

The right-hand column is notched so that the pinion can engage with it

the deepest mortice which can be formed is 75mm.

Slots and holes

The cast-iron base measures approximately 250mm x 195mm, and there's provision for bolting it down. The base also has four slots and a couple of tapped holes. The slots are for securing a drill vice and holding metal components directly in place, as the morticer can also be used for some drilling and boring. The tapped holes allow the false MDF table to be mounted (340mm x 150mm), which provides extra support to the workpiece and also offers protection to the business end of the chisel.

Twin columns

The head of the machine is also an iron casting and is mounted on twin columns. One of these is encircled with a compression spring which raises the head back when it has been lowered. The same column is also notched in its



The chuck key is self ejecting so there's no fear of leaving it in the chuck

front edge; this is the 'rack' along which the 'pinion' engages when the lever is moved. The lever locates in the same spindle which carries the pinion, is around 50mm overall and is secured with a set screw allowing for adjustment if needed.

The second column carries the depth stop, a simple collar which can be slid up and down and secured with a ratchet lever. Height has to be manually established as no scale is provided, but setting is easy.

Chisel and bit

The arrangement for holding the bit and chisel is just the same as for any other morticer. The bit is gripped in a three-jaw chuck, while the chisel is held by its shank in the lower end of the head. For access to the chuck, plastic covers on both sides easily snap in and out of place and are included as a safety feature. The chisel housing has a removable sleeve, allowing for shanks of $\frac{3}{4}$ " and $\frac{13}{16}$ " diameter to be used. Incidentally, it's worth noting that these last two sizes

It's important to check that the chisel is square to the fence; to adjust it, simply use a spanner to turn the chisel as necessary. Check also that the 'window' on the chisel faces sideways so that chippings will be ejected efficiently whilst morticing.



I added some packing behind the workpiece to set the chisel correctly

remain as imperial dimensions, even with metric chisels which are available alongside imperial ones.

Second chuck

A second chuck is included as an accessory and has its own extension spindle allowing the upper end to be gripped in the main chuck. When fitted, this second chuck projects below the head casting and allows for engineer's pattern of twist bits to be used. Woodworking bits can also be secured in this chuck, although this will depend on their length, combined with the thickness of wood being bored, as the space is restricted. Both chucks are identical, the extended spindle being a close fit in the sleeve which normally holds the chisel and thus gain added control. A $\frac{1}{2}$ " chisel and bit are included.

The fence is 340mm long, and this and its supports are mostly of alloy. It's supported at the rear of the base, and is secured with a ratchet lever. The work hold-down clamp is held in place over the fence and can be locked in place with a large knob.

In use

Using a $\frac{1}{2}$ " chisel to cut hardwood means progress is quite slow, especially at the start of forming the joint. I found

Boring with the hold-down shoe in use. The long bit is held in the main chuck



SETTING UP

Locating the tooling in the morticer is quite straightforward; I use a 2p piece to set a gap between the end of the chisel and the bit. Anything more than a 2mm gap is unnecessary, and simply results in the lower part of the cut not being completed with the chisel.





Using the accessory chuck for boring

that a heavy cut was likely to result in the chisel becoming wedged in the wood, and raising the lever had a tendency to strain the hold-down shoe. No such minor problems with smaller chisels, but it's worth noting that with any mortising machine, a $\frac{1}{2}$ " chisel removes almost double the amount of wood that a $\frac{3}{8}$ " chisel removes, and four times that of a $\frac{1}{4}$ " chisel.



Boring with a saw-tooth bit

Using the morticer as a drilling machine is a handy secondary use, but the bits need selecting with care. This is because of the limited space between the table and the second chuck. I had no problems boring holes up to 50mm diameter in softwood, and around 35mm in hardwood.

This machine performs very well considering its relative simplicity. The

VERDICT

What has to be kept in mind with the CCM morticer is its value for money, and limitations of use have to be accepted. Perhaps the one feature which could be improved is the work hold-down shoe, which isn't wholly effective under certain conditions of use. Nevertheless, a capable machine for fairly light work.

List price: £94.95 inc. VAT but not carriage. Cost of a set of three chisels and bits are £20, either metric or imperial.

Axminster Power Tool Centre, tel (sales and enquiries) 01297 33656, fax: 01297 35242, email: email@axminster.co.uk

capacities are obviously limited as they are with any smallish machine, but the quality is very good considering that the machine costs less than £100, especially as a second chuck, as well as a chisel and bit, are all included.

Tested by Gordon Warr

Proxxon FMS75 precision vice

Most of us dabble with materials other than wood, even if it's only to modify an item of hardware, and here the need for an engineer's pattern of vice is realised. The usual requirement is for a smallish vice, but with its jaws well raised from the top of the bench, and preferably one which can be quickly mounted in place then just as speedily removed and stored away.

Such a vice is manufactured in Germany by Proxxon, well known for their range of small precision tools and their drill/grinder in particular.

Multiple uses

The FMS75 vice has 75mm wide jaws of hardened steel which open to around

70mm. They're replaceable and both have one horizontal V-groove and two vertical ones which allow round bar and smallish-section square material to be gripped effectively. To protect delicate workpieces, they're also provided with separate soft faces that can be easily added or removed.

The vice is made from a combination of zinc die castings and steel, with a triangular base which holds the upper part on a ball-joint principle. This allows for the vice to be locked in an endless number of positions using a single tommy bar.

The base has a suction cup on the underside which provides a strong fixing to any smooth, flat surface. For it to be effective, the mounting surface must be smooth and dense so that air can't creep under the pad and break the bond. However, the suction pad can be quickly removed and the vice permanently fixed to a bench using three machine screws through ready-tapped holes.

Limitless uses

The uses are almost limitless. I used the FMS75 to grip a gent's saw while I sharpened it, and for holding small pieces of wood for intricate sanding

The ball joint allows an endless variety of positions to be achieved



work. The quality of this product is excellent, the steel parts are plated and the painted cast components are very smooth.

Tested by Gordon Warr



Ideal for intricate cutting and sanding work

VERDICT

An excellent product for those who work in materials other than wood, or who work on a small scale. A high-quality product that's a delight to use.

Price: £21.25 inc. VAT. Carriage extra.
BriMarc Associates, tel: 0845 6590 000, fax: 01926 491357, email: sales@brimarc.co.uk

Reviewed by Mike Collins

Small Tools Handbook by Peter Bishop

(Crowood Press, 176 pages, £18.99)

SMALL TOOLS Handbook



Peter Bishop

Some years ago, Jack Hill wrote a small book called *Woodworking Tools and How to Use Them*. It was a simple title that perfectly explained the content of the book. This new work from Peter Bishop is very much in the same vein, and once again hits the spot very satisfactorily.

For the beginner to woodworking, or for the occasional weekend enthusiast, this is a real must; it has a wealth of useful readily-understandable information conveyed simply with basic text and intelligible photographs and drawings. Particularly useful are the tip panels, found on most pages, which offer that little bit more in the way of advice than even the most diligently prepared photographs.

The chapters are predictably arranged to include such areas as Sharpening and Setting, Cutting and Planing, Holding and Fixing etc., all of which work well.

The glossary is frankly a waste of space; for example, it explains at length that an 'edge' is a narrow surface, and that 'bare' means slightly undersize, but fails to explain what 'proud' means. Overall though, this is a well-produced and very useful book covering a satisfying cross section of both power and hand tools in an informative and understandable way — well worth having around!

Call The Crowood Press on 016762 520320 for further details. ISBN: 1 86126 349 X

Scroll Saw Art by Patrick Spielman and Kerry Shirts

(Sterling Publishing,
128 pages, £12.99)

Simple to follow through all six stages (from basic to inspirational), this work addresses the happy combination of scroll saw cutting and wood staining to produce some really attractive and challenging pictures. The techniques themselves are largely easily mastered but it explains how the application of several simple processes is used to produce some really wonderful effects.

Basically, this is a pattern book which is alive with ideas and full of inspirational subject matter for pictorial art in wood.

There's just sufficient technical information at the beginning covering the selection of saws and blades, applying the patterns, cutting and staining etc., to get the beginner off the ground and hungry to improve.

Photographically, it works very well and the reader is left in no doubt as to the subtleties of staining techniques and the even more subtle variations in natural timbers. At the higher levels, these are really quite sophisticated pictures even if they are predictably American folk art.

Kiln-dried maple is predominantly the timber used, readily available in the States but less so in Britain; sycamore, holly or birch may be good alternatives in the European market. Those keen enough to experiment will soon know which!

Available through all good bookshops. ISBN: 0 8069 2897 2



Making Shoji by Toshio Odate

(Stobart Davies, 119
pages, £16.95)

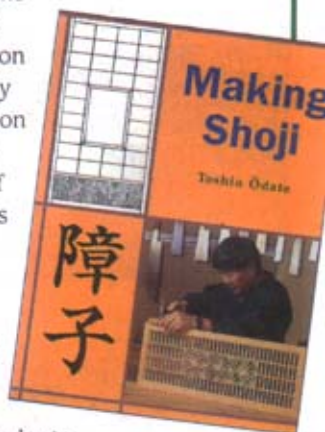
As with most things Japanese, shoji looks deceptively simple. At its most easily understood level it's merely the construction of sliding doors and screens in largely symmetrical patterns, and at its highest level it represents the craftsman's preoccupation with serenity and perfection through the repetition of simple joints made faultlessly.

Toshio Odate goes to great lengths to invite the reader to understand the cultural context of the techniques shown and the attitude of the craftsman towards his work. A previous publication by Odate, *Japanese Woodworking Tools: Their Tradition Spirit and Use*, would serve many readers well as an introduction to this current work.

For all that, this is a very practical book which includes detailed information on how to lay out joints (some very specific detail on the Japanese mortice and tenon) along with information on gluing and assembly. Pictures of the tools used and good clear drawings add to the quality of this information.

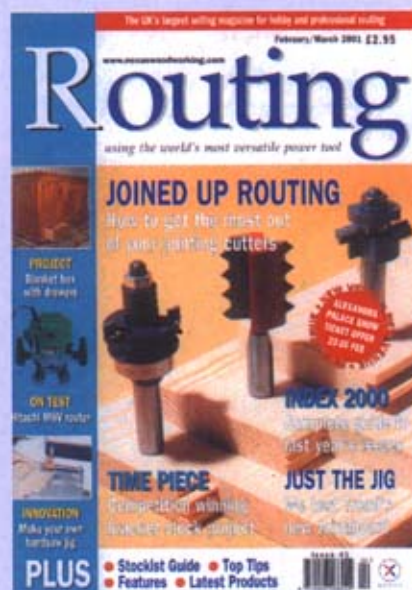
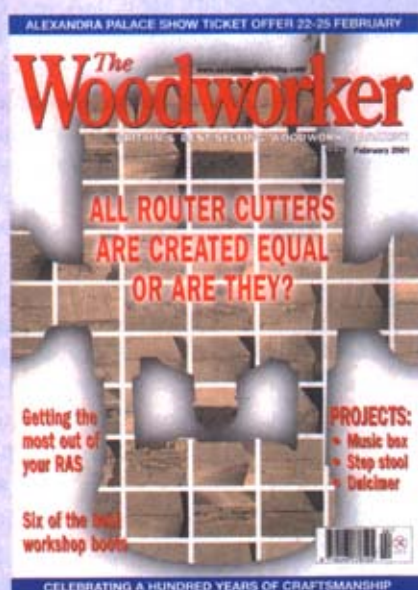
Photographically, the book has a slightly muddy feel to it and it would have benefitted greatly if it had been in colour. This is particularly true of the pictures of finished work which can't be shown at anything like its best in monochrome. Even with this visual shortfall, there's sufficient depth and clarity of information to earmark the work for a place on the bookshelf.

Call Stobart Davies on 01992 501518 for full details. ISBN: 0 85442 0908



SPECIAL SUBSCRIPTION OFFER

SUBSCRIBE NOW AND A SUPERB
CD CAN BE YOURS FREE!



If you subscribe to any Nexus woodworking magazine we will give you a FREE CD.

Plus when you subscribe for two years you can save 10% on the usual subscription price! Call our subscription hotline on 01858 438897 for details.

THE CHOICE IS YOURS.

Saving space

Why not make use of an empty alcove and create some useful storage space with a built-in cupboard. Jim Robinson did just that

Storage space is always a problem, especially in small houses, and it's not easy to find room for more freestanding cupboards or chests of drawers. One of the most effective ways to create storage space without encroaching on living space is to use an empty alcove, for instance at the side of a fireplace. However, open storage shelves don't always look very attractive, and can be better hidden behind doors. If, as in this case, the alcove is arched, then floor-to-ceiling panelled doors will hide the shape, and give a very pleasing result.

Timber choice

The doors for my cupboard were to be stained and polished rather than painted so I used southern yellow pine which can be obtained in 1" sawn boards in lengths up to about 15 feet, and up to 12" wide. This wood is relatively free from knots and defects so there's no problem machining to the lengths required.

If you don't have the necessary machining facilities then redwood PAR, (Planed All Round), would be a good alternative, particularly if you decide to give the project a painted finish.

Out of line

The problem with old houses (and sometimes new ones!) is that walls aren't always exactly vertical, which means cutting the framework of doors etc. to fit the shape of the walls. I preferred to keep my framework square and overcame the problem by overlapping the chimney breast with the left-hand frame, and fixing a small return



to the right-hand wall. If this small return is overlapped by the cupboard's outer framework and coloured the same as the side wall then any variation in the vertical width of the alcove won't be obvious.

Construction

The finished project had to be installed some distance from my workshop, so I constructed it in two sections. The lower section was made to finish 37" from the floor which is the usual height for this type of cupboard. I made the

framing for the top section 60" high, which left room for a decorative bead to disguise the join between the two sections, and a similar bead to match at the top of the upper cupboard framing.

This left a gap of about 3" between the top of the framing and the ceiling which I filled with a piece of wood when everything else had been installed. The size of the sections will of course have to be adjusted to suit your particular circumstances — the dimensions given here are therefore only a guide.



I cut the mortices using a router and a straight cutter guided by a fence



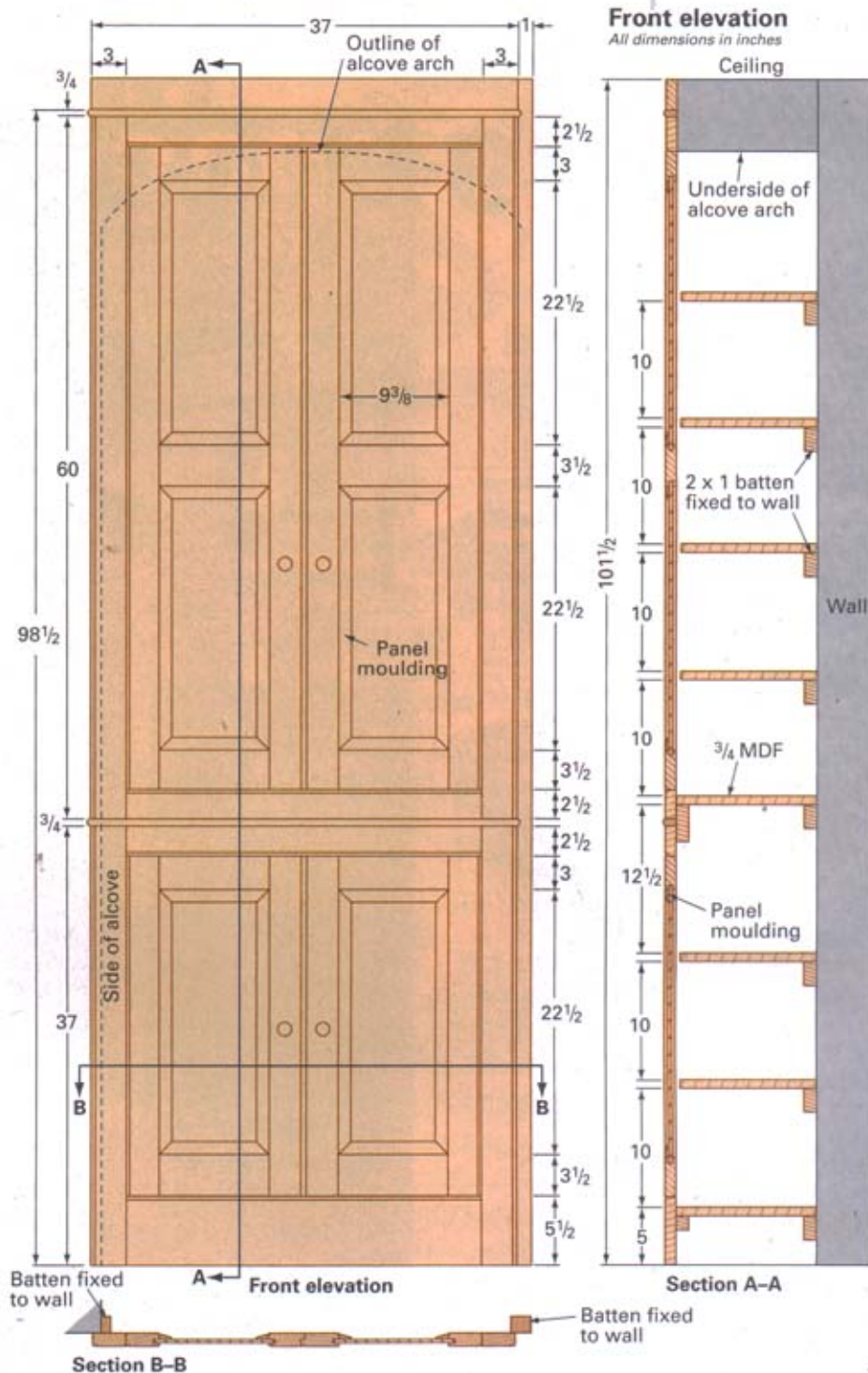
The tenons ready to be cut to length. Note the waste left on to guide the router



Using a bearing-guided beading cutter to form the 3/8" diameter bead on the outside of the frame



The upper and lower frames glued and cramped



Making the framing

All the wood for the outer framing and door components was planed and thickened to 7/8" then dimensioned to width and length.

I jointed the framing in the traditional way using mortice and tenons, cutting the mortices with a hand-held router guided by a fence. The ends of the routed mortices can be squared off with a chisel, or you can round the tenons with a coarse file.

I also used a router to cut the tenons cheeks. I cut the rail about 1/2" longer

than required so that I could use the square end of the rail to guide the router fence.

Beading & trimming

Rout a 1/4"-diameter beading on the inner faces of the rails before gluing the framing together, and cut a 3/8"-diameter bead on the outer edge of the side pieces; this can be done before or after gluing together. A bearing-guided cutter can be used for both sets of beading. Incidentally, I left the stiles a little longer than the finished length, and then



Any surplus Cascamite along the joint line can either be removed at the rubbery stage or sanded off when dry. Avoid removing with a wet cloth which spreads the glue



Resawing a 1" board to achieve the book-matching for the panels



The striking symmetry of the book-matched panels

trimmed to size after assembly. To complete the frames ready for fixing in position, screw and glue the 3/4" beaded strips to the top of each frame, making sure that they're flush with the back of the frame.

Door frames

The doors are framed and panelled with an off-the-shelf pine panel moulding applied to the front.

After thickening and dimensioning the frame components, rout a 5/16"-wide groove to a depth of 3/8" to take the panels. The mortices can then be routed to depth.

I cut the tenons using the same technique employed for the outer

framing, then cut the haunches to fit the groove depth. Make the doors a little oversize so that they can be trimmed later to the exact size, and remember to allow extra on the width for the door overlap.

Book-matched panels

I selected a piece of 1"-thick timber with the grain running almost parallel to the front and rear face then, after cutting it to width, resawed it on the bandsaw to make two book-matched panels which could then be thickened for a good fit in the grooves. When resawing with the bandsaw, it's best to use a new blade about 1/2" wide and with 3 or 4 skip teeth to the inch.

I next edge-jointed the panels using Cascamite; any surplus can be easily

removed by sanding once dry. If you use PVA, remove any surplus glue at the rubbery stage with a scraper or putty knife, rather than using a wet cloth which just spreads the glue and stops adhesion of the polish. Cut the panel to size, then sand to a sliding fit in the grooves.

When making doors of this type, I generally stain the panel before gluing the door frame together to prevent any unstained wood appearing should the

CUTTING LIST

These dimensions serve as a guide, but the lengths in particular will vary according to the size of your alcove. All dimensions are in inches

Item	Qty	L	W	T
Stiles (upper frame)	2	61	3	3/8"
Top rail (upper frame)	1	36	2 1/2"	3/8"
Bottom rail (upper frame)	1	36	2 1/2"	3/8"
Stiles (lower frame)	2	37	3	3/8"
Top rail (lower frame)	1	37	2 1/2"	3/8"
Bottom rail (lower frame)	1	37	5 1/2"	3/8"
Outer stiles (upper doors)	2	57	2 1/4"	3/8"
Inner stiles (upper doors)	2	57	3	3/8"
Top rail (upper doors)	2	13	3	3/8"
Middle rail (upper doors)	2	13	3 1/2"	3/8"
Bottom rail (upper doors)	2	13	3 1/2"	3/8"
Outer stiles (lower doors)	2	31	2 1/4"	3/8"
Inner stiles (lower doors)	2	31	3	3/8"
Top rail (lower doors)	2	13	3	3/8"
Bottom rail (lower doors)	2	13	3 1/2"	3/8"
Panels	6	23 1/4"	10 1/4"	3/8"
Divider and top bead (round-nosed)	2	38	1 1/2"	3/8"
Top filler	1	37	3	3/8"
Shelves (MDF)	8	to fit	to fit	3/8"

Also required: Panel moulding, sycamore for knobs, 2 1/2" brass hinges, catches, battens for shelf supports and fixings



A palm sander is ideal for final smoothing, especially at the joints



Cutting the 1/4"-diameter bead at the door sides with a bearing-guided beading cutter

TURNING THE KNOBS



The first stage of turning the knobs between centres, four at a time



Trimming the front of the knobs with the pin held in a chuck

I turned the knobs from sycamore which is denser than pine and takes detail well. I fitted a blank long enough to make four knobs between centres on the lathe, turned it to a cylinder the diameter of the knobs, then used a parting tool to turn the pins to fit the holes.

The shaping work was done with a small fingernail gouge, a deep-fluted roughing gouge and a large skew chisel. The knobs can then be sanded and separated with a saw before remounting each in a pin chuck or a home-made jam chuck and trimming the face. After sanding, I generally burnish the knobs with a handful of shavings.

Leave the fitting of the knobs and panel moulding, as well as the drilling of the holes for the knobs, until after polishing has been done. This way there's no danger of wax entering the holes to prevent the adhesion of the glue used to fix the knobs.

panel shrink after assembly. However, in this case, I applied a panel moulding which will hide this, so it's easier to assemble the door and then stain everything after. The moulding is stained and applied later.

Door assembly

Apply glue sparingly to the mortices, so that surplus glue is pushed in rather than being scraped off the tenons, creating an overflow when the joint comes together. Be careful not to allow any glue to contact the panels which should move freely in their grooves.

To make the door overlap, first rout a $\frac{1}{4}$ " bead on the closing edge of the right-hand door then a rebate in the back edge, and a matching rebate on the front edge of the left-hand door. The $\frac{1}{4}$ " beads on the outer edge of the doors are cut after the doors have been fitted in the outer frame.

Fitting the doors

Fit the doors to the frames by planing the hinging edges, taking the same amount off each door until they fit with about $\frac{1}{16}$ " clearance all round. Now rout the $\frac{1}{4}$ " bead along the hinge sides.

I used three $2\frac{1}{2}$ " hinges for each top door and two for each lower door.

They're set into the doors only, so that the knuckles line up with the beading. Hanging doors isn't the easiest of tasks

but it can be very satisfying when you get it right first time. Place the hinge in position on the door and use a marking knife to scribe round it. A router fitted with a straight cutter and set to the depth required will effectively remove much of the waste, and you can then use a sharp chisel to trim to the line.

Use a marking gauge to scribe a line to indicate the screw positions on the door, and a similar line can then be marked on the frame. This ensures that the door, when fitted, is in line with the frame and leaves you free to concentrate on getting the clearances correct at the top and bottom of the door.

When you're satisfied with the hinge positions, drill a pilot hole to start the screws which helps to stop the screws following the grain; if they go in at a slant, the screw head won't seat properly in the hinge and this can prevent the doors closing properly. Once you're satisfied with the fit, the doors can be removed ready for finishing.

Finishing off

Mitre the panel mouldings to fit before staining and polishing, and then fix in place with pins. Be careful to knock the pins in at an angle so that they go into the outside frame rather than the panel. If the pins are punched below the surface the holes can be filled with stopping. I use a water-based Brummer pine stopping which readily takes a



Cutting the rebate on the meeting stiles of the doors



I used a pattern cutter to trim the top and bottom of the doors square and to size. The bearing runs against a straight batten cramped to the door



The alcove before fitting began

stain, so the pin positions will be almost invisible. The stain can be applied after filling or alternatively mixed with the filler before applying.

Finishing

I used a palm sander to do the final sanding of the frames and panels, starting with 120 grit followed by 240 grit.

To achieve a darker pine finish, I first applied a water stain (Vandyke crystals dissolved in water with a dash of ammonia to give it a little more 'bite') which, when dry, was followed by a mid-brown wax polish applied using a drill-mounted pine brush. A final burnish with a soft lint-free cloth brings up the shine.

Installation

Before the front can be fixed in position, the shelves need to be fitted and supported by battens plugged to the back and side walls; I used $\frac{3}{4}$ " MDF board cut to size by my supplier. Two shelves are wider than the rest and form the base of the lower and upper cupboards.

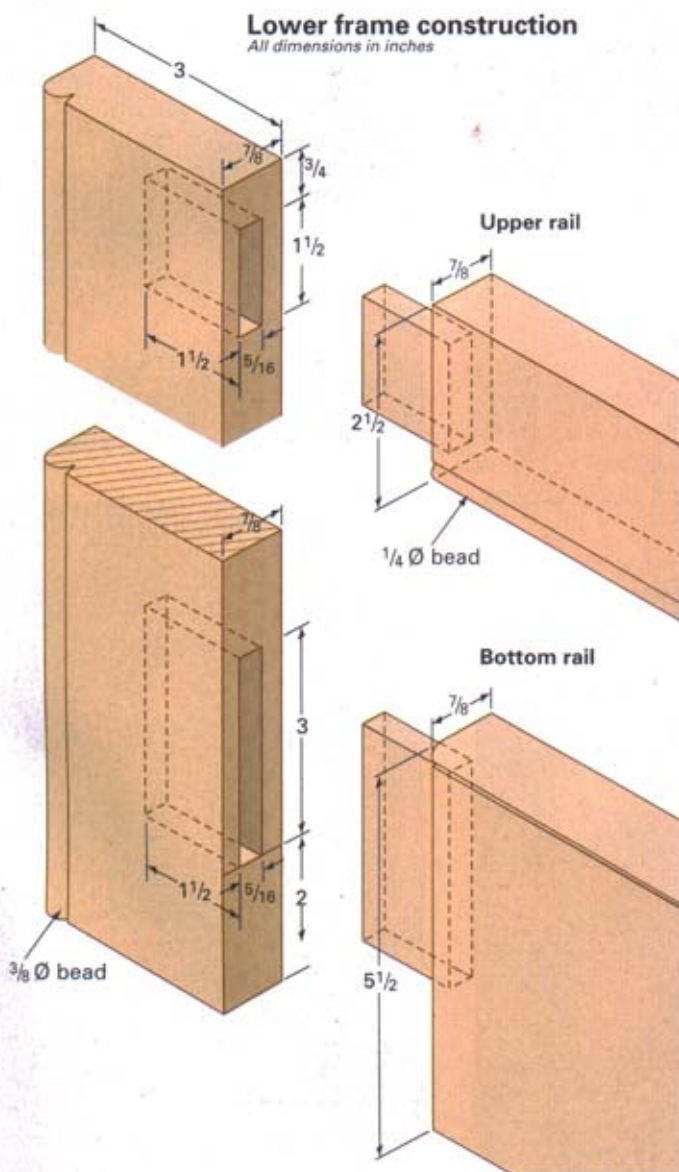
In order to fit the face frames, two further battens need to be fixed to the walls. The left-hand batten is fixed flush with the face of the chimney breast, while the right-hand batten needs to be wider so that when the front overlaps there's still about a 1" gap between the right-hand edge of the cupboard and the wall. This is painted to match the wall later.



The shelf supports were first glued to the walls in the correct position, then drilled and plugged

Lower frame construction

All dimensions in inches



The frames fixed in position, ready for the doors to be fitted



Using slotted plates to fix the frames to the wall battens allows some adjustment to be made to the frames to achieve the best fit for the doors

Position the lower face frame first, resting it on the floor and fixing it-in position with slotted angle brackets which allow some adjustment to be made. The use of these slot fixing makes it easier to fix the front tight to the wall; screw the plate to the wall batten and to the back of the face frame.

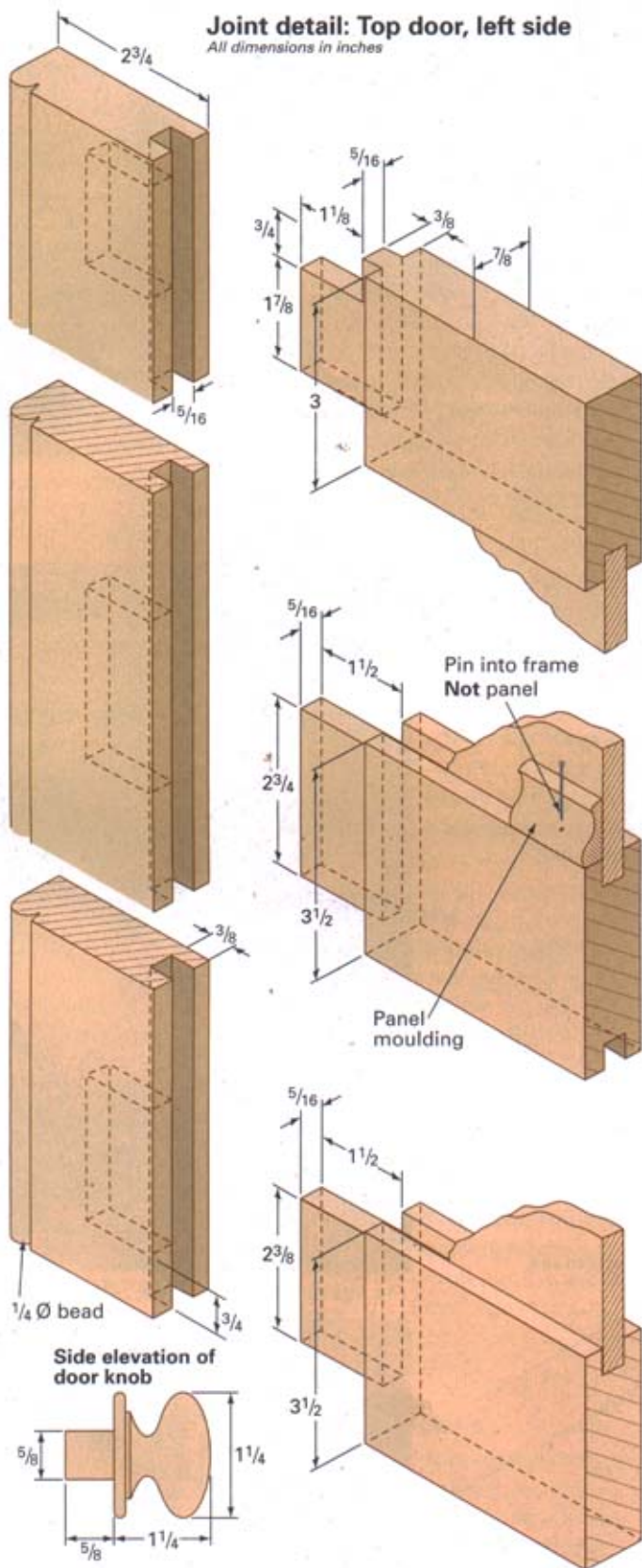
Adjustability

When you fit the frame to the wall it's easy to twist it slightly without realising, and you then find that the doors are no longer a good fit. The slotted plates allow you to make slight adjustments to get the best fit.

Fit a batten to the back of the bottom rail on the lower face frame, level with the wall battens which support the cupboard base. A length of 3" x 1" needs also to be screwed to the back of the top rail on the lower frame, to support the front of the top cupboard's bottom shelf. This batten also links the two frames together with screws driven in from behind.

The upper frame is fixed in the same manner as the lower frame using slotted brackets.

After finally hanging the doors, I fitted magnetic catches and an infill strip



A hinges are set into the doors only so that they follow the line of the bead



There's plenty of space inside



The turned knobs and book-matched panels

between the top frame and the ceiling using 'No Nails' adhesive which gives a secure fixing and is much easier than using screws.



The DW008K is supplied in its own kitbox with a one-hour charger



DeWalt DW008K

24v cordless reciprocating saw

DeWalt have recently extended their assortment of cordless tools to include a selection of 24 volt models. I was impressed by the DW007 circular saw (tested in the March 2001 issue) and so was looking forward to trying the DW008K reciprocating saw.

It's classed as a heavy-duty, high-performance tool powered by a motor with an output of 460 Watts. Both wood and metal cutting blades are included, as well as a one-hour charger in a carrying case with space for a second battery.

Power house

This is a meaty tool with an overall length of 470mm, and with two speeds of 0-2400, and 0-2900 strokes per minute to suit various materials. The stroke length is 29mm, and the tool is equipped with an electronic brake. The main handle and switch are at the rear, and

the whole of the front part of the tool is covered in rubber to provide an easy grip in any position. The shoe at the front of the body can be quickly extended to maximise blade life.

Blade changing is very simple and doesn't require the use of a tool as a built-in lever near the front locks and releases the blade. There's also provision for blade storage on the underside of the body.

On test

My trials included sawing various pieces of branch wood and some rough-sawn square timber. I also tried cutting some U-section aluminium, and some plastic piping. What I did find with this tool is that the material being sawn must be firmly held so that it can't move. The speed of sawing is pleasing. This is a

professional product made to professional standards and able to carry out professional work. It's a typical DeWalt tool from a firm who place quality and performance as their main aims.

Tested by Gordon Warr

VERDICT

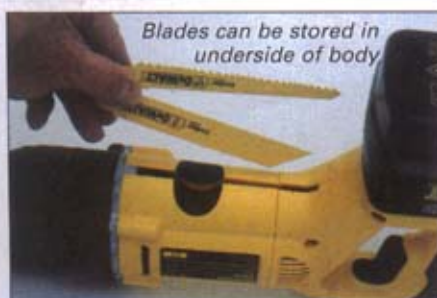
This isn't really a tool for use within the workshop, but rather for work outside. Ideal for professional contractors as well as the DIY enthusiast. Would also suit woodworkers involved in woodland crafts such as pole lathe turning, hurdle and rake making.

List price: £495 plus VAT, but expect to pay a lot less.

DeWalt Power Tools, tel: 0700 433 9258, website: www.dewalt.co.uk



The blade is held by a quick-release locking lever



Blades can be stored in underside of body



The handle incorporates switch and speed change controls

PLANE ASTOUNDING

LOOKING FOR THE BEST IN WOODWORKING
NEWS, FEATURES AND TOOLS?

LOOK NO FURTHER - IT'S ALL ONLINE AT

GETWOODWORKING.COM

Four of the UK's leading woodworking magazines, *The Woodworker*, *Practical Woodworking*, *The Woodturner* and *Routing* have combined forces to bring you **GETWOODWORKING.COM** - the definitive online resource for UK woodworkers. Whatever your speciality, you're bound to find something of interest at **GETWOODWORKING.COM**, so boot up your computer and take a look now.

- Search our online **database of tool tests** before you invest in an expensive new product
- Plan your spare time with **events from our online diary** - you can submit dates too
- Exchange **tips and ideas** in the busy online forum
- Browse and buy woodworking plans and books in our secure **online shop** - save **£££s** if you order online
- Many of the best **projects and techniques** from the pages of *The Woodworker*, *Practical Woodworking*, *The Woodturner* and *Routing*
- A growing array of **online resources** - Conversion Calculator, Routing Wizard, American Hardwood Database - with more to come
- The **latest news** before it reaches the pages of the magazines
- Subscribe to *The Woodworker*, *Practical Woodworking*, *The Woodturner* or *Routing* online
- See what's in the latest issue of your favourite woodworking titles, and **what's coming** up next

If you think all of that looks too good to be true, then just wait and see what we've got planned for the future!

GETWOODWORKING.COM

The screenshot shows the homepage of GETWOODWORKING.COM. It features a navigation bar with tabs for PROJECTS, TECHNIQUES, TOOL TESTS, PLANSHOP, WHAT'S NEW, RESOURCES, and QUICK TIP. The main content area is divided into several sections, each with a small image and a brief description. On the right side, there is a sidebar with a search bar and a 'QUICK SEARCH' button.

The screenshot shows the 'MAGAZINES' section of the website. It features a large vertical banner on the left with the word 'MAGAZINES' in a bold, sans-serif font. To the right, there are four magazine covers displayed in a 2x2 grid: 'Woodworker', 'Practical Woodworking', 'The Woodturner', and 'Routing'. Each cover has a 'Subscribe' button below it. The right sidebar contains a search bar and a 'QUICK SEARCH' button.

The screenshot shows the 'PLANSHOP' section of the website. It features a search bar at the top with a dropdown menu set to 'Woodwork'. Below the search bar, there is a list of woodworking plans, each with a small image and a 'View Details' button. The right sidebar contains a search bar and a 'QUICK SEARCH' button.

The screenshot shows the 'RESOURCES' section of the website, specifically the 'ROUTING WIZARD' tool. It features a title 'ROUTING WIZARD' and a brief description. Below the description, there is a form with input fields for 'Length (mm)', 'Depth (mm)', and 'Radius (mm)'. A 'Calculate' button is located below the form. At the bottom, there is a diagram showing a cross-section of a piece of wood with a routing bit cutting into it. The right sidebar contains a search bar and a 'QUICK SEARCH' button.

WWW.GETWOODWORKING.COM

Lesson in movement

All these years I've read that provision must be made for the movement of wood, especially across the grain. Although always aware of it, and careful to allow for 'float' in large panels, this hasn't been much of a problem where I live in Cape Town where the mild climate and the humidity doesn't differ much between summer, winter, indoors and outdoors.

I came to Britain over Christmas and helped my family with building alterations. One of the jobs was to install doors in the bathroom to cover the hot water cylinder, pumps, etc. I bought solid slatted pine doors and varnished them outside in the garage. After three coats they looked very good and were installed.

Two days later the joints between every four horizontal strips were visible. A week later, some of the gaps were about 2mm wide and I had to repaint all the thin white strips that were showing through!

The wood had shrunk on a scale I've never seen before; I estimate the shrinkage to be about 2mm per 90mm. This was a lesson well learnt — next time I'll store the timber indoors for a few days!

J. F. Loedolff, Cape Town, by email

Stay set

I was interested to see the question and answer about stay-set plane back irons on page 60 of the August issue. Of my four planes, two have original Record stay-set back irons and they seem to give a smoother cut than the two with standard back irons, one of which I remember filing to make it bed down closely.

However, the big advantage is when sharpening becomes necessary. The end of the back iron can be lifted off and the blade sharpened on an oilstone at least a dozen times before needing to slacken the screw and move the whole thing back. A standard back iron has to be unscrewed and removed every time the blade needs sharpening.

F. Watson, Worthing



Star letter

Imprisoned skeleton

Sometime ago I sent off to get the plansheets for an all-wood skeleton clock, and after much hard work I've almost finished it, as you can see from the photograph. I haven't got it ticking quite yet but I'm not far off!

S. Delceppo, Felixtowe, Suffolk



Timber tips

I use quite a lot of softwood (loosely described as pine) bought from my local building supplier, but the problem is that seasoning and storage aren't as good as they might be. While not actually running wet, the moisture content is higher than it should be, so there's a risk of shrinkage and warping. These tips, based on my experience, can be useful.

- Buy the wood as long in advance of your needs as possible.
- Store it so that air can get to both sides.
- Treasure any boards cut radially (end grain lines across the thickness of the board). They won't warp. Keep them for wide parts.
- If you need to glue up widths, do this in the same session as truing edges.
- As far as possible, make up assemblies as soon as parts are ready. Corner joints stop both pieces warping.
- If the finished item is to be in a centrally heated environment, store the wood in that atmosphere for a few days so that any tendency to warp become apparent. Cut narrow parts from the warped boards.
- Avoid knots with black rings round them. They will fall out.
- Buy the widest boards and cut them down yourself. You can get around flaws and some knots and pick the best parts for the job. It's cheaper.
- I allow 10% for wastage when I buy softwood, but it usually works out better than that.

R. S. Fortune, Northampton

WIN a Skil cordless drill

If yours is chosen as the Star letter, you win a Skil 12v cordless drill with 10mm keyless chuck, 5-position torque settings, variable speed and reverse. As well as the drill and a 12v battery pack you also get a 6-piece screwdriver set and a 5-piece HSS drill set all in a robust carry case.

SKIL

For further information about the full range of power tools call the Skil Advice Hotline on 01895 838743





Ferm FKS-180 circular saw

Screwfix Direct has extended its range of both power tools and machines to include an exclusive collection under the 'Ferm' label. One of these is the FKS-180 circular saw, the 180 indicating the diameter of the blade which gives a maximum depth of cut of 62mm at 90°. The motor is rated at 1400 Watts, providing a blade speed of 4200

rpm. The blade, which has a bore of 20mm, has 18 TCT teeth. The wrench needed when removing the blade is included.

Angle cutting

The blade will tilt up to 45°, and the main control for this is at the front where a knob locks the desired setting with a

protractor scale as a guide. A secondary lever lock at the rear ensures the sole plate is positively set whatever the angle, including normal rightangle sawing. Maximum sawing depth at full tilt is 45mm.

The depth of cut can also be readily adjusted down to zero. A depth scale is provided, and again a small lever is used to lock the chosen setting.

Body parts

The main part of the body is an alloy die casting, while the motor housing and built-in main handle are plastic. The main handle incorporates the switch, with a safety button which has to be depressed first, and a good-sized secondary handle is located towards the front. The body extends to form the upper section of the blade guard which incorporates a dust outlet, but a dust bag is not included. The spring-loaded guard which covers the lower part of the blade is steel and an adjustable riving knife is provided.

The sole of the saw, like the other steel components, is plated and measures 32mm x 145mm. It's designed to carry a side fence which will locate to the right giving a maximum setting of about 120mm, and to the left where the maximum width which can be sawn is 200mm. Useful refinements to the sole plate are the two notches at the front edge to help guide the saw along a line when using the tool freehand; one for normal right angle sawing, the other when the sole is fully tilted.

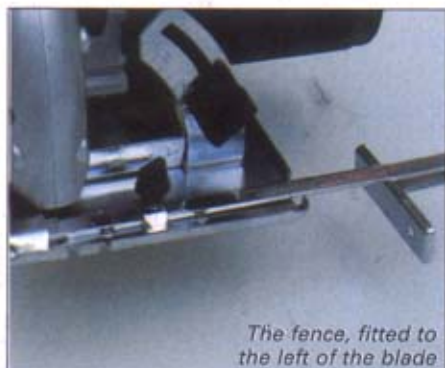
On test

I used the FKS-180 to cut sheet material, always a popular use for a hand-held circular saw and especially when tackling large sheets. This is where the

The FKS-180 has a 180mm blade and maximum cutting depth of 62mm



Depth of cut can be adjusted down to zero



The fence, fitted to the left of the blade



A vacuum hose can be connected

Bevel sawing is no problem for the FKS-180



notches at the front are very useful, although an alternative to freehand sawing is to cramp a batten to the board and use this as a guide. It's when sawing man-made boards, which are frequently less than 25mm in thickness, that the cutting benefits from reducing the projection of the blade. I also tried cutting solid hardwood and softwood of various thicknesses, and found that there's adequate power for all normal uses, with the two handles providing good control. Adjustments are easy to make, and are positively locked as required. I couldn't detect any bad habits with this saw, and it gives a feeling of confidence to the user.

Tested by Gordon Warr



The handle design gives good control for a range of cutting tasks

VERDICT

The quality of this tool is difficult to fault, and more so when the cost is considered. A tool with an impressive performance and more than adequate for any user.

List price: £44.99, includes VAT

Screwfix Direct, Tel 0800 317 004 (catalogue), 0500 414141 (sales), fax: 0800 056 2256, website: www.screwfix.com

AIRPINER DIRECT LTD.

Unit 6 Verulam Industrial Estate, 224 London Road, St Albans, Herts AL1 1JF

"THE BABY" COMPRESSOR

IT'S QUIET, IT'S LIGHT (10KG)

IT'S SMALL (15" High x 16" Long x 5-1/2" Wide)



WITH



OR



APD AF50
18 Gauge 15-50mm

APD 16/50
16 Gauge 20-50mm

THE COMPLETE KIT, WITH HOSE, FITTINGS AND SELECTION OF BRADS DELIVERED TO YOUR DOOR FOR ONLY £199 INC. VAT
TELEPHONE: 01727 853751

ADVERTISERS PLEASE NOTE

Copy Date for the July Issue of Practical Woodworking is 26.04.01

CARROLL TOOLS



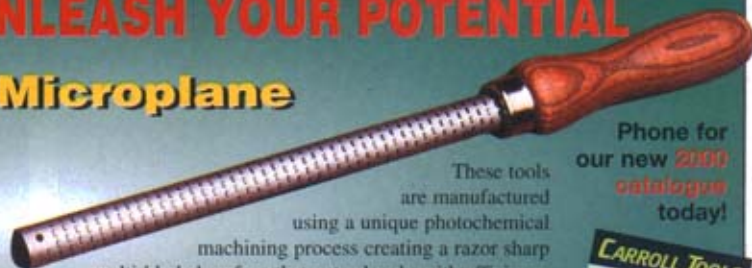
Kreg Jigs

For speedy, accurate pocket hole joints every time these robust range of tools are a must. Manufactured from cast aluminium there is a model for everyone from the occasional user to the professional and manufacturing processes.



UNLEASH YOUR POTENTIAL

Microplane



These tools are manufactured using a unique photochemical machining process creating a razor sharp multi-bladed surface that cuts cleanly with efficiency and control. Smooth, effortless shaping and carving requiring only light sanding to finish. No more scraping, tearing or gouging.

Phone for our new 2000 catalogue today!



FREEPHONE 0800 923 0150



Carroll Tools 16-18 Factory Lane, Croydon, Surrey CR0 3RL

Making a stand

George O'Brien turns a lamp stand using long-hole boring techniques

Turned lamps, whether modest bedside models or towering standards, are usually made using a similar set of processes. This project demonstrates these techniques as I make a mid-sized lamp of my own design. Readers can alter the scale, or number of elements, to produce an example specifically geared to their own requirements.

Material

I normally prefer to turn native British timbers but have been harbouring a yearning to widen my horizons for some time. I decided to try using something a little different and chose a timber from Craft Supplies extensive range called Amazaque, a species previously unknown to me with beautiful black grain patterns rippling across its deep brown surface.

Lamp stem

I mounted the stem blank between centres in the normal way, except that I used a ring centre in the tailstock to suit my $\frac{3}{16}$ " long-hole auger. I also made use

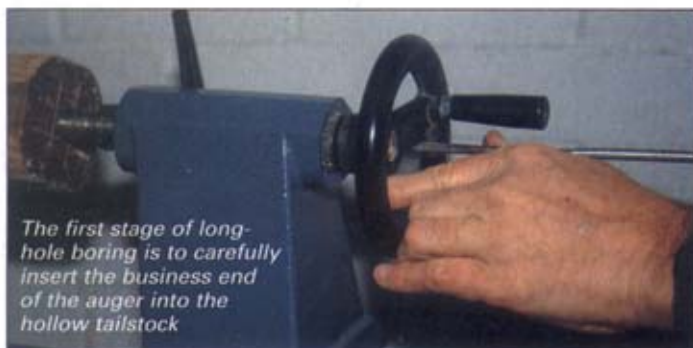
of the lathe's sliding headstock to position the tailstock conveniently near the end of the bed. My first job was to remove the blank's sharp corners with a roughing-out gouge. I chose not to reduce it to a true cylinder, at this stage, in case I needed the extra material later.

With the lathe speed reduced, I then inserted the end of the auger into the hollow tailstock. A great deal of care was needed to slip the tool's fragile cutting tip through the hollow ring centre within the tailstock quill without damaging it.

Making the cut

As soon as I was confident that the tip was in contact with the timber, I pushed the auger forward by about $\frac{3}{16}$ " (4-5mm) and withdrew it again. An auger, unlike a twist drill, has no spiral flute to remove the shavings so it's imperative to withdraw it

regularly (and completely) to clear them. I estimate that the shavings shown in the picture below constitute only about 60% of those generated at each cut. The rest had fallen from the auger on its journey back down the hole and through the tailstock. For this reason it's advisable to have make a 'clearance run' after every 3-4 cuts, by advancing the tool to the 'coalface' and withdrawing it again, without cutting, to collect the loose shuff from the length of the tunnel. Allowing a build up of shuff, or advancing by too much in a single cut, risks the tool jamming in the hole and being spun painfully out of the operator's grasp — long hole boring is not a job to be rushed! The hole needed to



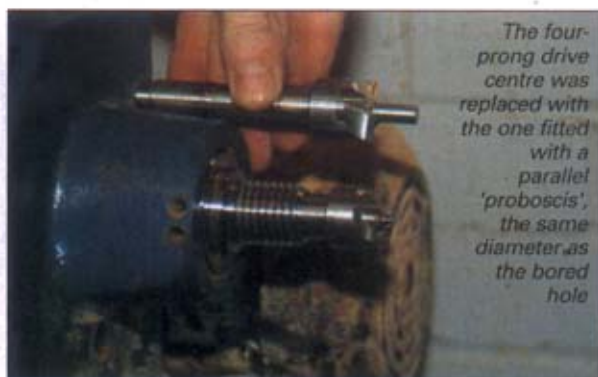
The first stage of long-hole boring is to carefully insert the business end of the auger into the hollow tailstock



An auger, unlike a twist drill, has no spiral flute to remove the shavings so it's imperative to withdraw it regularly to clear them out



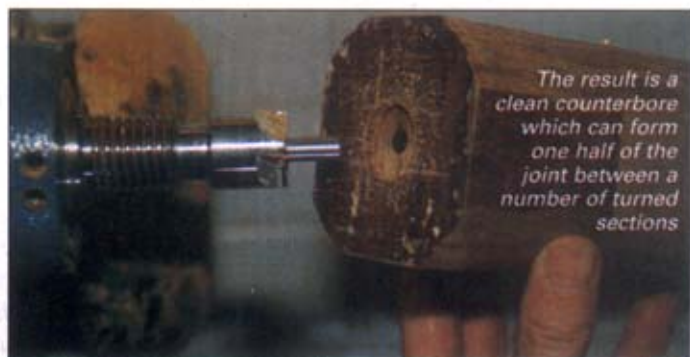
A rubber band around the auger's shaft makes a handy depth gauge



The four-prong drive centre was replaced with the one fitted with a parallel 'proboscis', the same diameter as the bored hole



To counterbore, reduce the tailstock pressure, hold the blank stationary, and feed it carefully onto the revolving drive centre



The result is a clean counterbore which can form one half of the joint between a number of turned sections

be deep enough to reach the blank's halfway point, and a rubber band around the auger's shaft made a handy depth gauge.

Remounting

When the auger had reached halfway, I demounted the blank and cleared the tailstock of any stray shuff. Leaving any to become compacted within the quill could cause it to bind at some future date.

I then replaced the four-prong drive centre with one fitted with a parallel 'proboscis' the same diameter as the bored hole. Because mine has continuous 'teeth' from rim to centre, it can also be used for counterboring — but more of that later.

I reversed and remounted the part-bored blank so that boring could be resumed from the opposite end. Once the hole is started, the auger is fully self centring so the two holes will (or should!) meet accurately in the middle.

Counterbore

After completing the boring, I reduced the tailstock pressure and held the blank stationary as it was fed carefully onto the revolving drive centre. The resulting counterbore, accurately centred on the cable hole, could form a mortice

between the multi elements of a standard lamp's stem. I, however, would only need one in the top of the lower section, which I would be cutting later.

Having cut this shallow counterbore for the camera's sake, I intended to cut it away before proceeding. In the nick of time I realised that if it were left it would 'lose' a little of the plastic bulb holder's height. Good fortune shines on those with an open mind, don't they say?

I remounted the blank between counterbore and standard tailstock centre (to ensure the stem's concentricity around the cable hole) and increased the lathe speed to complete its reduction to a cylinder.

I then used a beading and parting tool, in conjunction with 'bow-legged' callipers, to cut an accurately-sized tenon which would fit into the base's yet-to-be-cut mortice. Each of the male joints of a standard lamp's stem would be formed in this way.

Stem shape

I would normally have used a roughing-out gouge for the lion's share of the stem's shaping, but I decided to see how well the cutting edges of a pair of high-performance spindle gouges would stand up to the heavy work. I'll tell you how they fared next month. I

completed the long curves with my largest (1 1/4") skew chisel. In common with other tools, like bench planes, the larger the tool the fairer the finish.

The quirks on either side of a large bead were highlighted by undercutting them with a smaller (1/4") skew's long corner. Fine, sharp detailing such as this always enhances a project by introducing girdles of deep shadow. In my opinion, simple procedures like this, carefully carried out, make the difference between good pieces and great ones.

Sanding and finishing

Once satisfied with the stem's shape, I started sanding with 180 grit and progressed, in even steps, down to 320, (on a more troublesome timber, or a f

CUTTING LIST

Stem and feet — A single piece 35" x 3" x 3" (about 900 x 75 x 75)

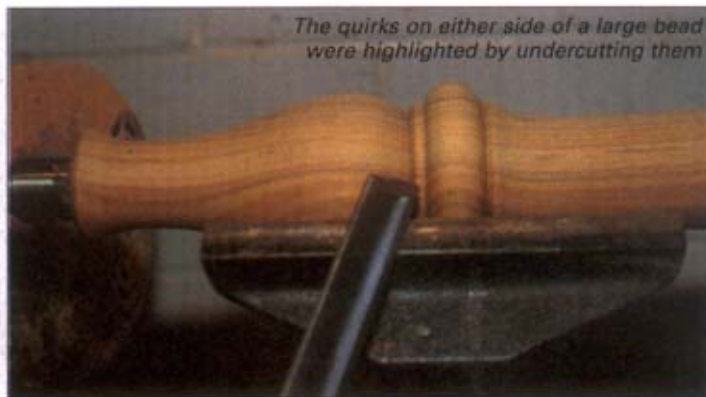
Base — One 'bowl blank' 12" x 12" x 3" (about 300 x 300 x 75mm)

Hardware:

One switched lampholder, one fixing nipple or screwed plate to attach the lamp holder to the top of the stem, one three-pin plug, a length of flex



Using a beading-and-parting tool and 'bowlegged' callipers to cut an accurate tenon



The quirks on either side of a large bead were highlighted by undercutting them

'bad tool' day, a courser initial grade may have been called for). I wrapped the abrasive sheet around a piece of foam rubber to even out any small hollows or ridges left by the tool. The result was a series of sweet, super-smooth curves, running from one to another with no hint of flat or bulge.

A liberal first coat of Chestnut Finishing oil was rubbed well into the grain and left to penetrate for a few minutes before the excess was removed.

Properly applied, oil finishes extend below the surface of the timber and consequently are impossible to chip. They have the added advantage that they can be easily refreshed with further coats whenever the need arises.

I choose to wear latex gloves when applying finishes, in the belief that any product designed to penetrate the pores of a piece of timber may well do the same to my own.

The feet

The advantage of designing a piece with three feet is that it can't rock no matter how uneven the floor. On the other hand, standing a round object on three points effectively reduces its 'footprint' to a less stable triangle. The taller the

project (and the smaller its base to start with) the more the resulting directional instability becomes a problem.

I eventually settled on three feet for this project but would have gone for four, or perhaps five, had it been taller.

The simplest way to have made the set of feet would have been to turn each, spindle-fashion, from the end of the 3" x 3" blank but I decided that their grain ought to run in the same direction as the base so my next move would need to be on the bandsaw.

I marked the blank's centreline for a length of 6" and ripped it along the grain before dividing it into 3" slabs and crosscutting the four resulting pieces.

Another tool new to me, was the multipurpose carpenter's gauge from Veritas and I now pressed it into service. First, as a straightedge, to discover each footblank's centre point before conversion into a trammel to mark the diameters to be bandsawn.

Each bandsawn foot blank was gripped in the large O'Donnell jaws while their spigots and top curves were sized and shaped before the smallest jaws were inserted to grip each spigot while the foot was shaped, sanded and finished.

The base

I mounted the already circular base blank securely onto a woodscrew chuck, trued up the face and periphery and dished what was to become its bottom surface with a bowl gouge. Removing this material was important, not only to improve the look of the piece but also to allow sufficient space for the cable to escape from beneath the finished lamp. Next, I cut a dovetailed recess to suit my chuck (with a little more fancy shaping within) leaving a small area in the centre to accommodate the yet-to-be-bored cable hole. A shallow groove was added (a little less than half the foot diameter from the edge) and the lathe's indexing facility used to mark the positions of the three, equally-spaced spigot holes. The groove wouldn't look out of place beneath the finished lamp and would provide an accurate guide for the Forstner bit during the next operation — the drilling.

Drilling

Having reversed the timber onto the dovetail I trued up the new surface before boring the cable hole and mortice joint using the same tools and methods as on the stem. They were just as



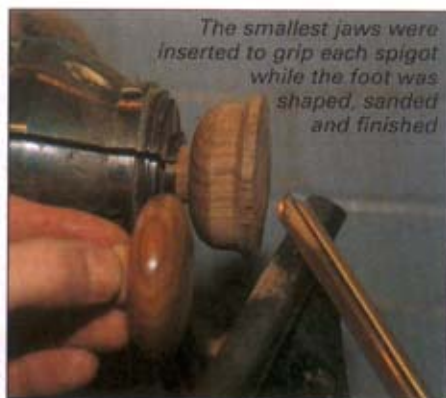
A liberal coat of Chestnut Finishing oil was rubbed well into the grain and left to penetrate for a few minutes before the excess was removed



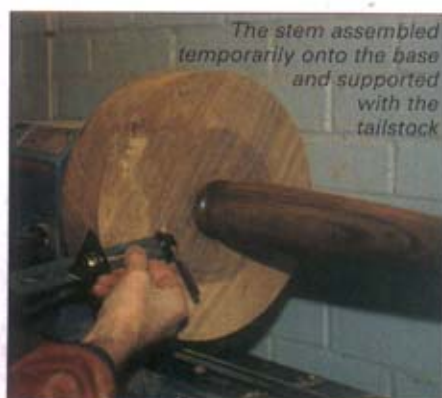
I marked the blank's centreline for a length of 6" and ripped it along the grain before dividing it into 3" slabs and crosscutting the four resulting pieces



Using the Veritas carpenter's gauge to discover each footblank's centre point



The smallest jaws were inserted to grip each spigot while the foot was shaped, sanded and finished



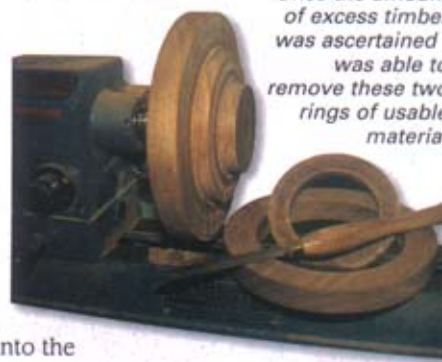
The stem assembled temporarily onto the base and supported with the tailstock

successful despite the base's grain running in the opposite direction.

I assembled the stem temporarily onto the base and supported it with the tailstock. This gave me the chance to stand back and consider the best way to achieve harmony between the two pieces. The Veritas gauge, in yet another of its many guises, was used to mark the cutting limits.

Once the amount of excess timber was ascertained I was able to remove these

two rings of usable material. Because the timber's grain was running the wrong way for efficient cutting with a partingoff tool (especially with the large overhang required), I was forced to scrape with it and accept the numerous visits to the grinder as par for the course. The pre-cut rebates, on the inner edge of each ring, will be used to rechuck them just as soon as I decide what they're to become. I will put my thoughts to the possibilities and report back next month.



Once the amount of excess timber was ascertained was able to remove these two rings of usable material

Final sanding of the base with all surfaces curving smoothly towards the outside edge



Dust trap

During the weeks leading up to the making of this project I'd sought out other turned lamps, both factory and craftsman made. One of the things that had stuck in my mind was that almost all of their bases had become ingrained with dirt. Some of this was down to bad toolsmanship, leaving rough endgrain or torn sidegrain to snare the passing dust, but most, it seemed to me, was due to a widely shared but ill-thought-out design feature. They had been shaped (some very tastefully, I should add) with areas of the top surface dished. In effect, a circular gutter had been formed which, despite regular dusting, had encouraged dirt particles to settle and become amalgamated into the polish layer at the bottom.

Bearing this in mind, I set about shaping my own base with all surfaces curving smoothly towards the outside edge and as soon as I stood back to inspect the results, I realised why so many others had fallen

into the

almost universal (dust) trap. While still mounted on the lathe, and without its shapely stem to 'lift' it, my base looked positively plain and the temptation to glorify it with sharp grooves or a reverse angle or two was very strong. I'll leave you to ponder the results of my labours before deciding about your own project.

Assembly

After each finished component had received two coats of oil (except on their joint's mating surfaces) they were glued together with PVA. Once dry, the whole assembly received two further coats before being buffed to a deep, satisfying sheen. Being made of wood, with exclusively plastic fittings, my lamp only needed two core flex but if any exposed metal parts had been involved an earth would have been imperative for electrical safety.

Special thanks to Craft Supplies' Ken Allen for his helpful advice on lamp design.

Next month I'll be testing a number of new tools and related products in addition to finding a use for the pair of rings liberated from the lamp base.



CONTACTS

- Timber and electrical components from Craft Supplies: 0800 146417
- M950 lathe and accessories from APTC: 01297 33656
- Turning tools from Robert Sorby: 0114 225 0700
- Veritas Carpenters Gauge from BriMarc: 0845 6590000
- Bradcap powered visor from Bradwest safety: 01628 660908

Q&A

Whether it's advice on turning techniques, joinery, using finishes, or what machinery to buy send in your woodworking queries and our expert panel will find an answer.

Questions relating to other specialist areas will be answered by an appropriate expert in that field.

Send your questions to:
Q&A, Practical Woodworking, Nexus House Azalea Drive, Swanley, Kent, BR8 8HU. Or fax on 01322 616319, or email to practicalwoodworking@getwoodworking.com



Jim Kingshott
Cabinetmaking & joinery

Gordon Warr
Machinery & supplies



Chris Child
Turning

Ben Russell
Carving



Mark Finney
Finishing

Recycled saws

I have a number of rusty hand saws that I bought from a car boot sale. Some of them have badly-damaged wooden handles which I need to remove and replace, but the retaining screws have seized up and I'm having trouble removing them — any suggestions? Can you also suggest a good method for cleaning up rusty blades?

K. Booth, by email

The screws which hold on saw handles are usually removed with a forked or plain screwdriver bit in a brace. Cheap saws with steel screws or rivets aren't worth the bother — save them for use in the garden. If the screw is particularly stubborn, heat a metal rod, about the same diameter as the screw, to red heat, then place the end of the rod in contact with the screw for a couple of minutes. Allow the screw to cool down before attempting to unscrew it. The expansion caused by the heat and the subsequent contraction should free the screw.

Rust can either be on the surface or it can form pits, and a blade that's pitted isn't worth the time and effort to restore it; pits leave the surface irregular and it's impossible to get a sharp edge on the tool. Screwfix supply a scaling disk on an arbour which is the best tool that I've found for the fast removal of surface rust. A final polish with 600 grit wet-and-dry abrasive paper lubricated with oil will give a reasonable surface.

Jim Kingshott

By hand

Can you suggest any good books on woodcarving with hand tools only. I need information about choosing appropriate woods and hand tools, as well as some help on clamping methods and finishing. I'm particularly interested in Welsh love spoons and figurative work. Are there any carving organisations which may be able to provide technical advice?

Tudor Davies, Barry, South Glamorgan

Many woodcarvers still work entirely with hand tools and, to most of us, this is one of the great attractions of the craft. Even as a professional carver, I would do at least 95% of my work by hand. Certainly, my bandsaw speeds up the initial roughing out, but this stage can be tackled with hand saws.

Most of the carving articles in Practical Woodworking have been written with the hand-worker in mind (though some forthcoming articles will be looking at power-assisted carving techniques). The Guild of Master Craftsmen (01273 477374) publishes a specialist magazine devoted to carving, which is available widely and has projects and techniques for all levels. Stobart Davies Ltd (01992 501518) have a wide range of books on woodcarving. For a guide to Welsh love spoons, try *Carving Spoons* by Shirley Adler, price £14.95.



The UK organisation for woodcarvers is the British Woodcarvers' Association, and I think you'll find that many members have a preference for hand carving. The secretary is John Sullivan, 25 Summerfield Drive, Nottage, Porthcawl, Mid Glamorgan, South Wales CF36 3PB. They may be able to tell you about evening classes in your area.

Ben Russell

A smooth finish

I've been trying to turn some salad bowls out of some very dry ash discs 3" thick and 10" wide. Shaping the outside and the inside walls of the bowl is no problem, but I'm having difficulty getting a smooth finish on the floor of the bowl. I'm using a 3/4" HSS bowl gouge and even though I bring the tool rest up as close as I can to support it, it keeps snatching when I try to feed it across the floor of the bowl.

B. Hancock, Spilsby, Lincs

There are two techniques that I know of for achieving a satisfactory finish on the floor of a bowl and both methods are sometimes worth trying because some woods respond better to one rather than the other.

In one, you need to sharpen the largest round-nosed scraper that you have and draw this slowly across the floor from the centre outwards towards the sides of the bowl. I use a 1 1/2" round scraper which has been ground with a 60° bevel. After grinding, the edge is honed very sharp using an oil stone. With the edge held horizontally and flat on the tool rest, you can scrape the floor area flat or form a smooth, continuous curve to blend into the side of the bowl. As long there are no large areas of end grain in the floor, you should be able to achieve a clean finish where any roughness that exists is very shallow and will sand away without a problem.

Another method which possibly needs a little more technique skill than the scraper, is to use a bowl gouge with a modified 60° bevel ground on the end. You can lie the obtuse bevel of this gouge flat against the work surface without the sides of the bowl getting in the way. It works just like any bowl gouge, held slightly on its side, with the bevel planing across the floor of the bowl, and usually produces a better finish than the scraper.

Chris Child



Blade slip

For some time now the blade and/or tyre of my bandsaw has been thrown off of the bottom wheel. I've replaced both top and bottom tyres as they had become damaged by the blade, and I've adjusted the top wheel and checked that the blade is running true on both top and bottom wheels, both while rotating them by hand and under power. Once the blade appears to be running true, I've put everything back together to cut a test piece only to find that the lower tyre jumps off the wheel again. Is there anything that you can suggest that I try?

Paul Stewart, Hythe, Southampton

Without closely examining your bandsaw, it's difficult to diagnose the problem accurately. However, the following troubleshooting suggestions may help:

1. Re-fix the tyre using a contact adhesive.
2. Check that the lower thrust bearing is correctly set. It requires adjusting if you fit a blade of different width, as does the upper thrust bearing. Both should have a gap of around 0.5mm between them and the rear edge of the blade.
3. It may be that the frame has become slightly strained, if only slight this can possibly be corrected in the same way as 4 below.
4. Possibly the two wheels are not in good alignment with one another. Check across both wheels for this. When the upper wheel has its front face vertical, it should align with the face of the lower wheel. Use a straightedge to check. Whichever wheel lies back from the other can be packed out slightly by introducing washers on the securing bolts between the body of the machine and the mounting bracket of the upper wheel. I once had this problem with a small three-wheel bandsaw, and washers introduced behind the top wheel did the trick.

Gordon Warr

A question of width

I've acquired some very large rough-sawn oak boards for making some substantial shelves. They're radially sawn and kiln-dried so don't expect any trouble with warping. The biggest shelf will be in an alcove about 18" wide by 6' long and I have a single timber big enough to fit. However, without a large planer thicknesser, I'm unsure of the best way to smooth such a large flat surface from its rough-sawn condition.

I'm also interested in making wooden toys for my young son. I fancy something like a large wooden truck that he could sit in, and other substantial toys as well as simple educational toys. Can you recommend any particularly good books on the subject?

Peter Jarvis, West Yorkshire

There's no magic way of preparing wood after sawing to make it smooth and flat. The only real option is to hand plane it, which is a slow and laborious task. It's debatable whether it might be easier to first saw it down the centre, plane the two pieces produced, then joint up again. This partly depends on how flat the wood is at the outset.

I do have a planer thicknesser but its capacity is far less than 18", so I would machine plane the two halves, then joint them up, probably using biscuits.

The alternative would be to rely on sanding which far less satisfactory than planing, as gaining and maintaining flat surfaces would be very difficult. In any case, a professional model of belt sander would be needed, preferably 100mm wide and also with a sanding frame attachment. Good-quality coarse-grit belts would also be needed.

For toy designs and plans visit the GetWoodworking website at www.getwoodworking.com, or get hold of a copy of Hobby's catalogue which is full of information on the supply of plans for toys, small tools, books, and fittings for toy making. The choice of plans for toys is wide, from scooters to forts and rocking horses to mobile cranes. W. Hobby Ltd, tel: 0208 761 4244, fax: 0208 761 8796, email: mail@hobby.uk.com

Gordon Warr

Mug trees bought in the shops are usually very simple and rather mediocre affairs, so why not make one that will be noticed and liven up a dull kitchen corner.

For my mug rack, I've turned the components in an imitation bamboo motive, and used seasoned ash which

goes with the informal country farmhouse look. This wood can be quite coarse in texture so your tools will need to be kept sharp to obtain crisp detail.

The centre column is supported on tripod legs which, as well as providing the tree with its stability, prevents it from coming into contact with a wet or damp work surface. There are nine mug 'branches' which are staggered in sets of

three, at a slight upward angle to the column. To get the right amount of space inbetween the branches so that the mugs hang without touching, suspend one of your mugs by its handle and mark out its base on the side of a suitable piece of timber.

Centre column

Fit a block of wood 350mm x 80mm x 80mm securely on the lathe between centres. Set the lathe to a fairly fast speed (about 1000rpm) and taper the block down to 40mm at one end using a sharp roughing-down gouge. Don't forget to wear a protective face mask.

Drilling the holes

Mark out the three mug support positions along the length of the taper, then divide the column's circumference into six equal segments. You can do this with a pair of dividers, but the simplest way is to cut a strip of card which is a convenient length for dividing into six and rap this around at a point along the taper where the tape meets end to tail. Mark clearly where the holes for the branches and legs need to be drilled, remembering to stagger the positions up the column.

You now need to make a simple drilling jig to get the holes drilled at the same angle. This is made by drilling a hole at right angles through a block of wood which is then held in the tool rest support by means of a dowel or spigot which has been turned in the base of the block. Make sure that the hole in the drilling jig is positioned at the centre height of the lathe, before resting it against the side of the workpiece. Twist the column round to line up the end of the drill with the hole positions and drill each one in turn. Use the same technique with a larger drill size to drill the hole for the legs.

Now that the functional side of the project has been completed, the real turning can begin. To form the bamboo shape, use a skew chisel to cut a series of V-cuts at intervals along the column and then, with a small gouge, reduce the

**Chris Child
turns a tripod
mug tree in
bamboo style**



Hang that mug

diameter inbetween. Form small radiuses at each end of this shallow hollow, but leave a 5mm section of column uncut on each side of the V.

When the whole length of the column has been treated in this way, take up the beading and parting tool and round over the two sides of the V-cut. The tool is used by laying the the edge flat on the tool rest with the corner of the tool positioned on the apex of the work. The handle is lifted so that just the corner of the cutting edge engages with the work and lifts a tiny tuft of wood. The tool is then slowly twisted so that the corner slices through the fibres of the wood as it rotates.

On the top of the mug tree I turned an acorn finial. This was done with a combination of a beading tool to cut the convex curve of the base of the acorn, and a small spindle gouge to form the rest of the shape.

Legs

First turn the 120mm x 24mm x 24mm block to a cylinder with the roughing-down gouge and then part down to form an oversized dowel at one end using the beading and parting tool. Part down at the base of the leg to determine its length and then form the bamboo shapes in the same way as you did the on the column.

As an alternative to the beading tool, I've used a standard parting tool which works as just as well when used to form the rounded curves of the V-cut. After reducing the dowel to the correct diameter so that it fits into the base of the mug tree, sand, polish and part off the work with the skew chisel.

When it comes to making the other two legs, you don't have to make the bamboo exactly the same; as long as they are roughly the same diameter you can vary the length of the bamboo sections.

Branches

To make the nine mug tree branches, follow the same methods as for the tripod legs, by reducing the 50mm x 20mm x 20mm blocks to a cylinders and then forming dowels at the ends. Hollow out the middle area of the branch using a $\frac{1}{2}$ " spindle gouge. Round the ends of the peg with the beading tool and then part off, after sanding and polishing with the skew chisel.

1 Mark out the lateral dimensions of the tree



2 Mark out the positions of the branches



3 Drill out the dowel holes for the branches using a drilling jig



4 Drill the tripod leg holes



5 Cut the V-cuts with a skew chisel



6 Form the waist sections of the bamboo



7 Shape the decorative finial



8 Form the lip shapes between the bamboo sections with the beading and parting tool



9 The same cut on the leg using the standard parting tool



10 Part off the branch with the skew chisel

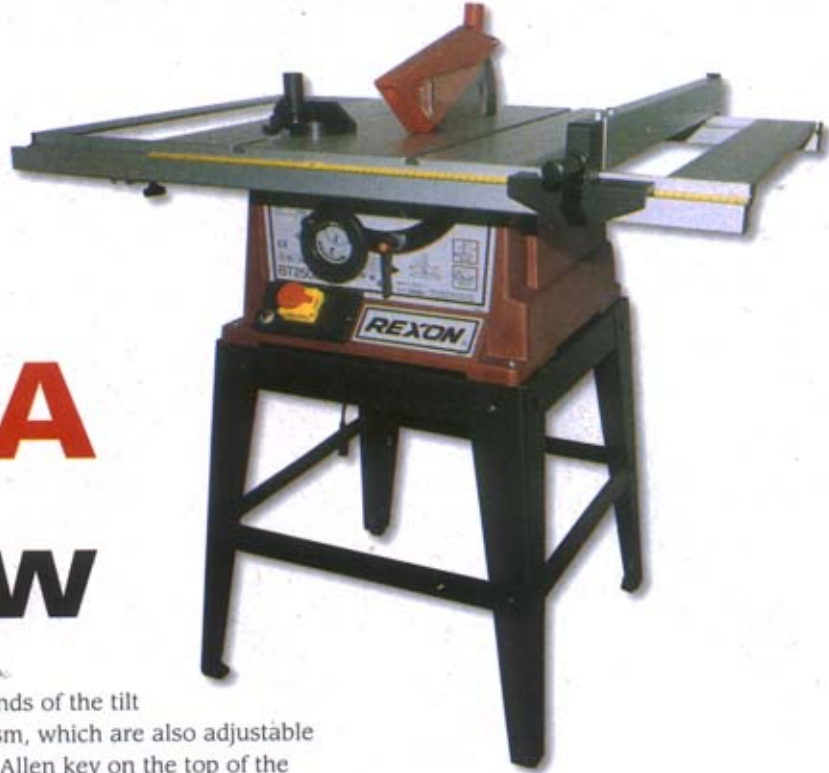


Sanding polishing and assembly

To sand the work free of any tool marks, I use aluminium-oxide flexible cloth abrasive and start off with 80 grit, followed with 240 which removes the scratches of the courser abrasive. I then give the work a light rub with 350 or 400 grit to be certain of obtaining a finish, where the only marks visible on the work are the natural grain figuring of the timber.

Because of its probable contact with water in the kitchen, I sealed the wood with cellulose sealer. Brush this all over quickly with a paint brush, using a sheet of hardboard to protect the lathe bed from splashes. Then, before it dries, wipe off with a clean cotton cloth which will absorb any surplus polish and leave a completely even coat. This method avoids the overlapping which occurs sometimes when the polish is applied with a cloth or rubber only. To create a thicker finish simply repeat the coats.

Rexon BT-2500A table saw



One of the main requirements in any woodworking workshop is the need to saw wood, and the most basic yet useful of the various circular saws on the market (including mitre saws and radial arm saws) is the bench saw, or table saw. The size of such a saw is measured primarily by the diameter of the blade fitted to it, and the size most favoured for the small workshop is 255mm, or 10", which will normally give a maximum cutting depth of around 76mm, or 3", (although, because of safety regulations, this is a little theoretical — more on this later).

One of the two table saws in the Rexon range is the BT-2500A, which has a 255mm diameter blade with 30 TCT teeth, and a bore of 30mm, giving a maximum cutting depth of 75mm at 90°, and 63mm at 45°. Its 1300 Watt motor spins the blade at 4200 rpm.

The body is a heavy-duty plastic moulding, with all the controls at the front, the main one being the rise and fall hand wheel. The blade can be tilted manually to the right, and a ratchet lever locks the angle as required. A protractor scale is provided with an adjustable pointer, and there are stops

at both ends of the tilt mechanism, which are also adjustable using an Allen key on the top of the table.

The cross-cut fence and the two wrenches provided can be stored on the left-hand side of the body.

Table talk

The table is made entirely from aluminium extrusions, the central area being 640mm x 540mm. The overall size of the table is 1010mm x 640mm, which includes the extension rails which are normally added to the left-hand side.

The fence is of box form with a section of 60mm x 30mm, and extends to the back of the table. When the handle is tightened, the fence locks to both front and back edges, and there's provision for adjusting it to ensure parallelism with the blade. Pre-drilled holes in the fence allow a home-made fence to be added.

A scale on the front edge of the table, and a pointer on the fence anchor, facilitates setting the fence. Pleasingly, this scale is graduated in millimetres rather than centimetres which are often adopted.

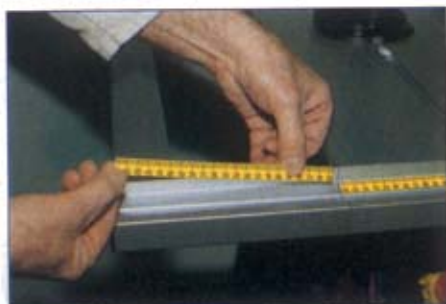
Cutting capacities

With the fence positioned on the right, the maximum ripping width is approximately 470mm, around 10mm more when the fence is located on the left. However, it's possible to fit the extension rails on the right, when the ripping capacity is increased to 670mm. Thus, the capacity of this machine is then sufficiently large to cut a standard size sheet of man-made board lengthways into any width. However, because of the pattern of the fence, it can't be positioned very close to the blade, because the fence and the guard clash. This small problem could easily be overcome by making a false wooden fence.

The cross-cut fence will locate on either side of the blade, and the fit of the fence supporting bar in the grooves is very good with hardly any slack, the bar being much longer than usual which helps to give added control.

The fence can be adjusted up to 60° to the left and right, with the locking knob

A small extension to the scale needs to be added during assembly



Adding the table extension rails



A vacuum hose can also be connected to the outlet in the body



All the controls are at the front of the machine



The table insert removed



The mitre fence is better than most fitted to similar-sized machines



designed to act as a handle to assist movement of the fence across the table. Maximum cross-cutting capacity depends in part at least on the thickness of the wood being saw, and is around 270mm for wood 25mm thick.

Blade changing

Access to the saw arbor follows the usual arrangement of lifting a panel alongside the blade, which is secured by a screw at each end. This also provides access to the two mounting screws which hold the riving knife in place; blade changing, and adjusting the riving knife, are made much easier if the blade is first fully tilted.

The blade guard is plastic, bright red in colour to make conspicuous, and mounts by a pivot to the top of the riving knife. The guard has clear plastic side extensions which also pivot.

Extraction

One extraction outlet is built into the top of the crown guard, the other in the body, and the lower part of the blade is enclosed to improve the effectiveness of dust extraction, with the outlet for this being at the rear of the body.

A leg stand is included as standard, and is very rigid even though only a

single nut and bolt are used between each end of the rails and the legs. This rigidity is helped by a series of dimples and depressions in the top rails and the legs, which engage to make a simple but effective arrangement.

On test

The BT-2500A performs well for all ripping and crosscutting procedures, and it's useful to be able to use the fence on either side of the blade. The cross-cut fence is surprisingly steady when sawing close to the maximum width possible. For most cuts there's ample power,

although for very hard timbers the feed rate will need to be slower.

This is a well-engineered machine within its class with a generous table size. The fence is very rigid and locks readily into position, and the cross-cut fence is better than most similar ones. Manual setting of the blade when making bevel cuts has to be accepted, but I found this to be far easier than a similar arrangement on an old saw in my workshop. The guard would benefit if the front lower corner was more rounded to ease it over the wood, although it operates reasonable well as it is.

Ripping with the fence on the right of the blade



Bevel sawing is straightforward



Ripping can also be done with the fence to the left of the blade



MAXIMUM DEPTH OF CUT

The woodworking regulations, as laid down by the Health and Safety Executive, state that an effective blade guard must be in use at all times, and that it must cover the teeth and extend downwards as far as the roots of the teeth. Thus, to stay within the regulations, the maximum depth of cut is the amount of blade which projects through the table, measured not to the tips of the teeth but to their roots. All manufacturers of table saws state the maximum depth of cut of their saws from the table to the tips of the teeth.

Cross-cutting is possible with the fence either on the left or right of the blade



The saw is a little noisy, resulting from a combination of the type of motor fitted, and the rather high rpm of the blade. Universal motors are inherently more noisy than induction motor, and the peripheral speed of the blade is greater than the optimum of around 2700 metres per minute. However, these are common features on saws of this class, and much of the noise is actually lost once sawing is underway.

Tested by Gordon Warr

Compound cutting can also be achieved



The end of the body showing the storage facility



VERDICT

The BT-2500A has a lot going for it, including the large table, robust rip fence, and above-average cross-cutting fence, while the way in which both fences can be located to the left and right of the blade is also advantageous. On the down side is the noise level, but newer machines are to be equipped with a soft-start feature, which should reduce the noise considerably. An ideal machine for the smaller workshop where furniture making and general woodworking are undertaken. Quality always has to be considered alongside the cost, and when the price of this machine is taken into account then the quality is very acceptable.

List price: £398.32 inc. VAT. Rexon's recommended retail price of £309 is what most merchants are likely to be asking for this machine.

Rexon Ltd, tel: 01709 361158, fax: 01709 821966

Chair doctor repair kit



The kit comprises adhesive, syringe and needles

Chairs are notorious for developing loose joints, the joints usually being mortice and tenons with dowels also being used. The faults develop from a combination of factors, including very delicate construction in the first place to keep the chairs from looking too heavy, poor gluing techniques, and misuse. Perhaps the biggest factor in the failure of chairs comes from misuse, the users often tipping themselves partway backwards so that the chair racks on just its rear legs. All the weight then imposes a great deal of strain on the joints causing them to loosen.

Quick fix

Dismantling a chair and completely reassembling is not always as easy as it

might seem for several reasons, including that some joints remaining firmly together, and that some may be pegged. Trying to force adhesive into a joint which is loose but with the tenon remaining engaged in the mortice is likely to have little effect, but now there is a straightforward answer to the problem of loose joints.

The solution is appropriately called Chair Doctor. The system works by injecting an adhesive of low viscosity into the joint. It soaks into the end grain of the wood as well as surrounding the joint and creeps into the finest of cracks. The adhesive swells the tenon and then freezes it in its swollen state as it dries, bonding adjoining surfaces, thus firmly locking the joint. Cramping is of course desirable to ensure the tenon is fully home.

The kit consists of four fluid ounces of adhesive, a syringe, and three square-ended needles with diameters of approximately 0.5mm, 1mm, and 1.5mm. According to the looseness of the joint, it

may sometimes be desirable for a hole to be bored into the assembly. More than one hole may be required, and need to be made so that, as far as possible, they're hidden.

The adhesive is water based, and the needles and the syringe are therefore readily cleaned. I managed to find a chair in its early stages of falling apart — an ideal item to test the effectiveness of the this product. Several of the joints were injected, left cramped overnight, and so far have remained firm.

The use of the Chair Doctor is not confined to chairs however, and will have many applications in furniture restoration where dismantling is not appropriate or justifiable.

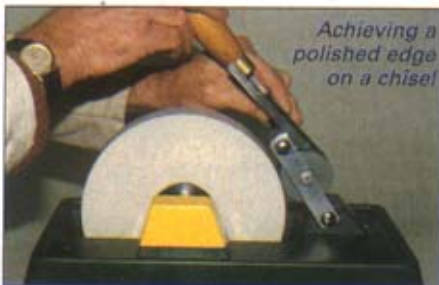
VERDICT

Tested by Gordon Warr

This is an excellent product which will solve many problems difficult to tackle by conventional techniques. Easy to use and of particular suitability for restoration work and antiques.

Price: £6.25 (inc. VAT)

Brimarc, tel: 0845 6590000, fax: 01926 491357, email: sales@brimarc.co.uk



Achieving a polished edge on a chisel



The wheels are easy to access for changing

Water is added to the trough to ensure the wheel is fully wetted, and is emptied by simply inverting the grinder. Swilling of the trough is needed from time to time to ensure debris doesn't build up, and that the water remains reasonably clean.

Easy to use

A wetstone grinder is straightforward to use, and I found this one to be very effective with the honing wheel an added bonus. Care, though, is needed with this feature, as excessive use on the flat side of chisels and plane blades can result in a slight loss of flatness.

An advantage of this pattern of single wheel grinder is that there's usually no restriction of use when larger-bladed tools need attention — draw knives and even garden shears, for example. However, a grinder of this type isn't suitable for planing machine blades which require a jig to control their movement.

SM200

The SM200 is the larger of Record's two double-ended dry grinders. For obvious reasons, this type of grinder is sometimes referred to as a high-speed grinder and is classified according to the size of the wheels; for typical workshop use the diameters of the wheels are likely to be either 150mm or 200mm, with 125mm being the smallest for serious use. Thicknesses are typically from 16mm to 25mm.

Because of the curvature of the wheels, the ground surface of a tool will be slightly hollow, the amount of concavity depending on the diameter of the wheel, and the thickness of the tool being ground. The smaller the wheel and the thicker the tool, the greater the amount by which the surface is concave, and the larger the diameter, then the nearer the surface is to being flat. A hollow-ground surface helps when the edge is subsequently honed because rather less metal is presented to the stone.

Features

The wheels on the SM200 are 200mm diameter and 25mm thick, driven by a 650 Watt induction motor which provides a speed to the wheels of 3000 rpm. The base of the machine, the motor housing, and the main part of the wheel guards are all aluminium castings. Rubber feet are provided on the underside, and there's provision for fastening down.

The grey wheel is coarse at 30 grit, and primarily intended for general-purpose grinding and attending to carbon steel tools. The other is a 60 grit white wheel for grinding most types of woodworking tools, and all high-speed steel tools. Carbide-tipped tools can't be ground on this pattern of grinder.

Access to the wheel mountings is gained by removing the outer pressed steel parts of the wheels guards. Smallish adjustable tool rests are provided for both wheels, as well as good-sized sparkguards. The wheels are well spaced at over 300mm centre-to-centre which provides plenty of manoeuvrability when using either wheel.

Grinding the chipped edge on a chisel



Keeping cool

Apart from setting the tool rest, no other adjustments are needed. The important point to note with dry grinders is not to wait until the tool becomes quite hot and then quench it, but to frequently dip it into a container of water during grinding to ensure that there's no appreciable built up of heat.

This grinder is a pleasure to use, as it's very quiet and smooth running and is quite stable even without fastening down.



Grinding a plane blade

VERDICT

Scan 200S

This grinder is very kind to tools, as overheating is impossible, and the added bonus of the honing wheel means you can get a very sharp edge. It's robustly made, with the tool rest components being of alloy so rusting won't be a problem. The switch is a little small and fiddly, and a better position on the body would be an improvement.

SM200

A solid and heavyweight grinder suitable for workshops large and small, and it should last a lifetime. The cost is very reasonable when the quality is considered, along with the advantages offered by the larger wheels. There's plenty of power available from the motor which is very quiet running.

Prices (inc.VAT)

Scan 200S: £149.99

Scan 200: £129.99 (no honing wheel)

Scan 150: £74.99 (150mm wheel)

SM200: £109.90

SM155: £74.90

(smaller with 155mm wheels)

Record Power, tel 0114 251 9115, fax: 0114 261 7141. NB: Record don't supply directly to the end user.

Trend cutters

Trend have been the leading force behind routing technology for many decades and offer a tremendous range of cutters, their own brand of routers and router table, a wide range of jigs, and enough accessories to keep the most dedicated enthusiast happy. Amongst the cutters recently introduced are template profilers, mini trimmers, guided V-groove panel cutters, and an extra long rebater.

V-groove cutters

Two guided V-groove panel cutters are available, one with a 60° point and a 1/4" shank, the other with a 1/2" shank and a 45° tip. Both sizes have bearings which correspond to the diameters of the cutting edges, i.e. 12.7mm and 19.1mm respectively, and both are TCT with two flutes.

Because of the bearings, their main purpose is to form veins and grooves by being guided along the shaped edge of a template, or indeed along the edge of a straight batten. If the router is fitted with the Trend Plungebar, then veins of varying depths are possible. With care and practice, the router with one of the cutters in the chuck can also be used freehand for decorative cuts.

Mini trimmers

Again two are offered, both with shank and cutter diameters of 6.35mm. The

twin TCT cutting edges have alternative cutting lengths of 12.7mm and 25.4mm, and are fitted with bearings. Their prize purpose is for profile cutting in conjunction with a template, and lend themselves to use with the router mounted in a table although this will depend on the size and nature of the shape being formed. Internal cut-outs, require a hole being made in the waste through which the cutter can be passed.

Template profilers

Both these new cutters have 1/2" shanks, and bearing guides which correspond to the diameters of 3-4". One has a cutter length of 3/4", the other 2". They're designed to follow a template secured to the workpiece, with this having been sawn 2 or 3mm oversize. The cutters then trim off the waste leaving the material the exact shape of the template.

They can also be used for trimming off excess facing such as ply or laminate when added to a frame or base. Here, though, the workpiece must be secured to the bench with the facing on the underside to enable the bearing to follow the edge of the base.

Extra long rebater

This has a diameter of 35mm, a cutter length of 12.7mm, with the extra long 1/2" diameter shank (60mm). The cutter is supplied as standard with four

bearings and an Allen key to allow rebates of different depths to be formed. The depths possible are 7.9, 9.5, 11.1, and 12.7mm, and are determined by the bearing fitted; the extent of the rebate can of course be varied. In addition, by adjusting the projection of the cutter from the base of the router and making more than one pass, it's possible to form rebates larger in extent than 12.7mm. The rebater features chip limiters to the two cutting edges.

It's also possible to use this rebater for some grooving. However, while the depth of the groove can be controlled according to which bearing is fitted in just the same way as for rebating, the minimum width of the groove is dictated by the extent of the cutting edges of 12.7mm. Adjusting the settings and making repeat passes allow for making wider grooves.



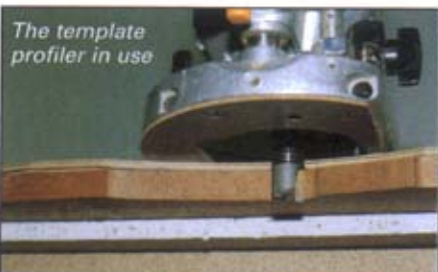
VERDICT

Tested by Gordon Warr

Precision engineering makes these cutters extremely accurate with the bearings fitting like the proverbial glove. Applications beyond the obvious will be found by the router enthusiast.

Prices (+ VAT): Guided V-groove cutters: £22.95 (1/4" 60°), £27.95 (1/2" 45°); Mini trimmers: £10.50 (12.7mm); £11.00 (25.4mm); Template profilers: £17.95 (3/4"), £29.95 (2"); Extra long rebater: £49.95

Trend Machinery and Cutting Tools Ltd, tel: 01923 224657, fax: 01923 238879, email: mailsaver@trendm.co.uk, website: www.trendm.co.uk



The template profiler in use

The extra long rebater can be used for grooving

Dave Mackenzie gives his bath a makeover by fitting a framed wooden side panel

Frame & panel

At one time or another I've tried a number of different ways of covering the side of the bath. I've used cork and ceramic tiles and also considered leaving the panel off altogether and going for the Victorian look with lion's paw feet.

But as I'd recently made a new panelled cupboard around the hand basin, I decided to make a bath panel to match.

Before you can consider fitting a panel to your bath, the first job is to make a frame to support it. In most cases, if the bath has been panelled before, one should already exist but if not they're easily made.

Before fitting a panel to your bath you may need to make a frame to support it

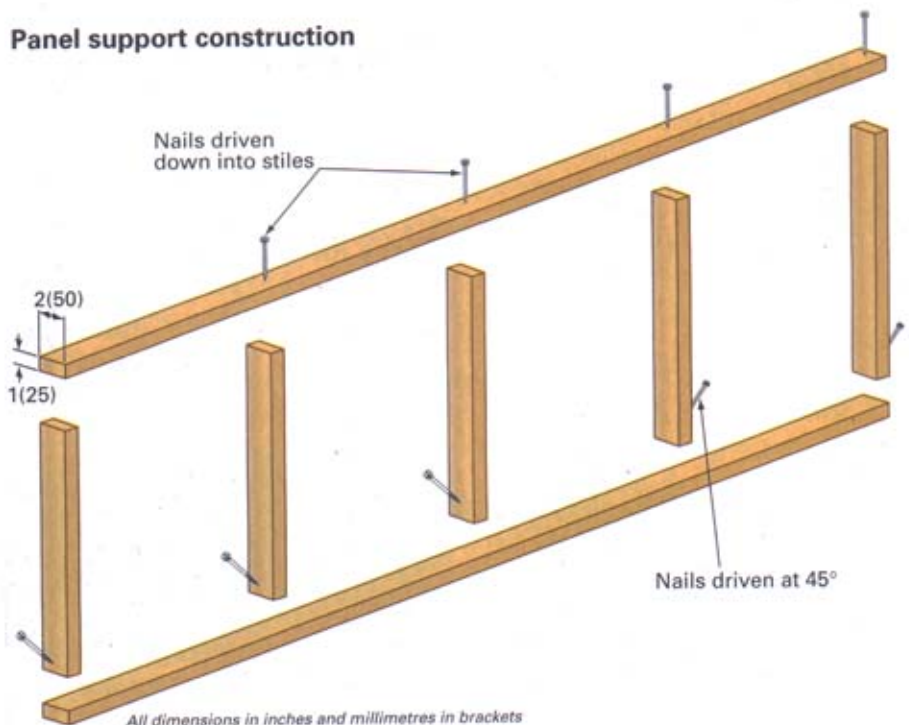


The panel support

Using sawn 2 x 1" (50 x 25mm) timber, cut five vertical studs and the top and base rails. Following standard building industry practice, these pieces aren't jointed in any way but are simply nailed together. Place the base rail on the floor and join the

studs to it using nails driven through the sides of the studs at an angle of about 45° into the base rail (see drawing). The top rail can then be nailed down on top of the studs. Move the structure into its final position and screw it to the floor and walls or use a 'No-nails' type adhesive.

Panel support construction





Cut the biscuit grooves using a router fitted with a slot cutter, or a biscuit jointer

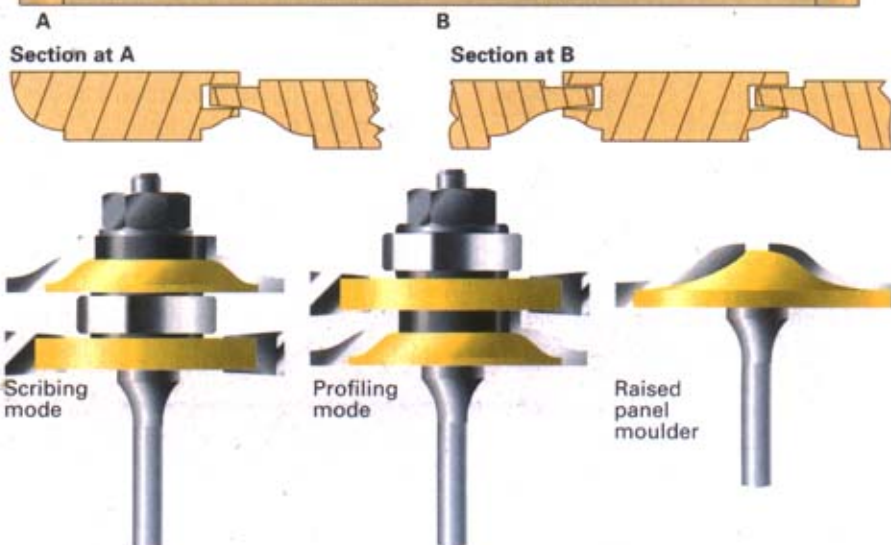
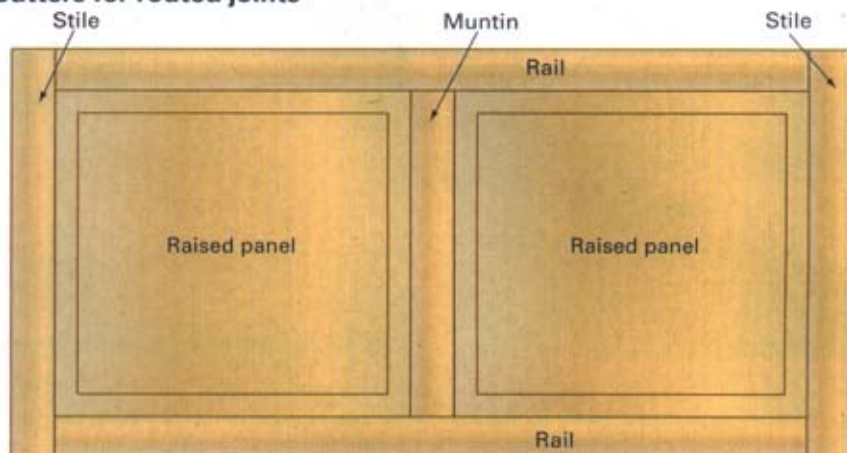
Apply glue to the edges, push the biscuits into the grooves, assemble and clamp



Scribe the ends of the rails with the wood face up on the router table



Cutters for routed joints



The panel

Begin by making the two raised panels by biscuit-jointing enough material to achieve the width. First, lay out the pieces to be jointed and choose the best sides to face outwards. Plane the edges flat and square to ensure a good butt joint, mark the biscuits positions onto the face, then cut the biscuit grooves. You can use a router fitted with a slot cutter, or a biscuit jointer.

Apply glue to the edges, push the biscuits into the grooves, push the planks together and clamp with sash clamps. Use at least three clamps per panel and lay them alternately on top and underneath to avoid distortion. It sometimes helps if G-clamps are also used at the ends of the panel to hold the joint flat; put some polythene over the joint and use flat cramping blocks above and below before fitting the G-clamps.

When the glue has dried, remove the clamps and plane the edges flat and square to each other. Plane or sand the front and back of the panels flat.

Raised panel

Next, use a raised panel cutter to reduce the edge of the panel so that it fits into the frame, and also to form a decorative edge. Mount the router inverted in a table and, with the panel face down, rout the edges. Don't try to cut to the full depth in one pass, but make several shallow passes. Apply your chosen finish to the edges at this stage, as it's impossible after the panel is assembled.

Framework

Now cut the top and bottom rail, the stiles and the muntin to size. To cut the groove and at the same time form a decorative edge, I used a profile-scribing cutter. This is a single cutter that has both a profiler and a groover mounted on an arbour with a bearing to guide it along the edge.

The cutter is first set up to cut the scribe on the ends of the rails and

CUTTING LIST

Item	Qty	Millimetres	Inches
Panel support rails	2	1708* x 52 x 25	67 ¹ / ₈ * x 2 x 1
Panel support studs	5	441* x 52 x 25	17 ¹ / ₈ * x 2 x 1
Panel rails	2	1607* x 64 x 18	63 ¹ / ₈ * x 2 ¹ / ₂ x 3/4
Panel stiles	2	492* x 64 x 18	19 ³ / ₈ * x 2 ¹ / ₂ x 3/4
Panel muntin	1	390* x 64 x 18	15 ³ / ₈ * x 2 ¹ / ₂ x 3/4
Raised panels	2	768* x 368* x 18	30 ³ / ₄ * x 14 ¹ / ₂ * x 3/4

Also required: six brass screws and cup washers

* = these sizes will need adjusting to suit individual requirements

A bearing-guided rounding-over cutter can be used to make a decorative moulding around the edge of the panel



muntin before being taken apart and reassembled in a different order to cut the matching profile and panel groove along the inside edges of all of the frame components. The muntins are grooved and profiled along both edges because both panels fit into it.

Don't use this cutter unless you have a router table, and I recommend doing a trial run on some scrap wood first to check the fit.

The scribe on the rail ends are all made with the wood face up on the router table with the scribe set in

Apply a couple of coats of exterior-quality clear varnish



scribing mode, while the profile along the edges is cut with the work face down and the set in profiling mode.

After you've scribed the ends of the rails and reassembled the cutter, place one rail on the router table to set the height for cutting the profile.

Panel assembly

Apply glue to the ends of the rails and the muntin, fit one stile onto the ends of the rails and put one panel in place. Slide the muntin into position, then the second panel before fitting the last stile.

Clamp until dry, then plane the edges to fit.

I used a bearing-guided rounding-over cutter to make a decorative moulding all the way around the edge of the panel.

The panel will be in a hot steamy environment much of the time so protect it against the damp by applying a couple of coats of exterior quality clear varnish.

Fix the panel in place using six brass screws in brass cup holders, as it will need to be removed if any plumbing work is carried out on the bath.

John Boddy's Fine Wood & Tool Store Ltd

- Self Service Store
- Self Service Timber Store



- Mail Order Catalogue £3
- Woodworking Courses
- Woodworking Workshops
- Free Demonstrations
- 2001 Courses, Workshops & Demonstrations Programme available now

NEW
Workshops
for 2001



Opening Times

Mon to Fri	8am - 5pm
Sat	8am - 4pm
Sun	10am - 4pm

PLEASE NOTE

From 1st December 2000 we will no longer be opening on Sundays & Bank Holidays

Riverside Sawmills · Boroughbridge · N. Yorks · YO51 9LJ · Tel: 01423 322370
Fax: 01423 323810 or 324334 e-mail: info@john-boddys-fwts.co.uk

LOOKING FOR A SEAT?

Bow Headed Wheelback Chair



These photocopied plans from a 1934 issue of Woodworker detail a standard chair and refer to the possibility of adding arms. The basic pattern is for a bow headed wheelback. There is also a bowed "crinolin" style stretcher; so this is an exercise for steam bending.

Order Code WW156
£6.15

Smokers Bow Chair

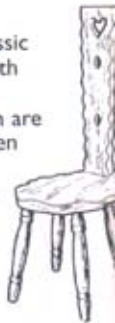
A Jack Hill masterpiece recreating a chair popular both sides of the Atlantic. The design calls for Elm for the arms and seat and Beech for legs and back spindles. The construction is made very easy by Jack's comprehensive notes and profiles for all shaped and turned components.



Order Code JH3
£7.65

Spinning Chair

Mick O'Donnell designed this classic style of Hebridian stool to go with the spinning wheels he makes. The basic design and construction are extremely simple, but makers often incorporate beautiful carved Celtic motifs on the back. Please note that this is a photocopy of a magazine article.



Order Code WW150
£6.15

Windsor Single Bow Chair

In a 1988 Woodworker booklet Jack Hill provided detail for this construction. The plan set and instructions have now been reprinted.



Order Code JH5
£7.65

Shaker Chair

A very "vertical" armed rocking chair drawn by David Bryant from an original in the American Museum in Britain. The back is a four slat ladder; the legs simple turned; and the seat is woven. As with all Shaker furniture construction techniques are basic.



Order Code DB291
£7.35

Farmhouse Kitchen Chair

These chairs were popular in the early 19th century with their characteristic triple beading on legs, arms and back rest supports. The plans give full details of every part. This is a good first furniture piece for a turner.



Order Code DB26
£7.35



Windsor Rocking Chair

In a Practical Woodworking article Jack Hill provides detailed instruction for the making of a rocking chair version of this classic design. In the article Jack uses the seat as the bending former for the bows which have to be steam bent. An Elm seat is suggested with the legs and back in Ash.

Order Code JH4
£7.65



Farmhouse Kitchen Chair

Very detailed measured drawings of a Victorian piece with turned legs and curved splats back. Height 1168, width 508mm. Please note that this is a photocopy of a magazine article.

Order Code WW137
£6.15

Ladderback Rocking Chair

A David Bryant measured drawing on an 18th century classic original. It has a six slat back, simple turned legs and a rush seat. The plans are very comprehensive with full details of all components.



Order Code DB24
£7.35

ALL PRICES INCLUDE UK DESPATCH - FOR OVERSEAS CHARGES PLEASE ADD 10% TO PRICE

COUPON

I enclose my cheque/PO made payable to Nexus Special Interests
Please debit my Mastercard/Visa/Switch

Expiry /

Issue No. (Switch only)

Name.....

Address.....

Postcode.....

Telephone.....

Send your completed order form to

Nexus Plans Service, Nexus House, Azalea Drive, Swanley, Kent BR8 8HU

You can telephone or fax your order to us if you wish - Tel 01322 616300 Fax 01322 667633

Plan No.....	Price	£.....
Plan No.....	Price	£.....
Plan No.....	Price	£.....
Plan No.....	Price	£.....
Total		£.....

If you do not wish us to forward your name and address to certain carefully selected model related suppliers, please tick the box