (See pages 72-73 for this year's winning entries.)

Of course, there's always more to the contest than just the judging and awarding of prizes. There's also the auction and the resulting money that's raised for the Toys For Tots program—$22,000 this year!

And sometimes, we're even lucky enough to meet some of the special people who build and enter their toys. I'll never forget that day last October when Wallace Leeker and his wife Alice paid us a visit, bearing gifts of great joy—19 World War I vintage Spad 5 biplanes he had made for the contest.

While we were standing around talking that afternoon, Alice took me off to the side at one point. She told me, with obvious pride, that Wallace, who is now 72, was awarded the Navy Cross, the nation's second-highest military decoration, for heroism as a Navy officer during World War II. He was on the carrier Lexington VT-19 and piloted several missions in a 3-man torpedo bomber.

Thanks a million, Wallace, for going above and beyond the call of duty—both during World War II and for our Build-A-Toy contest. It's people like you who make America the great place that it is. I'm proud to say that I know you.

One terrific poster
You may have noticed that we've included with this issue the all-new WOOD magazine's Guide To Router Bits, an information-packed poster we think you'll find indispensable. If you would like to see more posters like this, send your ideas to me at the editorial mailing address at left. ✉

Photographs: Larry Clayton; U.S. Navy
CONTENTS

31 The lure of wood
Ron Mirabile uses a lathe to improve his fishing.

36 Cutting-board combo
This clever-cleaver cutting board stores knives.

39 It's Nessie
Whittle a desktop dragon in an evening or less.

40 Show-off showcase
Make a wall-hung glass case for your collectibles.

44 The perfect polyurethane
Discover which brands work best.

48 Lamp ahoy!
Build this sailboat table lamp in a weekend.

52 Victory-lap clothes rack
Young race-car enthusiasts will love this one.

54 Tool buyer's treasure hunt
Our experts test eight groups of woodworking tools: biscuit joiners, lathes, shop vacuums, finish sanders, radial-arm saws, tablesaw fences, air compressors, and random-orbit sanders.

70 A box that's a bit fishy
Have fun cutting out this puzzlelike keepsake box.

72 A salute to craftsmanship
See the Build-A-Toy® contest winning entries.

74 Tour-de-force tureen
Turn a beautiful lidded bowl from a staved blank.

SHORT-SUBJECT FEATURES

1 Editor's Angle
4 Talking Back
6 Tips From Your Shop (And Ours)
16 Ask WOOD
24 Products That Perform
81 Manufacturers' Listing
90 Wood Anecdote
98 1994 Build-A-Toy® Winners
100 Finishing Touches

This issue's cover wood grain: Basswood
Presenting the most versatile, accurate and expandable woodworking system on the market. The BT3000 from Ryobi. With its revolutionary design and unique features, the BT3000 opens a whole new realm of woodworking possibilities. Setup and adjustments are fast with its one-lever height and bevel control. Cuts are made with ease and precision on the sliding miter table with its extra long miter fence and oversized table. Ripping is a breeze with the patented auto-parallel rip fence lock and 30" stock support on either side of the blade. A 15-amp heavy duty motor and 36-tooth, carbide-tipped 10" blade allow you to glide through hardwoods. And it mounts to a sturdy metal stand that keeps the system secure, yet portable. Best of all, the BT3000 easily expands into a full-blow woodworking system with the optional accessories shown here. All of which make the BT3000 one table you won't want to walk away from.
We welcome comments, criticisms, suggestions, and even compliments. Send your correspondence to: Talking Back, Better Homes and Gardens® WOOD® Magazine, 1912 Grand Ave., Des Moines, IA 50309-3379.

Exhaust fan warning
I was alarmed to see the suggestion of using a furnace fan to exhaust dust from a workshop as shown in Talking Back in the February 1994 issue (see illustration right). Readers who use this method of dust removal should be sure they do not induce a negative pressure in the shop if they have a furnace, woodstove, or any other appliance with a flue in the shop area. This negative pressure has the potential to pull deadly carbon monoxide down the chimney and into the shop. If you have any doubt about the safety of your fan installation, contact a heating contractor.
—Tom Reitsma, Ashford, Conn.

Better fire detection
With regard to your article “Simple Strategies to Save Your Shop from Fire” in the February 1994 issue, I have another suggestion. Instead of battery-powered smoke detectors, install AC-powered ionization smoke detectors. When properly installed, these detectors can alert you to fires in remote locations, such as outbuildings, detached workshops, and garages. I have one in my garden shed where I store gasoline-powered equipment, one in my detached woodworking shop, and one each in my utility room and hallway of the house. I can hear these alarms anywhere on my ten acres.
—Jerry E. Brunke, Defuniak Springs, Fla.

We like your idea of connecting an alarm system with sirens to outbuildings, Jerry. We wanted to learn more about AC ionization smoke detectors, so we talked with Don Cox of Iowa Fire Equipment. He commented, “In this situation, I would prefer a 135°F. heat-to-rise detection system connected to a panel that will trigger a light and sound alarm. The ionization system is designed to detect fine smoke particles in the air, and there is the possibility that the fine wood dust in the shop may interfere with the operation of this system, causing a false triggering of the alarm.”

---

A marble-ous solution
I read the “Ask WOOD” answer in the February 1993 issue concerning a solution to the thickening and “skinning over” of the finish in partially used cans of polyurethane. I have a different solution to this. I add clean marbles to the unused polyurethane until the level of the finish rises close to the top of the can. This removes most of the air space in the can and helps the finish stay fresh. Just clean the marbles before using them in another can of finish.
—Dave Lepkert, Jr., Norman, Okla.

Thanks to Dave and all the other readers who sent us similar suggestions. Sometimes, the simple solutions are the most difficult ones to see.

Horses of many colors
Wow! Thanks for the neat article about Jerry Reinhart and your supportive mention of the National Carousel Association (NCA) in the January 1994 issue. The NCA does a wonderful job of helping to restore and preserve our national treasure of antique carousels.
If any of your readers are interested in carving full-sized carousel animals, they may be interested in our carving kits and animals. We were formerly “The Carousel Man” of Rexburg, Idaho. We have moved and changed our name to “Carrousel Magic” and are located at 44 W. 4th St., P.O. Box 1466, Mansfield, OH 44901. Call 419/526/4009. It would be a treat to meet any other WOOD magazine readers interested in carousels.
—Sherrell S. Anderson, Carrousel Magic, Mansfield, Ohio
THE FINEST SAW FROM ANY ANGLE.

With an unbeatable combination of breakthrough features and advanced technology Makita's model LS1211 is the most revolutionary compound saw available today.

Its unique design and powerful 15 AMP motor allow miter, bevel and compound cuts to be made quickly and precisely. And unlike any other saw on the market, the LS1211 can bevel cut up to 45° to the right. What this means is that you can cut virtually any angle with the LS1211.

Makita has also added as standard equipment a 96 tooth carbide tipped blade that produces a super fine cut.

Innovative and versatile from any angle, Makita's Slide Dual Compound Saw is a revolution in power tools.
Pipe out the dust from below on belt-drive saws
Wood dust messes up a shop quickly and can lead to respiratory problems. Tablesaws with enclosed cabinets easily adapt to dust-collection systems, but belt-driven tablesaws with motors hanging out the back make poor candidates for dust collection.

TIP: Put a ¾” plywood platform between your saw cabinet and stand, and draw out the sawdust through a PVC pipe. Bore a 4”-diameter hole in the center of the plywood and insert a PVC pipe of the same diameter. Glue a PVC collar on top of the pipe to keep it in place, and then reattach the cabinet of the saw to the stand using bolts that are ¾” longer than the originals. Hook the pipe up to your shop vacuum with a reducer that fits the diameter of your shop vacuum hose and let the machine eat your dust.
—Peter Hurney, Kailua, Hawaii

Stash your miter gauge in a PVC holster
Changing from crosscutting to rip-cutting means finding some place to put the miter gauge. It’s a nuisance to walk to the bench, put the miter gauge down, and then go back to retrieve it later.

TIP: Build a holster for your miter gauge out of inexpensive 1”-diameter PVC pipe. Cut the pipe long enough to cover the guide bar of your gauge plus 3”. To prevent the gauge from rolling over, cut a 3” notch in one end of the pipe, as shown in the illustration right. Attach the pipe to the side of your saw with conduit brackets and sheet-metal screws. Now you’ll never be more than an arm’s reach away from the gauge.
—Mark Albrecht, Houston
Caution: This lathe could be habit forming.

Anyone who works on a lathe will tell you that turning quickly becomes addictive. That wondrous treasures can be made from otherwise junk wood. That the learning curve is rapid, once you've got the basics. And that you'll probably outgrow your first lathe.

For the most part, we'd agree. Which is exactly why we set out to design the Delta 12" Variable Speed Wood Lathe.

A lathe priced low enough to get you hooked, yet hefty enough to satisfy a rapidly growing habit. With features that will please even a long-time turner. With power and comfort and precision enough to grow on.

For the name of your nearest Delta dealer, call Delta International Machinery Corp.: 800-438-2486. In Canada, call: 519-836-2840.

Delta is proud to nationally fund these two PBS programs for woodworkers.

The New Yankee Workshop hosted by Norm Abram.

The American Woodshop with Scott Phillips.

Delta is a Pentair Company.
Plywood carrier hoists sheets onto saw table, too
You’re going to be cutting a lot of plywood for an entertainment center. The thought of hauling those sheets through the workshop and trying to tip them onto the saw table without damaging them, your tools, or yourself (or all three) isn’t making you smile.

TIP: With this simple two-wheel dolly, a pulley, and a length of rope, rolling the sheets into your shop and hoisting them onto your saw table (equipped with a table extension or work supports sufficient to hold a full sheet safely) will seem almost easy. Refer to the illustration to build the dolly. Drill an \( \frac{3}{4} \)" hole through the center of the 1x2 turnbutton, and attach the part to the center of the top 1x4 block with a #8x1 1/4" roundhead wood screw. The turnbutton must be free to move.

Install sturdy pulls, such as those made for shed doors and gates, and place a heavy screw eye with threads at least 1" long near the center of the 2x4. Hang a pulley above your saw table (make sure it can handle the weight of the plywood plus the dolly). Pass a rope through the pulley and attach a hook or snap to the end.

Now, slide the sheet of plywood into the dolly. Secure it at the top with the turnbutton, and roll the plywood and dolly to the saw. Park it with the 2x4 facing away from the saw, and attach the rope to the screw eye. Now, hoist the sheet and dolly, pulling the rope with one hand, and guide it over the saw table. Lower into position, remove the dolly, and pull the rope out of the way.

—Vern Baldus, Yuma, Ariz.

Wood handwheels make adjustment bolts for jigs
When making woodworking jigs, you frequently need to provide for adjustment. Hex-head bolts work fine, but it isn’t very convenient to have to loosen and tighten the bolt or screw up a wrench each time you move the jig.

—William Bloomfield, North Caldwell, N.J.

TIP: Make an easy-to-grip handle for a bolt from a piece of \( \frac{3}{4} \)" thick hardwood stock. With a 2 1/4" hole-saw chucked into your drill press, score a circle on one face of the board. Draw radial lines from the center of the circle 45° apart. At the point where each line intersects the circle, drill a \( \frac{3}{4} \)" hole through the stock. Then, cut out the circle with the hole saw and sand the sharp edges. Enlarge the hole-saw pilot hole to fit the adjustment bolt. Insert the bolt through the hole, and scribe around the sides of the head with an awl or knife. Chisel out the area inside the scribed hex to accept the bolt head. Insert the bolt into the completed handwheel, and epoxy it into place.
Guaranteed

With any purchase from ENLON, we guarantee the finest quality machinery produced by the best import manufacturers with up to 20 years experience in manufacturing quality machinery. We also guarantee the lowest possible pricing. Give our friendly knowledgeable staff a call—we will process and ship your order normally within 24 hrs. With our new 1 year limited warranty, we offer a deal that truly can’t be beat.

6" JOINTER
- 1 HP, 110/220V
- 3-KNIFE CUTTERHEAD
- 47" BED LENGTH
- CENTER MOUNTED CAST IRON FENCE
*EN3101
REG.: $370.00
SPECIAL: $350.00

8" HEAVY DUTY JOINTER
- 1 1/2 HP, 220V
- 3-KNIFE CUTTERHEAD
- 65" BED LENGTH
- MAGNETIC SWITCH
*EN3102
REG.: $450.00
SPECIAL: $625.00

2 H.P. DUST COLLECTOR
- 200V, 1/2 HP
- 650 CFM
- 1 INTAKE 40" DIAM.
- ALL STEEL IMPELLER
*EN-DC20
LOW PRICE: $275.00

10" H.D. TABLE SAW
- 1 1/2 HP, 110/220, SINGLE PHASE MOTOR
- 47" X 27" TABLE SIZE W/CAST IRON EXTENSIONS
- BUILT-IN DUST COLLECTOR
*EN3201
REG.: $375.00
SPECIAL: $345.00

FREE 4" X 10' PVC HOSE with purchase of any Dust Collector.

12" PLANER
- 2 HP, 110V, 14 AMPS
- 16,000 RPM
- 2 KNIFE CUTTERHEAD
EN-PN12
REG.: $375.00
SPECIAL: $370.00
FREE SHIPPING IN CONTINENTAL U.S.

1 1/2 H.P. WOOD SIZER
- 110/220V, 100/10,000 RPM
- 1/" & 3/4" SPINDLES
- CAST IRON TABLE
- OPTIONAL DUST HOOD
*EN3302
REG.: $490.00
SPECIAL: $845.00

3 H.P. HEAVY DUTY WOOD SIZER
- 220V, 7,000/10,000 RPM
- 1/" & 3/4" & 1" SPINDLES
- CAST IRON TABLE
- OPTIONAL DUST HOOD
*EN3303
REG.: $785.00
SPECIAL: $795.00

6" X 48" BELT/9" DISC Sander
- 3/4 HP, 110/220V
- MITER GAUGE
- ADJUSTABLE TABLE 0-45°
- SELF OPERATES VERTICALLY OR HORIZONTALLY
*EN-5N69
LOW PRICE: $190.00

6" X 30" EDGE SANDER
- 1 1/2 HP, 110/220V
- 6" X 80" BELT
- QUICK RELEASE LEVER
- CAST IRON TABLE
- MAGNETIC SWITCH IS OPTIONAL
*EN3405
REG.: $420.00
SPECIAL: $375.00

Oscillating Vertical Spindle Sander
- 1 HP, 110/220V SINGLE PHASE MOTOR
- SPINDLE SPEED 1,725 RPM
- 75 OSCILLATIONS PER MINUTE
- 10 SPINDLES (W/ SLEEVES) FROM 1/4" TO 1/2" DIAM. INCLUDED
*EN3407
LOW PRICE: $595.00

Gift Certificates Available

Showroom/Distribution Center: 12 Arbor Rd., Clarksburg, WV 26301
Hours: M-F 8:00a-5:00p, Sat. 9:00a-1:00p E.S.T.

Call for FREE Catalog or Router Bits and Shaper Cutters Catalog

ENLON Import Corporation
The Power You Can Trust

1-800-888-9697
Mon.-Fri. 7:00am-5:00pm Pacific Time
Sat. 9:00am-1:00pm Pacific Time

Prices & Specifications are subject to change without notice.


card No. 38, 51

Visa"
Domestic and exotic hardwood plywood and lumber, marine plywood, over 30 species in stock—all under one roof.
Custom cutting services to your exact specifications with little or no waste at competitive prices!
We specialize in bundling and shipping.
Call (617) 666-1340 today for catalog and quote.

Boulter Plywood Corp.
24-WD Broadway, Somerville, MA 02145

---

**TIPS FROM YOUR SHOP**
Continued from page 8

**Bowl everyone over with bookends from leftovers**
It seems a shame to throw away the biggest by-product of bowl turning—that square piece of wood with a big circle bandsawed out of the middle. It’s usually such a beautiful piece of wood.

---

**TIP:** Put your bowl blank leftovers to work as bookends, as shown in the drawings above. First cut the waste piece into quarters. Sand and finish the wood, and then attach a metal or thin wooden base to the bottom of the piece. Combine different sizes and types of woods for added interest.

—Boyd Orth, Paradise Valley, Ariz.
Continued on page 12
When we listen to woodworkers, we understand what you mean — after all, we are woodworkers! You told us you needed a dado to cut plywood, solid wood, hardwood veneered plywood, laminates and melamine chip-free. You told us that it needed to cut precise slots and maintain accuracy. And it especially needed to accommodate today’s undersized plywood.

So we engineered a dado that would not only meet your needs, but would surpass your expectations. First we started with our superior tri-metal brazing to bond a special tooth design to an extra stiff blade body. You wanted dados with super smooth flat bottoms so we included 4-wing chippers. You said you hate it when chips build up in the chippers, so we perfected a gullet which ejects the chips. And then we eliminated the hub on the outside blade so chips cannot build up between the blades. The Super Dado will cut all your materials chip-free with a dado so smooth, you’ll hate to cover it up.

To make it even better, we added something no other dado manufacturer has...a sixth chipper that is 3/32” thick. That doubles the number of possible slot widths (from 1/4” up to 3/16” wide), and allows you to set the dado to fit today’s undersized plywood. To make it even more flexible, we’ve included a set of precision steel shims for fine adjustments. Here’s a dado that matches the slot width flexibility of an adjustable dado while maintaining the safety and finish of a stacked dado system.

And speaking of safety, we used the same anti-kickback technology associated with our saw blades and router bits. It’s the anti-kickback shoulder design that reduces the chance of kickback from overfeeding. This higher level of safety lets you dado with confidence.

We also packaged all this in a sturdy carrying case. Once you use this new dado, you’ll agree that it really is a Super Dado.

Precisely what you need.

High Point, NC 27264 • 800-472-7307

Circle No. 1321
Do you want a scroll saw that is quieter, easier to use, breaks fewer blades and produces edges that require no sanding? You can enjoy these benefits with the scroll saw Fine Woodworking described as "beautifully built and highly favored by our woodworkers" and judged by Wood magazine as "overall best".

Try one with our thirty-day money-back satisfaction guarantee. You will agree that HEGNER is the better scroll saw! Call toll-free or write for your FREE catalog today!

Advanced Machinery
P.O. Box 312, Dept. 644
New Castle, DE 19720

TIPS FROM YOUR SHOP (AND OURS)
Continued from page 10

Hidden cleat hangs brackets with no visible support
Wooden display shelves look great, especially on wood-paneled walls. But how do you anchor them to the walls without a lot of metal hardware showing?

TIP: Rout a stopped groove in the back of your shelf brackets, and use that space to make a hidden cleat. Rout the groove as shown in the illustration below. Now, cut a cleat that fits snugly into the groove and flush with the back edge of the bracket.

To complete the cleat, cut it in half at a 45° angle, screw the bottom, part "B", to the wall and glue the top, part "A", to the bracket as shown. Slip the bracket over the wall-mounted section of the cleat and you have a strong and completely invisible support.

—Joseph W. Mott, Binghamton, N.Y.

THE BEST BUYS IN SPIRAL STAIRS!

<table>
<thead>
<tr>
<th>METAL</th>
<th>OAK</th>
<th>VICTORIAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only $425*</td>
<td>for 3-1/2&quot; Diameter (No. 8&quot; to 8-1/2&quot;)</td>
<td></td>
</tr>
<tr>
<td>Only $1575*</td>
<td>for 4-1/2&quot; Diameter (No. 8&quot; to 8-1/2&quot;)</td>
<td></td>
</tr>
<tr>
<td>Only $3300*</td>
<td>for 6-1/2&quot; Diameter (No. 8&quot; to 8-1/2&quot;)</td>
<td></td>
</tr>
</tbody>
</table>

EASY-TO-ASSEMBLE-KITS (Metal Kits in stock for immediate shipping or pick-up)

NOW SHOWROOM/WAREHOUSE LOCATIONS IN:
Broomall, PA (610) 544-7100
Pomona, CA (909) 598-5766
Sarasota, FL (813) 923-1479
Houston, TX (713) 789-6648
Chicago, IL (708) 952-9010
Stamford, CT (203) 325-8466

From the Leading Manufacturer of Spiral Stairs

THE IRON SHOP®

A FEW MORE TIPS FROM OUR WOODWORKING PROS

- You can count on your miter gauge when you need to cut a wedge-shaped piece on a tablesaw. But the task quickly becomes tricky when you need to make a number of wedges exactly the same size. See how we solved the problem with a sliding-table jig on page 77. The two-step drawing on page 78 shows how to use it.

- Trouble with bubbles in your polyurethane? Read our article on page 44 to learn how the right product can help.
Coronet CL-3...
The latest Woodturning Lathe for the professional or craftsman.

Heavy Duty cast iron head and tail stocks combined with the 1 1/2" diameter solid twin bed bars reduce vibration to a minimum.

The adjustable main bearing is silent running, unlike roller bearings. The rotating head stock allows face plate turning up to 30" diameter (with optional bowl attachment).

Features 5 speed Poly "V" Drive, and continuously rated 3/4 H.P. TEFC motor. Between centers capacity available in 36" or 48".

See these and other great Record Tools at your Dealer Today!

SHOWN WITH OPTIONAL BOWL-TURNING ATTACHMENT

Record Tools Inc.
1920 Clements Road,
Pickering, Ontario, Canada L1W 3V6
Canada Tel: (905) 428-1077 Fax: (905) 428-7555
U.S. Tel: (716) 842-1180

ORDER YOUR CL-3 WOODTURNING LATHE TODAY!

CUTAWAY OF CL-3 SWIVELLING HEAD STOCK showing full 1" spindle for supporting heavy loads, and massive tapered bronze adjustable bearing for zero float.

FREE WITH EVERY RECORD CORONET CL-3 WOODTURNING LATHE PURCHASED UNTIL JAN. 30 93.
At Panasonic, we believe we make the finest cordless power tools in the world. If you buy a Panasonic Cordless Tool and don’t love it, we’ll eat the cost.*

A WELL-FOUNDED CONFIDENCE

As one of the largest battery manufacturers in the world with over 60 years of experience, we have a heritage of technological expertise. This expertise allows us to stay in the forefront of research and development, enabling us to pioneer innovations like the 15-minute “Coffee Break” Charging System, the “Ironman” Battery and the Predator Series (more on them in a minute).

We also have over 60 years of experience as a high-quality electric motor manufacturer. Panasonic Cordless Power Tools represent the integration of battery, motor and gear technology. Our electro-mechanical expertise is state of the art.

EXCELLENCE IN CORDLESS TECHNOLOGY

Panasonic never forgets that it is the battery pack that makes a cordless tool cordless. And when it comes to battery technology, we are an industry leader.

We invented the 15-minute “Coffee Break” charging system. This innovative charger reduces down time to a coffee break and will accept most Panasonic 7.2, 9.6 or 12-volt battery packs. It also features a useful self-diagnostic panel that tells you how the battery and charger are functioning, and if there’s a problem. For example, when you need a new battery, it will tell you. Its built-in micro computer and timer/temperature sensors help minimize charging time and maximize protection of the battery.

All Panasonic battery packs are designed for long life and have a “no memory” feature which means you don’t have to run the battery down completely before charging.

If you can find a cordless power tool better than ours, we’ll eat it.*

EXCELLENCE IN POWER

We invented the “Ironman” high-capacity battery, which provides 25%-65% more work and up to 15% more torque than our previous battery without increasing the size or weight. The “Ironman” has one of our highest capacities on the market today, so you get more work out of every charge.

Panasonic knows your drill must deliver on the business end, too. That means torque.

The 12-volt Panasonic EY6205 featured here has a maximum torque of 182 in. lbs. That means it can handle auger bits, hole saws and put big holes in big wood. In other words, heavy-duty work. And most Panasonic Cordless Drills you choose deliver maximum torque at all speeds, so you get power with precision—excellent when working at low speeds.

Beyond this massive show of torque, many Panasonic Cordless Drills also feature variable speed control and electronic feedback for smooth and precise operation at all RPMs, and maintain a steady speed regardless of resistance.

Most Panasonic Cordless Drills feature an electric brake, which instantly halts chuck rotation when you release the trigger. Our patented heavy-duty keyless chuck fully closes (in only 5 rotations) with zero tolerance to accommodate even the smallest bits.

EXCELLENCE IN DESIGN—INTRODUCING PREDATOR

The Panasonic thirst for innovation can now be found in an exciting new series of cordless drill and drivers: the
Predator Series. These remarkable compact tools are 25-36% smaller (based on cubic dimensions), yet most deliver more power than their full-size predecessors. The Predator also weighs less by 7-14%, thereby reducing arm fatigue. In fact, a

WER TOOL

Predator 12-volt drill weighs less than most traditional 9.6 volt drills. The Predator lets you get into the tight spots without sacrificing power.

All this, combined with a 17.40% smaller battery pack (based on cubic dimensions) and 22-stage clutch, make for an awesome combination of power and precision.

*30-DAY QUALITY SATISFACTION GUARANTEE:
If you are dissatisfied with any Panasonic Cordless Power Tool for any reason, simply return it to the place of purchase with a dated proof of purchase, in the original packaging, with all accessories, parts and instructions, within 30 days of the date of purchase, for a full refund, or call Panasonic at 201-392-6655. Abuse or misapplication of any power tool voids the guarantee.

THE BOTTOM LINE

Quality, innovation, research and experience—it all adds up to make Panasonic Cordless Power Tools tops in their field.

Seldom has a “you get what you pay for” argument been more convincingly made. And don’t forget, should you not find your Panasonic Cordless Tool to be everything we say it is, we’ll eat it. Total quality guaranteed. Period.

After all, you don’t take risks using a tool, why take risks buying one?

For the dealer nearest you, call: 201-392-6655 (9 a.m. to 5 p.m., E.T.).

Panasonic CORDLESS POWER TOOLS POWER TO SHAPE THE FUTURE
Reinforcement for bowl bottoms
For my turned-bowl projects, I have been cutting triangular segments to glue up for bowl bottoms. This creates a circular grain pattern on the base because the grain runs across each segment. All joints fit tightly, and I assemble them with Titebond glue. Unfortunately, these segments begin to separate after time, particularly in the winter. What can I do to prevent this from happening?
—David A. Taylor, Kingston, N.H.

You can do two things to reduce this joint separation, Dave. First, assemble the bottom and glue it to the rough bowl during periods of low humidity. Wood will crack as it shrinks during winter due to low moisture content in the air of heated buildings. Since wood expands more slowly than it contracts, assemblies made during periods of low humidity will better handle seasonal changes in humidity.

Second, strengthen the weak end-grain joint on the wedges by inlaying a face-grain disc in the underside of the bowl bottom. To do this, drill a 1½- to 2-inch diameter flat-bottomed recess, ⅛" deep, into the bottom of the bowl. With a scroll saw or lathe, cut a ⅛"-thick disc to fit this recess. Glue this disc into the recess to reinforce the center joints of the bowl bottom, and sand it even with the surface.

The disc provides a stronger face-grain glue joint where the stresses are the greatest.

You also can use biscuits or splines to strengthen the bowl-bottom joints. Make two subassemblies of the segments, using half of the pieces in each unit. Clamp these subassemblies together as though you were gluing up the bottom, but with a piece of waxed paper placed in the center joint. Allow each half of the bottom to dry. Then, remove the halves from the clamp, and cut a biscuit or spline slot in both halves. Set the reinforcing biscuit or spline in place and glue the halves together.

The glue is too good
I goofed and glued up an out-of-square door while repairing an antique baker’s cabinet. I need to take it apart and re-glue, but unfortunately I did the job too well the first time. I used Titebond glue. How can I separate the joint without damaging the frame of the door?
—William J. Waite, Simi Valley, Calif.

For an answer, Bill, we spoke with Dale Zimmerman of Franklin International (manufacturer of Titebond). Dale told us, “Disassembling a glue joint involves finding ways of removing strength from the joint so the parts can be separated using a reversible clamp or striking the joint with a mallet.

“Do this by applying water, heat, or steam to the joint to soften the glue. Titebond loses half of its holding strength at a temperature of 150°F Fahrenheit, allowing easier disassembly. Use a reversible pipe clamp where possible to open the joint. Protect the piece with a face-grain soft pine block if you try to separate the joint with a mallet.”

Where there is limited access to the glue line, as in a mortise and tenon joint, we suggest you drill a series of ⅛" holes along the glue line to allow the water or steam better access to the joint. Drill the small holes from the back side of the door or the end of the door, to hide them as much as possible. Also, warm the joint to be separated with an incandescent bulb placed 6-8" away from the wood surface. Watch this warming process closely, and move the lamp away if you see any signs of the finish bubbling or scorching.

Continued on page 18
The Dirt Devil® Wet-Dry Vac.
We put a lot into it.
So can you.

The detachable blower is powerful enough to blow away dust, dirt, and leaves.

The extra-long hose and cord mean this vacuum can really go the distance.

The full 2 1/2" accessory kit includes two wands, a floor/squeegee tool, a crevice tool, and a 7-foot hose.

The 8- or 16-gallon capacity tank can hold wet and dry messes together without removing the filter.

The convenient built-in tool caddy means you will spend less time looking for tools.

The low center of gravity and longer wheelbase mean enhanced stability and maximum tip resistance.

For a retailer near you, call 1-800-321-1134.

©1994 Royal Appliance Mfg. Co. All rights reserved. Dirt Devil® is a registered trademark of Royal Appliance Mfg. Co.
Trusted by craftsmen for over 35 years.

■ Original Titebond Wood Glue
  Superior strength and fast set.

■ WeatherProof Titebond II
  Wood Glue
  Passes Type II water resistance.

■ New!
  Titebond Dark Wood Glue
  Original formula now available
  for use with darker woods.

ASK WOOD
Continued from page 16

Working on the edge
How do you sharpen carving knives with handles?
The blade always gets in the way on the grinder.
—Marvin Curtis, Troy, Ohio

Try sharpening your knives with a bench stone or
whetstone if you’re having trouble sharpening
them on the grinder. This procedure does take a lit-
tle time to master, but a really sharp knife makes
the effort worthwhile.

First, secure a coarse whetstone to your work-
bench and lubricate the stone with oil or water,
depending on the type of stone. Place the knife
blade on the whetstone, with one side of the bevel
flat on the stone. (See inset right) Maintain this
angle of contact as you draw the knife edge-first
along the stone. If your knife has a curved or long
blade, you will need to pull the blade across the
width of the stone at the same time you draw the
bevel along the length of the stone as shown right.

Make several strokes on one bevel. Reverse the
knife, and make the same number of strokes on the
second bevel to remove the burr. Repeat this
process, reducing the number of strokes on each
bevel until you finish with one stroke on each side.

Start honing the knife on a coarse stone to remove
any nicks in the blade. Move to a medium stone to
improve the edge, and remove the final edge burr
with a polishing stone or a leather strop. For best
results with the strop, hone the blade with the
sharp edge trailing.

Continued on page 21
12" Dovetail Jig  
C3240  
$69.95  
Make dovetail joints for all your furniture projects, especially drawers.
NOW! PLANE, MOLD, SAND and SAW with

Infinitely Variable Power-Feed!

MAKES YOU MONEY... SAVES YOU MONEY!

Put this versatile power-feed tool to work in your shop... see how fast it pays for itself! Quickly converts low-cost rough lumber into valuable finished stock. Turns out perfect picture frame moldings, quarter-round, casing, tongue and groove... all popular patterns... any custom design.

✔ Just a twist of the dial puts twice as many cuts-per-inch at your fingertips as any comparable planer — from 70 to over 1,000 CPI! This heavy-duty machine will sail through even the toughest oak at higher speeds, or you can slow it down to handle those “hard-to-work” pieces like curly maple, knotty cedar, burls, knees and much more! A valuable feature for molding work, where profiles make sanding impossible.

✔ Change to Molding, Sanding or Sawing in just minutes! Unique “Morse-Taper” Quick Change Cutterhead guarantees fast changeover... bearings remain factory set... precisely aligned at all times.

✔ Now choose from three powerful models! Woodmaster introduces the first 18” and 25” Planer/Molders... with all the features that have made the 12” model the most versatile Planer/Molder on the market! Send for Free Facts today!

Woodmaster’s Quick-Change Molding Head lets you create custom moldings from any stock. Choose from over 250 standard trim and picture frame patterns... or design your own!

Power-fed sanding speeds production and improves the quality of your work. No more waves or cross-grain scratches. Separate sanding head installs in just minutes.

New ripsaw attachment lets you gang-rip with power feed in a fraction of the time it takes for multiple hand-fed passes on an ordinary table saw.

MAIL TODAY OR CALL
1-800-821-6651 Ext PW72

Here’s What Woodmaster Owners Say:

Shop Test Results—“It does an excellent job of planing, on a par with more expensive machines, and even better than some commercial models.”

Editor, Workbench Magazine

Best Value—“After checking them all, Woodmaster was obviously the best deal for the money. Also, I would like to acknowledge the polite and prompt service.”

E. D. Holtz, North Carolina
ASK WOOD
Continued from page 18

Two ways to even out stain
I would like to eliminate or at least minimize the blotchy, uneven stain absorption I experience when finishing birch, maple, and pine. What is the best method of preparing bare wood prior to staining to prevent this effect?

—Alan J. Kostyniak, St. Paul, Alberta

Alan, the woods you mentioned often have areas of swirly grain where end grain alternates with face grain on the surface of the board. Stain penetrates deeper into the soda-straw-like end grain, causing these areas to become darker. The face-grain areas absorb far less stain and appear much lighter in color. Also, pine contains areas of low-density grain that will absorb more stain than surrounding areas.

We can recommend two techniques for reducing this blotchy effect:

1) Use a wood conditioner to help even out the absorption of the stain by the wood. We contacted Deborah Sherry at Minwax for information about Minwax Wood Conditioner. She said, "This product will slow down and even out the acceptance of stain, although it will not totally eliminate unevenness in color.

2) Use a gelled stain in finishing your project. Gelled stains help to reduce this blotchy staining effect. These stains do not penetrate as deeply into the wood as other stains, and so will not create intensely dark areas of color.

Here's the one thing Belgians don't waffle on.

The Robland X31 is as welcomed in European workshops as a home run in the World Series. We put together a 12' jointer, 12' planer, 10' table saw, 50' sliding table, and a shaper with a motorized No cheating. No compromises. Some 1100 lbs. of cast iron stability, with three separate 3HP motors. It stays put. It stays true. And it stays neatly in a little corner of your shop.

That's why Belgians call the Robland X31 The Intelligent One Man Shop. About the only thing you can't make on it is breakfast.

LAGUNA TOOLS
(800) 234-1976  (714) 494-7006
2265 Laguna Canyon Road, Laguna Beach, CA 92651

Circle No. 615

It's Easy To Build This Classic Oak Roll Top Desk

From Our Pre-cut Furniture Kit

✓ Includes Century, Drawer Guides, Nails, Screws, all Hardware.
✓ All Wood Parts Cut, Shaped, Sanded. Ready to Assemble.
✓ Pull-out Pivoting Comes Fully Assembled.
✓ Illustrated Construction Guide.
✓ Pre-cut Wood Parts Numbered for Easy Identification.
✓ Fully Finished on the Back.

Own this classic Roll Top Desk carefully reproduced from an original 1888 design. A full sized quality oak desk at a fraction of the regular selling price...because you put it together yourself from pre-cut pre-sanded parts.

Enjoy the satisfaction of creating this desk in your basement or garage following our detailed, easy-to-follow instructions and numbered pieces. No woodworking skills or special tools required. When your furniture is completed you'll be proud to have this quality furniture in your home, and enjoy the satisfaction of knowing you put it together yourself.

Over 70 other furniture kits to choose from.

Choose from over 70 unique furniture kits, all made from top quality hardwoods. Each kit is cut to size, sanded, and ready for assembly and finishing.

Call for FREE Catalog.
1-800-373-1101

YES, Please send my free copy of the new Grand River Workshop Catalog.

Name ____________________________
Address __________________________
City ____________________________
State/Zip __________________________

—END—
“All my tools should be this good!”

The Accu-Miter® is a professional miter gauge that makes perfect angles easily. Shot-pin action assures dead-on accuracy for common angles — plus a precise protractor scale for everything in between!

Optional accessories:
manual clamp
pneumatic clamp
3/8” x 3/4” miter bar

Call or write for our free brochure.
800 Dutch Square Blvd., Suite 200, Columbia, SC 29210
1-800-382-2637 / SC 803-798-1600

$149

Excellent Quality and Affordable Price

PRICE INCLUDES A FREE SET OF 10 REMOVABLE SPINDLES WITH THREADED ENDS FOR QUICK CHANGE, A SET OF 10 100-GRIT SANDING SLEEVES, AND 3 TABLE INSERTS.

The Ultimate Oscillating Vertical Spindle Sander
Model EN3407
( F.O.B. City of Industry, CA or Clarksville, WV)

SANDING SLEEVES ARE AVAILABLE IN 60, 80, 100, 120 GRITS!
ENLON EXCLUSIVE ONLY $595.00

Optional Equipment:
Mobile Base (Made in U.S.A.)
Model EN-MBSN3
$88.00

See the Performance & Value reference in pages 81 & 82 from WOOD MAGAZINE, Sept. 94’ issue.
The Adventures of Dusty Pyles

CONTINUED...

HELLO.... TOTAL SHOP... I WANT TO ORDER A CLEAN AIR SYSTEM...

DUSTY, MY FURNITURE IS COVERED WITH YOUR WOODWORKING DUST FLOATING UP INTO THE HOUSE... WHAT ARE YOU GOING TO DO ABOUT IT?

WHAT IN THE WORLD IS A CLEAN AIR?

WELL GERTIE, THE CLEANAIR IS A UNIQUE 3-STAGE FILTRATION SYSTEM THAT EFFECTIVELY CAPTURES 97% OF THE DUST PARTICLES IN THE AIR. IT DOES SUCH A GOOD JOB THAT FROM NOW ON YOU WON'T HAVE TO DUST EVERY DAY I'M WORKING IN MY BASEMENT SHOP! ISN'T THAT GREAT!

HELLO.... TOTAL SHOP... PLEASE HURRY WITH MY NEW CLEANAIR!!!

And here are just a few more advantages the CleanAir System has over the competition...

- Needs no outside venting
- Effectively cleans the air in an area up to 4000 cubic feet
- Totally quiet operation
- Has no effect on existing room temperature
- Runs on standard house current
- Compact size (25” x 13” x 40”) fits almost anywhere
- Heavy gauge steel cabinet with mounting holes
- Contains approximately 18 square feet of filter material
- Easy filter replacement
- Also available in heavy duty model
- 30 day money back guarantee
- One year warranty on all parts
- Built in the USA with a 5 year track record of total customer satisfaction!

Why continue fighting the never ending battle with dust? Order NOW and receive absolutely FREE our Extended Lifetime Warranty ($29.95 value!)

<table>
<thead>
<tr>
<th>CleanAir System</th>
<th>CleanAir System</th>
</tr>
</thead>
<tbody>
<tr>
<td>260 CFM order # 90175</td>
<td>490 CFM order # 90177</td>
</tr>
<tr>
<td>Suggested List Price $339</td>
<td>Suggested List Price $399</td>
</tr>
<tr>
<td><strong>NOW $269</strong></td>
<td><strong>NOW $309</strong></td>
</tr>
<tr>
<td>$20 shipping</td>
<td>$20 shipping</td>
</tr>
</tbody>
</table>

Filter Replacement Kit • order # 90176 • $29.95

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDRESS</th>
<th>CITY/STATE</th>
<th>ZIP</th>
<th>PHONE</th>
</tr>
</thead>
</table>

☐ PLEASE SEND MORE INFORMATION
☐ I WANT TO ORDER #

CHECK, M/C, VISA, DISCOVER, AMEX

CARD #______________ EXP. DATE ____________

TOLL FREE 1-800-845-9356

DEPT. #3
P.O. BOX 25429 • GREENVILLE, SC 29616

Circle No. 840
A benchtop drum sander designed for small shops

Most home woodworkers can't afford or find the space for a big drum sander. But Performax tackled those challenges with its new 16-32 Benchtop Drum Sander. The 16-32 designation refers to the 16"-long aluminum sanding drum that is open on one end and allows you to sand a 32"-wide panel with two passes.

Set-up and adjustment of the Performax went smoothly thanks to the clear instructions. The 3x92" strips of cloth-backed sandpaper attach to the drum in a spiral fashion, and spring-loaded clips keep the sandpaper tight and flat across the drum without adhesives. Changing sanding belts took only a minute.

The stock rides on a conveyor belt that prevents snipe with the use of adjustable infeed and outfeed-tension rollers. Electronic controls vary the feed rate of your wood from 0-10' per minute. The thickness-adjustment gauge reads easily, and one full turn lowers the drum exactly 1/8". I hooked the dust-collection port on the top of the drum cover to my 2½" shop-vacuum hose and it collected 100 percent of the airborne dust generated during my sanding. Best of all, the Performax turned out perfectly flat and accurately dimensioned boards time and time again.

The versatility of this machine makes it useful to a variety of woodworkers. You can sand big beams of wood up to 3" thick and as long as your shop will allow. Or, if you're a crafter or scrollsawyer, you can use the Performax to sand veneers down to ½"-thick, and wood pieces as short as 2¼".

This tool is billed as a sander and thicknesser, but when compared to a thickness planer, the going is a bit slow. Grit size, feed rate, and the type of wood affect your thicknessing speed, but I recommend taking off no more than ½-¼" per pass. The Performax does, however, offer two big advantages over thickness planers—its ability to handle panels up to 32" wide and the fact that it won't tear out reverse grain, knots, or highly figured woods.

—Tested by Bob McFarlin


In my yard, the Attractor found several stray nails and staples from a roofing job. I also used the tool in my shop to retrieve the nails my shop vacuum wouldn’t lift, and to pick up screws and small parts that were lost in the sawdust. Using the Attractor sure beats picking up metal debris by hand, or sifting through the grass, gravel, or sawdust to find a lost nail or screw.

—Tested by Tom Jackson

Magnetic pick-up stick grabs dangerous debris

In the yard or driveway, screws and nails can puncture tires as well as injure your feet. And many dust collectors and shop vacuums won’t pick up larger pieces of metal on the floor of your shop. Enter the Attractor—a magnet on a long wooden handle designed to grab those pesky pieces of metal.

The magnet weighs 1.5 pounds and can hold nearly 20 pounds of ferrous metal. With the Attractor’s 41" handle you can comfortably comb an area quickly.

The Attractor, about $20 at many hardware or homecenter stores. For dealer locations or information, write to P.S. Manufacturing, 2462 160th Rd., Gutbrie Center, IA 50115. Call 800/695-8012.

Continued on page 26
Build These Designer Rockers!

Rocking Chair #RC - 1
Sea Horse #SH - 5
Rocking Horse #RH - 3
Rocking Copter #HC - 7

Wooden Wonders™
P.O. Box 140 - Sherman IL 62684
FIRST FULL SIZED PLAN $11.95 + $2.50 S&H
ADDITIONAL PLANS ONLY $9.95 + $1.50 S&H
IL residents add 6.25% tax

GET TO THE FINISH LINE FASTER
with the Horsepower for Abrasive Planing,
the Speed for Production Woodworking,
the Precision for Flawless Sanding

The power of a Performax Drum Sander will make you feel like a winner every time. Dimension stock or sand to a glass-like finish with the Performax of your choice.

Only Performax offers patented features to sand stock as wide as 44", as short as 2½", as thick as 4" (12" option), and as thin as 1/64". And only Performax offers affordably priced drum sanders starting at $300.

Don't be left in the dust. Call Toll-Free today for brochures and the dealer nearest you, or write to:

PERFORMAX PRODUCTS, INC.
12257 Nicollet Ave. So., W98, Burnsville, MN 55337

Performax is a proud sponsor of the 4W Sprint Car

If Only Leonardo Da Vinci Had An RBI Hawk Precision Scroll Saw.

Leonardo would have envied the superior craftsmanship that goes into every RBI Hawk Precision Scroll Saw. Now you'll create the woodworking projects you've always dreamed of building.

Imagine creating beautiful crafts and toys, tole painting cutouts as well as intricate, detailed fretwork and inlays for chairs, cabinets, tables, and much more. With an RBI Hawk, you'll create projects that will be treasured...year after year.

What Size Saw Is Best For You?
We make three sizes of scroll saws—a 16", 20" and 26" model. Our customer representatives will be glad to assist you in choosing the saw that's just right for the artist in you.

We also have the very best selection of accessories including blades, instructional and pattern books, and much, much more.

RBI Hawk Scroll Saws—The Renaissance in Scroll Saw Technology.
RBI Hawk's are designed and manufactured in the United States for the professional shop and the demanding hobbyist. After all, you're the first one to know that the projects you create are only as good as the tools you use.

Call 1-800-487-2623 To Order or To Get Your FREE Catalog.

Our Guarantee To You
30-Day Money Back Guarantee
3-Year Warranty (1 Year on Motor)

rb industrie
1801 Vine St. • PO Box 369
Harrisonville, MO 64701

Circle No. 78

Circle No. 84

D118
Better boring with high-speed-steel Forstner bits
On the curved outer rim of a Forstner bit, temperatures can reach 300° during normal use, and go as high as 800° if you run the bit faster than the recommended speed. This heat softens the steel, causing the edge to dull faster. And once they dull, Forstner bits are expensive to resharpen—if you can find someone capable of doing the work. Vermont American has developed a new line of Forstner bits made of high-speed steel that can take the heat better than conventional carbon-steel bits.

Before trying these bits, I checked them under a magnifier and saw what I'd consider excellent factory-sharpened edges. I tested the bits on hard maple and oak and found that they cut clean flat bottoms and sides without tearout or signs of burning. For the torture test, I bored a series of 1" holes without letting the bit cool, but saw no evidence of burning on the wood or bluing of the steel edge. Unlike many less-expensive bits that require lots of feed pressure, these bits sliced freely.

The bits come in various packages and sets. A set of four including 1/8", 1/4", 5/32", and 1" bits costs about $62. The seven-piece set, housed in a protective wooden box, goes for about $86. Overall, I give these new bits very high marks. The price is reasonable, and I was pleased with the quality and performance.

—Tested by Bob McFarlin

Vermont American High-Speed Steel Forstner Bits, available where hardware, tools, and woodworking supplies are sold. For dealer locations, write to Vermont American Tool Company, P.O. Box 340, Lincolnton, NC 28093-0340. Call 704/736-8013.

Continued on page 28
Here's What Our Customers Say!

Attention: Customer Relations

Re: Woodworker I & II Blades

Gentlemen:

I recently ordered and received Woodworker I & II saw blades for my radial and table saws. I used the blades received.

I originally avoided your blades because of the cost in comparison with other models on the market. I saw some chips missing in my old blades, and it was time to toss and replace with new blades. I sighed and ate the additional cost and purchased your blades and stiffeners.

I find your blades of the highest quality. They produce a velvet cut with a polished finish which is not surpassed by any other manufacturer on the market. The wood passes through the saw like a hot knife through butter—smooth and with little effort. I see a similar glide whether it is maple, oak, pine, or whether it is thick or thin. Really fine stuff.

Your production staff can be proud of their work. The production quality is not just good, or to specification, it is exceptional.

In retrospect, the minor difference in cost is well worth the final result.

Besides, it is the blade that produces the cut for a piece to outlast the maker.

Glad to make acquaintance with your staff and their work.

Respectfully yours,

David Haeres, Esq.
Attorney, St. Louis, MO

(From Another Customer)

In closing I would like to add that the Woodworker II blade is by far the finest saw blade that I have ever used. I also have the Forrest dado set which is without a doubt, the king of all dado sets. I work exclusively with red oak and oak veneer plywood and the dado set performs splinter free cuts as advertised.

It is a pleasure to purchase a product that does what it is advertised to do.

Thanks for making such a fine product.

Sincerely,

Dennis R. Schucl
Gwinn, MI

WOOOODWORKER II - For TABLE and RADIAL SAW
This fine and corrosion proof 1-1/2" inch cut all purpose blade has been through a POLISHED cut on all materials RIP & CROSSCUT up to 2".

\* 14° & 35° FIPT (90° AT 15° Combination, 80° AT 30° Crosscut)

** 14° & 35° FIPT (90° AT 15° Combination, 80° AT 30° Crosscut)

** 14° & 35° FIPT (90° AT 15° Combination, 80° AT 30° Crosscut)

\* 14° & 35° FIPT (90° AT 15° Combination, 80° AT 30° Crosscut)

Woods that are less than 1-1/4" thick are also recommended.

SPECIAL ORDER: FOR RADIAL SAW and FENCE STEEL PLATE

Ryobi Radial Saw 36" BORING R1036 SEARS MAKITA 50000-300 PORTER CABLE 36-1/8

NEW DADO KIT Deluxe DADO SET cutts ALL 1/4"-5/8" flat bottom grooves FROM CROSSRIP to CROSSCUT, RIP and CROSSCUT ALL woods, Oak, Birch, Beech, Plywood, and Melamine.

2"-4" DADO SETS OF SPECIAL ORDER and DADO SETS CAN BE ORDERED IN MINIMUM ORDERS.

(Continued on following page)

DURABLE HI-AT FOR TABLE & RADIAL SAW

(very good on chop saw tool) STOP SPLINTERING those SPLINTER OAKS, HARDWOOD VENEERS and thin SIDE LAMINATES ON PARTICLE BOARD.

FOR FASTER FEED RATES and MORE ABSOLUTE SPLINTER CONTROL.

DURABLE HI-AT

Note: Fine Woodworking

Editorial Nov./Dec. 1984
No. 73, pp. 66, 83. S.H. recommends highly

chop saws, advancing top bevels (ATB)

thin kerf and sharp blade difference for smooth tests on Radial Saw, etc.

Sincerely,

Jim Forrest, President and designer

microcutting edge.

Jim Forrest, President and Designer

microcutting edge.

FORRESTR MANUFACTURING COMPANY, INC.
461 River Road, Clifton, NJ 07014

DEALERS INQUIRIES WELCOME

Circle No. 1322
Cut plywood down to size with this panel-saw system

The panel saws favored by cabinet shops cost $300 and up—too much for most home shops. And my homemade straightedges don’t always give me accurate results. The new Portable Panel Saw System from Penn State Industries delivers precise results at a price most of us can afford.

The system consists of two extruded-aluminum-alloy fences—one 64" long, the other 108"—and a tracking fixture that attaches to the baseplate of your saw. The tracking fixture glides up and down the fence on five sealed ball-bearing rollers, and a blade-alignment guide ensures that the sawblade travels parallel to the fence. To use the system, just clamp the fence to your workpiece, clip your saw onto the tracking fixture, align the blade, and begin cutting. The company also sells a router baseplate for $10 that, when used in conjunction with the tracking fixture, doubles the system’s versatility.

I used the Portable Panel Saw System to cut sheet goods for a linen cabinet and got on-the-money results. The saw practically floats along the tracking fixture. With the 108"-long fence I could cut an 8' sheet of plywood corner to corner, something I can’t do with any other straightedge or system. The 64" fence provides the same corner-to-corner capability for a 4' sheet of plywood.

The tracking fixture comes with pre-drilled holes and two clips that hold the baseplates of most saws. If your baseplate measures more than 11½" long, however, you’ll need to drill holes in it that align with the pre-drilled holes in the tracking fixture, then run the screws up through your baseplate instead of using the clips. With or without the clips, however, you can leave the fixture attached to your saw and still use it.

—Tested by Dave Henderson


Buy direct from today’s top woodworkers in American Woodcrafts Gallery

Treat yourself to an armchair crafts fair. Yes, right in your living room!

• Order skillfully handcrafted wooden gifts, furniture, decorating accessories, and collectibles direct from the woodworkers who make them
• Read informative articles about wood and woodworkers, decorating with hand-made items, making your home special, and much more!
• 100 four-color pages

Call 800-572-9350 for Visa or MasterCard orders

Mail to: American Woodcrafts Gallery
P.O. Box 9255, Dept. WD-30
Des Moines, Iowa 50306

Each magazine is $4.95 plus $2.00 shipping and handling. Allow 4-6 weeks for delivery. State and local taxes, if applicable, are included. Please add $3.00 for Canadian or other foreign orders.
END WOOD ABUSE!
Replace "Old-Fashioned Pin Torture"

with the
"Wood-Friendly"
Wagner L606
Moisture Meter
- Deep Penetrating Pin-Free
- Proven Technology - Used by Agencies to Grade a Large Percentage of U.S. Wood

WAGNER ELECTRIC CORPORATION

I-800-944-7078
INF booth 28089

HEADQUARTERS:
326 Pine Grove Rd.
Rogersville, AR 72758
Phone 800-944-7078

INCREDALE CLOSE OUTS
FREE GIFT WITH ORDERS OVER $50.00

Supergrit® SANDPAPER

PREMIUM QUALITY • DISCOUNT PRICES • FREE FREIGHT

BELTS: BEST QUALITY RESIN/RESIN, A.O. "X" WT CLOTH

<table>
<thead>
<tr>
<th>1x30</th>
<th>$ .70 ea.</th>
<th>3x24</th>
<th>$ .95 ea.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x82</td>
<td>.70</td>
<td>4x21</td>
<td>2 1/4&quot;</td>
</tr>
<tr>
<td>2x16</td>
<td>.75</td>
<td>4x24</td>
<td>1.05</td>
</tr>
<tr>
<td>3x18</td>
<td>.75</td>
<td>4x36</td>
<td>1.30</td>
</tr>
<tr>
<td>3x21</td>
<td>.90</td>
<td>6x48</td>
<td>3.00</td>
</tr>
<tr>
<td>2x23/4</td>
<td>SALE 60</td>
<td>prices quoted 80 grit</td>
<td>10/Box</td>
</tr>
</tbody>
</table>

SPECIAL - BLACK WATERPROOF 9X11 SHTS PREMIUM "C" WT.
AS LOW AS $21/100 17 GRITS FROM 60-2000 GRIT

A/O CABINET-BROWN OR GARNET-ORANGE

| 40 Grit | PREMIUM 50 PK $16.00 |
| 50, 60 | 9"X11" SHTS 50 PK $14.00 |
| 80 Grit | 50 PK $13.00 |
| 100, 120, 150 | 100 PK $22.00 |
| 180, 220 | 100 PK $19.00 |
| 320 Grit | SALE 100 PK $14.00 |
| A.O. SAMPLER 8 Grits 50-320 | SALE 100 PK $20.00 |

DRUM SANDER ROLLS

2 1/2" x 25 Yds. 55 \¢ 2 x 144" $15.00 • 6 x 25 Yds. $10.00

RED HILL CORP., P.O. BOX 4234, GETTYSBURG, PA 17325

TOLL FREE 1 - 800-822-4003 FAX (717) 357-3936
$4.00 Handling/order • Minimum Order $25.00 • PA Res. Add 6% • FREE 20 PAGE CATALOGUE

Circle No. 1267

Order Toll-Free
1-800-377-7297

Information: 215-676-7609
Fax: 215-676-7603
Call or Write for Catalog
Penn State Industries 2850 Conly Road Philadelphia, PA 19154 Dept W.

30 Day Money Back Guarantee & 1 Year Warranty
MAKE BEAUTIFUL RAISED PANEL DOORS WITH YOUR . . . 1/4" or 1/2" ROUTER

Professional production quality bit makes it quick and easy to produce matching rails and stiles — the panel raising bit with ball bearing guide makes the raised panel perfect every time.

SALE PRICE FOR COMPLETE SET $69.95 Regular value over $150.00!

1/4" SHANK SET - ITEM #1301 (includes both bits shown)

REVERSIBLE COMBINATION RAIL AND STILE BIT

Set Rail & Stile & Raised Panel Cutters

CARBIDE TIPPED ROUTER BITS • PROFESSIONAL PRODUCTION QUALITY GUARANTEED

WHEN ORDERING ANY THREE OR MORE DEDUCT $1.00 EACH • FREE SHIPPING IN CONTINENTAL U.S.

ITEM NUMBER DESCRIPTION (ALL 2 FLUTE) SHANK PRICE
#1306 CLASSICAL - 3/16" Radius - 9/64" Cutting Length 1/4" $22.50
#1307 CLASSICAL - 1/16" Radius - 9/64" Cutting Length 1/4" $25.00
#1308 CLASSICAL - 3/16" Radius - 9/64" Cutting Length 1/2" $22.50
#1309 45° CHAMFER - 3/32" Cutting Length 1/4" $13.00
#1310 45° CHAMFER - 5/32" Cutting Length 1/4" $15.00
#1311 45° CHAMFER - 7/32" Cutting Length NEW! $17.00
#1312 THUMB NAIL - 1 3/16" Large Diameter 1/4" $18.50
#1313 THUMB NAIL - 2 1/2" Large Diameter 1/4" $35.00
#1314 ROUND OVER - 3/16" Radius 1/4" $11.00
#1315 ROUND OVER - 1/8" Radius 1/4" $11.00
#1316 ROUND OVER - 3/16" Radius 1/4" $11.00
#1317 ROUND OVER - 3/32" Radius 1/4" $12.00
#1318 ROUND OVER - 5/32" Radius 1/4" $15.00
#1319 ROUND OVER - 5/32" Radius 1/2" $17.00
#1320 ROUND OVER - 7/32" Radius 1/2" $21.00
#1321 MULTIFORM MOULDING - 1 5/16" Carbide Height 1/4" $40.00
#1322 MULTIFORM MOULDING - 2 1/4" Carbide Height 1/2" $40.00
#1323 SLOT CUTTER - 3/8" Deep 1/4" $14.00
#1324 RABBETING - 1/4 Deep 1/4" $15.00
#1325 RABBETING - 3/8" Deep NEW! 1/2" $15.00
#1326 RABBETING - 3/8" Deep 1/2" $15.00
#1327 CORE BOX - 3/8" Large Diameter 1/4" $11.00
#1328 CORE BOX - 1/2" Large Diameter 1/4" $13.00
#1329 CORE BOX - 3/4" Large Diameter 1/4" $15.00
#1330 BULL NOSE - 1/2" Diameter of Circle 1/4" $16.00
#1331 BULL NOSE - 3/4" Diameter of Circle 1/4" $20.00
#1332 BULL NOSE - 7/8" Diameter of Circle 1/4" $20.00
#1333 TONGUE & GROOVE - Straight 1/4" $29.00
#1334 TONGUE & GROOVE - Straight 1/2" $29.00
#1335 TONGUE & GROOVE - Wedge 1/4" $29.00
#1336 TONGUE & GROOVE - Wedge 1/2" $29.00

FREE -- NEW 40 PAGE CATALOG • While in the Philadelphia Area Visit our Fully Stocked Showroom (call for easy directions)

CONTROL THE SPEED OF YOUR ROUTER
Rout at the speed that gives the best results with the wood and bit you are using!

FEATURES:
- Works With All Routers 3/4 HP or less - 120V 15 Amp.
- Full Horsepower and Torque at All Speeds.
- Gives Your Router a Feature Only Available on Routers Costing Hundreds of Dollars!

SALE $29.95
Order Item #1304 Free Shipping in Continental U.S.

CAN-DO CLAMP will hold objects of different sizes in multiple positions covering various applications

Clamps on both sides
Easy to use
Quick
Secure
Precise
Reg. price $29.95

ORDER #901 Sale $24.95 Free Shipping in the Continental U.S.

To order by Master Charge, Visa, or Discover Call Toll Free, 7 Day - 24 Hour Order Service 1-800-533-9298 or send check to: MLCS Ltd. P.O. Box 4053 DX, Rydal, PA 19046

Circle No. 1251, 1350, 2250
Connecticut sportsman Ron Mirabile combined two great hobbies—fishing and woodturning—and now happily plugs away at both.

THE LURE OF WOOD

Ssssssssst, the line sings off the reel spool. Plop! Widening rings slowly form on the water around the red and white lure. Then the rings fade, no longer drawing attention to the intruder on the lake's otherwise still surface.

But from below, eyes have focused on the floating object. From its weedy lair, a largemouth bass slowly begins his inspection of the possible meal. With a flick of its fins, the fish swims out from the submerged hideaway, still watching the form backlit on the water, and still unsure.

Then, the new arrival twitches once, twice, and darts forward. Glug. Glug. Triggered by the movement and sound, the fish streaks to the surface. In a slashing stroke, needle-sharp teeth snatch the prey.

“Got him!” yells Ron Mirabile, his raised arms pulling the rod back and into a tight arch. As his left hand grabs the reel.

Continued

Ron's red-and-white top-water bait resembles a favorite of yesteryear. And in his hands, it's a fish-getter, too.
handle, the lake surface erupts. "He's going to tailwalk," says the fisherman, keeping his eyes on the leaping bass as his hands strive to keep the line taut. "Nice fish," yells his companion.

Hours later, at the dock where the day on Massachusett's Quabbin Reservoir began, Ron and his partner tally the catch: Three largemouth bass, one nearly five pounds; a four-pound smallmouth bass; and two large pike approaching 26" each. All taken on wooden, handcrafted topwater plugs created one at a time by a man who reveres the great luremakers of yesteryear.

**Reviving baits of old**

Rocky Hill, Connecticut, may not seem like a mecca for bass fishermen. At least not like Missouri's Truman Lake or Arkansas' Bull Shoals. But yes, you can stalk bass in the Connecticut River before it reaches the ocean. And an hour away via the Massachusetts' Turnpike lies Quabbin, a 350,000-acre, man-made reservoir fishermen scramble to ply.

Ron Mirabile, 50, knows every square foot of the reservoir and every niche of shoreline on waters closer by. He's been a fisherman since boyhood, and in his hands a lure comes alive. But in recent years, only a Weir lure—one of the line of handmade wooden casting baits he's learned to perfectly craft—will do.

"I named them 'Weir' lures after my home town," explains Ron, his elbows resting on top of his worktable, a plug in his hands. "Weir actually means a type of woven trap that Indians placed in a stream. From it, they gathered fish. When the founders of my hometown in Massachusetts arrived, there was one there, and they named the town after it."

Ron also calls his lures classics, because many of them are patterned after once-famous wooden lures produced by luremasters of days gone by. From Ron, you'll hear names like Fred Arbogast, E.F. Pflueger, James Heddon, and William Shakespeare. In many cases, the lure styles they created are still bought and used today, but made of plastic. Yet, with the lures Ron skillfully produces, he also honors the memories of lesser-knowns who once made successful or very unusual fishing lures. Yet, for one reason or another, these also-rans have passed into oblivion except for those scooped up by a growing number of lure collectors.

"Today, you have to pay top dollar for them. For example, there's a lure called The Dreadnought that was made in 1910 by the Moonlight Bay Lure Company. It's worth about $3,000. An orginal Hahn's magnet lure, if you can find one, sells for about $500," notes the lurecrafter. "And a Holzapfel mushroom bass bait will cost you about the same."

Although original models of once-prolific productions by Heddon and other noted makers sell for less, Ron points out, they're still pricey. "An old Heddon lure from 1920 can bring $400 from a collector."

On the other hand, Weir look-alikes—turned from basswood and handpainted—usually cost about $20, and buyers can display them or fish them.

**Fish fashioning**

Ron actually got into making fishing lures at his wife's insistence. "It was 1990, and I was spending my evenings exercising with the television's remote control," recalls Ron, laughing at the thought. "I had terminated a lucrative, long-term relationship with dentistry, and was looking around for another business venture to get into. But all in all, I was really bored with everything. Then Jean came to my rescue."

The red-and-white Bass-O-Reno was a favorite top-water lure of yesteryear. It swam crazily to attract a strike. Ron's white-and-green model mimicks it.
The way Ron explains it, his wife suggested that he combine his love of fishing with the woodworking that he had always wanted—but never had the time—to learn how to do. And so began Ron's lurecrafting.

"One night I just sat down in my easy chair with a knife and a piece of wood and started to carve," Ron explains. "The lure didn't turn out to be very attractive, but it sure was fun. After carving a half dozen or so by hand, though, I realized that carving wasn't the way to go if I was going to make them to sell."

Unlike the well-equipped and skilled woodworker who searches for just the right projects to build, Ron's approach was the opposite. He knew what he wanted to make, but lacked the tools and knowledge to get it done. However, he was relentless in digging out the solutions.

"There I was, in my forties, with no hands-on woodworking experience," he comments. "My dad had never taken the time to show me how to do anything. Why, even when I built my first home, I ended up handing him the nails! So, my luremaking really started from scratch."

Ron ended up buying just the tools he needed, though: a small used Dremel lathe with a duplicating attachment, a drill press, and a benchtop tablesaw. To this day, those are the only power tools he uses to make his lures.

"Mass-production isn't my goal," says Ron. "If it were, I'd go into plastic injection molding. What I want to do is make limited editions of famous lures from yesteryear, and some of my own design. I don't plan on competing with the industry's big names."

And he doesn't. You won't find Weir lures in a sporting-goods store or mail-order outdoor catalog. Ron's intent to sell them at craft shows throughout New England, to fishing friends, and to those who want a special lure made to order.

**Quality to match history**

While Ron was expanding his knowledge of woodworking tools and developing the skills to use them, he was also learning about lure history. And in that field, there's a lot to learn.

"In my research I've discovered that there were more than 7,000 different types of fishing lures made prior to about 1960," says Ron. But in making lures, my goal is to provide an affordable replica of a collectible. And for the fisher-

---

Continued
man, a lure that catches fish. I've learned what has worked in the last 100 years, and I build those that do."

Ron knows that he could—if he wanted to—make at least 500 different kinds of lures. Instead, he focuses on a few.

"For actual fishing lures, I've come across a combination of styles that work exceptionally well. And I will put my quality up against any lure in the country!" he says with conviction.

According to Ron, the wooden lures of old were fashioned from cedar, pine, balsa, or basswood. For his plugs, Ron prefers the latter. "It's denser and harder than balsa and cedar, and therefore more durable" says the craftsman, "and its weight gives the lure more heft for casting." Ron also might have added that basswood turns easily and finishes smoothly, two plus factors for making fishing lures.

**Plugging away at the lathe**

"Considering that I handcarved my first lure four years ago, I think I've come a long way," says Ron as he pulls his chair up to the lathe to begin a demonstration. After chucking a ¾"-square, 4"-long piece of basswood between centers, he pulls a template from the drawer and inserts it into the duplicator. Turning on the machine, he engages the block with his tiny gouge. White curls begin to peel from the wood. Almost gleefully, he says, "Now I can turn one every six minutes."

Even though Ron refers to his luremaking as "non-production" it would be silly to think he completes them one at a time. In reality, he makes them in batches of 25 to 50. But due to the individual paint job that each receives, not any of them will look exactly

A corner of the basement provides all the room needed for Ron's lurecraft. Divided bins store screws, spinners, screw eyes, split rings, and hooks. Note the painted bodies suspended by small brads fore and aft.
alike. Before painting, though, Ron has lots of preparation in order to achieve a fine finish.

While each lure body is still chucking in the lathe, the maker smooths its surface with 80- to 150-grit sandpaper. Then, removing the body from the lathe bed, Ron inserts a small brad at the nose and at the tail to serve as supports during the finishing process. When he has completed this stage for the entire batch, the second phase begins—but in the yard outside his walkout basement door.

**Spraying a fool-the-fish finish**

"I spray the body with clear wood sealer, then when it’s dry, I sand lightly with 220-grit paper," explains Ron. "Next comes two coats of white enamel undercoat. Then, I sand the body again with 400-grit wet-or-dry to smooth any raised grain."

Now Ron begins the artistic part of his work, the color finish—an aspect that will make or break a fishing lure. "Each lure has its ground color—the overall hue that it will be, such as green, white, black, etc.," he says. "Next, it can have contrasting spots and speckles. Then, on lots of models, I have to spray on a red target area. That’s the bright spot that fish see as a wound. It fools them into attacking."

Ron has become a master with the spray can. His clever and skillful use of it fools you into believing his lures were airbrushed. Such special effects include light speckles here and there, colors that fade and blend into one another, and a baked-on enamel feel that results from two coats of epoxy enamel covered with a final one of clear spar varnish. Not counting drying time, each plug takes but a minute to paint.

Later, when all the lure bodies have dried, Ron returns them to his shop. At his workbench, he fastidiously applies spots of color for eyes ("The head of a finishing nail dipped in paint works great!"), then the screw eyes, split rings, and treble hooks. Lots of work for a $10 lure?

"I’ll have from 15–30 minutes in each," says Ron. "But again, I’m not trying to become South Bend [a tackle manufacturer]. Besides, who knows?" A smile spreads across his face as he holds the bait to the light. "I could become a legend in my own time."

---

**Do lures tease your interests?**

Ron buys his often-hard-to-find lure hardware from various sources, and he’ll be happy to supply you with what you need. For a price list of Ron’s lures, hardware, or answers to questions, write with a SASE to: *Weir Classic Lures, P.O. Box 5125, Rocky Hill, CT 06067.*

Written by Peter J. Staphano
Photograph: Steve Uzzell
Any way you slice it, this clever-cleaver cutting board and matching knife holder offer loads of service in the kitchen. Hang the two-part project on the wall as an attractive accent. Then, when you need to dice a veggie or summer sausage, just lift the board off its peg, draw a knife from the holder, and chop away. When you're done, clean with a soapy washcloth and rinse.
COMBO One part stores knives; the other lets you slice and dice

EXPLODED VIEW

#6 x 1/2" F.H. wood screws

STEP 3
Locate and glue 1/8" walnut spacer strips (E, F, and G) to bottom oak board. Allow to dry about 10 minutes. Glue and clamp top oak board to bottom assembly.

STEP 4
Tape cutting board blank to knife holder blank, adhere second pattern to the top blank, and cut to shape. Drill a 1/16" guide hole through cutting board into knife holder. Separate and drill a 9/16" hole through cutting board and a 1/2" hole through knife holder. Center both holes over the 1/16" guide hole.

WOOD MAGAZINE OCTOBER 1994
Cut both assemblies to final shape

1. As shown in Step 4 of the drawing, use double-faced tape to adhere the cutting-board blank to the knife-holder blank. Keep the edges and ends flush. Adhere the second paper pattern to the top face of the cutting board blank. Bandsaw the outline to shape, and then sand the cut edges smooth to remove the saw marks.

2. With the pieces still taped together, drill a \( \frac{1}{6} \)" guide hole through the cutting board and knife holder handle end. Now using this guide hole for location, pry the two assemblies apart, and drill a \( \frac{1}{2} \)" hole through the knife holder and a \( \frac{3}{8} \)" hole through the cutting board.

3. Adhere the third paper pattern to the knife holder, and cut the stair-step pattern along the top edge of the knife holder (we used a bandsaw).

4. Rout a pair of keyhole slots in the back surface of the knife holder for hanging the assembly on a wall or on the end of a cabinet.

5. Cut a 2\( \frac{1}{2} \)" length of \( \frac{1}{2} \)" walnut dowel stock and glue it in the \( \frac{1}{2} \)" hole in the knife holder.

6. Transfer the full-sized tab pattern (H) to \( \frac{1}{6} \)" walnut stock (we resawed thicker stock to size). Cut the tab to shape and glue it to the edge of the knife holder where shown on the Exploded View drawing. Drill a pair of \( \frac{3}{8} \)" countersunk shank holes through the tab and into the knife holder. Drive the screws. The tab keeps the knife holder aligned with the cutting board when hung later.

7. Rout \( \frac{1}{8} \)" round-overs along all edges of the cutting board including the front and back edge of the \( \frac{3}{8} \)" hole. See the Exploded View drawing for reference.

8. Sand both assemblies smooth. Apply two coats of Behlen's Salad Bowl Finish, rubbing lightly with steel wool between coats.

9. Measure the distance between the keyhole slots in the back face of the knife holder. Then, drive two panhead sheet metal screws into the surface on which you'll hang the knife holder.

Produced by Marlen Kemnet
Project Design: James R. Downing
Illustrations: Kim Downing
Photographs: John Hetherington
IT'S NESSIE!
WHITTLE A FRIENDLY SEA SERPENT

Have you ever seen a real sea serpent? We haven't, either. But, that doesn't mean you can't whittle one of these legendary creatures. Here's how.

Remember this about whittling a sea serpent: you can never be sure that you're finished. The head, tail, and body sections shown will get you started, but you don't have to stop there. For a longer serpent, just whittle some more body sections—enough to fill Loch Ness, if you like. Your creature's ultimate length depends solely on how many spare moments (and odds and ends of wood) you happen to have.

Bandsaw or scrollsaw blanks for the head and body sections from ¾" stock, following our patterns. Whittle the tail from a piece of ½" or ¾" square stock long enough to handle comfortably.

For the best effect, whittle all parts from the same species of wood. Walnut, butternut, cherry, or cedar are good choices, but any carvable wood will work.

After you cut your blanks, draw a ¾"-diameter circle on the bases of each body section and the head. Draw a ½" circle on the tail's base.

Whittle the corners off to round each body part and the tail. Texture the rounded surfaces as shown in the photo by removing shallow chips with the knife. Bring the tail to a point.

On the head, round the neck, then carve the sides, top, and bottom of the head flat. The head tapers to a ¾" square section at the end of the snout. Texture the neck and back of the head as you did the body. Cut a slight chamfer on the upper two corners of the snout. Cut two notches where shown for eyes. Add any other details you deem appropriate.

To flatten the bottoms, rub the base of each part over a piece of 150-grit sandpaper held flat on your work surface. Apply a clear finish, then set out your serpent to swim a make-believe sea. Any flat surface will do. ♠

Project Design: Roald Twert
Photograph: John Hetherington
Illustrations: Kim Downing
Half the fun of collecting is showcasing your pieces for viewing. But, you don't want the display case to take away from the beauty of your collectibles. With that in mind, I designed this simple but sturdy oak-framed case. I kept the stiles and rails narrow to maximize the view, and the shelves adjust up or down to fit your needs.

James R. Downing
Design Editor

Let's start with the back, top, and bottom
1 Cut the cabinet back (A) to the size listed in the Bill of Materials from ¼" oak plywood. Cut the top and bottom (B) to size from ¼"-thick solid-oak stock.
2 Cut or rout ¾" rabets ¼" deep along all front and back edges of the plywood back panel (A) where shown on the Exploded View drawing and accompanying Rabbet and Groove detail. Cut a pair of the same-sized rabbits across the ends of the top and bottom pieces (B).
3 Cut a ¼" groove ¾" deep ¼" from the back edge on the inside face of the top and bottom pieces. Dry-fit the pieces (A, B) to check the fit.
4 For hanging the cabinet on the wall later, drill a pair of ¾" countersunk shank holes through the top of the back (A) where shown on the Exploded View drawing.

Construct the side frames and door next
1 For the side frame stiles (C) and rails (D), cut four pieces of ¾"-thick stock to 1" wide by 38" long. Cut the oak door frame pieces (E, F) to size plus 1" in length each.
2 Using steps 1 and 2 of the 3-step drawing titled Forming the Door and Side Frame Parts for reference, rout and cut the strips for the side frame stiles and rails (C, D) to shape. Repeat the process using all three steps on the drawing to form the strips for the door stiles and rails (E, F).
3 Miter-cut the side frame stiles (C) and rails (D) to length.
4 Glue and clamp each set of side frames together, checking for square and flatness. (We found it helpful to use band clamps to hold the mitered ends tight until the glue dried.)
5 Build the Spline-Cutting Jig shown below. As shown in the drawing, raise the saw blade 1" above the saw table. To center the spline kerf in the corner edges of the frame, position the fence ¾" from the center of the blade. (This takes into consideration the ½" hardboard side of the jig.) As shown in the photo below left, place a corner of one side frame in the jig, start the saw, and cut a spline kerf centered in the corner of the frame.

Position a glued-together frame in the spline-cutting jig, and cut a spline kerf in each corner of the frame.

SPLINE-CUTTING JIG

Position a glued-together frame in the spline-cutting jig, and cut a spline kerf in each corner of the frame.
SHOWCASE

THE CLEAR CHOICE FOR DISPLAYING YOUR COLLECTIBLES

EXPLODED VIEW

FORMING THE DOOR AND SIDE FRAME PARTS

STEP 1
Rout 3/16" round-over set 1/16" deep on front surfaces of door and side frame stock.

STEP 2
Cut 1/4" rabble 1/2" deep on door frame stock (E) and (F) only.

STEP 3
Rout 3/16" bead set 1/16" deep on door frame stock (E) and (F) only.

Bill of Materials

<table>
<thead>
<tr>
<th>Part</th>
<th>Finished Size</th>
<th>Material</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>A back</td>
<td>3/8&quot; x 17/8&quot;</td>
<td>OP 1</td>
<td></td>
</tr>
<tr>
<td>B top &amp; bottom</td>
<td>1/4&quot; x 5/8&quot;</td>
<td>0 2</td>
<td></td>
</tr>
<tr>
<td>C side</td>
<td>3/8&quot; x 1&quot;</td>
<td>0 4</td>
<td></td>
</tr>
<tr>
<td>D rails</td>
<td>3/8&quot; x 1&quot;</td>
<td>0 4</td>
<td></td>
</tr>
<tr>
<td>E side</td>
<td>3/8&quot; x 1&quot;</td>
<td>0 2</td>
<td></td>
</tr>
<tr>
<td>F rails</td>
<td>3/8&quot; x 1&quot;</td>
<td>0 2</td>
<td></td>
</tr>
</tbody>
</table>

GLASS STOPS

<table>
<thead>
<tr>
<th>Part</th>
<th>Finished Size</th>
<th>Material</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>G stops</td>
<td>3/8&quot; x 1/4&quot;</td>
<td>28 4</td>
<td></td>
</tr>
<tr>
<td>H stops</td>
<td>3/8&quot; x 1/4&quot;</td>
<td>4 0</td>
<td></td>
</tr>
<tr>
<td>I stops</td>
<td>3/8&quot; x 1/4&quot;</td>
<td>28 4</td>
<td></td>
</tr>
<tr>
<td>J stops</td>
<td>3/8&quot; x 1/4&quot;</td>
<td>16 1</td>
<td></td>
</tr>
</tbody>
</table>

Supplies: Items listed in the Buying Guide plus 2 - #10 x 2" oval brass screws; 3/4" x 1/4" flange wood screws; 17/16" brass brads; glass for side frames, door, and shelves; stair, clear finish.

Buying Guide

Hardware kit. One pair of 11/16" ball-tipped solid brass hinges (VH2014), 1" dia. solid brass knob (SBH14), 2 - 1/4" dia. magnetic catches and strike plates (SSF25), shelf clips (HAP284), Constantine's, 2056 Eastchester Road, Bronx, NY 10461, or call 1-800-223-8087 to order.

Materials Key: OP = oak plywood  C = oak

41
SHOWCASE

(We test-cut scrap stock the same thickness as the side frame first to verify the cut would be centered.) See the Side Frame drawing for reference. Repeat for each corner of each frame.

6 Cut eight pieces of ¼" oak to 1½" wide by 2¼" long. Glue one of the splines in each kerfed corner of both frames. Later, trim and sand the splines flush with the outside edges of the frames.

7 To reduce the thickness of the front stile (C), rip ¼" off the front edge of each side frame. Left untrimmed, the assembled cabinet with the door attached would look front heavy.

8 Cut a ¼" groove ¾" deep ¼" from the back and bottom edges (not the front edge) of each assembled side frame.

9 Miter-cut the door-frame pieces (E, F) to length, glue them together, and kerf and spline the corners just like you did for the pair of side frames. See the Door drawing for reference.

10 Mark the centerpoint, and drill an ¼" hole in the door for adding the brass knob later.

Let the assembly begin

1 Have single-strength glass cut to size for the side panels and door. At the same time, have as many ¼" x 4½" x 16¼" glass shelves cut to size as you’ll need.

2 Mark the locations and form the two ½"-deep hinge mortises in the right-hand side frame stile (C) where dimensioned on the Exploded View drawing. With the top and bottom edges flush, lightly clamp the door frame to the right-hand stile (C). Mark lines to transfer the hinge locations from the edge of the side frame stile across the back surface of the door stile (E). Remove the door, and rout and chisel the mortises where marked. Using the hinges as guides, drill pilot holes in the pieces for mounting the hinges later. (See the Buying Guide for our source of hardware.)

3 To mount the round magnetic catches, drill a pair of 9/32" holes ¾" deep in the top and bottom pieces (B) where shown on the Exploded View drawing. (Note: drill a test hole in scrap stock first to verify the hole size and depth for your particular catches. Only ¼" of the end of the catch should protrude past the front edge of the top and bottom pieces.) Install the catches.

4 Dry-clamp (no glue) the top and bottom pieces (C) and side frames (C, D) to the back panel (A). The front edges and top and bottom ends should be flush; trim if necessary. Glue and clamp the assembly. Check for square and remove any excess glue.

5 Note that you have a ¼" x 3½" notch at each corner of the cabinet where shown on the Exploded View drawing. Cut four filler blocks to fit the notches, and glue them in place.

6 Construct a template like that shown in the drawing at far right. Using a stop for consistent depth and the template for even spacing, drill ¼" holes ¾" deep in the back panel (A) and front side frame stiles (C) where shown on the Exploded View drawing.

7 Using brass screws, screw the hinges to the door and then to the cabinet. Put a screw through each strike plate, and hold it against the magnetic catch. Close the door, and squeeze the door and screw against the cabinet to indent the strike-plate locations to the door rails. Drill mounting holes and add the strike plates to the door.

8 From ¾" stock (we planed thicker stock to this thickness) rip enough ¼"-wide strips for glass stops (G, H, I, J). Miter-cut the stops to length.

9 Drill pilot holes through the stops for nailing them in place later. To do this, snap the head off a #17 x ½" brad. Chuck the headless brad into your portable drill. Use the drill and “pilot bit” to drill the pilot holes through the stops.

WOOD MAGAZINE  OCTOBER 1994
Final cleanup and assembly

1. Remove the hinges and strike plates. Finish-sand the cabinet, the door, and the glass stops. Mask the magnetic catches, then stain the pieces and add a clear finish.

2. Using #17 x 1/2" brads, secure the glass in the side frames with the glass stops. Repeat the process to secure the glass panel in the door.

3. Attach the brass knob. Reattach the hinges to secure the door to the cabinet. Then, remove the hinge pin from each hinge to separate the door from the cabinet (it's easier to hang the cabinet without the door). With a helper, level and hang the cabinet.

4. Position the shelf clips and glass shelves. Reattach the strike plates, and add the hinge pins to reconnect the door to the cabinet. ❄️

Written by Marlen Kemnet
Photographs: Wm. Hopkins Photography
Illustrations: Kim Downing; Roxanne LeMoine
Are you lost in the complex maze of claims about various types and brands of polyurethane finishes? If so, join the crowd. But don’t worry. WOOD magazine has come to the rescue. We figure most woodworkers want to know just two things about a polyurethane: first, does it go on without a lot of problems; and second, does it hold up well? To find out, we put 23 popular brands to the test, and here’s what we discovered.

### Picking the right product for your projects

A polyurethane finish provides durability, high or low gloss, and brush-on application, making it an excellent choice for the average home woodworker. Some people dislike the “plastic” look of a polyurethane finish, but this thick film also provides superior protection against abrasion and water, alcohol, or food stains. Kitchen and bathroom woodwork and cabinets, dining tables, coffee tables, or any surface that sees a lot of spills and hard use deserves a polyurethane finish.

We found in our tests that oil-based, wipe-on, and water-based polyurethanes differ significantly in application and performance. Even different brands in the same category may exhibit distinctly different traits. To make the right choice, you must match the product to the performance and application characteristics you need.

You may even want to use two different polyurethanes on one project. A table, for instance, may need a durable, alcohol- and water-resistant polyurethane for the top, but a fast-drying product (to prevent runs or sags) for the legs. Here’s a rundown of the different types of polyurethanes and an explanation of what they can and can’t do for you.
Oil-based polyurethanes: durable and slow to dry

Oil-based polyurethanes contain complex synthetic resins that help them shrug off abuse better than any finish available to the average woodworker. As an oil-based polyurethane dries, it forms a film by polymerization. This means that the resin molecules form long chains that give these products their durability. As you can see in our chart on page 47, nearly all of the oil-based products rated excellent in resistance to alcohol, water, and stains.

In application, most oil-based polyurethanes dry slowly. This allows the film to level out and bubbles to rise to the surface. But slow drying times also demand nearly dust-free conditions. And unless you apply thin coats, oil-based products may sag or run on vertical surfaces. Once dry, these products exhibit lots of gloss and depth of film.

Oil-based polyurethanes also give your wood an amber cast. Many woodworkers consider this color change advantageous on brown or reddish woods such as red oak and cherry since it warms up the color of the wood.

Odor and flammability head up the list of disadvantages found in oil-based products. You shouldn’t use these products unless your shop has adequate ventilation and a spark-free environment.

Wipe-on polys: thin coats won’t drip or sag

The ease of application and the smoothness of the finished surface we achieved with wipe-on polyurethanes impressed us enough to warrant a special mention. You apply these oil-based products with a soft rag, just like you would apply a Danish-oil or tung-oil finish.

Wipe-on polyurethanes don’t build up a thick film, so you may need to apply more than three coats to get much depth. And these multiple coats can get expensive and time-consuming on large projects. But the thin coats eliminate sags and runs on vertical surfaces, and work to your advantage when finishing things like table legs. You also might want to try a wipe-on product for intricately carved pieces where a brush might create drips or fail to reach some surfaces.

Water-based polys: quick, convenient cleanup and a clear film

Many of the drawbacks we cited about oil-based polyurethanes are eliminated with the water-based products. They clean up easily, present no strong odors, pose no fire hazard, and they dry fast, giving dust particles less time to mar the finish.

Water-based products also impart very little color change to the wood. If you want to preserve the light colors of pine, birch, or maple, stick with a water-based formula. Don’t panic however, when you open a can. Most of these products start out milky, but dry crystal clear.

Despite their advantages, water-based polyurethanes do present some problems. The water in these products raises the grain on the first coat, and this requires that you sand off the fuzzy fibers. We don’t see this as a big problem, however. With many other

Continued on next page
Our color test above, shows the difference between clear water-based polys and the amber tone of oil-based products.

finishes, woodworkers often intentionally raise the grain with a sealer and sand it off in preparation for subsequent coats.

The water-based finishes also showed a greater tendency to bubble during application, and they did not level quite as well as the oil-based products. This we attribute to their quick drying times. When applying water-based polys, use a good nylon- or synthetic-bristle brush with a chisel end and tapered (not flagged) bristles for best results.

As for durability, our alcohol- and water-resistance tests, in general, created more spotting on the water-based products. This makes them less preferable for horizontal surfaces where water might stand such as dining tables, or those surfaces that get a lot of handling such as stair rails. But check our chart before you decide. A few of the water-based products performed quite well.

A few words about our testing procedures

We tested each polyurethane on hard maple. This wood's closed pores and light color quickly reveal the good and bad points about any finish.

We evaluated polyurethanes rated for interior use. (One exception, Hydrocote's Polyshield is listed for interior/exterior applications.) Manufacturers formulate the exterior-grade polyurethanes to withstand harsh temperature swings, as well as expansion and contraction of the wood. But to get the flexibility they need to survive outdoors, the exterior products give up some hardness, making them less suitable for interiors.

We also tested only high-gloss products since these produce the hardest film. Satin or flat products contain silicates or other chemicals that cloud the finish. If you want to knock the shine off a glossy film, you can apply a satin-gloss product as the final top coat, or rub out the finish after it's dry with a soft cloth.

Our recommendations

We gave the nod to Varathane Liquid Plastic as the oil-based polyurethane we would use on most woodworking projects. In the water-based category, Varathane scored again with its Elite Diamond Finish. Both applied easily and stood tall against the various torture tests. From the wipe-on polyurethanes, we chose Formby's. Its ease of use and excellent finish quality open up new possibilities for the projects you may have found difficult to finish by brush.

Written by Tom Jackson
Product Testing: Dave Henderson
Photography: John Hetherington
### Picking Out an Interior Polyurethane

<table>
<thead>
<tr>
<th>BRAND</th>
<th>APPLICATION</th>
<th>DURABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEHLEN 8503-27336</td>
<td>60-90</td>
<td>24</td>
</tr>
<tr>
<td>COLONY</td>
<td>60-90</td>
<td>24</td>
</tr>
<tr>
<td>DEFTANE PLATINUM</td>
<td>60-90</td>
<td>24</td>
</tr>
<tr>
<td>FABULON</td>
<td>60-90</td>
<td>16</td>
</tr>
<tr>
<td>GILODDE WOODEMASTER #81</td>
<td>60-90</td>
<td>16</td>
</tr>
<tr>
<td>MINWAX FAST-DRYING</td>
<td>30-45</td>
<td>3-4</td>
</tr>
<tr>
<td>PARKS</td>
<td>60-90</td>
<td>16</td>
</tr>
<tr>
<td>RED DEVIL 70</td>
<td>60-90</td>
<td>46</td>
</tr>
<tr>
<td>VARATHANE LIQUID PLASTIC</td>
<td>60-90</td>
<td>12</td>
</tr>
<tr>
<td>WOOD-KOTE</td>
<td>60-90</td>
<td>12</td>
</tr>
<tr>
<td>AQUA-ZAR</td>
<td>5-10</td>
<td>24</td>
</tr>
<tr>
<td>BEHLEN 6810-2305</td>
<td>5-10</td>
<td>2-3</td>
</tr>
<tr>
<td>BEHR CRYSTAL CLEAR, #69</td>
<td>5-10</td>
<td>24</td>
</tr>
<tr>
<td>CARVER TRIPP #134</td>
<td>5-10</td>
<td>2-3</td>
</tr>
<tr>
<td>GENERAL FINISHES POLY-ACRYLIC</td>
<td>15-20</td>
<td>6-9</td>
</tr>
<tr>
<td>HYDROCOTE POLYSHIELD</td>
<td>5-10</td>
<td>24</td>
</tr>
<tr>
<td>HYDROCOTE POLYURETHANE</td>
<td>5-10</td>
<td>24</td>
</tr>
<tr>
<td>McCLOSKEY HEIRLOOM</td>
<td>5-10</td>
<td>24</td>
</tr>
<tr>
<td>MINWAX POLYCRYLIC</td>
<td>5-10</td>
<td>3-4</td>
</tr>
<tr>
<td>RED DEVIL DURATEX CLEAR</td>
<td>5-10</td>
<td>24</td>
</tr>
<tr>
<td>VARATHANE ELITE DIAMOND FINISH</td>
<td>5-10</td>
<td>24</td>
</tr>
<tr>
<td>FORMBY'S POLY FINISH</td>
<td>30-45</td>
<td>12</td>
</tr>
<tr>
<td>BEHLEN MASTER GEL</td>
<td>30-45</td>
<td>12</td>
</tr>
</tbody>
</table>

**NOTES:**
1. Made from observations during our tests, 70°F temperature, 50% humidity.
2. Made from observations during our tests, 70°F temperature, 50% humidity.
3. According to manufacturer's recommendation.
4. **E** Excellent
   **G** Good
   **F** Fair
   **P** Poor
5. Drop of water was left on finish for 30 minutes.
6. Drops of ethanol and methanol were placed on finishes for 5 minutes.
7. Drop of water-based wood stain was placed on finish for 5 minutes.
8. Based on a 1-10 scale with 10 being the highest possible score.
9. 9. Per quart of finish. Based on current retail and catalog prices.
10. (*) Per gallon
    (**) Per 12 ounce bottle

---

### How to get in touch with the manufacturers:

**Behr Process Corp.,**
3400 W. Segerstrom Ave.
Santa Ana, CA 92704.
Call 800/854-0133

**H. Behlen & Bro.,**
4715 State Hwy. 30, Amsterdam, NY 12010.
Call 518/843-1380

**Deft, Inc.,**
17451 Von Karman Ave., Irvine, CA 92714.
Call 800/544-3338

**Fabulon Products,**
P.O. Box 1505, Buffalo, NY 14240.
Call 716/873-2770

**The Flecto Co., Inc. (Varathane),**
1000 45th St., Oakland, CA 94608.
Call 800/783-6050

**General Finishes,**
P.O. Box 51567, New Berlin, WI 53151.
Call 800/783-6050

**The Glidden Co. (Woodmaster),**
925 Euclid Ave., Cleveland, OH 44115.
Call 216/344-8609

**The Hydrocote Co. Inc.**
East Brunswick, NJ 08816.
Call 908/257-4344

**Minwax Co., Inc.,**
50 Chestnut Ridge Rd., Montvale, NJ 07645.
Call 800/228-4722

**Parks Corp. (Carver-Tripp, Parks),**
One West St., Fall River, MA 02720.
Call 800/225-8543

**Thompson & Formby, Inc. (Formby's, Red Devil),**
825 Crossover Ln., Memphis, TN 38117.
Call 901/885-7555

**United Gilsonite Laboratories (Aqua ZAR),**
P.O. Box 70, Scranton, PA 18501.
Call 717/344-1202

**The Valspar Corp. (McCloskey, Colonial),**
1191 S. Wheeling Rd., Wheeling, IL 60090.
Call 708/541-8000

**Wood-Kote Products, Inc.,**
P.O. Box 17192, Portland, OR 97217.
Call 503/285-8371
adhere the Top View pattern to the 4½"×10¾" cherry hull blank.
3 Drill a blade-start hole, tilt your scroll saw table 15° from vertical, and cut the cockpit opening to shape. Be sure to cut the cockpit on the downhill side of the blade. Sand the cut edges smooth.
4 With the edges and ends flush, glue and clamp the maple to the bottom side of the cherry. When applying the glue, be careful not to get too much adhesive around the edges of the cockpit area. Remove any squeeze-out from the cockpit opening before it dries.
5 Drill a pair of ½" mainsheet line holes ¼" deep and a 1½" mast (lamp pipe) hole through the hull lamination (A, B).
6 Apply the Hull Side View pattern to one edge of the maple/cherry hull lamination.
7 For added stability and to form a temporary handle for cutting the hull top surface to shape, cut a piece of 2×4 stock to 10" long. Using carpet tape, adhere the 2×4 to the bottom of the hull lamination, flush with the edge opposite that of the Side View pattern.
8 Following the top line on the Side View pattern, bandsaw the sloping top surface of the lamination (A, B) to shape as shown in the photo below. After completing the cut, use carpet tape to adhere the scrap piece back to the top of the hull. Remove the 2×4 stock from the hull lamination.

Note: This project requires thin stock. You can plane or resaw thicker stock to the thickness listed in the Bill of Materials.

Let's craft the hull first
1 Cut one piece of ¾" cherry to 4½"×10¾" for the hull (A) and a piece of ¼"-thick maple to the same size for the waterline (B).
2 Make a photocopy of the full-sized Hull Top and Side View patterns, and use spray adhesive to

Apply the full-sized paper patterns to one edge and the top surface. Then, bandsaw the hull lamination to shape.
9 Tilt the bandsaw or scrollsaw table $15^\circ$ from vertical, and cut the hull sides to shape.
10 With the bandsaw or scrollsaw table positioned perpendicular ($90^\circ$) from the blade, cut the stern (rear) end of the hull to shape. Remove the top scrap piece, and sand the laminated hull smooth.

Add the base for stability
1 From $\frac{3}{4}$"-thick walnut stock, cut the base (C) to $6\times13"$. Mark a $\frac{1}{2}$" radius on each corner, and then cut and sand the corners to shape.
2 Using the dimensions on the Exploded View drawing and accompanying Groove detail, locate the mast hole and drill a $\frac{3}{16}$" guide hole through the mast centerpoint. On the top surface of the base, bore a $\frac{3}{8}$" hole into the guide hole centered over the $\frac{1}{4}$" guide hole. Flip the base over, and bore a $\frac{1}{2}$" hole $\frac{3}{8}$" deep centered over the guide hole. Finally, drill a $\frac{7}{8}$" hole centered over the guide hole. See the Wiring Diagram for reference.
3 Rout a $\frac{1}{4}$" groove along the top outside edges of the base.
4 Rout a cord groove in the bottom of the base from the $\frac{3}{4}$" hole to the back edge. (We used a $\frac{3}{4}$" straight bit and free-hand-routed the groove.) See the Groove detail accompanying the Exploded View drawing for reference.
5 Finish-sand the hull laminate and base. Dry-clamp (no glue) the base (C) to the hull laminate, aligning the $\frac{3}{8}$" mast holes. Drill a pair of countersunk screw holes through the base and into the bottom side of the hull. Do not fasten the two assemblies together yet.

The spray guards and rudder come next
1 Make two photocopies of the spray guard full-sized pattern, and adhere them to $\frac{1}{8}$" walnut. Trim the spray guards (D) to shape. Miter the front ends of the spray guards at a $45^\circ$ angle (we sanded the front ends to form the miters).
2 Apply the rudder (E) pattern to $\frac{3}{4}$" maple, and cut it to shape.

3 Glue the spray guards (D) and rudder (E) to the hull. (We used instant glue to adhere the small pieces in place.)

OK mateys, let’s rig the mainsail
1 Cut a $30"$-long piece of maple stock to $2\frac{1}{2}$" wide, and joint or plane the piece to $\frac{1}{4}$" thick for the mainsail blank (F). From $\frac{3}{8}$"-thick cherry 30" long, rip a $\frac{1}{4}$"-thick strip from one edge for the batten strip (G).

Continued
2 Glue the mainsail blank (F) to the cherry batten strip (G) edge-to-edge, with the surfaces flush. See Edge-Joining the Sail Blank drawing for reference.

3 Rip the ¾"-wide cherry strip (G) to ¼" wide. (We found it easier to edge-join a wide piece of cherry to the maple, and then rip the cherry to width rather than trying to cut and edge-join a ¾"-wide cherry strip initially.)

4 Crosscut the sail segments to the lengths shown on the Edge-Joining the Sail Blank drawing. Cut a sixth piece of maple from the remaining ¼" stock to 7/8 x 2¾".

5 As shown in Forming the Sail drawing, glue the segments edge to edge. To do this, first nail a straight piece of stock to a plywood base (you'll use this to keep the front ends of the mainsail segments flush). Place the sail segments on waxed paper, using nails to hold the segments firmly together and against the straight stock. Clamp or nail a wood strip and waxed paper across the top surface to hold the sail segments flat until the glue dries.

6 Later, remove the nails, and sand both surfaces of the sail smooth (we used a belt sander...
and then a palm sander to do this). Referring to the Mainsail Grid drawing, lay out the sail’s shape and hole centerpoints. (We traced along a thin flexible piece of wood to connect the grid points and form the gracefully curved back edge of the mainsail.) Drill the holes, and cut the mainsail to shape.

Add the finish and put ’er all together
1 Touchup-sand if necessary and apply a couple coats of clear finish to the hull, base, and sail. (We used Deft aerosol lacquer).

2 Secure the mast (lamp post) to the base as shown on the Wiring Diagram. Slide the hull down the mast onto the base, and screw the hull to the base. Make sure the screw heads are slightly recessed to avoid scratching surfaces.

3 Wire the socket and run the wire through the lamp post, hull/base, and access groove. Secure the wire in the groove with instant glue or silicone sealant. Glue felt to the bottom of the base, and trim the excess with an X-acto knife.

4 Use a 40" length of white mason’s line to secure the sail to the mast (lamp post). Trim the excess line. Use a 5" length of line to form the mainsheet line from the rear of the sail to the stern.

Buying Guide
Lamp kit: Parts needed to wire the lamp, plus felt and mason’s line. Kit no. 3408, $11.95 plus $3.50 shipping. Meisel Hardware Specialties, P.O. Box 70W, Mound, MN 55364-0070. Or call 800/441-9870 to order.

Produced by Marlen Kemmet
Project Design and Illustrations: Jamie Downing
Photographs: Wm. Hopkins Photography
VICTORY-LAP CLOTHES RACK

Let's begin with the backboard and pegs
1. From ¾" cherry, cut the backboard to 4"x16". Drill a pair of ¼" holes 1" deep into the top edge of the backboard where shown on the Exploded View drawing.
2. To form the checkerboard front for the backboard, cut one piece of walnut and one piece of maple to ¼x2x18". Crosscut eight 2"-long squares from each strip.
3. Draw centerlines on the front of the backboard, and then position, glue, and clamp the 2" maple and walnut squares onto the cherry. After the glue dries, sand the edges of the squares and backboard flush.
4. Angle-cut one end of a piece of scrap at 15°. Fit your portable drill with a ¼" brad-point bit, rest the bit against the angled end of the scrap-stock guide, and drill the three ¾"-deep peg holes in the front of the backboard where shown on the Exploded View drawing.
5. From ½" walnut dowel stock, crosscut three pieces to 3¾" long for the pegs. Sand a ¼" chamfer on one end of each. Glue the opposite end into the ½" holes in the backboard assembly.

Now, build the formula race car
1. Make two photocopies of the full-sized pattern. Transfer one pattern to ¾" cherry, and cut the car body to shape. Then, transfer the patterns for the front and rear spoilers, fuel tank, helmet/visor, and windshield to the species and thickness specified for each on the full-sized pattern. Next, scroll-saw the pieces to shape. Note that the fuel tank is bevel-ripped at 18° along the top edge, and bevel-cut 65° across the front end.
2. For mounting the coat rack to the wall later, drill a pair of ½" holes through the car body where shown.
3. Sand the pieces smooth, and glue and clamp the pieces you just cut to the car body.
4. Use dowel centers to transfer the centerpoints from the two ½" holes in the top of the backboard to the bottom of the car body. Drill the 1"-deep mounting holes in the body. Later, sand the edges of the rear spoiler flush with those of the car body.
5. Cut a pair of 1¾"-long dowels from ¼" dowel stock. Glue and dowel the car body assembly to the checkerboard backboard.
This project is a real winner

The rims and tires come next

1. To form the rims, transfer the rim pattern to 1/2" maple, drill the 1/4" holes, switch bits, and drill and countersink a 5/8" shank hole through the center of each marked rim. Scrollsaw the rims to shape. (We found it safer to drill and then cut the rims to shape.)

2. Next, adhere the full-sized tire patterns to 3/4" walnut stock. Use a Forstner bit to bore a 1 1/2"-diameter hole centered in each tire. Then, cut the tires to shape.

3. Sand or rout a 1/8" round-over along the front inside and outside edges of each tire. (We used double-faced tape to adhere the tires to the top of our workbench, and then routed the edges.)

4. Check the fit of the maple rims inside the walnut tires. Sand if necessary for a snug fit. Glue the rims inside the tires, keeping the back surfaces flush. Drill 3/8" pilot holes in the body, and use a #8 x 1" brass wood screw to fasten each tire/rim to the body.

Finish and hang your rack

1. Finish-sand the car body and backboard. Apply a clear finish (we used an aerosol lacquer).

2. Remove the tire/rim assemblies, and use the previously drilled holes through the car body to secure the clothes rack to the wall (we used toggle bolts for hanging on drywall). Screw the tire/rims back in place to hide the mounting screws or toggle bolts.

FULL-SIZED PATTERNS

- 1/4 x 3/4 x 6" cherry fuel tank
- 5/8" hole for mounting to wall
- Helmet
- 1/2" hole for mounting to wall
- Windshield
- Front tire
- 1/4" dowels 3/4" deep drilled at 15°
- 1/4" x 2 1/2" - diam. walnut rear tire
- 1/8" x 1 1/2" - diam. maple rim
- 1/4" x 2 1/2" - diam. walnut rear tire
- 5/8" mounting hole drilled behind the tire
- 1/8" holes 3/4" deep drilled at 15°

Project Design and Illustrations: Jamie Downing
Photograph: John Hetherington
Here is some help in mapping out your

Like a treasure hunter in search of buried riches, navigating your way through today's tool market can be a mysterious journey fraught with adventure. To help take some of the risk and suspense out of your next tool-purchasing odyssey, we've dug up some information and recommendations to steer you straight to a smart buy.

In the next 16 pages you'll find charts loaded with specifications for today's most popular models in eight different categories. They include: air compressors, biscuit joiners, finishing sanders, lathes, precision tablesaw fences, radial-arm saws, random-orbit sanders, and shop vacuums.

In case you plan to purchase a product in another category, we've got you covered there, too. In our November 1992 and November 1993 issues, we handled these products: bandsaws, cordless drills, dado-cutting tools, drill presses, dust collectors, jigsaws, jointers, miter saws, portable belt sanders, portable circular saws, routers, scroll saws, stationary belt sanders, tablesaws, and thickness planers. If you don't have these articles, we can send you reprints for $1 per article. Just send a stamped, self-addressed envelope to:

WOOD Magazine
1912 Grand Ave.
Des Moines, IA 50309-3379
Foreign readers please include an international reply coupon.

An air compressor may seem like a luxury, but ask woodworkers who use air-powered tools such as pneumatic nailers, and they'll probably tell you that they couldn't live without their compressor. Why? It's simple. These versatile air pumps will power a great number of other air tools including: dual-action and straightline sanders, spray guns, impact wrenches, drills, and sandblasters. The list goes on and on.

**Know what type you want.**

You can buy single-stage compressors in one of three types: portable with carrying handle, portable with wheels, or stationary. What type you choose depends on how much air delivery you require, and whether you need to move the compressor from place to place.

The portable-with-carrying-handle models, often referred to as pancake or hotdog compressors, have small tanks, typically 4 gallons in size, that make them extremely portable. These models are favored by contractors, largely for use with pneumatic nailers and staplers which do not consume large amounts of air.

At the other end of the spectrum, stationary compressors have 60-gallon-or-larger tanks that make them suitable for powering air-gobbling tools such as sanders and sandblasters. You'll most often find these models in automotive, auto-body, and profession-
tool-buying decisions

al woodworking shops that make heavy use of air tools.

Most home woodworkers choose a portable machine with wheels. These models offer a compromise between the other two types. Most are too heavy to lift, but you can wheel them around, and they deliver enough air for intermittent use of most air-powered tools.

- **Oil-lubricated or oil-less pump.** In recent years, more and more manufacturers offer portable air compressors that do not require oil for lubricating the pump components. This makes the compressor less expensive to manufacture, easier to maintain, and lighter in weight. Too, oil-less compressors operate at freezing temperatures that can be hard on an oil-lubricated machine. Nevertheless, we still prefer oil-lubricated compressors because of their quieter operation and greater durability.

- **Shop for air delivery, not horsepower.** Although manufacturers stress the horsepower ratings of compressors, the truest indicator of a compressor's performance is its air delivery, expressed in cfm's (cubic feet of air per minute). So, be sure to buy a compressor that meets, or exceeds, the cfm requirements of the tools you plan to use.

In our April 1994 test of air compressors, the Quincy 131A20PN stood out as the best buy for most home woodworkers. The Campbell Hausfeld VT6196 (shown above, left) also performed well.

### AIRING IT OUT: 26 SINGLE-STAGE COMPRESSORS

<table>
<thead>
<tr>
<th>MANUFACTURER/IMPORTER</th>
<th>MODEL</th>
<th>TYPE (1)</th>
<th>CONSTRUCTION (2)</th>
<th>NUMBER OF CYLINDERS</th>
<th>HORSEPOWER (3)</th>
<th>VOLTAGE</th>
<th>MAX CAPACITY (GALLONS)</th>
<th>CFM @ 40 PSI (4)</th>
<th>CFM @ 90 PSI (5)</th>
<th>FILTER TYPE</th>
<th>WARRANTY (YRS. ASSEMBLY)</th>
<th>COUNTRY OF ASSEMBLY</th>
<th>WEIGHT POUNDS</th>
<th>LIST PRICE</th>
<th>SELLING PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR AMERICA</td>
<td>5DS100E40</td>
<td>PH A</td>
<td>1</td>
<td>1</td>
<td>120</td>
<td>4</td>
<td>4.5</td>
<td>3</td>
<td>FOAM</td>
<td>U</td>
<td>56</td>
<td>$ 399</td>
<td>8375</td>
<td></td>
<td></td>
</tr>
<tr>
<td>L429</td>
<td>PW B</td>
<td>2</td>
<td>4</td>
<td>120/240</td>
<td>20</td>
<td>8.1</td>
<td>6.6</td>
<td>Felt</td>
<td>U</td>
<td>135</td>
<td>329</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BOSTITCH</td>
<td>CWH100WT</td>
<td>PH A</td>
<td>1</td>
<td>1</td>
<td>120</td>
<td>4.5</td>
<td>3.7</td>
<td>7.1</td>
<td>Felt</td>
<td>U</td>
<td>49</td>
<td>--</td>
<td>375</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CWH150WT</td>
<td>PH A</td>
<td>1</td>
<td>1½</td>
<td>120</td>
<td>4.5</td>
<td>6.25</td>
<td>4.8</td>
<td>Felt</td>
<td>U</td>
<td>68</td>
<td>--</td>
<td>460</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CWH1000</td>
<td>PH B</td>
<td>1</td>
<td>1</td>
<td>120</td>
<td>4</td>
<td>3.6</td>
<td>2.9</td>
<td>Felt</td>
<td>U</td>
<td>135</td>
<td>329</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAMPBELL HAUSFELD</td>
<td>WLS043</td>
<td>PH A</td>
<td>1</td>
<td>1½</td>
<td>120</td>
<td>4</td>
<td>5.6</td>
<td>4.4</td>
<td>Paper</td>
<td>U</td>
<td>60</td>
<td>399</td>
<td>329</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VT6196</td>
<td>PW C</td>
<td>2</td>
<td>4</td>
<td>120/240</td>
<td>20</td>
<td>8.1</td>
<td>6.4</td>
<td>Foam</td>
<td>U</td>
<td>159</td>
<td>545</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VT5587</td>
<td>S C</td>
<td>2</td>
<td>5</td>
<td>240</td>
<td>60</td>
<td>11.4</td>
<td>9</td>
<td>Foam</td>
<td>U</td>
<td>290</td>
<td>720</td>
<td>449</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHARGE AIR PRO</td>
<td>1RFS312</td>
<td>PH A</td>
<td>1</td>
<td>1</td>
<td>120/240</td>
<td>12</td>
<td>8.1</td>
<td>6.4</td>
<td>Foam</td>
<td>U</td>
<td>92</td>
<td>299</td>
<td>249</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1RBB860AD</td>
<td>S B</td>
<td>2</td>
<td>4</td>
<td>120/240</td>
<td>20</td>
<td>8.1</td>
<td>6.4</td>
<td>Foam</td>
<td>U</td>
<td>238</td>
<td>429</td>
<td>399</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EMGLO</td>
<td>AM7H-004</td>
<td>PH B</td>
<td>1</td>
<td>1½</td>
<td>120</td>
<td>4</td>
<td>5.1</td>
<td>4.1</td>
<td>Paper</td>
<td>U</td>
<td>64</td>
<td>514</td>
<td>329</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K15A-6P</td>
<td>PW C</td>
<td>2</td>
<td>1½</td>
<td>120/240</td>
<td>8</td>
<td>7.2</td>
<td>5.5</td>
<td>Paper</td>
<td>U</td>
<td>140</td>
<td>262</td>
<td>689</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JET</td>
<td>DHC15T4</td>
<td>PH D</td>
<td>1</td>
<td>1½</td>
<td>120</td>
<td>4</td>
<td>5.1</td>
<td>4.3</td>
<td>Foam</td>
<td>U</td>
<td>47</td>
<td>443</td>
<td>376</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JET</td>
<td>EPC15T8</td>
<td>PW D</td>
<td>2</td>
<td>1½</td>
<td>120/240</td>
<td>8</td>
<td>6.6</td>
<td>5.9</td>
<td>Foam</td>
<td>U</td>
<td>110</td>
<td>278</td>
<td>625</td>
<td></td>
<td></td>
</tr>
<tr>
<td>QCINEY</td>
<td>121A20PN</td>
<td>PW C</td>
<td>2</td>
<td>2</td>
<td>120/240</td>
<td>20</td>
<td>7.1</td>
<td>5.8</td>
<td>Felt</td>
<td>U</td>
<td>120</td>
<td>--</td>
<td>365</td>
<td></td>
<td></td>
</tr>
<tr>
<td>131A20PN</td>
<td>PW C</td>
<td>2</td>
<td>3½</td>
<td>120/240</td>
<td>20</td>
<td>8.1</td>
<td>6.7</td>
<td>Felt</td>
<td>U</td>
<td>125</td>
<td>--</td>
<td>360</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>151C680C</td>
<td>S C</td>
<td>2</td>
<td>5</td>
<td>240</td>
<td>60</td>
<td>11.2</td>
<td>9.6</td>
<td>Felt</td>
<td>U</td>
<td>250</td>
<td>--</td>
<td>539</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SANBORN</td>
<td>M54D009</td>
<td>PH B</td>
<td>1</td>
<td>1</td>
<td>120</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>Foam</td>
<td>U</td>
<td>72</td>
<td>--</td>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M67T350-20</td>
<td>PW A</td>
<td>1</td>
<td>3½</td>
<td>120</td>
<td>20</td>
<td>6.6</td>
<td>6.7</td>
<td>Felt</td>
<td>U</td>
<td>126</td>
<td>--</td>
<td>330</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GS808PL60V</td>
<td>S B</td>
<td>2</td>
<td>5</td>
<td>240</td>
<td>60</td>
<td>12.7</td>
<td>10.6</td>
<td>Felt</td>
<td>U</td>
<td>240</td>
<td>--</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEARS</td>
<td>13245</td>
<td>PH A</td>
<td>1</td>
<td>1½</td>
<td>120</td>
<td>4</td>
<td>4.7</td>
<td>3.3</td>
<td>Foam</td>
<td>U</td>
<td>50</td>
<td>--</td>
<td>230</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15292</td>
<td>PW A</td>
<td>1</td>
<td>4</td>
<td>120/240</td>
<td>20</td>
<td>9</td>
<td>7</td>
<td>Foam</td>
<td>U</td>
<td>130</td>
<td>--</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15291</td>
<td>S A</td>
<td>2</td>
<td>6</td>
<td>240</td>
<td>60</td>
<td>15</td>
<td>11.5</td>
<td>Felt</td>
<td>U</td>
<td>220</td>
<td>--</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SENCO</td>
<td>PC0053</td>
<td>PH A</td>
<td>1</td>
<td>1½</td>
<td>120</td>
<td>4</td>
<td>6.25</td>
<td>4.9</td>
<td>Foam</td>
<td>U</td>
<td>65</td>
<td>539</td>
<td>350</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC00319</td>
<td>PH A</td>
<td>1</td>
<td>1½</td>
<td>120</td>
<td>4</td>
<td>6.25</td>
<td>4.9</td>
<td>Foam</td>
<td>U</td>
<td>65</td>
<td>539</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC0054</td>
<td>PH A</td>
<td>1</td>
<td>1½</td>
<td>120</td>
<td>4</td>
<td>6.25</td>
<td>4.9</td>
<td>Foam</td>
<td>U</td>
<td>65</td>
<td>539</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1. (PH) Portable with carrying handle
2. (PW) Portable with wheels
3. (Stationary)
4. Oil-less (A)
5. Oil-lubricated, one-piece aluminum crankcase and cylinder-block assembly with steel cylinder liner.
6. Oil-lubricated, cast-iron construction.
7. Oil-lubricated, cast-iron cylinder with aluminum crankcase.
When it comes to joining two pieces of wood, you'll be hard-pressed to find a method that's faster, or more goof-proof, than biscuit joinery. But, as simple as this process is, a good machine makes it even easier.

**Take your pick: handheld or stationary.** Except for the Delta and Shopsmith units, all of the popular biscuit joiners on today's market are handheld versions. These offer the greatest versatility in terms of portability and the types of joints they will handle. The Delta works well in production settings, but we recommend a handheld biscuit joiner as your best all-around choice.

**Fences.** When comparing biscuit joiners, the wheat separates from the chaff when you check out the machines' fences. This all-important feature largely determines how much success and enjoyment you will experience when using any biscuit joiner.

The best units have aluminum or steel fences with well-machined surfaces and components. We found the top-quality fences adjust easily by hand without the aid of wrenches, and automatically align perfectly parallel with the blade when locked down.

As shown in the photos right, we prefer fences that have the ability to "capture" a mitered edge. This helps ensure accurate cuts at these locations.

**Special features.** Keep in mind when considering a biscuit joiner that certain models have qualities that you may find especially helpful, depending on what type of work you do most. For instance, the blade of the Elu model pivots into the workpiece, rather than plunging straight in. Because of this, you can also use the machine for splining and making shallow cuts in tight corners.

As you can see by the "accessories" column in the chart right, the Lamello units have by far the greatest number of optional accessories. Most of these accessories were designed for the professional furniture- and cabinet-making industries, but can come in handy for home woodworkers, too.

Better fences "capture" a mitered edge as shown below. This prevents the workpiece or biscuit joiner faceplate from shifting during a cut. Less-expensive units have fences like the one below that allow the faceplate to shift in relation to the workpiece as you plunge the blade into the workpiece.
### FACTS TO CONSIDER BEFORE YOU TAKE THE PLUNGE: 16 BISCUIT JOINERS

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>TYPE</th>
<th>AMPS</th>
<th>NO LOAD SPEED (RPM)</th>
<th>DRIVE TYPE</th>
<th>FENCE HEIGHT SCALE (G)</th>
<th>DRIVE SCALE</th>
<th>FENCE ANGLE (A)</th>
<th>NUMBER OF DEPTH SLOTS</th>
<th>BLADE COLLECTION PORT (G)</th>
<th>LENGTH (FEET)</th>
<th>SWITCH TYPE</th>
<th>WARRETNY YEARS</th>
<th>STANDARD</th>
<th>OPTIONAL</th>
<th>COUNTRY OF ASSEMBLY</th>
<th>WEIGHT POUNDS</th>
<th>LIST</th>
<th>SELLING (10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOSCH</strong></td>
<td>B1650K</td>
<td>HH</td>
<td>5.8</td>
<td>11,000</td>
<td>G/E/M</td>
<td>A/3</td>
<td>BAG/VAC</td>
<td>4</td>
<td>8</td>
<td>SL 1</td>
<td></td>
<td>B, CC, DB, LA, HA</td>
<td>PB, VM</td>
<td>U</td>
<td>10</td>
<td>$289</td>
<td>$165</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DELTA</strong></td>
<td>32-100</td>
<td>ST</td>
<td>10</td>
<td>10,000</td>
<td>G/E/M</td>
<td>A/3</td>
<td>BAG/VAC</td>
<td>6</td>
<td>5/2</td>
<td>TO 2</td>
<td></td>
<td>AF, B</td>
<td>DB, ST, T</td>
<td>19.5</td>
<td>340</td>
<td>255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DeWALT</strong></td>
<td>DW682K</td>
<td>HH</td>
<td>6.5</td>
<td>10,000</td>
<td>G/E/M</td>
<td>E/A</td>
<td>BAG/VAC</td>
<td>6</td>
<td>8</td>
<td>TR 1</td>
<td></td>
<td>CC, DB, HA</td>
<td></td>
<td>6.6</td>
<td>429</td>
<td>230</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ELU</strong></td>
<td>3380</td>
<td>HH</td>
<td>5</td>
<td>8,500</td>
<td>G/E/M</td>
<td>F/E</td>
<td>BAG/VAC</td>
<td>6</td>
<td>8</td>
<td>SL 1</td>
<td></td>
<td>B, CC, DB, O</td>
<td></td>
<td>6.2</td>
<td>542</td>
<td>260</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FREUD</strong></td>
<td>JS100</td>
<td>HH</td>
<td>5</td>
<td>10,000</td>
<td>G/E/M</td>
<td>F/E</td>
<td>BAG/VAC</td>
<td>6</td>
<td>8</td>
<td>SL 1</td>
<td></td>
<td>B, CC, DB, O</td>
<td></td>
<td>6.2</td>
<td>333</td>
<td>175</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FREUD</strong></td>
<td>JS102</td>
<td>HH</td>
<td>5</td>
<td>10,000</td>
<td>G/E/M</td>
<td>F/E</td>
<td>BAG/VAC</td>
<td>6</td>
<td>8</td>
<td>SL 1</td>
<td></td>
<td>B, CC, DB, O</td>
<td></td>
<td>6.2</td>
<td>355</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LAMELLO</strong></td>
<td>TOP-16</td>
<td>HH</td>
<td>6.4</td>
<td>10,000</td>
<td>G/E/M</td>
<td>E/A</td>
<td>BAG/VAC</td>
<td>6</td>
<td>9</td>
<td>SL 1</td>
<td></td>
<td>B, CC, O</td>
<td></td>
<td>7</td>
<td>789</td>
<td>560</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LAMELLO</strong></td>
<td>STANDARD-10</td>
<td>HH</td>
<td>5.2</td>
<td>10,000</td>
<td>G/E/M</td>
<td>E/F</td>
<td>BAG/VAC</td>
<td>6</td>
<td>9</td>
<td>SL 1</td>
<td></td>
<td>B, CC, O</td>
<td></td>
<td>7</td>
<td>569</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LAMELLO</strong></td>
<td>C02BA</td>
<td>HH</td>
<td>2.1</td>
<td>18,000</td>
<td>G/E/M</td>
<td>E/F</td>
<td>BAG/VAC</td>
<td>2</td>
<td>10</td>
<td>SL 1</td>
<td></td>
<td>B, CC, O</td>
<td></td>
<td>SW</td>
<td>389</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PORTER-CABLE</strong></td>
<td>555</td>
<td>HH</td>
<td>5</td>
<td>8,000</td>
<td>G/E/M</td>
<td>NONE</td>
<td>BAG/VAC</td>
<td>1</td>
<td>0</td>
<td>SL 1</td>
<td></td>
<td>B, CC, A</td>
<td></td>
<td>U</td>
<td>320</td>
<td>175</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>PORTER-CABLE</strong></td>
<td>556</td>
<td>HH</td>
<td>5</td>
<td>8,000</td>
<td>G/E/M</td>
<td>NONE</td>
<td>BAG/VAC</td>
<td>2</td>
<td>0</td>
<td>SL 1</td>
<td></td>
<td>B, CC, A</td>
<td></td>
<td>U</td>
<td>345</td>
<td>185</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RYOBI</strong></td>
<td>JM-100K</td>
<td>HH</td>
<td>5.3</td>
<td>9,000</td>
<td>G/E/M</td>
<td>A/3</td>
<td>BAG/VAC</td>
<td>6</td>
<td>6/2</td>
<td>SL 2</td>
<td></td>
<td>B, CC, DB, O</td>
<td></td>
<td>U</td>
<td>7.3</td>
<td>431</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SEARS</strong></td>
<td>17501</td>
<td>HH</td>
<td>6</td>
<td>10,000</td>
<td>G/E/M</td>
<td>A/3</td>
<td>BOX</td>
<td>8</td>
<td>10</td>
<td>TR 1</td>
<td></td>
<td>B, DB</td>
<td></td>
<td>U</td>
<td>6.5</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SEARS</strong></td>
<td>15555</td>
<td>ST</td>
<td>6.5</td>
<td>12,000</td>
<td>G/E/M</td>
<td>F/3</td>
<td>BAG/VAC</td>
<td>4</td>
<td>8</td>
<td>SL 1</td>
<td></td>
<td>B, CC, DB, O</td>
<td></td>
<td>U</td>
<td>13</td>
<td>159</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VIRUTEX</strong></td>
<td>AB-11C</td>
<td>HH</td>
<td>6</td>
<td>10,000</td>
<td>G/E/M</td>
<td>A/3</td>
<td>BAG/VAC</td>
<td>6</td>
<td>7/2</td>
<td>SL 1</td>
<td></td>
<td>B, CC, O</td>
<td></td>
<td>6.6</td>
<td>266</td>
<td>240</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**

1. (*) Elu machine has a fine adjustment mechanism with three marks for No. 0, 10, and 20 biscuits.
2. (A) Set screws require changing for each change in three biscuit sizes.
3. (B) Machine includes a dust bag (VAC).
4. (C) Machine attaches to a vacuum hose (*) requires an accessory attachment for vacuum hose.
5. (D) Switch type.
6. (E) Machine has a line speed meter.
7. (F) Machine includes a built-in router guide.
8. (G) Machine includes a built-in router guide.
9. (H) Machine includes a built-in router guide.
10. (I) Machine includes a built-in router guide.

**Although the Lamello Top 10 ranked as the best overall performer, we have a hard time justifying its premium price. Because their fences adjusted with some difficulty, all of the tested units costing less than $200 fell short of our expectations. For this reason, check out the bargain units carefully before making a purchase. If you don't intend to make great use of a biscuit joiner, you may opt to put up with the troublesome fence in exchange for the saved money. The Freud JS100 came on the market after our review. We'll test it as soon as possible.**
Count the benefits of owning a finishing sander—time savings, convenience, and quality wood preparation—and you may wonder why you don’t already own one. It’s never too late to buy your first finishing sander, or trade up to a better model. Use the data here to help you pick a winner.

**Three sizes to choose from.** Finishing sanders hold either one-half, one-third, or one-fourth of a 9x11" sheet of sandpaper. Here’s a look at each type of machine:

**Half-sheet sanders** help you smooth large areas, such as tabletops, in as little time as possible. You’ll find them less skilled at sanding in tight spots due to their size and weight. Because of sandpaper clamps or dust shrouds, some models do not sand flush against walls or into corners.

**Quarter-sheet sanders** have become popular items with woodworkers for several reasons. They are inexpensive, light and comfortable to hold, and will handle tight spots as well as surfaces on small to medium-sized projects.

**Third-sheet sanders** offer a compromise between the two other sanders in this category. If you can’t afford both a half- and quarter-sheet sander, take a look at one of these models. However, you won’t find professional-grade tools among third-sheet sanders.

**Vibration.** The pad of a finishing sander moves in thousands of tiny orbits per minute. This action helps the sander smooth stock quickly, but it can also induce severe vibration in the machine. To make handling these portable tools as comfortable as possible, better-quality sanders have components that dampen this vibration before it has a chance to reach your hand.

Of course, vibration may not bother you if you only use a sander for short periods of time. But, keep in mind that a machine with lots of vibration may leave your hand numb after only a minute or two. We urge you to try out the finishing sander you want before making the purchase.

- **Bases and pads** Finishing sanders have either a foam-rubber, hard-rubber, or felt pad that supports the sandpaper. The foam-rubber pads work best on contoured surfaces, while the hard-rubber pads do a better job on flat surfaces, particularly on soft-grained woods. Why? A sander with a hard pad has less tendency to remove uneven amounts of material from areas of hard and soft grain. Felt pads have become increasingly rare and offer a compromise between the hard and soft varieties. If you prefer to use pressure-sensitive-adhesive (PSA)-backed abrasives, note in the chart that some pads are not compatible with these so-called sticky-backed sandpapers.

  The pad attaches to a base with either glue or screws. Since pads wear out over time, we prefer the screwed-on variety when it comes time for a change.

  Manufacturers make bases from aluminum, stamped steel, or plastic. If you use a finishing sander a great deal, choose aluminum.

In our April 1993 review of 29 finishing sanders, these models earned high marks:

- **Half-sheet sanders:** Bosch 1290D, Electrolux 4015, Milwaukee 6010, and Porter-Cable 505.
- **Third-sheet sanders:** Ryobi 8545.
- **Quarter-sheet sanders:** Porter-Cable 330, with the DeWalt DW411, Milwaukee 6017, and Sears 11602 also considered good buys.
# SMOOTHING PERFORMERS: 32 FINISHING SANDERS

<table>
<thead>
<tr>
<th>MANUFACTURER/IMPORTER</th>
<th>MODEL</th>
<th>CLAMP TYPE (1)</th>
<th>ATTACHMENT (2)</th>
<th>PSA COMPATIBLE (4)</th>
<th>BASE TYPE (5)</th>
<th>ORBITS PER MINUTE</th>
<th>AMPS</th>
<th>DUST COLLECTION (6)</th>
<th>STANDARD</th>
<th>OPTIONAL</th>
<th>CORD LENGTH (INCHES)</th>
<th>WEIGHT (POUNDS)</th>
<th>WARRANTY YEARS</th>
<th>COUNTRY OF ASSEMBLY</th>
<th>LIST PRICE</th>
<th>SELLING PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOSCH</td>
<td>87159</td>
<td>L</td>
<td>HR</td>
<td>S</td>
<td>N</td>
<td>A</td>
<td>10,000</td>
<td>2.3 B</td>
<td>B</td>
<td>PP</td>
<td>VA, VH</td>
<td>8'</td>
<td>8</td>
<td>S</td>
<td>$120</td>
<td>$110</td>
</tr>
<tr>
<td></td>
<td>12903</td>
<td>L</td>
<td>HR</td>
<td>S</td>
<td>N</td>
<td>A</td>
<td>10,000</td>
<td>4.6 B, SH</td>
<td>B</td>
<td>DS</td>
<td>VA, VH</td>
<td>6'6&quot;</td>
<td>6.2</td>
<td>1</td>
<td>S</td>
<td>229</td>
</tr>
<tr>
<td></td>
<td>4019</td>
<td>S</td>
<td>FR</td>
<td>S</td>
<td>N</td>
<td>A</td>
<td>10,000</td>
<td>3 NONE</td>
<td></td>
<td></td>
<td></td>
<td>8'</td>
<td>7</td>
<td>8</td>
<td>M</td>
<td>208</td>
</tr>
<tr>
<td>FEIN</td>
<td>MS3641A</td>
<td>L</td>
<td>H</td>
<td>R</td>
<td>Y</td>
<td>A</td>
<td>14,000</td>
<td>4.8 TP, V</td>
<td>VA</td>
<td>B, VP</td>
<td></td>
<td>13'1&quot;</td>
<td>8</td>
<td>6.2</td>
<td>1</td>
<td>S</td>
</tr>
<tr>
<td>HITACHI</td>
<td>SV12ED</td>
<td>L</td>
<td>FR</td>
<td>S</td>
<td>N</td>
<td>A</td>
<td>10,000</td>
<td>2.8 B, TP, P</td>
<td>B</td>
<td>PP, VA, VP</td>
<td></td>
<td>8'</td>
<td>7'1/4</td>
<td>6.2</td>
<td>1</td>
<td>J</td>
</tr>
<tr>
<td>MAKITA</td>
<td>9040N</td>
<td>L</td>
<td>FR</td>
<td>G</td>
<td>N</td>
<td>A</td>
<td>10,000</td>
<td>4 B, SH</td>
<td>B</td>
<td>DS</td>
<td></td>
<td>8'9&quot;</td>
<td>6.2</td>
<td>1</td>
<td>J</td>
<td>288</td>
</tr>
<tr>
<td>MILWAUKEE</td>
<td>6010</td>
<td>S</td>
<td>FR</td>
<td>S</td>
<td>Y</td>
<td>A</td>
<td>12,000</td>
<td>5 B, SH</td>
<td>B, CC, DS, VP</td>
<td>7'10&quot;</td>
<td>7</td>
<td>7</td>
<td>LIFETIME</td>
<td>U</td>
<td>224</td>
<td>155</td>
</tr>
<tr>
<td>PORTER-CABLE</td>
<td>505</td>
<td>S</td>
<td>FR</td>
<td>S</td>
<td>Y</td>
<td>A</td>
<td>10,000</td>
<td>2.3 SH</td>
<td>DS, VH</td>
<td></td>
<td>7'2&quot;</td>
<td>6.4</td>
<td>1</td>
<td>U</td>
<td>239</td>
<td></td>
</tr>
<tr>
<td>SEARS</td>
<td>11606</td>
<td>L</td>
<td>HR</td>
<td>G</td>
<td>Y</td>
<td>S</td>
<td>4,000</td>
<td>4 B, SH</td>
<td>B, DS</td>
<td>CC</td>
<td>10</td>
<td>7'1/4</td>
<td>5</td>
<td>1</td>
<td>U</td>
<td>78</td>
</tr>
<tr>
<td>BLACK &amp; DECKER</td>
<td>7454</td>
<td>W</td>
<td>FR</td>
<td>G</td>
<td>N</td>
<td>P</td>
<td>0,500-11,000</td>
<td>1.2 TP, V</td>
<td>PP</td>
<td></td>
<td>6'2&quot;</td>
<td>5'1/4</td>
<td>2.1</td>
<td>1</td>
<td>E</td>
<td>100</td>
</tr>
<tr>
<td>BOSCH</td>
<td>87100</td>
<td>W</td>
<td>HR</td>
<td>S</td>
<td>N</td>
<td>A</td>
<td>10,000</td>
<td>1.8 B, TP</td>
<td>B, PP, VA, VH</td>
<td>8'</td>
<td>6'6&quot;</td>
<td>3.8</td>
<td>1</td>
<td>S</td>
<td>121</td>
<td>73</td>
</tr>
<tr>
<td>MAKITA</td>
<td>9038</td>
<td>L</td>
<td>FR</td>
<td>G</td>
<td>N</td>
<td>S</td>
<td>10,000</td>
<td>1.7 NONE</td>
<td></td>
<td></td>
<td></td>
<td>6'10&quot;</td>
<td>5'1/4</td>
<td>3</td>
<td>1</td>
<td>J</td>
</tr>
<tr>
<td></td>
<td>9036</td>
<td>S</td>
<td>FR</td>
<td>S</td>
<td>N</td>
<td>A</td>
<td>12,000</td>
<td>2.2 TP, V</td>
<td>B</td>
<td>PP, VH</td>
<td>6'10&quot;</td>
<td>7</td>
<td>3.1</td>
<td>1</td>
<td>J</td>
<td>138</td>
</tr>
<tr>
<td>RYOBI</td>
<td>545</td>
<td>L</td>
<td>HR</td>
<td>G</td>
<td>N</td>
<td>S</td>
<td>10,000</td>
<td>2.1 DB, TP, P</td>
<td>PP</td>
<td>VA</td>
<td>6'</td>
<td>6'6&quot;</td>
<td>4.4</td>
<td>2</td>
<td>U</td>
<td>118</td>
</tr>
<tr>
<td>SEARS</td>
<td>11613</td>
<td>L</td>
<td>HR</td>
<td>G</td>
<td>Y</td>
<td>S</td>
<td>4,000</td>
<td>3 B, SH</td>
<td>B</td>
<td>CC</td>
<td>6'</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>U</td>
<td>90</td>
</tr>
<tr>
<td>SKIL</td>
<td>7999</td>
<td>W</td>
<td>FR</td>
<td>S</td>
<td>N</td>
<td>P</td>
<td>10,000</td>
<td>2 B, PP</td>
<td>PP</td>
<td>VA, VH</td>
<td>8'</td>
<td>6'6&quot;</td>
<td>3.5</td>
<td>2</td>
<td>N</td>
<td>88</td>
</tr>
<tr>
<td></td>
<td>7582</td>
<td>S</td>
<td>F</td>
<td>G</td>
<td>N</td>
<td>A</td>
<td>10,000</td>
<td>2 NONE</td>
<td>CC</td>
<td></td>
<td>7'10&quot;</td>
<td>7</td>
<td>4.8</td>
<td>1</td>
<td>U</td>
<td>130</td>
</tr>
<tr>
<td>BLACK &amp; DECKER</td>
<td>7441</td>
<td>W</td>
<td>F</td>
<td>G</td>
<td>N</td>
<td>P</td>
<td>15,000</td>
<td>1.6 NONE</td>
<td></td>
<td></td>
<td>6'3&quot;</td>
<td>5'1/4</td>
<td>2</td>
<td>1</td>
<td>U</td>
<td>99</td>
</tr>
<tr>
<td>BOSCH</td>
<td>12830</td>
<td>S</td>
<td>HR</td>
<td>S</td>
<td>N</td>
<td>A</td>
<td>10,000</td>
<td>1.35 B, TP</td>
<td>B, PP, VA, VH</td>
<td>6'6&quot;</td>
<td>6'6&quot;</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>S</td>
<td>107</td>
</tr>
<tr>
<td>DeWALT</td>
<td>DW411</td>
<td>W</td>
<td>FR</td>
<td>S</td>
<td>N</td>
<td>P</td>
<td>13,500</td>
<td>1.7 B, TP</td>
<td>B, PP, VA, VH</td>
<td>8'</td>
<td>5'1/4</td>
<td>2.6</td>
<td>1</td>
<td>U</td>
<td>87</td>
<td></td>
</tr>
<tr>
<td>HITACHI</td>
<td>SV12SA</td>
<td>W</td>
<td>HR</td>
<td>S</td>
<td>N</td>
<td>A</td>
<td>12,000</td>
<td>1.7 NONE</td>
<td></td>
<td></td>
<td>8'4&quot;</td>
<td>5'1/4</td>
<td>2.6</td>
<td>1</td>
<td>J</td>
<td>130</td>
</tr>
<tr>
<td>MAKITA</td>
<td>BO4550</td>
<td>L</td>
<td>FR</td>
<td>G</td>
<td>N</td>
<td>P</td>
<td>14,000</td>
<td>1.6 B, TP, Y</td>
<td>B, PP, CC, VA, VH, VP</td>
<td>6'</td>
<td>5</td>
<td>2.1</td>
<td>1</td>
<td>J</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BO4551</td>
<td>H</td>
<td>--</td>
<td>--</td>
<td>N</td>
<td>P</td>
<td>14,000</td>
<td>1.6 B, TP, Y</td>
<td>B</td>
<td>CC, VA, VH, VP</td>
<td>6'</td>
<td>5</td>
<td>2.1</td>
<td>1</td>
<td>U</td>
<td>98</td>
</tr>
<tr>
<td>MILWAUKEE</td>
<td>6017</td>
<td>L</td>
<td>FR</td>
<td>G</td>
<td>N</td>
<td>P</td>
<td>13,000</td>
<td>1.8 B, TP, Y</td>
<td>B, PP</td>
<td></td>
<td>9'</td>
<td>5'1/4</td>
<td>2.8</td>
<td>LIFETIME</td>
<td>T</td>
<td>99</td>
</tr>
<tr>
<td>PORTER-CABLE</td>
<td>330</td>
<td>L</td>
<td>FR</td>
<td>S</td>
<td>Y</td>
<td>A</td>
<td>14,000</td>
<td>1.2 NONE</td>
<td></td>
<td></td>
<td>7'1/4</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>U</td>
<td>110</td>
</tr>
<tr>
<td>RYOBI</td>
<td>8605</td>
<td>W</td>
<td>FR</td>
<td>G</td>
<td>N</td>
<td>S</td>
<td>14,000</td>
<td>2 NONE</td>
<td></td>
<td></td>
<td>6'6&quot;</td>
<td>5'1/4</td>
<td>2.6</td>
<td>2</td>
<td>U</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>98050</td>
<td>W</td>
<td>FR</td>
<td>G</td>
<td>N</td>
<td>S</td>
<td>14,000</td>
<td>2 DB, TB</td>
<td>DB, PP</td>
<td>DB</td>
<td>6'6&quot;</td>
<td>5'1/4</td>
<td>2.6</td>
<td>2</td>
<td>U</td>
<td>90</td>
</tr>
<tr>
<td>SEARS</td>
<td>11602</td>
<td>L</td>
<td>HR</td>
<td>G</td>
<td>Y</td>
<td>A</td>
<td>14,000</td>
<td>2 NONE</td>
<td>PAPER</td>
<td></td>
<td>8'4&quot;</td>
<td>5</td>
<td>2.6</td>
<td>1</td>
<td>U</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>27701</td>
<td>W</td>
<td>F</td>
<td>G</td>
<td>Y</td>
<td>P</td>
<td>14,000</td>
<td>2 B, TP</td>
<td>B, PP, PAPER</td>
<td>10</td>
<td>5'1/4</td>
<td>2.9</td>
<td>1</td>
<td>U</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>SKIL</td>
<td>7275</td>
<td>L</td>
<td>FR</td>
<td>G</td>
<td>N</td>
<td>P</td>
<td>13,000</td>
<td>1.7 B, TP, Y</td>
<td>B, PP, VA, VH</td>
<td>8'</td>
<td>6'6&quot;</td>
<td>2.7</td>
<td>2</td>
<td>U</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7576</td>
<td>L</td>
<td>FR</td>
<td>S</td>
<td>Y</td>
<td>P</td>
<td>13,000</td>
<td>1.7 B, TP, Y</td>
<td>B, PP</td>
<td></td>
<td>8'</td>
<td>6'6&quot;</td>
<td>2.8</td>
<td>1</td>
<td>U</td>
<td>92</td>
</tr>
</tbody>
</table>

**NOTES:**
1. (L) Hook and loop
2. (P) Pressure-sensitive adhesive
3. (G) Glue to base
4. (S) Screws to base
5. (A) Aluminum
6. (B) Bag
7. (CC) Carrying case
8. (D) Disposable dust bags
9. (DB) Dust box
10. (SH) Shroud
11. (TP) Through the pad
12. (Y) Vacuum
13. (P) Plastic
14. (S) Stamped steel
15. (C) Corrying case
16. (V) Vacuum attachment
17. (F) Foam rubber
18. (R) Hard rubber
Few tools can make you feel like an accomplished woodworker as quickly as a lathe can. This machine helps you impart graceful symmetry to any project, even if it's your first attempt at a bowl, spindle, or other turned object.

**A size and price for every woodworker.** As you can see in the chart, lathes vary greatly in price and weight. The heavier, and more expensive models (over $1,000), work better with large, out-of-round workpieces that vibrate intensely until you rough-turn them. These larger machines also have bearings, motors, headstocks, tailstocks, spindles, and other components that can take the punishment dished out by heavy blocks of wood.

If you plan to work with modestly sized workpieces, say bowls up to 12" in diameter and 4" thick, or spindles up to 3" in diameter, look to lathes priced between $400 and $1,000. In fact, few home woodworkers require a lathe costing more than $600.

Lathes priced under $400 make good sense if you plan to turn smaller objects such as candlesticks, rolling pins, thin spindles, or bowls under 10" in diameter and 3" thick. And, if you plan to only turn lilliputian-sized objects, take a good look at so-called "miniature" lathes such as those made by Carba-Tec, Klein, or Record. These fun and friendly lathes take up little space, and help give you a touch of finesse with delicate workpieces.

**Tool-rest truths.** Although this component may seem like a small and simple part, it has a big effect on your satisfaction level. That's because the tool rest helps you guide and steady the turning tool. A good-quality tool rest will stay rigid when locked into position. And, it should have convenient, large, hand-operated adjustment levers. It should have a smooth finger groove, and its top must be milled straight and smooth so your tool glides along it.

**Speed changing.** You'll typically change speeds at least two or three times while completing a project, so pay attention to how various machines accommodate this task. Most lathes require you to change belts, but if you want to complete tasks as quickly as possible, you're better off with a machine that changes speeds with a turn of a lever. Also, look for a lathe with a low-end speed no faster than 600 rpm. Turning out-of-round pieces at higher speeds can be a frightening experience.

**Accessories.** Lathe manufacturers supply so many accessories that it just wasn't possible to list all of them in the chart right. Just remember to carefully consider what accessories come standard when comparing machines.

In our October 1993 review of 10 lathes priced under $600, the Delta 46-700 emerged as a clear winner. We liked its quality construction, well-designed controls and lock-downs, handy variable-speed lever, and the ability of its headstock to swivel 90° to convenient outboard turning. However, if you're looking primarily for a lathe to do outboard turning, the Jet JWL-1236, shown above, works even better in this regard because the head swivels with much less effort. Although the Jet costs more than the Delta, it comes with a stand and the tool-rest base extension necessary for many outboard-turning projects.
**HERE’S THE SPIN ON 29 LATHES**

<table>
<thead>
<tr>
<th>MANUFACTURER/IMPORTER</th>
<th>MODEL</th>
<th>BETWEEN CENTERS</th>
<th>SWING OVER BED</th>
<th>SWING OVER TOOL REST</th>
<th>SPINDLE THREAD DIA.</th>
<th>HEAT TREAT OR MOUTH OPENING</th>
<th>SPINDLE HEAD (Y/N)</th>
<th>HEAD/TAIL TYPE</th>
<th>CONSTRUCTION MATERIALS</th>
<th>SPEED CONTROL</th>
<th>WARRANTY (Y/N)</th>
<th>MOTOR</th>
<th>NIGHT WITH MOUNTING PLANS</th>
<th>SELLING PRICE WITHOUT MOTOR</th>
<th>SELLING PRICE WITH MOTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMT</td>
<td>4370</td>
<td>36</td>
<td>12</td>
<td>12</td>
<td>N/A</td>
<td>N/A</td>
<td>Y</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>10 years</td>
<td>1 year</td>
<td>125</td>
<td>$2989</td>
<td>$359*</td>
</tr>
<tr>
<td>373</td>
<td>41</td>
<td>12</td>
<td>12</td>
<td>N/A</td>
<td>N/A</td>
<td>TT</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>10 years</td>
<td>1 year</td>
<td>57</td>
<td>$129</td>
<td>199*</td>
</tr>
<tr>
<td>BRIDGEWOOD</td>
<td>BW-1240</td>
<td>37</td>
<td>12</td>
<td>9/16</td>
<td>N</td>
<td>N/A</td>
<td>1</td>
<td>ST</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>80</td>
<td>T</td>
<td>219*</td>
</tr>
<tr>
<td>BW-1539</td>
<td>39</td>
<td>15</td>
<td>12/16</td>
<td>2</td>
<td>TT</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>N</td>
<td>1 year</td>
<td>230</td>
<td>T</td>
<td>795*</td>
</tr>
<tr>
<td>CARBA-TEC</td>
<td>CML</td>
<td>12/2</td>
<td>5</td>
<td>4</td>
<td>N</td>
<td>N/A</td>
<td>1</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>40</td>
<td>T</td>
<td>305*</td>
</tr>
<tr>
<td>DELTA</td>
<td>45-700/61</td>
<td>36</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI/CI</td>
<td>CI</td>
<td>CI</td>
<td>VARIABLE SPEED</td>
<td>2 years</td>
<td>2 years</td>
<td>1,25/148</td>
<td>U</td>
<td>510/562**</td>
</tr>
<tr>
<td>45-2204(M)</td>
<td>39</td>
<td>12</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI/CI</td>
<td>CI</td>
<td>CI</td>
<td>VARIABLE SPEED</td>
<td>2 years</td>
<td>2 years</td>
<td>200</td>
<td>T</td>
<td>1,395**</td>
</tr>
<tr>
<td>46-611</td>
<td>39</td>
<td>12</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI/CI</td>
<td>CI</td>
<td>CI</td>
<td>VARIABLE SPEED</td>
<td>2 years</td>
<td>2 years</td>
<td>561</td>
<td>U</td>
<td>3,115**</td>
</tr>
<tr>
<td>ENLON</td>
<td>WL01</td>
<td>40</td>
<td>14</td>
<td>14</td>
<td>N</td>
<td>N/A</td>
<td>10</td>
<td>TT</td>
<td>FS</td>
<td>BELT/PULEU</td>
<td>90 days</td>
<td>1 year</td>
<td>70</td>
<td>T</td>
<td>121*</td>
</tr>
<tr>
<td>WL05</td>
<td>40</td>
<td>14</td>
<td>14</td>
<td>N</td>
<td>11/16</td>
<td>N/A</td>
<td>FS</td>
<td>CI/CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>90 days</td>
<td>1 year</td>
<td>180</td>
<td>T</td>
<td>361*</td>
</tr>
<tr>
<td>WL10</td>
<td>40</td>
<td>17</td>
<td>14</td>
<td>N</td>
<td>1-1/2</td>
<td>N/A</td>
<td>2</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>90 days</td>
<td>1 year</td>
<td>255</td>
<td>T</td>
<td>620*</td>
</tr>
<tr>
<td>GENERAL</td>
<td>160-1</td>
<td>38</td>
<td>12</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>2 years</td>
<td>6 months</td>
<td>290</td>
<td>689</td>
<td>1,119</td>
</tr>
<tr>
<td>160-2</td>
<td>38</td>
<td>12</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI/CI</td>
<td>CI</td>
<td>CI</td>
<td>VARIABLE SPEED</td>
<td>2 years</td>
<td>6 months</td>
<td>350</td>
<td>1,099</td>
<td>1,329</td>
</tr>
<tr>
<td>260</td>
<td>38</td>
<td>12</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI/CI</td>
<td>CI</td>
<td>CI</td>
<td>VARIABLE SPEED</td>
<td>2 years</td>
<td>6 months</td>
<td>610</td>
<td>1,999</td>
<td>2,169</td>
</tr>
<tr>
<td>260-1</td>
<td>38</td>
<td>12</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI/CI</td>
<td>CI</td>
<td>CI</td>
<td>VARIABLE SPEED</td>
<td>2 years</td>
<td>6 months</td>
<td>610</td>
<td>D</td>
<td>2,299</td>
</tr>
<tr>
<td>260/DC</td>
<td>38</td>
<td>12</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI/CI</td>
<td>CI</td>
<td>CI</td>
<td>VARIABLE SPEED</td>
<td>2 years</td>
<td>6 months</td>
<td>610</td>
<td>D</td>
<td>2,299</td>
</tr>
<tr>
<td>GRIZZLY</td>
<td>G1025</td>
<td>40</td>
<td>15</td>
<td>13</td>
<td>N</td>
<td>1-8</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>100</td>
<td>T</td>
<td>155*</td>
</tr>
<tr>
<td>G1174</td>
<td>40</td>
<td>14</td>
<td>8</td>
<td>N</td>
<td>11/16</td>
<td>N/A</td>
<td>FS</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>180</td>
<td>T</td>
<td>395*</td>
</tr>
<tr>
<td>G1496</td>
<td>40</td>
<td>14</td>
<td>17</td>
<td>N</td>
<td>1-1/2</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>380</td>
<td>T</td>
<td>625*</td>
</tr>
<tr>
<td>JET</td>
<td>JLW-1238</td>
<td>34</td>
<td>1/2</td>
<td>12</td>
<td>8 1/4</td>
<td>1</td>
<td>2</td>
<td>CI</td>
<td>CI</td>
<td>VARIABLE SPEED</td>
<td>2 years</td>
<td>2 years</td>
<td>183</td>
<td>T</td>
<td>559</td>
</tr>
<tr>
<td>KLEIN</td>
<td>BASIC</td>
<td>12</td>
<td>5</td>
<td>4</td>
<td>N</td>
<td>N/A</td>
<td>EA</td>
<td>EA</td>
<td>EA</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>18</td>
<td>U</td>
<td>439*</td>
</tr>
<tr>
<td>POWERMATIC</td>
<td>45</td>
<td>38</td>
<td>12</td>
<td>12</td>
<td>2</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>&quot;VS-330-2100&quot;</td>
<td>1 year</td>
<td>1 year</td>
<td>475</td>
<td>U</td>
<td>VS-2900 BP-2400</td>
</tr>
<tr>
<td>RECORD</td>
<td>RMRL3000</td>
<td>12</td>
<td>8 1/2</td>
<td>14</td>
<td>Y</td>
<td>16-16</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>BELT/PULEU</td>
<td>549</td>
<td>1,110, 2400</td>
<td></td>
<td></td>
<td>550</td>
<td></td>
</tr>
<tr>
<td>D3/48M</td>
<td>48</td>
<td>12</td>
<td>30</td>
<td>Y</td>
<td>16-16</td>
<td>1</td>
<td>TT</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>260</td>
<td>E</td>
<td>1,000</td>
</tr>
<tr>
<td>RELIANT</td>
<td>D070</td>
<td>20</td>
<td>10</td>
<td>8</td>
<td>N</td>
<td>16-16</td>
<td>FS</td>
<td>FS</td>
<td>FS</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>50</td>
<td>T</td>
<td>170*</td>
</tr>
<tr>
<td>SEARS</td>
<td>2636</td>
<td>36</td>
<td>12</td>
<td>2</td>
<td>N</td>
<td>16-16</td>
<td>1</td>
<td>ST</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>47</td>
<td>T</td>
<td>200</td>
</tr>
<tr>
<td>2616</td>
<td>36</td>
<td>12</td>
<td>8</td>
<td>N</td>
<td>16-16</td>
<td>1</td>
<td>ST</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>1 year</td>
<td>1 year</td>
<td>84</td>
<td>U</td>
<td>250</td>
</tr>
<tr>
<td>TRANSPONDER</td>
<td>HD1500</td>
<td>39</td>
<td>14</td>
<td>17</td>
<td>Y</td>
<td>1-1/2</td>
<td>CI</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>2 years</td>
<td>1 year</td>
<td>380</td>
<td>T</td>
<td>525*</td>
</tr>
<tr>
<td>WILLIAMS &amp; HUSSEY</td>
<td>L22</td>
<td>46</td>
<td>12</td>
<td>10 1/2</td>
<td>N</td>
<td>N/A</td>
<td>MS</td>
<td>CI</td>
<td>CI</td>
<td>BELT/PULEU</td>
<td>10 years</td>
<td>1 year</td>
<td>110</td>
<td>U</td>
<td>498**</td>
</tr>
</tbody>
</table>

**Notes:**
1. Diameter of spindle and number of threads per inch.
2. (*) Williams and Hussey attachments have set screws, so they do not have threads or tapers.
4. (*) With optional motor supplied by lathe manufacturer or importer.
5. (*) Motor warranty applies to optional motor supplied by manufacturer/Importer.
6. (*) Canada: (E) England, (T) Taiwan, (U) United States.
7. (*) Price does not include shipping. (*) Price with motor does not include standard accessories.
8. (*) List prices without motor.

**Wool Magazine October 1994**

61
A look at the radial-arm saw market. As you can see by the chart right, only three manufacturers offer radial-arm saws for the U.S. market. Since our last review of these saws in the June 1987 issue of WOOD magazine, three brands—Black & Decker, DeWalt, and Inca—have stopped offering radial-arm saws to U.S. consumers. Why? Manufacturers tell us one reason is dwindling demand. Indeed, miter saws have exploded in popularity in recent years, stealing market share from radial-arm saws. Unlike other power-tool categories, the limited number of radial-arm saws means you can easily try every available product before making a choice.

Do you need a radial-arm saw? These saws excel at quick and repetitive crosscuts and dados, particularly in wide stock. For these attributes alone, many woodworkers would not be without one of these machines.

Unfortunately, radial-arm saws tend to be finnicky to adjust, and often go out of adjustment as
### RADIAL-ARM SAWS: A LIMITED MARKET

<table>
<thead>
<tr>
<th>MANUFACTURER/IMPORTER</th>
<th>MODEL</th>
<th>BLADE SIZE (INCHES)</th>
<th>DEPTH OF CUT AT 15°</th>
<th>MAXIMUM RIP (INCHES)</th>
<th>CROSSCUT (INCHES AT 45°)</th>
<th>MITER</th>
<th>SAWBLADE</th>
<th>HORSEPOWER (G)</th>
<th>VOLS</th>
<th>AMPS</th>
<th>MOLDING BLADE SPINDLE</th>
<th>SPEED (FPM)</th>
<th>ACCESSORY SPINDLE Y/N</th>
<th>COLUMN BASE</th>
<th>COLUMN MATERIAL</th>
<th>WOOD HEIGHT (INCHES)</th>
<th>WOOD WIDTH (INCHES)</th>
<th>WARRANTY YEARS</th>
<th>ASSEMBLY WEIGHT (LBS.)</th>
<th>PRICE</th>
<th>LIST PRICE</th>
<th>SELLING PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELTA</td>
<td>33-990</td>
<td>10</td>
<td>3</td>
<td>2½</td>
<td>12½</td>
<td>24</td>
<td>0°, 45° L/R</td>
<td>0°, 45° L/R</td>
<td>120</td>
<td>1½</td>
<td>ODP 1</td>
<td>120/240</td>
<td>1½</td>
<td>1½/7</td>
<td>CI</td>
<td>40x37 ½ x33</td>
<td>24¾ x12</td>
<td>2</td>
<td>U 178</td>
<td>$ 804</td>
<td>$ 620</td>
<td></td>
</tr>
<tr>
<td>DELTA</td>
<td>33-990</td>
<td>12</td>
<td>3½</td>
<td>3½</td>
<td>14½</td>
<td>24½</td>
<td>0°, 45° L/R</td>
<td>0°, 45° L/R</td>
<td>120</td>
<td>1½</td>
<td>ODP 1</td>
<td>120/240</td>
<td>1½</td>
<td>1½/7</td>
<td>CI</td>
<td>30x32 ½ x33</td>
<td>25½ x13</td>
<td>2</td>
<td>U 200</td>
<td>1,150</td>
<td>1,500</td>
<td></td>
</tr>
<tr>
<td>RYOBI</td>
<td>RA202</td>
<td>8½</td>
<td>3</td>
<td>1½</td>
<td>10½</td>
<td>19½</td>
<td>0°, 22½° L/R</td>
<td>0°, 22½° L/R</td>
<td>120</td>
<td>U 2</td>
<td>120</td>
<td>120</td>
<td>1½</td>
<td>1½/7</td>
<td>CI</td>
<td>27½ x37½ x19½</td>
<td>21½ x19½</td>
<td>2</td>
<td>U 65 800</td>
<td>399</td>
<td>399</td>
<td></td>
</tr>
<tr>
<td>SEARS</td>
<td>26470</td>
<td>8½</td>
<td>3</td>
<td>3</td>
<td>2½</td>
<td>12</td>
<td>0°, 22½° L/R</td>
<td>0°, 22½° L/R</td>
<td>120</td>
<td>1½</td>
<td>ODP 1</td>
<td>120/240</td>
<td>1½</td>
<td>1½/7</td>
<td>CI</td>
<td>30x26 ½ x12</td>
<td>30½ x11½</td>
<td>1</td>
<td>U 176</td>
<td>329</td>
<td>329</td>
<td></td>
</tr>
<tr>
<td>SEARS</td>
<td>19633</td>
<td>10</td>
<td>3</td>
<td>2½</td>
<td>15½</td>
<td>26</td>
<td>0°, 45° L/R</td>
<td>0°, 45° L/R</td>
<td>120</td>
<td>1½</td>
<td>ODP 1</td>
<td>120/240</td>
<td>1½</td>
<td>1½/7</td>
<td>CA w/steel tracks</td>
<td>40x38x94</td>
<td>1½</td>
<td>U 181</td>
<td>500</td>
<td>500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEARS</td>
<td>19642</td>
<td>10</td>
<td>3</td>
<td>3½</td>
<td>15½</td>
<td>26</td>
<td>0°, 45° L/R</td>
<td>0°, 45° L/R</td>
<td>120</td>
<td>1½</td>
<td>ODP 1</td>
<td>120/240</td>
<td>1½</td>
<td>1½/7</td>
<td>CA w/steel tracks</td>
<td>40x38x94</td>
<td>1½</td>
<td>U 186</td>
<td>600</td>
<td>600</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
- *Model 4520020* model of control cut is available to owners of Model RA200.
- 1. (ODP) Open, drip-proof
- 2. Continuous horsepower
- 3. (CA) Cast aluminum
- 4. Height includes stand
- (*) Indicates maximum developed horsepower
- (CI) Cast iron
- (FS) Formed steel

**Soon as you change cutting angles, in a survey of WOOD magazine staffers, we found that nearly all of the radial-arm saw users set their saws for 90° crosscuts and leave them there. Although we prefer to use tablesaws or mitersaws for miter cuts, and tablesaws for ripping tasks, a radial-arm saw set for 90° cuts only still sees regular duty. Although you can use a radial-arm saw for many other tasks, you may end up paying for that versatility with time spent on adjustments.**

**The safety issue.** Radial-arm saws have long had a reputation for being one of the least safe tools in a workshop. Fortunately, manufacturers have addressed this problem with new, more effective safety features. Every radial-arm saw on today's market has a blade guard and anti-kickback pawl that should provide a good margin of safety if you use the machine properly. Two companies—Sears and Ryobi—have recently gone one step further in adding to this safety margin.

Sears saws with 10" blades have a clear plastic guard that surrounds the blade until you lift it up by squeezing a lever built into the handle. The blade carriage cannot move forward of the fence until you squeeze the lever.

Ryobi has successfully dealt with the tendency of the blade carriage to lurch toward the operator. This happens when the blade binds and grabs the wood, or if you try to cut too fast. The Ryobi RA202 has a Control Cut Power Feed system that limits the traveling speed of the blade carriage.

**Cutting capacity.** Note on the chart above that radial-arm saws vary in cutting depth, maximum crosscut, and maximum rip. Keep in mind your needs and these specifications when shopping. For example, if you build lots of cabinets and need to rip to the center of a 4'-wide panel, the saw should have a maximum rip capacity of at least 24'.

**Controls and adjustments.** Radial-arm saws have eight basic controls and loads of adjustments. Before making a purchase, ask a salesperson to point out these features to you. Adjustments should be accessible and not too time-consuming to complete.

**Look for arm strength.** Among radial-arms, you'll find arms made of cast iron, cast aluminum, and formed steel. Cast iron and cast aluminum are the most rigid and durable of these materials, so these arms will flex the least and last the longest.

**Motors.** Smaller radial-arm saws come with universal motors that make them much noisier than saws with induction motors. We consider ear protection a must when operating these models.

**Accessories.** We've never found much use for the many accessories available for radial-arm saws such as drill chucks, flexible shafts, molding attachments, or sanding drums. Our advice: Save the money and find other ways to do such tasks. ☮️
Once only available in air-powered versions, random-orbit sanders have exploded in popularity ever since electric models came on the scene a few years ago. Here's help deciding if one of these machines deserves a place in your shop.

**Why they’re hot.** By combining the aggressive cutting action of a disc sander with the tiny-orbit swirling motion of a finishing sander, random-orbit sanders do the work of two sanders. So, armed with 60- or 80-grit sandpaper, random-orbit sanders will quickly hog away stock. With a fine-grit abrasive, these sanders will impart a silky-smooth surface.

Because the sanding scratches are in a random-swirl pattern, rather than distinct orbits or straight lines, they practically disappear when used with fine-grit abrasives. This makes random-orbit sanders especially adept at leveling and smoothing two pieces joined at a right angle, such as door and face frames.

**Drive train data.** You'll find two types of drive-train configurations on random-orbit sanders. The first type have vertically-mounted, or in-line motors such as the model above. The other type have motors mounted at a right-angle to the sanding head.

Generally, the in-line versions are quieter, less aggressive, and easier to control. You can operate some of them, such as the palm-style units (DeWalt DW420, Makita BO 5000, Porter-Cable 334, and others) with one hand.

Right-angle sanders basically consist of an angle grinder and sanding head. These tend to have greater torque, so they cut material quite quickly.

**Variable speed equals control.** Random-orbit sanders become harder to control at high speeds, so consider spending the extra money for a variable-speed model. Since most in-line sanders have the variable-speed switch built into the on/off trigger switch, you'll find them convenient to operate. We found the variable-speed controls on most right-angle machines harder to manipulate because they're located at the end of the motor barrel.

**Dust collection—a must!** These sanders make loads of fine dust, so we advise against purchasing any machine without some form of dust collection. The
best machines have bags and vacuum ports for collecting the debris.

**Points on pad size.** Most random-orbit sanders come with 5" or 6" pads, so you’ll find discs in these sizes more readily available than the 4½" discs required for some sanders. Although the 5" pads will meet the needs of most home woodworkers, consider a unit with a 6" pad if you plan to get a great deal of use out of the machine. These larger discs help you work faster, but they cost about 25 to 40 percent more than 5" discs.

**Don’t forget about air-powered versions.** If you have a generous source of compressed air, then seriously consider an air-powered sander (often referred to as dual-action or DA sanders). These sanders require about 14 cubic feet of air per minute (cfm), so only larger compressors will handle them.

In our tests, the least expensive air-powered DA sanders (under $60) compete favorably with the best electric versions. Top-of-the-line DA’s have built-in dust collection and go for as much as $200.

In our February 1993 comparison of random-orbit sanders, the Black & Decker Quantum model BD5200 came out tops among machines priced $90 and under. In the over-$90 class, the Bosch 3283DVS, Porter-Cable 7336, and Skil 7484 earned our approval.
A good-quality fence can make a big difference in the performance of your tablesaw. All of the models in the chart right will increase the speed, cutting accuracy, quality, and safety found with most standard tablesaw fences. Here’s a look at each of these advantages, followed by a discussion of how to pick a fence that’s right for you.

**Speed.** Unlike a standard fence that requires you to use a tape measure to accurately gauge the fence-to-blade distance, precision tablesaw fences have mechanisms that eliminate this time-consuming procedure. You simply line up a hairline cursor at the front of the fence with a tape measure built into the front rail or tube that the fence slides along. Then, lock down a lever, and you’re ready to make a cut. This takes just a second or two.

**Accuracy.** Of course, the preciseness of the above procedure depends on how accurately you set up the fence in the first place. To do this, you simply adjust the hairline cursor until the tape reads a sample cut exactly. Once you do this, all of your cuts will be dead on. Also, fences in this class have sturdy lock-down mechanisms that eliminate the possibility of the fence moving under the pressure of a cut.

**Quality.** As we’ve discovered in our tests of circular blades and dado sets, the quality of a rip cut depends as much on the fence being perfectly parallel to the blade as it does on the quality of the cutting tool itself. The fences in this group have the type of smart design and sturdy construction that keeps them parallel to the blade cut after cut.

**Safety.** For the same reasons that precision tablesaw fences give you better-quality cuts, they also reduce your odds of experiencing a workpiece kickback. That’s because kickbacks often occur when stock binds between a blade and a misaligned fence.

**Special features.** All of these fences work so well, that making a purchase decision often boils down to choosing a model with the features you like. For instance, Delta has a fence that slides back and forth, so you can safely use it as a cutoff stop. You can also insert it in either a high or low
## CHECK THESE STATS ON 10 AFTERMARKET FENCES

<table>
<thead>
<tr>
<th>MANUFACTURER</th>
<th>MODEL</th>
<th>CAPACITY</th>
<th>MATERIALS</th>
<th>COUNTRY OF ASSEMBLY (c)</th>
<th>WEIGHT OF FENCE (pounds)</th>
<th>WEIGHT OF FENCE (pounds)</th>
<th>LIST PRICE</th>
<th>SELLING PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Shop 28, 40, 52</td>
<td>12 28, 40, 52 S S, L, 36 2 Y N XT</td>
<td>1 U 49-65</td>
<td>20 245-275</td>
<td>245-275</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DELTA</td>
<td>Unifence 8½ 30, 32, 96 A A 32, 43 1½ or 3½ N N AE, BT, CO, XT</td>
<td>2 U 48, 30, 101</td>
<td>14 350</td>
<td>245-280</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENLON</td>
<td>25° ENCO/2016</td>
<td>12 26-46 S S, L, 31 3 Y N AK</td>
<td>90 days T 53-65</td>
<td>20 170-220</td>
<td>160-180</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXCALIBUR</td>
<td>T-Slot 11 25-60 A A 36 3 N N AK</td>
<td>90 days T 32-44</td>
<td>20 180-240</td>
<td>160-210</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>QUINTEC MFG.</td>
<td>Paralok *** ***</td>
<td>S A 3½ Y N G</td>
<td>2 U 34-60</td>
<td>14 340</td>
<td>N/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SEARS</td>
<td>Laser Line 24 30 A A 30½ 3 N Y NONE</td>
<td>1 C 43</td>
<td>12 248</td>
<td>249</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VEGA</td>
<td>Professional 40, 52</td>
<td>10 40, 50 S S 42, 50 2½ N Y AK, CO, L, MA, SP</td>
<td>1 U 60, 87</td>
<td>16 290</td>
<td>290</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unity 26, 50</td>
<td>8 26, 50 S S 36 2½ N Y AK, CO, L, MA, SP</td>
<td>1 U 32, 49</td>
<td>11 198</td>
<td>198</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### NOTES:
- Biesemeyer model numbers refer to cutting capacity to right of sawblades. Nine capacities from 26 to 122" available in 12" increments. You can also specify five left-side capacities in 12" increments, resulting in 36 total options.
- Rip capacity of 62" with 78" rails. You can position as much as 30" of this travel on either side of the blade. Longer rails are available with rip capacity up to 128".
- Fence travel a minimum of 28" or maximum of 90", depending on length of rail. You can position as much as 30" of this travel on either side of the blade.
- Paralok fence is 9" longer than the depth of the table.
- It is installed on.
- Auxiliary fence:
  - (AF) Anti-kickback device
  - (BT) Back table
  - (C) Various curvers
  - (CO) Cut-off fence
  - (LF) Laminates hold-down
  - (MA) Micro adjust
  - (RF) Router fence
  - (SK) Router-mounting kit
  - (SF) Powered stock feeder
  - (SP) Stock paneler
  - (TS) Extension table
  - (WS) Adjustable work stop

### Position (the low position works for safely cutting thin materials).

The Excalibur fence rides on wheels that make it incredibly easy to move around for various cutting widths. It also has the widest array of accessories, with several router-table components not available from its competitors.

Vega’s models have a second locking handle and micro-adjustment knob. With this feature you can lock in a cut, then fine-tune it to within tight tolerances.

On a totally different track, the Paralok works like a cable-rigged drafting table. This helps keep the infed and outfed ends of the fence in exact alignment.

### Ease of installation and adjustments.
You will probably install these fences only one time, and adjust them infrequently, so these considerations should be low on your priority list. Nevertheless, it pays to know that most of these fences require just an hour or so for installation. The Excalibur and Paralok require more time because of the complexity of their rail systems.

For setting the fences parallel, we prefer models such as the Biesemeyer and Delta that have just two easily accessible setscrews for this adjustment. All of the machines have hairline cursors that adjust quickly.

In our June 1989 test of precision tablesaw fences, we favored the Biesemeyer units for their good value, rugged simplicity, proven track record, and customer service. The home-shop version should be durable enough for your needs unless you use your tablesaw for several hours each day.

However, all of the fences worked well, and would greatly enhance the performance of any tablesaw. So, carefully consider the special features of each one. The Enlon and Sears units were not on the market at the time of our initial test.
Every time you shave, saw, or sand a piece of wood, you end up with the machined workpiece and a mess. Dispose of the latter in short order with a reliable, hardworking shop vacuum.

• **Suction.** To judge this important feature, take a look at the static pressure (sp) and volume flow rate categories in the chart right. Here's a look at each.

    Static pressure reflects the lifting power of a vacuum. A machine with a higher sp number will do a better job of lifting heavier material such as water, nails, metal shavings, and small chunks of wood. Units with high sp ratings have two fans, and cost at least two or three times more than machines with one fan. For most home woodworkers, a one-fan unit should do the job. Vacuums with high-volume flow rates, expressed in cubic feet of air moved per minute (cfm), will remove larger volumes of fine dust than units with lower cfm ratings.

• **Wet/dry vs. dry-pickup-only.** As their name implies, wet/dry vacuums will pick up water without damaging the tank, fan, or motor. Although dry-pickup-only vacuums work fine in the woodshop, wet/dry units will find more use throughout your home.

• **Tank capacity and construction.** Shop vacuums generally vary from five to 28 gallons of capacity. The smaller units will handle most cleanup jobs, and are easier to carry from place to place. But, we find tanks smaller than 15 gallons inappropriate for many shop tasks. For example, a small tank will fill up in no time if you hook it to a machine that produces lots of sawdust.

    Most economically priced shop vacuums have plastic or fiber tanks. Fiber tanks, made for dry pickup only, offer lots of capacity for a low cost. They also puncture and rot easily.

• **Standing in for dust collectors.** Except for a few limitations, shop vacuums work well as dust collectors when hooked up to woodworking equipment. What limitations? First, they have noisy universal motors designed for intermittent use. Dust collectors have quieter induction motors meant for continuous use. Second, because shop vacuums don't move as much air as dust collectors, you can hook them up to only one machine at a time.

• **Hose size.** A good deal of the shop vacuums in the chart right come with 1½"- or 1⅛"-diameter hoses. Although these work fine for picking up water, you need a 2½" hose for woodworking tasks. Such a hose will add $10-$15 to your investment.

For all-around value, in the WOOD® magazine shop we use Sears shop vacuums with at least 3 peak horsepower. However, like most reasonably priced vacuums, these models make lots of noise. If you're looking for a quieter vacuum, we like the Fein 92013 (the only model that turns on when your power tool turns on) and the Shop-Vac Quiet Super Power (QSP) line of vacuums (models 900-80 through 900-84, depending on tank size).
### CLEAN FACTS ABOUT 22 SHOP VACUUMS

<table>
<thead>
<tr>
<th>MANUFACTURER/IMPORTER</th>
<th>MODEL</th>
<th>TYPE (1)</th>
<th>NUMBER OF FANS (2)</th>
<th>VOLUME FLOW RATE (CFM)</th>
<th>PEAK HORSEPOWER</th>
<th>MATERIAL (5)</th>
<th>FILTER TYPE (6)</th>
<th>SIZE GALLOMS</th>
<th>STANDARD HOSE SIZE (IN.)</th>
<th>LENGTH FEET</th>
<th>BLOWING CAPACITY (Y/N)</th>
<th>DRAIN (Y/N)</th>
<th>ACCEPTABLE DISPOSABLE BAGS (Y/N)</th>
<th>WEIGHT (POUNDS)</th>
<th>LIST PRICE</th>
<th>SELLING PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOSCH</strong></td>
<td>1702</td>
<td>W</td>
<td>2</td>
<td>80</td>
<td>102</td>
<td>9</td>
<td>2.5</td>
<td>S</td>
<td>10</td>
<td>18</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>1</td>
<td>U</td>
<td>40</td>
</tr>
<tr>
<td><strong>DELTA</strong></td>
<td>49-255</td>
<td>D</td>
<td>1</td>
<td>75</td>
<td>169</td>
<td>7.5</td>
<td>1</td>
<td>F</td>
<td>28</td>
<td>8</td>
<td>P</td>
<td>PPC</td>
<td>C</td>
<td>AT, CT, FN, GN, WN, XW</td>
<td>15</td>
<td>Y</td>
</tr>
<tr>
<td><strong>DIRT DEVIL</strong></td>
<td>69900</td>
<td>W</td>
<td>1</td>
<td>50</td>
<td>122</td>
<td>10</td>
<td>3.5</td>
<td>P</td>
<td>16</td>
<td>15</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>2</td>
<td>U</td>
<td>22</td>
</tr>
<tr>
<td><strong>FEIN</strong></td>
<td>92013</td>
<td>W</td>
<td>2</td>
<td>90</td>
<td>123</td>
<td>9.5</td>
<td>1.6</td>
<td>P</td>
<td>10</td>
<td>22</td>
<td>N</td>
<td>N</td>
<td>1</td>
<td>G</td>
<td>309</td>
<td>695</td>
</tr>
<tr>
<td><strong>GENIE</strong></td>
<td>G710-20020</td>
<td>W</td>
<td>1</td>
<td>96</td>
<td>115</td>
<td>9.2</td>
<td>2</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>Y</td>
<td>Y</td>
<td>2</td>
<td>U</td>
<td>157</td>
<td>50-70</td>
</tr>
<tr>
<td><strong>GENIE</strong></td>
<td>Pro 20-3501</td>
<td>W</td>
<td>1</td>
<td>51</td>
<td>133</td>
<td>11</td>
<td>3</td>
<td>20</td>
<td>10</td>
<td>3</td>
<td>Y</td>
<td>Y</td>
<td>3</td>
<td>27</td>
<td>159</td>
<td>100-110</td>
</tr>
<tr>
<td><strong>JET</strong></td>
<td>JV-10</td>
<td>W</td>
<td>2</td>
<td>75</td>
<td>104</td>
<td>9</td>
<td>1.75</td>
<td>SS</td>
<td>10</td>
<td>18</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>1</td>
<td>T</td>
<td>50</td>
</tr>
<tr>
<td><strong>MAKITA</strong></td>
<td>XBV018</td>
<td>D</td>
<td>1</td>
<td>NA</td>
<td>7.2</td>
<td>1.75</td>
<td>NA</td>
<td>CP</td>
<td>N/A</td>
<td>15</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>2</td>
<td>U</td>
<td>6</td>
</tr>
<tr>
<td><strong>MILWAUKEE</strong></td>
<td>8995</td>
<td>W</td>
<td>1</td>
<td>49</td>
<td>97</td>
<td>6.2</td>
<td>1.5</td>
<td>S</td>
<td>10</td>
<td>18</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>LIFE TIME</td>
<td>32</td>
<td>328</td>
</tr>
<tr>
<td><strong>PORTER-CABLE</strong></td>
<td>8925</td>
<td>W</td>
<td>2</td>
<td>105</td>
<td>110</td>
<td>10</td>
<td>2.5</td>
<td>SS</td>
<td>15</td>
<td>39</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>LIFE TIME</td>
<td>53</td>
<td>1,104</td>
</tr>
<tr>
<td><strong>RYOBI</strong></td>
<td>10028</td>
<td>W</td>
<td>2</td>
<td>61</td>
<td>123</td>
<td>9</td>
<td>N/A</td>
<td>P</td>
<td>5</td>
<td>25</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>1</td>
<td>G</td>
<td>16.5</td>
</tr>
<tr>
<td><strong>SEARS</strong></td>
<td>17744</td>
<td>W</td>
<td>2</td>
<td>43</td>
<td>120</td>
<td>6</td>
<td>2</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>15</td>
<td>18.5</td>
</tr>
<tr>
<td><strong>SEARS</strong></td>
<td>17701</td>
<td>W</td>
<td>1</td>
<td>47</td>
<td>140</td>
<td>7.6</td>
<td>3</td>
<td>8</td>
<td>2</td>
<td>15</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td><strong>SEARS</strong></td>
<td>17702</td>
<td>W</td>
<td>2</td>
<td>50</td>
<td>160</td>
<td>10</td>
<td>4</td>
<td>12</td>
<td>15</td>
<td>15</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>1</td>
<td>U</td>
<td>21.75</td>
</tr>
<tr>
<td><strong>SHOP-VAC</strong></td>
<td>505-05</td>
<td>W</td>
<td>2</td>
<td>50</td>
<td>160</td>
<td>11.2</td>
<td>5</td>
<td>16</td>
<td>15</td>
<td>12</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>28</td>
<td>100</td>
</tr>
<tr>
<td><strong>SHOP-VAC</strong></td>
<td>707-08</td>
<td>W</td>
<td>2</td>
<td>60</td>
<td>132</td>
<td>8.4</td>
<td>1.75</td>
<td>8</td>
<td>12</td>
<td>8</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>1</td>
<td>U</td>
<td>14</td>
</tr>
<tr>
<td><strong>SHOP-VAC</strong></td>
<td>900-83</td>
<td>W</td>
<td>1</td>
<td>52</td>
<td>185</td>
<td>7</td>
<td>2</td>
<td>12</td>
<td>8</td>
<td>18</td>
<td>N</td>
<td>Y</td>
<td>2</td>
<td>U</td>
<td>21</td>
<td>157</td>
</tr>
<tr>
<td><strong>SHOP-VAC</strong></td>
<td>870-72</td>
<td>W</td>
<td>1</td>
<td>59</td>
<td>170</td>
<td>11.7</td>
<td>4</td>
<td>16</td>
<td>12</td>
<td>12</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>2</td>
<td>U</td>
<td>25</td>
</tr>
</tbody>
</table>

**NOTES:**
1. (W) Wet/Dry
2. (D) Dry only
3. (ET)'s refer to 1-stage or 2-stage
4. Inches of water a vacuum will draw up a hose (manufacturer ratings).
5. (PPG) Pluggable cap (manufacturer ratings).
6. (PP) Plastic
7. (S) Stainless steel
8. (C) Casters
9. (SP) Spool
10. (CT) Casters with storage
11. (H) Handheld unit
12. (PC) Push cart
13. (CN) Carpet nozzle
14. (DF) Foam inside cloth bag
15. (FP) Foam and paper
16. (PPC) Plated paper cartridge
17. (S) Standard:
18. (AN) Auto nozzle:
19. (CU) Curtain:
20. (SS) Stainless-steel accessories
21. (CN) Casters
22. (N) General-purpose nozzle
23. (H) Hose cap
24. (G) Germany
25. (T) Taiwan

**WOOD MAGAZINE**: OCTOBER 1994

69
A BOX THAT'S CURIOUS

It takes just a few simple scrollsaw cuts to create this entertaining box. But, there's a catch—you must make those cuts in a specific order. Don't worry, though; we've mapped out all the moves for you, so you can cut out this puzzler in short order.

Note: We cut our box from 13/4" square stock. If your scrollsaw won't accept material that thick, you can adapt the design to fit smaller square stock. For cutting, we used a no. 5 blade, 0.037 x 0.015" with 14 teeth per inch.

Referring to the full-sized Side View pattern, opposite page, draw the red outside cutting line, designated no. 1, on one face of a 13/4" x 13/4" x 6" piece of stock. (We made one box of walnut and another of Philippine mahogany.) Saw around the line. Sand the edges as necessary.

Stand the workpiece on the bottom—the flattest edge, and mark a cutting line along the curved upper surface 3/4" from the back, shown by the green line (no. 2) on the Top View drawing. Saw along the line to cut off the thin back piece. Set the back aside to use later.

Now, draw the removable keys, the yellow lines shown as no. 3 on the Side View pattern. Scrollsaw the keys—the mouth and the tail. Feed the work into the saw carefully and slowly to avoid flexing the blade excessively. Bending the blade as you cut results in tapered pieces that may not slide apart readily. Set the keys aside, and turn the workpiece onto the flat bottom again.

Draw the purple cutting line for the lid (no. 4) onto the curved surface facing up. Scrollsaw along that line, then slide the lid piece off. Set it aside.

With the lid off, draw the blue interior cutting line (no. 5) where shown. Drill a 1/8" blade start hole where shown, then insert the scrollsaw blade and cut out the center section of the body.

On the cutout part, draw a line about 3/16" below the keyed edge and parallel to it, shown by line no. 6 on the Inner Lid and Supports drawing. Cut off the inner lid, then saw the ends from the remaining piece where shown by lines no. 7.

To assemble the box, first glue the thin back piece to the body with woodworker's glue. Align the front end and edges, and clamp. Remove any squeeze-out in the key slots or the interior.

Glue the inner lid supports into position at the front and back of the interior cavity. You can use woodworker's glue or cyanoacrylate adhesive for these parts.

After the glue dries, sand as necessary. Set the inner lid into place, slide the lid onto the body, and drop the keys into position. Sand the outside of the box. Remove the keys and lids, then apply a clear oil finish on all parts, taking care not to build it up so thick that the parts won't fit together. When dry, reassemble the box.

Project Design: Thomas J. Wiley
Pied Piper Productions
Illustrations: Kim Downing
Photograph: John Hetherington
A BIT FISHY CONTAINER

INNER LID AND SUPPORTS

1. Cut to 3/16" thickness
2. Cut off inner lid
3. Cut inner lid supports about 1/8" thick
4. Front inner lid support
5. Waste
6. Rear inner lid support

EXPLODED VIEW

1. Back (Glued to body)
2. Inner lid
3. Inner lid supports
4. Mouth
5. Lid
6. Tail

SIDE VIEW

1. Blade start hole
2. Inner lid supports
3. Mouth
4. Tail

FULL-SIZED PATTERNS

1. Back
2. Lid
3. Tail

WOOD MAGAZINE  OCTOBER 1994
Craftsmanship and ingenuity on display! That best describes readers’ entries in WOOD magazine’s sixth annual Build-A-Toy® contest. Jim Downing, design editor and a perennial judge in the contest, beams with enthusiasm: “I’ve never seen such an incredible batch of toys!”

From as far away as Alaska, entries poured into Des Moines to beat the February 1st deadline. One parcel filled with handcrafted toys from a fifth-grade class in Amherst, New York, really brought the house down. And again, Newark, Ohio’s Licking Valley High School claimed prizes in the woodworking shop-class category. Among home hobbyists and professionals we found familiar winners from the past, but entries from contest newcomers in many cases outshined them.

There was sadness, too. Just before the judging, Juanita Powe, of Slidell, Louisiana, called us to say that Hucy, her husband, had unexpectedly passed away. She asked if it would be possible to return the toy (shown on page 96) for a family remembrance of him. We complied, with our sincerest sympathy.

For a complete list of those who earned the more than $16,000 worth of prizes in woodworking tools and supplies, turn to page 96. And on page 98, you’ll find the rules and prizes for the 1995 Build-A-Toy contest.

Help for Toys for Tots
For the past two years, Build-A-Toy entries have been exhibited at Silver Dollar City theme park near Branson, Missouri, during their fall National Crafts Festival. Then, in December, the toys were auctioned to benefit Toys for Tots. But this year, inspired by the tremendous reader effort, we’ll place the toys on public display during October and November at our Des Moines corporate headquarters and elsewhere in the city. On November 16, we’ll sponsor an auction to end all auctions. Our goal? To raise more than the $22,000 your toys brought last year.

Keep your eye out for the auction details on next month’s “Finishing Touches” page at the back of the issue. Meanwhile, study the toys shown, then start planning your entry for the 1995 Build-A-Toy contest. And let’s say a hearty thank-you to the prize sponsors and all those who entered in 1994, because in children’s eyes, they’re all winners!

Continued on page 96
CRAFTSMANSHIP!

Followers of the Build-A-Toy contest recognize the name Larry Weaver. He's a perennial top finisher, and his walnut and maple boxed train set took Second Place in the home-hobbyist division. Larry does his woodworking in Petersburg, West Virginia.

Barberton, Ohio's Robert Elsmore blended mechanical and woodworking skills to capture Third Place among home hobbyists with his working carousel. Turn the crank and it revolves. The animals also move up and down in animation.

Peter F. Friedel, a woodworker from Baltimore, Maryland, spared no details with his pine semi tanker truck. His effort earned him First Place in the home hobbyist category.

Grand Prize winner in the home-hobbyist division was Matt Drown of Slayton, Minnesota. His walnut and maple western gambler gumball dispenser was both ingenious and expertly crafted. Just wiggle its ears and the figure drops a treat from its mouth!

On judging day, Jim Downing, WOOD magazine's design editor, Capt. Michael Schmidt, USMC, and David Jordan, V.P. New Products of Meredith Corp., get ready to inspect the entries.
Tour-De-Force TUREEN

You'll draw raves with this redwood-burl bowl

Looks great! Saves wood! For many turners, advantages like these offset the extra effort that goes into building a staved blank. See for yourself, and feel the pride of accomplishment as you create this lovely lidded bowl, another great design from the lathe of WOOD® magazine's art director and master turner Lee Gatzke.

We used these tools and supplies

**Stock:** Approximately 3 bd. ft. redwood burl and 2 sq. ft. of maple veneer, 5/8" maple, 1/2" walnut, 1" walnut. (See the Bill of Materials for sizes, and the Buying Guide for our redwood-burl source.)

**Lathe equipment:** Two 4-6" metal faceplates, drive center, revolving tail center.

**Tools:** 1/8" parting tool, 1/4" and 1/2" bowl gouges, 3/8" spindle gouge.

**Speeds:** Roughing, 800-1000 rpm; turning and sanding, 1200-1600 rpm.
Bowl turning can be so straightforward. Just attach a solid block of wood to the lathe, put a gouge to it, and presto! A bowl! Why, then, would anybody go to the effort of cutting a lot of wedge-shaped pieces of wood (staves) and gluing them together to construct a bowl blank?

Here's one practical reason: A lot less wood goes to waste. A staved blank starts out nearly round, and it's already hollow, so you generate fewer chips while roughing out your vessel. That, along with the fact that you can use small pieces of stock—even scraps—makes staved construction economical. And, of course, you aren't limited to making a bowl only as large as the biggest chunk of wood you can find.

You'll find aesthetic advantages, too. Building up a blank from staves lets you display face grain or a special figure all around a turning. And, it gives you almost endless opportunities to mix different woods for color, texture, and grain patterns that will make your finished piece unique.

This gorgeous lidded bowl makes a strong case for the advantages of staved construction. The beautiful figure of the redwood burl shows from every angle, set off by stripes of maple veneer. As for economy, this bowl's dimensions would require a solid block of heroic proportion (and cost).

**Build the bowl blank**
To construct the bowl blank, first cut 16 staves like the one shown on page 76, top left, from 2"-thick stock. The wide faces of the staves become the outside of the blank. Cut 16 pieces 2x2x6", then bevel-rip the edges. Saw a few pieces of scrapwood the same size for test cuts.

You'll need a carrier like the one on page 76, top right, to bevel-rip the edges safely and accurately. Build one from scrap-
wood, using the dimensions in the drawing. (We first built a threesided tray with inside dimensions of 2"x2½"x6", using simple nailed and glued butt joints. Then, with the tablesaw, we trimmed the carrier to 1¾" wide at an 11¼° angle where shown. When you cut the jig to width, leave the saw fence in position to rip the staves.)

Saw the bevel on both edges of each stave. Place each blank into the carrier with the best face down. (Test-cut four scrapwood staves to check the jig's accuracy. When you put the four together, they should form a 90° angle between their outside edges.)

After sawing the staves, cut 16 pieces of maple veneer 2" wide by 6" long. Be sure to use solid veneer for these pieces, not self-adhesive or paper-backed veneer. Only the thin edge will show in the completed turning, so you don’t need veneer with a fancy figure, either.

Stand the staves on your bench to form a cylinder, then slip a piece of veneer into each joint. Cinch up the assembly with a band clamp, and inspect all joints for tightness. Check the outside diameter now, too. It should measure somewhere between 9¾" and 9¼", depending on the thickness of your veneer strips.

Glue together the 32 components of the blank with slow-set epoxy. Alternate veneer strips and staves. As you build the glue-up, stand it on a piece of waxed paper on your benchtop. When fully assembled, wrap the built-up blank with waxed paper, and secure with band clamps.

Lay waxed paper and a ¾"x10"x10" piece of plywood on top, and clamp the assembly to your bench to keep the ends even. With a square, check the glue-up to be sure it is standing up straight. After the glue cures, scrape the squeeze-out from the sides and ends.

To square the ends of the glued-up cylinder, construct the jig shown below for your tablesaw. Set your saw’s miter gauge at 90° to the blade, then position the jig so you can saw ½" or slightly less from the end of the blank. Screw the jig to the miter gauge.

Place the cylinder in the jig, and saw the end, rotating the cylinder between cuts. When you have cut away around one end, turn the cylinder end-for-end in the jig, slide a ½"-thick packing of hardboard between the back of the jig and the square-cut end of the cylinder, and trim the other end.
It's time to turn the body
Mount a 10"-diameter wooden auxiliary faceplate about 1" thick on your lathe's metal faceplate. True the face and edge of the auxiliary faceplate. Center the end of the blank that will be the top of the bowl on the faceplate, then glue it into place. Here's one way to center the blank: Turn a recess in the faceplate 1/6" deep and the same diameter as the blank. Glue the blank into the recess.

Turn the cylinder to the bowl's largest finished diameter, 9 1/2". True the end with a light scraper cut. Then, following the profile shown on page 75, turn the outside of the bowl to shape, using a bowl gouge.

Turn the inside to correspond to the outside shape. As you work, gauge the wall thickness with the caliper at several points to ensure uniformity. Don't attempt to make your bowl too thin—a wall thickness of 1/4" is ideal.

Form a 4 1/4" x 4 1/4" rabbet on the end of the bowl body to receive the base, as shown on the template. Make the cut by coming straight in from the end of the turning with your parting tool. Dismount the faceplate and workpiece from your lathe. Remove the metal faceplate from the back of the auxiliary faceplate.

The neck completes it
Trim the turning to 6 1/2", measuring from the bottom of the base to the top edge of the body. Now, form a 4 1/4" x 4 1/4" rabbet in the top edge, as you did for the base.

Dismount the faceplate and workpiece from the lathe. Remove the metal faceplate from the back of the auxiliary faceplate, first marking both so you can rejoin them later with the same orientation. Attach a new auxiliary faceplate to the metal faceplate, and true it.

Now, laminate stock for the neck. Glue a 7 3/4"-diameter circle of 1"-thick walnut to a same-sized circle of 3/8"-thick maple. Center and glue the walnut side onto the auxiliary faceplate.

Turn the neck laminate to 7" diameter. Then, following the template, rough-shape the neck inside and out. Allow an extra 1/8" or so on both surfaces. As you add the base, turn a rabbet in the maple side of the neck laminate to mate snugly with the body.

To glue the neck piece to the body, remove the metal faceplate from the back of the neck turning, and reattach it to the bottom of the bowl. Mount the bowl on the lathe, apply glue to the rabbet, and position the neck turning. Again, clamp with the tailstock.

After the glue dries, part off the auxiliary faceplate at the top of the neck. Complete shaping the neck, blending it into the bowl body inside and out. Take care not to cut into the rabbet joint. Also, shape the neck opening to receive the lid.

Sand the inside with a flap sander while the lathe is running. Also with the lathe running, sand with progressively finer grits of handheld sandpaper, ending with 320 grit. Similarly sand the outside, beginning with a disc sander instead of the flap sander.

Apply satin Deft lacquer or other clear finish. (We applied three coats with a cloth and sprayed two final coats, sanding between them with 320-grit sandpaper.) Part the bowl from the lathe. Sand and finish the bottom.

Now, put a lid on your bowl
Cut 16 segments for the lid from 1/4"-thick redwood burl. To saw the wedge-shaped pieces safely and accurately, build a sliding-table jig for your tablesaw, following the illustration below.

For the segments, start with 1 1/4" x 3 1/8" stock (or as long as possible). Joint one edge, then rip the piece to 2 3/4" wide—both edges must be straight and parallel for accuracy. Prepare a same-sized piece of scrapwood.

Using the sliding table, saw one end of your scrapwood at 11 1/2°. Now, to cut the first wedge, flip the piece over, placing the opposite edge against the jig's fence, as shown by Cut 2 in the illustration on page 78, top left. Flip the stock again, align the short corner with the right side of the kerf as shown, and cut the next wedge. Flip the wood, and repeat.
After you have cut four wedges, lay them next to each other on a smooth surface. The outside edges should form a 90° angle. If not, recheck the angle of the jig's fence, adjust as needed, and try again. When you have adjusted the jig to cut accurately, saw the 16 redwood wedges, using the same alternating-edge scheme.

**Assemble the lid blank**
Cut 16 pieces of maple veneer 1 1/2" x 2 3/4". Arrange the 32 parts into a circle, alternating maple slices and redwood wedges. Tighten a band clamp around the assembly, and check the joints for tightness.

Then, glue with slow-set epoxy, arranging the segments on a piece of waxed paper on your benchtop. Wrap the outside edge of the glue-up with waxed paper, and clamp. To keep it flat, lay waxed paper and a scrapwood disc on top, and clamp to the benchtop.

Allow the glue to cure, then remove the clamps and scrape off the squeeze-out. Sand both faces, keeping them parallel. With a Forstner bit or holesaw, bore a 1 3/4" hole through the center.

Bandsaw a 1 3/4"-diameter circle from 3/4"-thick maple. Bore a 3/8" hole through the center. Now, mount a 6" length of 1" walnut dowel between centers on your lathe. Turn the tailstock end to a 3/8"-diameter tenon 3/4" long. Glue the maple ring onto the tenon, keeping the dowel perpendicular to the ring.

Grip the end of the walnut dowel in a 3- or 4-jaw lathe chuck. If you don't have one, attach a 1 1/2"-thick auxiliary faceplate to your lathe's faceplate. Round down the edge. Then, with a gouge, form a centered hole 1" deep to hold the dowel snugly.

Turn the maple ring on the dowel to fit into the 1 3/4"-diameter center hole bored through the redwood-and-maple glue-up. Glue the larger part onto the maple ring, pushing it on far enough to align the top of the maple ring flush with the top of the larger piece. (See the Lid Blank illustrations above.) Keep the large circle parallel to the faceplate as you glue it into position. After the glue cures, turn the large disc to 5 1/4" outside diameter.

On another faceplate, attach a 6"-diameter, 3/4"-thick auxiliary faceplate. Bandsaw a 6" circle from 1/2" maple, and glue it to the auxiliary faceplate. Turn the outside to 5 3/4" diameter, keeping the edge perpendicular to the face. Cut in from the face with the parting tool to form a 5 3/4" inside diameter. Fit this ring (K) around the assembly where shown.

In the same manner, start with an auxiliary faceplate and a 1 1/2"-thick walnut circle, both 6 1/2" in diameter. Turn the outside diameter to 6 1/4", and the inside diameter to 5 3/4". Fit this ring (L) around the maple ring. This completes the blank for the lid.

Turn the lid to the template profile. Turn the outside first. Match the outside contour on the inside, keeping a wall thickness to match your bowl. Turn the outer rim to fit the bowl opening. Sand the lid inside and out.

Form the knob on top last—you need the strength of the full dowel to support the lid during turning. Part off the lid at the top of the knob. Finish the lid to match the bowl.
"The ability to turn a hobby into an income producing venture while building net worth has greatly contributed to my motivation to succeed."

-Dave Raybeck
Furniture Medic Franchisee

**Hobby To Profit**

Exclusive patent-pending environmentally conscious restoration techniques allow Furniture Medic® to restore wood and furniture damage/defects on site for a fraction of replacement costs.

Hotels • Restaurants • Offices • Country Clubs • Commercial Settings • Insurance And Moving Companies • Retailers • Residential

We provide equipment, specialized training, kick-off marketing campaign, national advertising/accounts and continuous support.

Turn Your Hobby Skills Into Business.
Call today for a free video. (800) 577-9933 or (404) 361-9933

Master and Unit Licenses Available Worldwide.

**BUCK MEDIC**
the prescription for damaged furniture*

*See prospectus for details.

** If you can plug it in... we've got it! **

**BOSCH**
1561VS $144
VS Orbital Jigsaw
B1650 Avail. Biscuit Joiner $150
B4650 Nest Avail. $150
S600D Wrench $115
H0278C 220 Volt 12" A99

**NEW**
2872K2 with 2 Sets $199
2874K 144V $199
1157 3/8" Keyless Drill $75
1185 3/4" Keyless Drill $105
1249 1/2" Keyless Drill $75
1349 TiPAC Drill $105
2249 1/2" Keyless Drill $75
2349 220V 1/2" Keyless Drill $115
3037 Drywall Screwgun 83
303TW PS Drywall Screwgun 83
303TW2 PS Drywall Screwgun 83
3054 Hit Screwgun $115
3070 Drywall Screwgun 83
3172 13" Ria Cordless $140
3165 Panel Saw $140
3357K Biscuit Joiner $225
3359 3/4" VS Fugger $240
4070 7" Woodworking $200

**PORTER-CABLE**
330 SD Finishing Sander $52
for $10 rebate

**PORTER-CABLE**
1403V 1/4 Sheet Sander $52
1404V 1/2 Sheet Sander $52
1462V 3" Sander $52
1464V 4" Sander $52
1511V 5" Sander $52
1521V 6" Sander $52
1531V 8" Sander $52
1561V 10" Sander $52
1571V 12" Sander $52

**OSBOURNE**
OSS450 Spindle Sander $169
for $10 rebate

**RYOBI**
14" Corded Planer $52
15" Corded Planer $52

**SMART LEVEL**
Leveling - Hand Tools Fall 10'
3/8" Steam Pipe $52
3/4" Steam Pipe $52

**HITACHI**
DW682K Biscuit Joiner $222
DW682K 2" Router $222
DW682K 2" Router $222

**AIR- GUN**
241SK 18 G 3/8-1/2" Kit $99

**STABILA**
Leveling - Hand Tools, Two-vertecs Level 6" $99

**Yamaha**
Pocketview $99

**ABBAY TOOLS**
1-800-225-6321

**ABBAY TOOLS**
1-800-225-6321

**ABBAY TOOLS**
1-800-225-6321

1132 N. MAGNOLIA ANAHEIM CA 92801
OPEN 8-530 WEEDAYS 9-2 SATURDAY
Calif, residents add 7.75% state sales tax
SERVING YOU FOR OVER 18 YEARS

Prices subject to change without notice.
MANUFACTURERS' LISTING

HOW TO CONTACT TOOLMAKERS

Need more information on a specific tool or how to go about buying it? Here's a rundown of addresses and phone numbers for the manufacturers represented in the charts on pages 54-69.

AEG
Chicago Pneumatic Tool Co.
Electric Tools Division
2220 Bleeker St.
Utica, NY 13501-1739
800/243-0870
315/792-2600

Air America
DeVilbiss
213 Industrial Drive
Jackson, TN 38301
901/423-7000

American Machine & Tool (AMT)
4th and Spring
Riverside, CA 92503
213/948-0400

Biesemeyer
216 S. Alma Road, Suite 3
Mesa AZ 85210
602/762-1831
602/762-7330

Black & Decker
625 Hanover Pike
Hampstead, MD 21074
800/762-6672
410/239-5000

Bosch
S-B Power Tool Co.
4300 West Peterson Ave.
Chicago, IL 60646
312/437-7390

Bostitch
Stanley Bostitch
Briggs Drive
East Greenwich, RI 02818

Bridgewood
Wile Machine Co.
3230 Susquehanna Trail
York, PA 17402
800/225-2100
717/784-5000

Campbell Hausfeld
100 Production Drive
Harrison, OH 45030
800/543-6622
513/367-3134

Carb-Tec
Penn State Industries
2850 Comly Road
Philadelphia, PA 19154
800/377-7297
215/676-7600

Charge Air Pro
(see DeVilbiss address and phone number under Air America)

Grizzly
(see below

DeWalt
246 Alpha Drive
Pittsburgh, PA 15238
800/389-2468
412/693-2400

Eucalyptus
625 Hanover Pike
Hampstead, MD 21074
800/433-9258

Dirx
Royal Appliance Co.
650 Alpha Drive
Cleveland, OH 44143-2172
800/212-1134
216/439-6150

Eucalyptus
(see below

Emgo Air Compressors
300 Industrial Park Rd.
Johnstown, PA 15904
814/269-1000

Enflex
19400 San Jose Ave.
City of Industry, CA 91748
800/888-9697
909/468-3688

Excalibur
29 Passmore Ave. No. 6
Scarborough, Ontario,
Canada M1V 3H5
800/387-9789
416/281-8180

Fein
3021 W. Carson St.
Pittsburgh, PA 15204
800/441-9878
412/331-2325

Freud
P.O. Box 7187
218 Feld Ave.
High Point, NC 27264
800/472-7307
910/434-3171

General
835 Cherrier St.
Drummondville, Quebec,
Canada J2B 5A8
819/472-1161

Genie
22790 Lake Park Blvd.
Alliance, OH 44601
216/572-3600

Hilti
3950 Steve Reynolds Blvd.
Norcross GA 30093
800/706-7337
404/925-1774

Jet
P.O. Box 1349
Auburn, WA 98001
800/274-8948
206/351-6500

Klein
17910 S.E. 110th St.
Renton, WA 98059
206/226-5937

Lamello
Colonial Saw
100 Pembroke St.
Kingston, MA 02364
800/262-6365
Mass. residents: 617/565-4366
Calif. residents: 909/866-1168

Lamy
14930 Northam St.
La Mirada, CA 90638-5753
714/522-8088

Milwaukee
13135 West Lisbon Rd.
Brookfield, WI 53005
414/781-3600

Porter-Cable
4825 Highway 45 North
P.O. Box 2468
Jackson, TN 38302-2468
901/666-8600
Canada: 519/336-2840

Powermatic
607 Morrison St.
McMinnville, TN 37110
800/248-0144
615/473-5551

Quincy Compressor
3501 Wimmer Lane
Quincy, IL 62301
217/222-7700

Quin.tec Manufacturing
5126 N.E. 42 Ave.
Portland, OR 97218
503/281-6096

Record
1920 Clements Road
Pickering, Ontario,
Canada L1W 3V6
416/426-1177

Reliant
Trend-Lines
375 Beacham St.
Chelsea, MA 02150
800/877-7399
617/884-8882

Ryobi
5201 Pearlman Dairy Rd.
Anderson, SC 29622
800/529-2579

Sanborn Manufacturing
118 W. Rock St.
Springfield, MN 56087
800/544-5145
507/723-6211

Sears
(Call or visit
your local Sears store)

Senco
8485 Broadwell Rd.
Cincinnati, OH 45244
513/388-2064

Shop-Vac
2223 Reach Road
P.O. Box 5307
Williamsburg, PA 17701-0307
717/920-0602

Shopsmith
3931 Image Drive
Dayton, OH 45414-2591
800/543-9366
513/896-8070

Skil
(see S-B Power Tool Co.
under Bosch listing)

Transpower
C-P Tools
14257 E. Don Julian Road
Industry, CA 91746
800/856-7702
Calif. residents: 818/333-7701

Vega
Route 3, Box 193
Decatur, IL 62526
217/963-2232

Virutex
Practical Products
3925 Virginia Ave.
Cincinnati, OH 45227
513/661-6650

Williams & Hussey
P.O. Box 1149
Wilton, NH 03086
800/258-1380
375/777-7777
Woodworker's Marketplace is a section of advertisers offering products by mail. Please contact the advertisers directly or use the number below each ad to request information through the Woodworker's Resource section.

Free Catalog

Natural Weaving Supplies for the Craftsmen

Learn seat weaving for fun or profit. Large selection of stand canes, cane webbing, flat reeds and fibres, chair kits, wood parts, books and more.

Frank's Cane and Rush Supply
7252 Hill Avenue, Dept. W2
Huntington Beach, Ca. 92647
(714) 847-0707

BRANDING IRON

$2900

For hard and soft wood

HAND CRAFTED BY YOUR NAME HERE

Plus $3.00 for shipping and handling
CA residents add correct extra for SATISFACTION GUARANTEED or your money back

Shipping in one week
Solid brass head — raised letters
1st Line: HAND CRAFTED BY — as above
2nd Line: Your choice — 20 characters/spaces max.
Electric iron available for $49.00 + $3.00

ORDER TOLL FREE:
1-800-826-7606

Circle No. 160

WOOD TOY

Patterns
Parts
Wheels
Many New Patterns to Choose from
Executive toys

SEND $1.00 FOR NEW CATALOG

toys and joys
Box 628 w
Lynden, Wash. 98264

Circle No. 465

THE WOODTURNERS CATALOG

Craft Supplies USA offers woodturners the finest selection of woodturning tools and accessories anywhere.

CHOICE FROM:
- HENRY TAYLOR TOOLS
- RICHARD RAFFAN TOOLS
- DALE NISH WORKSHOPS
- WOODFAST WOOD LATHES
- COMPLETE LINE OF PENG取决于 PENCILS, FOUNTAIN AND ROLLERBALL KITS

We offer the best quality, prices and service, guaranteed! Send $2.00 for our 52 page color catalog. Craft Supplies USA PO Box 50300 Provo UT 84605-0030 Phone (801) 373-0919

Circle No. 830

Garrett Wade Free...

Woodworking

We carry over 5,000 high quality woodworking supplies and tools that are nearly impossible to find anymore.

For your FREE catalog Call Toll-Free or write to:
Garrett Wade Co., Inc.
161 6th Avenue, Dept. 957
New York, NY 10013
800-221-2942

Circle No. 855

WOOD CLOCK KLOCKIT

FREE Clockmaking Catalog

100% Satisfaction Guaranteed!

WELCOME TO CLOCKMAKING!

It's a natural for people who love working with their hands. It's easy as 123 and clocks make sensational gifts!

Klockit's new FREE catalog has:
Clock Kits & Plans, American-made Quartz Movements, Mechanicals, Dials, Hands and Numerals.
Plus, Quartz Clock inserts, Wood Turned Parts, Hardware, Posters, Watches and More!

Name
Address
City
State, Zip

KLOCKIT
Call 1-800-KLOCKIT
(556-2548)

Dept. WD104
P. O. Box 636
Lake Geneva, WI 53147-9981

Circle No. 2335
FREE!

The most complete Woodworking Catalog!

Featuring over 600 NEW items, Anniversary Specials and over 4000 hard-to-find products for your next project. Dept. 43113

Call 1-800-403-9736 Today!

40 YEAR ANNIVERSARY

The Woodworkers' Store

Hardware, Wood, Tools & Know How

Circle No. 965

Add the Details That Get Noticed

Woodchuck™ -- the affordable Five Axis Milling System from Phantom Engineering, Inc. View our DEMO VIDEO FREE call for details.

(800) 279-4570

Circle No. 1084, 1265

Disaster Insurance for Woodworkers

SQUARE DRIVE SCREWS

Made in USA or Canada!

Re-Use-Yourself Drawer Contains 1200 screws, 100 each in 12 popular sizes, with a magnetic bit holder, 3 insert driver bits and 4 in-1 hand driver. Twelve optional heavy duty storage bins stack, or may be wall mounted with the supplied quick disconnect brackets. Sizes included: #6 x 1/2, 5/8, 1-1/4, #8 x 1/4, 1-1/2, 2, 2-1/2, #10 x 1-1/2, 2-2/1-3
#


Catalog is Free, Samples & Catalog $3

C. McFEELEY'S SQUARE DRIVE SCREWS

PO Box 3, Dept WD100

Lynchburg, VA 24505-0003

1-800-443-7937

Delivery Charges

Order Total S&H

$0.01 to $20.00 $4.00

$20.01 to $50.00 $5.00

$50.01 to $100.00 $7.00

Over $100.00 $8.00

UPS Ground Service Only Alaska, Hawaii, US Territories and foreign countries only

Circle No. 2450
Supplement Your Income From Your Home With A Computer!

Begin part-time and still retain the security of your present position. We offer 20 services you can perform for your community from your home. No experience necessary—easy to learn. We provide training and computer. For FREE explanation cassette and literature call:
1-800-343-8014, ext. 184
Computer Business Services, Inc.

Circle No. 190

Demanding Craftsmen Demand Woodcraft...

With over 4,000 of the finest woodworking tools in the world, Woodcraft can help you work more efficiently and skillfully than ever.

WOODCRAFT
210 Wood County Industrial Park Dept. 94W108
PO Box 1688, Parkersburg, WV 26102-1688

Circle No. 955

MAKE IT MOBILE
WITH HTC MOBILE MACHINE BASES

For a FREE Full-Color Catalog of HTC's Complete Product Line Call:
1-800-624-2027

Circle No. 1245

Buckboard Bench
(real springs)

Kit includes: authentically designed steel springs that give a little, metal arms & backrails, complete hardware & detailed instructions. $49.00 Also available, pre-cut and drilled oak for the bench. $90 addl.

The Roudebush Co.
Box 348A, Star City, Indiana 46985
800-847-4947
(Visa, MC Accepted) Price includes shipping UPS. Mfg. inc. 9% sales tax.

Circle No. 1085

THE JAPAN WOODWORKER
1751 Clement E-31, Alameda, CA 94501
Phone 1-800-537-7800

Release the best tools you can get your hands on.
In our catalog you will find a huge selection of
Japanese saws, woodshapers, chisels, planes,
carving tools, outlines and books. Send
$1.50 for our catalog and supplements
during the next two years.

THE JAPAN WOODWORKER

Circle No. 1661

OWN A FURNITURE RESTORATION BUSINESS
Perfect 2nd Career
Make $200-$2,000 a day! Unlimited market; turn-key business. Free workshops. Set-Up Shop for $2,999-$9,999! Part-time or full-time. Great for men, women, families.
Make Molds*Veneer*Resilver
Strip*Repair*Refinish
Business Preview Video $8.95 Catalog $2.00
MINUTEMAN, INC., Ste. 17
Box 8, Waterloo, WI 53594
1-800-733-1776

Circle No. 1260

STEEL MASTER
STEEL BLOCKS
SAVE UP TO 45%

Buy Factory Direct. 20 x 32. 25 x 48
Build it yourself! 35 x 56. 60 x 124
800-888-4606

Circle No. 2030

SAVE MONEY!
KILN DRY LUMBER
MAKE MONEY!
Kiln Dry for others.
As the nation's largest manufacturer of dehumidification Dry Kilns, we can supply you with the same type equipment used by many of the major firms.

1-800-777-NYLE 207-938-1335
Nyle Standard Dryers, Inc. P.O. Box 1107, Bangor, Maine 04402
FAX # 207-938-1101

Circle No. 1260

WOOD MAGAZINE OCTOBER 1994
PLANS AND PATTERNS FOR THE HOME CRAFTSMAN
NEW 1994 FALL CATALOG FEATURES
- PLANS & PATTERNS FROM 25 COMPANIES
- WOODWORKING BOOKS
- DREMEL TOOLS & ACCESSORIES
- EXPANDED CHRISTMAS SELECTION
- PROJECTS FOR THE ENTIRE FAMILY
- MONEY BACK GUARANTEE

SEND $3.00 OR VISA/MC CALL 1-800-576-9174

CREATIVECRAFT PLANS: SUITE 20
9654 CEDAR COVE LANE / INDIANAPOLIS, IN 46250

Circle No. 330

Wood-Mizer
World's Largest Manufacturer of Portable Sawmills
Models from $6995*

Own a Sawmill!

1-800-553-0219

32-Page Full-Color Catalog $2.00 Business Profitability Booklet $2.00 86-Minute Demonstration Video $10.00 Mastercard or Visa Accepted *Shown with optional trailer

Wood-Mizer Products, Inc.
8180 West 10th Street, Dept. 0084
Indianapolis, IN 46214-2400

Circle No. 94

WOODWORKER'S CATALOG
Over 4000 products to BUILD, REPAIR, RESTORE, REFINISH anything made of wood!
It's the catalog woodworkers rely on—120 pages jam-packed with fine woods, veneers, tools, finishing supplies, and much more—all top quality, all reasonably priced, all with our 60-day no-questions-asked guarantee. For your 2-year subscription send $1.00 to:

CONSTANTINE
Serving Woodworkers for 182 years
2050 Eastchester Rd., Dept. 35409, Bronx NY 10461

Circle No. 820

BEST CARVING SUPPLIES!
100s of quality hand & powercarving tools, books, kits, plus more. Fast friendly service, lowest price & satisfaction guaranteed. Join 100's of happy customers, send $2 for our 76 pg. color catalog.

Wood Carvers Supply, Inc.
SERVING CARVERS SINCE 1955
P.O. Box 7500-G,
Englewood, FL 34295-7500

Circle No. 2191

FREEROADWORKING CATALOG
Rated #1 in USA
100% Made in USA
- Hawk Precision Scroll Saws
- "4-in-1" & "3-in-1" Woodplaners
- The BEST accessories, blades, books & much more
FREE CATALOG 800-487-2623

rbindustries
The American Tool Manufacturer
1801 Vine St. • Harrisonville MO 64701

Circle No. 84

Oscillating Spindle Sanders
for discriminating woodworkers who demand the best
FREE Color Catalog
1-800-971-5050

CLAYTON
MADE IN USA

Circle No. 316

Kasco Portable Band Saw Mill
Cut Lumber When you want How you want!

- 24" and 30" diameter capacities
- Power-thru cut or manual
- Market your own lumber
- Prices start at $5,895 plus freight

Kasco
170 W 600 N
Shelbyville, IN 46176 • (317) 398-7973

Circle No. 345

Circle No. 330

Circle No. 94

Circle No. 820

Circle No. 2191

Circle No. 84

Circle No. 345
Holiday Cutouts Grace the Season

Decorate the season with these easy-to-build holiday cutouts.

For each project, simply cut the pieces to shape using simple tools, sand, paint and fit together. Full-size patterns and complete instructions to cut, paint and assemble these impressive holiday projects are included. When the season's over, just disassemble and lay the pieces flat for space-saving storage. Projects are easy to paint, use common lumber and require minimal assembly. The experts at WOOD® magazine designed and built each project to assure professional results.

How to order

Order your holiday project plans today by sending your name address and the name of the plan(s) you wish to receive, plus a check or money order (U.S.) for the total amount to: WOOD MAGAZINE PLANS, P.O. Box 9255, Dept. WD-30, Des Moines, Iowa 50306

Each plan is $12.95. Receive a special discount when ordering multiple plans!! $2 off your total order when you buy 2 plans, $4 off your total order when you buy 3 or 4 plans, $6 off your total order when you buy 5 or more plans.

Postage and handling plus state and local taxes, if applicable, are included. Allow 4-6 weeks for delivery.

Order today!
Call 1-800-572-9350 for credit card orders.
7 am to 9 pm CST.
VISA & MasterCard accepted. Please have your order ready when calling.

100% money-back guarantee if not completely satisfied.
PRIMAVERA NEVER LOGGED IN THE LIGHT OF THE MOON

Throughout the world's temperate zone, trees experience sap's rise and fall. In the spring, sap starts flowing. Come the cold of winter, it recedes.

Sometimes, loggers harvesting particular species such as Ponderosa pine and holly prefer to fell timber in the winter when the sap is down. Their logs then have little chance to develop a sap-born fungus called blue stain, which discolors the wood and lowers its value.

In tropical Mexico and Nicaragua, loggers intent on harvesting the valuable primavera tree must pay close attention to its sap flow, too. If they cut when the sap runs high, it seeps out the ends of the log and quickly attracts a horde of insects that damage the wood before it gets to the mill. But how, in continually mild weather, can they tell when the sap is low? It's simple enough to them: They watch the moon.

Like ocean tides, the sap of the primavera tree follows the phases of the moon. When the moon is on the increase, the sap rises. In the dark phases of the moon, it falls. So that's when the harvest of this unusual tree begins.

Primavera wood, without the defect of tiny pinholes caused by insects, becomes beautiful furniture. Its yellowish-red color streaked by brown, orange, and red, frequently displays a fiddleback figure. If moonstruck, however, the wood has little value.
Why settle for anything less?
With prices starting at $339.95
you can afford a NordicTrack.

There are good reasons why the NordicTrack exerciser is known as “The World’s Best Aerobic Exerciser.”

For over 19 years NordicTrack has been the leader in bringing cross-country skiing into the home. While lesser cross-country ski exercisers provide an awkward shuffling motion, the NordicTrack exerciser uses a legendary flywheel and one-way clutch mechanism that no other ski machine can match. It’s simply the best at simulating the natural cross-country skiing stride. With NordicTrack models priced as low as $339.95, there’s no reason to own anything but the best!

It’s the affordable way to meet your fitness goals.

NordicTrack works all the major muscle groups, burning up to 1,100 calories an hour. And burns more calories than exercise bikes, treadmills and stair-steppers. It’s gentle on your knees, hips and back. And it’s easy to use.

More than 3 million users already know that exercise just doesn’t get any better than NordicTrack.

Now at these prices you can afford your own NordicTrack!

Call 1-800-942-1890 Ext. 0874

--- FREE Video and Brochure ---

☐ Please send me a FREE brochure
☐ Also a FREE VHS videotape

Name ____________________________ Phone ( )

Street __________________________

City ____________________________ State ______ Zip ____________

Send to: NordicTrack, Dept. 0874, 104 Peavey Road, Chaska, MN 55318-2355

©1994 NordicTrack, Inc. A CML Company • All rights reserved.

*Shipping, handling and applicable tax are extra.
POWER TOOLS

SCROLL SAW, CRAFT & WOODWORKING CATALOG—Specialty products from the exclusive distributors of HEGNER, the precision saws with SCROLLVERGNUEGEN. Complete information on scroll saw accessories, including blades and clamping guides. Also ZYLISS Portable Vise, HEGNER Lathers, PLANET: Vertical Glue Press, and more. Toll-free customer service hotline included! AMI, LTD. $2.00. Circle No. 33.

NEW 94 FULL COLOR CATALOG IS HERE!—Since 1948, woodworkers, hobbyists, industry and schools across the country have looked to the TOOL CRIB as their source for power tools and equipment. Our prices are low; our sales people are knowledgeable; and our service is first rate! Tool Cookbooks and the catalogs are also free. Send your name and address for a 1994 catalog today. TOOL CRIB. $2.00. Circle No. 6.

TRANSPOWER, CP TOOLS INC.—A fine line of quality woodworking machines, saws, shapers, planers, and more. CP Tools will meet your woodworking needs. Send for your CP Tools catalog. CP TOOLS INC. Free. Circle No. 15.

ENLON IMPORT CORP.—With our exclusive manufacturer, we offer the best deals for your woodworking needs. A large selection of Fine Woodworking Machinery, Tools and accessories for your home and business workshop. Check out our seasonal sales for your life time savings. Catalog. ENLON IMPORT CORP. Free. Circle No. 35.

INCA MACHINERY INFORMATION—Complete information on the famous line of Inca woodworking machines. Designed for precision work by the small to medium size cabinet shop. Used by thousands of hobbyists and professionals. Table saws, bandsaws, joiner/planers, dust collector, radial arm saw. GARRETT WADE CO. Free. Circle No. 44.

HOME LUMBER—For the largest selection of Makita at the right price. We also provide great pricing on Amana Carbide, DeWalt power tools, Bosch Air Nailer & David White Instruments. Same day shipping, free freight. We accept Visa, Mastercard, Discover, COD. Send for information. HOME LUMBER. $1.00. Circle No. 48.

INTERNATIONAL TOOL CORPORATION CATALOG—Features the best tools & accessories at the absolute lowest prices anywhere! Whether you are a home woodworker or an industrial user, you’ll find an incredible selection featuring Porter Cable, Bosch, Ski, Freud, Delta, Milwaukee, Hitachi, and many, many more. We offer same day shipping, the most knowledgeable sales staff and free shipping on most UPS orders in this continental U.S. INTERNATIONAL TOOL CORP. Free. Circle No. 45.

TO GET THE FINISH LINE FASTER—with a Performax drum sander. Don’t spend hours with a hand-held belt sander. Sand ultra-wide stock ultra-smooth in just minutes. Models start at $300 to $349. Select the model that fits your budget and your needs. New metal abrasive fasteners keep sandpaper tight without re-wrapping. PERFORMANCE PRODUCTS. $1.00. Circle No. 78.

WOODWORKING TOOLS & ACCESSORIES—While the history of RB Industries goes back 90 years, this is the first time we’ve brought together all our precision-made tools and accessories in one catalog. The Handyman, Scroll Saw, 4-in-T- Woodplane, Panel Master Door Machining System, and much, much more. Quality equipment built here in the heart of America. When you buy from us, you deal directly with the manufacturer. Our prices, quality, and 3-year warranty reflect our commitment. Send today for FREE information. RB INDUSTRIES, INC. Free. Circle No. 84.

MINI POWER TOOL CATALOG—Designed for easy reference, Ryobi’s “shock pocket” Power Tool Catalog includes our complete line of power tools, categorized by type: bench top, cordless, handheld and stationary models. It features individual tool photographs with specifications and clear descriptions that offer specific uses and benefits. Accessories are also listed. Send for catalog. RYOB1. Free. Circle No. 86.

TOOLS ON SALE—A division of Seven Corners Ace Hardware, Inc. offers a catalog of over 400 pages of the most popular brands of power tools and equipment all at discount prices. Included are saws, planers, sanders, routers, drills and more from manufacturers such as Milwaukee, Makita, Porter Cable, Black & Decker, Dewalt, Freud, Bosch, Delta, and many more. Now in stock, complete line of Werner aluminum step ladders. Tools on Sale™ division of SEVEN CORNERS ACE HARDWARE, INC. $1.00. Circle No. 92.

WILLIAMS & HUSSEY—Thousands of professionals use our brand, you would be wise to consider the value of every brand, many made in America. Send for catalog. WILLIAMS & HUSSEY. $1.00. Circle No. 93.

PORTABLE SAWMILLS—Convert logs into valuable lumber—Wood-Mizer® Products manufactures a line of portable sawmills that allows the user to produce cut lumber to safely convert standing logs into lumber. Then, with the use of our SolarDry® kiln or Vacu-Klin™ to dry your lumber, you could increase the value of every board. We manufacture some of the most progressive woodworking equipment on the market today. Product videos available. Send for our 31-page catalog. WOOD-MIZER PRODUCTS. $2.00. Circle No. 94.

PERSONAL BRANDING IRONS—Brochure describes branding irons that enable you to put your name on your work quickly and easily. Made especially for woodworkers, they are available for wood with 1, 2, 3, or 4 lines of copy. Changeable date also available. NOVA TOOL CO. $1.00. Circle No. 160.

IMPROVE YOUR WOODWORKING SKILLS!—Craftsmen around the world have discovered the secret of better looking, more professional looking woodworking. We are committed to making your woodworking experience fun and challenging. Wood-Mizer Catalog is loaded with a huge selection of Japanese saws, waterstones, chisels, gouges, carving tools, planes, carving knives and garden tools. Send for our 31-page catalog. For more information, please call us at 508-219-0250. THE JAPANESE WOODWORKER. $1.50. Circle No. 190.

PLANS

WOODWORKERS PLANS AND SUPPLIES—Wood projects are simplified with the high quality plans, specialty hardware and other supplies offered by Armor Products. Over 100 plans are available for making toys, desks, clocks, pool tables, lamps, chests, and other furniture. Movements, dials, molding, ornaments, dollhouses, kit, door hardware and turning tools are also available. ARMOR PRODUCTS. $1.00. Circle No. 315.

FOR THE HOME CRAFTSMAN...CREATIVERACT PLANS—New 1994 Fall catalog features an expanded Christmas section with projects for the entire family. All projects are clearly described and the plans supplied are designed to move you from concept to completion. Send for FREE catalog. CREATIVERACT PLANS. $3.00. Circle No. 330.

FULL-SIZE FURNITURE PLANS CATALOG—Illustrates and describes over 200 plans for making furniture of quality found in museums and fine furniture stores. Plans include cocktail tables, end tables, bookcases, display cases, cabinets, coffee tables, children’s furniture, rocking horse, spinning wheels, and more. Bill of materials exploded drawings assist the woodworker. FURNITURE PLANS, INC. $2.00. Circle No. 415.

PROJECT PLANS—Full-size patterns for over 500 easy-to-build woodworking projects. Nation’s leading source for scroll saw patterns, corn projects, toy plans, yard ornaments, wood furniture, etc. Over 3000 hard-to-find specialty items. Send for your big new 60-page catalog. MEISER HARDWARE SPECIALTIES. $2.00. Circle No. 401.

ADVANCED SCROLLSAW PROJECTS—Full size scroll saw patterns and projects more complicated than most available today anywhere. Advancements include a full color catalog, a chal- lenging, fun to do and give a lot of satisfaction to make. Partial list includes wall and corner shelves, mirrors, toys and clocks. NELSON DESIGNS. $1.00. Circle No. 410.

WOOD TOY PATTERNS—Patterns for all ages including children’s patterns and executive toys. New catalog has many new patterns to choose from including parts and wheels. Send for new catalog today. TOYS AND JOYS. $1.00. Circle No. 405.

THANKS FOR YOUR COMPLIMENT NEVER ENDS—when you show off your completed projects made from our full size patterns. Over 1800 unique, easy to make designs include popular folkart, wind action whirligs, old world Santas, country furniture, shelves and shadow boxes, action toys, 3D layered animals, country critters, yard ornaments, Christmas yard decorations and much more! No enlarging required—just trace our patterns onto wood and cut out. Fast service, satisfaction guaranteed. Send for our latest catalog. THE VISWIFIELD COLLECTION. $1.00. Circle No. 480.

LUMBER

QUALITY EXOTIC LUMBER/TURNING WOODS—We offer a comprehensive selection of fine exotic woods. Also available are mechanisms for making wooden barrel pens/pencils/roller balls/ fountain pens. Ebony, Kingwood, Tulipwood, Snakwood, African Blackwood, Cocobolo, Birdseye Maple, Figueroa, Paduak, etc. Unique and unusual turning woods and burls are also available. Send for catalog. BEREAA HARDWOODS. $1.00. Circle No. 510.

ONE STOP WOOD SHOP—Domestic and exotic hardwood plywood and lumber, marine plywood, overstocks and nuisances in any size in the same roof. Custom cutting services to your exact specifications with little or no waste at competitive prices! We specialize in bundling and shipping. Send for catalog. BOLLTER PLYWOOD CORP. Free. Circle No. 512.
STEVE H. WALL LUMBER CO.—Quality hardwoods and woodworking machinery for the craftsman and educational institutions. 15-page catalog lists 17 species of wood at wholesale prices. Also dealers for Minimax, Fraud and ProCut woodworking machines. STEVE H. WALL LUMBER CO. $1.00. Circle No. 592.

EXOTIC IMPORTED AND DOMESTIC HARDWOODS—Over 3,000 varieties of hardwoods and blanks, turning squares and veneers. Samples (3" x 3" x 6") ideal for craftsmen, furniture and cabinet makers, architects, and designers available. Catalog provides common and botanical names, source, and description of each wood. Send for catalog. WOODWORKERS SOURCE. $1.00. Circle No. 598.

VIDEOS

LAGUNA TOOLS VIDEO—Learn why most European workshops are using a central machine center rather than separate machines. 90 min. video presentation of “The Intelligent One Man Shop.” The Rolland X11. Send for video. LAGUNA TOOLS. $6.00. Circle No. 615.

GENERAL WOODWORKING CATALOGS

WOODWORKER’S CATALOG—Constantine really knows lumber and tools—they’ve been in the business since before you were born! 120-page catalog of imported and domestic woods, veneers, tools, laths, finish, hardware and more—all backed by a 60-day money-back guarantee and 182 years’ experience! 2 year subscription. CONSTANTINE’S. $1.00. Circle No. 623.

THE WOODTURNERS CATALOG—48 color pages of the finest woodturning tools, machinery and supplies available. Featuring Harry Taylor, Sorby, Richard Raffan and Dale Nish workshops. Catalog price refunded with order. CRAFT SUPPLIES USA. $0.00. Circle No. 630.


GRIZZLY IMPORTS, INC.—1994 is our 11th year of providing woodworkers with an incredible selection of woodworking machines, tools and accessories at prices you can afford. Send for your free 1994 catalog today and celebrate with tremendous savings on all your woodworking needs. GRIZZLY IMPORTS. $0.00. Circle No. 660.

MINI POWER TOOL CATALOG—Designed for easy reference, Ryobi’s “shirt pocket” Power Tool Catalog includes our complete line of power tools, categorized by type: bench top, cordless, hand held and stationary models. It features individual tool specifications and clear descriptions that offers specific uses and benefits. Accessories are also listed. Send for catalog. RYOBI. Free. Circle No. 925.

WOODWORKING CATALOG—48-page full-color catalog of woodworking machinery and supplies. See the American made tools! Total Shop is bringing production home. Many tools now made in the U.S.A. Dust collectors, table saws, lathes, drills, bandsaws, etc. Catalog free. TOTAL SHOP. Free. Circle No. 940.

COMPLIMENTARY TOOL CATALOG—Woodcraft offers over 4,000 of the finest quality woodworking tools, books, supplies, and cabinetry hardware in our complete full color catalog. Craftsmen, carpenters, woodworkers, and hobbyists have depended on Woodcraft since 1928. Backed by Woodcraft’s unconditional guarantee. Free technical assistance. WOODCRAFT SUPPLY CORP. Free. Circle No. 805.

WOODWORKER’S HARDWARE—offers a free 192 page catalog of cabinet and furniture hardware. Produc stocks include knobs, pulls, hinges, drawer slides, lights, entertainment center hardware, kitchen cabinet accessories, etc. All orders ship the next business day after they are received. WOODWORKER’S HARDWARE. Free. Circle No. 960.


KITS

OUR QUEEN ANNE FURNITURE KITS—are ready to assemble and finish. They include dining room table, chairs, buffet, sideboard, a variety of occasional tables, and a personal desk. All are made in solid cherry, oak, walnut, and mahogany. We also stock individual Queen Anne legs for every project. Complete information in our brochure. WALDYS WOOD PRODUCTS. Free. Circle No. 1002.

BANDSAW GUIDES AND GUIDE CONVERSION KITS—Brochure and Technical Bulletin describe bandsaw guide models featuring all-ball bearings or support blocks. Three sizes of each model fit most tabletop saws. The conversion kits for popular saws and a complete line of mounting brackets and studs. CARTER PRODUCTS CO., INC. $1.00. Circle No. 1010.

SHIP MODELING CATALOG—Historic Ship Models ready to build yourself. Pre-cut wooden parts, metal and brass fittings, cloth sails, plans and instructions. Send for 30 page color catalog. MODEL EXPO, INC. $1.00. Circle No. 1060.

BUILD YOUR OWN INDEXING ROUTER SYSTEM—Use our hardware and plans to build this exciting and versatile tool for your home shop. With your router and this powerful milling system you can build projects with professional features such as: accuracy, precision, efficiency, and speed. Precision joinery and multi-sided cross sections. Much more powerful than a latitude and much easier to use. Information and newsletter. PHANTOM ENGINEERING. Circle No. 1075.

BUCKBOARD BENCH KIT—Kit includes steel springs that give a little, metal arms and back rails, hardware, and complete instructions. Also available kit with oak parts cut to size. Send for information. THE ROUDEBUSCH CO. 50c. Circle No. 1085.

SHOP ACCESSORIES

ECON-ABRASIVES—manufactures abrasive belts up to 52" wide in any grit. We carry hundreds of woodworking related accessories including: Velcro® backed discs, bar clamps, wood glue, deck tools, and hundreds of other items. Send for our 1992 catalog. ECON-ABRASIVES. Free. Circle No. 1229.

EASY DOES IT—with HTC’S power tool accessories. Discover many unique items, designed only with the dedicated woodworker in mind. We have improved our woodworking area of your shop and accomplish nearly impossible tasks easily, quickly, accurately, fully. Catalog and price list. HTC PRODUCTS, INC. Free. Circle No. 1280.

WOOD MOISTURE METER—Avoid moisture defects such as cracking, warping, splitting, delamination. The pin-type moisture meter “Mini-Ligno” can read surface or core moisture in any thickness of lumber through heavy timbers. A flat surface is not necessarily required, thus the Mini works on rough sawn lumber and curved or round pieces. A most versatile instrument. Many hobbyists and professionals use the Mini-Ligno. Circle C with statements to monitor lumber during air or kiln drying or use external electrode for depth readings. Catalogue describes complete line of moisture meters. LIGNO-Meter. Circle No. 1310.

ROUTER SPEED CONTROL—Reduces speed electronically without reducing torque. Route at the speed that gives best results with the wood and bit you are using. Speed adjustable from full speed to 0 RPM. Less tear out—stops burning—less work on bits. For information. MLCS LTD. Free. Circle No. 1351.

LUMBER DRYING—Dry your own lumber using our equipment and your insulated chamber. Desumidification systems from 300 BF to 45,000 BF. Easy to operate equipment offers high quality kiln-dried lumber for pennies per foot. These long-standing made-in-the-USA units can pay for themselves in one month! Send for free catalog. NYLE STANDARD DRYERS, INC. Free. Circle No. 1360.

WOODBCHUCK INDEXING ROUTER SYSTEM—Make your own money-saving indexing router cutters for custom furniture. Use your router and this powerful milling system to create sophisticated furniture that would normally require a shop full of expensive equipment and custom jigs. Create rope moulding, tapers, flutes, beads, circular moulding, left and right hand spirals in different pitches as well as sizing and turving stock, distinctive mill work and precision joinery. Information and newsletter. PHANTOM ENGINEERING, INC. $2.00. Circle No. 1265.

SUPERGRIT™ SANDING & REFINISHING CATALOG & CLOSE-OUT SHEET—Belts (aluminum oxide, silicon carbide zirconia), discs (plain, PSA, Hock & loop vacuum), sheets (cabinet, cors, fine, non-sandable, extra fine), sanding drums, hose, drum sander, PSA), bowl turning & lathe supplies, dust masks, scuff pads, tack cloths, tape. RED HILL CORP. Free. Circle No. 1267.

“WOOD-FRIENDLY” L600 MOISTURE METER—uses advanced electromagnetic wave technology to accurately and quickly provide moisture content from 6% to 50% of a depth of 6” No pins to “abuse” wood and leave ugly holes. Check out boards from top to bottom in just sec- onds—before you buy a lumber. Ind the avoidance of splitting, warpage, delaminating and failed glue joints. The Wagner L600’s convenient pocket size, easy-to-read analog meter, and low price make it a must for anyone working with wood. Literature. WRANGLERS’ ECONOMIC PRODUCTS, INC. Free. Circle No. 1285.

BITS, BLADES, CUTTING TOOLS

ASK FOR CMT’S CATALOG AND WE’LL GIVE YOU $5!—CMT Tools will send you our free, full-color router bit catalog. We’ll also give you a $5.00 discount on your first order! CMT bits feature anti-kickback design. Teflon coatings and micro-grain carbide cutting edges. Our catalog is packed with accessories, project ideas and safety tips—it’s one catalog you’ll want to keep! CMT TOOLS, INC. Free. Circle No. 1310.

CASCADE TOOLS—The 1993 Cascade Tools catalog is the finest ever. It’s jammed with great buys on SY brand industrial-grade router bits, shaper cutters and an excellent assortment of hand tools. Why go anywhere else? Why not believe it. CASCADE TOOLS, INC. Free. Circle No. 1315.

ENLON IMPORT CORP.—Check out n’ Save. We offer a wide selection of over 100 varieties of quality cutters and shaper cutters with irresistible prices, find out yourself. Catalog. ENLON IMPORT CORPORATION. Free. Circle No. 1319.

1995 EAGLE AMERICA WOODWORKING CATALOG—Top Quality American Made cutting tools. We have the largest selection of American Made saw blades, shaper cutters, forstner, router bits, Brad points and more. Over 2,000 unique and hard to find tools and accessories. EAGLE AMERICA CORP. Free. Circle No. 1320.
WOODWORKER'S RESOURCE

Dept. OCW094
P.O. Box 7931
Riverton, NJ 08077-7931

TO ENSURE PROMPT HANDLING OF YOUR ORDER FOLLOW THESE INSTRUCTIONS:

- Circle your choice
- Enclose check or money order for cost of booklets plus $2.00 service charge (no stamps accepted)
- NO FOREIGN ORDERS ACCEPTED

WOOD SUBSCRIPTION

A 1 year WOOD subscription (9 issues) for $23.00 (U.S. price). $16.85 savings off newsstand price (Vol. 34, #4). 6-6 weeks for first issue. Be sure to include payment with this order. NO FOREIGN ORDERS ACCEPTED ON THIS COUPON; please contact Subscription Dept. directly.

3: $2.00 92: $1.00 510: $1.00 955: $1.00
6: $2.00 94: $2.00 512: Free 956: $1.00
15: $2.00 95: $2.00 513: Free 957: $1.00
16: $2.00 96: $2.00 514: Free 958: $1.00
17: $2.00 97: $2.00 515: Free 959: $1.00
18: $2.00 98: $2.00 516: Free 960: $1.00
24: $2.00 101: $2.00 517: Free 962: $1.00
38: $3.00 102: $2.00 518: Free 963: $1.00
44: $4.00 103: $2.00 519: Free 964: $1.00
48: $4.00 104: $2.00 520: Free 965: $1.00
70: $6.00 105: $2.00 521: Free 967: $1.00
76: $6.00 106: $2.00 522: Free 968: $1.00
84: $6.00 107: $2.00 523: Free 969: $1.00
96: $6.00 108: $2.00 524: Free 970: $1.00
120: $6.00 109: $2.00 525: Free 971: $1.00
Circle numbers below corresponding to items in this issue. Please include $2.00 for handling charge.

I AM ENCLOSING:

$ for price of items
$ 2.00 for handling
$ total remittance

Name (please print)
Address
City State Zip Code
Phone (Optional):

WOOD MAGAZINE OCTOBER 1994
Relieve Back Pain!

Frustrated With Your Sleep?
Do you toss and turn at night? Can't seem to find a comfortable position? Does your back ache when you wake? These are signs that your mattress doesn't support you properly.

Sleep Better On Air
A Select Comfort Air Sleep System doesn't rely on springs or water. Air is better because it gently contours to your body's shape and keeps your spine in its natural alignment. And that lowers the tension in the surrounding muscles. So you can sleep comfortably in any position and wake feeling great.

Get The Facts
You owe it to yourself to learn more about this revolutionary way to a better night's sleep.

For FREE Video and Brochure, Call 1-800-831-1211

Please send me a FREE Video and Brochure.

Name: ____________________________
Address: _________________________
City: __________________ State: ______
Zip: _____ Phone: ______
Mail to: Select Comfort Corporation
6105 Trenton Lane N., Minneapolis, MN 55442
© Select Comfort Corp., 1994 Dept 3100
1995 Build-A-Toy™ Contest

Everyone wins in this contest because all toys go to help needy kids at Christmas. And that gives you a great feeling. Of course, your toy could win you one or more dandy prizes, too—brand-name portable and stationary power tools, woodworking supplies, finishing materials, and more. In fact, there’s nearly $18,000 worth of merchandise that you would just love to have in your shop!

Look over the prize list on the facing page. Check out how many ways you can win—either as a hobbyist woodworker or a professional. There are even categories for a group effort, so come on woodworking clubs and shop classes, start building!

But don’t forget, Build-A-Toy is much more than a contest.

CRAFT A TOY FOR JOY

When you enter WOOD magazine’s Build-A-Toy contest, you automatically contribute to the U.S. Marine Corps Reserve’s caring program, Toys for Tots. You’ll receive a commemorative “I crafted a Toy for Joy” sticker to prove it. That’s because all the handcrafted entries are sold at auction to raise money for the Marines to buy many, many more toys. Last year, at the magnificent Grand Palace Theater in Branson, Missouri, Build-A-Toy entries at the Crafted for Joy toy auction raised over $22,000 to purchase gifts for less fortunate children at Christmas! That proves that you, as a hobbyist or professional, can really make a difference by lighting up some child’s eyes. But there’s more.

WOODEN TOYS ON DISPLAY

So that others can appreciate the craftsmanship and care that goes into building a toy-contest entry, your toys go on display during the fall in and around Des Moines, Iowa (our worldwide headquarters). Then comes November, a very significant time for deserving children.

TOYS FOR TOTS, BY YOU

A month or so before Christmas, the toys you entered in the Build-A-Toy contest go up for auction. What excitement there is! One-of-a-kind wooden toys sell for up to hundreds of dollars each as eager bidders vie for the examples of your craftsmanship. And if your entry brings $100 or more, we’ll let you know with a personal letter that you can display with pride.

So set aside time right now to plan and build your toy-contest entry. Read the rules and guidelines shown at right. Get your entry in by February 1, 1995, and then proudly say, “I CRAFTED A TOY FOR JOY!”

WOODEN TOY AUCTION

Crafted for Joy

for TOYS FOR TOTS
WOOD® MAGAZINE’S 1995 BUILD-A-TOY CONTEST PRIZES & SPONSORS

GRAND PRIZE (ORIGINAL DESIGN)
Professional: Your choice of Bosch power tools totaling $2,000. Woodworking clamps totaling $300 from American Tool
Hobbyist: A table saw, jointer, planer, and bandsaw from Grizzly valued at $2,000. Woodworking clamps totaling $300 from American Tool

FIRST PLACE (ORIGINAL DESIGN)
Professional: Your choice of $1,500 in Delta power tools
Hobbyist: Your choice of $1,500 in Delta power tools

SECOND PLACE (ORIGINAL DESIGN)
Professional: From AMI, a Hegner Multimax 18V scrollsaw worth $1,000
Hobbyist: A shopful of Craftsman benchtop power tools worth $1,000

THIRD PLACE (ORIGINAL DESIGN)
Professional: Your choice of Skil power tools totaling $500
Hobbyist: Your choice of Skil power tools totaling $500

HONORABLE MENTIONS (3, ORIGINAL DESIGN)
Your choice of $300 in merchandise from Stanley’s Fine Woodworking & Specialty Tools catalog

CITATIONS (All designs)
Best Use of Wood
Professional: $250 in Constantine’s merchandise
Hobbyist: $250 in Formby’s finishing supplies
Best Clear Finish
Professional: $250 in Formby’s finishing supplies
Hobbyist: Campbell Hausfeld HVLP sprayer
Best Action Toy
Professional: $250 in Dremel tools
Hobbyist: $250 in Dremel tools
Best Painted or Dyed Finish
Professional: $250 in Trend-Line merchandise
Hobbyist: $250 in merchandise, The Woodworkers’ Store
Best Doll Accessory
Professional: $250 in merchandise, Meisel Hardware Specialties
Hobbyist: $250 in merchandise, Meisel Hardware Specialties
Best Educational Toy
Professional: $250 in Dremel tools
Hobbyist: $250 in Dremel tools
Best Pull Toy
Professional: $250 in Dremel tools
Hobbyist: $250 in Dremel tools
Best Transportation Toy
Professional: $250 in Crafts Supplies USA merchandise
Hobbyist: $250 in Toys and Joys merchandise

SPECIAL AWARDS
Best Toy from a Woodworking Club
$250 in Delta Tools; $250 in 3M supplies; $250 in Behlen’s wood-finishing products

Best Toy from a Shop Class
$250 in Delta Tools; $250 in 3M supplies; $250 in Behlen’s wood-finishing products

WOOD® magazine’s 1995 BUILD-A-TOY™ Competition

WOOD® magazines 1995 BUILD-A-TOY™ Competition

There is no limit to the number of entries. Please provide the following information for each entry submitted.

My entry is: ☐ Original design ☐ Built from plans
My skill level is: ☐ Professional ☐ Home Hobbyist
My Affiliation ☐ WH Club ☐ Shop Class

*For Original Design entries: I certify that I have designed and built this toy myself. Should my entry win, I agree to cooperate with WOOD magazine to supply builder’s notes and a bill of materials for publication.

Name ________________________
Address _______________________
City _________________________
State ________________________
ZIP _________________________
Phone ________________________

Signature ______________________
Date _________________________

1995 RULES

1. Projects must fit into a box no larger than 2" x 2" x 2". The primary material should be wood but may incorporate other materials.
2. Please follow Consumer Product Safety Commission guidelines. Contact wood finishes only; no parts smaller than 1 1/16" square on toys for children under three years of age. No sharp points or edges; pull strings longer than 12" should not have beads or other attachments that could tangle and form a loop.
3. Entries must be received by February 1, 1995. All entries must be postpaid; collect entries will be refused. Attach an entry label, photo copy of an entry label or a 3 x 5" card with your name and address to each toy.
4. Woodworkers who build toys from existing plans will be eligible for Citation prizes only. Woodworkers who build their own original designs will be eligible for all prizes.
5. Entry constitutes permission to use winner’s name, hometown and photograph for promotional purposes. Employees and family members of Meredith Corporation, their affiliates and subsidiaries are ineligible. Void in Quebec.
6. Winners will be selected and notified by mail on or about April 15, 1995, and will receive the prize directly from the manufacturer/distributor. Value of prize is suggested retail price. For a list of winners, send a self-addressed, stamped envelope to BUILD-A-TOY, 1912 Grand Avenue, Des Moines, IA 50309-3370.
7. Meredith Corporation will donate all entries or auction money received from entries to the U.S. Marine Corps Reserve Toys for Tots program.
8. For woodworkers who enter their toy as an original design: Toy must be your own original design. A different approach to an existing toy would qualify. Please do not enter toys with only insignificant changes from published patterns.
9. A panel of representatives from the U.S. Marine Corps Reserve, Meredith Corporation and woodworking experts will judge the toys on child’s appeal, craftsmanship, originality, and durability. The panel’s decision will be final.
10. Professional woodworkers include woodworking teachers and anyone earning an income by selling wooden toys.

Banks, watermelon trains, doll houses, dog sleds, airplanes, golf carts—the sixth annual Build-A-Toy contest had them all. Here’s the complete list of winners (see photos of all the top finishers on page 72).

**Hobbyist Division**

**Grand Prize.** $2,000 in Grizzly stationary power tools, Matt Brown, Slayton, Minn.; gambler gunball dispenser.

**First Place.** $1,500 in Delta power tools, Peter F. Friedel, Baltimore, Md.; semi tanker truck.

**Second Place.** $1,000 in Craftsman benchtop power tools, Larry Weaver, Petersburg, W. Va.; boxed train set.

**Third Place.** $500 in Skil power tools, Robert Elsmore, Bardenton, Ohio; working carousel.

**Best Use of Wood.** $250 in Fornby’s finishing supplies, Robert H. Drum, San Antonio, Texas; Ford Bronco.

**Best Clear Finish.** Campbell Hausfeld HVLP sprayer, James Weber, Fayetteville, Ohio; figured walnut/maple biplane.

**Best Action Toy.** $250 in Dremel tools, Jack Clarke, White Rock, British Columbia, Canada; teeter-totter with marbles.

**Best Painted or Dyed Finish.** $250 in merchandise from The Woodworker’s Store, William V. Trumble, Grants Pass, Ore.; purple roadster w/trailer.

**Best Doll Accessory.** $250 in merchandise from Meisel Hardware Specialties, Jim Christian, Vancouver, Wash.; doll house.

**Best Educational Toy.** $250 in Dremel tools, Jack Trumad, Prudenville, Mich.; crayon dispenser.

**Best Pull Toy.** $250 in Dremel Tools, Leo Lohman, Golden, Colo.; walnut/oak cricket.

**Best Transportation Toy.** $250 in merchandise from Toys and Joys, John W. Comer, Yakima, Wash.; toddler ride-a-plane.

**Professional Division**

**Grand Prize.** $2,000 in Bosch power tools, Mike Jagiello, Almond, Wis.; spider pull toy.

**First Place.** $1,500 in Delta power tools, Mike Schaffner, Owatonna, Minn.; Caterpillar front-end loader.

**Second Place.** $1,000 in Hegner Multimaw scrollsaw from AMI, Neil Seely, Rochester, N.Y.; flatbed accident recovery truck.

**Third Place.** $500 in Skil power tools, Ken Prill, Chipewa Falls, Wis.; spalted maple boxed tea set.

**Best Use of Wood.** $250 in Constantine’s merchandise, Lavern Weinschenk, Jr., Davenport, Ia.; Discovery space shuttle.

**Best Clear Finish.** $250 in Fornby’s finishing materials, George F. Campbell, Owensboro, Ky.; B-25 bomber.

**Best Action Toy.** $250 in Dremel tools, Joe Simboli, Chney, Pa.; airplane rocking toy.

**Best Painted or Dyed Finish.** $250 in Trend-Lines merchandise, Robert Trace, Toledo, Ohio; watermelon train set.

**Huey Prowe, Sr., of Slidell, La., hand-carved this pickup from one piece of basswood, then accent it with walnut. The boat has removable parts, too. Because of this woodworker’s sudden death, it was released from competition and returned to his family.**

**Best Doll Accessory.** $250 in merchandise from Meisel Hardware Specialties, Thomas Coates, Butler, Pa.; walnut living room furniture.

**Best Educational Toy.** $250 in Dremel tools, Joe Simboli, Clyney, Pa.; castle bank.

**Best Pull Toy.** $250 in Dremel tools, Joe Gray, Arcos, Calif.; golf pull cart with clubs.

**Best Transportation Toy.** $250 in Crafts Supplies USA merchandise, Mark Turner, Mt. Village, Alas.; Eskimo dog sled.

**Crafted for Joy Money Raiser**

On December 14, 1993, at Branson, Missouri’s Grand Palace Theater, a crowd of eager bidders assembled to raise money for the U.S. Marine Corps Reserve’s Toys for Tots. That evening, they spent more than $22,000 on toys entered in WOOD’s magazine’s 1993 Build-A-Toy contest.

**Contest coordinator Pete Stepheno and editor Larry Clayton admire the craftsmanship of a toy television-camera.**

Readers’ entries that brought $100 or more were notified by letter. Here are some of the toys that exceeded $100 in bidding:

- $3,100, miniature pool table, Brian J. Meridian, Hermitage, Penn.
- $1,100, walnut Ford pickup truck, Roger Zack, Bloomington, Minn.
- $1,000, jumping jalopy car, George Cole, Seaford, Wash.
- $700, pickup truck with canoe, Jerry Eaton, Racine, Wis.
- $700, make-a-face puzzle game, William T. Perry, Harmony, Tenn.
- $600, maple and walnut float plane, Larry J. Weaver, Petersburg, W. Va.
- $525, mini baby cradle, John Saggio, Little Neck, N.Y.
- $450, Walnut and maple royal horse carriage, Perry Mercier, Vancouver, Wash.
- $450, blue marine-life chair, Kyle Scarborough, Odessa, Texas
- $425, walnut dachshund pull toy, Neil Seely, Rochester, N.Y.
- $400, 1930s coupe, Ron Schwartz, Monroe, Wash.

**Top Toy Auction Money Raiser**

A few folks at the 1993 Crafted for Joy toy auction got into a bidding war over the miniature pool table finely crafted by Brian J. Meridian, of Hermitage, Pennsylvania. When the bidding ended, it sold for $3,100! So, as top money raiser, Brian wins a Hawk scrollsaw from RBI worth $1,000.

---

**Special Awards**

**Best Toy from a Woodworking Club.** $250 in Leichtung merchandise, $500 miter saw from Milwaukee Tool, Valley Woodworkers of West Virginia, Scott Depot, W. Va.; red oak doll cradle.

**Best Toy from a Shop Class.** $250 in Delta tools, $250 in 5M supplies, Licking Valley High School, Newark, Ohio; misc. wooden toys & games (12 items in all).
**FINISHING TOUCHES**

You can help the butternut

A cousin to the black walnut, the butternut tree (*Juglans cinerea*) has long provided a favorite wood for carvings. But in the past 15 years, the tree has declined in numbers up to 80 percent in some parts of the Great Lakes States. The culprit is a fungus that chokes off the trees’ food and water supplies. There’s time to save the species, though, say officials of the U.S. Forest Service in St. Paul, Minnesota.

Researchers there want to locate healthy butternuts that grow within 100’ of infested butternuts. This will give them access to disease-resistant trees for propagation. To help, write: Forest Disease Project, USDA Forest Service, 1992 Folwell Ave., St. Paul, MN 55108.

---

Arrowmont symposium honors Osolniks

Berea, Kentucky woodturner Rudy Osolnik, a living legend among his peers, has for decades been at the forefront of turning both in this country and abroad. To honor him and Daphne, his wife, for their advancement of the arts and crafts, the Friends of the Osolnik Family plan to establish a scholarship fund at the Arrowmont School of Arts and Crafts in Gatlinburg, Tennessee.

To launch the endowment fund, a woodturning symposium will be held at Arrowmont October 20 to 24. Corporations and craftsmen have donated turned objects, tools, and other woodworking equipment for a fund-raising raffle and an auction. Instructors also have agreed to teach workshops without pay. For more information on the event, contact Dave Hout, 4124 Lake Vista Rd., Akron, OH 44319.

---

**SEARS TO THE RESCUE**

Roger Zack, of Bloomington, Minnesota, was elated in March, 1993, when he was notified that his walnut-and-maple 1940 Ford pickup truck model won the Best-Use-of-Wood award in that year’s Build-A-Toy contest. But months and months went by without his receipt of the prize.

Finally, contest coordinators discovered that the prize sponsor was unable to deliver as promised—a lack of communication. So, we asked Roger what he wanted instead. His answer: a Sears Craftsman tablesaw.

Today, Roger is a happy woodworker because Sears kindly stepped forward to provide him with one. Thanks, Sears!

---

**TOYS FOR TOTS CLEANS HOUSE**

For WOOD® magazine readers questioning the operation and viability of the Toys for Tots Foundation in handling funds raised by the Build-A-Toy contest and others to benefit needy kids, please read the following.

“I would like to say that 100 percent of the money raised by the Build-A-Toy auction is in a restrictive account to be used by Marine Corps Reserve units for the purchase of toys,” writes William J. Grein, Major USMC (Ret), Vice President of Operations, Toys for Tots Foundation, Quantico, Virginia. Major Grein then goes on to explain that any past irregularities with the program did not involve monies raised by efforts such as the Build-A-Toy auction, and that all problems have been corrected. “As a matter of fact, 90 percent of every dollar raised in the most recent fiscal year went for the purchase of toys and support materials for Marine Reserve units— that is an excellent percentage for any charity.”

Consequently, the editors of WOOD magazine are satisfied with the present performance of the Toys for Tots Foundation and the USMC Reserve, and will continue to raise money for their activity through the annual auction of Build-A-Toy contest entries (which, to date, has provided nearly $60,000 in funds and/or merchandise). The 1994 auction will take place on November 16 at Capitol Square in downtown Des Moines, Iowa. Watch this page next month for more details.

---

**WOODWORKING GOES DIRECT MAIL**

On September 15, you'll be able to view, then buy, the offerings of some 160 woodworkers from all across North America, right from your newsstand. That's when our brand new publication American Woodcrafts Gallery™ goes on sale from coast to coast.

Brought to you by the editors of WOOD magazine, American Woodcrafts Gallery is unlike any magazine you've ever seen. It combines original merchandise in a catalog format with informative magazine articles. It deals solely with handcrafted wooden products: furniture, accessories, toys, and more. See page 28.
SEE ANYTHING YOU NEED?

You're working on a home project. You need to cut a piece of wood. Wouldn't it be easy if you had the right tool?

TRADESMAN offers a full line of woodworking equipment to do most any project correctly the first time and at prices you can afford. We have concentrated our efforts in providing the highest quality light commercial equipment and "Do-It-Yourself" tools to the marketplace.

So, when your need arises, look for TRADESMAN. We have been building Bench Top Tools for the home workshop longer than any other brand name.

GIVE TRADESMAN A TRY!
After 65 years as America's premier tool supplier, we've truly become an American tradition. That's why it's no surprise that craftsmen like you pass on their enjoyment of our tools from one generation to the next.

We're rather proud of that tradition, too. Because it says a lot about the quality and durability of Craftsman tools.

Check out our complete line of radial saws. There's a host of features - like the patented blade guard and the easily accessible carriage bearings. Or take a look at our new wholeshop sawdust collection kit. Attached to your tools, it carries away most of the sawdust that would normally settle around your shop.

You can see the complete line of Craftsman power tools at your local Sears store. Or for convenience, we offer the "Sears Shop At Home" service: 1-800-377-7414.

CRAFTSMAN

Only at Sears

Wholeshop sawdust collection kit attaches to most stationary and benchtop power tools.
WOOD MAGAZINE'S 
GUIDE TO ROUTER BITS

Anatomy of a router bit

With literally hundreds of router bit types to choose from, it can be hard to know which one to use for a particular job. To help you select the right bit, here's a breakdown of the different parts that make up a router bit.

1. **Shank:** The shank is the part of the bit that attaches to the router. It is usually made of steel and is the strongest part of the bit.
2. **Collar:** The collar is the part of the bit that fits into the router's collet. It is usually made of plastic or aluminum.
3. **Cutting edge:** The cutting edge is the part of the bit that actually cuts the wood. It is usually made of tungsten carbide or high-speed steel.
4. **Flutes:** The flutes are the grooves that run along the length of the bit. They help to remove the wood shavings.

Types of Router Bits

- **Sharp:** Sharp bits are designed for general-purpose routing. They are good for most types of applications.
- **Carbide-tipped:** Carbide-tipped bits are made with a layer of carbide on the cutting edge. They are very hard and durable and can handle tough materials.
- **Ball-bearing:** Ball-bearing bits are designed for smooth, precise cuts. They are great for routing curves and edges.
- **Biscuit joiner:** Biscuit joiner bits are designed for making biscuits, which are small, round pieces of wood used to join two pieces of wood.
- **Dado:** Dado bits are designed for making grooves in wood. They are used for making dado joints, which are used to join two pieces of wood.
- **Rabbet:** Rabbet bits are designed for making rabbet joints, which are used to join two pieces of wood in a way that leaves a groove around the edge of the joint.
- **Rabbeting:** Rabbeting bits are designed for making rabbet joints in a way that leaves a groove on the edge of the joint.
- **Pocket:** Pocket bits are designed for making pocket holes, which are used to join two pieces of wood in a way that leaves a recessed hole in the wood.
- **Screwing:** Screwing bits are designed for making screws into wood. They are used for making screw holes.
- **Stair:** Stair bits are designed for making steps in wood. They are used for making stairs or other stepped surfaces.

Router Bit Cuts

- **Rabbet:** A rabbet is a groove cut in wood to create a recess or to form a border. It is usually cut with a rabbet bit.
- **Dado:** A dado is a groove cut in wood to create a slot. It is usually cut with a dado bit.
- **Rabbeting:** Rabbeting is a technique used to create a rabbet joint. It is usually done with a rabbeting bit.
- **Pocket:** A pocket is a recess cut in wood. It is usually cut with a pocket bit.
- **Screwing:** Screwing is the process of inserting screws into wood. It is usually done with a screwing bit.
- **Stair:** A stair is a step in wood. It is usually cut with a stair bit.

Router Bit Care

- **Sharpen:** Periodically check and sharpen your router bits to ensure they are cutting smoothly.
- **Clean:** Keep your router bits clean to prevent buildup of wood shavings.
- **Store:** Store your router bits in a safe location to prevent damage.

Router Bit Safety

- **Avoid contact:** Avoid contact with the spinning bit at all times.
- **Use protective gear:** Wear protective gear, such as a face shield and ear protection, when using a router.
- **Keep hands away:** Keep your hands away from the bit while it is spinning.

No single tool can exceed your woodworking limits the way that a router will. With the right bits, you can turn a plain project into a stunning masterpiece. For all of us, you need to understand the basics about all the many router bits on today's market, and that's where this chart comes in.