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WOODWORKER'S JOURNAL

October 1998
Volume 22, Number 5

The magazine
for Today's
Woodworker

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scroll saw
pattern**

**Superior birch
hallway table**

**Magnetic drill
press vise**

***Getting started
with intarsia***



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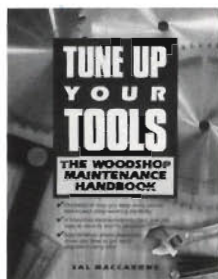
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Delta 9"x80T5/8"	\$204	\$119
Ryobi-Makita & all 10"x80T5/8"	\$207	\$129
DeWalt, Makita, B&D, Hitachi 12"x80T1"	\$229	\$139
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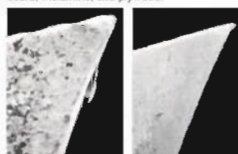
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220mm x 80T x 1/8" & 30mm	---	\$167	14" x 80T x 1"	\$232	\$197
9" x 80T x 1/8" & 3/32" K	\$207	\$179	14" x 100T x 1"	\$266	\$226
10" x 80T x 1/8" & 3/32" K	\$207	\$159	16" x 80T x 1"	\$262	\$223
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See American Woodworker April 1998, pp. 64-69.

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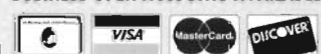
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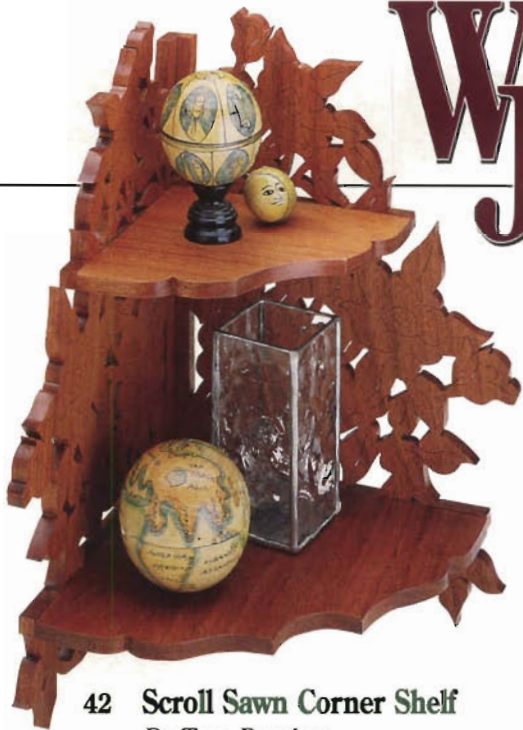
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WOODWORKER'S JOURNAL



42 Scroll Sawn Corner Shelf

By Tom Durden

Convert four pieces of mahogany into one beautiful corner shelf ... with a single tool!



36 Rose Intarsia Jewelry Box

By Joe Szabo

Flame birch from the bottom of Lake Superior, a cocobolo intarsia rose and a secret compartment. What more could you ask for?

24 One Board Entry Table

By Dick Coers

A single slab of Superior salvage converted into an elegant entry table. Dick Coers returns!



30 Magnetic Drill Press Vise

By Dick Dorn

Our contributing editor weighs in with another of his durable and well-conceived shop fixtures.



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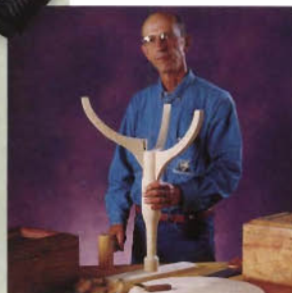
Well-known author Charles Self checks out four table saws.

61 Tool Preview

Charles Sommers puts Bosch's new in-line jigsaw through the paces.

65 End Grain

Great projects from our favorite woodworkers.



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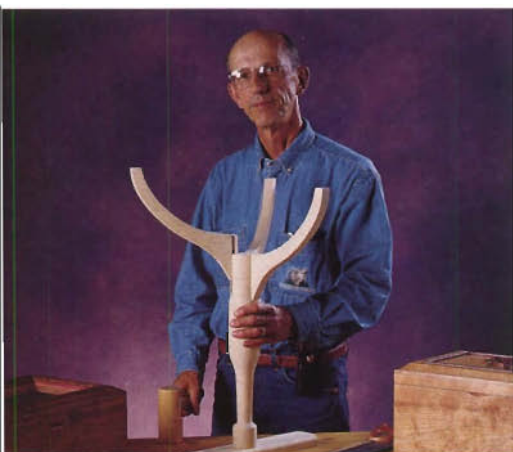
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Safety First

Learning how to properly operate power and hand tools is essential for developing safe woodworking practices. For purposes of clarity, necessary safety guards have been removed from the equipment shown in some of the photos and illustrations in Woodworker's Journal. We in no way recommend using this equipment without safety guards and urge readers to strictly follow manufacturers' instructions and safety precautions.

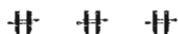
Meet One of Today's Woodworkers



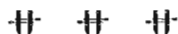
Joe Szabo will be the first to tell you he is not a famous woodworker. A young retiree, he has advanced his skills over the last few years - now that he can practice woodworking full time instead of law. A few weeks back, Joe drove from Milwaukee to Minneapolis and (after dropping his wife Mary Lou off at the Mall of America) spent the better part of the day with editor **Rob Johnstone**, art director **John Kelliher** and me. An extremely likeable fellow with a ready smile and plenty of shop war stories to tell, Joe was kind enough to pose for a few photos and willingly answered just about every question we could come up with on the topic of intarsia, his specialty. It struck all three of us that Joe's love for the craft and enthusiasm for sharing information are two of the true, defining characteristics of the woodworking community.

Bill Staas, past president of the South Jersey Woodcarvers, reiterates that point in this issue's Club Spotlight (see page 14) when he says, "The top two ideas that drive our club are to take an interest in other carvers and share our know-

ledge." The Woodworker's Journal feels the same way, so we decided to kick off a new department with this issue. It's called ... (drum roll) ... **"Today's Woodworker"** (see page 35). As many of you can imagine, we have a certain fondness for that name around here. What better place to reintroduce it than in a department spotlighting the characters of our craft - from amateurs like Joe to some of the top names in the field ... stay tuned.



As promised, **Dick Coers** and **Charles Sommers** rejoin the Woodworker's Journal in this issue, Dick with a recently completed "one board table" (see page 24) and Charles with a review of Bosch's new in-line jigsaw (see page 61). Contributing editor **Richard Dorn** is back with another of his durable shop fixtures (see page 30) and subscriber **Tom Durden** walks you through one of his scroll saw creations, a rose-inspired corner shelf (see page 42).



Thank you, subscribers, for your encouragement and positive response to the merger of the Woodworker's Journal and Today's Woodworker, two magazines many of you count as old friends. We're looking forward to forming new friendships and improving your magazine with each issue. Keep your eyes open for new departments and developments and, as always ... keep making sawdust!

Larry N. Stolaken

SEPTEMBER/OCTOBER 1998

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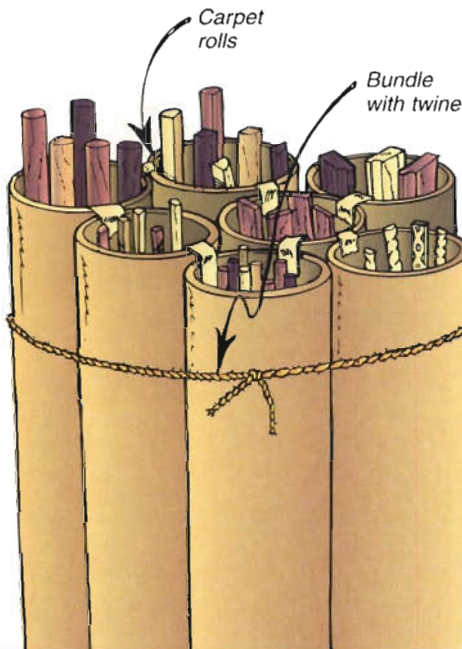
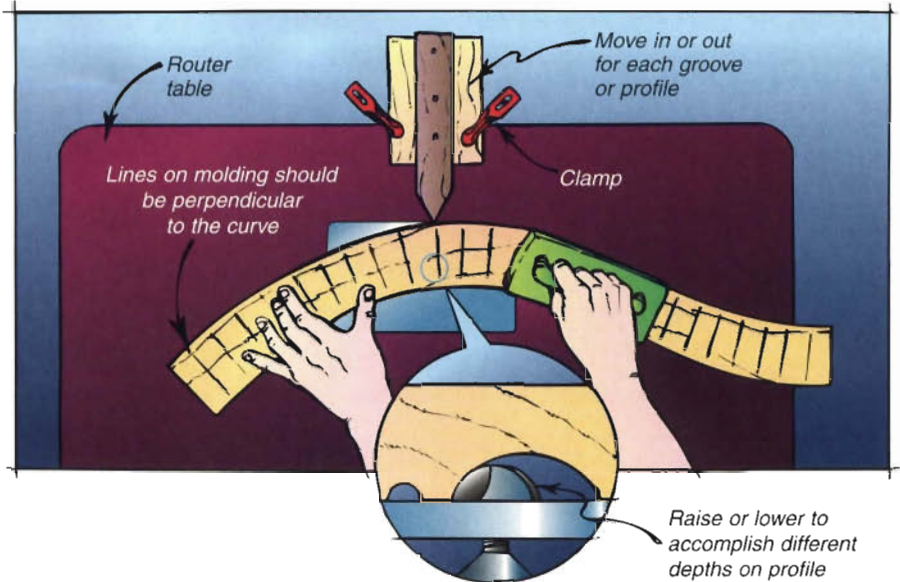
ENGINEERED FOR PERFORMANCE

(Circle No. 62 on PRODUCT INFORMATION form)

Put an End to Shop Clutter and Skid Marks

S-Shaped Molding on the Router Table

None of my woodworking friends could advise me how to do an S-shaped molding, so I came up with the solution shown at right. Since end-cutting bits are limited to straight and round, the final shaping had to be done by carving and sanding.
*G. R. Williams
Fostoria, Ohio*



Shop Storage Solution

Back in last June's issue you asked for some shop storage solutions. Here's one I arrived at recently that's working well for me.

Heavy cardboard carpet tubes (usually available for free from your local carpet dealer) work great, cut to any length desired and bundled with cord. Mine are 18" long, separate out different dowel scraps and leftover hardwood moldings, and let me see at a glance what I have available.

They rest on the floor under my workbench, set up on scrap 2x4s to keep them off the concrete.

While bundling them together, I recommend securing the tubes at the ends with masking tape where they meet. Otherwise, one quickly becomes Charlie Chaplin chasing rolling cardboard tubes all over the garage. Already I wish had more to segregate stored pieces. They work great.

*Barb Siddiqui
Wenatchee, Washington*

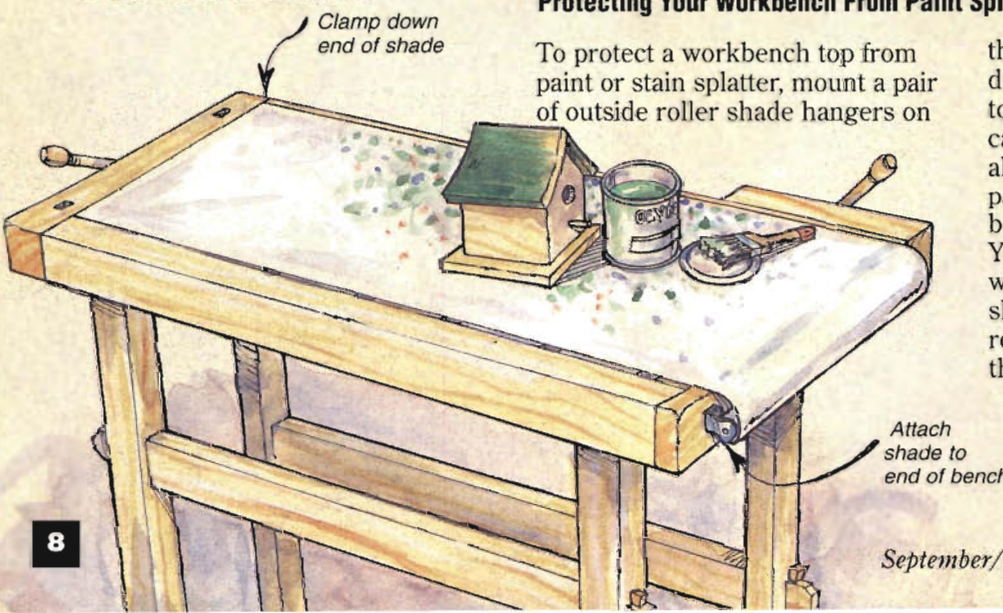
PICK OF THE TRICKS

Protecting Your Workbench From Paint Splatter

To protect a workbench top from paint or stain splatter, mount a pair of outside roller shade hangers on

the bench end, as shown in the drawing at left. When you're ready to paint, simply unroll the shade, catch the end in your vise, and go ahead and make a mess. After the paint dries, the shade rolls right back up and is out of your way. Your shade should be about the width of your bench. When the shade gets too messy, simply replace it - they're pretty cheap at the local department store.

*Robert O. Wendel
Marlboro, New Jersey*



Router Skid Marks

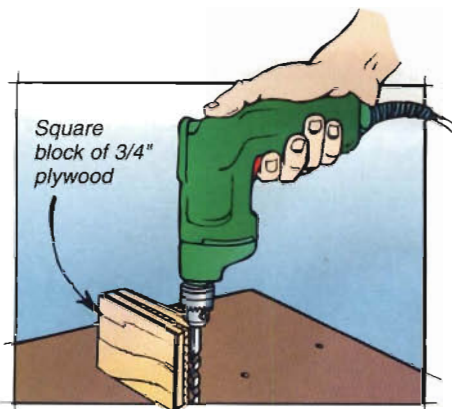
Avoid the frustration of your router sub-base leaving black marks on your projects when routing melamine by spraying WD-40 on the black base occasionally. This will lubricate the bearing (if using piloted bits) and keep the clean up time to a minimum when routing wood edging on melamine.

*Joe Nelson
S. CleElum, Washington*

Hot Melt Glue Gun to the Rescue

On pipe clamps without pads, I take 1/8" thick 2" square pine and mount them on the clamps with my hot glue gun. They pop right off when you're done and stay in place while you're working.

*Kenneth J. Shaw
Holley, New York*



Holding Your Hand Drill at a Right Angle

I've seen many great tips on how to hold a hand drill at a right angle to your work surface - everything from mirrors to specially cut jigs.

I just use a piece of 3/4" plywood cut at a right angle. The 90° angle keeps the drill bit straight one way, and I use the cross grain in the plywood to keep the bit perpendicular the other way. It's always worked for me and it's pretty convenient.

*Henry R. Dillon
Riverdale, Georgia*

For submitting this issue's Pick of the Tricks, Robert O. Wendel wins a Makita 14.4 volt cordless drill with a carrying case, charger and extra battery. This drill system features the extra capacity Nickel-Metal Hydride batteries.



Woodworker's Journal will pay from \$50 to \$150 for all Tricks of the Trade published. In addition, the reader whose trick is selected as our "Pick of the Tricks" will receive a free tool. To join in the fun, submit your original, unpublished trick to the editor. Include any photos or drawings that will help explain your idea. Send all tricks to Woodworker's Journal, Dept. T/T, P.O. Box 261, Medina, MN 55340. Or e-mail us at: editor@woodworkersjournal.com

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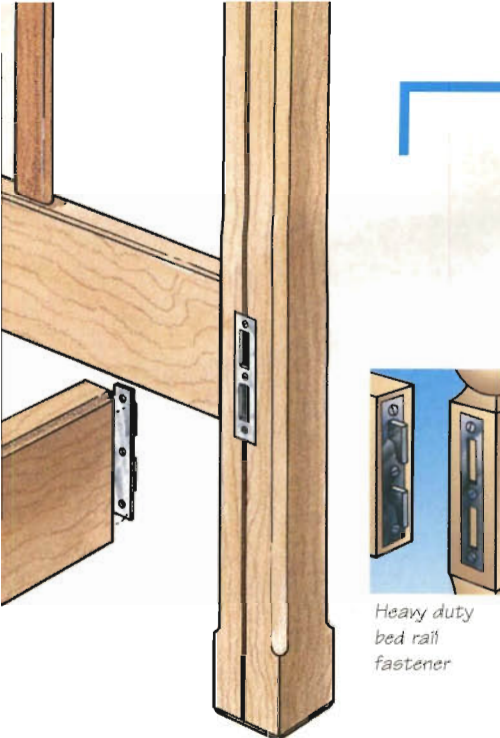


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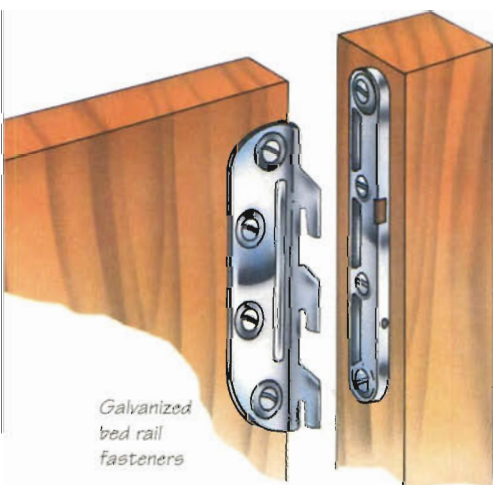
Sleep Easy ... Bed Hardware

By Al Wolford



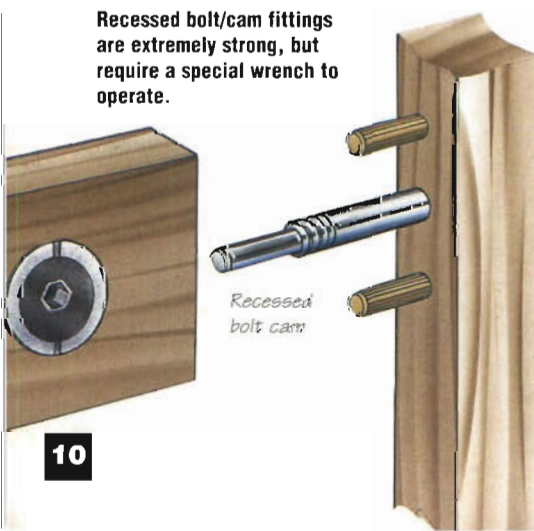
Heavy duty
bed rail
fastener

Standard steel bed rail fasteners come in two varieties: a heavy duty version which requires mortising (above), and a galvanized version, which can be surface mounted.



Galvanized
bed rail
fasteners

Recessed bolt/cam fittings are extremely strong, but require a special wrench to operate.



Recessed
bolt cam

When you think about how much time we spend sleeping, it's no wonder beds are such popular projects with woodworkers. People ask me about different types of bed hardware all the time. Some resist using this specialized hardware, concerned that knock-down fasteners in a hand-made bed would somehow be a cop out. I'm here to tell you, nothing could be further from the truth. When you think of all the stresses and weight a bed has to contend with, and how hard they are to move assembled, quality hardware to join the bed rails to the head and foot is essential.

Fortunately, there is a wide and varied selection of bed hardware on the market, from the sophisticated Murphy Bed and futon style articulating systems to simple screw on connectors. Bed hardware, essentially a form of specialized knock-down fittings, makes an otherwise difficult joinery task simple. In fact, I often tell my woodworking friends that the characteristics, (strength, durability and ease of installation), which make these fasteners practical in their traditional use are exactly why they should be considered for a variety of other applications.

Use the connector hardware that best compliments the bed you wish to build. Bunkbeds, for instance, create a different set of challenges than a four poster.

Recessed bolt/cam fittings are one of my top recommendations when a very strong joint is required. They call for a special bolt wrench and a fair bit of installation work, but are well worth the effort. The more familiar steel bed rail fasteners, whether surface mounted or mortised in place, are all most bed designs will ever need.

Mattress size will affect some other bed hardware components. A twin bed spans a smaller distance than a king size mattress, and

therefore would not need a center leg support. Center rail fasteners are a great way to snap your cross supports firmly in place ... especially if you have a ten year old who occasionally practices her trampoline moves on the bed instead of cleaning her room. There are decorative bolt covers, bunk bed safety rail catches, ladder hooks and a host of other offerings that will add to your bed building projects.

If your bed project is more utilitarian, don't overlook steel bed rails. They make for a quick to build but long lasting bed.

All of us who dabble in woodworking gain a sense of satisfaction and peace of mind from a project well done. What better place to experience that feeling than in a bed of your own making!



This double bed, featured in the August, 1991 issue of TWW, employs the heavy duty bed rail fasteners shown at top left.

Editorial Advisor Al Wolford is our resident hardware expert. Send questions or comments to Al at the Woodworker's Journal, Dept. HH, P.O. Box 261, Medina MN 55340. Or you may e-mail him at editor@woodworkersjournal.com

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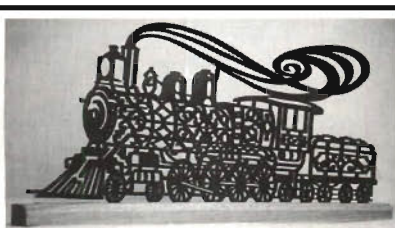
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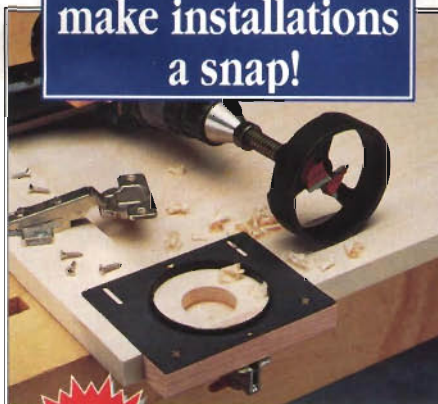


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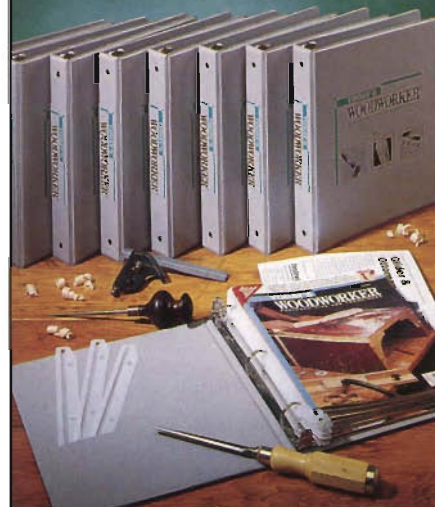
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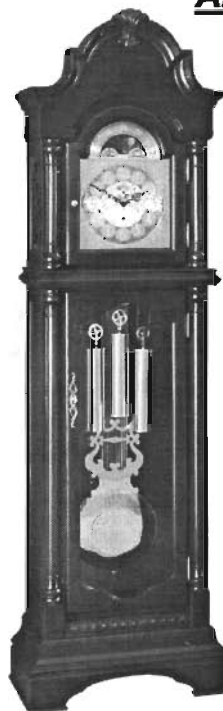
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South Jersey Woodcarvers



At left, a graceful pair of mallards, carved by Chuck Hinkle, glide gently through marsh grasses looking for a place to land. To the right, Tony Paola's dramatic conclusion to the hunt evokes an entirely different set of emotions.

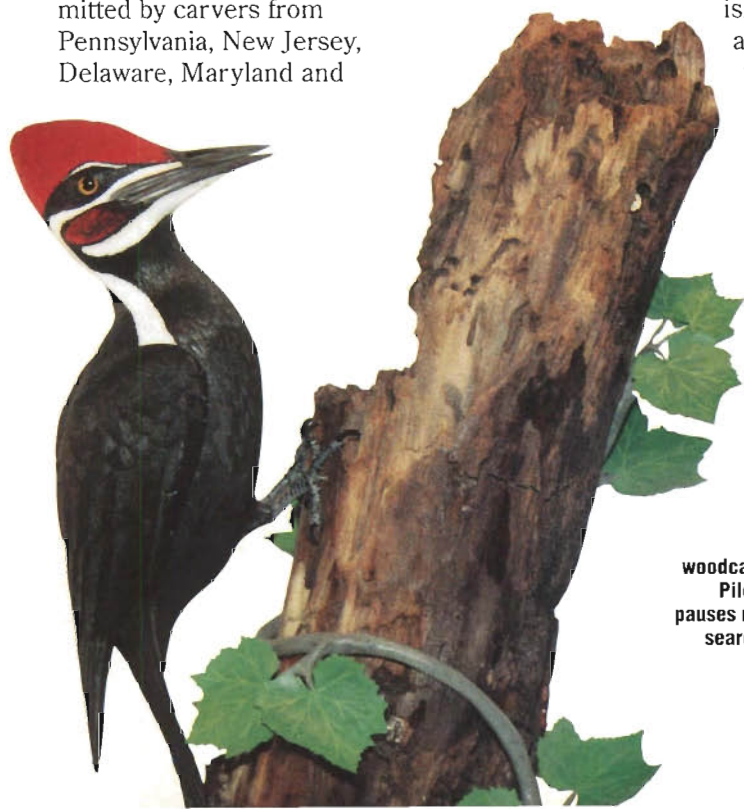


On a warm June evening back in 1973, thirty local woodcarvers met over dinner at a New Jersey restaurant. The result, the South Jersey Woodcarvers' Club, still meets regularly. Since that memorable evening twenty-five years ago, the club has grown and prospered in both membership and stature. This fall, the club will host their 19th annual Woodcarving Show in Stratford, New Jersey. More than 50 entries will be on display, submitted by carvers from Pennsylvania, New Jersey, Delaware, Maryland and

Virginia. According to past president Bill Staas, the character of club meetings has changed little over the years; "We generally start with a little coffee and refreshments and move on to a talk or demonstration on some aspect of carving." This is followed by what Bill called the most educational part of the evening - a show and tell period during which members share their latest creations and discuss special techniques, finishing and other aspects of the craft.

"The two top ideas that drive our club," Bill said, "are to take an interest in other carvers and share our knowledge." That sentiment is certainly borne out in some of the club's programs. For example, their Member's Family Survivor Assistance service helps a surviving spouse (by request) evaluate the wood, tools and other items left behind, then advertises these objects for sale in the club's newsletter, the *Carvers' Courier*. In January, the club holds its annual wood auction - a sale of carving stock donated by members. "The auction," Bill noted, "is a real boon for our treasury and a whole lot of fun for members, especially once the bidding gets started."

The South Jersey Woodcarvers offer members access to a comprehensive library stocked with books, magazines, patterns and videos. They also acknowledge outstanding actions by members with a plaque, an idea recently instituted by current president Pat deAngelis. Proceeds from this year's big show will benefit the Knights of Columbus. Club members and exhibitors will be on hand during



At home among woodcarvers, Bob Rowe's Pileated Woodpecker pauses momentarily in the search for insects on a vine-covered log.

the show doing everything from actually carving and displaying their work, to answering questions. There will also be a whittling contest, and one exhibit will be raffled off. Several other carvings will be awarded as door prizes throughout the two-day event. For more information, call Laura Kaighn at 609-728-0816.

Nancy Power's delicate Eastern Meadowlark is caught here in the act of singing.



Winners!

For their help and cooperation, the South Jersey Woodcarvers will receive the new Jet JSL-10TS Shopline 10" direct drive tablesaw shown here.



If you'd like to have your club featured in our "Club Spotlight" write Rob Johnstone at the Woodworker's Journal, P.O. Box 261, Medina, MN 55340 or call at (612) 478-8255. Featured clubs will be awarded a prize to raffle off to their members.

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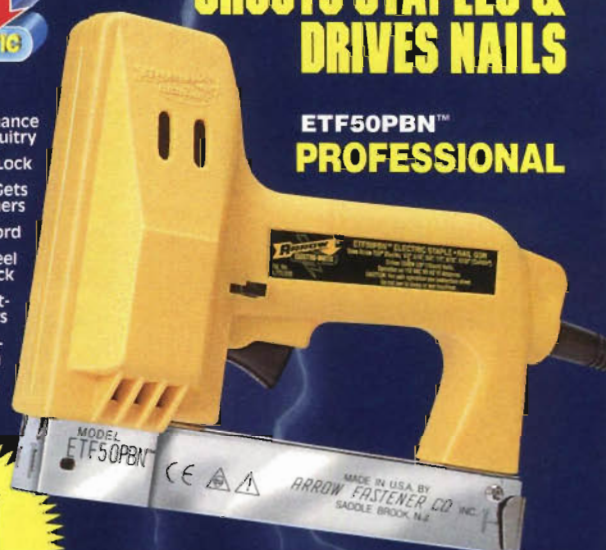
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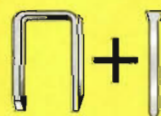


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Old Blades and Batteries

By John English



Looking for the best sharpener in your neck of the woods? Ron Caroon (above) says your best source for a referral might be the local metalworking shop.

Who Best to Sharpen Your Carbide Blades?

Sharpening Referrals and Tips

Looking for a new sharpening shop? According to professional sharpener Ron Caroon, your local metalworking shop might be your best resource for referrals. The pros who tune up end mills and form tools are fully equipped to sharpen carbide woodshop cutters and are accustomed to reaching better tolerances and finer edges than many less well-equipped shops. Ron, who runs Romac Sharpening in Somerset, Wisconsin says having the right equipment can also affect both quality and cost of your sharpening job. Ron has two or three versions of each of his most-used machines, so he doesn't spend a lot of time tearing down and setting up between jobs. He says a great sharpening job will cut cleanly right away, but

if the edge doesn't hold up it may not be the sharpener's fault. Older carbide blades, for example, may have lost a little side clearance every time they were tuned up. A loose arbor on a saw or router can cause too much play in the tool, causing uneven wear. And a toed fence can create heat on one side of the blade, creating a wobble.

While most blades on the market look similar, subtle variations in the way they are built can mean the difference between good and great woodworking. For example, a good 10" circular saw blade should have no more than 2/1000" runout (where the tips line up along their top and side edges); over the years, Ron has been asked to work on inexpensive, brand new blades with runout five or six times that figure.

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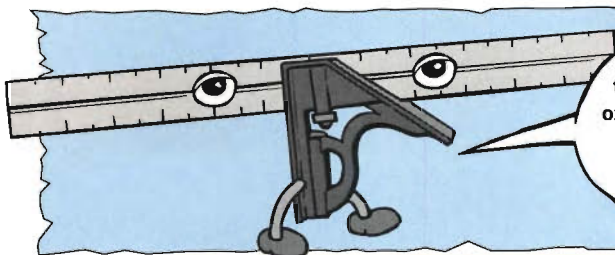
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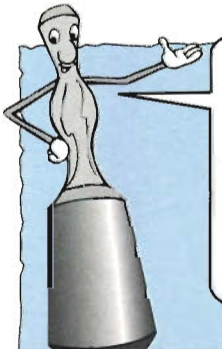
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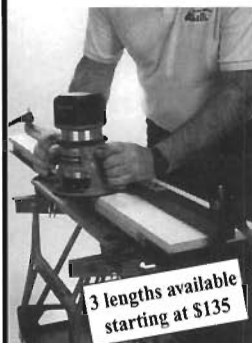
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Best Regards,
Robert K. Wallace

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Joint A-billi-T *the new matched edge jointer*

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Mystery Tool and Arch Dilemma

Q I am enclosing two pictures of a special tool a friend of mine has in his shop. I have not been able to locate this tool, since it has no company name on it, therefore ... no reference. As you will notice, this tool is a crosscut saw guide used to cut precise angles. Unique to the tool is its ability to clamp to the stock you are cutting, leaving your left hand free as you operate your circular saw. Would you please help me locate this tool?

Greg Speros
Bellbrook, Ohio

A We showed your picture to several folks in the tool industry and it was a mystery to them. Again, we must let the combined knowledge and experience of our readership be the resource of last resort. If anyone knows where to find this tool or who makes it, drop us a line, in care of *Stumpers*.

Q I am building an arch between two fixed dining room cabinets. I am using quartersawn oak seven inches wide and would like the grain to flow around the radius of the arch. I know how to miter the pieces, place them end to end and cut the arched shape. My question is how do I glue them up so they will stay together until I get the arch situated between the cabinets? You can't glue end grain and I do not own a biscuit joiner.

Mark Smith
Arlington Heights, Illinois

A Contributing editor Rick White disagrees. While it is not ideal, you can glue end grain to end grain and achieve a bond. It will not be as strong as an edge glued piece, but it will work, especially if you get good clamping pressure. Rick suggests screwing temporary cleats parallel to each end and using small clamps to ensure a good bond. The cleats can be removed right before lifting the piece into place (which, by the way, should only be attempted with two sets of steady hands).

This tool has no model name, number or company name. Can you help Greg locate one?

Reader Challenge

Occasionally, the Woodworker's Journal likes to turn the table: we pose a stumper to you.

In telling you how to make this issue's intarsia box project, Joe Szabo refers to "the inevitable mismatched joint" on a continuous grain box - but we know you can avoid a mismatch. Does anyone out there know how to make a box with a truly continuous grain around all four corners? Maybe you've developed your own method, or maybe you saw the solution in the same place we did.

(Hint: an answer appeared in Today's Woodworker in 1990.)

Winner!



For taking time to send in his Stumper, Greg Speros will receive a collection of American Tool's Quick Grip™ clamps. We toss the questions and replies into a hat to select a winner. If you have a question or answer and want a chance to win a tool, submit your Stumper to the editor (photos or drawings are helpful). The address is Stumpers, Woodworker's Journal, P.O. Box 261, Medina, MN 55340.

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- Precision ground wings & cast iron table
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- One-piece steel cabinet-type stand
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76A



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Getting Started with Intarsia

By Joe Szabo



Intarsia is a three-dimensional mosaic or sculpture in wood. The process involves cutting, carving, and shaping individual pieces of a pattern, then gluing them together. Using different species of woods and varying their thickness, color, and grain can produce dramatic effects with depth and perspective.

There are no limits to the subject matter for intarsia: I've seen wonderful examples of wildlife, landscapes, religious icons, and corporate logos. If you think of intarsia as a marriage of art and woodworking, you'll realize, like any other art form, there are no set rules to follow. A successful intarsia piece pleases the eye, balances form and composition, and satisfies its creator.

Tools, Patterns and Wood Selection

You'll need a good variable speed scroll saw, a sharp knife, some files and chisels, and a selection of sandpapers to get started on your first project. Drum sanders (I like the inflatable, malleable kind), in combination with a flap wheel, are real time savers, and a rotary carver/sander works great for cleanup.

While the supply of commercially available patterns is unlimited, your own ideas, pictures, and photographs can also be a wonderful source. Start with a simple pattern - something with 10 or 12 pieces - and get a feel for the technique. You'll quickly realize the key to success is interpreting your pattern: choosing the right species, colors, and grain patterns and even tweaking dimensions as necessary.

When selecting wood for your project, the first rule is to use dry wood, not green. After that, you must set aside the natural instinct to choose clear straight grain: knots, color variations, and other faults are to be prized because the wild grain patterns around these defects lend the finished piece dramatic highlights. While cedar is popular among intarsists, the finished results tend to blend together so stains become necessary. I prefer working in hardwoods, where the finished colors are more predictable. For example, white tiger maple makes great fur on a dog or wolf; a combination of walnut and white maple brings glory to a bald eagle's crown; and green poplar jumps to life as leaves or grass. I've had success making goose feathers out of chestnut and recently made a cowboy's hat out of butternut because it looks a lot like worn felt.

Transferring a Pattern

Based on early experiences, I strongly recommend not using graphite paper to lay out patterns. Instead, make several photocopies of the pattern, with all the parts numbered. Lay one copy on a flat surface and cover it with wax paper: this is your assembly area.

Cut out each piece of the pattern from a second photocopy and use spray adhesive to secure these cutouts to the various pieces of raw wood you have selected. This is probably the most important step, because it will lock you into specific grain and color patterns. Try cutting one individual piece out of an extra photocopy, then lay the sheet on the wood and move it around until the grain you like best appears in the hole you just cut.

*Cocobolo (or cherry)
can be used for the
rose petals.*

*Walnut works
great for the
stem pieces.*

*Green poplar will
give the leaves just
the right hue.*

Begin Cutting

To ensure a good fit later, cut each piece just outside the pattern line. Don't try to fix mistakes as you go, and don't take any shortcuts. For example, imagine you're cutting myriad feathers for an eagle's wing. It's tempting to cut ten or fifteen feathers from a single block, then fit them to the pattern. But the accumulated errors may be fatal: it's much safer to cut them one at a time and fit them as you go. While blade speed and size are factors, the critical element in successful cutting is feed rate. Go slow - pushing too fast flexes the blade and results in cuts that aren't square.

Shaping and Detailing

This is the fun part of the process, as each of the pieces falls into place. While sanding is a little messy, it's the most efficient way to achieve the final shape and detail. The edge of a disk sander and the contoured face of an inflatable drum work well for initial shaping - refinements are handled with rotary tools equipped with sanding and carving heads.

All the edges in intarsia must be contoured to some extent. Keep in mind the varying thicknesses of the wood will help here, but the larger pieces may need extra contouring. After a piece is cut, make sure the abrasive hits the top edge first and sticks to the pattern. Unless a piece is held absolutely vertical an angle will occur, ruining your piece.

Calm Assembly

I like to use a 90-minute epoxy to glue the parts together on the wax paper. I generally need that time to calmly line everything up. Spot glue at various points - the goal is to hold everything together until the entire assembly is glued permanently to its backer board. When the epoxy has set, lift the assembly and trace its outline on its ultimate backer before gluing it in place.

Finishing

Assuming you have selected dramatically colored hardwoods and have patiently sanded each piece to 220 grit, the safest way to achieve a good finish on this multi-layered piece is to give it a good soaking in natural Danish oil. I like to apply two coats of oil (wiping them off according to the manufacturer's instructions), followed by a top coat of clear gel varnish once the oil has cured. If you're uncomfortable using the gel, buff with rouge, diamond grit, and carnauba wax in that order: you'll still get a beautiful, maintenance-free finish.

1-2-3: A Basic Intarsia Primer

Intarsists use two main tools: the scroll saw and spindle sander. The fit between the pieces is determined primarily by your skill and precision with the scroll saw. The three dimensional effect is achieved with the spindle sander, which can also be used to touch up the fit. Start with a simple image like this rose, where the final shapes of the individual pieces are somewhat subjective.

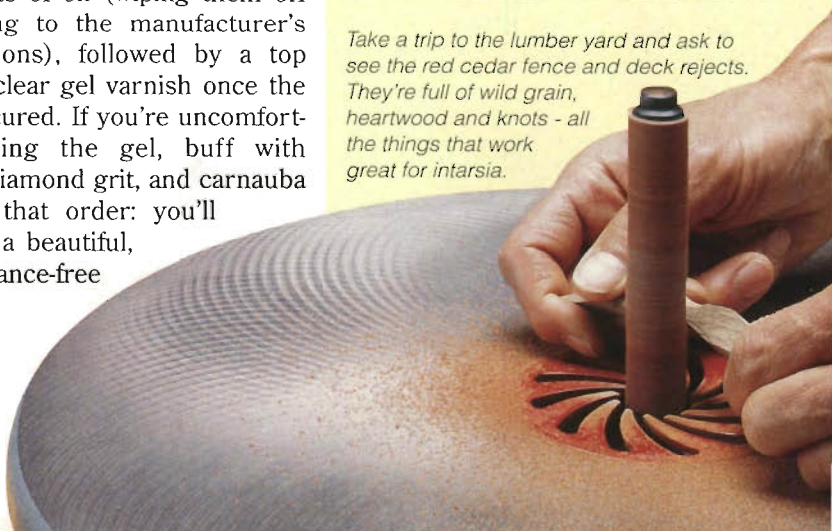


To find grain patterns that will provide visual depth to your project, cut out a section of the paper pattern and move it around the wood.



Always use a sharp scroll saw blade and cut slowly. Cutting too fast may cause blade deflection and produce an edge that is not 90°.

Take a trip to the lumber yard and ask to see the red cedar fence and deck rejects. They're full of wild grain, heartwood and knots - all the things that work great for intarsia.



The One Board

Tapered legs, a drawer and a book-matched top

By Dick Coers



One board doesn't actually describe the style or look of this table, but it is a pretty complete description of the material which goes into it. If you haven't been hoarding special pieces of stock (maybe you're just getting started with this hobby or haven't yet become a "wood-aholic") then shopping is really simple. A seven-inch-wide, eight-foot-long piece of 8/4 stock is all you will need. This one board approach creates a beautiful table with consistent figure and color. I was fortunate to have a wonderful piece of Lake Superior flame birch to make this table.

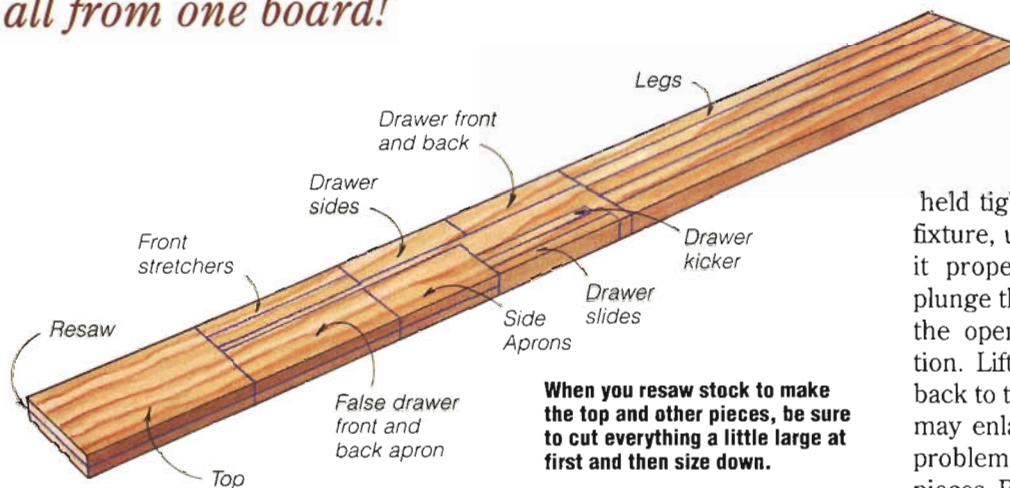
Divide and Cut

Take a look at the "one board" diagram on the opposite page and begin cutting the longer pieces of stock to their rough lengths, but a little oversized to start. Cut the legs (pieces 1) into squared-up full leg blanks for tapering later and, using the material list as a guide, cut the rest of your pieces to size. Because you're working with 8/4 stock, some pieces will need to be resawn and planed to their proper dimensions.



Hall Table

... all from one board!



When you resaw stock to make the top and other pieces, be sure to cut everything a little large at first and then size down.

Arrange the leg pieces with the best faces positioned as they will be viewed. Mark the tops of the legs to keep this orientation. Lay out and cut the mortises in the aprons and stretchers (pieces 2 through 4) and the matching mortises in the legs (check the **Elevation drawings** on page 26 for locations and placement details). Use your drill press to remove most of the stock from the mortises and clean up the waste with a sharp chisel. On your dry fit, you'll notice that the legs are offset from the aprons just a bit. Now size and cut the large and small floating tenons (pieces 5 and 6) to fit the mortises you just made.

Tapers and Inlays

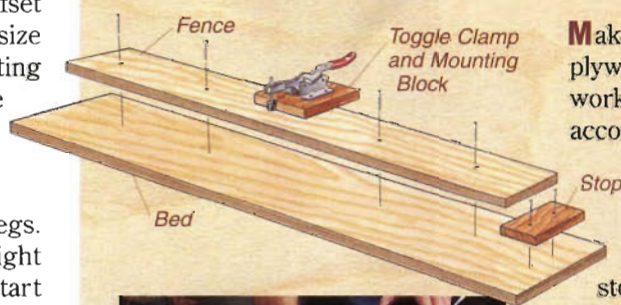
Lay out the taper on one of the legs. The outside two faces are straight and the insides have the taper. Start the taper 5" from the top and reduce the leg to 7/8" square on the bottom. Use the jig described at right to slice tapers on the inside faces of each leg. Once all of the tapers have been cut, move on to the decorative inlay (piece 7) on the outside faces at the top of each leg. Again, as with

the tapers, the key to success with this task is to build the simple jig described on page 27. The jig is designed to work with a 3/8" o. d. guide bushing set in a plunge router base. Install a 1/8" router bit and set the bit height to cut just shy of 1/8" deep with the router sitting on the inlay jig. Make several test cuts in scrap cut to the size of the leg stock in order to get the feel of the procedure. Now position the fixture on the end of a leg with the blank

held tight against the cleats of the fixture, using two clamps to secure it properly. Start in one corner, plunge the bit, and continue around the opening in a clockwise direction. Lift the router when you get back to the starting point. Recutting may enlarge the groove and cause problems as you are fitting the inlay pieces. Repeat the process on all the faces where the inlay appears. Use a chisel to square out the corners. I like to use as wide a chisel as possible for this step. I hold the flat back of the chisel on the wall of the groove and rock it into the uncut area for perfectly square corners.

With the grooves cut, prepare some mahogany for the inlay. (There are commercially available 1/8" inlays as well; see the Project Supplies box.) Resaw your mahogany and plane it to 1/8"

Quick Taper Jig

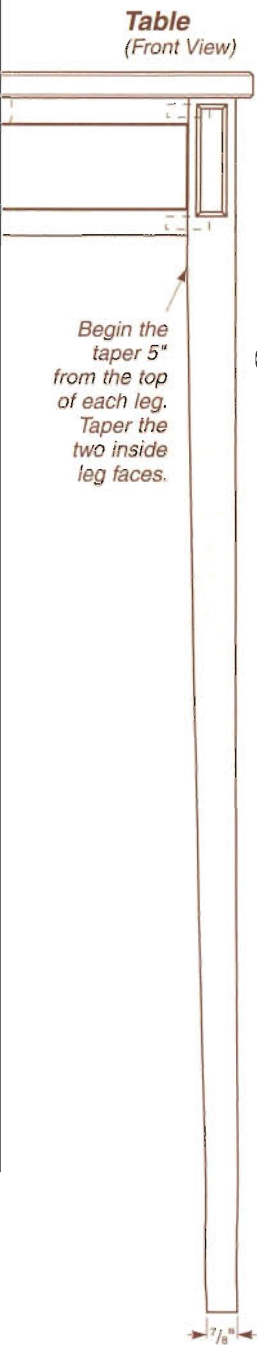
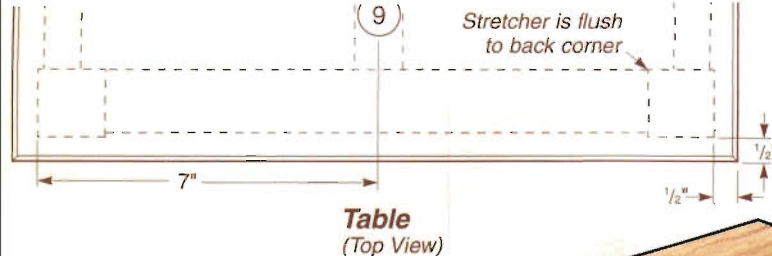


Use this safe, simple jig to cut accurate tapers on your table saw.

Make the bed from 3/4" plywood 10" longer than your workpiece and wide enough to accommodate a toggle clamp.

Next, rip a 4" wide piece of 3/4" ply for the jig's fence. Slice a couple of small pieces from this

stock to make a stop for the jig bed and a mounting block for the toggle clamp. Lay a leg blank onto the jig bed with the side you wish to taper overhanging the edge; attach the fence and stop to position the leg blank. Secure the mounting block and toggle clamp to secure the leg stock without contacting the area to be sawn.



One Board Table Project Supplies

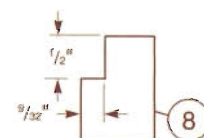
The following supplies are available from the Woodworker's Journal.

Tabletop Fasteners #34215.....\$1.99

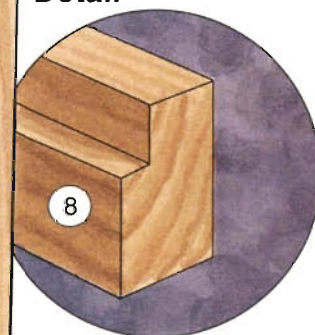
1/8" Rosewood Inlay #19083 (2 req.)\$1.29

To order your supplies, call 800-610-0883.

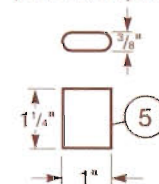
Drawer Slide (End View)



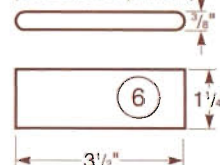
Drawer Slide Detail



Small Tenon (End and Top View)



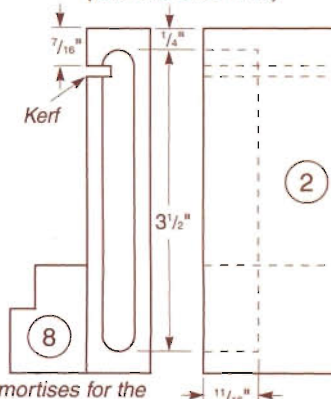
Large Tenon (End and Top View)



Stretcher (End and Side View)

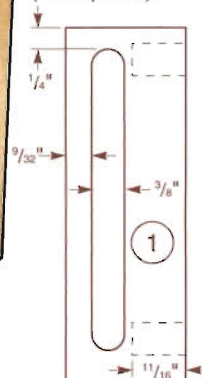


Side Apron* (End and Side View)

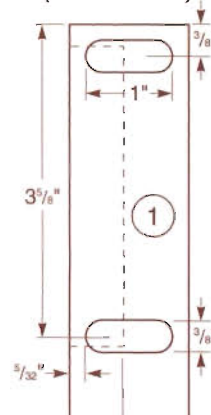


*Cut mortises for the back apron as shown, omit the kerf.

Leg Mortise (For Aprons)



Leg Mortises (For Stretchers)



MATERIAL LIST

	T x W x L
1 Leg (4)	1 3/8" x 1 3/8" x 35 1/4"
2 Side Aprons (2)	3/4" x 4" x 8 1/4"
3 Back Apron (1)	3/4" x 4" x 11 1/4"
4 Front Stretchers (2)	3/4" x 1 9/32" x 11 1/4"
5 Small Floating Tenons (4)	3/8" x 1" x 1 1/4"

	T x W x L
6 Large Floating Tenons (6)	3/8" x 3 1/2" x 1 1/4"
7 Inlay (1)	1/8" x 1/8" x 72"
8 Drawer Slides (2)	7/8" x 1 1/4" x 8 1/4"
9 Drawer Kicker (1)	3/4" x 1" x 8 25/32"
10 Top (1)	3/4" x 12" x 15"
11 Tabletop Fasteners (4)	Steel

thick. Put a zero clearance insert in your table saw and use a very sharp blade to rip 1/8" wide inlay strips. Dry fit the first strip you cut to ensure the rest will fit properly. I like to make the inlay pieces snug enough to just barely fit into the groove. If just the slightest tap with a hammer is needed to persuade them, so much the better. Mitering the inlay to length is something of a challenge. The short pieces cause you to work close to the saw blade. A small extension on your miter gauge with a stop will safely cut the parts to their exact length. To be extra safe, use a piece of scrap or length of dowel to hold the small parts while you are cutting them.

Grab a knife or scraper to pare a slight chamfer on the back edges of the inlays. Run a very small bead of glue in the bottom of the slot and tap them home. I like to use a wall-paper seam roller when forcing a snug fitting inlay into the slot - it reduces the chance of breaking the delicate piece. When the glue securing the inlays has cured, you may have to carefully scrape the inlay flush. Now use medium grit sandpa-

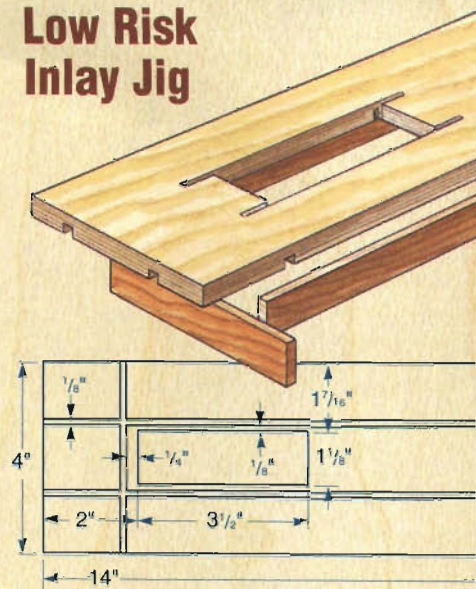
per to break all the edges of the legs fairly heavily, then finish sand the legs to 220 grit. Switch to a scraper to remove saw marks from the tapered leg sections. Avoid using a power sander on the legs near the mortises. It can round over the surface and spoil the joint. It's better to use a scraper and hand sanding block. Sand the apron and stretchers as well, but break just the bottom edges of these pieces. Before assembly, cut a kerf in the side aprons for tabletop fasteners. See the **Elevation drawings** at left for the proper kerf locations.

Start the Assembly

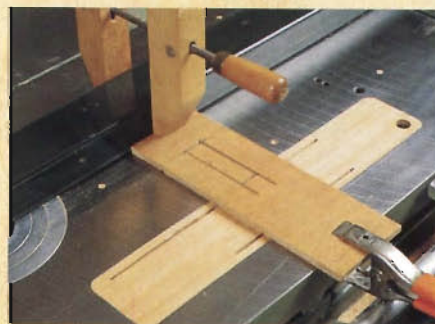
Glue up the legs and aprons in two sub-assemblies: first, join the legs to the side aprons and then, when the glue has cured, attach those sub-assemblies to the back apron and stretchers. Be prudent with the amount of glue you use. It is important to avoid excess glue squeeze-out on the visible surfaces.

Machine the drawer slides (pieces 8) on your tablesaw by plowing rabbets as shown in the detail at left. Then turn to your drawer kicker

Low Risk Inlay Jig



Build this jig out of half inch plywood to the dimensions shown above. The opening is kept close to one end of the jig to provide room to clamp the fixture onto the leg blanks without interfering with your router movement. Cut a dado and two grooves on the underside to locate the three cleats, as shown in the elevation and exploded view above.



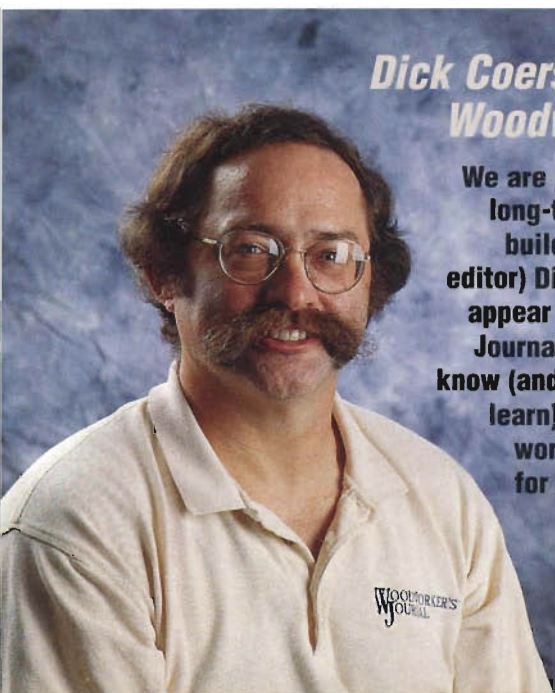
To cut the jig opening, position the jig blank against the rip fence on the table saw with the blade lowered below the table. Then carefully elevate the blade to form the opening.

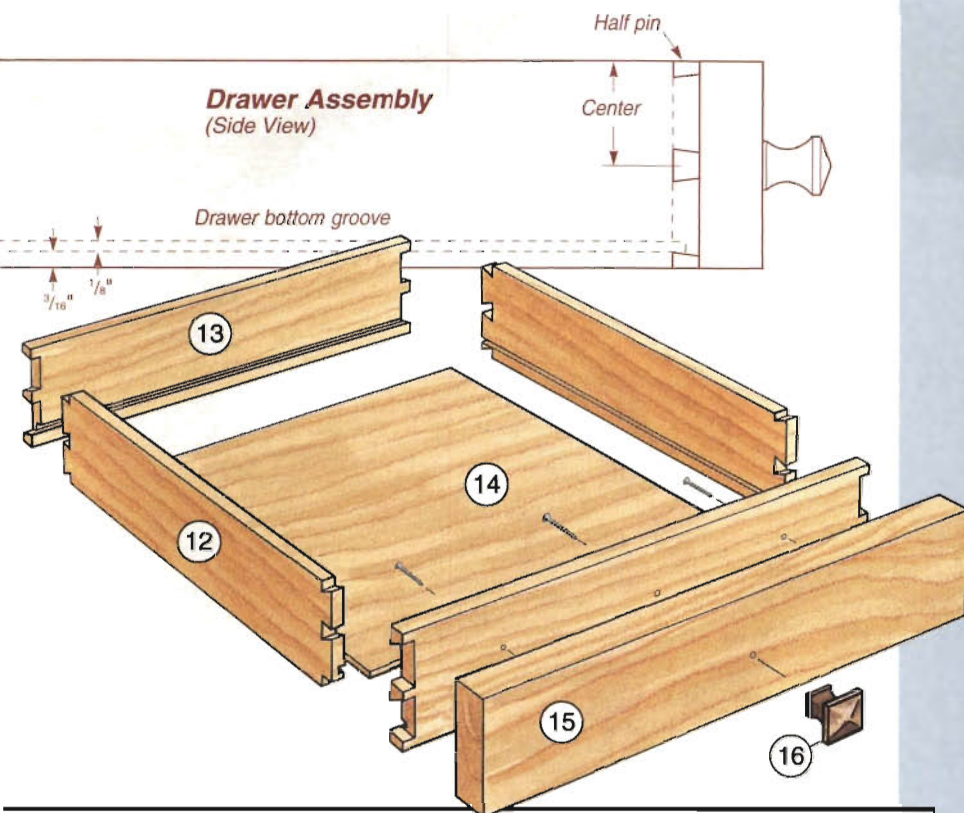


Use a homemade jig, a 3/8" OD rub collar and an 1/8" veining bit to cut the inlay slots. Plunge your router and take a single lap around the jig opening for the most accurate results.

Dick Coers sticks with the Woodworker's Journal

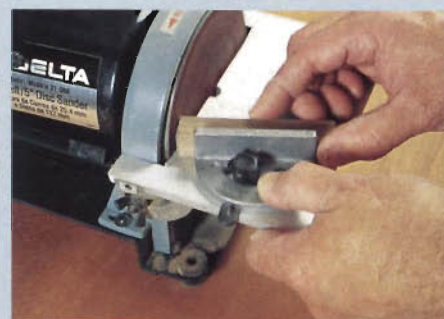
We are pleased to announce that long-time project designer and builder (and now contributing editor) Dick Coers will continue to appear in the new Woodworker's Journal. As some of you already know (and the rest of you will soon learn), Dick is an expert woodworker in every regard. Look for his projects and opinions in upcoming issues.





Shaping a knob

You could use a nice brass pull on this project, but I chose to make a simple yet striking hardwood knob out of walnut. Easily made in just a two-step process, it is the perfect accent to a stylish piece.



Disc sand the angles



Spindle sand the shape

MATERIAL LIST

	T x W x L
12 Drawer Sides (2)	5/16" x 2 5/16" x 9 1/4"
13 Drawer Front and Back (2)	5/16" x 2 5/16" x 11 3/16"
14 Drawer Bottom (1)	1/8" x 8 1/8" x 10 5/8" (plywood)
15 False Drawer Front (1)	3/4" x 2 5/16" x 11 3/16"
16 Drawer Knob (1)	1 1/16" x 1 1/16" x 1 3/16"

(piece 9) and drill a pocket hole at each end of the piece.

Move to the table sub-assembly and glue and clamp the drawer guides in place against the side aprons (flush with the bottom stretcher). Install the drawer kicker (see the **Elevation drawing** for placement), using clamps to steady it as you drive the screws home.

Topping It All Off

Glue up the top (piece 10) from the resawn pieces you cut earlier. Take care when you align the pieces to get a book-matched grain orientation. It is a great way to really show off the figure of the wood. After the glue has dried, size the top and use

a belt sander to smooth all of the surfaces. Switch to a router and form 3/32" chamfers on the top and bottom edges. After sanding the top to 220 grit, attach it to the legs. I did this by placing the top face down on a solid padded work surface and then setting the leg sub-assembly in position. Fit tabletop fasteners (pieces 11) into the apron kerfs and drive the screws through their holes into the tabletop. With everything lined up, remove the top and set it aside until you've applied the finish.

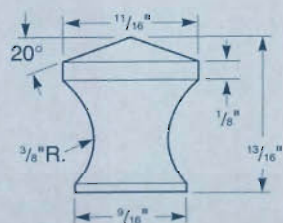
Making the Drawer

Cut grooves in the drawer sides, front and back (pieces 12 and 13) to accept the drawer bottom (piece

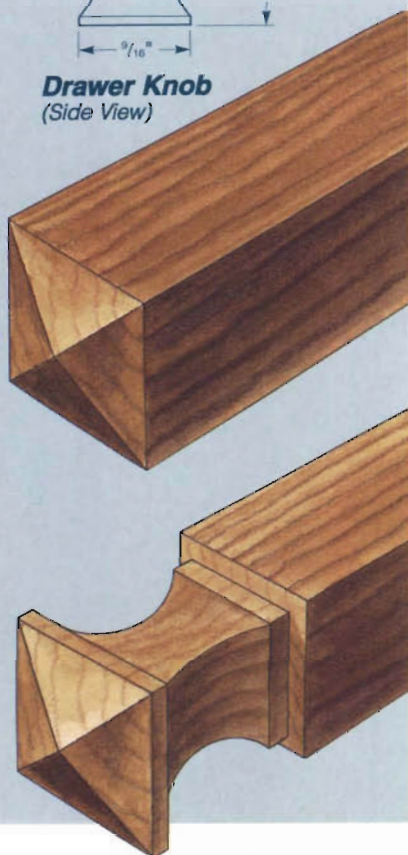
14). I used a Keller Jig to cut through dovetails on the drawer pieces, as shown in the sidebar at right. Dry fit the drawer components and, once they all fit well, glue and clamp them together. Don't glue the drawer bottom in place: it must float freely. Size the false front (piece 15) to allow a 1/16" clearance all around the drawer opening. Break all its edges with sandpaper and final sand to 220 grit.

While a solid brass knob would look good on this piece, I decided to momentarily depart from my one board concept and designed an end grain knob from walnut (piece 16), as shown in the sidebar above.

... in two steps



Drawer Knob
(Side View)



Finishing and Final Assembly

Fit the drawer in the table. Final sand all of the parts and make a final check for glue squeeze-out.

I recommend three coats of a good quality polyurethane, sanding after the second coat with 320 grit paper. Lay down the last coat, then final sand with 600 grit, following with a serious buff with 0000 steel wool.

Predrill the false front to center the knob. With the drawer in the table, center the false front in the opening, using shims to keep it centered. Temporarily drive a single screw through the predrilled hole in the false front into the drawer. Open the drawer and make sure the alignment is good. Then drive two number six screws from inside the drawer to hold the false front on. Remove the temporary screw and use a number eight screw from the inside to attach the knob. Now reinstall the top and wax the drawer slides - your table is ready for duty.

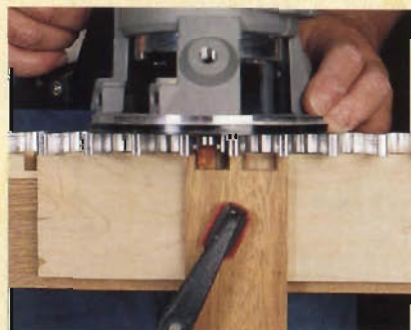
This is not your normal hall table, but tucked discreetly beside your door, it makes an elegant place to set the mail or a purse while removing a coat.

Keep in mind the time of year when making drawers. If you make a snug-fitting drawer during a Midwestern winter, don't expect to get it open in August.

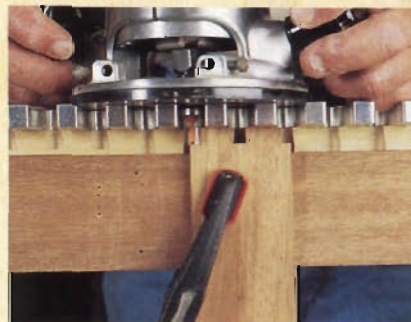


Dovetails with a Keller Jig

Some folks shy away from dovetail joints, thinking them too difficult and time-consuming. If your only option was to cut them by hand with a backsaw I would probably agree, but with modern jigs and power tools, this joint is within the scope of most woodworkers. I used the Keller Jig to cut the dovetails in the drawer sides, front and back for this project. Always test your setup on scrap lumber dimensioned to the exact size of the stock used in your project. I find it useful to run my tails 1/32" long, which allows me to sand the joint smooth.



Use the Keller Jig to machine the drawer front and back first, forming the half pins at each end first and then centering a pin in the middle.

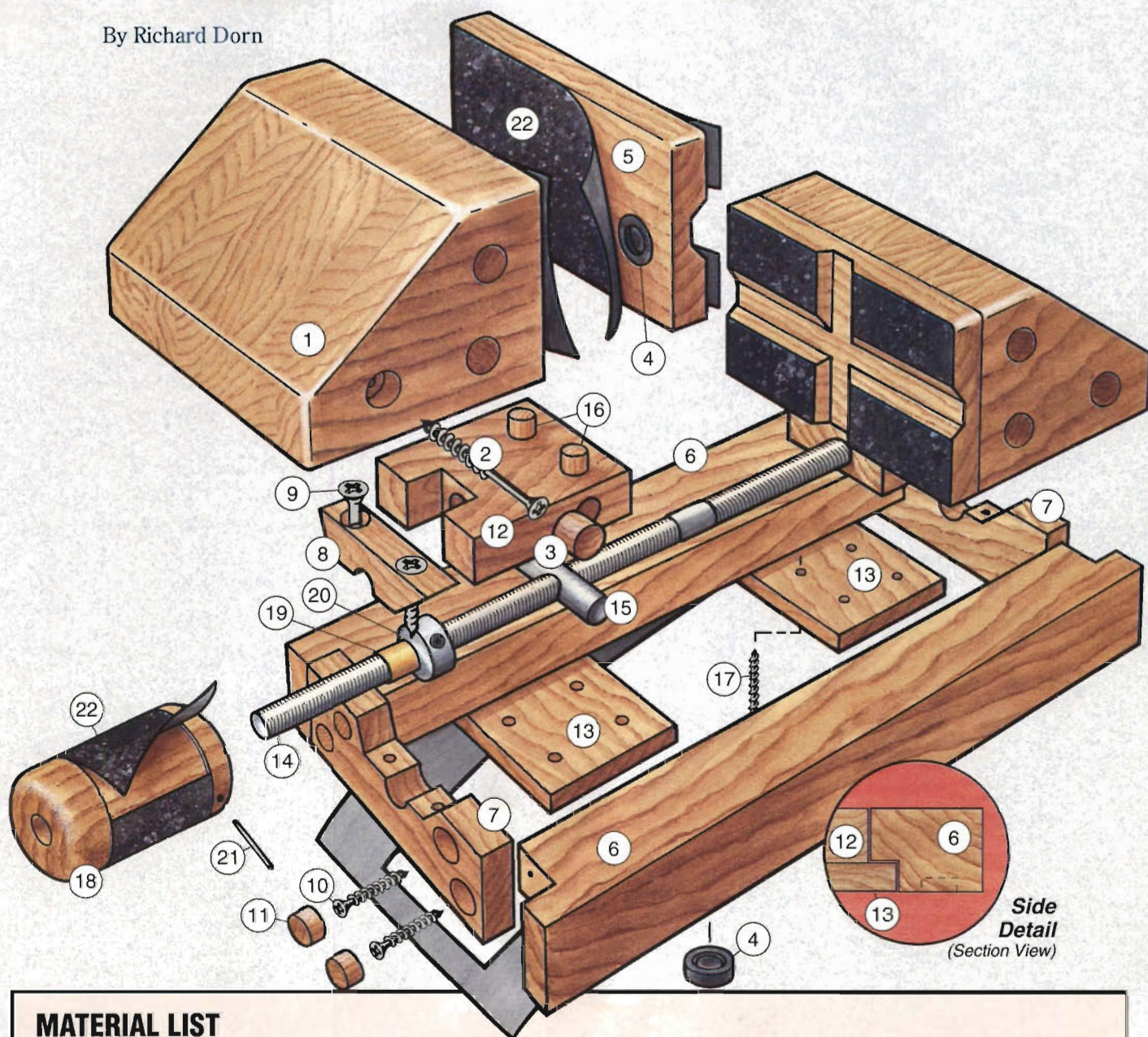


Next, machine the tails on the drawer sides. Check each side for cupping, orienting any bow to the inside to prevent separation as the drawer ages.

Woodworker's Magnetic Drill

Tired of using a metalworking vise on delicate wood projects? This new fixture from Richard Dorn

By Richard Dorn

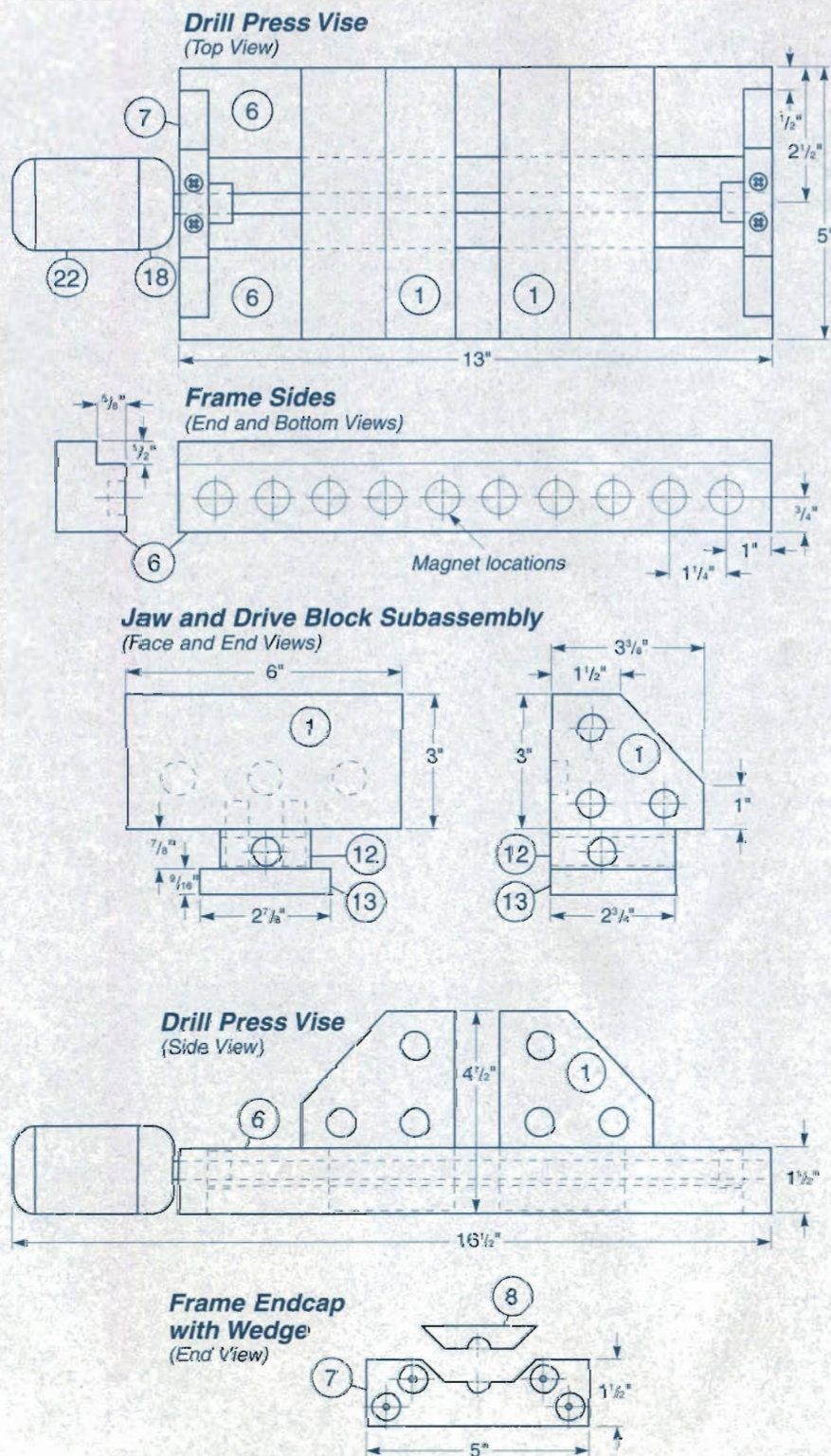


MATERIAL LIST

	T x W x L		T x W x L
1 Laminated Jaws (2)	3" x 6" x 3 3/8"	12 Drive Blocks (2)	7/8" x 2" x 2 3/4"
2 Jaw Screws (12)	2 1/2" x #10 Square-X	13 Lock Plates (2)	9/16" x 2 3/8" x 2 3/8"
3 Jaw Plugs (12)	5/8" dia. x 3/8"	14 Double Threaded Spindle (1)	7/16" dia. x 14 1/4"
4 Ring Magnets (32)	3/4" OD	15 Spindle Nuts (2)	5/8" dia. x 1 3/8"
5 Liners (2)	3/4" x 3" x 6"	16 Drive Block Dowels (4)	1/2" dia. x 1 1/2"
6 Frame Sides (2)	1 1/2" x 2" x 13"	17 Drive Block Screws (8)	1" x #6, Square-X
7 Frame Endcaps (2)	5/8" x 1 1/2" x 5"	18 Handle (1)	2" dia. x 3 1/2"
8 Wedges (2)	5/8" x 1 1/2" x 2 3/8"	19 Brass Sleeves (4)	1/2" OD x 5/8"
9 Endcap Wedge Screws (4)	1 1/4" x #6, Brass	20 Spindle Collars (2)	1/2" ID
10 Frame Screws (8)	1 1/2" x #8, Square-X	21 Retaining Pin (1)	1/8" dia. x 1 7/8"
11 Frame Screw Plugs (8)	5/8" dia. x 1/4"	22 Non-skid Tape (1)	3" x 60"

Press Vise

works great on your drill press table, or any other metal surface.



See the Pinup Shop Drawings (on the center pullout) for a full set of elevations for this project.



For years I watched the kids in my shop classes place their delicate, half-finished wooden creations between the steel, sharp-edged jaws of the metalworking vise on our largest drill press. The biggest problem with the metal vise was the jaws weren't really shaped correctly for woodworking. It was virtually impossible to clamp a wooden dowel or molding securely between them without doing damage. After cringing each time the screw was tightened, I decided there had to be a more gentle alternative.

Every vise is built around the screw, or spindle. This can be a single threaded spindle if only one jaw is to move - the common method for metalworking vises. But I wanted a vise with both jaws controlled from a single handle, eventually meeting in the center of the fixture. This would add ease of operation to the advantage already supplied by the softer wooden jaws.

Start with the Jaws

I built my vise out of oak because it's easy to work with and very strong. To take maximum advantage of that strength, I face-glued and screwed eight pieces of stock together to create the laminated jaws (pieces 1). Predrill for the twelve screws (pieces 2: see drawing for locations) and counterbore the screw holes for walnut plugs (pieces 3). The screws add extra strength to the finished jaws and work as clamps during the glue-up process.

After the glue dries, use the **Pinup Shop Drawings** between pages 34 and 35 to locate and drill holes (see **Figure 1**) for the ring magnets (pieces 4) in the front face of each jaw. This is easier to do while the jaws are still rectangular. I used 3/4" diameter mag-

Drill Press Vise Project Supplies

The following supplies are available from the *Woodworker's Journal*.

Hand Screw Kit #42531\$14.99

5/8" Walnut Dowel (36") for plugs #21022.....\$3.79

To order your supplies, call 800-610-0883.

nets, but you should have yours in hand before drilling any holes (if you're having trouble finding them locally, call Bill Edmundson at Power Magnets USA in Burnsville, MN: 800-669-5691).

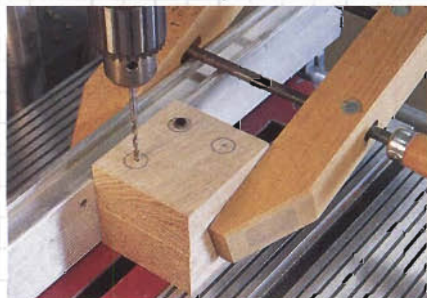


Figure 1: Make the laminated oak sliding jaws first. Stack the jaw parts and machine them while they are still rectangular in shape.

Now cut each jaw to shape on your band saw (See **Figure 2** and the **Pinup Shop Drawings**). Glue and plug the screw bores and, after the glue dries, trim the plugs flush with a sharp chisel. Then sand the jaws and set them aside.

Removable Liners

Not everything a woodworker needs to clamp is nice and square, and the removable jaw liners on this vise are designed to handle a diverse collection of shapes. By inserting just one liner, you can clamp irregular stock such as triangular or decorative moldings that only have one flat surface. With both liners installed, drilling dowels and other round stock is a breeze - either vertically or horizontally.

After cutting the liners (pieces 5) to size, set your table saw blade to 45° and use a combination of the saw's miter gauge and fence to create the angled grooves in their faces. You'll find all the dimensions on the measured drawing on the pull-out. Set the saw back to 90° to clean out the squared-off bottom of each groove, then head for the drill press to bore holes for the magnets that hold the liners to the vise jaws (but don't install any magnets yet).

The Frame

The jaws of this vise slide along a frame composed of two sides (pieces 6) and a couple of endcaps with removable wedges (pieces 7 and 8). The sides are rectangular stock with a rabbet cut on one edge (see side detail on page 34). Cut these rabbets on your table saw, then adjust the height of the blade and use your miter gauge to nibble out the notches on the ends of each frame side. You could do this on your band saw, but it might be difficult to get an absolutely square cut.

Use the **Pinup Shop Drawings** to locate the 1/2" diameter hole (for the threaded spindle) in each endcap, then drill these holes. To make assembling the vise easier, a wedge-shaped part of each endcap must lift off. With your drill press, predrill and countersink holes for the two screws (pieces 9) used to reattach the wedges, then follow the drawings and use your scroll saw to remove each wedge.

To complete the frame assembly, predrill and counterbore holes for the screws to hold the assembly together (pieces 10) and the plugs



With magnets to hold this drill press vise in place and a variety of clamping options available, drilling dowels and circular shaped objects is a breeze. The author used oak to ensure strength and durability.



Drilling odd shaped stock is easy with this drill press fixture. The double threaded spindle allows for single-handed adjustability and the overall stability adds a level of safety to drilling operations.



Figure 2: Use your hand saw to complete the laminated jaw's shape. See the *Pinup Shop Drawings* for all the dimension details.

to cap them (pieces 11). Now bore ten holes in the frame sides for the magnets (see the *Pinup Shop Drawings*). They will help in setups, but don't rely on magnets alone; the vise should always be clamped securely to the table during use. Complete the frame by gluing and screwing it together, then plug the holes, trim the plugs, and sand.

Drive Blocks and Lock Plates

An oak drive block (piece 12) is attached to the bottom of each jaw; these ride between the frame sides to keep the jaws in line. A simple rectangular lock plate (piece 13) is attached to the bottom of each drive block (one of the final assembly steps). These plates ride in the rabbets on the frame sides and prevent the jaws from lifting off the frame.

After cutting the drive blocks to size, use your miter gauge to nibble a rectangular relief in one end of each (see the *Pinup Shop Drawings*). Then move to your drill press and (using your old steel vise one last time!) bore a 1/2" diameter hole down the middle of each block; this allows the threaded spindle (piece 14) to pass through.

Switch to a 5/8" diameter bit to bore a large hole across the grain in each piece (see drawing for location). These holes are for the cylindrical spindle nuts (pieces 15) that thread onto the spindle and allow the blocks to move when the spindle is turned. Predrill for the dowels (pieces 16) and screws (pieces 17) to lock the blocks to the jaws. All of these locations can be found on the shop drawings.

Use dowel centers to lay out the dowel drilling

locations in the bottom of each jaw and drill these holes. When everything lines up, glue the dowels in place and glue the blocks to the jaws, but leave the lock plates aside until final assembly.

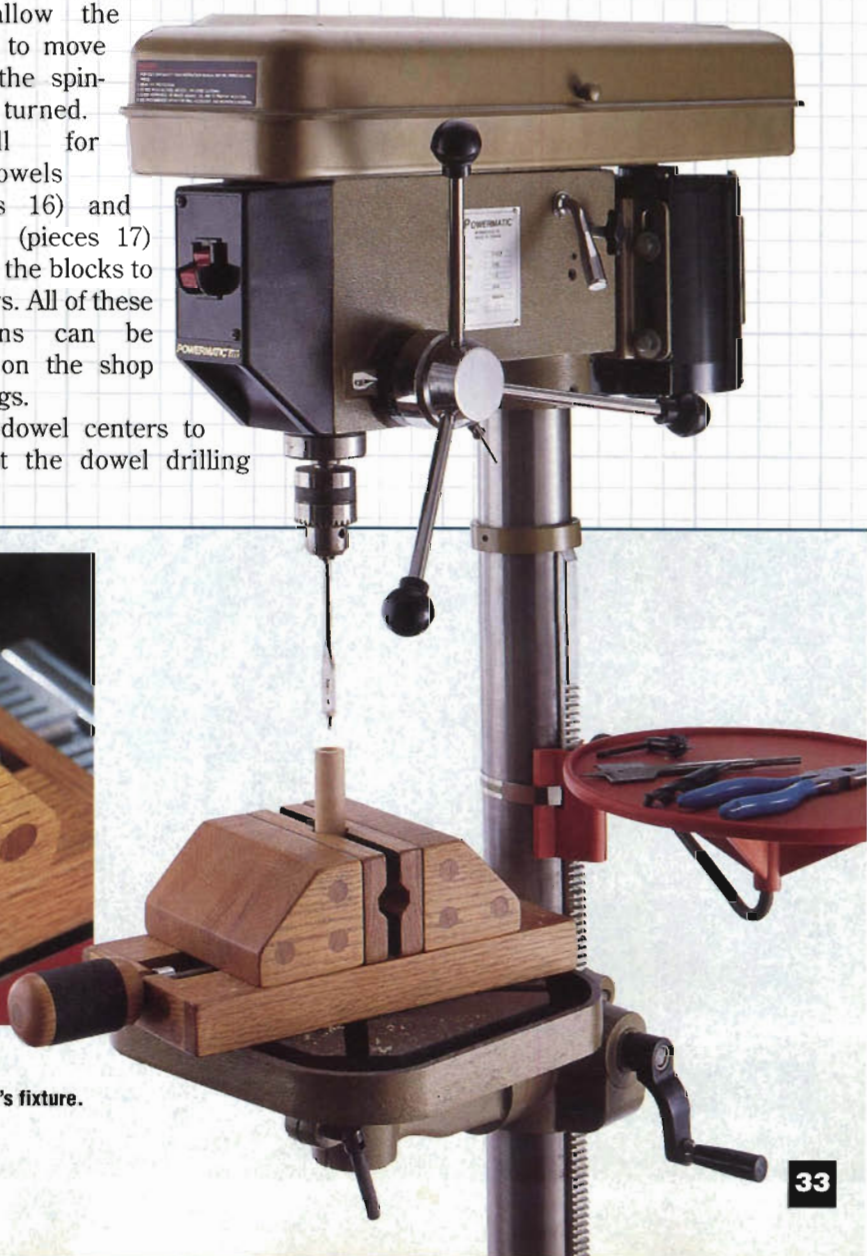
The Handle

The handle (piece 18) on this vise is large enough to grasp and twist tightly, yet its shape allows delicate adjustments equally well.

If you don't own a lathe, you should be able to locate 2" oak handrail stock at your local lumber-



Use a single liner or both at once to effectively grip and secure a wide variety of moldings or other shaped pieces. Even difficult end grain drilling is made easy with the author's fixture.



Drill Press Jigs from the Past

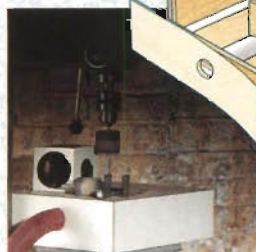
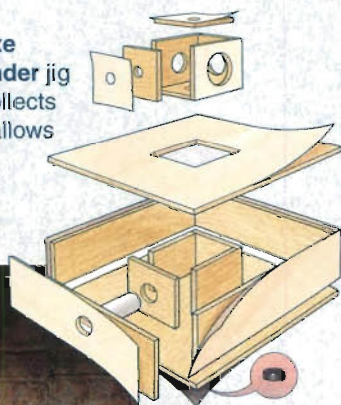


Today's
Woodworker
Issue 41



The Adjustable V-Block jig used some of the same ideas and hardware featured in this issue's offering.

The Deluxe Drum Sander jig cleverly collects dust and allows full use of your drum sanders.



Today's
Woodworker
Issue 51

The Tilting Table jig makes it easy to drill accurate compound and simple angles.



Today's
Woodworker
Issue 35

yard. If you decide to turn the handle, use glued-up stock rather than a single piece of wood, to avoid splitting. Either way, bore the center out on your drill press (for the spindle) before rounding over the ends - this boring is 7/16" in diameter. Then round over the ends of the handle on your router table, using a bearing-guided 3/8" radius roundover bit. If you're turning on a lathe, do all your shaping and sanding while the handle is chucked in the machine.

Sand all the wooden parts and dry fit them together. When everything fits, apply your finish. I used several coats of durable polyurethane. Oil is not a good choice, as it tends to soak into clamped parts when they are under pressure.

Assembly

Begin the assembly process by sliding the spindle nuts into their borings in the drive blocks, then threading the spindle through them. Twirl the drive blocks (and, of course, the jaws) until each is an equal distance from the unthreaded area in the middle of the spindle. Cut a pair of brass sleeves (pieces 19) from a length of rigid brass 1/2" OD tube. Then, with the wedges removed, spread a thin coat of epoxy on the top half of each of the frame's endcap holes (the halves drilled into the removable wedges) and epoxy the brass sleeves in place.

After the epoxy sets, slip a couple more brass sleeves onto the spindle, then slide the spindle collars (pieces 20) over these. Pass the spindle ends through the brass sleeves in the frame endcaps, then line up the spindle/drive block assembly on the frame and screw the wedges (piece 13) in place. Secure the lock plates with screws



The operating hardware for this drill press vise is a double threaded spindle (allowing both jaws to be driven by a single handle) teamed up with spindle nuts and collars.

driven into their predrilled holes (don't epoxy them in as they may need to be removed at some future date), then center the jaws along the frame and secure them there by tightening the Allen bolts in the spindle collars.

Slide the handle onto the long end of the spindle, then drill a 1/8" diameter hole through it at the location shown on the **Pinup Shop Drawings**, piercing the handle and the spindle, then remove the handle. Apply epoxy in the handle cavity and remount the handle on the spindle, capping its end with a plug. While the epoxy is still liquid, secure the retaining pin (piece 21) with more epoxy in the 1/8" hole you just drilled.

Continue using epoxy to secure all the magnets in place, keeping in mind the ones in the jaws and liners should be installed so they attract rather than repel (a matter of turning them the right way). To finish up, apply non-skid tape (piece 22) to the jaw and liner faces, the frame bottom and the handle as shown on the exploded view. Then find some strangely shaped parts to lock into your new drill press vise, because you're ready to make some shavings!

Making the Case for Intarsia

By Rob Johnstone



Given Joe Szabo's background, it's no wonder he makes such a convincing case for intarsia. This retired labor lawyer turned woodworker brings an enthusiasm and affection to intarsia that is downright infectious. Intarsia wasn't always Joe's bailiwick. He started woodworking in the early 70s and his shop started growing. "Pretty soon I had thrown the cars and trucks out of the garage," he said. And he still works there, with a few upgrades. Today, he has air conditioning, heat and three dust collectors. "Intarsia," he pointed out, "creates a lot of dust." When we asked Joe why he gravitated toward intarsia, he smiled: "Nothing too complicated; I was just running out of room and intarsia is mostly

small." He started out with Judy Gale Roberts' book *Intarsia*, published by Fox Chapel in Lancaster, Pennsylvania, and became a convert to the craft.

Popular during the 1400s, intarsia eventually fell out of favor. "It was so time consuming that artists found it difficult to charge enough for their time." At least in that respect, Joe wryly noted, "not much has changed."

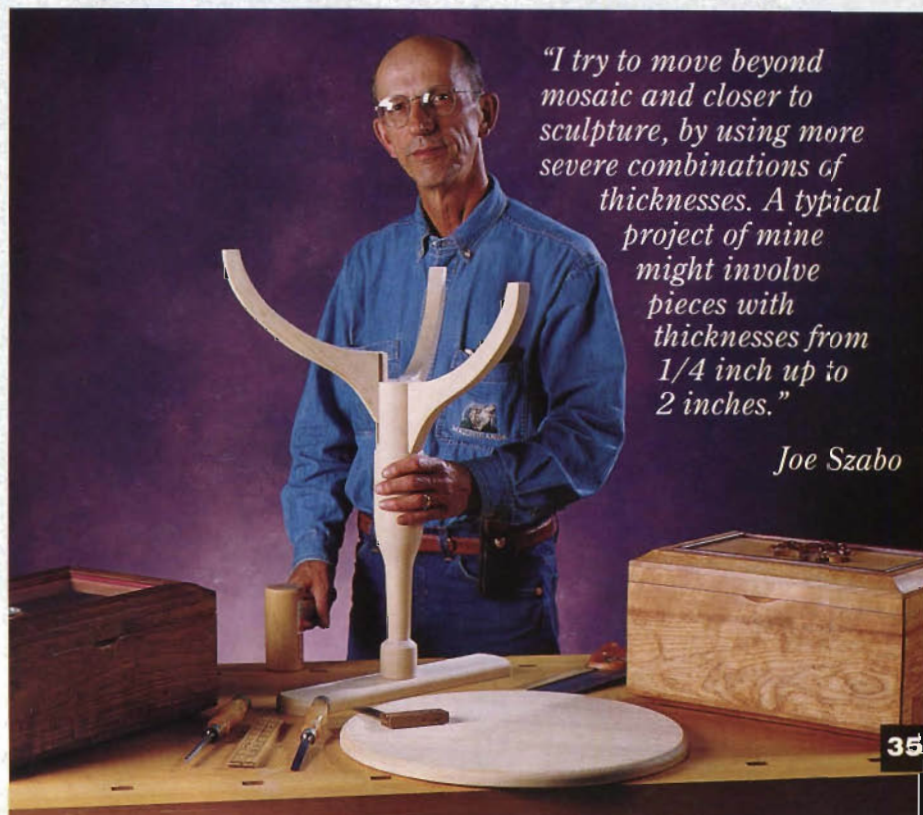
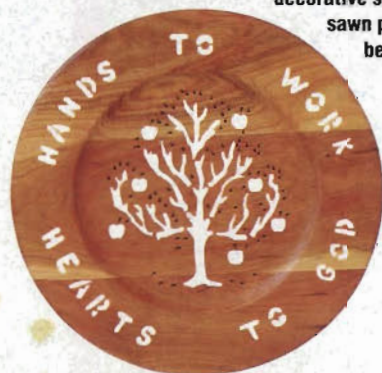


Joe's use of hardwoods in differing dimension is a reasoned personal approach. "I try to move beyond mosaic and closer to sculpture by using more severe combinations of thicknesses. A typical project of mine might involve pieces with thicknesses from 1/4" up to 2".

A couple of Joe's recent favorite woods are Lake Superior birch and maple, but he likes to work with a wide variety of species. For instance, curly maple makes beautiful hair on a wolf, while wenge makes for a great loon body. "I also use cocobolo, purple heart, rosewood, maple, cherry, walnut, chestnut and butternut," Joe pointed out, "it just depends on the project."



Intarsia isn't Joe's only interest in woodworking. He recently completed the Shaker table shown at right and the decorative scroll sawn plate below.



"I try to move beyond mosaic and closer to sculpture, by using more severe combinations of thicknesses. A typical project of mine might involve pieces with thicknesses from 1/4 inch up to 2 inches."

Joe Szabo

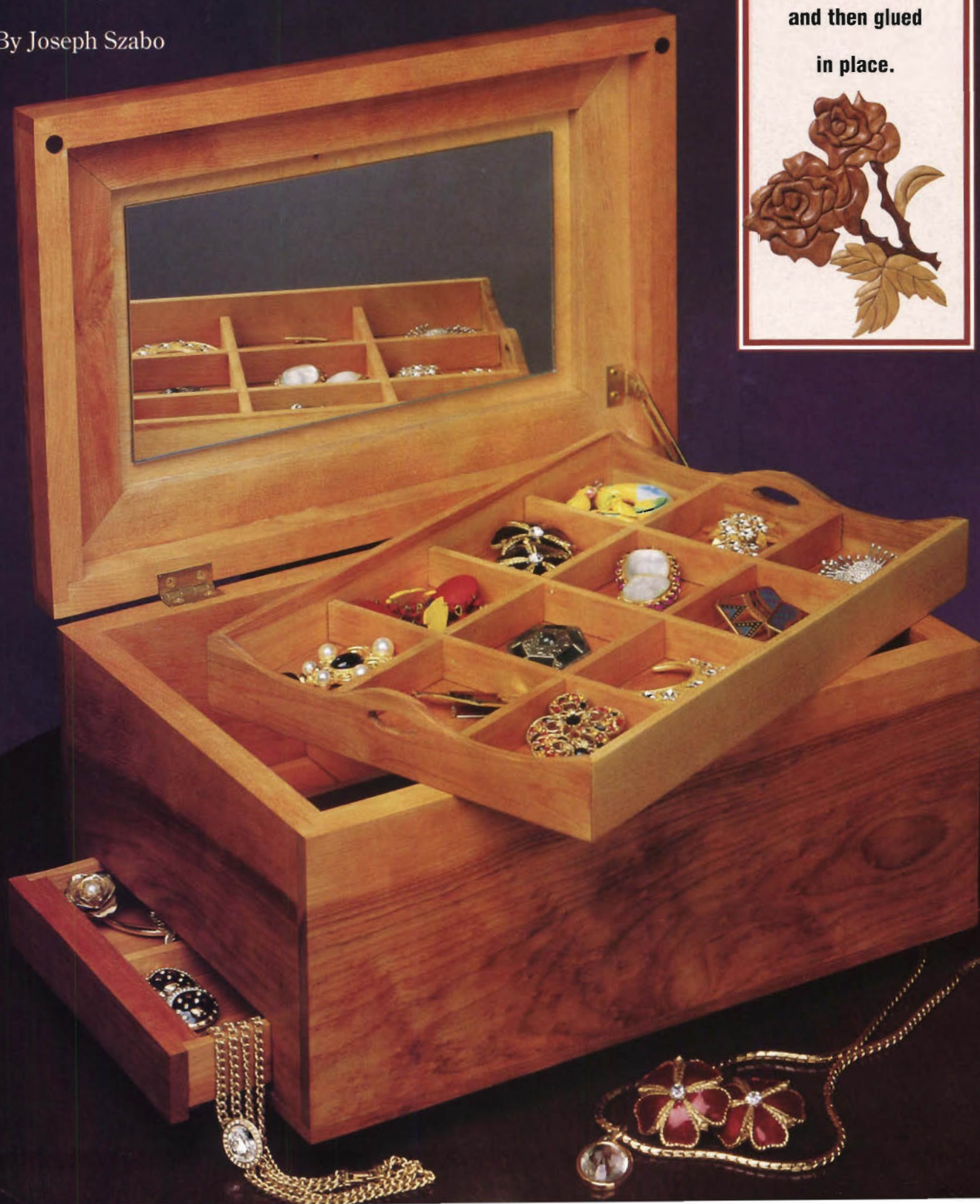
Rose Intarsia Jewelry Box

The salvaged Lake Superior birch used for this box was probably a young sapling when Italy's fine craftsmen were introducing intarsia to the world.

By Joseph Szabo

Intarsia

is a mosaic or sculpture wherein each piece of a pattern is cut separately, shaped and then glued in place.





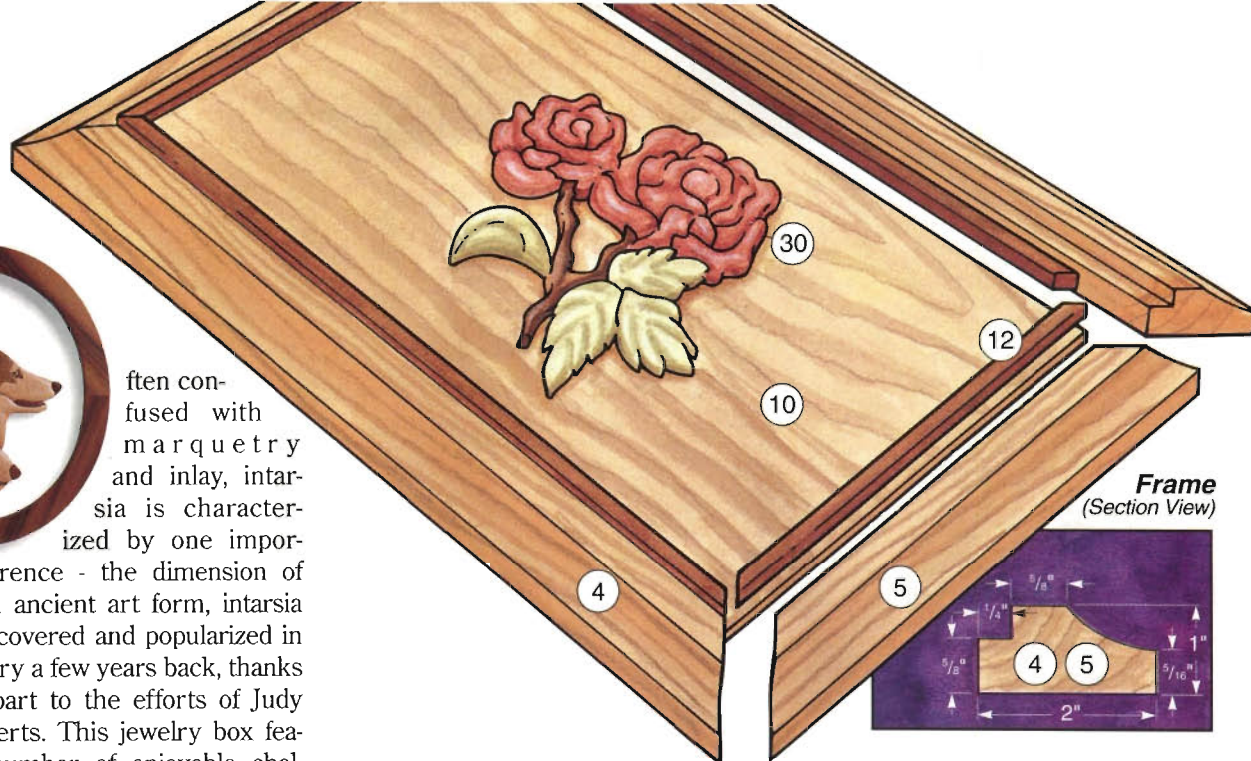
ften confused with marquetry and inlay, intarsia is characterized by one important difference - the dimension of depth.

An ancient art form, intarsia was rediscovered and popularized in this country a few years back, thanks in large part to the efforts of Judy Gale Roberts. This jewelry box features a number of enjoyable challenges, from building small drawers and secret compartments to creating the intarsia rose on the lid. Such a special project deserves the best materials: to build the carcass, I used 300-year-old flame birch recovered from the depths of Lake Superior. But any distinct, light-colored, fine hardwood will do nicely. To get just the right colors for the rose, I used cocobolo, walnut and green poplar. The rich tones of cocobolo are also picked up in the box's trim.

Start with the Case

Dimensions for all the parts in this project are listed in the Material Lists. I cut the carcass front, back and sides (pieces 1 and 2) from a single board to preserve the grain pattern around the box. The inevitable mismatched joint (where the two ends of the board meet) is at one of the back corners.

The sides are joined to the ends with a simple joint comprised of matching rabbets (see **Pinup Shop Drawings** between pages 34 and 35). Use the dimensions in the shop drawings to lay out these cuts, then make the cuts on your table saw with a sharp dado head. Massage the cuts so the ends of the front and back protrude very slightly past the sides: your final sanding will then help seal the exposed end grain.



Drawer Openings

There are two small, hidden drawers in the bottom of the jewelry box. The fronts of these drawers (pieces 3) are cut from the sides, leaving behind two openings. Lay out these openings carefully (see **Pinup Shop Drawings**), as a mistake will ruin the side and put an end to the continuous grain pattern running around the carcass. Before making the cuts on your scroll saw, it's a good idea to drill fine pinholes at the corners to help the blade make the turns (See **Figure 1**). After cutting the drawer faces out, square the opening with a file and sand the drawer front edges true.

You can now glue and clamp the carcass, measuring for squareness in all three dimensions as you do.

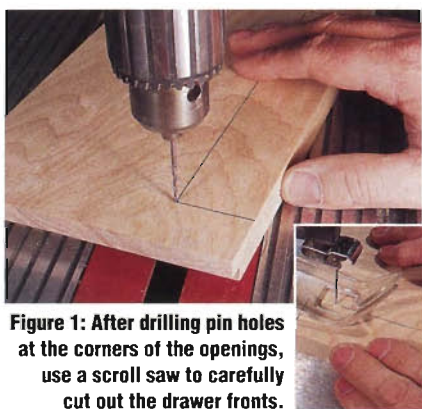


Figure 1: After drilling pin holes at the corners of the openings, use a scroll saw to carefully cut out the drawer fronts.

A Pair of Frames

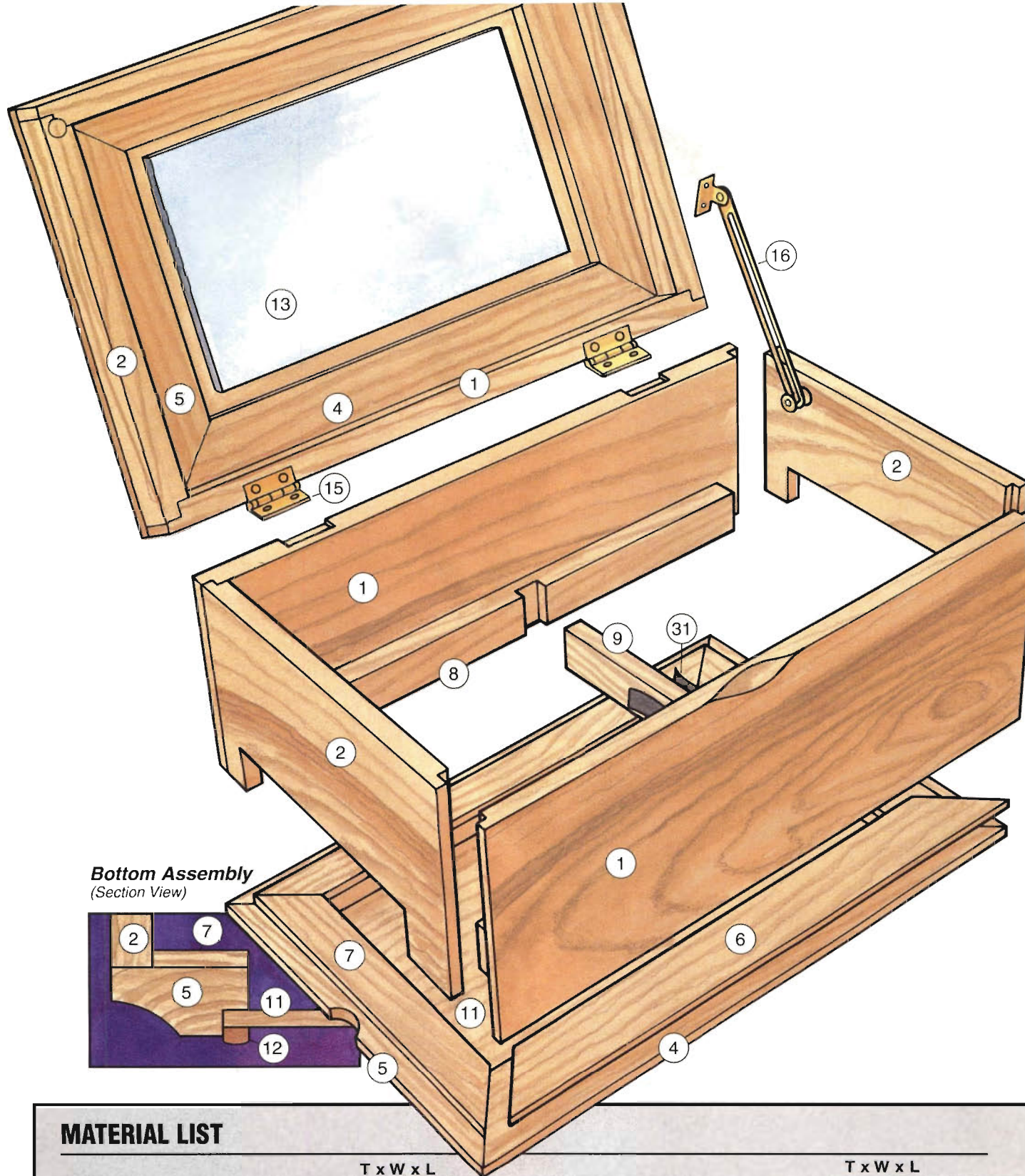
The top and bottom of the box are simply a pair of picture frames, made from moldings which are rabbeted before assembly and then coved afterward.

Cut your stock an inch or two longer than the finished sizes of the frame sides and ends (pieces 4 and 5), then use the section view above to establish the rabbet on the edge of each piece. (The top and bottom panels of the jewelry box will be dropped into these rabbets from the outside, after the carcass is completed.) Mill the rabbets with a dado head, then miter the frame elements to their final lengths before gluing them together to create two identical frames.

After the glue dries, sand the frames to their final thickness. Uniformity is the key here - it's not too critical if they're a 64th off full dimension. With that done, you're ready to cut some coves.

Coving on the Table Saw

If you've never tried cutting coves on a table saw, I strongly recommend you practice on some scrap to get the feel of it. In the same way, use scraps to verify your saw setup will deliver the cove shown in the section view above.



Bottom Assembly
(Section View)

MATERIAL LIST

	T x W x L		T x W x L
1 Carcass Front & Back (2)	3/4" x 7" x 16"	9 Drawer Stop (1)	5/8" x 1 1/2" x 8 7/8"
2 Carcass Sides (2)	3/4" x 7" x 10 1/4"	10 Top (1)	1/4" x 7 1/2" x 12 1/2"
3 Drawer Fronts (2)	3/4" x 1 1/2" x 8"	11 Bottom (1)	1/4" x 7 1/2" x 12 1/2"
4 Frame Sides (4)	1" x 2" x 16"	12 Top & Bottom Trim (1)	1/4" x 3/8" x 84"
5 Frame Ends (4)	1" x 2" x 11"	13 Mirror (1)	1/8" x 5 3/16" x 10 1/2"
6 Long Drawer Supports (2)	1/4" x 1 1/4" x 14 3/8"	14 Mirror Tape (1)	Two-sided
7 Short Drawer Supports (2)	1/4" x 1 1/4" x 9 3/8"	15 Hinges (2)	Brass
8 Drawer Guides (2)	11/16" x 1 1/2" x 14 1/16"	16 Lid Support (1)	Brass

Another of the author's recent intarsia projects, featuring one of his favorite themes.



Clamp a long auxiliary fence to your saw's miter gauge and set the angle at 45°. Raise the blade to 3/4", then run the fence through the blade to establish a kerf.

Clamp the miter gauge in position to the point where the trailing teeth of the 10" blade (those farthest from the operator) are 1" away from the auxiliary fence. Now retard the blade so it only protrudes about 1/8" above the tabletop.

After testing your setup on scrap, run the frames across the blade face down (See **Figure 2**) and cut the cove in several passes: raise the blade about 1/8" on each pass, adjusting the location of the miter fence to match.



Figure 2: Make rabbeted frame moldings to create the top and bottom frames. Once they are mitered and glued up, you can form the cove on your table saw.

Sand the final cove smooth with 180 grit paper. Test fit the frames before gluing and clamping them to the carcass, as shown on the exploded view at left.

After the glue dries, cut the lid from the case, following the dimensions shown on the **Pinup Shop Drawings**. Remember these dimensions take the 1/8" saw kerf into consideration. Make the first cut, then insert some scrap wedges and

use masking tape to keep them in place. Make the other three cuts in a similar fashion, wedging and taping as you go. Remove the saw marks by sanding or scraping the edges, checking to keep the matching edges flat as you go.

Working Up from the Bottom

Using 1/4" stock, make the long and short draw supports (pieces 6 and 7). Miter them to length, test their fit, and glue them in place onto the frame, inside your box.

The drawer guides (pieces 8) sit on top of the long drawer supports and are connected in the center by the drawer stop (piece 9), forming an "H". This is done with a simple dado joint formed on your table saw. Glue this subassembly to the supports.

I switched to Lake Superior maple for the top and bottom (pieces 10 and 11) and cocobolo for the trim that holds them in place (piece 12). Cut the top and bottom to size and glue them in place. Miter the trim to fit and secure it with glue, but wipe the cocobolo with acetone first to remove any oil residue. You'll attach the mirror with double stick tape (pieces 13 and 14) after the project is finished.

Pulls and Hinges

Before you create the rose on the lid, you can practice a little carving on the carcass. To preserve clean lines and avoid the clutter of protruding hardware, I made the edge of the lid into a handle by carving a small elliptical recess in the carcass (see **Pinup Shop Drawings**). This is another step where a little scrap wood will serve you well. Try cutting a few test ellipses before you take a sharp knife to the jewelry box itself.

The same principle is used to create pulls for the drawers, only this time you begin by carving an arc in the bottom frame (see **Pinup Shop Drawings**). This allows a finger to find its way under the drawer and into a small ellipse in the back edge of the drawer front, which becomes the pull. Follow the dimensions on the **Pinup Shop Drawings** when carving this ellipse, then sand all your carvings down to 280 grit.

Two jewelry hinges (pieces 15) hold the lid to the carcass. Locate these hinges according to the **Pinup Shop Drawings** and score the edges of their mortises with a sharp utility knife before chiseling them out. With the hinges set in place, dry fit the lid before screwing the brass lid support (piece 16) in place, following the manufacturer's instructions.

Building the Tray and Shelf

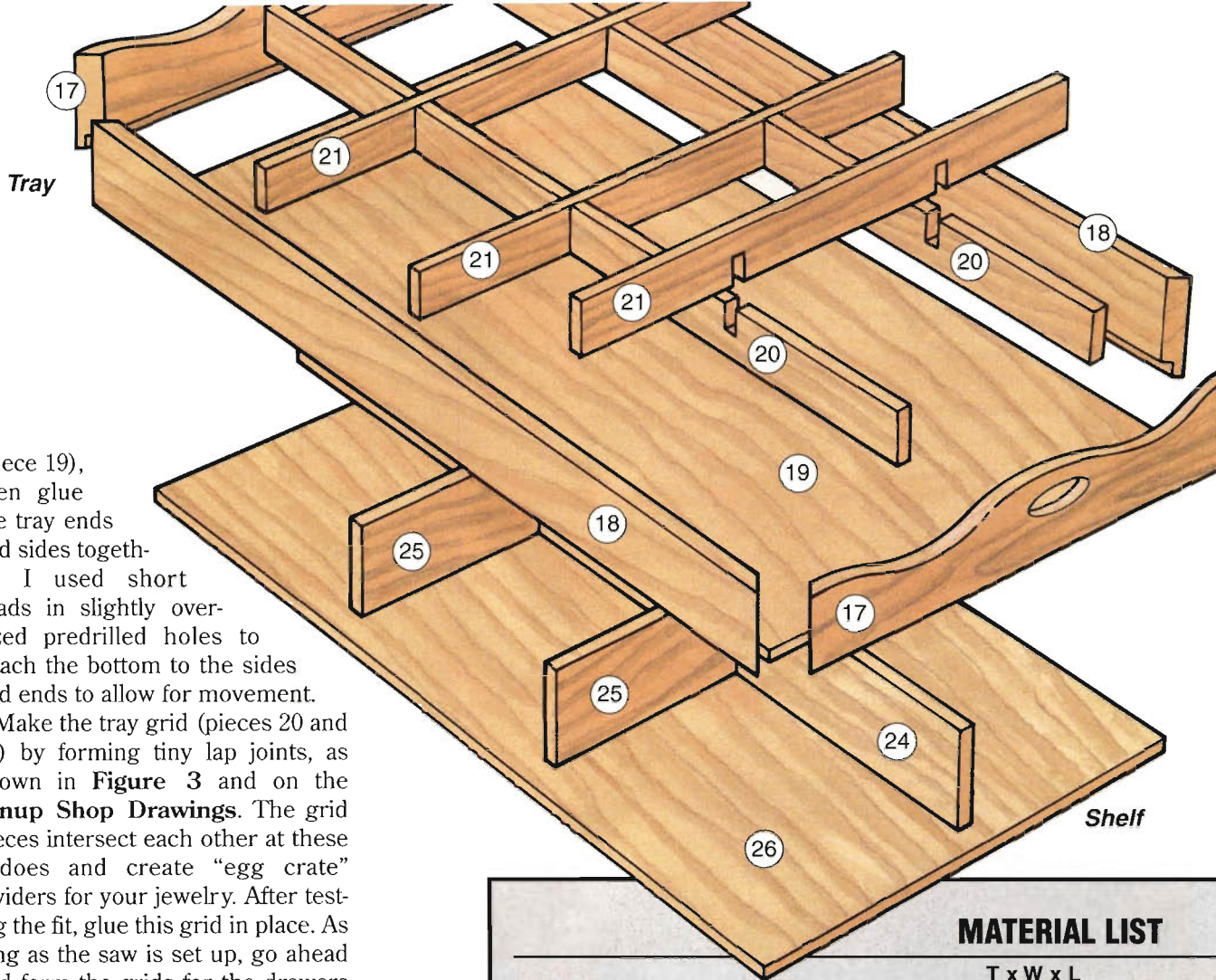
Inside the box, a tray with 12 compartments holds small items of jewelry like earrings, and a larger shelf below it holds more sizeable items. The tray compartments are formed by machining a lap-jointed grid system, versions of which also appear in the drawers and on the shelf. Cut the tray ends (pieces 17) to the shape found on the **Full-size Pattern**, miter the corners to the dimensions shown on the **Pinup Shop Drawings**. Use a dado head to rabbet the ends and sides (pieces 18) to accommodate the bottom

Jewelry Box Project Supplies

The following supplies are available from Woodworker's Journal.

Jewelry Hinge #62125.....\$18.99
Brass Lid Support #27995.....\$1.99

To order your supplies, call 800-610-0883.



(piece 19), then glue the tray ends and sides together. I used short brads in slightly oversized predrilled holes to attach the bottom to the sides and ends to allow for movement.

Make the tray grid (pieces 20 and 21) by forming tiny lap joints, as shown in **Figure 3** and on the **Pinup Shop Drawings**. The grid pieces intersect each other at these dadoes and create "egg crate" dividers for your jewelry. After testing the fit, glue this grid in place. As long as the saw is set up, go ahead and form the grids for the drawers (pieces 22 and 23) and the shelf

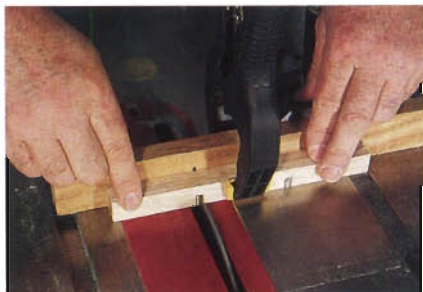


Figure 3: Following the dimensions on the **Pinup Shop Drawings**, use your miter gauge to form the lap joints on the various grid pieces.

(pieces 24 and 25) and dry fit them in place. All the dimensions for these cuts are provided on the **Pinup Shop Drawings**.

The shelf grid will be glued to the shelf (piece 26), which you should now cut and fit to size. Once the grid is glued in place, it will serve as a subtle handle for removing the shelf when access to the secret compartment below is required.

MATERIAL LIST

T x W x L

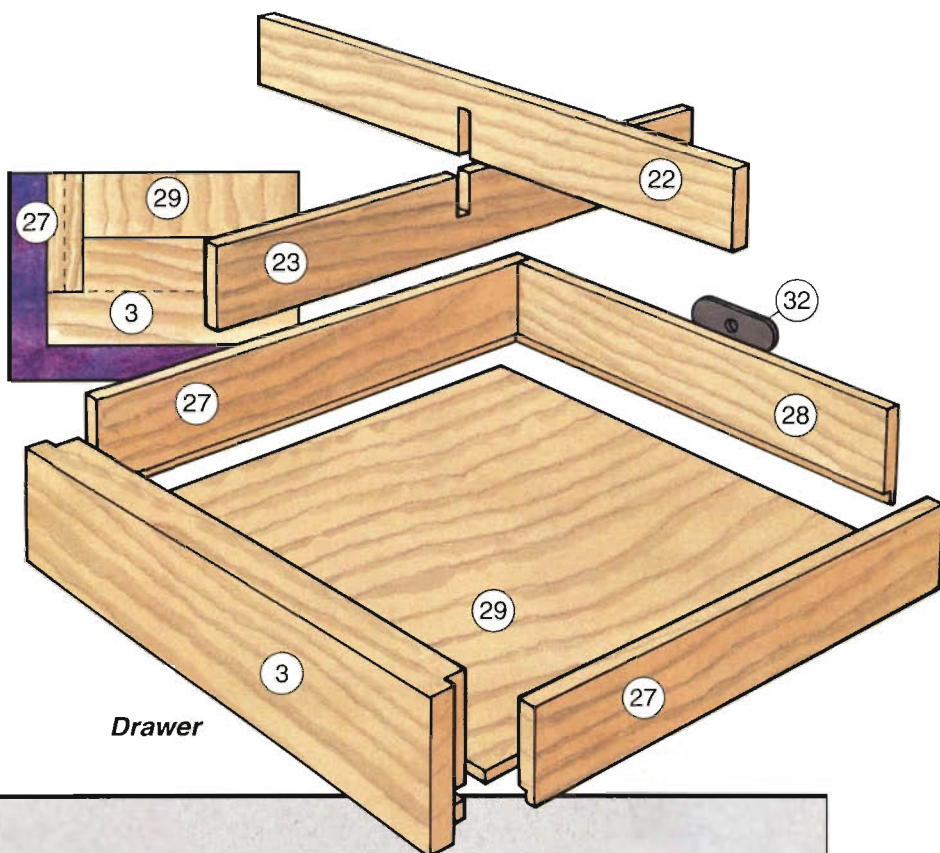
17 Tray Ends (2)	1/4" x 1 1/8" x 9 3/8"
18 Tray Sides (2)	1/4" x 1 1/8" x 14 1/8"
19 Tray Bottom (1)	1/4" x 13 7/8" x 9 1/8"
20 Tray Grid Stiles (2)	1/4" x 3/4" x 13 7/8"
21 Tray Grid Rails (3)	1/4" x 3/4" x 8 7/8"
22 Drawer Grid Stiles (2)	1/4" x 3/4" x 7 1/8"
23 Drawer Grid Rails (2)	1/4" x 3/4" x 6 7/8"
24 Shelf Grid Stile (1)	1/4" x 1 3/4" x 14 3/8"

The Drawers

To allow the drawer fronts you made earlier to catch on the edge of the supports, the sides and back (pieces 27 and 28) aren't quite as wide as the fronts. The assembled drawers will ride between the guides (pieces 8) and on top of the the supports (pieces 6 and 7).

The rabbet joinery in the drawers is illustrated on the **Pinup Shop Drawings**. Follow the dimensions on that illustration to form both the rabbets in the sides and backs and the grooves on the inside of the fronts. Keep in mind the wrap-

around grain pattern means each drawer front has its own top and bottom, and they can't be interchanged or flopped. (In other words, don't cut the groove along the wrong edge!) Because the drawer bottoms (pieces 29) are so small, I haven't experienced any problems gluing them into place along the bottom of the rabbets. But before you do that, dry fit the drawer components together to ensure they'll fit in the carcass openings. When everything fits right, glue up the drawers, checking for squareness and flatness as you go.



	T x W x L
25 Shelf Grid Rails (2)	1/4" x 1 3/4" x 9 1/16"
26 Shelf (1)	1/4" x 9 5/8" x 14 3/16"
27 Drawer Sides (4)	1/4" x 1 3/16" x 7 1/4"
28 Drawer Backs (2)	1/4" x 1 3/16" x 7 5/8"
29 Drawer Bottoms (2)	1/4" x 7 3/4" x 7 1/8"
30 Rose Intarsia Assembly (1)	See Full-size Pattern
31 Magnetic Tape (2)	1/8" x 1" x 2"
32 Strike Plates (2)	Steel



Figure 4: After the entire box has been oiled and waxed, use a buffing compound and some elbow grease to work your way toward the perfect finish. The secret compartment is revealed by removing the shelf and sliding open the drawers, as shown at right.

Apply the Finish

Now you are ready to remove the hardware and sand the entire jewelry box completely through the grits until you get to at least 280 grit. Mask off an area on the top for epoxying your rose in place later. Apply several coats of clear Danish Oil to everything, then, once it's dry, buff the finish with a rouge or diamond buffing compound.

The Intarsia Rose

The rose (piece 30) is 1/2" thick. Following the **Full-size Pattern**, take your time and slowly cut all the pieces to rough shape on your scroll saw. Check my Techniques article (see page 22) for all the step by step information you'll need to complete the intarsia rose. Once it's all together, epoxy the rose to the box where you masked its gluing surface earlier.

To finish up, wax and buff the entire jewelry box (See **Figure 4**) before installing the mirror to the inside of the top with two-sided foam tape. Finally, apply short strips of magnetic tape (piece 31) to the drawer stop and then install strike plates (pieces 32) to the back of each drawer.

The project you've just completed is truly unique: it provides a surprisingly large amount of storage, brings joy to the craftsman, helps to spread the word about intarsia as an art form, and is guaranteed to evoke gratitude from the recipient.



A Rose Inspired Scroll Sawn Corner Shelf

*Transform four small pieces
of mahogany into a
beautiful corner shelf
with just one
great tool!*

By Tom Durden



The best thing about woodworking is there's as much joy in creating a hand-made gift as there is in receiving one. And while all the tools in my shop are fun to use, when it comes to gifts, there's something extra special about the scroll saw. A good pattern and a

couple of hours on this tool can transform a simple board into something akin to sculpture.

For example, the intermingled flowers and leaves in this corner shelf pattern suggest movement, growth and a measure of depth that goes well beyond the simple planes of the wood itself. I chose Honduras mahogany for this project because

of its straight grain, easy availability and structural stability. Mahogany is relatively soft, as hardwoods go, and its regular growth rings and lack of brittleness make it ideal for intricate scrolling. My local lumberyard carries a wide range of mahogany boards in various thicknesses: I found some nice 1/2" stock and planed it down to 3/8"

before cutting the four parts to the sizes shown in the Material List on page 32. The two shelf sides (pieces 1 and 2) are listed larger than their final dimensions; the excess will allow you to attach them to each other later on for stack cutting.

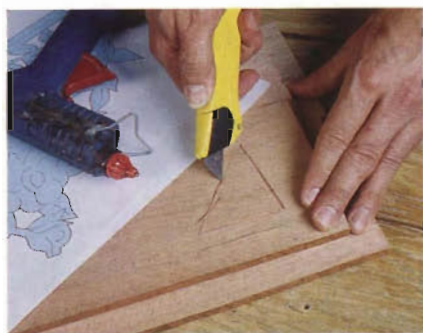


Figure 1: The side pieces are sized so you can hot melt glue them together outside of the pattern. Scoring a shallow v-groove with a utility knife holds the glue at bay.

Attaching the Pattern

The 90° joint used to hold the two sides of this shelf together is a simple butt joint. To keep a symmetrical appearance, the right side is cut 3/8" wider than the left. Before you attach a pattern to the left side, you should joint the edge that meets the right side and dry fit it to make sure you'll have a nice, tight joint.

Make a photocopy of the full-size pattern between pages 38 and 39, then use a spray adhesive to attach it to the blank for the left (narrower) side. The differing dimensions of the side pieces will provide a 3/8"

To ensure proper symmetry, the two sides of this piece are stack cut together.

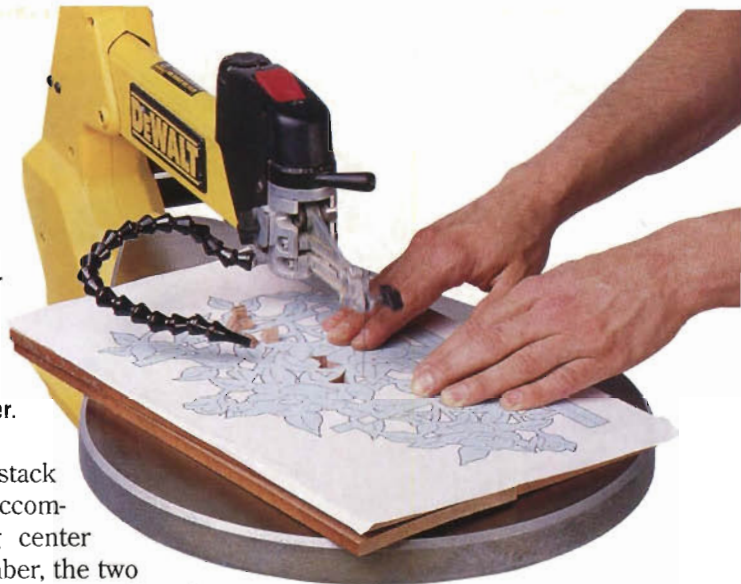
offset when you stack them. This will accommodate the long center butt joint. Remember, the two sides are mirror images of each other, so have the nicer grain patterns facing each other as you cut.

Taking advantage of the excess stock at the top and bottom of each blank, apply a couple of drops of hot melt glue in these areas. Be sure the glue stays in the waste areas,



Figure 2: Use the smallest drill bit possible when drilling your fret blade insertion holes. This helps you to make the delicate vein-cuts.

and doesn't migrate into the sides. One way to do this is use a sharp knife to score a shallow V (see **Figure 1**) into each piece of wood just outside the pattern, to act as a glue trap.



Cutting Sequence

This is a delicate piece and can easily be damaged. Keeping that in mind, work from the center of the pattern out to the edges. Even though you are cutting through 3/4" of lumber, keep in mind that mahogany is a relatively soft material. Practice on scrap before tackling the workpiece to get a feel for the way each blade behaves.

When you're ready to get moving on the actual project, begin each cut by drilling an access hole to insert the blade (find these hole locations on the pattern). Use the smallest drill bit which allows you to insert the blade (see **Figure 2**). This is a good reason to use fret blades (see sidebar below) rather than standard scroll saw blades: the latter are usually pinned at each end, so inserting them in a very small hole is impossible.

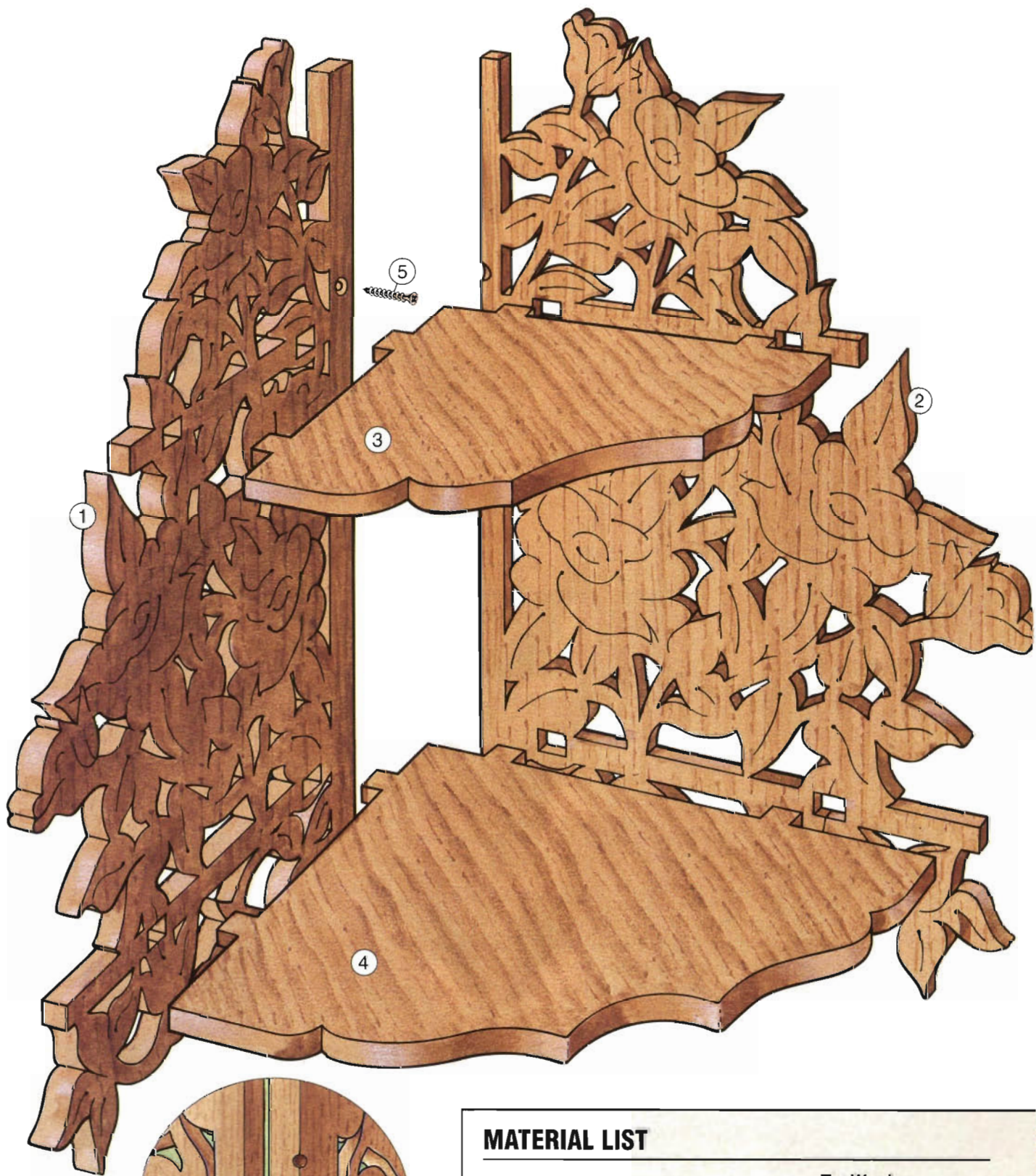
Fine Tuning Your Scroll Saw Blade

A standard scroll blade will be too coarse for much of the fine veining on this project. I recommend using #9 or #7 fret blades: they have a skip-tooth design and will cut cooler in this thick stock. A nice little trick scroll sawers and band sawers share is to use a sharpening stone to round over the back edge of each blade before using it, as shown in the photo at right. This allows you to cut corners a little tighter than usual, and reduces your chances of binding.

Standard Scroll Saw Blade

Fret Blade, skip tooth design





Corner Detail
(Back View)

MATERIAL LIST

	T x W x L
1 Left Side (1)	3/8" x 10 1/8" x 15"
2 Right Side (1)	3/8" x 10 1/8" x 15"
3 Top Shelf (1)	3/8" x 8 3/8" x 6 3/8"
4 Bottom Shelf (1)	3/8" x 11" x 8 1/8"
5 Screw (1)	#4 x 1" Brass
6 Screws (2)	#6 x 1" Brass



Figure 3: Stacking the two 3/8" pieces together reduces overall cutting time, but can present problems when waste pieces are freed up. Be sure to keep a steady hand as you reach the end of each cut.

Be careful while cutting out the larger waste areas (see **Figure 3**), as the two layers may suddenly find themselves free of the surrounding stock before you're ready. This release of pressure may cause your blade to jump and cut outside of the pattern. Once the larger waste areas are removed, move on to the delicate veining cuts, again starting at the center and moving outward.

A simple block sander is the most effective way of cleaning up the edges of the pattern, especially the more ragged saw marks. Of course, because you stack cut these two pieces, you will only have to deal with one set of saw marks.

The Shelves

Use the same procedure for cutting the shelves (pieces 3 and 4) as you did for the sides. Don't stack the shelves (they differ in size), just apply the pattern, install the same type of blade and cut and sand each shelf to its final shape.

Note there are tenons on the back edges of the shelves. These are part of the pattern, and can be cut with the fret blade. The mortises have already been cut into the shelf sides as a part of the pattern. Good mortise and tenon joinery requires tight fitting joints. Carefully dry fit the mortises and tenons and sand and file until you are satisfied.

Sealing and Assembly

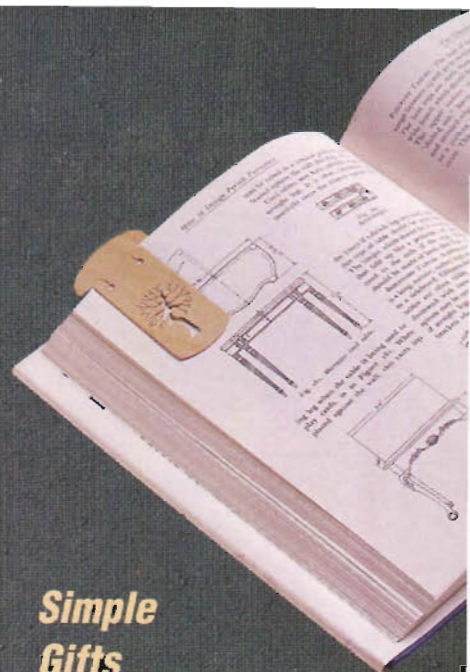
There are few finishes as suitable for natural, unstained stock as

Danish Oil: it gives your work a beautiful, rich luster while sealing it from the elements. To get at all the hard to reach spots you just created, I recommend dipping the pieces in a shallow bath of oil. Remove them after a minute and wipe off the excess. Let each piece dry completely before applying additional coats. After the last application dries, I spray on a topcoat of semi-gloss polyurethane, for a tough, enduring finish. If you wish to do likewise, make sure the finishes are compatible before proceeding.

Insert the tenons on the two shelves into one side, then slide the second side into place. Secure the sides together with brass screws (countersinking and predrilling first) and then predrill and countersink the hole for the mounting screw (see illustration on pullout pattern). Your scroll sawn shelf is ready for hanging.

One last thought: this is a delicate piece that is somewhat more sturdy after assembly than before. If you're shipping it to someone who won't be very comfortable assembling it, I suggest you ship it already put together. Either way, I guarantee the recipient will be overjoyed with your wonderful new creation.

Tom Durden is a woodworker from Memphis, Tennessee. When he's not scroll sawing at home, he's out hosting seminars and workshops to further satisfy his appetite for scroll sawing. His last project for us was the Chinese Checkerboard in TWW 56.



Simple Gifts

If you need a handful of simple gifts in a hurry, Tom Durden has just the project for you. These Shaker Tree of Life bookmarks can be completed in no time and will give you a nice workout on your saw. Check this issue's pullout Full-sized Pattern to get started.



The Shape of Tools to Come

Hit the Nail on the Head

It may look a little strange to Western eyes, but Takagi Tools Inc. is betting a new Sharkgrip hammer will be right at home in American workshops. The company claims the 23 oz. hammer is so perfectly balanced every swing will deliver maximum power right on target. A secondary head, set into the side of the main head, is designed for nailing in tight spots. The Sharkgrip is drop forged from high carbon steel and double tempered. The shank is industrial grade yellow Fiberglass™

The Sharkgrip from Takagi is balanced to deliver maximum power.

and boasts a shock-absorbing rubber grip. The flat head version carries a suggested retail of \$32.99 and the standard waffle head is priced at \$33.49.

For more info, see the **HOTLINE** box on page 47.

Sharp New Knife Concept



When it comes to blade changing, wolcraft's utility knives are hard to beat. Two new versions - the Security and Professional Cutters - both feature a quick-release insert giving you instant access to the blades without having to use any tools. Each blade can be set at any one of eight different exposure settings, making these tools ideal for everything from trimming veneer to scoring plywood panels. The generously sized handle provides a good, ergonomic grip and enough storage room inside for a pack of replacement blades.

While the Professional Cutter has a familiar locking mechanism, the Security Cutter's blade is spring loaded and automatically retracts when not in use (an OSHA requirement in some work situations). Available at most hardware stores and home centers, the knives retail for \$3.99. For more information, see the **HOTLINE** box on page 47.



Miter Saw Cuts Cost

Ryobi's latest entry in the power miter saw market is a 10" model that sells for just under \$200. The price is even more surprising when one considers the TS230 comes with a 30-tooth carbide blade. At 32.3 lbs., this fairly portable saw has a miter scale cast right into the machined aluminum die-cast base and positive bevel stops at 0° and 45°. Miter stops are built in at 0°, 22½° and 45° left and right. Cutting capacity at 90° is a generous 5⅞" wide and 3⅞" high. At 45°, a cut can be made 4" wide and 1⅞" high. A throat plate reduces splinters and tearout during cuts, and a locking arbor facilitates easy blade changing. The saw comes with a 13 amp, all ball bearing motor and accessible brushes. Ryobi also offers an optional extension rail set. For more information, see the **HOTLINE** box on page 47.



Ryobi's newest power miter saw comes with a 30-tooth carbide blade, a miter scale cut into its base and a pleasingly low price.

A BrandNew Idea

BrandNew, a Goleta, California tool manufacturer, recently introduced a new replaceable-head lathe parting tool called the Hardwood Scalpel. The handle comes with two interchangeable blades, one 0.06" thick and the other just 0.04". Both are made from M3 heat-treated high speed steel and feature T-shaped profiles: the manufacturer claims this unique design cuts faster than competing models and requires less sharpening. The thin profile generates very little pressure, so the tool cuts more smoothly and easily than traditional parting tools - a real advantage on thin, delicate work. Blade switching is quick and easy: just loosen a couple of Allen keys and slip in the new blade. Sharpening is relatively simple, too: because of the T design, these blades only need to be sharpened on one face. The Hardwood Scalpel retails for \$99. For more info, see the **HOTLINE** box below.



BrandNew's Hardwood Scalpel provides smooth, easy cuts for delicate work.

Goodbye, Hex Wrenches

While the Makita 4304 jigsaw has long been a favorite among cabinet installers and other tradespeople, the company felt even this workhorse could do with a few improvements. The biggest and most welcome change is a bevy of tool-free settings: you can now change blades or the bevel of the base and attach the vacuum hose without ever reaching for your hex wrench. The new model, the 4304T, still boasts a variable speed, 5.5 amp motor with

orbiting action that can slice through up to 5 1/8" of wood. It also brings some new features on board, like the lock-on levers on both sides of the saw allowing both right- and left-handed operation, a redesigned plastic shield that stays in place during bevel cuts and a completely removable blade essential for easy cleaning. The 4304T comes with 6 blades and a plastic toolcase and retails for \$336. For more info, see the **HOTLINE** box at left.



HOTLINE

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Four Great Home Shop Table Saws

By Charles Self



Jet JWTS-10PF
Xacta Fence
Street Price \$749.00
Jet: 800-274-6848

While most of us fantasize about top-of-the-line cabinet saws like the Powermatic 66, Delta's Unisaw or a Jet JTAS-10, the truth is, a standard, less expensive 10" contractor's model is more than adequate for most home shops. True, contractor's saws don't offer the massive trunnions and three-belt drive systems of cabinet saws, but they do deliver reasonable weight, power and accuracy at a moderately low price (at least when compared to cabinet saws, which start at around \$1100.00). The least costly of the four saws we looked at for this article is the Grizzly Z model with its Shop Fox fence (\$599.00). The most costly were the two Delta models, which were both priced at \$849.95. Bench top saws, the third option on the market, cost less but are somewhat limited and lack expandability. Speaking of that, the contractor's saws reviewed here are not base models: all have extra-cost fences.

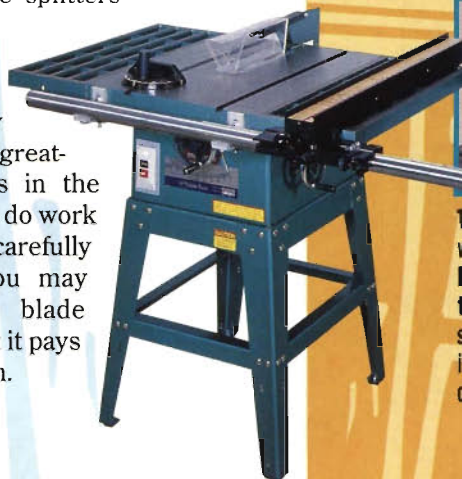
Shared Features

Cast iron contractor's table saws share many features including open backs so the motor can swing

through its angle and height adjustments; suspended motors at the backs of the machines; single power belts; tilting 5/8" diameter arbors; adjustments that are made with trunnions and gear assemblies; height adjustment wheels (unmarked) on the fronts of the saws; and angle adjustments (marked on a scale that can be adjusted for accuracy) on side wheels. Many 10" saws are also adaptable for both 110 volts and 220 volts power, and a few feature dust collector plates to guide sawdust into a collection system or shop vacuum.

Blade Guards

Most saws' blade guards are similar in design and operation and include splitters and anti-kickback fingers. While they aren't the greatest designs in the world, they do work if they're carefully set up. You may not like blade guards, but it pays to use them.



Test Models

Bridgewood's TSC10C came with a 30" Vega U26 fence (also available with several other fences); delivered price is \$685.00. Delta's 34-445 was packaged with the 30" Unifence (\$849.95), and it arrived at our shop with the optional extension table (\$89.95). The Delta 36-490 comes with the 30" commercial Biesemeyer fence (\$890.95 for both), and its optional laminated table costs \$89.95.

Grizzly's 1022ZF has a Shop Fox fence (\$599.00 for this saw package). The Jet JWTS-10PF is equipped with a 30" Homeshop Xacta fence (\$749.00) and has a right-hand table. Jet also sent a mobile base that costs \$140.

Bridgewood TSC10C

The Bridgewood arrived in a self-destructing box, as did all the heavy saws. None of them had any missing or broken parts. Opening

Bridgewood TSC10C
Vega U26 Fence
Street Price \$685.00
Wilke Machinery Co: 800-235-2100



The Vega fence is a valuable addition to the Bridgewood saw. Although the back of the fence sometimes lifts as you lock it, the author found it to be of the highest quality.



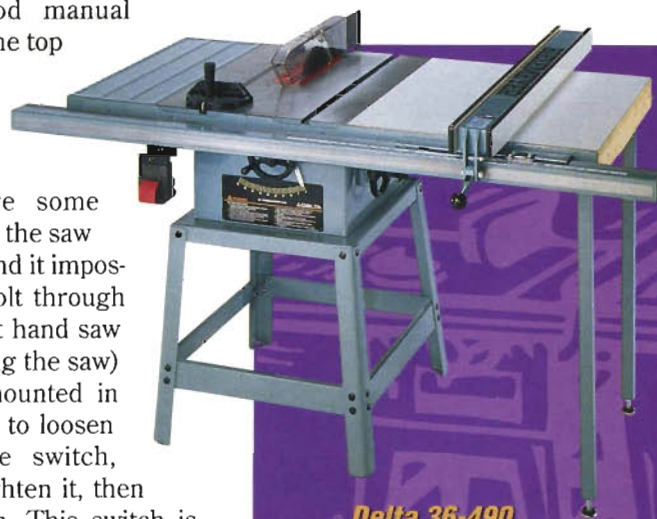
Grizzly 1022ZF
Shop Fox Fence
Street Price \$599.00
Grizzly: 800-523-4777

the Bridgewood carton, you come to a nicely ground top, with the extensions well wrapped and protected. The Bridgewood comes with two cast iron, open work (grid) wing extensions, marked for R and L installation. It took two of us to pull the saw out of the carton and assemble the unit.

The Bridgewood manual ranks right up at the top of the saws we tested. Photos are clear, as are the directions, though there are some misses: when I put the saw on the stand, I found it impossible to get the bolt through the hole in the left hand saw base bottom (facing the saw) - the switch is mounted in the way. You have to loosen and pull out the switch, insert the bolt, tighten it, then replace the switch. This switch is magnetic, a nice safety touch. Magnetic switches shut off the saw if your power goes out. The Bridgewood's extension wings go on easily, but an admonition to start with the center bolt would help a lot. And wiring the U.S.-made Marathon motor (nine wires versus six for the Grizzly) was no fun.

With the saw assembled, the Vega fence was next. Vega's instruction manual is not as helpful as Bridgewood's. The drawings, however, are great. The fence is a good

one: four massive bolts hold the head to the fence body. One concern I had was that the back end of the fence lifted 2" off the saw table when the fence was being locked. The Vega's handle evidently rotates on the round bar, lifting the rear. True, the settings don't change - but I found myself holding the back down as I locked the fence. The Biesemeyer, Xacta and Unifence don't lock at the rear, yet none of them lift any appreciable amount.



Delta 36-490
Biesemeyer Fence
Street Price \$849.95
Delta: 800-438-2486

Basic features: the table is 27" deep by 39 1/2" wide. Distance to the front of the blade slot in the table insert is 11 1/8", with 11 1/8" to the Freud 24 tooth rip blade (all of the to-the-blade measurements are with the same blade installed). The longer the distance to the blade from the front edge of

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... the **truth** is, a standard, **less expensive** 10" contractor's model is more than adequate for most **home shops**.



the table the better: you get more stock on the table before it meets the whirling teeth, so it's easier to control. There isn't an appreciable difference between the four saws covered here.

The Marathon motor is listed as 1½ HP at 3450 rpm (as are all these motors). This is a 14.2 ampere, 110 volts motor that can be wired to work at 7.7 amps at 220 volts.

Overall impressions: Accuracy of the fence is good. Power is sufficient when ripping long 1" stock, whether yellow pine, ash or poplar. All tests were with Freud's 24-tooth rip blade - the thin kerf, red Teflon-coated model - except for crosscuts (which were done with Vermont-American blades).

The cut through ash is slower than through poplar, but a nice glue line cut was produced in both: this is the product of a good blade and a well aligned saw with enough power to do the job.

General fit and finish on the Bridgewood is good; it's a reasonable saw for the money. Adjustment wheels are standard 5" and they work smoothly, as did all the tilt and elevation controls. The table extensions installed quickly and easily, and fit well. They were as nicely finished as the main saw table. This saw comes standard with a dust collector plate. The Bridgewood has a

standard T-slot miter gauge, 3/8" deep by 3/4" wide. The miter gauge is the least desirable of those tested.

The saw comes without a blade, as do all the rest except the Deltas. Four Allen screws serve to adjust the table insert, which is aluminum. *General recommendation:* a reasonable saw for the money. The Bridgewood manual is tops. I didn't like the Vega fence as much as some of the other after market fences, though it is more than adequate and much better than most standard fences. The miter gauge is the lightest of all those tested, with the shortest bar - which limits crosscut lengths.

Delta 34-445 and 36-490

These two saws are identical except for the fences: the 34-445 comes standard with a Unifence while the 36-490, in contrast, arrives with the Biesemeyer. Both of these fences are commercial grade. They're close enough in quality and operation so that selection is really a matter of personal choice.

Both Delta saws cost a little more than the next most costly saw, unless you can find a factory rebate. (For comparison, the

Bridgewood invoices at \$685.00, while either of these Delta models is generally available for around \$800). You need to either buy or build an extension table to fit on the right side of the saw; the cost of the factory built one is \$89.95. The support bars provided with the Biesemeyer fence are so heavy that no legs are needed, but the Unifence's aluminum construction makes legs a must.

The Delta contractor's saws come with a single phase motor that does a super job of driving the saw. It is one of two units that require no wiring. Plug the motor into its power cord and it's ready to provide wood slicing power. If you want to use 110 volts, you're all set to go. The saw assembles easily; the left extension is of sheet steel, instead of cast iron on the other side. Fit and finish are at the top among this group of saws, tying with the Jet in these categories. The table is nicely ground, and the stand is very sturdy and goes together well. All the stands were sturdy, and all were easy to assemble, considering the number of nuts, bolts and washers.

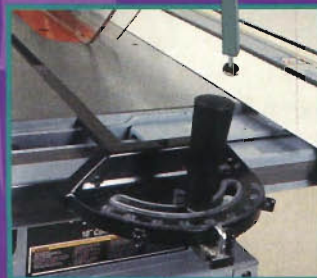


Delta 36-490

The 30" Biesemeyer fence is standard with the 36-490. The Biesemeyer's quality has long been considered an industry benchmark.



The author considers the Delta miter gauge to be a solid addition to both of their contractor's saws.



Delta 34-445

Unifence

Street Price \$849.95

Delta 800-438-2486

Delta's Unifence
is the author's
choice as the
most versatile
fence tested.



The Unifence on the 34-445 is a remarkable tool and gives great versatility to the saw - possibly more than any other fence. Designed to be a replacement for many guides and jigs as well as a general use fence, the Unifence offers easy cut-offs on laminates and veneers. The fence body lies on its side so veneers or laminates extend over its lip, keeping them from slipping under the fence. But eliminating registration blocks may be what the Unifence does best: the movable aluminum fence-body can be adjusted forward and back in its guide to allow safe repetitive cut-offs as needed.

With the Unifence, the left extension and the right table in place, the overall size is approximately 27" x 60". The standard table is 27" x 40", and each extension wing is 10" x 27" in size. The front edge of the table is beveled, and the saw blade slot in the insert is 12 $\frac{3}{8}$ " away. The fully raised blade is 12 $\frac{5}{16}$ " back from the front table edge: this is the deepest setback of any of the saws.

The miter gauge groove is 3/8" deep by 3/4" wide; it uses a T-slot miter gauge. The Delta miter gauge isn't massive, but is nicely made and slides firmly in its slot. Its accuracy is good right from the factory, and adjustment is easy.

The motor position makes it difficult to get suction down through a dust collection adapter and these saws don't come with dust collection plates. The switch is not a magnetic model, but it does have a large OFF paddle. Location is up near the immediate underside of the table, where it is easily reached to shut things down.

Controls are well located, with the elevation wheel in front of the saw

at the center. The tilt wheel is at the right side, close to the front of the unit. None of the saws has wheels that are difficult to reach or operate, but the overall slickness of operation here is at the top of the list. These wheels are 5" diameter and turn easily.

Using the same model Freud blade, I found rip speeds and accuracy were very good in poplar, ash and yellow pine. There are variations in amperage on these saws, but they don't seem to make much difference in feed rate if the fence is set up properly. Differences may show up in denser wood, but these saws are not meant for working 8/4 and 12/4 hardwoods on a consistent basis. Slow feed rates will get you through most any wood in your shop.

Fence Choices

The Unifence is probably the most versatile fence around and works smoothly, as does the Biesemeyer fence. Both might eventually present problems with sawdust build-up in the slots between the fence

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heads and the saw, but those slots are easy to clean out, and the sweep of the fence should do a good deal of the clearing most of the time. General use is great, repeatability is superb, and durability should be fantastic on the Biesemeyer. The Unifence is mostly aluminum, so it requires more care in handling. But for our testing purposes, it was a delight. Both fences lift off and return to service with ease.

General recommendation: the most expensive of the saws, with easier and faster assembly, better fences (unless, of course, you order the Bridgewood without a fence and add your own Biesemeyer or Unifence) and a long term reputation for quality. The Delta is sometimes on sale and often subject to rebates. The current top-of-the-line for contractor's saws, the Delta has only two small faults: it offers no dust collection plate, and it doesn't have a magnetic switch.

Jet JWTS-10PF

If Delta is the Mercedes of contractor's table saws, then Jet is a well-equipped BMW. The JWTS-10PF came out of its carton and went together very nicely, though it is difficult to mount the accessory table without help (Delta puts you in the same boat). Overall fit and finish were as impressive. Machining of the top was superb, and the paint job is excellent. The left extension

wing is solid cast iron and machined to a glassy finish. The Xacta fence has a right side table between the fence supports; the fence doesn't need the rear bar, which is a support for the rear of the table. The motor is wired for 110 volts, so you simply plug the two units together after assembling the motor to the back of the saw. Its non-magnetic switch is nicely located to the left of the front fence bar, and the saw comes with an under-the-cabinet dust collection plate.

The T-slot miter gauge is not as massive as Grizzly's but is well made and is certainly as heavy as it needs to be.

The Xacta fence mounts and dismounts easily, moves smoothly

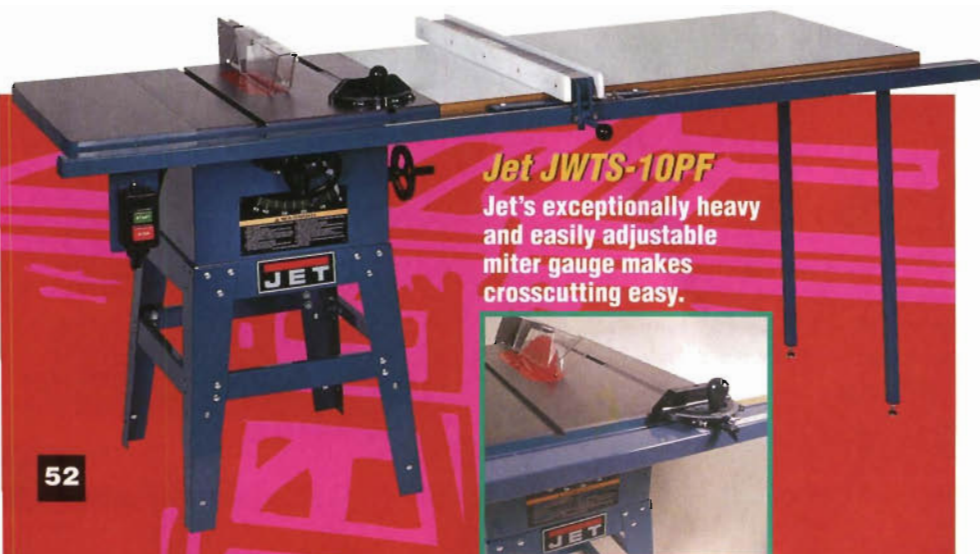
from side-to-side and locks solidly. The home shop version of the Xacta fence isn't as heavy-duty as the Biesemeyer but offers good sturdiness, excellent repeatability and ease of installation. (You will need a helper to line up the table for the 1/4" mounting holes - which you should make 5/16" to allow for a bit more adjustment when leveling the table top).

Fit and finish were just fine. The distance to the blade insert from the front edge of the table is 11 1/8", and to the blade itself, when fully raised, the distance is 11 3/8". Test cuts produced results similar to the other tests. High density plastic lining the fence is a positive design feature: this plastic provides a slick, smooth surface to slide wood along. Ash, poplar and yellow pine went through nicely. It was possible to jam the material into the saw so fast it stalled, but backing off returned feed to normal rates. For heavy material, from 5/4 on up, it's necessary to feed the stock slowly.

General recommendations: the Jet is a top notch saw with a moderate cost (it comes in about \$100 under the Delta saws, but the Jet includes a right side table with the Xacta fence). The fence is a home shop model, not a commercial version. Fit and finish couldn't be better, and the electrical assembly is well thought out. The saw also comes with a dust collector plate and a solid cast iron left extension wing. All in all, this is an excellent buy.

Grizzly 1022ZF, with Shop Fox

The Grizzly 1022 is available in a standard configuration or as the upmarket 1022ZF. The Z configuration is definitely worth the money: it includes beveled table edges, machined pulleys for both motor and arbor, a link belt and a dust collector plate. It also ships with extra



Jet JWTS-10PF
Jet's exceptionally heavy
and easily adjustable
miter gauge makes
crosscutting easy.



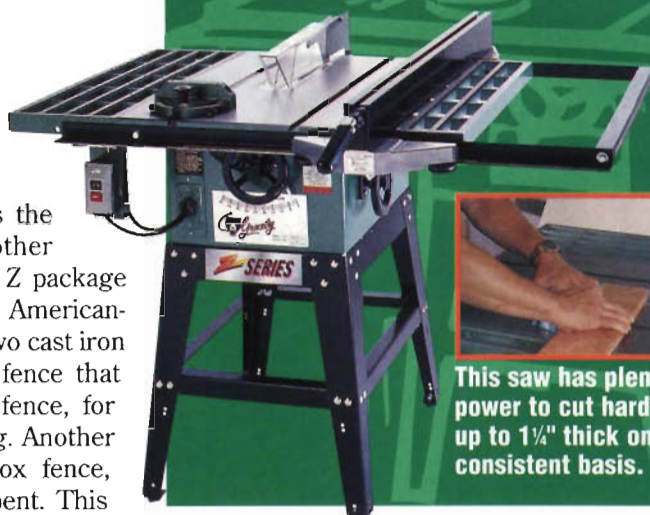
large wheels (6" versus the standard 5" on the other saws). You can get the Z package with this set-up and the American-made Reliance motor, two cast iron extension wings and a fence that mimics Delta's Jetlock fence, for about \$450 plus shipping. Another \$150 adds the Shop Fox fence, which is money well spent. This fence offers L-shaped angle iron rails with precision ground front edges and the most positive fence-locking handle you're ever likely to see. It is easily adjusted and as sturdy as all get-out.

Shop Fox movement is slick, slick, slick, and there should be no problem with sawdust buildup. The fence itself has a T-slot top for accessories and is made of shaped steel. It runs on three wheels - two

at the front and one at the rear - that lock solidly onto the bar.

Points to consider: the Shop Fox is the only fence that comes with a do-it-yourself tape that has to be measured and pressed into place. It took two attempts to get the tape in the right place. The Shop Fox also requires some familiarity before mounting and dismounting it on the saw becomes a smooth process.

Grizzly 1022ZF



This saw has plenty of power to cut hardwoods up to 1 1/4" thick on a consistent basis.



Grizzly's controls are well located and the wheels are 20% larger than those on other saws.

As far as the saw itself goes, this is the smoothest running of all the saws we tested, which is really saying something. The distance from the front of the table to the insert slot is 11 7/8" and to the front of the blade it's 12 1/2". This model comes with a dado insert, as well as the regular blade insert.

Feed and cut speeds with ash, poplar and yellow pine were similar

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to those of the other saws, and this unit has plenty of power to cut hardwoods up to about 1 1/4" thick on a fairly consistent basis. The down and dirty power of its 17 amp Reliance motor is sufficient. The switch is mounted in a good location, with a distinct, large OFF button. This switch is not magnetic. *General recommendations:* this saw operates nicely and once the tape is on, repeatability with the fence is excellent. Nothing seems to deter the fence from its slick movement. Everyone who moved it loved it - including those who own Unifences, Jetlocks, the recent Craftsman Exact-I-Rip fence, Excaliburs and Biesmeyers. Finish on the saw is well within standards. The stand is sturdy and went together with ease, while the saw mounted easily on its stand. The motor had six wires to hook up. Those big adjustment wheels are well located and easy to move: the larger wheels (20% larger than those on the other saws) will maintain ease of adjustment even as the insides pick up sawdust. A very good all-around saw.

Final Thoughts

Among these saws a woodworker may discover his own first table saw or an upgrade to take his craft to a new level. I was generally pleased and impressed with the quality of these saws, but tools tend to be personal things. Take what I've said here and do some solid checking yourself. Any of these table saws would be a significant investment which would remain with you for years to come, so take the time to match your saw to your needs.



Charles Self, a professional woodworker and author of many books, works out of his shop in Bedford, Virginia.

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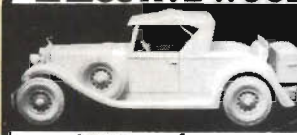
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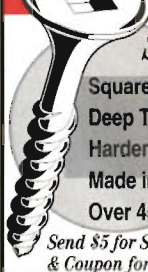
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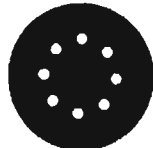
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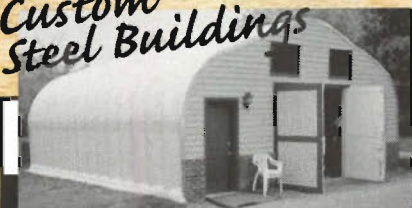
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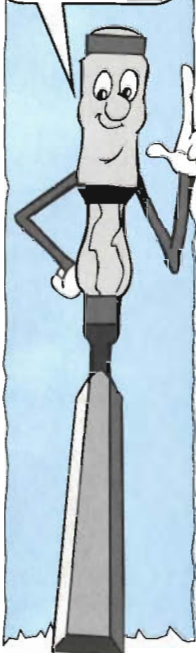
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(Circle No. 95 on the PRODUCT INFORMATION form)

Bosch In-line Jigsaw

By Charles Sommers

Recently, cramped for storage space in my basement shop, I was deciding which tools I could eliminate without inconveniencing myself too much. I don't use a jigsaw often, but the one pictured at right gets called on for jobs no other tool in my shop can do nearly as well. Hence, its "keeper" status.

Not a Typical Jigsaw

My saw is a Bosch Sabre Plus™, model number 3294EVS - and no, it's not a typical jigsaw. The body on this saw measures just over 13", but even more unusual, the blade travels in line with the motor armature rather than in the up/down motion of conventional jigsaws.

The in-line design of the Sabre Plus causes it to look a lot like a down-sized reciprocating saw, but don't let that fool you. At 3.2 pounds, it weighs almost 2 pounds less than most conventional jigsaws and less than one-third the weight of a standard reciprocating saw.

Features Add To Usability

The 3.6 amp motor, when combined with the appropriate speed setting and a sharp blade, makes quick work of most cutting jobs. The Sabre Plus offers the same features you find on other premium-grade jigsaws: variable speeds, fast blade changing, orbital blade action, an adjustable footplate, electronic feedback circuitry to maintain cutting speed under load, ball and needle bearings and a double-insulated electrical system that only requires a two-wire power cord and polarized plug.



The unique design and trim size of Bosch's in-line jigsaw enables it to be used in areas where other jigsaws and trimsaws can't fit.



Although it looks like a diminutive reciprocating saw, it's actually a handy little sabre saw. The array of accessories, such as the 90° and 45° footplates, 4" wood rasp, bristle and metal brushes and edge guide make it a versatile tool to have around.

Blade speed can be governed with the variable-speed dial mounted at the back of the tool or by varying how much you depress the switch. The blade speed ranges from zero to 3,800 strokes per minute, providing flexibility to handle different cutting jobs. I reserve the higher speeds for working soft, easy-to-cut materials. For sawing most hardwoods, I start with the number 3 setting, then adjust as necessary.

For me, jigsaws finally became viable tools when the manufacturers added tool-free, quick blade-changing mechanisms. This saw has Bosch's popular "Clic" mechanism so you don't need to have a tool in hand to change blades.

The three blade orbit settings perform essentially the same function on this in-line unit as they do on conventional up-down jigsaws. The 0 setting (no angle) works well with fine blades, grit-edged and knife-edged blades, rasps, and brushes. I

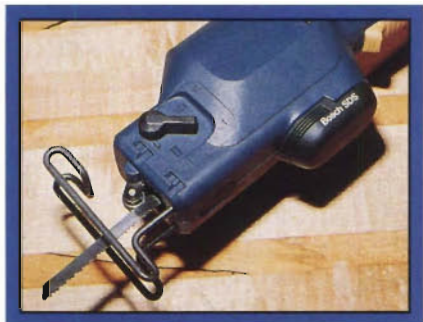


The rear-mounted variable speed control dial can be set to provide blade speeds from zero to 3,800 strokes per minute.

Tools by the Numbers

Motor	3.6 amp
Weight	3.2 pounds
Blade Speed	zero to 3800 spm
Blade Stroke	5/8"
Power Cord	8 feet
Wire Foot	10 settings
Street Price	\$139.00

usually use position **I** to cut all but the tightest curves. Setting **II** increases the blade's angle and cut aggressiveness but also produces more chipping.



Here's the business end of the Sabre Plus. Note the positions of the footplate, and its release button, the blade roller guide, blade orbit selector lever and collet lock knob.

A Different Tool To Handle

With its in-line design, the barrel becomes the handle. I grip it with one hand wherever it feels most comfortable and place the other hand near the nose for additional control. This seemed awkward at first but after a while, familiarity won me over.

The long paddle switch you'll find located under the barrel provides plenty of contact surface with the hands, and tabs on the plate act as finger stops. Releasing the switch stops the motor automatically, but

the spring-loaded switch can't be locked "on". That's one feature I would have liked to see on this tool.

Most jigsaws use a rigid metal plate to hold the blade at a fixed angle to the work. Their only adjustment is for bevel cutting. This saw uses an open, bent wire foot that can be set to 10 different depth positions. The footplate's open design provides a better view of the blade and cut line when sawing. The depth adjustment feature helps me get more use out of a blade because I can reposition it to expose different portions of the blade as teeth begin to wear. Bosch does offer a solid guide as an accessory, and switching to it takes less than 20 seconds.

Accessories Extend Usefulness

This unit comes with the usual complement of accessories, including a circle and parallel guide, as well as the angled footplates discussed earlier. The collet accepts blades with Bosch-style "Tang" shanks, providing access to a large assortment of blades. In addition, special bristle and wire brushes or a wood rasp can be mounted to the saw for cleaning and shaping operations.

Making A Decision

If you're in the market for a jigsaw, you probably already know about the large selection of good to excellent units available. I can confidently recommend the unique advantages of the Sabre Plus. It adequately handles basic ripping, crosscutting, and moderately detailed scroll work. It also doubles as a mini-reciprocating saw.



The paddle switch must be pressed backward and down 1/4" to reach full on. Built-in tabs help keep your fingers from sliding over the surface while operating the switch.

My Sabre Plus has worked well when properly matched with the work it was designed to do. It operates smoothly, isn't fatiguing to use, and has proven to be safe and reliable. Because of its unusual shape and size, I've been able to use it in places where a conventional jigsaw wouldn't work. Team it up with the many blades, attachments, and optional accessories offered at left, and you'll have a versatile tool that will do many more jobs around the shop than you ever expected. As I said earlier, it's a keeper.

Charles Sommers, an avid woodworker, is the former editor of the Woodworker's Journal.

This partial selection of blades enables the Sabre Plus to cut wood, wood composites, metals, embedded nails, plywood, chipboard, plastics, ceramics, glass, leather, cardboard, rubber, cork and similar materials.



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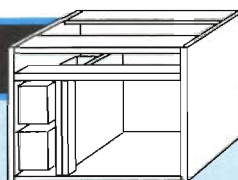
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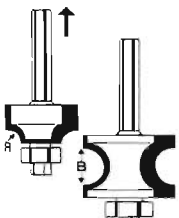
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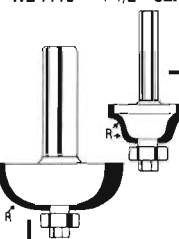
Roundover Bits with Bearing

1/4" Shank	Radius	
WL-1040	1/16"	\$9.
WL-1041	1/8"	\$9.
WL-1042	3/16"	\$9.
WL-1043	1/4"	\$9.
WL-1044	5/16"	\$10.
WL-1045	3/8"	\$11.
WL-1046	1/2"	\$13.
1/2" Shank		
WL-1049	1/8"	\$9.
WL-1042-5	3/16"	\$9.
WL-1050	1/4"	\$9.
WL-1044-5	5/16"	\$10.
WL-1051	3/8"	\$12.
WL-1052	1/2"	\$13.
WL-1053	5/8"	\$16.
WL-1054	3/4"	\$18.
WL-1055	7/8"	\$25.
WL-1056	1"	\$27.
WL-1057	1-1/8"	\$30.
WL-1058	1-1/4"	\$30.



Bullnose Bits with Bearing

1/4" Shank • Bead	
Opening	
WL-1100	1/4" \$12.
WL-1101	3/8" \$14.
WL-1102	1/2" \$16.
WL-1103	5/8" \$18.
WL-1104	3/4" \$19.
1/2" Shank	
WL-1110	1/4" \$12.
WL-1111	3/8" \$14.
WL-1112	1/2" \$16.
WL-1113	5/8" \$18.
WL-1114	3/4" \$19.
WL-1115	1" \$22.
WL-1116	1-1/8" \$25.
WL-1117	1-1/4" \$28.
WL-1118	1-1/2" \$32.



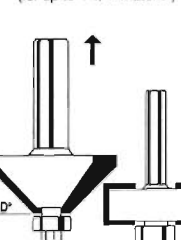
1/4" Shank • Radius	
WL-1159	1/8" \$10.
WL-1160	3/16" \$10.
WL-1161	1/4" \$11.
WL-1162	3/8" \$13.
WL-1163	1/2" \$14.

Cove Bits (continued)

1/2" Shank	
WL-1169	1/8" \$10.
WL-1170	1/4" \$11.
WL-1171	3/8" \$13.
WL-1172	1/2" \$14.
WL-1173	5/8" \$18.
WL-1174	3/4" \$20.

Chamfer Bits

1/4" Shank • Degree	
WL-1180	15° \$10.
WL-1181	25° \$10.
WL-1182	45° \$12.
WL-1183	45° \$14.
(for up to 3/4" material)	
1/2" Shank	
WL-1184	45° \$10.
WL-1185	11-1/2° \$12.
WL-1186	15° \$12.
WL-1187	22-1/2° \$12.
WL-1188	30° \$14.
WL-1189	45° \$15.
WL-1190	45° \$22.
(for up to 1-1/4" material)	



Rabbeting Bits

1/4" Shank • Kerf	
WL-1220	1/2" \$11.
WL-1220-2	1/16" \$10.
WL-1220-3	1/8" \$10.
WL-1220-4	1/4" \$10.
WL-1220-5	3/8" \$10.
1/2" Shank	
WL-1225	1/2" \$11.
WL-1225-2	1/16" \$10.
WL-1225-3	1/8" \$10.
WL-1225-4	1/4" \$10.
WL-1225-5	3/8" \$10.
WL-1225-6	3/4" \$12.

Roman Ogee Bits

1/4" Shank • Radius	
WL-1230	5/32" \$13.
WL-1231	1/4" \$15.
1/2" Shank	
WL-1235	5/32" \$13.
WL-1236	1/4" \$15.

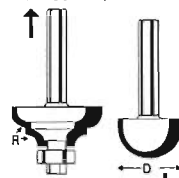
Double Roman Ogee

1/4" Shank • Radius	
WL-1240	5/32" \$18.
WL-1241	1/4" \$20.
1/2" Shank	
WL-1245	5/32" \$18.
WL-1246	1/4" \$20.

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1/4" Shank • Radius	
WL-1250	5/32" \$18.
WL-1251	1/4" \$20.
1/2" Shank	
WL-1252	5/32" \$18.
WL-1253	1/4" \$20.

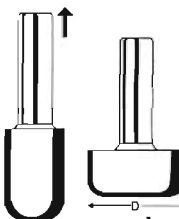


Core Box Bits

1/4" Shank • Diameter	
WL-1370	1/8" \$10.
WL-1371	1/4" \$8.
WL-1371-1	3/8" \$9.
WL-1372	1/2" \$10.
WL-1373	3/4" \$12.

Roundnose/Core Box

1/2" Shank • Diameter	
WL-1375	1/4" \$8.
WL-1375-1	3/8" \$11.
WL-1376	1/2" \$12.
WL-1377	3/4" \$14.
WL-1378	1" \$16.

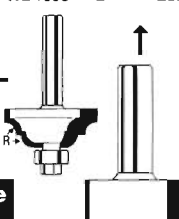


Bowl & Tray Cutter

1/4" Shank • Diameter	
WL-1380	7/16" \$13.
WL-1381	3/4" \$15.
1/2" Shank	
WL-1385	3/4" \$15.
WL-1386	1-1/4" \$18.

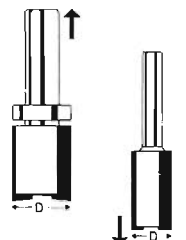
Dado & Planer Bit

1/4" Shank • Diameter	
WL-1390	3/4" \$12.
1/2" Shank	
WL-1391	3/4" \$12.
WL-1392	1" \$14.
WL-1393	1-1/4" \$15.
WL-1394	1-1/2" \$16.
WL-1395	2" \$28.



Pattern Cutting Bit

1/4" Shank • Diameter	
WL-1400	1/2" \$12.
WL-1401	5/8" \$12.
WL-1402	3/4" \$12.
1/2" Shank	
WL-1405	3/4" \$15.
WL-1406	1-1/8" \$16.



Straight Bits

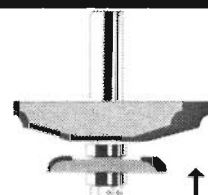
1/4" Shank • Diameter	
WL-1001	1/8" \$10.
WL-1002	3/16" \$5.
WL-1002-5.5	5.5mm \$5.
(for undersized 1/4" plywood)	
WL-1003	1/4" \$5.
WL-1004	5/16" \$5.
WL-1005	3/8" \$5.
WL-1006	15/32" \$5.
(for undersized 1/2" plywood)	
WL-1007	1/2" \$6.
WL-1008	9/16" \$6.
WL-1009	5/8" \$7.
WL-1010	23/32" \$8.
(for undersized 3/4" plywood)	
WL-1011	3/4" \$9.
WL-1012	1" \$10.
1/2" Shank	
WL-1020	15/64" \$5.
(for undersized 1/4" plywood)	
WL-1021	1/4" \$5.
WL-1019	5/16" \$5.
WL-1022	3/8" \$5.
WL-1023	7/16" \$5.
WL-1024	15/32" \$5.
(for undersized 1/2" plywood)	
WL-1025	1/2" \$6.
WL-1027	5/8" \$8.
WL-1028	23/32" \$8.
(for undersized 3/4" plywood)	
WL-1029	3/4" \$9.



Corner Lock Mitres

For up to 5/8" material	
WL-1420-2	1/4" shank \$25.
For 1/2" to 3/4" material	
WL-1420-1	1/2" shank \$30.
For material 3/4" to 1-1/4"	
WL-1420	1/2" shank \$38.

For the Shaper
 Lock Mitre WL-1581 \$40.



Horizontal Panel Raiser with Undercutter • 1/2" Shank

WL-1346	Ogee	\$49.
WL-1347	Traditional	\$49.
WL-1348	Convex (Cove)	\$49.
WL-1359	12" Facecut with Quarter Round	\$49.
WL-1363	Wave	\$49.

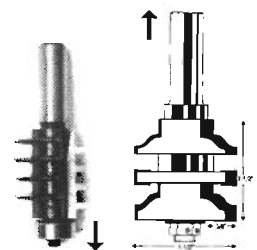


2-piece Rail & Stile Cutter Sets

1/2" Shank	Set	
WL-1360	Ogee Profile	\$59.
WL-1361	Roundover	\$59.
WL-1362	Cove & Bead	\$59.

1-piece Rail & Stile Cutter Sets

Just raise the cutter to make the matching cut. No changing or reversing.		
1/2" Shank		
WL-1365	Ogee Profile	\$49.
WL-1366	Roundover	\$49.
WL-1367	Cove & Bead	\$49.
WL-1368	Wedge	\$49.
WL-1374	Dbl Roundover	\$49.



**Finger Joiner
Router Bit** WL-1429 \$39.
 For the Shaper WL-1580 \$89.

Reversible Glue Joint

WL-1430	1-3/4" Diam	\$35.
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For the Shaper WL-1706 \$35.



Drawer Corner Lock

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 WL-1435 For 1/2" material \$30.

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Corner Round		
WL-1509	1/8"	\$22.
WL-1510	1/4"	\$24.
WL-1511	3/8"	\$26.
WL-1512	1/2"	\$26.
WL-1513	3/4"	\$30.
WL-1514	1"	\$32.
WL-1515	1-1/4"	\$38.



Bead

WL-1520	1/4"	\$24.
WL-1521	3/8"	\$26.
WL-1522	1/2"	\$26.
WL-1523	3/4"	\$28.
WL-1524	1"	\$30.

Flute

WL-1530	1/4"	\$24.
WL-1531	3/8"	\$26.
WL-1532	1/2"	\$26.
WL-1533	3/4"	\$28.
WL-1534	1"	\$30.

Rabbeting/Straight

WL-1540	1/4"	\$24.
WL-1541	3/8"	\$26.
WL-1542	1/2"	\$26.
WL-1543	3/4"	\$28.
WL-1544	1"	\$30.
WL-1545	1-1/2"	\$32.
WL-1546	2"	\$48.



WL-1500 WL-1501 WL-1502 WL-1503

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1-piece Rail & Stile

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WL-1500	Roman Ogee	\$89.
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WL-1503	Dbl Roundover	\$89.

WL-1600	
WL-1601	
WL-1602	
WL-1603	
WL-1604	
WL-1605	

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WL-1600	Ogee	\$59.
WL-1601	15° Facecut	\$59.
WL-1602	18° Traditional	\$59.
WL-1603	Convex (Cove)	\$59.
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(Circle NO. 16 on PRODUCT INFORMATION form)

A Straightforward Earring Chest

Good Day. My stepdaughter was thrilled when I gave her the Earring Chest I built from the September/October 1995 issue of WWJ. It was a fun, straightforward project. I did replace the hangers in the door with brass knobs for hanging bracelets or necklaces. I also chose to use curly maple and stained the chest to highlight the curls and even out the wood's grayish cast. Thank you for the well written and easy to follow plans in your magazine.

Dwight L. Franke
Chesapeake, Virginia



WWJ responds: That's a very nice project Dwight, and some pretty good photography as well! We're sure your stepdaughter is already figuring out how to fill up her new gift ... maybe with a little help from her stepdad?



Postal Parade

Here are nine mail truck banks I made for my grandchildren, from the Nov/Dec 1995 issue of WWJ. The trucks are poplar, stained with walnut. I added a silhouette of a driver and each grandchild's birth month and year on the back door. I also had their names engraved on brass escutcheon plates on the tops of the trucks. They were so impressed, I know each truck will be treasured and passed on to their children.

S. R. Esposito
Palm Harbor, Florida

WWJ responds: Good work, Grandpa! You gave your grandchildren a great gift and encouraged the virtue of saving, all in one sweet package.



Grandpa Esposito made mail truck banks for each of his nine grandchildren and personalized them with a name plaque and birth date on each one.



Winner!

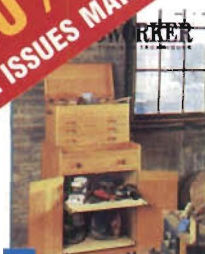
S.R. Esposito is the lucky winner of Bosch's Model 1617 EVS fixed base router. Magnesium construction combined with a 2 HP soft start motor provide this router with an excellent power to weight ratio.



Send your letters and photos to "End Grain" c/o Woodworker's Journal, P.O. Box 261, Medina, MN 55340. If we publish yours, we'll throw your name in a hat for our free tool drawing. Photos of projects from the Woodworker's Journal (WWJ) and Today's Woodworker (TWW) are eligible.

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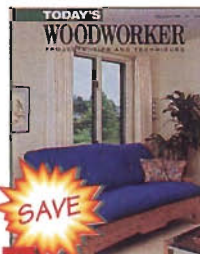
1 Mounted wall shelf, end table, tool cabinet, buying used tools.
38414\$4.95



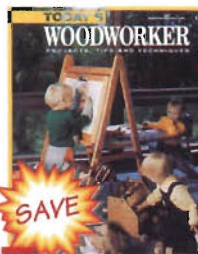
2 Armoire, magazine rack, bentwood curio shelf, European hinges.
38422\$4.95...\$2.47



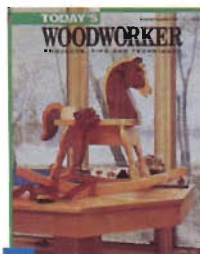
3 Adirondack chair, jewelry box, turning wood, drawer slides.
38430\$4.95...\$2.47



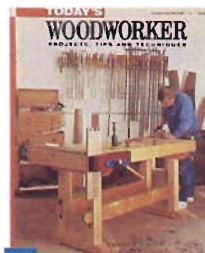
4 Futon sofa bed, KD fittings, blanket chest, antiquing techniques.
38448\$4.95...\$2.47



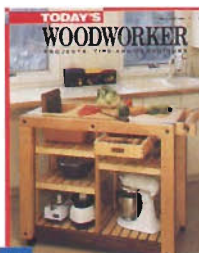
5 Children's activity center, folding footrest, easel, model airplane.
38455\$4.95...\$2.47



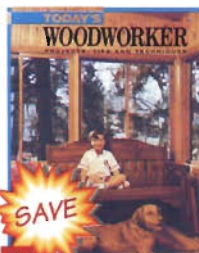
6 Holiday ornaments, pedestal table, rocking horse, mixing finishes.
38463\$4.95



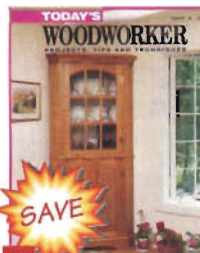
7 Breakfast tray, stamp holders, heart box, European workbench.
38471\$4.95



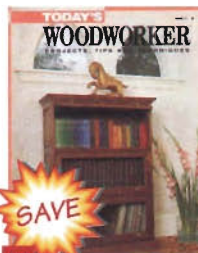
8 Candlestand table, kitchen work station, rolling pin, step stool.
38489\$4.95



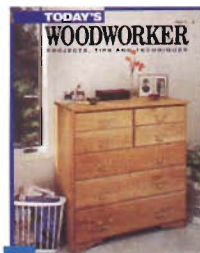
9 Chippendale mirror, continuous grain box, porch glider.
38497\$4.95...\$2.47



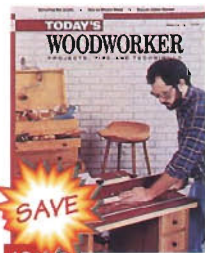
10 Scroll sawn trivet, cherry corner cabinet, fishing net.
38505\$4.95...\$2.47



11 Bookcase, spinning string tops, kid's step stool, desk tray.
38513\$4.95...\$2.47



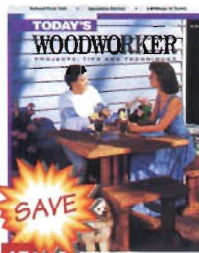
12 Shaker swivel mirror, bureau, deep-reach hand screw clamps.
38521\$4.95



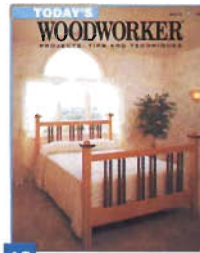
13 Router table, bar stool, tips on buying a new biscuit jointer.
68700\$4.95...\$2.47



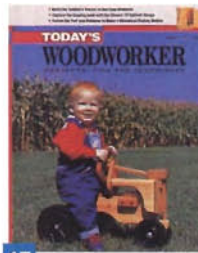
14 Toybox, Craftsman style rocking chair, compact disc holder.
68860\$4.95...\$2.47



15 Picnic table, turned birdhouse, dulcimer, joiner's mallet.
68878\$4.95...\$2.47



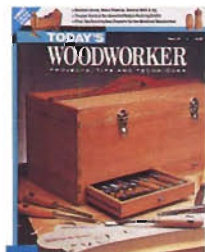
16 Maple and padauk bed frame, mantel clock, coffee table.
71639\$4.95



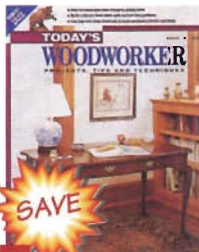
17 TV cabinet, bureau caddy, angler's mobile, toddler's tractor.
72181\$4.95



18 Bunk bed, teddy bear rocking chair, Shaker table.
72199\$4.95...\$2.47



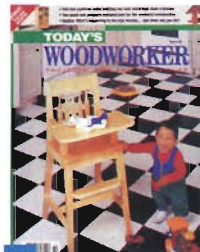
19 Toolbox, swinging cradle, salt and pepper shakers, bookcase.
79582\$4.95



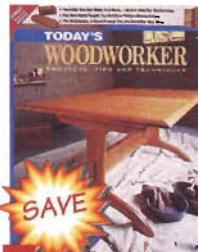
20 Queen Anne desk, carved grizzly bear, table lamp.
79665\$4.95...\$2.47



21 Adirondack chair, scroll saw project, deck set, sofa table.
79673\$4.95...\$2.47



22 High chair, tavern mirror, display case, weekend bird feeder.
79681\$4.95



23 Trestle table, drill bit cabinet, three weekend gift projects.
79699\$4.95...\$2.47



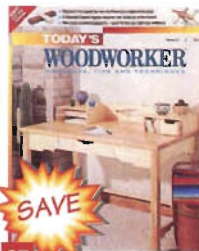
24 Serving tray, dining chair, entertainment center, tree ornaments.
79707\$4.95...\$2.47



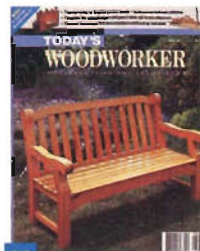
25 Flammable storage cabinet, workbench, toy car, country settle.
88965\$4.95...\$2.47



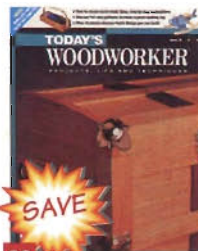
26 Futon sofa bed, crosscut jig, side table, tambour breadbox.
88973\$4.95...\$2.47



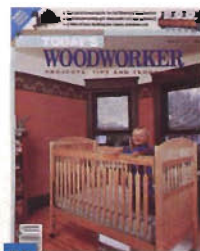
27 Southwestern desk, folding magazine rack, dovetail layout tool.
88981\$4.95...\$2.47



28 Garden bench, fold down bed, whirligig, desktop accessory set.
88999\$4.95



29 Toddler's rocking fish, bentwood carryall, steamer trunk.
89004\$4.95...\$2.47



30 Crib, plate rack, rush-covered stool, barnyard animals.
89012\$4.95

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31 Mirror, coat rack, dollhouse, sanding supply cabinet. **OUT OF STOCK**



32 Computer desk, 18 wheeler, cherry end table, CD holder. 97255...~~\$4.95~~...\$2.47



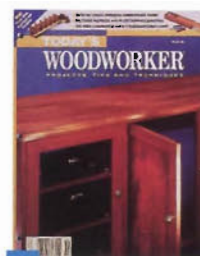
33 Icebox, band saw fence, woodworker's whirligig, deck table. 97263...~~\$4.95~~...\$2.47



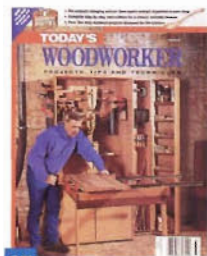
34 Kid's workbench, birdhouse, bookcase, jelly cupboard. 97271...~~\$4.95~~...\$2.47



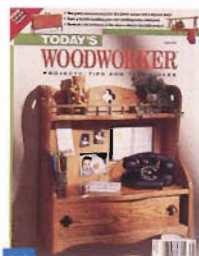
35 Jewelry box, tilt table for drill press, hutch, toy tanker. 97289...~~\$4.95~~...\$2.47



36 Pencil box, logging truck, baker's shelf, entertainment center. 97297...\$4.95



37 Clamping station, cherry dresser, spice rack, soup spoon. 58784...\$4.95



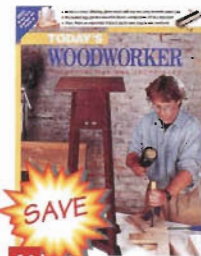
38 Coat rack, phone center, Scandinavian sideboard, tea table. 58792...\$4.95



39 Toy car and truck set, antique collector's cabinet, steamer chair. 58990...~~\$4.95~~...\$2.47



40 Filing cabinet, loon whirligig, rocking pony, Arts & Crafts end table. 59006...~~\$4.95~~...\$2.47



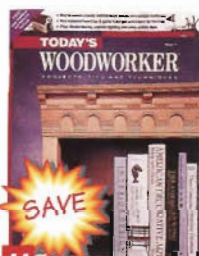
41 Shaker vanity mirror and bench, Stickley fern table, V-block jig. 59014...~~\$4.95~~...\$2.47



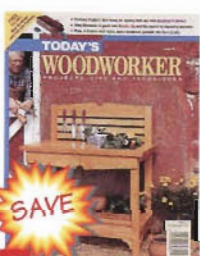
42 Hobby box, card player's coasters, salmon cutting board, race car. 59048...~~\$4.95~~...\$2.47



43 Outfeed/assembly table, chest, mantel clock, crocodile desk. 17419...\$4.95



44 Bookcase, toy barn, Greene & Greene hall mirror, golfer's whirligig. 17287...~~\$4.95~~...\$2.47



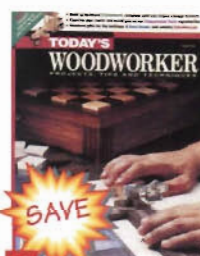
45 Dart caddy, Shaker table, router surfacing jig, gardener's bench. 17295...~~\$4.95~~...\$2.47



46 Mahogany humidior, LEGO® center, redwood arbor. 17302...~~\$4.95~~...\$2.47



47 Scroll saw blade caddy, steamer trunk, jewelry box, toy Jeep. 17310...~~\$4.95~~...\$2.47



48 Chessboard, toy road grader, kaleidoscope, Chippendale table. 17328...~~\$4.95~~...\$2.47



49 Wooden clamp, CD storage cabinet, router table, entryway bench. 21775...~~\$4.95~~...\$2.47



50 Arts and Crafts wine rack, yard wagon, entertainment center. 21783...~~\$4.95~~...\$2.47



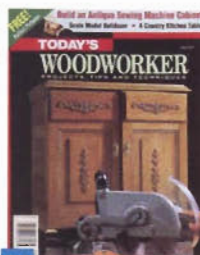
51 Greene & Greene table, barbecue cart, ceramic serving tray. 21791...~~\$4.95~~...\$2.47



52 Bookshelves, folding bench, Beanie Babies® bedroom, cupboard. 21858...~~\$4.95~~...\$2.47



53 Compact computer desk/cabinet, rockin' bronco, memory box. 21866...~~\$4.95~~...\$2.47



54 Brawny bulldozer, kitchen table, sewing machine cabinet. 21874...\$4.95



55 Veneered humidior, rocking doll cradle, shop-built panel saw. 22431...~~\$4.95~~...\$2.47



56 Stickley bookcase, Chinese checkerboard, collector's coffee table. 22444...\$4.95



57 Grandfather clock, weekend computer table, toy excavator. 22457...~~\$4.95~~...\$2.47

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The Grand Edition 14" Band Saw is one grand value. Rides around the shop on a mobile base and sports an 18" rip fence and Cool Blocks™. More than \$225 in extras. Then top it off with a **\$50 rebate**.

Model 28-270

EXTRA VALUE

The Grand Edition 10" Contractor's Saw. Loaded with over \$200 in extras. A 30" Unifence Saw Guide, cast iron extension wing, white laminated table board and white adjustable support legs, plus a 50-tooth ATB&R carbide-tipped blade. Then add your **\$50 rebate**.

Newly designed, 3-piece stand cuts 70% of your assembly time. Flared legs improve stability. New see-through blade guard locks in the "up" position to facilitate blade changes.

Model 36-455

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EXTRA VALUE

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Unisaw® stands alone for quality and precision. Every single arbor is flange-faced after assembly to reduce run-out. An extra step that other manufacturers don't bother with.

We've added an extra cast iron extension wing to start with. Then a 52" Unifence® Saw Guide, white laminated table and shelf board, white adjustable steel support legs and a 50-tooth ATB&R carbide-tipped blade.

Each Grand Edition Unisaw® carries the personalized name plate of its owner. Namely you.

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Proud sponsor of *The New Yankee Workshop* with Norm Abram and *The American Woodshop* with Scott Phillips.

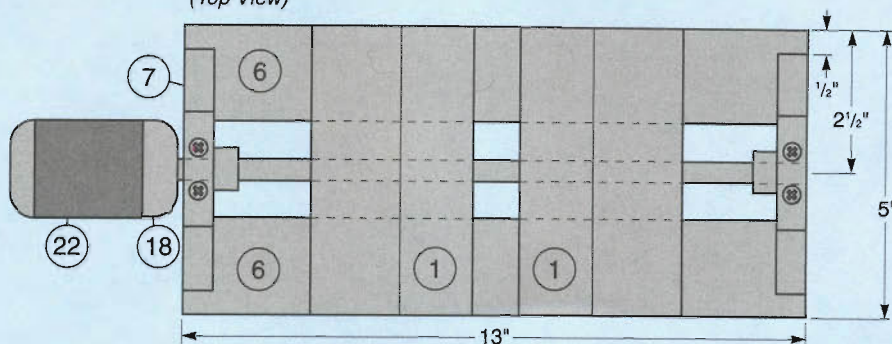
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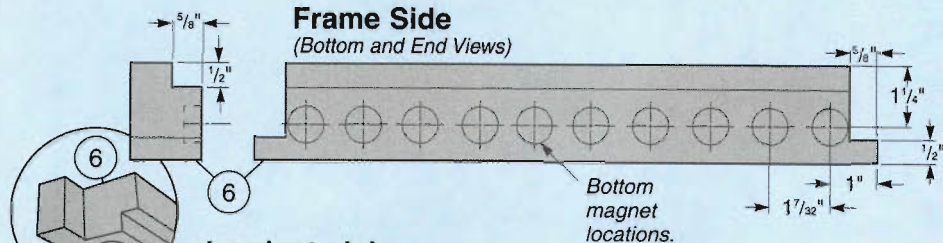
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Drill Press Vise
(Top View)

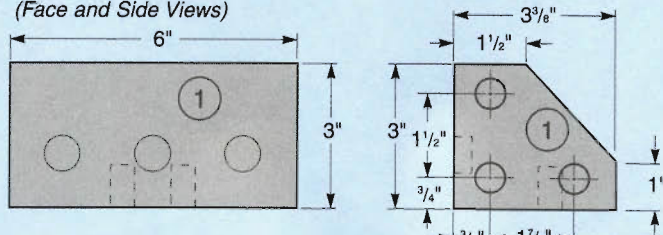


Frame Side
(Bottom and End Views)



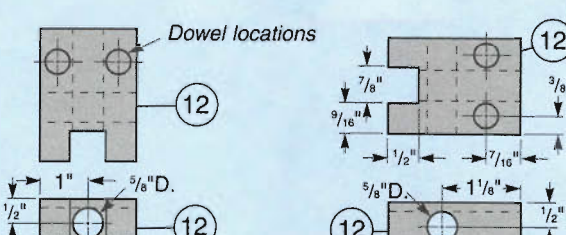
Laminated Jaw
(Face and Side Views)

Frame Side Detail
(Bottom View)

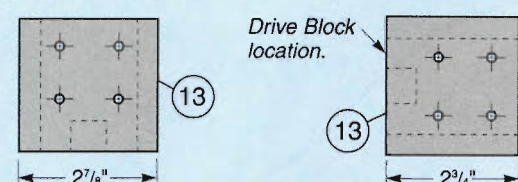


Drive Block
(Top and End Views)

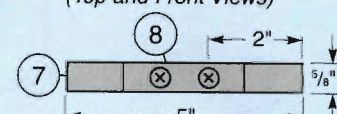
These drawings show pieces 1, 12 & 13 in relationship to each other. Four screws secure piece 13 to piece 12.



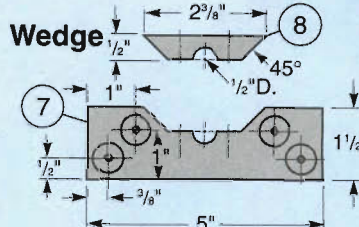
Lock Plate
(Top View)



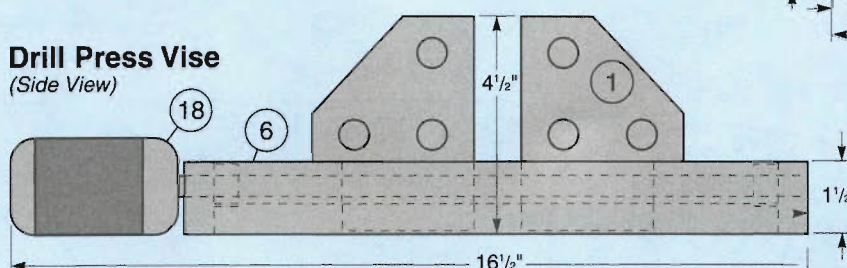
Frame Endcap
(Top and Front Views)



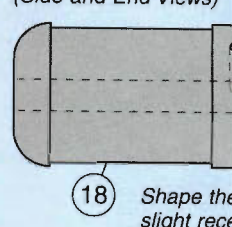
Wedge



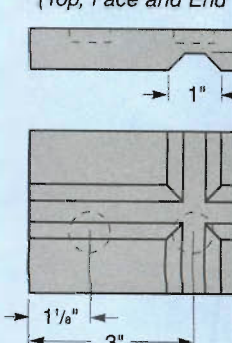
Drill Press Vise
(Side View)



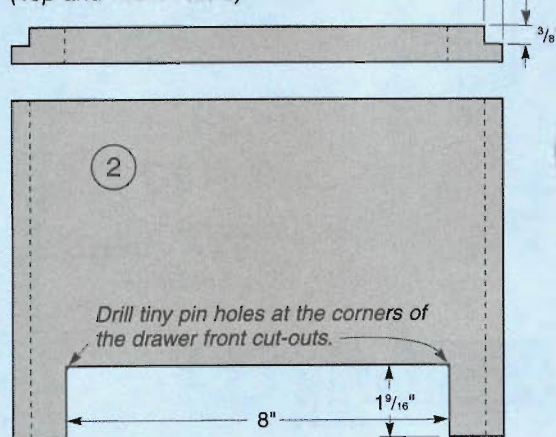
Handle
(Side and End Views)



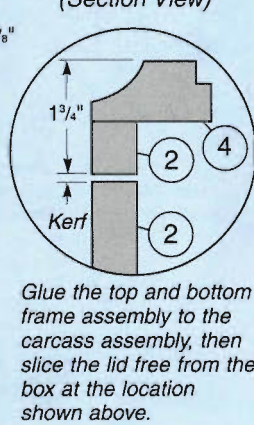
Liner
(Top, Face and End Views)



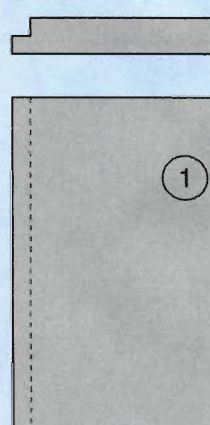
Carcass Side
(Top and Front Views)



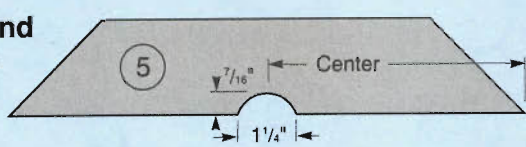
Lid Detail
(Section View)



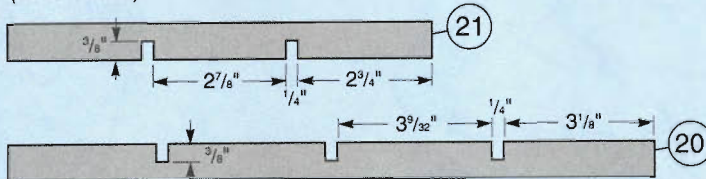
Carcass Front
(Top and Front Views)



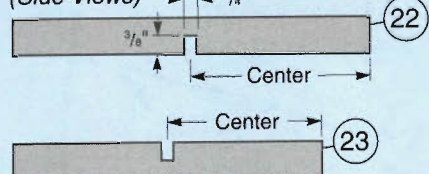
Frame End
(Top View)



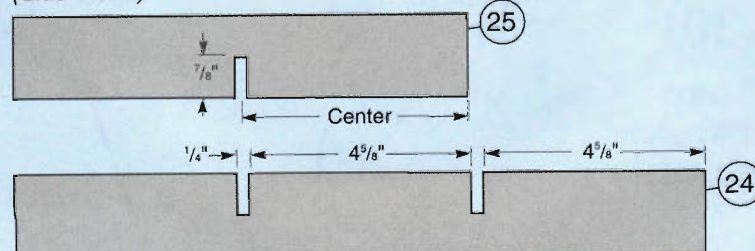
Tray Grids
(Side Views)



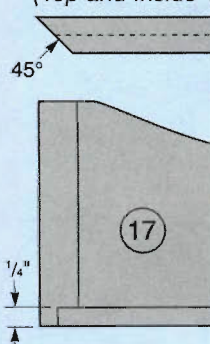
Drawer Grids
(Side Views)



Shelf Grids
(Side Views)

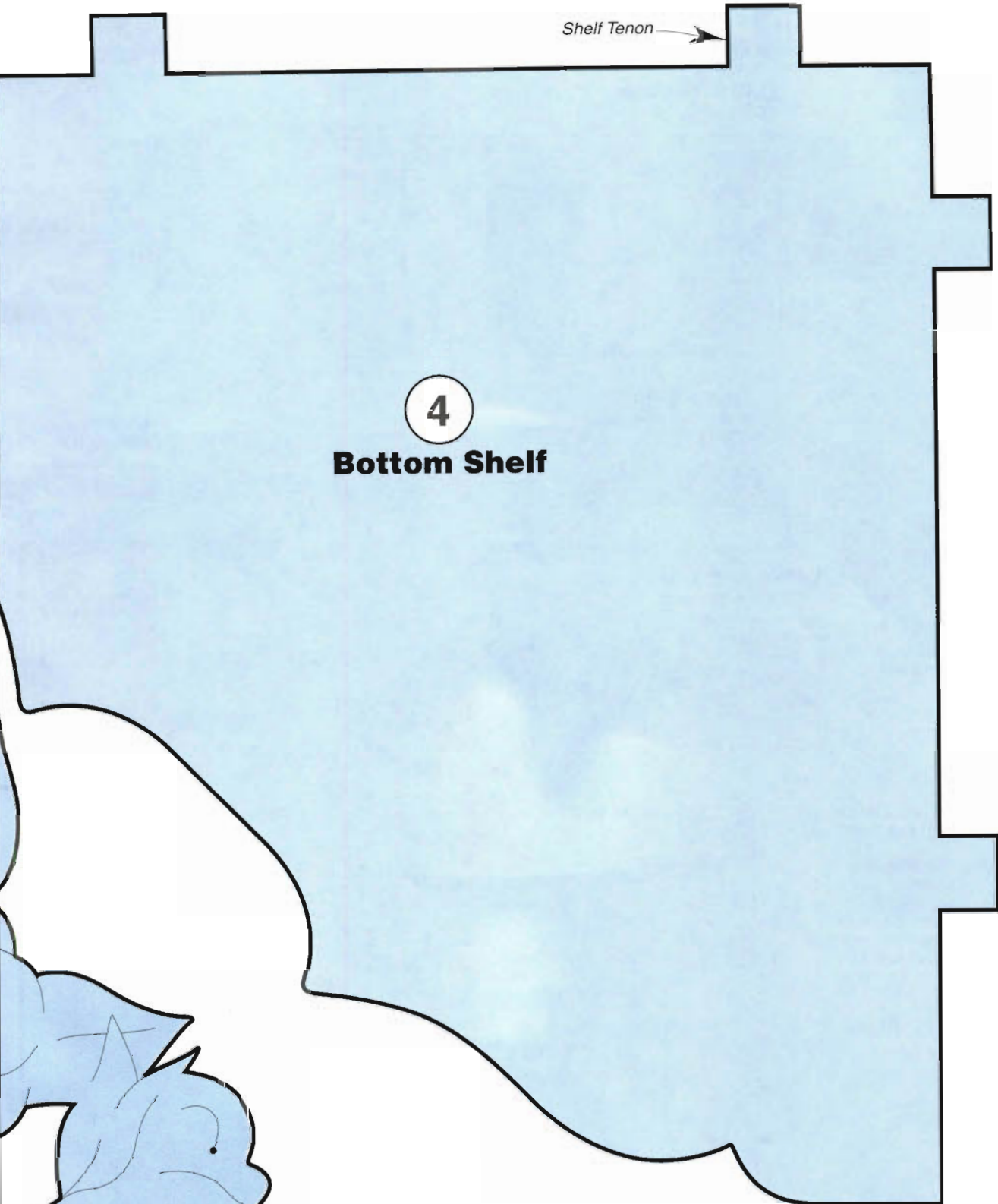


Tray End
(Top and Inside Views)



MATERIALS

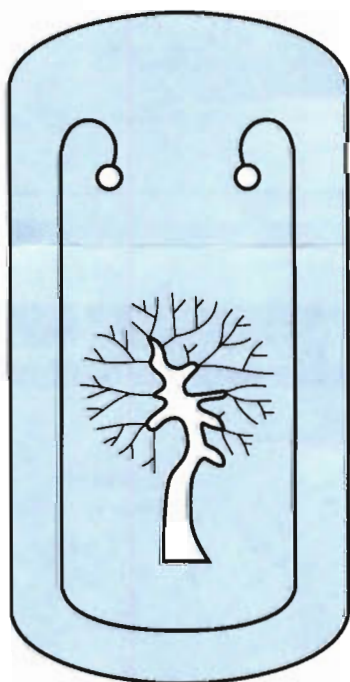
- 1 Carcass
- 2 Carcass
- 3 Drawer
- 4 Frame
- 5 Frame
- 6 Long
- 7 Short
- 8 Drawer
- 9 Drawer
- 10 Top (
- 11 Bottom
- 12 Top &
- 13 Mirror
- 14 Mirror
- 15 Hinge
- 16 Lid S



4

Bottom Shelf

Book Mark



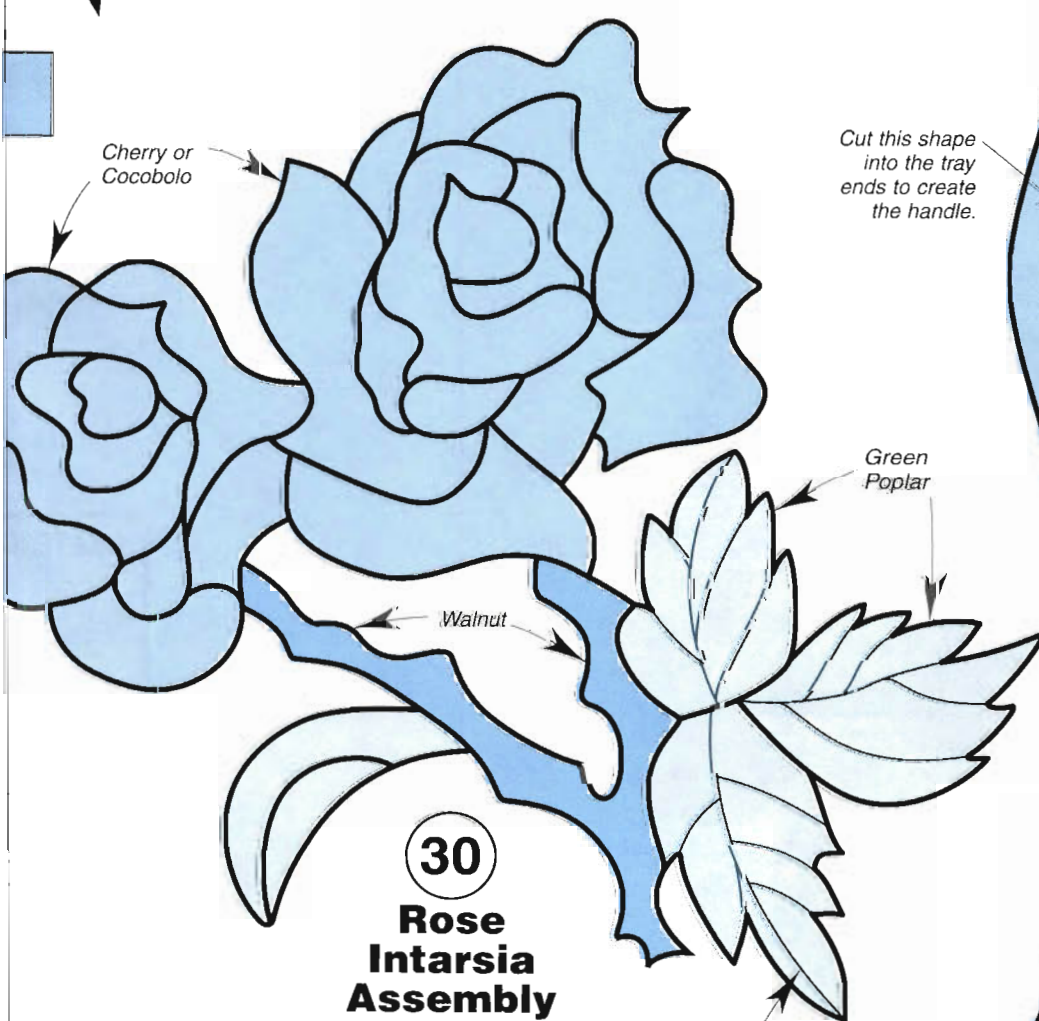
Use 1/16" straight grained stock for this Shaker inspired bookmark.

Miter the tray sides and ends

17

Tray End (Inside View)

Intarsia Box



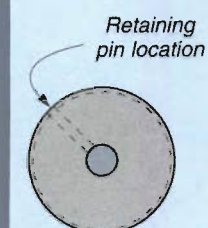
30

Rose Intarsia Assembly

The thin lines on these three leaves are carved. All other lines represent individual pieces.

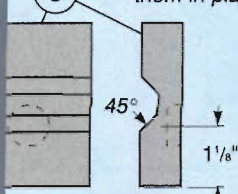
Rabbet for the tray bottom

Cut this shape into the tray ends to create the handle.



...dle on a lathe and form a
...or the non-slip tape.

Transfer the dimensions for
magnet locations from the
liners (pieces 5) to the jaws
(pieces 1) to ensure proper
alignment. Check the polarity of
your magnets before gluing
them in place.



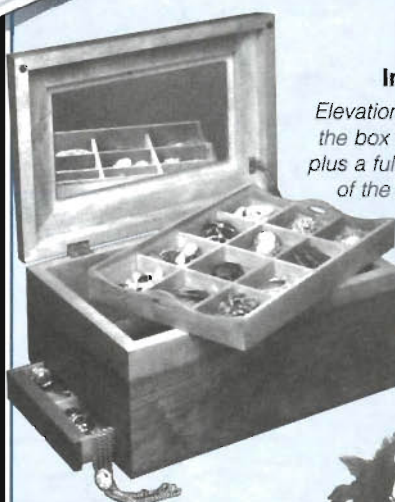
MATERIAL LIST

	T x W x L
Laminated Jaws (2)	3" x 6" x 3 3/8"
Jaw Screws (12)	2 1/2" x #10 Square-X
Jaw Plugs (12)	5/8" dia. x 3/8"
Ring Magnets (32)	3/4" OD
Liners (2)	3/4" x 3" x 6"
Frame Sides (2)	1 1/2" x 2" x 13"
Frame Endcaps (2)	5/8" x 1 1/2" x 5"
Wedges (2)	5/8" x 1/2" x 2 3/8"
Endcap Wedge Screws (4)	1 1/4" x #6, Brass
Frame Screws (8)	1 1/2" x #8, Square-X
Frame Screw Plugs (8)	5/8" dia. x 1/4"
Drive Blocks (2)	7/8" x 2" x 2 3/4"
Lock Plates (2)	9/16" x 2 3/4" x 2 7/8"
Double Threaded Spindle (1)	7/16" dia. x 14 1/4"
Spindle Nuts (2)	5/8" dia. x 1 1/4"
Drive Block Dowels (4)	1/2" dia. x 1 1/2"
Drive Block Screws (8)	1" x #6, Square-X
Handle (1)	2" dia. x 3 1/2"
Brass Sleeves (4)	1/2" OD x 5/8"
Spindle Collars (2)	1/2" ID
Retaining Pin (1)	1/8" dia. x 1 7/8"
Non-skid Tape (1)	3" x 60"

Full-Size Patterns



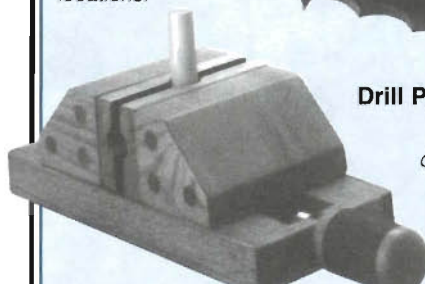
- Open staples carefully, remove pattern and fold staples back in place.
- Use graphite paper (available at art supply stores) or cut and trace full-size patterns onto your stock.
- Cut out the elevation drawings and pin them to your shop wall.



Intarsia Box
Elevation drawings of the box construction, plus a full-size pattern of the intarsia rose.

Scroll Sawn Corner Shelf

A pattern for the intricate side pieces with screw holes and mortises. Also provided are the shelf patterns featuring the tenon locations.

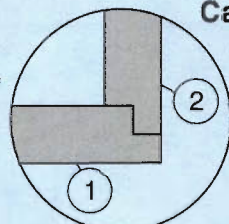
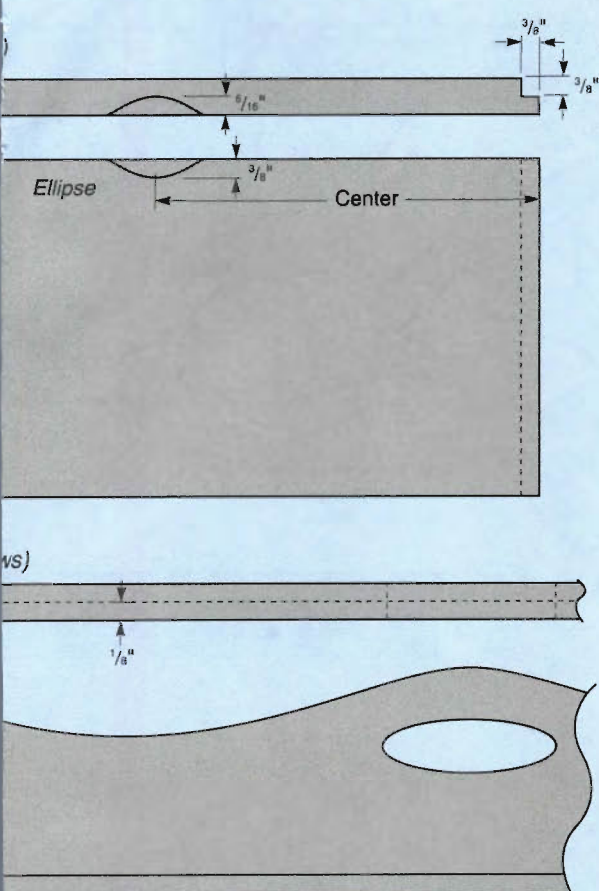


Drill Press Vise

Complete drawings of this clever shop helper.

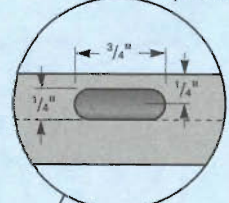
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Carcass Corner Detail
(Top View)

Drawer Ellipse Detail
(Bottom View)



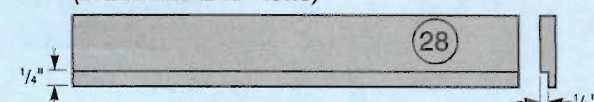
Drawer Front
(Bottom and Inside Views)



Drawer Side
(Inside and End Views)

Make sure grain orientation on piece 3 is consistent with carcass end (piece 2).

Drawer Back
(Inside and End Views)



LIST

	T x W x L
Front & Back (2)	3/4" x 7" x 16"
Sides (2)	3/4" x 7" x 10 1/4"
Fronts (2)	3/4" x 1 1/2" x 8"
Sides (4)	1" x 2" x 16"
Ends (4)	1" x 2" x 11"
Drawer Supports (2)	1/4" x 1 1/4" x 14 3/8"
Drawer Supports (2)	1/4" x 1 1/4" x 9 3/8"
Guides (2)	11/16" x 1 1/2" x 14 7/8"
Top (1)	5/8" x 1 1/2" x 8 3/8"
	1/4" x 7 1/2" x 12 1/2"
	1/4" x 7 1/2" x 12 1/2"
Bottom Trim (1)	1/4" x 3/8" x 84"
	1/8" x 5 3/16" x 10 1/2"
Base (1)	Two-sided
	Brass
Support (1)	Brass

17 Tray Ends (2)	1/4" x 1 1/16" x 9 3/8"
18 Tray Sides (2)	1/4" x 1 1/16" x 14 1/8"
19 Tray Bottom (1)	1/4" x 13 3/16" x 9 3/8"
20 Tray Grid Stiles (2)	1/4" x 3/4" x 13 3/16"
21 Tray Grid Rails (3)	1/4" x 3/4" x 8 7/8"
22 Drawer Grid Stiles (2)	1/4" x 3/4" x 7 7/16"
23 Drawer Grid Rails (2)	1/4" x 3/4" x 6 7/16"
24 Shelf Grid Stile (1)	1/4" x 1 3/4" x 14 3/8"
25 Shelf Grid Rails (2)	1/4" x 1 3/4" x 9 3/8"
26 Shelf (1)	1/4" x 9 3/8" x 14 3/8"
27 Drawer Sides (4)	1/4" x 1 3/16" x 7 1/4"
28 Drawer Backs (2)	1/4" x 1 3/16" x 7 3/8"
29 Drawer Bottoms (2)	1/4" x 7 3/4" x 7 3/8"
30 Rose Intarsia Assembly (1)	See Full-size Pattern
31 Magnetic Tape (2)	1/8" x 1" x 2"
32 Strike Plates (2)	Steel

To keep a symmetrical appearance and to form a strong corner joint, the shelf's right side (piece 2) is 3/8" wider than the left.

1 & 2

Left and Right Side



Corner Shelf

3

Top Shelf

