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The Woodworker

Summer 2012

www.getwoodworking.com

& Woodturner

A perfect square



Peter Bishop creates a stylish glass-topped lounge table

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- Bespoke workbench ■
- Patio coffee table ■
- Cherry dresser 2 ■
- Driftwood gourd ■

PROJECT

GARDEN TABLE



TURNING

MEMORY STICKS



WORKSHOP

PREPARING TOOLS



PLUS: CHOOSING WORKSHOP MACHINES ■ 10 TOOL TESTS

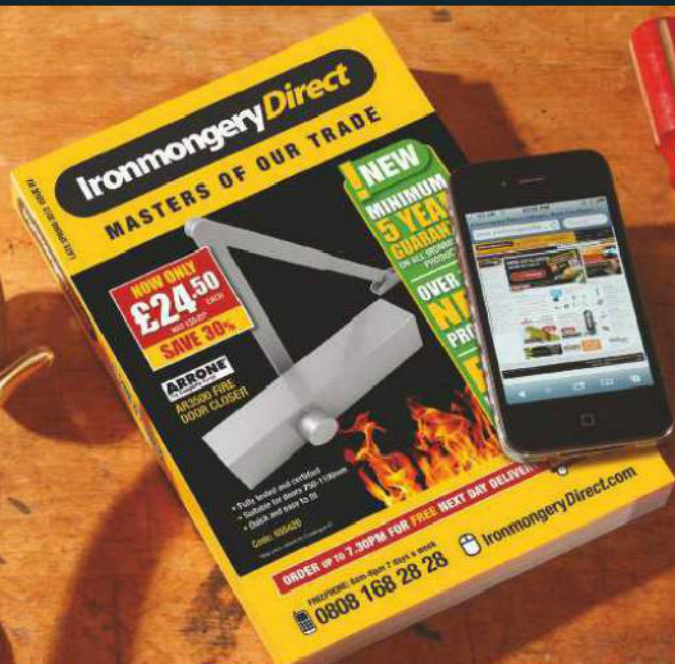


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welcome



This issue of the magazine will reach you all on the weekend of Her Majesty The Queen's Diamond Jubilee celebrations. We are happy to join the majority of the British people in wishing her a happy and memorable time!

The long bank holiday weekend should give you the opportunity to fit some workshop time in among the street parties, Olympic torch relays and various other celebrations that will be going on up and down the country. Perhaps you have your own Jubilee project under way as a way of commemorating the event; if you do, please take a photograph or two and send them in to us.

Of particular interest to woodworkers everywhere will be the design and function of the floating belfry that will lead the river pageant on the Thames; it's hard to imagine anything more quintessentially British! And we're pretty good at building processional barges too....

Memory matters

Roger Berwick completes his cherry dresser in this issue – a piece made in memory of the late wife of the customer who commissioned it. And Peter Bishop is on the memorial trail too, with a set of

candlesticks made for his local church. It's good to leave a legacy.

On the subject of the dresser, reader Stephen Smailes emailed us this picture and a short but pertinent message. Here's what he wrote.

"Well, it's a bit late now! Where was *Two bites of the cherry* this time last year when I embarked on a glazed bookcase for my daughter? I had the considerable extra difficulty of having to make it in Bristol and install it in Blackpool, so it was built in six parts and I was just about able to transport it in two car loads. This meant that the two vertical joins are a bit on the thick side, but you may agree that it turned out quite well on the whole. But how I wish I'd had Roger Berwick's article then!

Sorry, Stephen...

Mike



If you can't always find a copy of the magazine, help is at hand! Complete this form and hand it in at your local store, and they'll ensure that a copy of each issue is reserved for you. Some stores may even be able to arrange for it to be delivered to your home. Just ask!

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The Woodworker & Woodturner

Summer 2012

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Hadlow House, 9 High Street,
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Email: customer.services@myhobbystore.com
Tel: 0844 412 2262
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BACK ISSUES & BINDERS

Tel: 0844 848 8822
From outside UK: +44 (0)1689 869896
Email: customer.services@myhobbystore.com

EDITORIAL

Editor: Mike Lawrence
Email: mike.lawrence@myhobbystore.com

PRODUCTION

Designer: Malcolm Parker
Illustrator: Michael Lindley
Retouching Manager: Brian Vickers
Ad Production: Robin Gray

ADVERTISING

Business Development Manager: David Holden
Email: david.holden@myhobbystore.com
Tel: 01993 709545

Online Sales: David Holden
Email: david.holden@myhobbystore.com
Tel: 01993 709545

SUBSCRIPTIONS

Subscriptions Manager: Paul Molyneux

MANAGEMENT

Head of Design & Production: Julie Miller
Group Sales Manager: Duncan Armstrong
E-commerce Manager: Amanda Lee
Chief Executive: Owen Davies
Chairman: Peter Harkness

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On the desk...



MINI MULTI-TOOL

MANUFACTURER: Dremel
PRICE: £49.99 and £69.99

The new Dremel 3000 is the most user-friendly multi-tool yet, and is ideal for all DIY, modelling, woodworking and craft projects where detail and precision are required. It boasts reduced vibration for better control, less noise and a better soft grip as well as increased power at 130 watts. It has a variable speed control between 10,000 and 33,000 rpm, ensuring better handling and performance. The new EZ Twist Nose Cap incorporates a wrench mechanism, so there's no need for a separate spanner or wrench to tighten or loosen the collet when changing accessories. There's also an integrated hook to hang the tool on the Dremel tool holder near your work area.

The new Dremel 3000 comes in two kits. The entry-level 3000-15 includes 15 Dremel accessories and a welcome DVD, presented in a smart zipper bag, and sells at around £49.99. The 3000-1/25 is a high-value kit for the more demanding user, and costs around £69.99. It includes the Dremel Flexshaft, 25 accessories including EZ SpeedClic, and the welcome DVD, and comes in a compact tough plastic carry case.

The Dremel 3000 kits are available online at www.dremel-direct.com and www.amazon.co.uk, and also at Argos, B&Q and Homebase stores.

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LIE-NIELSEN DEMOS

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PRICE: free

Deneb Puchalski, who is part of the Lie-Nielsen factory team, will be making some unique visits this summer. He will be demonstrating at the two



exclusive Lie-Nielsen dealers in the north of England, and also for the first time in Dublin.

Deneb is the recognised authority on how to get the very best from these heirloom tools, and can help with advice on sharpening, plane tuning and much more.

You can visit him at one of these venues to see why Lie-Nielsen has such a superb reputation.

- 26th June (2-5pm) at Axminster Warrington (01925 595888 or www.axminster.co.uk);
- 27th June (2-5pm) at G&S Timber, Penrith (01768 891445 or www.toolsandtimber.co.uk);
- 30th June (10am-3.30pm) at The Carpentry Store, Naas, near Dublin (www.thecarpentrystore.com).

NEW CATALOGUE

SUPPLIER: Ironmongery Direct
PRICE: free

IronmongeryDirect's latest catalogue now offers a range of specialist tradesmen's tools such as the Roughneck door and panel lifter, which enables one person to do a two-man job. The lifter, which has a working load of 75kg, makes it easy to position doors for hanging, and is also perfect for handling wall panels. Thanks to having the UK's biggest range of quality products in stock for next-day delivery, an award winning service and low trade prices, IronmongeryDirect are the masters of their trade. The catalogue is free; to order your copy, see the panel at the foot of the page.



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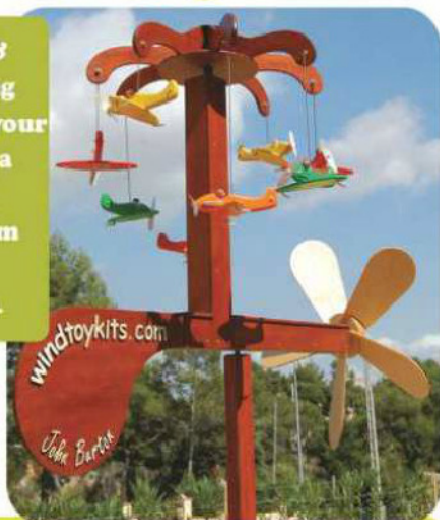


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RECORD POWER ESTABLISHED 1909

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MANUFACTURER: Record Power

D&M PRICE: £279.99

The new Record Power WG250 is a great-value high-quality professional sharpening system which can tackle a huge range of household and workshop tools. It comes complete with a 250mm diameter variable speed (90-150rpm) sharpening stone to ensure perfect cuts even when the stone wears, and a leather honing wheel. A wide range of jigs is available to fit the repositional support arm (see our website for details). A spring-loaded integral storage tray is included for most accessories. The WG250 comes complete with a straightedge jig, an angle setting gauge, a stone grinder, an angle finder and a supply of honing compound.



DP16B & DP25B DRILLING MACHINES

MANUFACTURER: Record Power

D&M PRICE: DP16B £129.99; DP25B £199.99

A high-quality dedicated drilling machine is an indispensable tool in any workshop. The new DP16B with its 13in column and the larger DP25B with a 22in column bring this versatility, along with traditional Record Power build quality and reliability, within easy reach of the home woodworker and discerning DIY enthusiast.

Their 1/2in chucks will accept a wide variety of bits, and their four speeds allow for a great variety of materials to be drilled, including wood, metal, plastic and many others.

The cast iron table can tilt up to 45° and will accept most drill press vices, allowing secure holding for increased accuracy and safety. When extra capacity is needed, the table can be moved to the side of the machines so the base can be used as a working table; this also accepts drill press vices.

For better strength and performance, the cast iron headstock adds weight to reduce vibration and has a cast iron handwheel. The DP16B incorporates a positive depth stop, ideal for accurate repeat drilling. There's an easy-to-use locking collar depth stop on the DP25B, and to support its large capacities it has a rack-and-pinion table support mechanism, a feature usually found only on much larger machines and representing excellent value for one in this price range.



TS250C 10in COMPACT TABLE SAW

MANUFACTURER: Record Power

D&M PRICE: from £849.99

The main saw unit is the same as the TS200C which this replaces, but the new model number refers to the 250mm blade capacity. The machine now sits on a substantial cabinet base, reflecting the heavy and precise construction inside. With its cast iron construction and table, a 2hp induction motor, 4000rpm blade speed and 80mm depth of cut, the TS250C is now a true partner to the TS250RS, and is more clearly repositioned where it belongs in the premium market for a serious cabinetmaker's saw.



Saw shown with optional right-hand table extension

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BY ROGER BERWICK

A second bite of the cherry

Last month I described building the lower half of this cherry dresser to the point where the base carcass was completed, and the doors for it were made but not inlaid or glued up. This month I'll tackle the top, inlay the doors and panels and complete the assembly

The construction had gone very smoothly so far, in part down to the quality of the timber that I had eventually acquired. To continue the project I now needed to turn my attention to the upper half of the unit, incorporating the glass-fronted cupboards for displaying ornaments on concealed glass shelves.

Essential changes

Having changed the original design of the base to incorporate fielded panels in the

ends rather than just flat boards, I needed to follow this theme in the upper half for continuity. This left me with a slight dilemma regarding various other parts of the design.

When the plans were originally drawn, the upper half of the dresser was designed to have a full-length glazed door at each side, reaching from the top of the base unit to the underside of the cornice, and a pair of shorter glazed doors positioned in the centre to leave an open area above the base for the display of larger items.



1

The end panels for the upper carcass contain a single tall panel



2

The inner panels contain one fielded panel and have a rebate along the bottom edge



3

Stopped housings cut across the centre rails of the inner panels will receive the shelf ends



7

I use my Trend depth gauge to measure the thickness of the inlay...



8

...and then transfer the measurement to set the correct router cutter depth

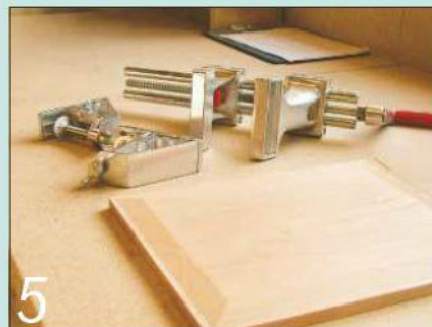


9

Run the router fence against the panel edges to cut the grooves for the inlay



4 Mark the position of the inlay on the various raised panels with a fine pencil line



5 I find that this Zyliss clamp is the easiest way to hold the panels...



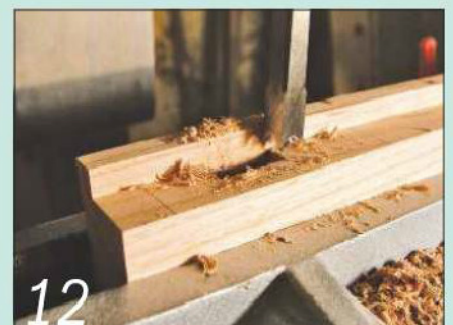
6 ...as the jaws grip their edges but don't impede access to the panel surface



10 Glue the inlay strips into their grooves and finish them flush with a cabinet scraper



11 Rebate the stock for the glazed door frames before cutting the tenons on them



12 Cut the mortise in each door stile tight against the shoulder of the rebate

The back of this open area was originally meant to have cherry tongued-and-grooved boards, while the backs of the glazed cupboards would be cabinet-grade plywood.

My dilemma here was that the flat board uprights between the outer and inner cupboards would leave a rather bland-looking central area, and that in turn would not flow effectively into the rear tongued-and-grooved boarded back panel.

could be applied to marry up the style of the two halves. So after some discussions with my client, we agreed the following changes.

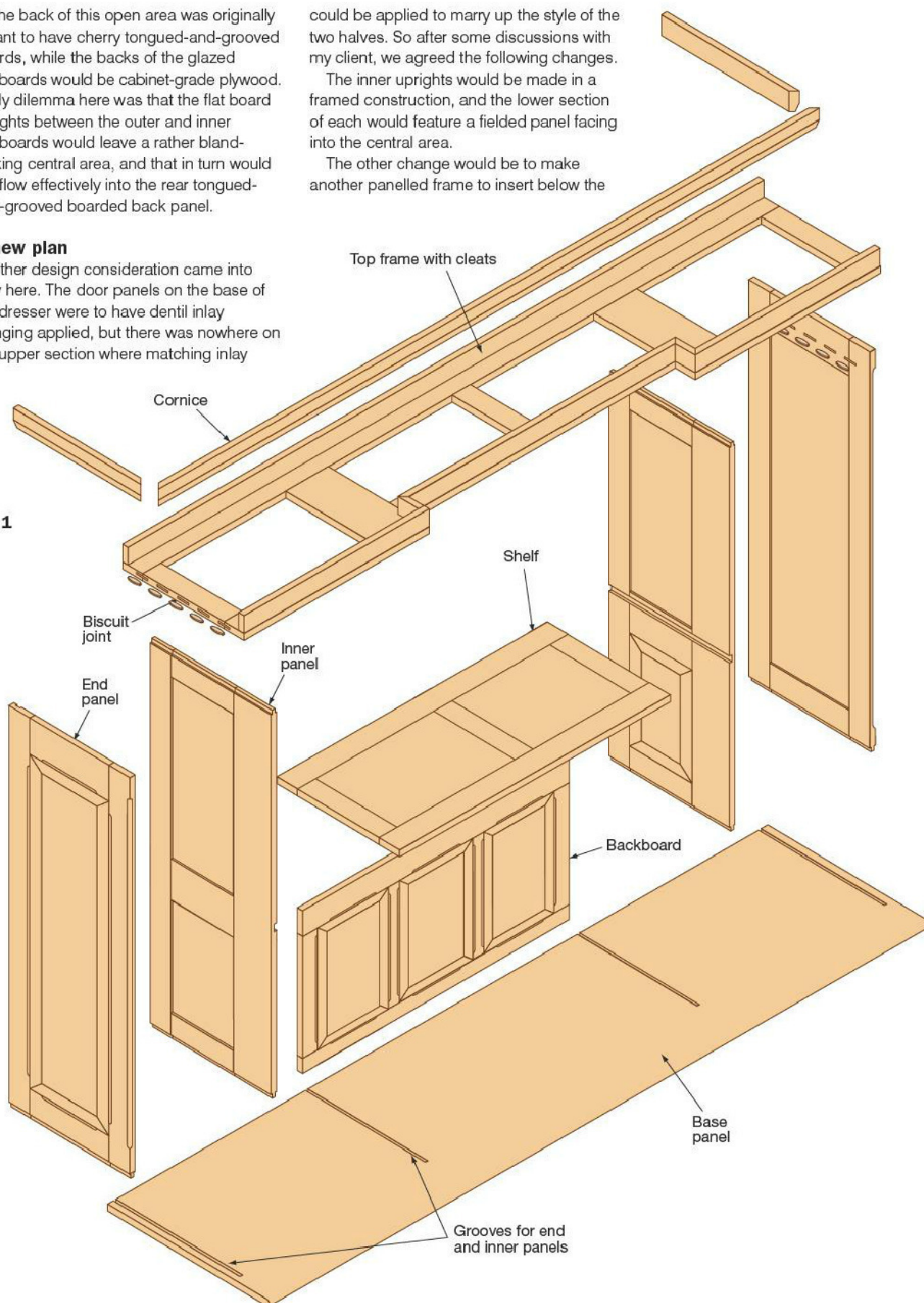
The inner uprights would be made in a framed construction, and the lower section of each would feature a fielded panel facing into the central area.

The other change would be to make another panelled frame to insert below the

A new plan

Another design consideration came into play here. The door panels on the base of the dresser were to have dentil inlay stringing applied, but there was nowhere on the upper section where matching inlay

Fig 1



middle twin-doored cupboard to replace the planned tongued-and-grooved boarding. The three fielded panels in this frame could then be inlaid with the dentil stringing to marry up the top with the lower half of the dresser. **Fig 1** gives all the details of the revised design and construction.

Making the framed panels

With these changes agreed, I proceeded to make the outer sides of the top by following exactly the same construction method described last month. The outer frames were jointed with square haunched mortises and tenons, with a fielded panel floating in a groove in the frame. These panels were then dry-assembled to check the fit of the joints, **photo 1**, and put aside until later in the construction process. I also made the frames for the inner panels, for the backboard with its fielded panels (see **fig 2** for the details), and for the fixed shelf that would fit between these panels.

With the inner panels glued up, a rebate was routed along both the top and bottom edge of each one to form a long tenon, **photo 2**. By using a bearing-guided rebate cutter to form the tenon, the fine height adjuster on your router allows you to fine-tune the thickness of the tenon easily to fit into the corresponding housing.

The same process was adopted for forming a tenon on either end of the fixed shelf, before cutting the corresponding housings in the uprights, **photo 3**, as well as into the base board, which is of course the top of the lower half of the dresser.

Inlaying the panels

It was now time for me to tackle the inlay stringing on the base unit doors and the top unit backboard, so I dismantled the dry frames of these components to release the panels. Next, I drew a fine pencil line on each panel, approximately 20mm in from the edge of the raised fielding, **photo 4**, to provide a reference line for the outside of the stringing line. I find that the easiest way of holding the panels when installing the inlays is to use a Zyliss clamp, **photo 5**, mounted onto the leading edge of my workbench, **photo 6**.

The dentil inlay I planned to use was 3mm wide, and after routing a groove with a 3mm straight cutter it's a simple job to stick it into place. To get the correct groove depth I laid the stringing onto the bench and set my Trend depth gauge to its thickness, **photo 7**. I then transferred the gauge to the router and used the fine height adjuster to set the depth of cut exactly, **photo 8**.

I always set the router cutter to the exact

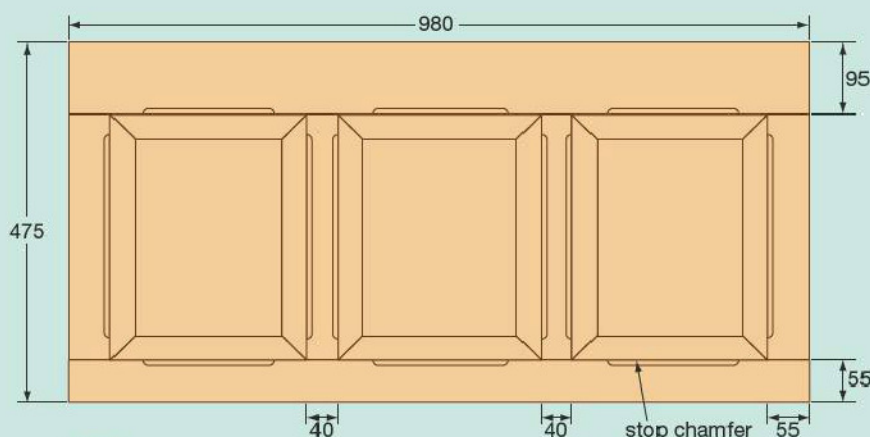


Fig 2 All measurements in millimetres

DRESSER TOP CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
Base*	1	2100	470	20
Top frame stile	2	2100	60	20
Narrow top frame rail	3	350	60	20
Wide top frame rail	2	350	140	20
Cornice support cleat	2	2100	50	20
Cornice (front)	1	2200	50	20
Cornice (side)	2	400	50	20
End frame stile	4	1150	60	20
End frame top rail	2	350	105	20
End frame bottom rail	2	350	75	20
End frame panel	2	1000	250	20
Inner frame stile (front)	2	1100	110	20
Inner frame stile (rear)	2	1100	60	20
Inner frame top/bottom rail	4	350	60	20
Inner frame centre rail	2	350	120	20
Inner frame top panel (plain)	2	580	190	20
Inner frame bottom panel	2	325	190	20
Backboard top rail	1	980	95	20
Backboard bottom rail	1	980	55	20
Backboard stile	2	400	55	20
Backboard muntin	2	400	40	20
Backboard panel	3	325	280	20
Shelf stile	2	1000	60	20
Shelf rail	3	250	60	20
Shelf panel	2	420	205	20
Door stile (long)	4	1150	60	20
Door stile (short)	4	615	60	20
Door rail (top)	4	450	55	20
Door rail (bottom)	4	450	65	20

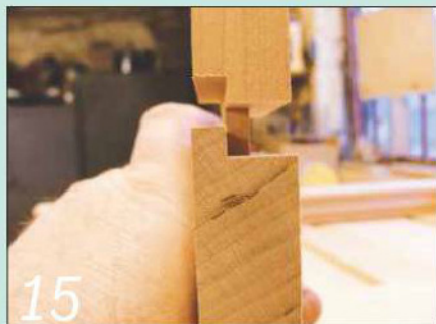
You will need some 6mm veneered plywood for the backs of the cupboards, and inlay stringing for the three backboard panels. Cross-sectional dimensions are net. An allowance has been made on lengths and panel dimensions to allow for joints.



13
Clean up the shoulders on the tenons carefully with a sharp chisel



14
The result is a clean and crisp offset shouldered tenon that will...



15
...fit perfectly into the matching mortise in the door stile's rebate



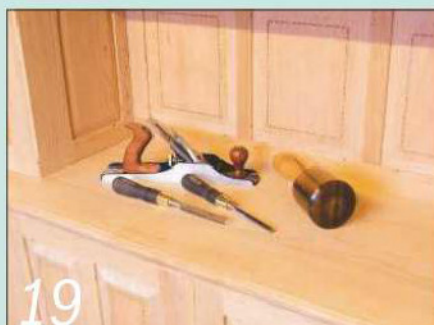
16
The result is a clean rebated corner in the door frame, ready to accept the glass



17
The upper and lower parts of the dresser can now be united and the top and bottom doors fitted



18
The panelled frame for the rear of the upper section is assembled and cramped



19
The frame is flush-fitted in its recess using cherry Miller dowels through the adjoining surfaces

thickness of the inlay, as the glue tends to raise the height of the inlay fractionally when it's glued in, leaving it slightly proud and simple to clean up and leave flush with the panel face using a sharp cabinet scraper.

The panels can then be grooved, running the fence of the router against the edge of the panel, **photo 9**, and using the pencil lines applied as reference points for where to start and stop the cuts. The rounded corners left by the router cutter can then be cut square with a sharp chisel, leaving them ready to accept the stringing, **photo 10**.

Tackling the doors

With all the panels inlaid, I glued up the base unit door frames so they were dry when I wanted them later.

While the lower doors have wooden panels held in a groove, the doors for the upper section need to be made slightly differently to accept the glass panes. Glass is always held in a rebate, mainly because it needs to be applied after the frames are completed. This also allows for the pane to be easily removed and replaced should it get broken at some point in the future.

I know that a lot of people make their frames in rectangular section stock and rebate them with a router after gluing them up. However, I always make the frames traditionally with off-set shouldered mortise and tenon joints. Having initially rebated the frame stock on the router table, **photo 11**, I cut the mortise in each stile tight against the shoulder of its rebate, **photo 12**.

The cheeks of the tenon are then removed, with a 6mm difference in either side to account for the rebate. I remove the waste with the radial arm saw, although you could use your bandsaw if you preferred. After cleaning up the shoulder lines with a sharp chisel, **photo 13**, the joint was ready to be assembled, **photos 14 and 15**. By cutting the joint in this way, a crisp square corner is left in the rebate ready to accept the glass and its glazing bead, **photo 16**.

A tale of two halves

With the last stage of work on the panels completed, it was time to start assembling the unit. Having glued up the inner panels and the bridging shelf, I positioned this and the end panels on the base of the unit and fitted the top frame in place to link everything together. Cleats were applied to the top frame and the cornice moulding was glued and screwed into place. Then the four doors were hung on solid drawn brass butt hinges, and for the first time I was able to see the dresser in one piece, **photo 17**.

The panelled frame made to go into the

back of the dresser was glued and cramped up, **photo 18**, before being fitted into the back of the upper carcass. I fitted it using a couple of cherry Miller dowels through each adjoining surface, **photo 19**.

Initially I'd planned to apply clean birch-faced ply to the rear of the upper section, but I decided to push the boat out and finish the job properly by purchasing a sheet of European cherry veneered plywood instead. The board I chose had a very similar grain pattern to the solid timber of the unit, and was an exact match for colour.

Finishing time

Having spent some time doing the final clean-up and rub-down, it was time to start applying the finish. Normally I like to treat cherry with Danish oil and wax, but having finished a couple of off-cuts in this manner the timber colour had darkened a bit more than I wanted. Instead I opted to finish the surfaces with pre-catalysed lacquer before polishing them with a neutral wax.

The various parts were laid out, **photo 20**, and over a period of several days all the faces were sprayed with a couple of coats of lacquer – first semi-matt to seal the surface and then, after a light de-nibbing with fine abrasive paper, a coat of gloss lacquer to leave a mirror finish, **photo 21**.

This wasn't the final appearance I wanted, however. By rubbing the surfaces over with Webrax dipped in finishing wax, I removed the glassy appearance. Then I buffed the surfaces with a bit of flannelette sheet to generate a deep, lustrous, natural shine, **photo 22**.

Final touches

I turned a set of matching handles from some cherry off-cuts, **photo 23**. Then I fitted the glass shelves into each cupboard using adjustable shelf supports, **photo 24**, and the actual construction was now complete.

The glass in the upper doors had to be the toughened type. I ordered them with their edges bevelled, not only to match the raised fielding in the other door panels but also because I like the way the light is reflected off the angled surfaces.

With the dresser now completed, I was able to arrange a time to deliver it and place it in the alcove for which it was designed. It completed the suite of cherry furniture I had started making for my client some seven years earlier.

On calling back a couple of days to check that all was well, I was delighted to see that a picture of his late wife had pride of place in the open area of the dresser. His promise to commission it had been fulfilled.



20
Remove the doors so they can be sprayed with a couple of coats of pre-catalysed lacquer



21
The resulting high-gloss finish needed de-nibbing and waxing to soften the glassy look



22
Buffing the surface with a soft cloth generates a deep, lustrous natural shine



23
I turned a set of eight matching knobs and dowel-jointed them to the cabinet doors



24
The final job was to glaze the doors and to fit the glass shelves on adjustable pegs



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BY DUNCAN ROSE

Converging lines

Necessity is the mother of invention, and I needed an outdoor table for my garden. It was the perfect opportunity to use up some unusual hardwood I'd bought a few years earlier and stacked out of sight at the back of the wood store. It also led to an unusual design...

Some years ago I purchased a pallet of she-oak offcuts. This is an attractive Australian hardwood with a rich red colour and a striking grain. Although the species is no relative of our common oak, she-oak is very dense and has excellent rot resistance; European settlers apparently used it for roof shingles and beer barrels!

We needed a table for a lovely sheltered area in our windy garden that was durable enough to live outdoors all year round, so I decided to look through the pile and see if there was enough wood to make one.

Non-parallel lines

A quick measure of the board lengths confirmed they would be suitable for the table top, legs and rails. Before storing the wood I'd planed the boards and removed

the sapwood. This had left them in random widths, with edges that weren't all parallel.

I decided to make a feature of these unusual shapes, which avoids wasting the heartwood necessary to make the sides parallel. I started by arranging the planks to make an interesting layout for the table top, **photo 1**. Placing the slats with a slight gap between them emphasised these shapes and also allowed for timber movement.

Preservation order

To help ensure the table's hoped-for long life, I planned to use stainless steel screws throughout. Rubber feet would help protect the base of the legs and insulate them from damp. Lastly, keeping the natural colour of wood in outdoor furniture is notoriously difficult. A little research indicated that finishing the table with a premium yacht varnish should protect it against discoloration for years to come, but only time will tell!

Preparing the slats

Start by selecting the boards to make the top slats. I chose the ones with the most interesting colour, shape and grain pattern. Check them for any unwanted knots, splits

PROJECT *She-oak garden table*

1

Select boards to create an interesting variety of shapes and colours



SHE-OAK TABLE CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
Leg	4	710	55	55
Long rail	2	1100	70	20
Short rail	2	676	70	20
Centre rail	1	1060	70	20
Slat	11	750	various	20



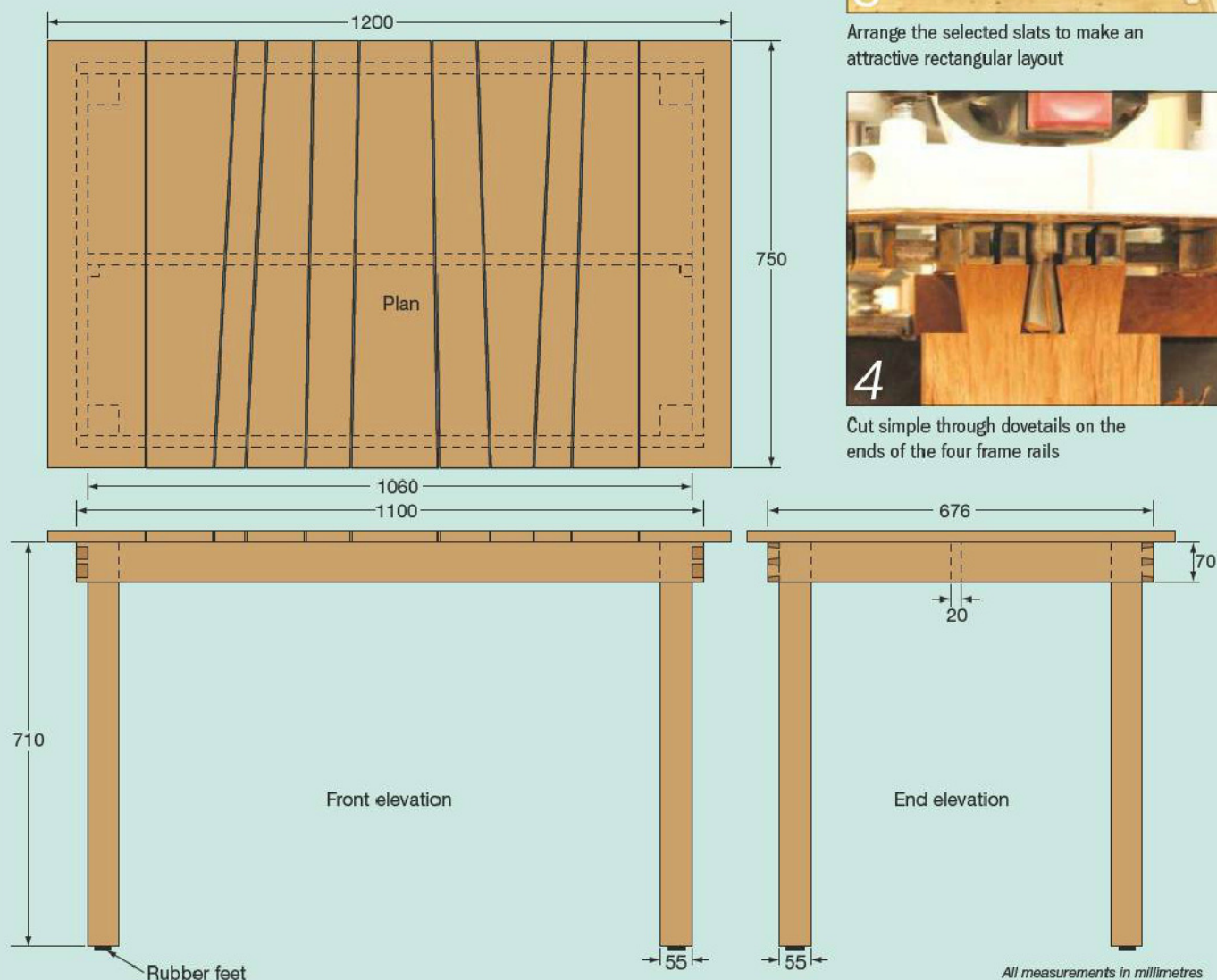
Trim off unwanted parts using a temporary angled straightedge on the bandsaw



Arrange the selected slats to make an attractive rectangular layout



Cut simple through dovetails on the ends of the four frame rails



and blemishes. Some of the edges on my boards also needed straightening, so I cut off the unwanted parts using the bandsaw. Boards with non-parallel sides were easily cut by temporarily pinning a straightedge to the board and running its edge against the bandsaw mitre fence, **photo 2**.

Next, plane the sawn edges smooth and make all the boards the same thickness. Leave them longer than their final length at this stage. Now you can arrange them to make an attractive layout. I went for alternating slats, placing light next to dark in colour, and fat next to thin, **photo 3**. Use a wider slat at each end to make fixing easier.

Cutting the frame rails

The slats are supported by and attached to a simple four-sided frame. A centre rail provides extra support and additional fixing locations for the slats.

Select the wood to make the outer and centre rails, then cut them to the width and length required. I jointed the rails using through dovetails which give a very strong and attractive joint. They were cut using a dovetail jig and hand router, **photo 4**. If you don't have these tools, you can do the job equally well using a fine-toothed saw and a sharp chisel.

Making up the frame

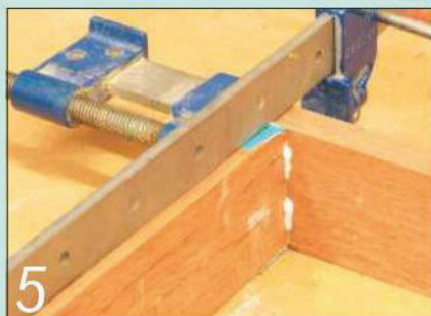
Now you can glue up the four rails, **photo 5**. Polyurethane adhesive is ideal, as this is both waterproof and gap-filling. As this adhesive is activated by moisture, you need to brush water onto one part of the joint before assembly. The adhesive foams slightly on contact, so the joint needs to be cramped while it sets. When it's dried hard, you can remove any excess adhesive with a chisel.

Fit the centre rail next. I fixed this to the frame in the simplest possible way using a pair of screwed blocks, **photo 6**. Use stainless steel screws, which have high resistance to corrosion.

Laminating the legs

As I didn't have any she-oak of suitable thickness, I made the legs by laminating together three thinner pieces of board. The laminations were made slightly over-size. I used polyurethane adhesive again and left the leg assemblies in the cramps while the glue dried, **photo 7**.

Once they were dry, I cleaned off the excess adhesive and dimensioned the four leg blanks to their final size – 55 x 55mm square – using the planer thicknesser. Then I trimmed them to their final length, **photo 8**, and set them aside for later attachment to the frame.



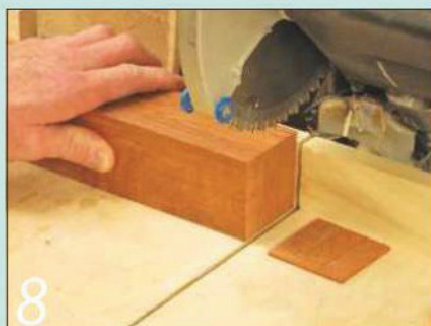
5 Glue and cramp up the four frame rails using polyurethane adhesive



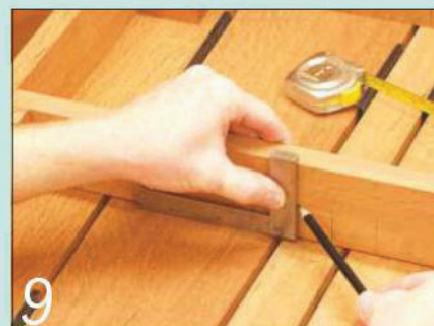
6 Fix the centre rail in place by screwing it to two small support blocks



7 I made the legs by laminating together three pieces of thinner stock



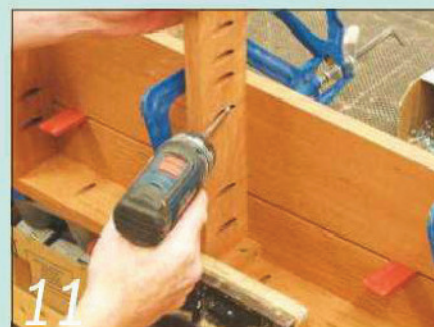
8 Dimension the legs to their final cross-section and trim them to length



9 Mark the positions of the pocket hole screws on the rails; I used two per slat



10 Use a proprietary pocket-hole jig to drill the screw holes in the rails



11 Fix the slats to the frame, with 6mm thick spacers inserted between them



12 Cut the assembled table top to size. I used a circular saw and guide rail system



13 Release the slats, cramp them together and use a router to round over the slat edges



14 Fix the frame to the legs as shown, using four pairs of stainless steel screws per leg



15 Attach a rubber foot to the bottom of each leg for extra protection against damp and rot



Drilling pocket holes

Each of the slats is fixed to the frame using six pocket-hole screws. Lay out the slats upside down with the gaps between them set evenly using 6mm thick spacers. Then place the frame and legs in position on top and mark the locations of the pocket holes along the rails, **photo 9**. I used two pocket holes per slat in each rail.

Remove the frame and drill the pocket holes in line with the pencil marks using a proprietary jig, **photo 10**. I also slightly enlarged the clearance holes for the screw shanks to allow for any timber movement in the slats.

Attaching the slats

Now you need to fix the slats to the frame so you can mark out the extent of the table top. This was a straightforward process, with the frame held in the bench vice and each slat held in position with quick-grip clamps, **photo 11**. Note the 6mm thick spacers placed between the slats to ensure equal spacing between them. Incidentally, it's a good idea to number the undersides of the slats so each one can be easily relocated in its correct position during the final assembly stage.

With the slats fitted to the frame, you can mark them with the overall dimensions of the table, 1200 x 750mm, and then cut them to size. I used a rail saw with the slats still fixed to the frame, **photo 12**. Alternatively,

you can unscrew the slats and cut them to size individually following the pencil marks.

Routing around

Unscrew all the slats from the frame so you can round over all their outer edges and the corners using your router. The best way to get a uniform finish – and also to minimise breakout – is to cramp the slats tightly together side by side and then to run the router all round the perimeter, **photo 13**. I used a 6mm radius router cutter on these outside edges. I then released the slats from the cramps so I could tackle their meeting edges, this time using a 3mm radius cutter in the table router.

Securing the legs

The next stage is to fix the legs to the frame. I cramped each leg in position before drilling the pilot, clearance and countersink holes. I then used two pairs of 60mm No 5 stainless steel screws through each rail, **photo 14**. The screw heads could be hidden using plugs; however, I wanted the legs to be removable so I simply left them recessed in their countersinks.

To soften the remaining sharp edges,

I unscrewed the legs and ran their long edges and their feet past the 6mm radius cutter on the router table. I also rounded over all the lower edges on the frame.

Finishing touches

With the table disassembled, now is the time to apply your preferred finish. I was keen to prevent the natural colour of this attractive wood from fading, and had read somewhere that a premium yacht varnish should achieve this. My local yacht chandler recommended an American product called Epifanes clear gloss varnish, so I bought a litre tin and applied the recommended seven coats. Once the finish was dry, I screwed a rubber foot to the bottom of each leg, **photo 15**, and reassembled the finished table.

FURTHER INFORMATION

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BY GORDON WARR

Low loader

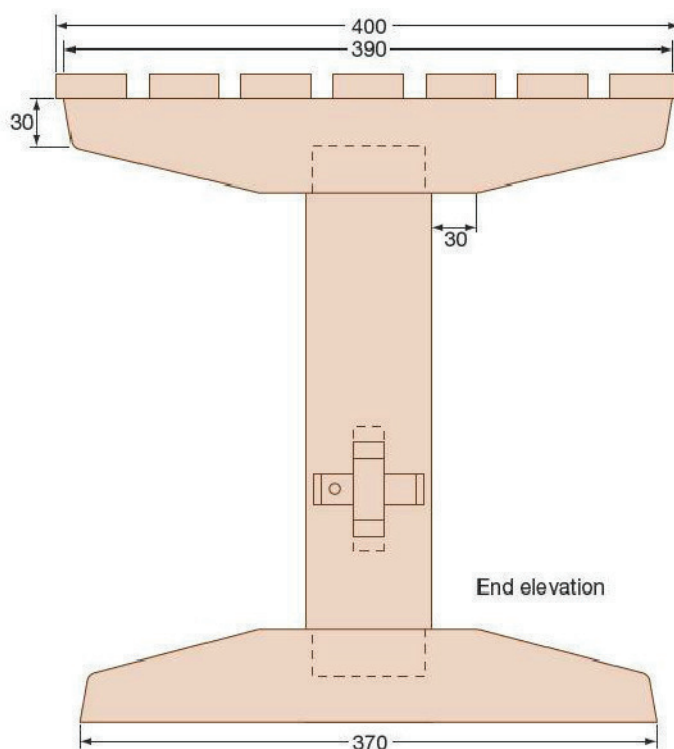
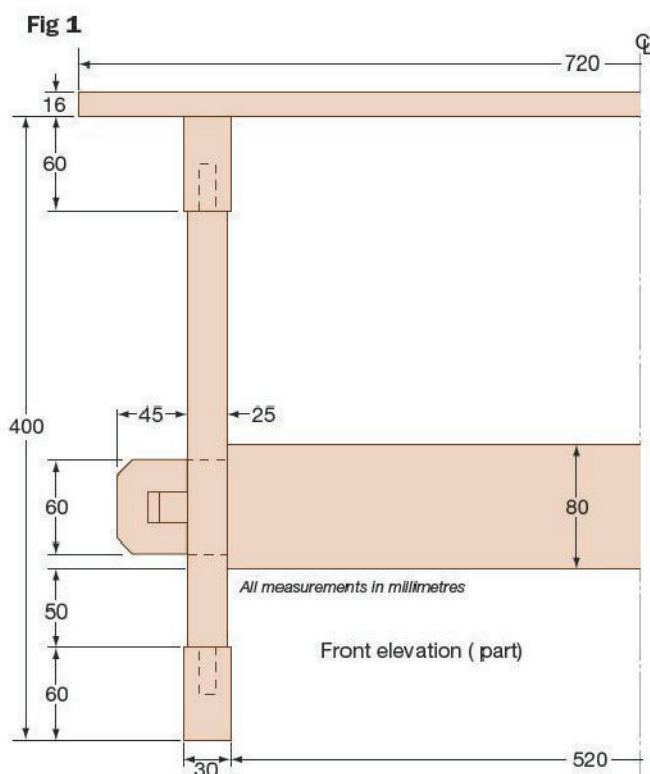
There's plenty of choice in outdoor chairs and dining tables on sale at garden centres, but there is little if anything on offer by way of low occasional tables to take a cup of coffee or a glass of wine. This simple table is designed to fill that gap

You can use either a hardwood or a softwood to make this little table. Oak, elm, or chestnut would be suitable, but not beech which doesn't like the outdoor life. On the softwood side, redwood is better than whitewood, and cedar would be ideal with its natural resistance to weathering. It's a wood I love to leave to weather naturally to a beautiful silvery-grey colour. Whatever you do, don't use proprietary red cedar preservatives, which more closely resemble tile paint!

The table shown here was made of what is classed as a 'joinery quality' hardwood from the far east, and is of a reddish colour. The construction of the table is essentially simple, with the tusk tenon connecting the centre rail to the feet being a key feature. The sizes suggested in the cutting list opposite can of course be varied if desired.

Making a start

Begin by preparing all the material needed to width and thickness, but leave a little





extra on the lengths at this stage. It's always best to mark out similar components while they're held together, either in the vice or with a cramp, with their face edges uppermost. Overall lengths can be then be marked by square and pencil, and in this case the positions of the various mortises can also be drawn in, **photo 1**.

Note that the legs and the centre rail have edge shoulders to the tenons, as shown in **fig 2** overleaf, so the mortises you cut in the feet and top rails must also measure 72 x 10mm. Edge shoulders make for a neater job, and in this case they also prevent the ingress of rainwater.

The two legs are similarly marked out,

while held side by side, with the shoulders for their tenons and the position of the mortise for the centre rail. Marking out the centre rail involves the edge shoulders for the tenons, and the mortises for the wedges within these tenons. See **fig 3** overleaf.

Cutting mortises

There's no doubt that the most efficient method of removing the waste from mortises is with a mortising machine. They are quick and highly accurate, and the cut mortise usually requires no further attention.

OUTDOOR COFFEE TABLE CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
Foot	2	400	60	30
Leg	2	400	80	25
Top rail	2	410	60	30
Centre rail	1	700	80	25
Slat	7	750	45	16

Widths and thicknesses are net. An allowance has been added to the lengths. You will also need some offcuts for the two tusk tenon wedges.



1 Mark out the positions of the mortises on the feet and top rails



2 I use this simple router jig to cut all the tenons accurately to size



3 Trim the waste at an angle; note that the saw guard has been removed here for clarity



4 A bandsaw is the ideal way of forming the sloping cuts on the feet and rails



5 Form gently rounded corners on the feet and rails using the disc sander



6 Use an outdoor grade of adhesive when assembling the components



7 Cramp up each assembled leg frame to ensure tight, square joints



8 Shape and mortise each tusk tenon, then cut a wedge to fit the hole

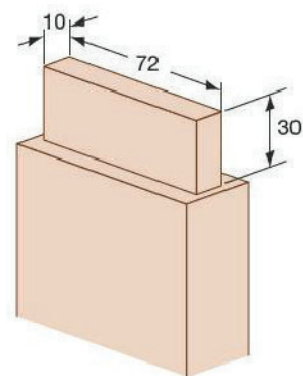


Fig 2: Leg tenon detail

The outer ends of the mortises cut in the tenons on the centre rail are an exception to this general rule; these will need a little chiselling to form internal slopes. The inner ends of these mortises must allow for 1-2mm of clearance so that the wedge will pull the joint fully home, while their outer ends must slope slightly to match that of the wedge itself.

Whatever method you use to cut your mortises, it is far better to cut them before the tenons. It's not easy to alter them once they're cut. However, the tenons are far easier to cut to any thickness, and can therefore be made to suit the mortise.

Cutting tenons

For smallish tenons, my usual method of cutting them is by router using a simple jig, **photo 2**. Although this method is not the quickest, it's extremely accurate and allows the thickness of the tenon to be precisely controlled. The various components must, though, all be planed to exactly the same thickness. Edge shoulders can either be prepared by hand sawing, or cut on the bandsaw. The tusk tenons can be formed in a similar way.

The waste at the ends of the rails still needs attending to. These can be sawn to the angle indicated either by hand or by circular saw, **photo 3**; then the slope to the edges can be formed. Here a bandsaw is an ideal way of removing the waste, **photo 4**, followed by trimming with a plane. The joints between the two slopes are then rounded on a disc sander, **photo 5**.

Cleaning up

It is always debatable to what extent an outdoor project of this type should be 'cleaned up', and while perhaps this stage is not as important as for indoor furniture, my preference is to smooth all the surfaces to remove pencil marks and possible tell-tale signs of machine planing.

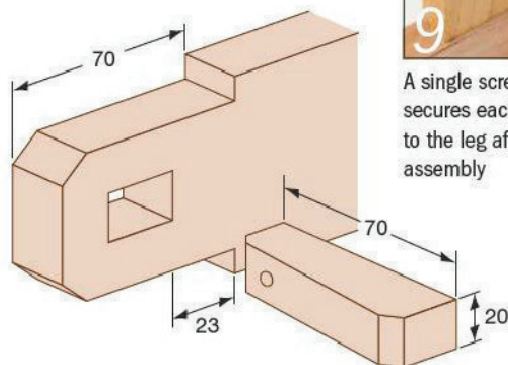
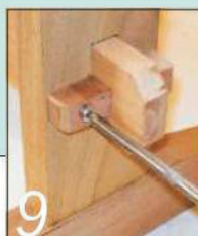
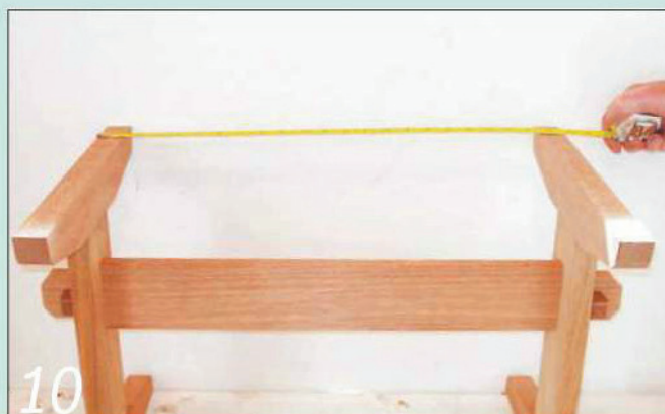


Fig 3: Tusk tenon detail

tail



9
A single screw secures each wedge to the leg after assembly



10
Check that the assembled leg frames are parallel before adding the top

Because the legs are thinner than the crossrails, all the components can be cleaned up prior to assembly, a belt sander being the ideal means of doing this.

Preparing the assembly

I relied on just exterior grade adhesive when assembling the leg frames, **photo 6**, leaving then cramped up overnight to ensure tight, square joints, **photo 7**. The tusk tenons were shaped and checked for fit, and two wedges prepared, **photo 8**. These were cut so that as they were driven home, the shoulders of the tenons were tight against the inner faces of the legs, with the wedges projecting by an equal amount on each side of the tenons.

I prepared a screw hole in each wedge to take a fixing screw once the wedge is driven in, **photo 9**. This will ensure that the wedge can't become loose over time. I didn't use any adhesive for this stage of the assembly, to allow for dismantling and storage during the winter months. I did, however, check carefully that the assembled frames were parallel with each other, **photo 10**.

Preparing the top

The top could not be simpler, the seven slats being prepared to size with two holes in each for fixing. All the edges and corners were lightly chamfered, then the outer two were secured first. Next, a batten was temporarily cramped to these so as to act as a guide when screwing the remainder in place, **photo 11**. Once they were fixed, I used a sharp hand plane to even off the chamfers on the ends of the slats, **photo 12**. Finally, my belt sander was once again brought into use to give the top surfaces a final smoothing, **photo 13**.

When softwood is used for an outdoor project, it is always wise to treat it with a preservative. I applied three generous coats of tinted preservative, **photo 14**, and my little table was complete.



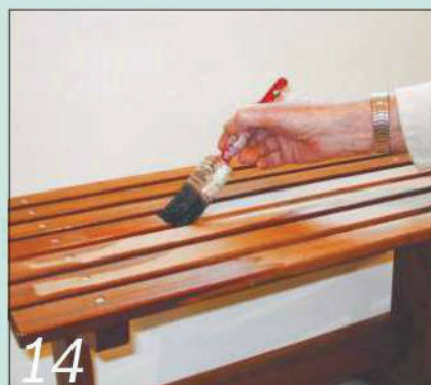
11
Fit the outer slats first, then cramp a batten beneath them to help align the ends of the rest



12
Trim the ends of the slats to the same angle with a sharp smoothing plane



13
Use fine abrasive in a belt sander to give the top a final smoothing



14
Treat the table with three generous coats of tinted preservative



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BY PETER BISHOP

Perfect square

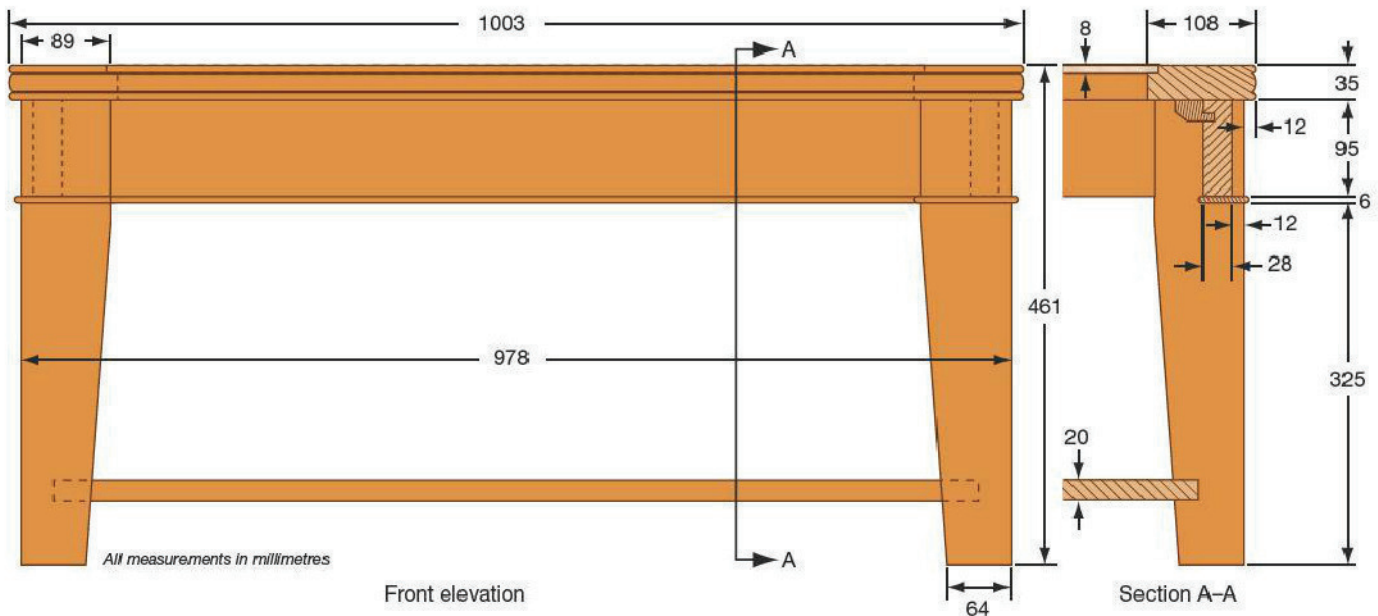
It's really satisfying when you've made something for a client and they then come back for another piece. This large, rather stylish coffee table was such a case. It was to replace an existing one with a plate glass top, which they wanted me to incorporate in the new design. So I did...

My client had some firm ideas on what they wanted, so I took some measurements off the existing bevel-edged plate glass top and produced a classic but carefully detailed design and a costing which was accepted. It was time to start work.

A reason to season

The wood I ordered was prime-quality kiln-dried quarter-sawn English oak. Because my client has underfloor heating, I cut the top frame components to their nominal size, sealed the ends and took them over to his house so they could acclimatise for a few weeks. I hoped this would help to reduce the chance of shrinkage after manufacture.

Because my supplier didn't have any kiln-dried stock 100mm square, I made up the legs from two pieces of 100 x 50mm stock. I planed two adjacent faces flat and



true, applied Cascamite and cramped the pairs together. Once set and end-sealed, these four, along with the other components, also went into the house for a few weeks.

Don't spare the rod

With that essential preparation out of the way, I drew out a full-sized plan view of the table – known as a rod in the trade – on a large plywood offcut, **photo 1**. This rod allows you to calculate the exact dimensions of each component and, if required, to take measurements directly from the drawing. It's an old joinery technique I was taught years ago, and it never fails.

Preparing the parts

I started with the sub-frame, square-planing the legs and rails along with the four framing pieces for the lower shelf. Then I marked out the leg mortises across all four components at once for accuracy, **photo 2**, and headed to my bench mortiser to get them all cut, **photo 3**.

I also used the mortiser to cut out the slots for the shelf while the legs were still square. To avoid breakout I left a small section on the inside corners, **photo 4**. This can be removed by hand; otherwise it will be sliced off when the inner tapers are cut on the legs.

My next job was to cut the 6mm wide grooves for the beading on the two outside faces at the top of each leg, **photo 5**, a task I carried out on with ease on my radial arm saw. I positioned them so they would line up with the underside of the rails when these had been jointed to the legs.

Tapering the legs

It was now time to mark out, cut and clean up the tapers on the four legs. I marked the cutting lines carefully with a pencil and straightedge, then headed for the bandsaw to trim them roughly down to size, **photo 6**.

GLASS-TOPPED TABLE CUTTING LIST

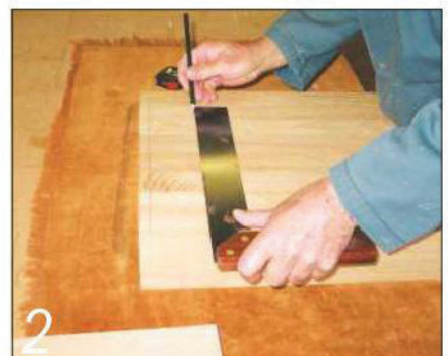
All dimensions are in millimetres

Part	Qty	L	W	T
Leg	4	460	89	89
Rail	4	915	95	28
Top frame	4	1070	108	35
Shelf frame	4	915	89	20
Shelf panel (faced mdf)	1	915	915	20
Rail bead	1	4000	35	6
Leg bead	1	1000	12	6

Cross-sections are finished sizes; lengths are nominal to allow for cutting and jointing. The shelf panel is oak-veneered mdf. You will also need some oak offcuts to make the buttons that secure the top to the frame.



1 Drawing a full-size top view of the table is a useful technique to adopt



2 Mark out the mortise holes in one go on the four square-planed legs



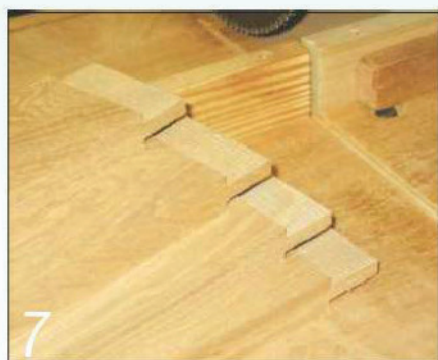
3 Using a bench mortiser is the quickest way of chopping out the mortises



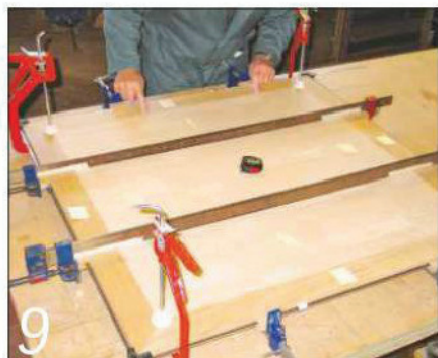
4 Cut the slots for the shelf in the same way while the legs are still square



5 Cut a groove on the two outside faces of each leg for the decorative bead



7 Cut the rail tenons using a pull-over crosscut saw, or on the bandsaw



9 Fix the outer frame in place with plenty of glue and some biscuit joints

A quick run through the planer soon had them finished and ready for assembly.

Next, I cut the four rails to length and formed tenons on their ends to match the leg mortises, **photo 7**. Then it was back to the table saw to cut a groove on their inner faces, **photo 8**. This will take the buttons that secure the table top.

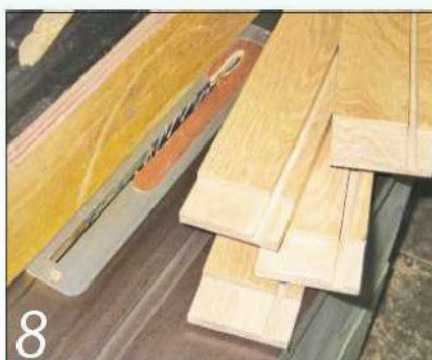
I could now test and trim the leg and rail joints. These eight pieces were then cleaned up before a dry assembly checked that they matched the drawing.

Making up the shelf

I had an oak-veneered mdf board in stock, so I sliced off a chunk and trimmed it to size for the shelf. The edge pieces were then



6 Cut the taper on the bandsaw, working just outside the marked line



8 Machine a groove on the inner face of each rail to accept the buttons that will attach the top



10 Dry-assemble one end of the table and cut a template for the shelf corner

machined and mitred to produce a framed shelf of the required dimensions.

On the bench I laid out these components, arranged them to make the best of the wood grain and marked a couple of biscuit joint positions on them. I then stuck Post-it notes on each component to make sure that I reassembled them correctly later.

Once the biscuit joints were cut, I mixed up some more Cascamite and assembled the shelf with plenty of cramps to keep everything flat and square, **photo 9**. Care needs to be taken to ensure that the edge pieces finish flush with the surface of the shelf panel. Cleaning up afterwards can be a nightmare otherwise; you can easily cut through the veneer to the plain mdf core below!

Cutting corners

Two legs and one rail were dry assembled, squared up on the rod and cramped to the bench. This enabled me to make a dummy corner joint and also to take the exact measurements for the shelf from the assembly. I used a piece of scrap stock to make the dummy joint, **photo 10**. Once I was happy that the dummy fitted well and matched the tapers on the legs, I was able to mark out and cut the shelf corners, **photo 11**. I cut and tested two adjacent joints on the shelf to start with, **photo 12**. They fitted perfectly, so I cut the other corners in the same way and cleaned everything ready for the final assembly.

Tackling the top

I recovered the four top frame pieces from the client's house and square-planed them to their finished size. I then ran an 8mm deep rebate round their inner edges on the router table to take the glass, **photo 13**.

Before making the top frame up I took the precaution of checking the client's plate glass table top for size and square. It was a good job I did: none of the four edges was the same length!

Fortunately the measurements were only a couple of millimetres out, but the slight discrepancy meant that I had to make a squared frame with one side slightly longer than the other. I measured everything twice before making any cuts. I then assembled the frame on the bench with cramps and checked that the glass fitted, **photo 14**; it did. At last I was able to cut a domino joint into each of the mitred corners and glue up the top frame.

Colour selection

The table was to be colour-matched to some other oak furniture in the room. I chose to use some Colron 'refined' wood dye. This is a water-based product that claims to be both penetrating and colour-fast, just like a solvent-based one. I've not used it before, but I have to say I was quite impressed. Anyway, colour samples whizzed back and forth. A final choice was made that combined the Colron wood dye, a solvent sanding sealer and a lightly coloured wax.

These decisions were made before the main assembly process took place. The reason was that I wanted to apply the dye before I put everything together. I find this easier to do, and it also enables a much more even application to be made. This time I didn't need to worry about masking off joint areas. The water-based dye would have no detrimental affect on the adhesive



11
Use the template to mark out the shelf corner profiles and cut them with care



12
Test the fit of the shelf corners in the leg slots, and ease them if necessary



13
Cut the top frame components to length and form a rebate in one edge



14
Mitre the corners, dry-assemble the frame and check that the glass fits



15
Assemble the sub-frame upside down. The top frame is in the foreground



16
Shape and drill the buttons in a strip before cutting them off to length



17
Machine both edges of an offcut to make the beading, then cut it to width



18
Glue the leg beads into their grooves and secure them with masking tape



19
Clean up all the edges, apply sealer and wax, and drop the glass into place

I was going to use. Once I'd applied it to my satisfaction, I left everything for a day to dry off thoroughly.

Assembly time

The last stage of the build was to mix up some more Cascamite, get the cramps ready and assemble the top frame. The sub-frame assembly followed shortly thereafter, and both were left in their cramps overnight for the glue to go off and harden, **photo 15**.

After cleaning up I set about preparing the buttons from some oak scrap. I make these in a strip and then cut the individual ones off afterwards, **photo 16**; I find it's easier to handle them like this. I also made the beading from some offcuts. I used

some stuff that was over-width and rounded over both edges, **photo 17**. This technique makes the workpiece easier to handle, and you can then rip off the edges of each strip to the required width afterwards.

Adding the beading

I up-ended the sub-frame assembly and fitted the beading that runs along the lower edge of each rail. I fixed these pieces in place with fine copper nails to avoid any staining of the oak. After turning the frame back the right way up, I glued the smaller beads into their grooves in the legs. Some masking tape held them in place while the glue set, **photo 18**. Then everything was cleaned up one final time.

Finishing touches

I applied a coat of sealer, left it to dry and then it cut back with fine steel wool. I then gave the top frame another coat for extra protection against everyday wear. This was also cut back. Finally I used Liberon Black Bison paste wax to finish off. Well worked in, this brought up a very attractive lustre.

The end was in sight. All that remained was to place the top frame face down on a clean dust sheet, position the sub-frame upside-down on top of it and fit the oak button tongues into the grooves in the frame. A single screw attached each button to the underside of the top, and the complete assembly was turned the right way up, ready to receive the glass, **photo 19**. It still fitted...

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BY ANDY KING

Preparing your tools

OPERATING MACHINES SAFELY

Don't believe disclaimers that say 'guards have been removed for better clarity of photography'. In reality most of those cuts can't be done with standard guarding in place, and to do so could easily lead to fingers removed for posterity.

The UK Health & Safety Executive states that if there is a better-suited machine, that should be used. Any guarding should remain or the danger area should be adequately guarded if you do a cut outside the machine's normal work range.

An example would be rebating on a table saw, where the crown guard would be removed. Either a tunnel guard or Shaw guard should shroud the exposed blade, or a SUVA-style guard should be in place... ideally with featherboards in use as well. The rule is to consider your safety first, then the execution of the job.

In the fourth part of the series It's time to look a little closer at the tools you'll be using. Do you have everything you need for your project? Do you have the correct blades for the work in hand and, most importantly, are they all sharp?

Edge tools are worse than useless if they have no edge. They will not only damage your work but may injure you as well, because forcing rather than slicing the tool through the work may make it jump away from its intended direction and into you.

Machinery is a different ballgame. Because you're now controlling timber and feeding it into a danger area, any slip will see you imperilled. To control the cut, blades and cutters must be sharp if you're to avoid a catastrophic accident.

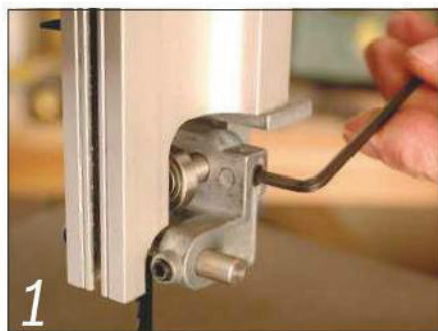
All the correct guarding must be in place. Guarding may get in the way for some

operations, but consider the operation, and if the guard needs to be removed, the chances are that you shouldn't be doing it.

Blade selection

Motor-driven tools also require the correct blade for the job. Planers, router tables or spindle moulders are simple cutting tools, and as long as the cutters are sharp and set up correctly, the cut is controlled with the tables on the planers or the fences on the spindle moulder and router table.

It's always good practice to take a few cuts rather than one big one if the cutter



1 Bearings and guides vary from saw to saw, but the principle is the same. Here the thrust bearing is being adjusted



2 Likewise the side guides can differ. The cast discs on this bandsaw should be kept fractionally away from the blade



3 The roller bearings on this bandsaw can touch the blade and rotate with it



4 When ripping natural-timber stock, the table saw fence should be adjusted to prevent binding



5 On the planer thicknessener, a quick check with a square takes seconds and can save hours of wasted work



6 Ensuring that the bridge guard is correctly set for face and edge planing helps to keep things safe

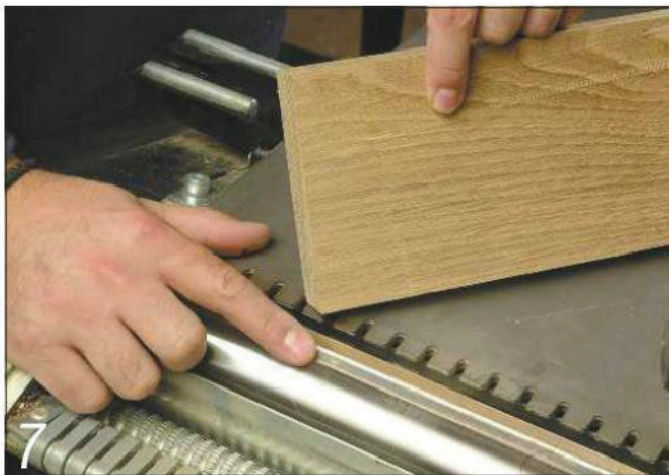
allows it; the finish on the cut is far better, and the amount of force needed to push the stock through is lessened as well, making for a safer operation.

Saw blades on the bandsaw and table saw come in options that suit certain cutting situations, with big wide-apart teeth doing rip work and finer teeth the crosscut stuff.

Table and bandsaw blades

Table saws use differing tooth styles to cover specialist materials such as laminates and veneers as well as specific cutting operations, but a hybrid multi-purpose blade will normally look after general ripping and crosscut needs. I would normally swap them in and out only if I had a long run of a particular type of cut.

The bandsaw is capable of cutting very deep stock as well as making very intricate cuts, but using an unsuitable blade will always cause problems. Deep ripping needs a wider blade with good tooth spacings, like a skip-tooth type on which a tooth is skipped to give a wide gullet for maximum waste clearance.



7 Knife nicks can be frustrating, but moving one knife slightly across will eliminate the tracking marks



8 A couple of marks on a batten will act as a setting gauge for knife swaps, as explained in the text



9 Resin build-up on router cutters, planer knives and saw blades should be removed regularly with a dedicated cleaner



10 General maintenance of all your cutting machinery should involve locating and cleaning off resin build-ups

The bandsaw has a greater capacity for re-sawing stock than a table saw does, but because the accuracy of the cut is not as clean as a table saw's the trade-off is more work at the planer.

Finer blades work superbly for curved work on thinner stock, but swapping out a bandsaw blade is more time-consuming because all the guides, the tension and the tracking must be altered to make sure it runs correctly and cuts without drifting.

Jigsaw blades

An all-purpose blade can be used in the circular saw, only being changed for a specialist blade if the work warrants it. However, the jigsaw follows the bandsaw route in the need for appropriate blade selection. If you get it wrong, the saw will either have to be forced through the cut, or it will wander and drift on the cut's underside.

Never skimp on the quality of your blade, whether it's being used with a budget or a top-end power tool.

Machinery checklist

Get into the habit of checking all workshop machinery after the setup has been altered or after a blade swap, ensuring that all the

locking levers and knobs for fences and so forth are tightened off for instance.

Setting up a bandsaw

The bandsaw should have the guides adjusted to support the blade well, and the blade should be tensioned accordingly. Some saws have tension gauges to act as a guide, but these should be taken as just that: a simple guide. You may need to tweak the tension after a cut or two. A good rule of thumb is to tension the blade until you can push it across by about 10mm with the guides raised up out of the way.

Tracking and guides will also need recalibrating after a blade change. The best option is to back off the guides, fit the blade and tension it, then rotate the top wheel by hand to allow the blade to start tracking. Alter it as you go until the saw is tracking correctly on the wheels; then you can shut everything up so the saw is safe, and run it up on full power for a few seconds. This will settle the blade so you can check it's in the correct place; then you can readjust the guides, **photo 1**.

Side bearings should be within a whisker of the blade to support it on any twisting and tight-radius cuts, **photo 2**. The rear

bearing should be a millimetre or so back to allow it to engage under load as you cut. Some saws now have roller bearings, **photo 3**; these can actually touch the blade as they will rotate when the blade does.

Setting up a table saw

The fence of a circular saw or table saw should be parallel to the blade, or toeing out very slightly along its length so that timber can't get wedged in against it and cause kickback.

Additionally, pull the fence back when cutting natural stock, **photo 4**, as it can bind on a long fence.

Setting up a planer/thicknesser

The planer/thicknesser, like other machines, relies on a good fence for accuracy after the work has been straightened and flattened by passing it over the beds.

Better fences have positive stops for returning the fence to the 90° setting after it has been moved or, in some planer configurations, removed to swap to thicknessing mode. However, it's always good practice to check the setting before you square up your stock, **photo 5**.

Check that the bridge guard is adjusted

11

A combination wet-and-dry stone grinder will give fast grinding for general work and finer control to dress the edge



12

A little care is needed on a horizontal wet grinder as the peripheral speed means the wear factor isn't even



13

Fast grinding is quick and reasonably cheap, but you need to quench regularly because...



14

...the consequences can be dire if the edge burns, as this strips the temper from the steel



15

A vertical wetstone gives an even, controlled grind and, with appropriate jigs, will keep all your edge tools in check

properly and is fully across the block when you work, **photo 6**. The gap between the workpiece and the guard should be no more than 12mm.

Check the knives for any nicks, **photo 7**, even after working clean stock. If you find any, slightly offset one knife in relation to the other, nudging it over by just a couple of

millimetres so the nick on one knife is now out of line with the nick on the other one, thereby ensuring a clean cut.

Knife-swapping practice

If you don't have a depth-setting jig for use when swapping knives for re-sharpening, zero the beds so they are flat across and

then, using a piece of straight batten, mark a line and place it on the tables, **photo 8**, aligning the line with the edge of the outfeed table.

Rotate the block by hand, and as the knife engages the batten it should move it marginally forwards, by no more than 3 or 4mm. Make another mark where the resting point is so that you have start and stop points for

the knife as it engages. Check this across the width of the knife, at each end and in the middle.

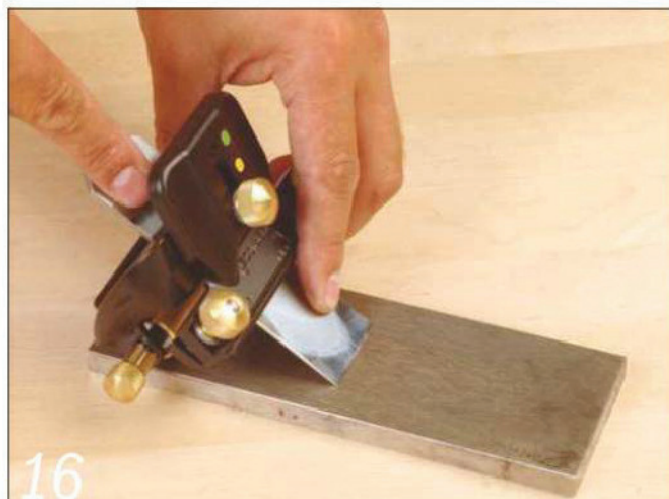
Adjust the position of the first knife until the batten moves by the same amount across its width. Then repeat the process on the other blades.

Snipe and rollers

Always include snipe as part of your wastage allowances. Adjustments for pressure rollers can be the problem, but usually it is down to the feed in and out of stock at the point where the rollers engage and disengage.

The rollers force the work down and lift up the stock from the bed and into the block, so a good solid grip to keep the work on the thickness bed as you feed it in and as it ejects from the rollers should help to minimise the problem.

Surface table snipe is usually down to improper knife set-up. If you have a bigger planer, you may be able to adjust the outfeed table until the batten method is achieved. If the table is fixed, the knives must be adjusted individually to achieve the same result.



16

A variety of honing jigs is available to help you if you struggle to achieve consistency when sharpening tool blades

Machine maintenance

General maintenance should be done routinely as per the machine's instruction manual. Any exposed threaded rods used for adjustments should be lubricated occasionally with a dry lubricant.

Build-up of resin on blades, rollers and router cutters can be removed using a specialist cleaner, **photo 9**. Just cleaning the teeth and gullets can resurrect cutting performance.

On the planer, check the feed rollers for resin build-up, **photo 10**, and clean it off regularly. The serrated feed roller can be susceptible to resin build-up within the serrations, causing poor feeding, so scrape these out with a sharp implement and a wire brush.

Rehoning edge tools

Planes, chisels, spokeshaves and the like will need rehoning regularly with a fine oilstone or a wet-and-dry bench grinder, **photo 11**, but you must take care with the latter not to create an uneven bevel, **photo 12**. Avoid overheating the blades by quenching and cooling them, **photo 13**. If you don't do this and you blue the edge, **photo 14**, its temper will be drawn and its edge-retention properties removed.

The better (but more costly) solutions can remove the problem, by using a slow water-grind wheel such as the Tormek or Scheppach, for instance, **photo 15**.

Grinding should not need to be done too often, but it's a good habit to hone a few times a day even if the edge of the blade is still reasonably sharp.

You must work up a wire edge, then lose it. Whether you do this freehand or with a honing guide is immaterial so long as you achieve your goal. I use only one grit. Don't get dragged in by superfine grits or micro bevels to the nth degree – and try it on some timber.

A question of degree

By the same token, the actual angle at which you hone isn't all-important, and in freehand honing if I hit 30° I would neither know nor care.

Following the traditional figures has never done me any harm. Paring chisels are ground at 20° and honed at 25°, as they are hand-controlled for slicing cuts. Standard chisel and planes are ground at 25° and honed at 30°. For mortise chisels or when cutting hardwood, go for a 30° grind with a 35° hone angle.

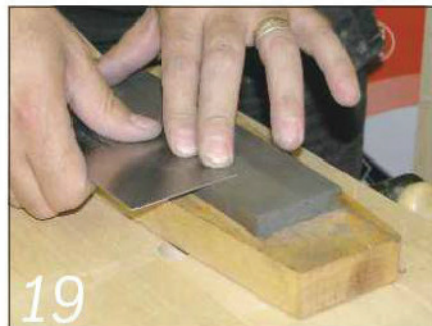
Honing guides will replicate angles for you, **photo 16**, but freehand work needs a little practice for consistency, **photo 17**.



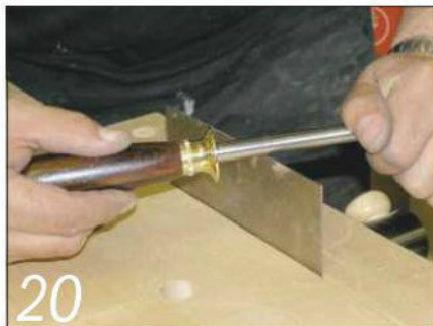
...but freehand honing is faster and every bit as accurate once you've mastered the technique



After filing the scraper edge, polish it on the edge of a stone



The scraper faces are also dressed on the stone to remove file marks



Leaning the burnisher at an angle forms a hook on both sides of the scraper



Get it right and you should be taking light shavings, just like a fine-set plane

Shaves, planes and scrapers

The trickiest flat-back tool to hone is the diminutive spokeshave. Most honing guides won't grip its blade and allow adequate projection, and a freehand grip is awkward; however, the blade can be extended to a suitable length by holding it in a home-made wooden jig. The same rules apply: wire on, wire off and away you go.

Older styles of plane, the bevel-up ones in particular, require a steeper grind and honing angle for dealing with wild and interlocked grains where a standard bevel-down plane would often struggle.

Even so, that same principle rings true,

but with a higher attack angle the cut can be seen as more of a scraper action.

With scrapers the wire edge has to remain. First prepare the edge by filing it flat, **photo 18**, then polish it along a stone to remove any file marks, **photo 19**. Form a burr by pressing a hard-steel burnisher over it to deform the edge slightly, **photo 20**; angling the burnisher forces a hook to form the cutting edge. It can take a little trial and error to get this right; an angle of around 10-15° usually does the trick.

If you've mastered it, the scraper will take shavings as a fine-set plane will, **photo 21**; if you're getting dust, it's back to square one.



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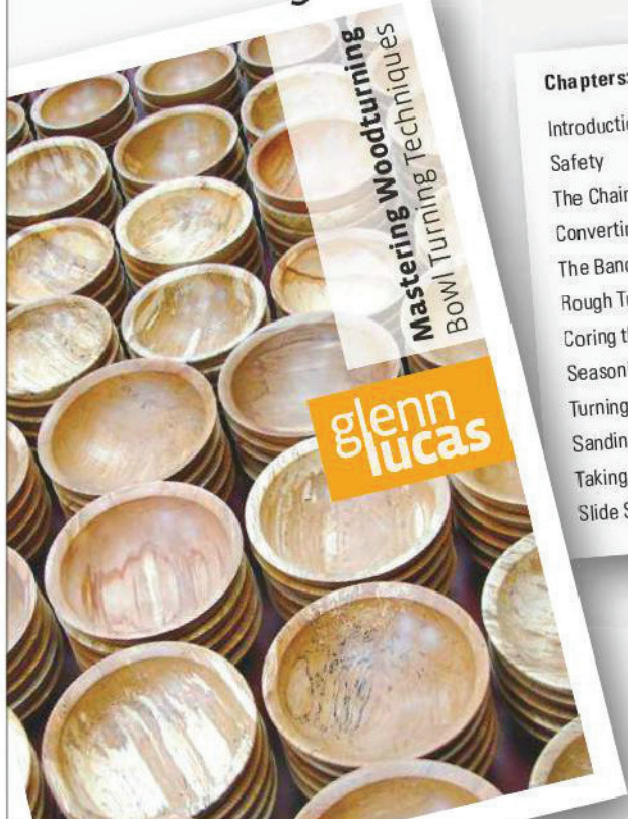
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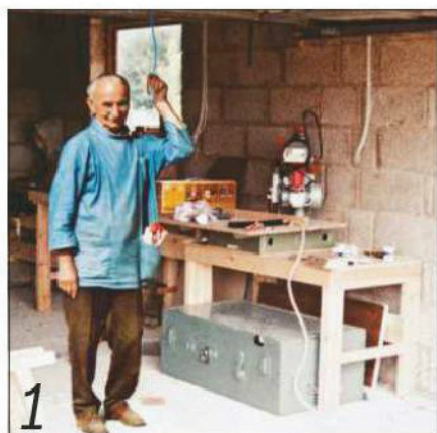




BY PETER PARFITT

MADE TO MEASURE 1: Assembling the bench top and vices

I learnt from my father that the bench is the most important tool in the workshop, yet mine had become its Cinderella feature thanks to poor initial investment and little maintenance to fix the considerable abuse it has suffered over the years. The time had come for a change



1 My old workbench is in the background of this rather grainy 1983 picture showing my father on the family building site

My old bench had been built in a hurry 28 years ago from scraps on the building site that was to become my house. My father and I built the old bench together, **photo 1**, and it has been modified several times over the years.

For many years I've looked at those dream benches, usually of Scandinavian design, which were always priced beyond my reach. I did some research on the internet and found no cheap and cheerful alternatives, but I did discover many websites with helpful advice on bench design. I also looked back through *The Woodworker* archive for more inspiration. Slowly my random thoughts became firm ideas, and from these a plan was formed.

Hatching a plan

I decided to build my new bench using, wherever possible, scraps from around the

workshop or off-cuts obtained from other sources. This all coincided with the remodelling of the workshop to make life easier for this now somewhat arthritic woodworker. Out went all the old cast-iron leviathans, to be replaced by some lovely new machines, mainly sourced from Festool. The various pictures of the bench build on the following pages reveal some of the chaos in the background.

My new bench had to be sturdy enough to be used as the vice and clamping anchor point for all my needs. I wanted to have a main vice and a tail vice, with bench dogs for each, as well as a simple bench stop.

Design features

I drew up a sketch plan, **fig 1**, that took account of the key features I had identified from my research. I designed a right-hander's bench, with the main vice to the

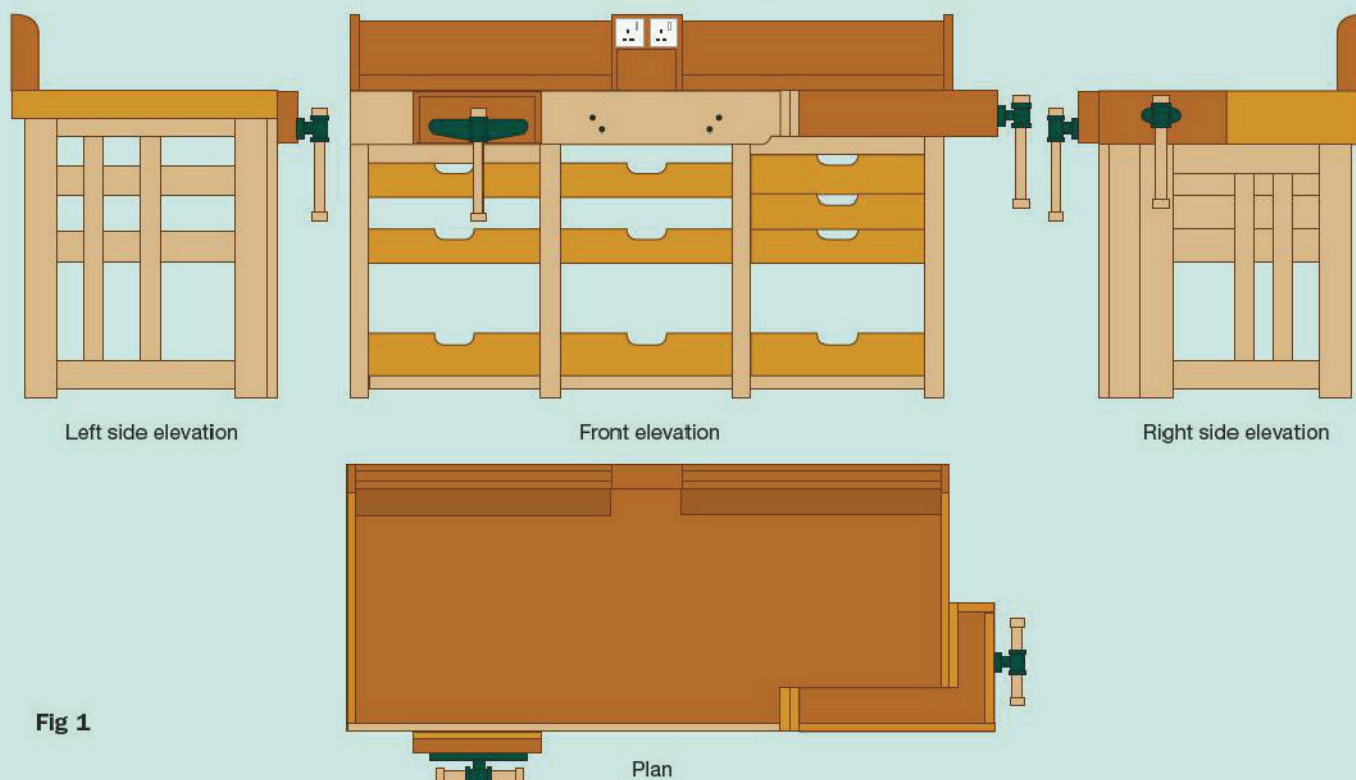


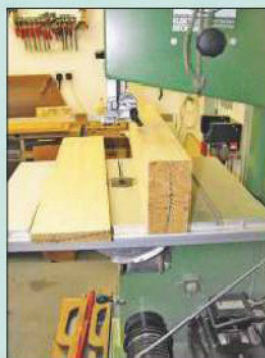
Fig 1



The lower drawers were designed with sufficient depth for my Festool Systainers to fit two deep

3

Re-sawing these large off-cuts of idigbo for the drawer sides would save me a lot of money



The main part of the drawer runner is screwed to the bench, and the smaller part to the drawer side



The tail vice had to be tackled first as its design influenced the construction of the bench top



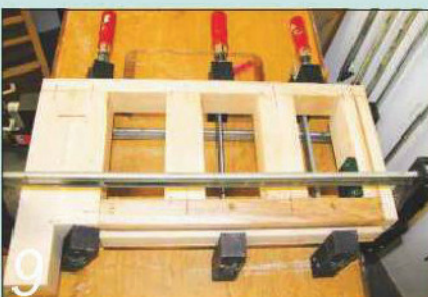
The Veritas tail vice screw is a very substantial assembly (photograph courtesy of Veritas Tools Inc, Canada)



7
I incorporated a length of aluminium moulding into the tail vice body as part of the vice's slide mechanism



The maple core of the tail vice body is mitre-jointed and reinforced with four 50 x 10mm dominos



The tail vice sub-frame is assembled dry in order to check the vice screw clearance hole alignment



The tail vice sub-frame components show the rounding over of the vice screw clearance holes

left and the tail vice on the right-hand end.

I set the bench width at 1720mm and the depth at 800mm. The height would be 900mm to match my Festool MFT3 bench – a far more comfortable height than the 840mm of my old bench.

I needed five drawers in which to store my Festool systainers, **photo 2**. I also wanted five more drawers for all the other bits and pieces that need to be close at hand. All the drawers would run on heavy-duty runners, allowing almost the whole contents of each drawer to be visible when it was pulled out.

I wanted the ability to replace vice faces and even the whole top if necessary in the future, so these parts are screwed rather than glued in place. I'm a great fan of Festool's lever clamps, and wanted to be able to use these as well.

Materials and cost

I decided that a solid wood kitchen worktop would make a pretty good bench top. I went to a local kitchen fitting company, hoping to find some beech or oak, but came away with a 3m length of ex-display iroko for a bargain price of £40.

I had a few off-cuts of hard maple for the vice faces, some big lumps of idigbo which could be re-sawn for the drawers, **photo 3**, and some odds and ends of oak and mahogany. I had to buy 100 x 50mm stock for the legs, costing about £35. I also had to buy a sheet of plywood for lining the various drawer bottoms.

Vice is a virtue

My biggest outlay was the purchase of the vice screws. I chose Veritas, based on quality and reputation; their larger front vice cost £83.50 and the tail vice was £34.66.

I was lucky to have eight pairs of heavy-duty drawer runners, sourced from Screwfix, left over from a kitchen build. I had to purchase two more pairs at a cost of £17. I like these particular runners as they are very sturdy, easy to fit and have a simple quick-release mechanism, **photo 4**. My total outlay, ignoring fixings, was just under £230. It was time to start work.

What follows is set out in two instalments. This month I'll explain how I assembled the bench top and mounted the two vices to it. In next month's issue I'll describe building up the three support carcasses, making the drawers and fitting it all together.

Starting out

I decided to tackle the construction of the tail vice first, **photo 5** and **fig 2**, as its sliding mechanism would influence the

eventual design of the main bench top.

The Veritas tail vice comes without any mounting instructions as it's a very simple bit of kit, although some tail vice design ideas from the manufacturer would have been welcome!

The tail vice screw, **photo 6**, comes attached to a cast iron bracket through which the wooden handle will pass. This is mounted in a cast flange with screw holes to fix it to the vice body. There is a threaded guide through which the vice screw turns, and this has holes for screw fixing to the bench carcass.

The sliding joint between the bench and the vice body has to withstand considerable forces. I managed to find a length of hard aluminium alloy moulding that proved to be ideal for the basis of my sliding mechanism, **photo 7**.

Building blocks

I fabricated the L-shaped tail vice from four cross-laminated layers – oak, maple, oak and then some of the iroko worktop on the top surface. I started with 60 x 50mm maple, mitred and jointed with four 50 x 10mm dominos, **photo 8**. Other options for this first joint would be a halved corner joint or a mitred halving joint. I have even seen large dovetails used. I chose to use the dominos as I had already successfully tested similar joints and they were very quick and easy to make. The other layers were all 60 x 25mm in cross-section, and were butt-jointed with two dominos apiece. It's important not to glue and screw on the iroko top layer of the vice sandwich until the final fitting stage described later.

It's also important to cut the clearance hole for the tail vice screw before the mitred maple joint is brought together. I cut this first hole carefully on the drill stand; this served as the master for the subsequent clearance holes, including those drilled in the opposing vice faces.

Fitting a sub-frame

I decided to construct a sub-frame of maple to be attached below the bench top. This would spread the torsional forces and provide multiple screw fixing points to the bench top. My design, seen in **photo 9** during a trial assembly, is rather over-engineered but it should ensure that the bench will outlast me!

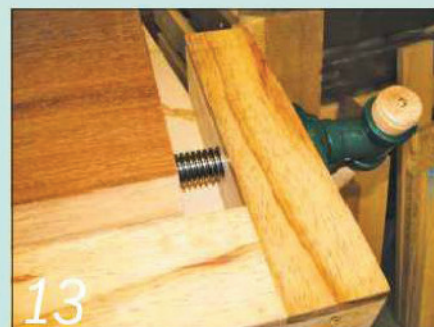
The threaded guide of the tail vice can be seen screwed in place. The body of this guide is slightly tapered, so I used two pieces of maple with differing size holes in each, and improved the fit with the use of a round Surform.



11 An 85mm wide strip of the bench top is re-attached along the front edge with dominos



12 The three iroko fillets that will define the tool well area are also domino-jointed to the back edge



13 The tail vice sliding mechanism is complete but the body lacks a top, sides and faces at this stage

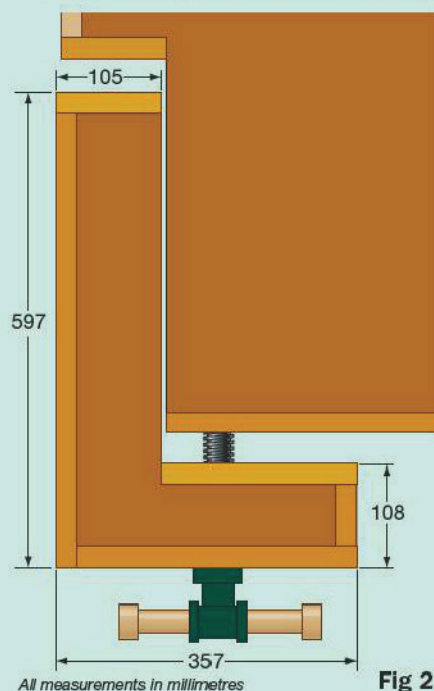


Fig 2

All measurements in millimetres



14 The maple faces are screwed in place. I put wax on the screw threads to help create a tight joint



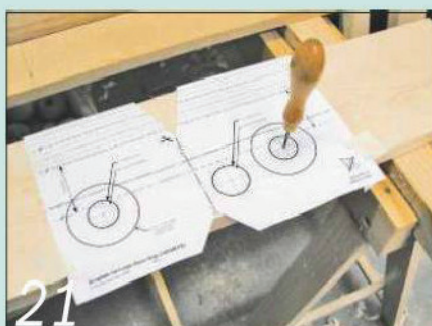
15 The tail vice sub-frame is screwed in place and the plywood bases of the tool wells are added



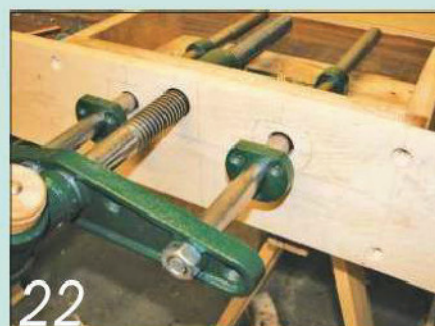
16 The tail vice body is about to be waxed after sanding, ready for installation in the bench top



20 The main vice face is a sandwich of elm and maple, rebated all round to take the mahogany trim



21 Veritas provide a template for marking the positions of the vice mechanism's clearance holes



22 A trial assembly of the main vice makes it easy to mark the recesses for the support collets

When constructing the sub-frame you must ensure accurate alignment of the clearance holes for the vice screw in the cross-pieces. These elements of the sub-frame were domino-jointed, **photo 10**, which also shows that the edges of the clearance holes were rounded over.

The bench top

Once the sub-frame and tail vice (minus its iroko top layer) were complete, they were set aside while I tackled the bench top.

I first cut the worktop to a length of 1930mm, which would provide some useful off-cuts. My finished tail vice would be 105mm wide (see **fig 2** again), so after making allowance for a 20mm thick front face, I cut off a strip 85mm wide along the length of the worktop.

From the 85mm wide strip I needed a piece 1220mm long to be glued back onto the front edge of the worktop, and a shorter piece 562mm long for part of the top of the end vice body.

Next, I cut the main piece of worktop to the required length of 1680mm, which allows 2 x 20mm for the respective end faces to produce my 1720mm finished size. I then domino-jointed the 1220 x 85mm strip back where it came from along the front edge, **photo 11**.

Lastly I cut the other piece of the tail vice

body top and the three fillets that go at the back of the worktop; they define the rear tool well area. You will note in the picture of the bench top glue-up, **photo 12**, that I'm a great fan of the Bessey clamps. I would recommend anyone thinking about buying good-quality clamps to consider these first.

Finishing the tail vice

At this stage the tail vice body lacks its iroko top, its mahogany front and end trim and a maple face, **photo 13**. Before these pieces were tackled I had to join the vice body to the sub-frame (by locating the sliding mechanism and rotating the vice screw). This then allowed me to position the whole assembly before screwing the sub-frame to the underside of the bench top. It was critical to ensure that the vice body was parallel to the adjoining edge of the bench top before driving in the screws.

Once everything had been checked for fit and smoothness of operation, I attached the remaining parts of the vice body. The top was done first. I screwed and glued this on as it had to make a contribution to the overall strength of the assembly. The sides and end trim were also glued and screwed in place, but the two maple vice faces were only screwed on to allow for their possible replacement in the future.

When assembling with screws alone I try

to avoid pilot holes or make them as small as I can, and then use some wax to lubricate the screws, **photo 14**. This way the joints are more robust and less likely to suffer from rust.

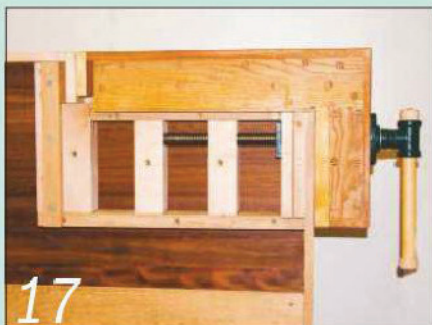
The assembled sub-frame can be seen in **photo 15**. At this stage I decided to fit the plywood floor for the tool well areas in order to provide some support for the three fillets at the rear of the bench top which had been glued in place earlier.

After some planing and sanding, the finished vice body looked like this, **photo 16**, and both the tail vice body and sub-frame can be seen from below the bench in **photo 17**.

The main vice

The Veritas instructions for fitting the main vice, **photo 18**, can be found on their website. The instructions are very clear and the fitting was far less demanding than that required for the tail vice.

I wanted a reasonable throat depth, which required a 25mm spacer under the bench top. Rather than a simple flat spacer I constructed a sub-frame that would also lend support to the vice face on the bench side, **photo 19**. Note the carefully drawn vice centre line shown in the photograph. This was the reference for many of the steps described in the Veritas instructions.



17 The finished tail vice, as seen from below, shows how the completed sub-frame supports the vice



18 The Veritas main vice screw is an engineering heavyweight (photograph courtesy of Veritas Tools Inc, Canada)



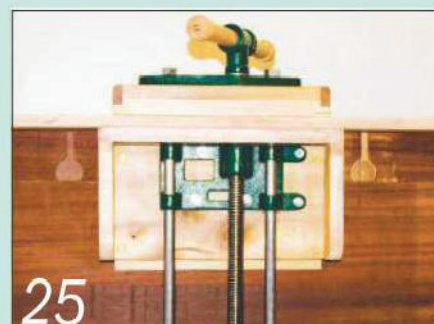
19 The main vice sub-frame shows the centre line used for lining up the assembly



23 The template worked well after I had removed the bulk of the waste with a large Forstner bit



24 The front face was held in place by a clamp before being screwed in place



25 This view of the underside of the main vice shows how the sub-frame supports its face

The vice face was made with hard maple for the actual face and a backing piece of elm, **photo 20**, and some mahogany edging was used to finish it off. Note again the centre lines have been carefully marked on the vice face.

Careful positioning

With this type of vice, the positioning of the carriage and the support collets on the main bench and the faceplate on the vice body determine the overall accuracy of the final fit. The holes on the vice faces are for clearance only, and shouldn't interfere with the movement of the guide rods or the lead screw.

Veritas provide a paper template which makes the marking up for the holes quite easy, **photo 21**. The same template was used for the vice faces and the holes in the front of my sub-frame. The instructions use imperial units and so, for clearance holes, I selected a metric Forstner a fraction larger than its imperial equivalent.

Collet recesses

My bench front face extends from the left of the bench to the front face of the tail vice. I cut this piece of maple a few millimetres oversize, scribed a centre line to match that on the sub-frame and then marked it up for the holes. After cutting the holes I was able

to do a trial assembly which gave me the opportunity to mark up for the recesses for the two support collets, **photo 22**. The more alert readers will notice my error of setting the support collets upside down; I put it down to old age, but it was gravity that did it and it really doesn't matter anyway!

I had to make up a small template in order to rout out these recesses accurately, but first I used one of my larger Forstner bits to cut out the majority of the waste. The recesses were deliberately made 1mm oversize to allow for the final line-up, as the support collet positioning needed to be done accurately.

In **photo 23** both support collet recesses have been completed, and some of the prepared screw holes can be seen. It was now time to do the final fit of the main vice, screwing the sub-frame into position and fixing the front face in place.

Coming together

With the bench top laid upside down, I positioned the vice carriage body on the sub-frame, aligning it using my centre lines. I threaded the vice face along the guide rods and the main screw until it rested against the faceplate. I then did the same with the support collets, followed by the front face. The whole assembly was now threaded through the holes in the sub-frame

and the guide rods and screw were engaged. The screw was turned until the vice was just nipped tight.

I was now able to make some minor adjustments for position and square, checking that the front face was a little proud of the line of the bench top. Once everything was satisfactory, I screwed the sub-frame into position, did one more check and then screwed the vice carriage in place. I then held the front face in place with clamps whilst turning the whole bench top over, **photo 24**.

Finishing touches

The front face was now screwed into place, followed by the screws securing the front face to the vice carriage. At each stage I checked the line-up, and finally checked that the vice face and front face were perfectly parallel. I planed the front face flush, plugged the screw holes and did some sanding.

Photo 25 shows the finished vice from under the bench. Incidentally, two of the original machined kitchen worktop joint recesses can be seen here. I'd filled the one on the right early on when I thought that it would be under the main vice. But no one will ever see them now...

Join me in next month's issue for the concluding part of my bench build.

Olive Wood Turning

UK Suppliers of Olive Wood Blocks for Carving & Turning



Olive wood bowl and turning blank



Olive heart wood

My name is James Newburn. Welcome to Olive Wood Turning.

For many years I have been turning all sorts of bits and pieces on my wood lathe in my workshop. As with most of you, I would guess that it's always a pleasure to get a new piece of wood onto the lathe and see what's inside. I first tried turning olive wood a couple of years ago, the first thing that hits you when you start turning is the smell, it's just fantastic. I've tried fresh cut, part seasoned and fully seasoned. All these have their good and bad points but I've found that turning part seasoned works for me the best. Whilst not being dripping wet it's still malleable enough to get a good shape out of before sealing and putting it on the shelf for a few months ready to final turn and polish. It's always an absolute joy to final turn and polish olive wood projects, the golden grain sparkles, it's very difficult to find a poor looking piece. It's also possible to turn larger projects, but to find fully seasoned large pieces of olive wood are both rare and usually very expensive. My intention with Olive Wood Turning company is to supply very nice part seasoned wood imported from southern Italy, in useable sizes at reasonable prices for those who want to unlock the delights of olive wood.

At present I have the following five sizes all sizes in mm. ;
155x155x75 180x180x100 300x75x75 250x65x65
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In my experience the sales of my Olivewood pieces at craft and trade fairs are always good. Customers cannot resist the smell and feel of the wonderful wood. The sizes on the products page are what I have in stock but I can supply most sizes if you don't see what you need. I turn this wood as well as supplying it. Having been to Italy and Greece to visit wood yards, in my opinion my product is the best on the market (but then it would be) give it a try for yourself I'm sure you'll not be disappointed. If you need a size that you cannot see here, give me a call and we will have a chat and see if we can help! I look forward to hearing from you!

Olive Wood Turning is a subsidiary of Wood and Stuff Ltd, 38 Park View Road, Lytham St Annes, Lancashire, FY8 4JE
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BY ANDY STANDING

Which machine?

As your woodworking skills improve and your projects become more adventurous, you'll find an increasing need for more tools and, inevitably, some woodworking machinery. But where do you start, and what do you put first on your shopping list? Here's some advice that I hope you'll find helpful

Of course many people happily produce excellent projects using hand tools alone, though this demands great dedication and much elbow grease. The modern woodworker – both professional and amateur – now relies on machinery to do much of the hard work. However, there are many options when it comes to equipping a workshop,

and it can be difficult to make the right choices. One has to consider such things as the space available, the amount of use each machine will get, its capacity, and, not least, the price. There is also the possibility of acquiring second-hand machinery as a way of saving on the capital outlay. So let's take a look at each category of machine in turn.

THE TABLE SAW

This is the first machine that the majority of woodworkers buy, for the simple reason that it's the most regularly used machine in the workshop. From initial timber conversion through to final dimensioning, it's the table saw that does the donkey work.

There are many sizes of saw, ranging from compact portable machines through to large panel saws with huge sliding



This Scheppach saw has a 200mm diameter blade and costs about £600



SIP's 01321 saw has a 250mm diameter blade, yet costs only about £170

tables. As with all things you generally have to compromise a bit, but realistically you should be looking at a machine with a 250mm diameter blade in order to get a sufficient depth of cut in timber.

The best saws have solid metal cabinets and thick cast iron tables to absorb any vibration. Fences should be rigid and easy to set, and if you wish to make furniture or undertake serious joinery a good sliding table is a great asset. As the table saw is such a pivotal machine, it is really worth buying the best that you can afford.

THE PLANER THICKNESSER

The second machine that you'll need is a planer, or more likely a planer/thicknesser. Hardwoods are normally supplied as sawn boards, so you need to be able to surface-plane and then thickness-plane your timber to the finished dimensions you require. A planer/thicknesser is a combination machine that can fulfil both functions in one.

You could buy a separate planer and thicknesser, as often found in professional workshops, but, apart from being a more expensive option this also demands more workshop space. A combined machine is therefore a sensible compromise.

As with many woodworking machines, the best planer/thicknessers have cast iron tables. These provide the greatest accuracy and wear resistance, and their mass also helps to absorb any

mechanical vibrations. You can buy compact bench-top planer thicknessers which are fine for small projects and are obviously ideal for the small workshop. Their capacity is typically a maximum planing width of 200mm and a maximum thicknessing capacity of 100-120mm. However, if you have the floor space, a larger and more powerful machine with a planing capacity of up to 250mm and a thicknessing capacity of around 150mm should cover most of your needs.

Once you have both a good table saw and a planer/thicknesser you have the base around which to construct the rest of your workshop. The choice of the other machinery very much depends on what you intend to make.



The Woodster pt85 is a typical bench-top machine costing just under £300

The Metabo HC 260C is a more substantial floor-standing machine at around twice the price



THE BANDSAW

Table saws are fine for making straight-edged components, and they can be persuaded to cut tapers; however, cutting curves is beyond them. There are several ways to make curved components. A fretsaw or coping saw will do the job by hand. A jigsaw is also an excellent solution if you prefer to use a power tool. However, for larger pieces and greater accuracy it's hard to beat the bandsaw.

Bandsaws are remarkably versatile machines. Not only can they cut curved components; they're extremely useful for cutting certain joints, especially tenons.



Little or large? The Elektra Beckum model dwarfs the little Scheppach Basato 1 saw; it's a case of choosing horses for courses

They also have the ability to cut veneers. It's a satisfying process being able to convert a chunk of an expensive exotic timber into pieces of veneer, so that none of it is wasted.

Bandsaws are also surprisingly good value for money. Although large ones are relatively expensive, you can still achieve a lot with a relatively modest-sized model that won't take up a huge amount of workshop space.

Bandsaws must be carefully set up to ensure maximum accuracy. Because their blades are thin and flexible, they rely on support bearings to hold them in alignment when cutting. It can take a little practice to get the best out of a machine and to find the optimum settings, but it's well worth the effort. Bandsaw blades are relatively fragile and can be easily damaged, so expect to replace them regularly. Always use good-quality blades; the cheap ones supplied with most saws are a seriously false economy.

THE MORTISING MACHINE

Cutting joints is an integral part of any woodworking project. There's usually a choice of joint to use for a particular application, and always often a number of different ways to cut it. Cutting mortises is a case in point. You can cut them by hand with a chisel; you can drill out the waste with a pillar drill and then square up the hole with a chisel; you can cut a round-ended mortise with a router and then either square the ends or, alternatively, make a round-ended tenon to fit it.

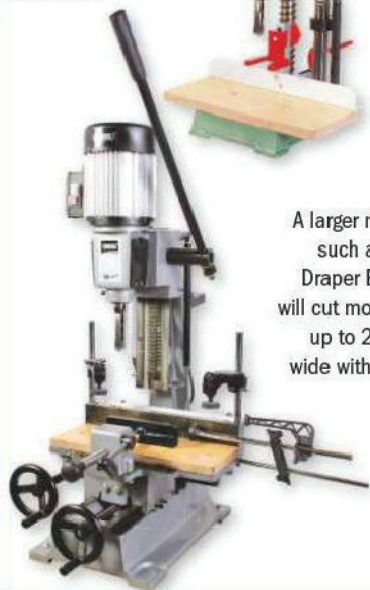
All these methods are a bit fiddly, however, and if you are making furniture which involves a lot of mortise-and-tenon joints, a dedicated mortising machine can be a good investment. There are several different types available, but the most effective is the square chisel mortiser, which uses a spinning auger housed inside a square chisel.

The whole assembly is plunged into the timber, with the auger removing the majority of the waste and the chisel squaring the edges at the same time. These machines are made in a range of sizes, from small bench-top models to large floor-standing machines that incorporate a moving worktable to speed up the mortise cutting.

A relatively inexpensive bench-top machine is fine for cutting the occasional small joint



A larger model such as the Draper BM25 will cut mortises up to 25mm wide with ease



ROUTER TABLES AND SPINDLE MOULDERS

If you've been woodworking for any length of time, the chances are that you will have acquired a router. To make the most of it you also need to have a router table. This will allow you to tackle more complex projects and to undertake machining operations that aren't possible – or safe – to carry out by hand. These include making doors, moulding panels, using templates, and much more. A good solid table will greatly extend your router's capabilities, and won't cost a fortune. You can also add a range of useful accessories such as a dovetailing jig to



A spindle moulder is a much more expensive and sophisticated machine, mainly used by professional woodworkers

A small router table will turn a useful hand tool into an extremely versatile (and far safer) woodworking machine



the table to speed up a range of routine router operations.

There is an alternative to the router table for the serious machinist, and that's the spindle moulder. However, this is an expensive machine that's more usually found in professional workshops. Many of its functions can be covered with a router table, but if you wish to undertake any serious joinery, such as making windows, you might find a spindle moulder more useful. The main advantage of a spindle moulder is that it's large and powerful, so it can use larger cutters than a router and can safely take deeper cuts. It's also considerably quieter than a router in use – a definite bonus if your woodworking involves a lot of repetitive work. The disadvantage is the initial cost of the machine and its tooling, though the cutters can surprisingly be cheaper than those used on routers.

COMBINATION MACHINES

If you don't want to opt for separate machines you could choose a combination or universal woodworking machine. These, as their name suggests, combine the functions of several different machines in one unit. Their big advantage for the home woodworker is that they can take up less space in the workshop, and they're fine for a single user. A typical universal machine would house a table saw for both ripping and cross-cutting, a planer/thicknesser and a spindle moulder. A sliding table is normally incorporated, and this is shared between the saw and the spindle moulder operations.

Universal machines can be a cost-effective option as often the shared parts of the machines can reduce the price. They do, however demand a very disciplined way of working as the machine must be re-set for each function. So if you have cut your timber to length and have started planing it, but suddenly realise that you need an additional piece, you will

have to spend time re-setting the machine's function. On more sophisticated machines this can be a fairly painless process, but on others it can involve swapping drive belts and fences, and this can become something of an irritation. So a universal machine can be a bit of a compromise, although it can also be very convenient. They're also expensive, but a good second-hand one might be a very worthwhile investment.

This Startrite machine has three separate motors, so switching functions is extremely quick and easy





BY KEITH SMITH

Shop notes

Sometimes the jobs just keep on coming, which is good for the cashflow and my peace of mind, but it's essential to have a breather now and again so you can take stock and tidy up a bit. The recent long Easter weekend unexpectedly gave us just the break we needed

Last month you may remember I was fitting castors onto a mobile unit for a kitchen we were installing in a converted chapel. We tried to make the mobile unit look as un-mobile as possible, **photo 1**, and the only real giveaway is the lack of a plinth. It sits in front of a pair of double doors which they rarely open, as shown in the main picture above. When the weather turns hot and they want to open the doors, they simply wheel it out of the way and park it under the stairs. I was really pleased with the way the castors worked, as it skimmed over the quarry tiles with ease.

An unexpected bonus

Our next job was to fit out a study; we made the units and delivered them on Good Friday, only to find no one at home. We assumed they had gone away for the weekend without telling us, so we went back to the workshop and had the luxury of spending the next few days reorganising the place.

The smaller the workshop the more efficiently it needs to be laid out, and with almost four days at our disposal we could make some major changes. Firstly we made some drawers to fit under the disc sander. I had made the chest some months earlier, but ran out of time before I could complete the drawers.

The drawers are basic plywood boxes screwed together, but I've fitted them on full-extension under-mounted drawer runners, **photo 2**, which support the bottom of the drawer and take all the weight. It's a

bit of a luxury using this type of runner in the workshop. However, they were left over from a previous job and, as they don't have 'soft close', we couldn't use them for kitchen cabinets. Waste not, want not!

The turn of the screws

Our next job was to tackle my screw problem. I have loads of boxes, some with just a few screws in, but when I need a particular type or size I can never find the right one.

In desperation I'd bought two metal trade cases of screws, **photo 3** – one for the workshop and one for the van – and my boxes of screws have languished on the shelves ever since. Determined to do something about it, I bought 50 plastic take-away food trays with lids. These are great because they're cheap (less than 10p each) and they're clear so you can see the screws without taking the lids off; they stack brilliantly too. I decanted all my screws out of the cardboard boxes and into the trays, marked the ends and thought that was a job well done... until I needed a screw! The lids are designed to be watertight, and I found it really difficult to get them off.

A change of tack

There was no going back to the cardboard boxes, so I went out and bought 30 cheap food storage boxes, which cost me just £10 from a discount store. These don't stack as efficiently in my wall units, but the tops come off reasonably easily and they're

sturdier than the take-away boxes.

After the false start this has worked really well. I've used a permanent marker to label the ends of the containers, and now all my screws are to hand, **photo 4**. What's more, I can see at a glance if stocks of any size of screw are running low.

Better tool storage

The next task was to reorganise my hand planes and power tools. Some years ago I made a rack for my planes which was on the wall behind the bench. This worked well until I fitted a large sheet of mdf onto the bench to give me a bigger assembly space. The unfortunate consequence was that the planes were no longer within easy reach.

I've managed like this for quite a long time, as there was no easy solution, but with this extra time on my hands I could finally do something about it. I started by dismantling the metal racking I have in the corner of my workroom; this had held my power tools (although not very efficiently). I had a similar rack in the loft and took that apart; this gave me an additional shelf to fit in my original rack. With this extra shelf I could house all my power tools and still have enough space to include the sloping rack holding my planes, **photo 5**.

I screwed the rack securely to the wall in the corner of the room where I used to do all my sharpening, as everything is more to hand there. In the corner where the racking had been I placed an old chest of drawers I'd been going to throw away. This now houses my screwdrivers, Japanese saws, specialist chisels and other small tools. I put the Tormek on top of the chest and fitted the remainder of the metal racking on the wall above it, **photo 6**. The only trouble is that I need steps to reach the top shelf, **photo 7**!

The space conundrum

I now have a lot more storage space, yet the room somehow feels bigger. Having everything to hand has made working a lot easier, and I hope it will speed up the construction process. We needed to do something: we're so busy at the moment that it's hard to get even one day off at the weekend. I should grumble...

Last month I promised you a workshop tour, but the place is still full of utility-room furniture. However, it will definitely happen next month. As I've been trying to improve the efficiency of my own workshop, I thought we could have a competition. The best idea sent in to the editor (details on page 5) for improving workshop efficiency will win a prize. So get your thinking caps on! More details next month...



1 The mobile kitchen unit has four swivelling castors and can be moved about quite easily. In such a small kitchen it's more useful than a butcher's block trolley



2 These simple drawers are mounted on full extension under-mounted drawer runners. These will carry up to 30kg and give total access to the drawer contents



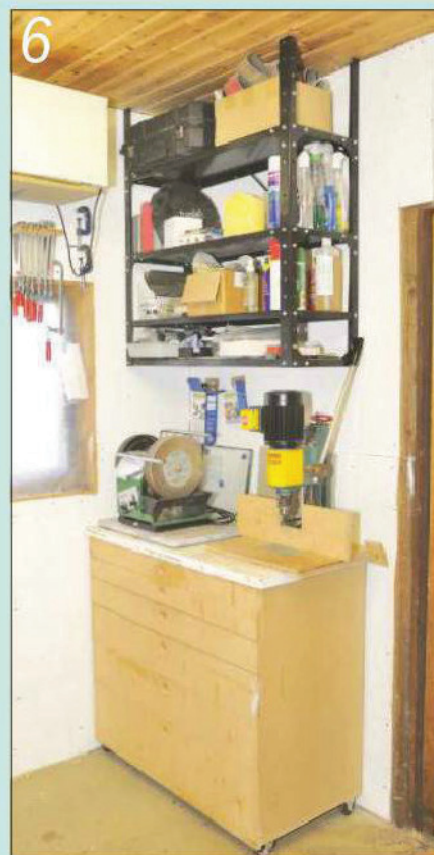
3 I bought two different trade cases of screws. In my opinion, the Reisser case (left) has a better selection of screws than the Spax case (right)



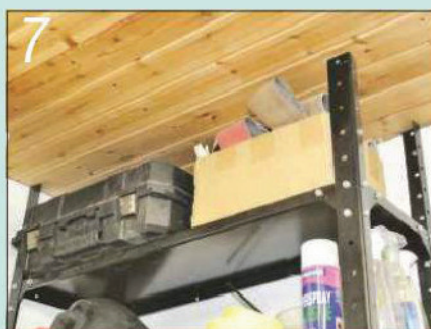
4 The jumble of small cardboard boxes partly full of screws has gone and I now have everything to hand; it cost me just £15 to get this organised!



5 After fitting an extra shelf in the rack, I was able to store my power tools more effectively and have enough space to keep my planes close to hand



6 I threw this set of drawers together as a temporary storage unit many years ago, but it still functions well and is great for storing all my small tools as well as my Tormek



7 This rack is securely fixed to the wall, but I've also fitted a metal bracket to the ceiling and bolted it to the front leg to stop it sagging over time. Now I need steps to reach the top...

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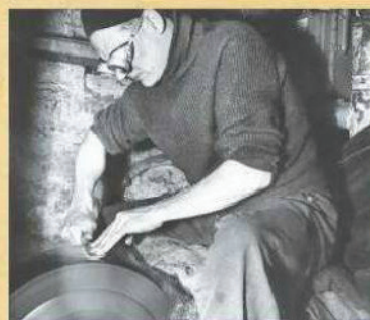
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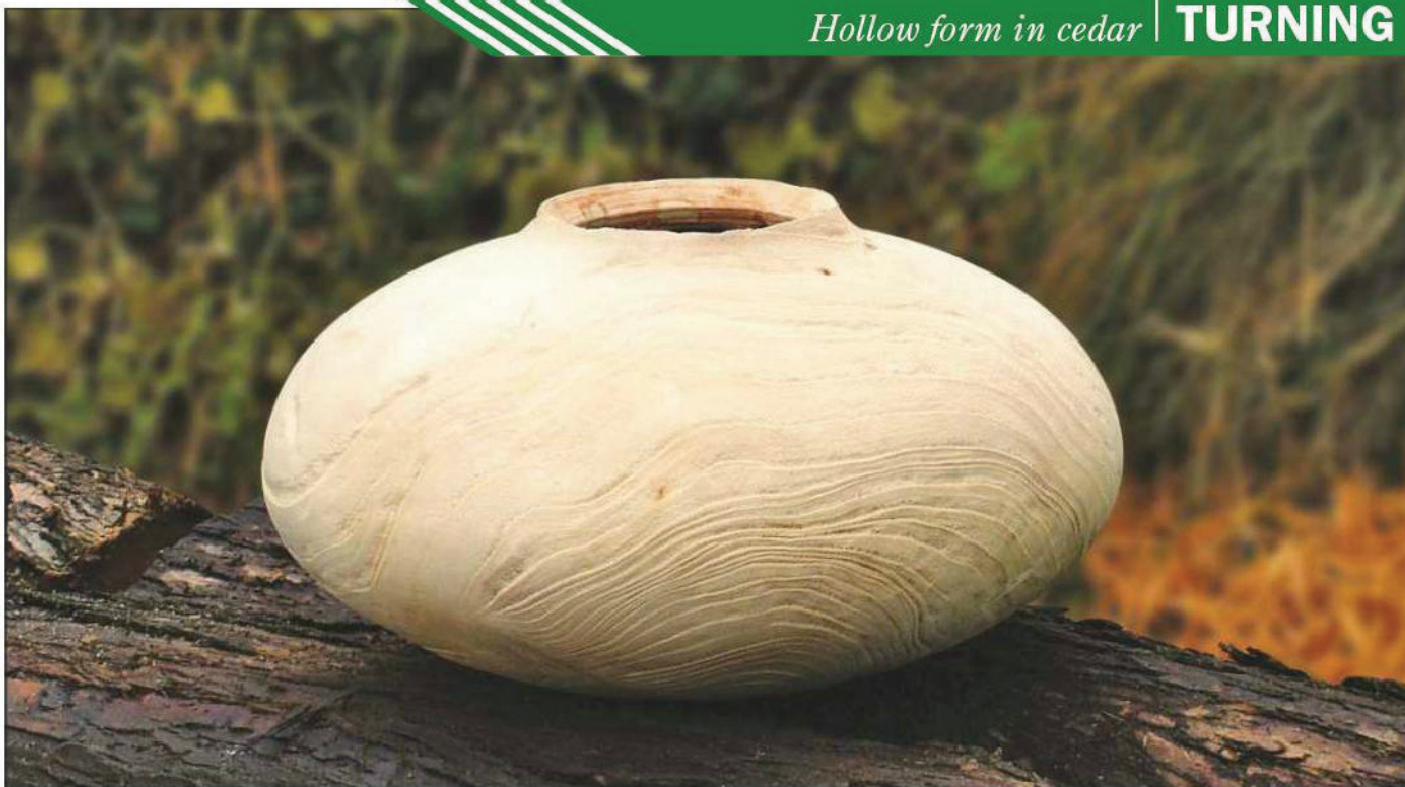
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BY COLIN SIMPSON

Driftwood gourd

1

Start by cutting a suitably-sized slab of cedar. The chainsaw isn't compulsory!



I've created this hollow form in cedar because I wanted to texture it and bring out the difference between the soft spring growth and the harder summer growth. Yew, also botanically a softwood, textures well too, as do the more open-grained hardwoods such as sweet chestnut or ash



2

The bandsaw makes short work of cutting a disc from the slab

I planned to texture the finished piece by sandblasting it, to give it the bleached and weather-beaten look of a piece of driftwood. However, if you don't have access to sandblasting equipment but still wish to have a go at texturing, try using a stiff wire brush in an angle grinder instead.

Starting point

I picked up a few butts of cedar about six months ago that I intended to use for a series of textured pieces, so my first job was to cut a suitable blank, **photo 1**. Mine was about 180mm deep and 280mm in diameter, and I chose the side-grain

orientation – like a bowl – rather than hollowing through end grain like a vase.

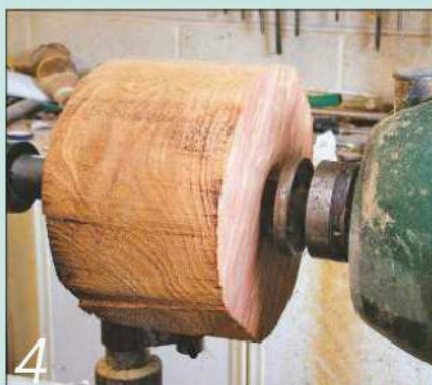
Having hacked off a suitable slab with the chainsaw, I cut a roughly round blank on the bandsaw, **photo 2**. This wood is still very wet, and I'm going to turn the piece to a finish to minimise the risk of it splitting, so it will be necessary to turn it to an even wall thickness of about 5 or 6mm.

Getting a grip

Mount the piece on the lathe between centres. I've modified a faceplate by adding four spikes to it, **photo 3**, and I use this in place of a four-prong drive for these larger



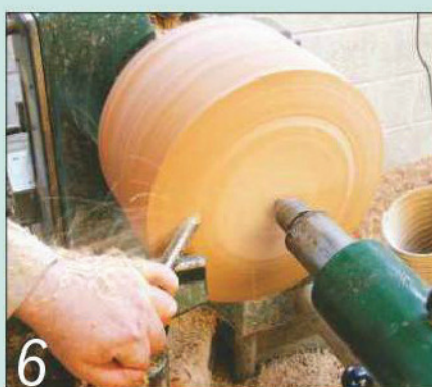
3 This is my adapted faceplate with four equally-spaced spikes screwed to it



4 It works well even if the surface of the blank isn't completely flat



5 Start by truing up the side of the blank with a 1/2 inch fingernail bowl gouge



6 Then use a pull cut with the same gouge to tidy up the base of the blank



7 Cut the chucking spigot to a diameter that will suit the capacity of your jaws



8 Mount the piece in the chuck and finish shaping the outside



9 Use a twist drill held to bore into the top of the vessel to the correct depth



10 Use the bowl gouge to start hollowing, as if you're turning a bowl

pieces. Tap it into the centre of the blank with a mallet and it makes for a really firm hold, **photo 4**. True up the side of the blank using a 1/2 inch fingernail profile gouge, **photo 5**. Note how low the handle is for this cut; the shaving is coming from just off the tip of the tool, slicing through the wood to give a good, clean finish.

Tidying up the blank

Next, use a pull cut with the same gouge to tidy up the base of the blank, **photo 6**, and then cut a spigot to fit your chuck, **photo 7**. I'm using the Axminster gripper jaws; these allow me to have a spigot about 87mm in diameter and this gives me a very secure grip. Mount the piece in the chuck and finish shaping the outside, **photo 8**.

I then used a twist drill to bore a hole in the centre of the piece to the full depth that I want to hollow out, **photo 9**, and used the 1/2 inch bowl gouge again to make a start with the hollowing. Remember that this is a side-grain vessel, so hollowing is done in the same way as when turning a bowl, **photo 10**.

Specialist help

There's a limit to how much I can hollow out this type of form using conventional gouges, and to undercut the rim specialist tools are definitely required. **Photo 11** shows a number of these: from top to bottom they are the BCT Versatool, shown with the toothpick cutter and the Supercut scraper; the Rolly Munro hollowing tool; the Woodcut hollower, and the Big Brother hollowing tool with the Goliath cutter and cover shown beside it.

There are many other specialist hollowing tools on the market, but these are the ones I seem to have accumulated over the years. Hollowers that are based on the ring tool are very common, but they have a cover on top of the cutting edge to limit the depth of cut. The Rolly Munro hollower is different; it has a circular cutter bit, and the shaving it produces is ejected from the top of the tool, just like a gouge. The BCT (Bierton Craft Turnery) Versatool comes with the toothpick HSS cutter as standard and the Supercut shear scraper as an option.

Digging deep

For this side-grain vessel I chose the Versatool with the toothpick cutter to hollow under the rim, **photo 12**. Note the out-rigger that is kept on the tool rest to prevent the tool from rotating. The toothpick cutter removes wood very efficiently, but it's essential to keep stopping the lathe and removing the shavings or they may well

bind around the tool. I use compressed air, **photo 13**, but if you don't have this, a low-tech tool such as an old spoon taped to a stick, **photo 14**, works almost as well.

When hollowing deep inside a vessel, the more the tool overhangs the tool rest the greater the pivotal force acting on it. To counteract this force you need to hold the tool as shown in **photo 15**. I have my forearm lying on top of the tool handle, so my elbow and shoulder help to keep the tool handle down. Sometimes even this isn't sufficient and I have to tuck the handle under my armpit, **photo 16**.

Thinning out

Continue hollowing until you're happy with the wall thickness – as mentioned earlier, I was aiming for an even thickness of about 6mm. Stop frequently to remove shavings and to check on progress. **Photo 17** shows me using a home-made depth gauge to make sure I'm not cutting too deep at the bottom of the piece.

Tapping the vessel with the handle of the tool, **photo 18**, and listening to the sound gives a good indication of even wall thickness. The duller the sound, the thicker the wood is, but do ensure that the vessel is empty of all shavings and dust before relying on this method. Any shavings left inside will give you a false 'reading'.

I used the BCT Versatool with the Supercut shear scraper to make my final cuts on the inside of the vessel. This gave me a much smoother surface than the toothpick cutter can achieve.

With the inside completed, I made a couple of finishing cuts on the outside using a $\frac{3}{8}$ in spindle gouge, **photo 19**, before reverse-chucking the piece between centres to turn off the spigot, **photo 20**.

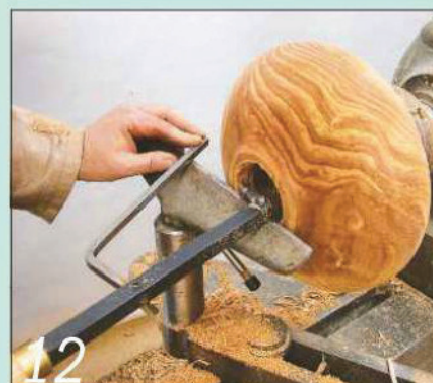
Having a blast

My sandblasting set-up is shown in **photo 21**. I know it's seen better days, but it still works! The red cylinder in the front is the sandblasting pot, and this is connected to a large compressor – an AirForce 15/150 – that delivers 10.5cu ft/min of free air. You need a large volume of continuous air for sandblasting, so a large tank is essential. The gun is housed in the blue cabinet and the vacuum cleaner removes spent grit for recycling once I've sieved it. I'm using aluminium oxide grit.

Photo 22 shows me working on the system. You don't really need the blue cabinet if you're prepared to waste the abrasive. In this case just sandblast in the open, but keep well away from the family car! If you're sandblasting outside a cabinet,



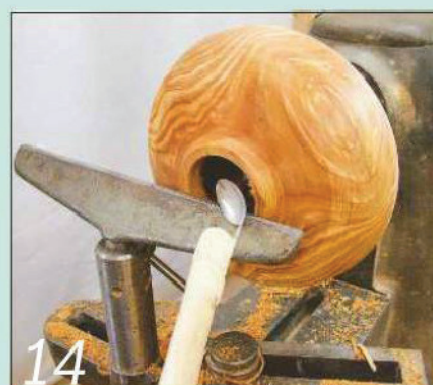
11 You need some specialist tools to hollow out this type of form; see the text for details



12 I've opted for a BCT Versatool fitted with the toothpick cutter; note the outrigger



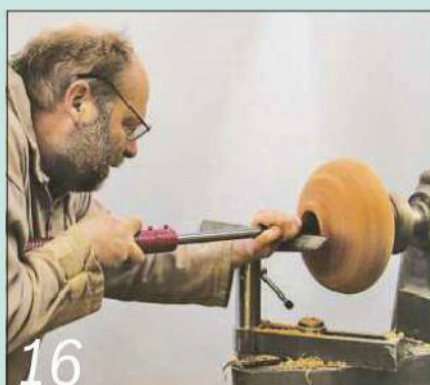
13 Remove the shavings frequently so they don't bind on the tool; I use a blast of compressed air



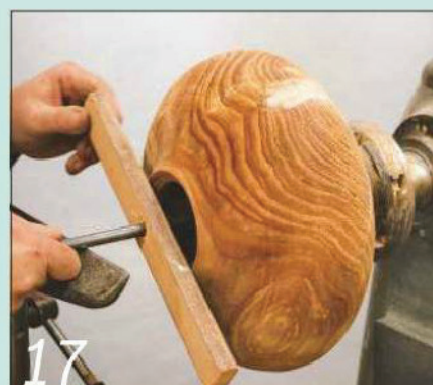
14 An old spoon on a stick works well, but it's quite a bit slower at removing the debris!



15 In this stance the pivotal force on the tool is absorbed by my forearm and shoulder



16 You may need to crouch and tuck the tool handle into your armpit for extra control



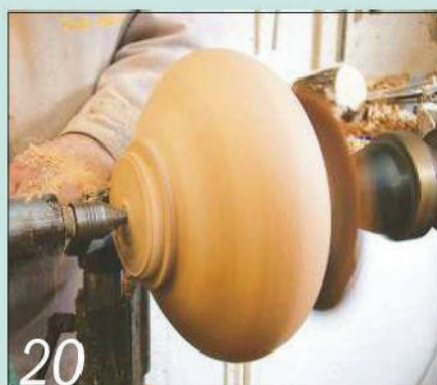
17 Check the depth of the hollowing regularly as you work to avoid cutting too deep



18
Tapping the vessel gives a good audible indication of the wall thickness



19
With the inside completed, finish the outside with a small spindle gouge...



20
...before reverse-chucking the piece between centres so you can remove the spigot



21
My sandblasting equipment looks old, but it still works perfectly well



22
I can view the workpiece through the window on top of the cabinet as I manipulate it



23
Try texturing the piece with a rotary wire brush, followed by a nylon one, if you can't sandblast it



24
Brush on a generous coat of the first bleach solution and leave it for 10 minutes



25
Once bleaching is complete, finish off with the nylon abrasive brush to flatten the raised grain

be sure to wear eye, ear and respiratory protection and a stout pair of gloves.

As I said earlier, if you don't have any sandblasting equipment you can achieve a similar result using a wire brush in an angle grinder, followed by a rotary nylon brush, as shown in **photo 23**.

On the bleached

I was pleased with the way the sandblasting turned out; it gave the piece the right eroded look, but there was still something more I wanted. I was after a weather-beaten organic look, and I felt that the colour of the wood detracted from this so I decided to bleach the piece.

I used a two-part wood bleach and applied it according to the instructions. The first solution is sodium hydroxide, which is painted on liberally and left for about 10 minutes, **photo 24**. Then you apply the second solution of hydrogen peroxide and leave it for about two hours. If this hasn't bleached out all the colour, simply repeat the process. When it's done, neutralise the bleach with a weak solution of white vinegar and water, then rinse it off.

Finally I gave the piece another going over with the nylon rotary abrasive to flatten the raised grain caused by the bleaching and washing process, **photo 25**. The main picture on page 53 shows the finished piece. The texturing effect is exactly what I set out to achieve, but the piece is still very wet and isn't as 'bleached out' as I would have liked. I'm going to wait until it's dry to see if the colour lightens further. If it doesn't, I'll repeat the bleaching and then finish it with a clear acrylic lacquer.

Unfortunately, time constraints in delivering this article for publication didn't allow me to do this, but if you want to see the finished piece in a future edition of the magazine, just ask!

FURTHER INFORMATION

BCT and Hamlet Siragas Big Brother tools

- The ToolPost
- 01235 511101
- www.toolpost.co.uk

Rolly Munro tools

- Brimarc
- 03332 406967
- www.brimarc.com

Woodcut tools

- Phil Irons Woodturning
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- www.philirons.co.uk

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The story of the Oak Project is told in Alain de Botton's *Pleasures and Sorrows of work* (Penguin 2009) and from the artists point of view in Stephen Taylor's *Oak: one tree, three years, fifty paintings*, an Oprah Winfrey Book of The Week. (Princeton Architectural Press 2011) see www.stephentaylorpaintings.com

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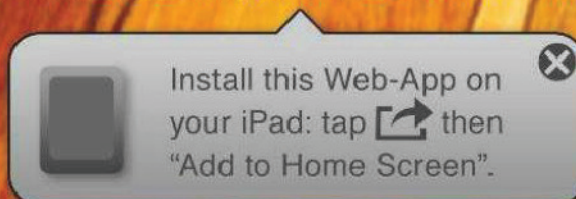
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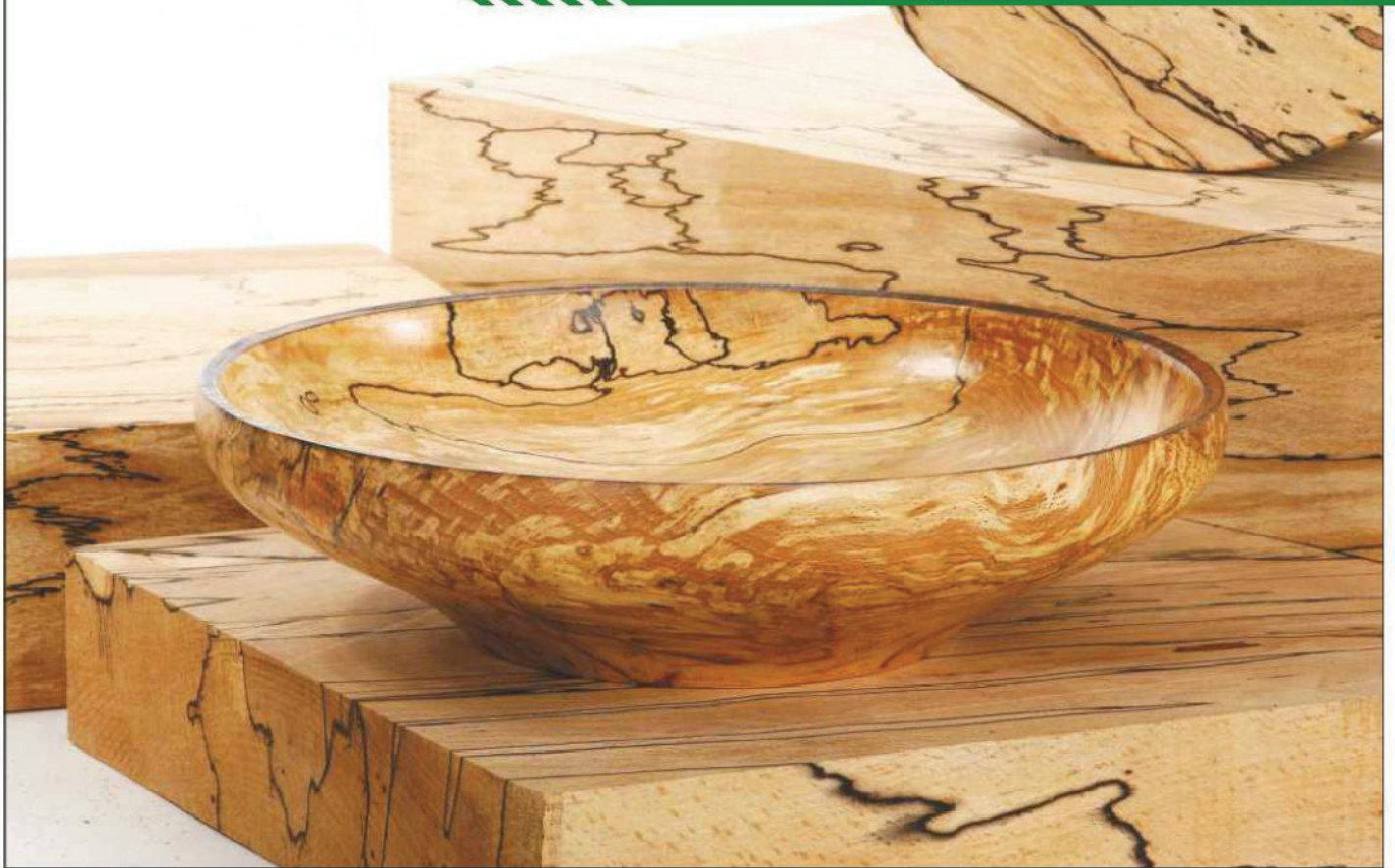


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BY ALAN HOLTHAM

Gone to rot!



1
Moulds affect only the surface, while stains penetrate more deeply

Spalting is a by-product of the rotting process that affects all wood to a greater or lesser extent. It's caused by moulds and fungi, and can create many different and beautiful colours and patterns in the wood. This makes spalted wood highly prized for its looks, especially by turners

While there are many examples of wooden artefacts that are a thousand years old but still in perfect condition, the inherent tendency of wood to decompose and return back to nature is always there. It's merely held at bay by Man, but no matter how long the timber has survived, it takes only a minor change in environmental conditions to trigger off the decay. Left in the wild, trees age and die, and then rot away and return

nutrients to the soil to begin the growth process over again. However, we can delay this process, primarily by getting the wood properly dry during seasoning.

Cause and effect

Decay can be brought about through a number of agencies such as bacteria, insects and most importantly, fungi. There's often an interaction between them, making it difficult to judge which is cause and which



2 The earliest stage of rot infestation usually causes some form of staining



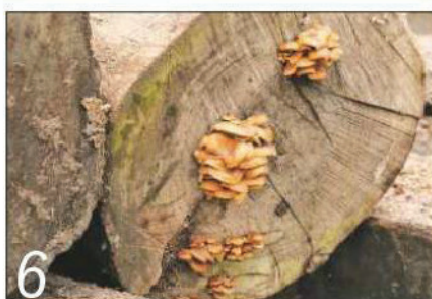
3 Some wood-destroying fungi colonise logs only after they have been felled



4 Others prefer to attack sawn timber while it's being seasoned



5 The most dangerous fungi of all, such as the dreaded dry rot, attack wood while it's in service



6 The fruiting body of a fungus generates spores that disperse and spread the infection

is effect. Whatever the cause, some of this degradation can work to our advantage as woodworkers, producing some amazingly decorative effects. Spalted timber is a prime example of this relationship, the wonderful patterns being the result of a fungal infection.

The three degrees

Fungi are very low forms of life and are unable to produce food for themselves like a living plant, so to survive they take nourishment from the timber they have infected. The degree to which this affects the timber gives us a broad classification of the huge fungal group into moulds, stains and rots.

Moulds are infections of the wood surface, **photo 1**, whereas stains penetrate more deeply into the actual cell structure. Both feed off the carbohydrate stored in cell

cavities, but don't actually affect the cell structure. The most obvious symptom is discoloration – usually a bluey grey colour that is disfiguring rather than attractive.

Rots, on the other hand, are far more destructive. They feed by producing enzymes that break down the cell structure itself. In the early stages of attack the first symptom is again some form of staining, **photo 2**, which is often referred to as 'dote' and only moderately affects the strength properties of the timber.

Wasting away

The process of decay is progressive, however, and advanced decay results in a softening of the wood and eventually total loss of strength. There are many totally different forms of attack. Some fungi thrive

only on the heartwood of standing timber, leaving behind the characteristic hollowed-out shell. Others colonise logs only after they've been felled, **photo 3**, or sawn timber while it is being seasoned, **photo 4**.

Perhaps the most important group from an economic viewpoint are the fungi that attack timber after it has been put into service, including the highly damaging forms such as dry rot, **photo 5**.

Dispensing spores

Wood-rotting and sapstain fungi belong to a huge group of plants that includes mushrooms and toadstools. These large visible growths are the fruiting bodies of the fungus, **photo 6**. They produce the single-celled spores which disperse to continue the colonisation. The damage is caused by their vegetative feeding system, which is often not visible on the surface, but consists of hundreds of fine tube-like structures called hyphae which grow rapidly through the wood structure, devouring both the cell walls and their contents.

Four ways to flourish

Like all living structures, fungi need some basic conditions in their favour to survive and thrive. Knowing what these conditions are and then regulating them gives us a real means of controlling them. There are four requirements.

■ **Temperature** The optimum temperature for fungal development is in the range of 20 to 30°C. There is little activity beyond these extremes, which explains the sudden burst of summer activity in temperate regions with cold winters. Unfortunately this is also the temperature range within which we like to live.

■ **Oxygen** There must be an air supply for rot to occur; fully waterlogged timber rarely decays because of the lack of oxygen. This is why in some countries logs are often stored in water until they are ready for conversion, and why timber piles for harbours and piers will last forever when fully immersed.

■ **Moisture** The ideal moisture state for fungal attack is at (or just above) the fibre saturation point. It is not until wood is dried below about 20 per cent moisture content that you can be sure it's safe from attack. Interestingly, drying infected timber doesn't necessarily kill the infection. It may just lapse into a dormant state, ready to return if the moisture content rises again. Dry rot is an exception, in that it usually dies off in prolonged dry conditions.

■ **Food** The wood on which fungi live provides the necessary food source. The fungi actively break down the cell walls and their contents, particularly the stored

carbohydrate in the sapwood.

The heartwood of some trees contains deposited chemicals that are poisonous to fungi, rendering these species resistant to decay. This explains why some timbers such as oak are naturally durable; fence posts exposed to the weather for years quickly lose all their sapwood, but the heartwood core remains untouched. Jarrah, often used to make railway sleepers before concrete took over, still looks perfect after years of service exposed to the weather, **photo 7**, showing no sign of staining, fungal infection or decay.

All of these conditions must be in place for rotting to occur. Lack of one of them usually halts the process, even if all the others are present. As an example consider bog oak, often buried for thousands of years but with no available oxygen. It can be dug up perfectly intact, but very soon after being exposed to the air it starts to fall apart.

Identifying fungi

The two main constituents of wood are lignin and cellulose, and identifying which of these is attacked helps to finger the particular fungus involved. The brown rots feed mainly on cellulose, while the white rots feed on both cellulose and lignin. The degree to which either of these substances is affected results in a different form to the decay – cubic rot, pocket rot and so on.

As lignin is the main constituent holding all the wood cells together, anything that attacks that is particularly destructive. A lot of the pigmentation of wood is formed in the lignin, so white rots have a pronounced effect on timber colour. If white rot becomes really advanced the timber becomes pale, soft and spongy, **photo 8**.

Standing tree fungi

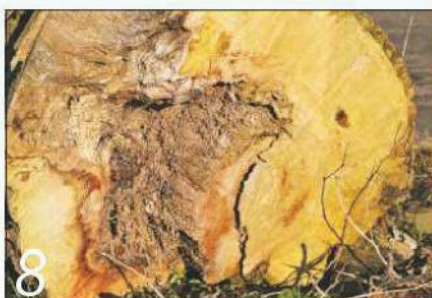
Fungi that attack standing trees are responsible for losses to the forest owner, but they will rarely affect us as timber users because once seasoned, such wood is safe from further decay from this fungus group. An exception here is brown oak, which is normal oak that has been infected by the Beefsteak fungus (*Fistulina hepatica*). This gains entry to the tree through a wound of some sort, but causes no damage to the living tree apart from extracting nourishment. However, it causes chemical changes which result in a highly-prized brown coloration that highlights the wonderful figure in the oak, **photo 9**.

Log and plank fungi

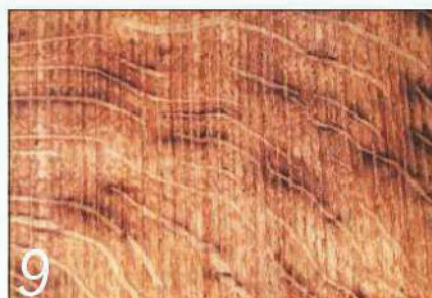
Sometimes trees are felled and left lying for some time before being converted into



Some woods, such as oak and jarrah, are naturally extremely durable



White rot leaves the affected wood looking extremely soft and spongy



Highly-prized brown oak occurs when oak is infected by the Beefsteak fungus



Converted wood is also at risk if it's kept in adverse drying conditions



The initial infection affects only the wood's colour, not its strength

planks. This delay before conversion and drying is the prime cause of infection of logs by decaying fungi. The potential problem is far worse in tropical countries, where warmer temperatures mean that fungal development is much more rapid. These climates also tend to harbour more variety in the way of bark-boring insects and ambrosia beetles.

Converted timber kept in adverse drying conditions is just as likely as logs to be infected with fungi of some sort, **photo 10**, particularly those timber species which don't have naturally resistant heartwood.

Finished wood fungi

The only sure way to prevent wood-rotting fungi from attacking timber in its finished situation, such as in a building, is to use

sound, kiln-dried material which is free from fungal infection in the first place, and then to provide sufficient ventilation to prevent it from becoming damp. The very destructive 'dry' rot (*Serpula lacrymans*) is able to thrive in conditions of relatively low moisture content, and any infection it causes must be treated very seriously indeed if major structural damage is to be avoided.

Why spalted wood?

The first stage in the decay process is the invasion of the timber by a range of different fungi, which start to break down the wood material, often producing a variety of colour changes in the process. It is when these colour changes produce decorative effects, but without substantial loss of structure, that the wood is said to be 'spalted'.



black zone line is formed. This is what characterises spalted wood, with the pockets of different colours each surrounded by a black line, **photo 12**.

Sometimes there may be only a couple of different fungal species involved, so the spaling is quite bland, but if there are lots of them all intermingling then the zonal lines become much more numerous and decorative. They also vary in width, from the thickness of a human hair up to several millimetres across, **photo 13**.

There's a lot more to this, though, as one fungus may eventually overcome another, usually by producing what are effectively antibiotics, so spaling is not inevitable. It all depends on the infecting species.

The arrangement of the spaling appears to follow no specific evolutionary pattern either. Sometimes it seems to follow the direction of the rays, while at other times there may be a distinct boundary between spalted and not, **photo 14**.

Using spalted wood

The trick is to use the wood when it is still infected by these pioneer fungi, but while the composition is still reasonably sound. The next stage is infection by secondary fungi that are usually much more specific in action and will totally destroy the timber. The yellow patches of secondarily decayed timber can sometimes be quite decorative, but you have to strike a balance between this looking attractive yet being unusable as a material, **photo 15**.

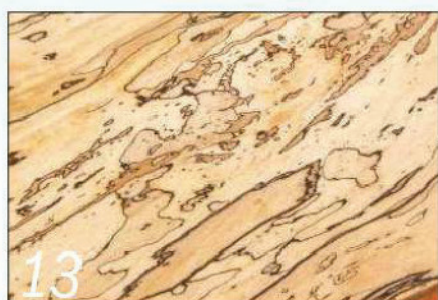
Light-coloured woods are usually more susceptible to infection, having less natural resistance, a property usually imparted by the chemicals deposited in the heartwood of dark timbers. So beech, sycamore and maple will spalt readily, whereas walnut or elm is less likely to do so. These dark woods tend to need infection by a specific fungus, which is able to overcome the toxic effect of their deposited chemicals.

A final word

Using spalted wood also has its own problems. In a well-figured piece the different colours produced by the different fungal species all leave wood with different densities. Consequently, when you come to work it some areas will cut cleanly, some will rip a bit and some will just pull out in chunks, making it a very frustrating experience, **photo 16**. There are also the health aspects of inhaling the infected dust to be considered as well.

I'll take a look at all these pitfalls and their solutions next month, and illustrate them by turning a piece of spalted beech for you.

When different invading species meet, a black line often develops between the zones



If several fungal species are involved, the lines become more decorative



There is often a distinct boundary between spalted and unspalted wood



Secondarily decayed timber can be attractive but may be structurally unworkable



Spalted wood can be difficult to work, as the density can vary from area to area

It is only in recent years that the merits of partly rotted wood as a decorative woodworking material have come to the fore. There is nothing more spectacular than a highly spalted piece of wood. The rich intermingling of colours occurring in a stunning kaleidoscope-like pattern can be almost breathtaking.

How spaling occurs

What actually happens here is an extremely complicated biological process, the outcome of which depends on a number of interrelated factors. Fungal spores are ever-present in the atmosphere, floating round us all the time. If one happens to land on a piece of wood which is in a suitable state for growth, then the infection begins.

Once the fungus is established, it starts

spreading out via a mat-like mass of tiny roots called the mycelium. As the individual strands of the mycelium, the hyphae, grow out, they digest the wood material ahead of them. Usually this first infection by the pioneer fungus has little effect on the strength of the timber, merely discolouring it, **photo 11**. There is not just one species involved here, but dozens of different types, some specific to a particular wood species or group.

Multiple Invasion

It is only when another species of fungus joins in that spaling, as opposed to rotting, starts. Each fungus – and there may be many in a single infection – makes its own way through the wood, leaving a different colour behind as it goes. Whenever one species comes up against another, then a

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BY PETER BISHOP

Memory sticks

One of the wardens from my local church asked me recently if I could make some candlesticks. The request had come from two parishioners, who wished to donate something to the church in remembrance of departed relatives. How could I refuse?

The churchwarden brought along a very rough drawing and a picture of a pair of rather high-church silver candlesticks. After some discussion he decided to leave the design to me. One of the challenges was to finish the set of six sticks in a silver colour. I explained that the best way to achieve a silky smooth metallic finish was with car body paint, which I've used very successfully before. He glazed over slightly at the suggestion, but trusted me enough to get on with it. I promised to make up some samples and report back to him.

Design evolution

For stability I settled on a square base. This was to be moulded all round and set on four protruding feet. I tried a solid, square block, moulding all four edges on the router. I then turned this upside down and chopped the waste away from the centre of the base to form a small foot in each corner. It looked

good, but I had second thoughts about this design. Any light knock to the feet in use might have taken them off.

Starting with a slightly thinner block, I moulded the edges again and then designed some feet to be fixed on as separate components. I reckoned that these would withstand daily wear and tear better than the integral feet I had initially envisaged, and could easily be replaced if necessary. Then I explained to the warden what I was going to do and showed him my sample; thank goodness he liked it!

Base station

I proceeded to make the six bases from idigbo, an African hardwood that moulds fairly easily. I located and marked the centre of each square, **photo 1**, and then drilled a centre socket before starting the moulding, **photo 2**, to make sure it was true. This socket would later accept a spigot on the end of



1 Start at the bottom by finding and marking the centre of each base block



2 Bore a 25mm diameter hole in the centre of each block using a pillar drill



3 I had to relieve the edges of the blanks so I could feed them past the router cutter



the candlestick column. I also had to relieve the edges slightly, **photo 3**, to get each piece to pass the router cutter cleanly, **photo 4**.

Once the six base blocks were finished, **photo 5**, I marked out the feet on a planed piece of maple about 12mm thick, **photo 6**. Before cutting them all out I drilled and countersunk each one, **photo 7**, ready for fixing. Once I'd glued and screwed the feet to the bases, **photo 8**, I used decorator's

filler to fill the grain. When it had set hard I cleaned it right back, ready for painting.

Split columns

The main stem of each candlestick was of course to be turned. At nearly 375mm long I felt that the columns would be better turned in two shorter lengths, to avoid any slight whipping which might distort the profile. There was, of course, another reason. I felt it would

be easier to match and copy pieces in short lengths rather than to risk messing up one of six long turnings with a dig-in! I knocked up a couple of dummies for the warden to see and, after a brief chat and some slight modifications, we settled on the final profile.

Preparing blanks

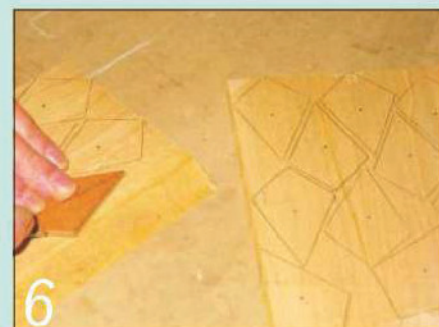
I cut the blanks for the lower sections of the columns first from some square-planed



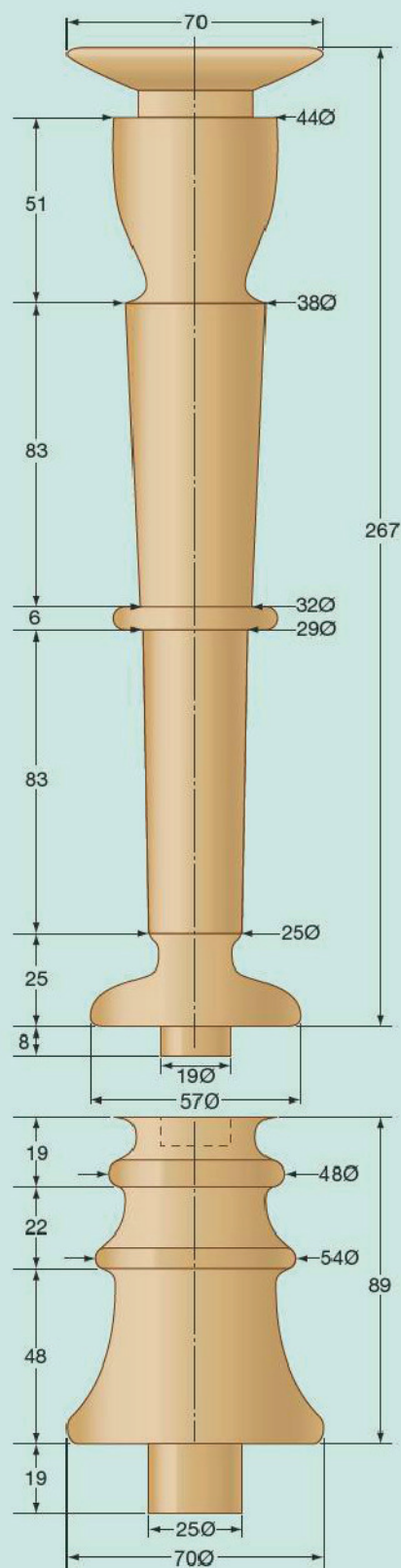
You can see how the relief cut allows the workpiece to pass over the cutter



The four moulding cuts were completed with the minimum of breakout on the arrises



I used a small template to mark out the feet on some planed maple stock



All measurements in millimetres



7 Drill and countersink the fixing holes, then cut out all the feet on the bandsaw



8 A dab of adhesive and a single screw fixes each foot in place to the base block



9 Centre-bore a 25mm diameter hole in the lower section of each column on the pillar drill



10 Mount each blank, turn it to a cylinder and square off the face of the socket end

beech. Before mounting each one on the lathe, I used my pillar drill to bore a 25mm diameter hole in one end, **photo 9**. This would later accept a mating spigot turned on the bottom end of the upper section of each column.

By doing this I ensured that I was turning directly between centres, and that the hole was in line with the centre of the finished component. However, I needed a live tailstock that would fit into this hole; mine was too large, so I bought one from the Axminster Tool Centre for a few pounds.

First turning

I mounted each blank in turn on the lathe and shaped it to a cylinder. I then made a square cut across the face of the socket end, **photo 10**, slightly dishing the surface. This would make sure I had a good tight fit with the next section when the two were brought together.

After measuring the exact shoulder length required, I then turned the spigot on the other end to fit the hole in the base and checked its dimensions, **photo 11**. Once I was happy with this, I shaped the profile with various gouges and other turning tools. I made and matched all six lower column sections as best I could; I had to discard a couple!

Improvised drill

Moving on, I prepared the blanks for the top sections of the columns, once again from square-planed beech. At the top of each column I needed to drill a socket for the candle. As I obviously couldn't get the length to fit under my pillar drill, it was time for some innovation!

I mounted a chuck in the headstock end of the lathe and fixed a drill bit into it that matched the diameter of the candles. Each long, square blank was then mounted between this driven bit and the tailstock. To stop it rotating while the hole was bored, I brought a tool rest right up to one face. Wearing an easy-grip glove to hold the block steady against the rest, I started up the lathe and wound in the drill bit until I'd reached the required depth, **photo 12**. Once all of these socket holes had been drilled, I was ready for the next stage.

Turning the top

The chuck came out and the drive was replaced. Each blank was then mounted between centres – the other way round now, with the tail drive fitting into the socket – and was turned to a cylinder. At the candle socket end I dished each component slightly to gather any wax dripping off the candles. From the extreme end of this

CANDLESTICK CUTTING LIST

All dimensions are in millimetres; parts are per candlestick

Part	Qty	L	W	T
Base	1	150	150	75
Lower column	1	125	75	75
Upper column	1	300	75	75
Foot	4	50	35	12

section I then measured the distance to the shoulder of the spigot and turned that.

Now the final shaping could begin, **photo 13**. From my simple drawing I indexed each of the critical measurements and produced the shape I wanted. After turning the first column, I then matched each subsequent one against the original, **photo 14**. When they were all done, I cleaned them up ready for assembly with the other parts.

Double helix

I joined the top and bottom sections of the candlesticks first, **photo 15**, using a double-ended screw for each pair. This has threads on each end that draw the pieces together. I started the screw in a pilot hole drilled in one piece, then applied plenty of glue (**photo 16**) and screwed the two together, **photo 17**, again wearing my easy-grip gloves (95p a pair from Axminster – product code 200123). Once the joint was tight, I wiped off the excess adhesive and set the assembled columns aside to dry. Later I glued each one into its base with a single central screw driven in from below. Now the serious painting could begin.

To the spray shop

I popped along to Halfords and collected grey and white primer, some metallic silver paint and a clear acrylic finish, all in spray cans. Back at base I started off by coating everything in grey primer. This showed up a few small blemishes that were duly filled and cut back. The second coat of grey was applied to finish this stage.

I'd got the white primer because I thought it would provide a better base for the silver topcoat. Two coats of this primer followed the grey one. I had to cut back a couple of small runs and repaint them; then I was ready for the topcoat.

It took three coats of silver to achieve the right coverage and texture, **photo 18**. When I was happy with the finish, I applied a further two coats of clear lacquer and the painting was complete.

Finishing touches

A few days later, after the paint had hardened sufficiently, I cut out and fitted a small piece of self-adhesive baize to the underside of each foot. Then the warden came to take a look, and pronounced himself delighted with my handiwork. He'd brought a couple of self-adhesive brass-effect plaques with him from the dedicatees' families, and I quickly stuck these in place. Then off to the church they went, and the job was done.



11 Turn the spigot and check its size before starting the rest of the shaping



12 Mount the longer sections on the lathe to bore the hole for the candle



13 Trim the top section to length and start tackling the rest of the shaping



14 Use the first turned column as a pattern to check that the others match its profile



15 A double-ended screw plus a squirt of glue is the best way to join the two columns together



16 Use pliers to turn the screw into a pilot hole drilled in one column...



17 ...and screw the two columns together tightly. Easy-grip gloves are a big help here!



18 Follow the instructions to the letter when using aerosol primers and paints

SPRAY WITH CARE

If you use cellulose paints in aerosol cans, please read the instructions carefully. You need to apply them in a well-ventilated space – not too warm or cold – with as little air movement as possible. It's essential to wear a disposable facemask, and you can expect your clothes to get covered in paint mist. Don't forget to allow the right drying time between coats, and don't be in too much of a hurry to get the coverage you want. Many thin coats are better than one thick, runny one!

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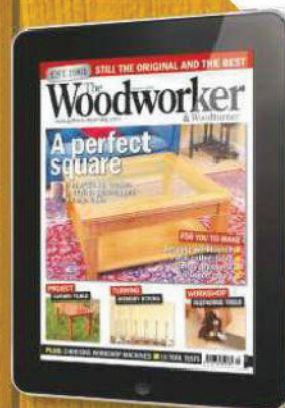
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The normal advice when buying a power tool of any sort is to buy the biggest and most powerful. However, in the case of routers I've always argued that in many situations it's far better to use a small and easily controlled router than a great big cumbersome one. Here's one good reason why...

TESTED BY ALAN HOLTHAM



Makita RTO700C router/trimmer

The new Makita RTO700C fulfils this need perfectly. It's a small yet powerful and versatile little tool with some very clever features. The kit is based around a powerful motor unit, which you can fit into a variety of different bases, **photo 1**. This is nothing new, but the problem I've found with interchangeable base routers in the past is that although the principle is excellent the bases can be very fiddly to fit and adjust.

There are no such problems with this model. You just slide the motor into the base and lock it up. To adjust the cutting depth, you release the barrel lock and then wind it up or down with the adjuster knob, **photo 2**. I reckon this is about as easy as it can get!

Built for speed

The motor is rated at 710 watts, so there's more than enough power for trimming, grooving and light edge moulding work. A variable speed dial gives you a speed range of 10,000 to 30,000 rpm, allowing you to set the right speed to suit both the diameter of the cutter and the material being cut. The motor also has the constant electronics feature that maintains the speed, even under load.

A range of features

The flex comes out of the motor unit horizontally, **photo 3**. Along with the flat top, this allows you to stand the motor upright and makes cutter changing an easy job. The integral spindle lock means that only a single spanner is needed for cutter changing, **photo 4**.

£105
(web price)



(continued overleaf)



1 You can fit any one of four different router bases to the motor unit



2 This precise rack-and-pinion adjuster sets the depth of cut in seconds



3 The motor's flat top and side flex entry allows you to stand it on end when changing cutters



4 The integral spindle lock means you need only one spanner for the job

The body itself is a strong aluminium casting. However, it's just 200mm long and weighs only 1.8kg so it's really easy to handle. Even a routing newcomer would feel quite confident using this tool, as it feels and sounds very controllable.

For me the key feature is the ease and speed with which you can change from one base to another. You get power, flexibility and performance in a really neat and very user-friendly package. Now let's have a look at what these four bases have to offer.

The trimmer base

This base effectively turns the motor into a very handy fixed-base router. The large opening allows plenty of visibility, and the depth setting with its rack-and-pinion adjustment is easy and precise to use, **photo 5**.

The rubberised non-slip coating on the base gives you a firm grip for maximum control, and also minimises vibration. The shiny plastic baseplate prevents any surface marking on the work and ensures that the trimmer slides smoothly over it.

The standard baseplate is round, but many of the components of the RTO700 kit are interchangeable and you can fit a square baseplate if you want to use this set-up with a straightedge guide.

Other accessories

The supplied dust extraction spout clips into place easily for quick connection to your vacuum, **photo 6**, but as with most routers this is not over-efficient at collecting the dust from below the base.

You can also fit a couple of other accessories onto this base. A straight guide is particularly useful for grooving and making edge cuts, and the clever bearing trimmer guide allows you to work against curved edges, **photo 7**. If you need to rout small circles, the straight guide can also be used as a basic trammel, **photo 8**.

For template work the base will accommodate a variety of different diameter guide bushes, and one is supplied with the kit.

The plunge base

This base gives you all the convenience of a plunge router, and fits onto the motor unit just as easily as the trimmer base. Again it is strong and rigid and has the non-marking baseplate. Dust extraction is catered for with another clip-on nozzle, **photo 9**.

The plunge capacity is a useful 35mm, and the ergonomically contoured handles with their soft grips turn this into a comfortable and very controllable little router. What is really neat is that everything about this router is customisable, so if it is more convenient you can remove one of the knobs and replace it with an optional side handle, **photo 10**, which may give you more control in some situations. I like this idea of being able to configure the router to suit any purpose.

Fine adjustments

A three-turret depth stop coupled to the fine adjuster allows you to make precise cutting depth settings and to repeat them perfectly for multiple pass cuts. You can set the depth in increments of 0.1mm, **photo 11**. However, the plunge lock isn't the easiest to operate. I feel that it's a bit too short, and unless you have very big hands it's initially awkward to reach over the side knob to operate it, **photo 12**, but you do eventually get used to it.

This base can also be fitted with an optional fine-adjusting side fence for parallel edge work, **photo 13**. For long cuts you can also use the RTO700 with the plunge base on a guide rail system. This is particularly useful for grooving cuts in wide boards, and of course you can then use the rail with the mitre adapter for cutting angled grooves.



5 With the trimmer base fitted, depth adjustment is still quick and easy



6 The dust extract spout is not brilliant at collecting dust from below the base



7 The bearing trimmer guide allows you to work against curved edges



11 The fine adjuster on the depth stop allows very precise depth setting



12 The plunge lock is a bit on the short side and can be awkward to reach



13 You can fit an optional fine-adjusting side fence for parallel edge work



TESTED BY ALAN HOLTHAM



KIT OPTIONS

The RTO700C is supplied in two kit forms. The basic kit consists of the motor unit, the trimmer base and the straight guide assembly, as shown in the inset to the main picture on **page 71**.

The RTO700CX2 kit (above) is more comprehensive. As well as the components of the basic kit it also includes the tilting base, the plunge base, the trimmer guide and a useful padded tool bag.

The offset base is available as a separate accessory and doesn't feature in either of the kits.

The tilting base

One really different option for this tool is the tilting fixed base, which is ideal for chamfering and V-groove cuts. It opens up a whole new world of profiles when you start using cutters at an angle, **photo 14**.

The base will tilt from -30° to $+45^\circ$ so there's loads of scope for profiling, and the large opening allows you good visibility no matter what the angle. It has the same cushioned grip, quick lock and depth setting as the trimmer base, so it can be set up in seconds.

The offset base

The fourth option is the offset base, **photo 15**, which I think is unique. With a conventional router you can't work close to a wall or in tight corners; the width of the base is always in the way. However, with the offset base on the RTO700 you can cut to within 18mm of an obstruction, **photo 16**. I don't know of any other router that allows you to get this close. However, unless I've missed something there's very little depth adjustment for the cutter on the base, so you need to fit spacers to control the depth of cut. It's also expensive for something with such limited applications, but it might just get you out of trouble one day.

SPECIFICATION

MOTOR	710W
NO-LOAD SPEED	10,000-30,000rpm
COLLET CAPACITY	6 and 8mm, $\frac{1}{4}$ and $\frac{3}{8}$ in
PLUNGE CAPACITY	plunge base 0-30mm trimmer base 0-40mm
WEIGHT	1.8kg
ACCESSORIES	trimmer base, straight guide, 13 and 22mm wrenches

VERDICT

This is a unique and versatile tool that gives you all the advantages of a fixed base trimmer and plunge base router in one small and powerful package.

I would love to own one!

PROS ■ Sheer ease of use
■ Build quality

CONS ■ Awkward plunge lock

VALUE FOR MONEY ■■■■■
PERFORMANCE ■■■■■

FURTHER INFORMATION

- Makita
- 01908 211678
- www.makitauk.com

You can watch Alan putting the RTO700C through its paces at www.youtube.com/watch?v=TAYMsLCMn8k



8 The straight guide can also be used as a trammel for cutting small circles



9 Dust extraction on the plunge base is catered for by another clip-on nozzle



10 If you wish, you can replace one of the two knobs with a side handle



14 The clever tilting base opens up a whole new world of unusual edge profiles



15 The offset base allows the cutter to be fitted very close to the edge...



16 ...which means you can cut to within about 18mm of an obstacle

Pillar drills are essential tools for drilling holes accurately and to precise angles. However, they are mainly designed for metalwork, so the work table often leaves something to be desired. This Axminster pillar drill table will make yours more woodwork-friendly

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£46.25

The central portion of the table has a rectangular cut-out into which a small sacrificial mdf panel fits. This can be replaced when it becomes damaged, or removed completely for such jobs as drum sanding, so you can set the end of the drum below the table surface.

The T-tracks can be used to house the cramps and hold-downs that are available with the table, and also the sliding fence. This is a particularly useful feature, as it incorporates not only an adjustable length stop but also individually movable fence sections and a dust extraction outlet.

The table should fit easily to most pillar drill worktables, and provides a considerably larger working area. The fence and cramps fit snugly into the tracks, and all parts lock securely in position. The

fence is especially good as both sides are adjustable in length and it splits in the centre to expose the dust extraction when needed. The integrated length stop is also large and effective. The whole purpose of this table is to enable you to machine your workpiece quickly, accurately and securely, especially when dealing with several identical pieces. It fulfils this function perfectly.

This is certainly a worthwhile addition to any pillar drill set-up. Although it's quite expensive and you can get by with home-made jigs and cramps, it's so well made and convenient that I'm tempted to buy one myself.

SMALL DELUXE TABLE	£46.25
LARGE DELUXE TABLE	£54.00
ALLOY FENCE	£37.55
TOGGLE CLAMP	£12.50
HOLD-DOWN CLAMP	£7.25
TABLE INSERTS (3)	£2.56

This is a simple and comprehensive solution to the problem of securing workpieces on a pillar drill. The fences and clamps are easy to use and quick to set, so you no longer need jigs for repetitive work.

PROS

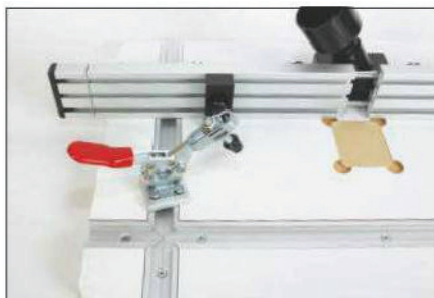
- Straightforward design
- Simple to fit and remove
- Easy to use

CONS ■ A bit expensive

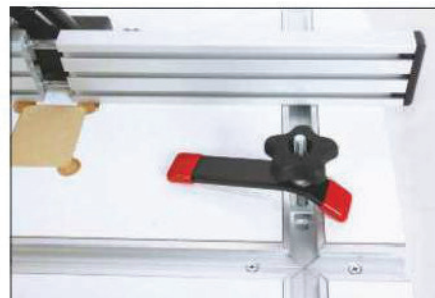
**VALUE FOR MONEY
PERFORMANCE**

FURTHER INFORMATION

- Axminster Tool Centre
- 03332 406406
- www.axminster.co.uk



The various accessories supplied with the table fit snugly in the alloy T-tracks



The plastic-tipped hold-down clamp is secured by turning the knob



The fence incorporates a large length stop and a dust extraction hood



The small sacrificial mdf panels can be removed and replaced as necessary

Jobs such as building partitions or fitting wall cabinets used to involve a lot of intricate marking out and judicious use of the spirit level. Now the laser is the tool to have. It will project clear, accurate lines onto any surface, simplifying the whole process. This new DeWalt model does the job brilliantly

TESTED BY
ANDY STANDING



DeWalt DW089K 3-beam line laser

If you regularly do any kind of work such as fitting kitchens or building internal walls, you'll appreciate the value of the spirit level and the plumb line. A sloping work surface or a crooked cupboard simply will not do. A laser level makes all this so much easier.

The first generation of laser levels were rather crude and cumbersome tools, needing careful setting up and generating fairly feeble lines that were hard to see in daylight. This DeWalt laser suffers from neither of these problems. It is self-levelling and projects a very bright and clear line. Remove it from its box, fix it to a tripod or attach it to the wall and turn it on. Immediately a perfect horizontal or vertical line is generated.

Professional features

This is a tool designed for site use and is consequently robustly made. The main body is plastic with extensive rubber protection. To minimise the possibility of any damage, the laser is guarded by a heavy alloy shield with a Perspex window. In fact, it should be able to survive being dropped without sustaining any damage or losing accuracy, but I wouldn't want to test this.

It has an integrated magnetic mounting bracket which will, obviously, attach to metal surfaces and also to the separate mounting bracket supplied which can then be screwed to a wall. There is also a standard tripod bush on the underside.

Using the unit

The laser can project three lines, and each line has its own power switch on the side of the unit. It will project a vertical line from the front or from the side, and also a horizontal line. The vertical lines intersect both above and below the unit.

This is certainly an easy tool to use. The laser projects a wonderfully bright line and sets itself up in moments. There is also a fine adjustment knob on the top so you can line it up with any marks as necessary.

This is an excellent laser that does exactly what you would expect. It's perhaps a little on the expensive side for the amateur user who might prefer to hire it when it's needed, but for the professional it will pay its way in no time.



£309.95

SPECIFICATION

POWER	4 x 1.5V AA batteries
INDOOR VISIBILITY RANGE	15m
ACCURACY	±0.3mm/m
SELF-LEVELLING RANGE	± 4°
TRIPOD CONNECTION	1/4in
WEIGHT	0.8kg
ACCESSORIES SUPPLIED	storage case, mounting bracket

VERDICT

This is a robust professional laser level. It's simple and reliable, and projects extraordinarily bright lines.

PROS

- Bright lines
- Self-setting
- Fine adjustment

CONS ■ A professional's price!

VALUE FOR MONEY 
PERFORMANCE 

FURTHER INFORMATION

- DeWalt
- 0700 339258
- www.dewalt.co.uk



There is a separate switch on the side of the unit for each laser line



The three intersecting laser lines make light work of setting out jobs



The unit can be wall-mounted or attached to a standard tripod

Trend D60 digital depth gauge

A digital depth gauge with a black plastic body and a stainless steel rule. The digital display shows '3.100 mm'. Below the display are three buttons: a red 'On/Off' button, a yellow 'mode' button, and a white 'zero/set' button. The gauge is positioned over a metal workpiece.

A digital depth gauge with a black frame and a digital display showing '0.00'. The gauge has a red button and a green button on the side. It is being held by a hand.

VERDICT

PROS

- Ease of use
- Hole depth measurement
- Versatility of readings

VALUE FOR MONEY

PERFORMANCE 

- Trend
- 01923 249911
- www.trend-uk.com

Read-out accuracy is claimed to be 0.10mm (that's 4 thou in old money), which is good enough for me. An auto shut-off feature switches the display off after five minutes to preserve the battery, which incidentally is a standard CR2032 3V lithium type so you'll have no problems with replacements. Of course you can always resort to the manual scale as well if the battery ever fails!

The horizontal opening is 60mm so you can easily span all but the widest of cutters, and the maximum depth you can measure is 80mm. Magnets in the feet ensure it stays in place if you are working on a metal surface; unfortunately, most machine table tops are aluminium.

What is new on this version is the removable pin which can be used for measuring hole depths. This is stored on one of the arms and just clips in place,



gauge

ave found it
to see if the
p too far

ly
crete

£22.80

allowing you to measure to depths up to a maximum of 50mm. It's a very simple feature, but very useful!

A screwed knob on the side locks the depth you set. This is a much better arrangement than the clip on the old model, which I found could move slightly as you tightened it up.

The gauge can be used in any orientation, so use it vertically for setting a router bit projection, or to measure the precise depth of cut on a circular saw blade. I use it a lot on the freehand router as well, as the scales on these tools are often so unreliable.



www.getwoodworking.com

Use the gauge vertically for setting the projection of a router bit...



...or to measure the precise depth of cut on a circular saw



It's useful on freehand routers too, as their scales are often unreliable

It's also ideal for setting horizontal depths on the router table, and to some extent reduces the need to keep making test cuts; it's that accurate.

My only reservation is that it's quite difficult to grip the end of the slide if you need to pull it up from the fully down position; a little knob or grip would have made this easier. However, this is a minor gripe as you can usually push the slide up from the other end.

This gauge may seem a bit pricey for what it is, but it's one of those tools where you are paying for its convenience and function rather than for its physical worth. I shall definitely buy one!



It's also ideal for setting horizontal depth cuts on the router table

Veritas palm plane ON TEST



TESTED BY IAN WILKIE

Veritas detail palm plane

Veritas detail palm planes are small enough to get into tight spaces, and allow great control for working fine detail



from
£50

This very small plane is based on the violinmaker's finger plane, but has the advantage of a palm knob to improve control. The knob is turned in bubinga and is height-adjustable by 10mm to suit the woodworker's hand. It can be removed completely if required when planing in a very restricted area.

The sole of the plane measures 39mm long and 17mm wide, with a 9.5mm fixed throat. The body is made from cast steel with a 45° bed angle. A brass retention screw holds the blade, which is made from A2 tool steel.

Using the plane

This plane looks good and is beautifully made; a great deal of thought has clearly gone into its design. It is easy to set and very comfortable to use. The blade is sharp and ready for use, and it's a simple matter to hone it when necessary using a small ceramic stone.

As a modelmaker I found it was ideal for jobs such as shaping planks on a model ship, where I could hold the plank in my hand and shape the edge to get a good fit without any risk of cutting my fingers. The Veritas detail palm plane is undoubtedly expensive, but its quality will be greatly appreciated by any woodworker who enjoys miniature work.



Its size makes it ideal for modelmaking



This tiny plane literally fits in the palm

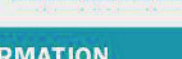
SPECIFICATION

VERSIONS	flat, concave, convex and double convex
BLADE DIMENSIONS	9.5mm wide, 1.5mm thick
BLADE BEVEL	30°
BED ANGLE	45°
RADIUS ACROSS BODY	13mm (curved versions)
RADIUS ALONG BODY	100mm (double convex version)

VERDICT

I shall definitely be purchasing this plane: it is an outstanding tool!

VALUE FOR MONEY
PERFORMANCE



FURTHER INFORMATION

- Brimarc
- 03332 406967
- www.brimarc.com

Diamond stones have more or less become the norm for sharpening tools these days. Gone are the days of struggling with slow cutting and messy oilstones, or with soft Japanese stones that require constant flattening

£35.88
(bench stone)

Trend diamond stones

Diamond stones cut very much faster than other types. They're also cleaner, they last forever and they stay flat. The only downside is that good-quality diamond stones have always been very expensive. Recognising this dilemma, Trend have just introduced a range of relatively inexpensive diamond stones under their CraftPro brand. These are designed for the user who wants a decent and reliable product without going to the expense of the professional-quality stones.

However, they shouldn't be confused with the very cheap diamond products you often come across in the discount stores. I've looked at these before and found them severely lacking in terms of quality of manufacture, consistency and flatness. The CraftPro range neatly treads the middle ground with a product that will bring the world of diamond sharpening to a wider audience.

Getting to grits

I tested three stones: a 6 x 2½in bench stone, a 4in pocket stone with folding handles and a credit-card stone. They all share the same double-sided construction, one side being a coarse 360 grit, the other fine at 600grit. They're made by using nickel to bond monocrystalline diamonds onto a solid steel base; there are no flimsy metal backings with these stones.

Ideally, diamond stones should always be used with a dedicated honing fluid to maximise the cutting efficiency and minimise the risk of them rusting. I used Trend Lapping Fluid for my tests. I consider the minimal expense of this to be more than repaid in terms of enhancing the durability and performance of the stone.

Bench stone

This stone is the one I was particularly interested in, as I have recently come back to using a lot of hand tools and need something to condition and then maintain the edge. The coarse side has a continuous pattern of diamonds, while the fine side has them arranged in a continuous mesh pattern.

I'm never quite sure why this arrangement is used. I'm told that it collects and holds the metal residues, but why do they need to do this? Whatever the reason (and the cynic in me says it actually means you need to use fewer diamonds to make it), it still works well. This stone also incorporates a solid area of diamonds at one



end of the mesh arrangement.

The moulded plastic base is very rigid and has non-slip feet that do actually hold it firm on the bench without the need for clamping, which makes it much easier and quicker to use. I also liked the clear cover for this stone; if you leave it out on the bench, it isn't going to get it clogged with fine dust and shavings.

Using the stone

One thing you will notice with diamond sharpening is that you require far less pressure to make them cut. This takes some getting used to after a lifetime spent pressing on ineffective oilstones!

I was a little disappointed to find that the coarse side of this stone wasn't perfectly flat. It was slightly convex across the width and concave across the length. I don't think this is particularly significant, unless you want to sharpen a lot of very wide blades, as the movement of the blade over the stone should minimise the discrepancy, but I thought it should have been better. However, the fine side was spot-on for flatness, which is more important.

Simple honing

As with all diamond stones, these are a bit over aggressive to start with; however, this soon eases off with a little use. My first test with a plane blade reminded me just how good these stones are. After just a few strokes on the fine side I produced a super sharp micro bevel that is dead square. If you want to play around with the side pressures and produce a slightly convex blade, then a diamond stone will do it in seconds.



The bench stone has a sturdy moulded plastic base and a clear cover



Always use a dedicated honing fluid to maximise cutting efficiency



Just a few strokes on the stone were required to produce a super sharp micro bevel

The little credit-card stone is ideal for sharpening router cutters...



...and can also be used on the flat face of spindle moulder cutters



Restoring damage

As a more demanding test for the stone, I dug out a rather tatty old 1in bevel-edge chisel with a significant nick near one corner. Normally I would start with the grinder to restore this sort of damage, but after about 15 seconds of work on the coarse bench stone the nick had disappeared, which took me totally by surprise. This was indeed an impressive performance. It took so little time and effort, and there was no danger of damaging the edge by overheating it, as it's so easy to do on the grinder. I then had a perfect edge that just required a few strokes on the fine side to remove the burr and leave it razor-sharp.

To maintain the stone's cutting performance, it's worth cleaning any excess resin and dirt off the tool before sharpening it. If necessary, you can buy a rubberised cleaning block to keep the stone in tip-top shape.

Credit card stone

This little stone has all the properties of the bench stone, although both sides have a continuous pattern of diamonds. As the name suggests, it's much smaller at 82 x 50mm, and is just 0.8mm thick. There is no indication which face is which grade; you just have to rely on feel, which is easy when it's new, but may be less so when it's worn a bit.

It is perfect for sharpening router cutters, ideally working off the edge of the bench to maintain a flat edge. Unless the edge is badly worn, I would use only the fine side or you will soon roughen the carbide, such is the abrasive's power. You can also sharpen spindle moulder cutters in the same way, by honing them on their flat face. Incidentally, the card shape is ideal for sharpening scissors too – something I'm notoriously bad at!

My only slight criticism of this stone is that it would be better if it came in a wallet of some sort for clean storage, but I'm sure I can find something suitable.

TESTED BY ALAN HOLTHAM



THE DIAMOND STONE RANGE

BENCH STONE	150 x 60mm	£35.88
CREDIT-CARD STONE	82 x 50mm	£11.88
FOLDING POCKET STONE	100 x 20mm	£17.88

VERDICT

I was genuinely surprised by the cutting ability of these stones. Admittedly they were all brand new when I started, but I think they actually improve after a little use. For a relatively modest outlay you can now equip a workshop with an effective stone for all sharpening situations..

PROS

- Performance
- Speed and ease of use
- Low cost

CONS

- Bench stone not perfectly flat
- No grit labelling on credit-card stone

VALUE FOR MONEY 

PERFORMANCE 

FURTHER INFORMATION

■ Trend
 ■ 01923 249911
 ■ www.trend-uk.com

Pocket stone

I've always found this handle style to be sadly lacking in rigidity. However, I was pleasantly surprised with this one; once opened out the handle was much stiffer. Also the way the handles fold back over provides excellent clean storage and reduces the stone to the handy pocket size of its title. On this stone both faces have the oval mesh design, but each is clearly marked with the grade.

There are dozens of uses for this type of stone. I tried knife sharpening, which worked well as I much prefer a flat honing face to the more conventional round 'steel'. The handle on the stone also makes it easier to access awkward sharpening situations such as sawblades, which can now be touched up in situ. Once again, you should use only the fine side for TCT blades.



Damage like this would normally require a trip to the grinding wheel...

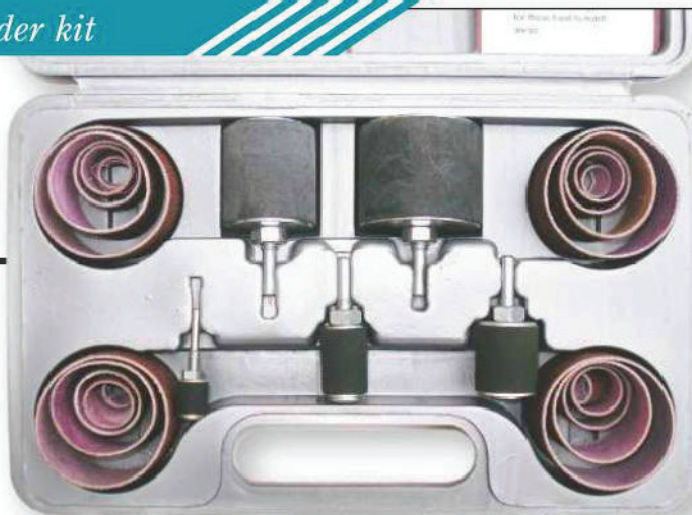


...but the nick disappeared after only a few seconds on the coarse stone



The pocket stone's handles fold open for use and closed for storage

£14.99



Anything that helps with the sanding and smoothing stage of a project is to be welcomed. Power sanding has developed considerably over recent years, both with the equipment available and in the quality of the abrasives. This drum sanding kit is a useful addition to the armoury



Three abrasive grades are provided for each of the five drum sizes

25-PIECE SET

cat no 401188 £14.99

COARSE SLEEVES

cat no 410088 £3.20 for 5

MEDIUM SLEEVES

cat no 410091 £2.99 for 5

FINE SLEEVES

cat no 410090 £4.15 for 5

This kit contains a useful range of drum sizes in a handy plastic case, and is very reasonably priced.

PROS

- Versatile
- Quick and easy to fit
- Inexpensive kit, but...

CONS

- ...relatively expensive spares

VALUE FOR MONEY



PERFORMANCE



- Axminster Tool Centre
- 03332 406406
- www.axminster.co.uk

I've had old versions of drum sanders in my workshop for some years, and know just how useful they are. For shaped work, I invariably bring one of them into use, usually when fitted into my bench drill. They are a simple and much cheaper alternative to an oscillating drum sanding machine, which only the most enthusiastic woodworker can afford and justify.

This drum sander kit offered by Axminster is an economical alternative to a machine. Indeed these drums have an advantage insofar as they can be fitted into a power drill, mains or cordless, and thus can be used at the bench or anywhere else around the house.

What's In the klt?

There are five drums in the kit, the sizes being 50 x 38mm, 38 x 38mm, 25 x 25mm, 19 x 25mm and 12.7 x 12.7mm; the drum diameter is given first. The abrasive sleeve fits over the rubber part of the drum; tightening the nut on the shank expands the drum and thus grips the sleeve from within. The shanks are 6mm in diameter, and the kit includes 20 sleeves in three abrasive grades, all packed in a plastic carry case.

Using the drums

In use, it is best to fit the largest diameter of drum that will suit the work, and it is

essential that the material being sanded is moved against the direction of rotation. Care is needed not to dwell on any part of the curve, or an unwanted hollow may be formed. The drums are just as suitable for external curves as internal ones. The large drum is also very effective for rounding over external corners.

These drums can be used freehand in a drill, with the wood supported in the vice. If a flexible drive shaft is available, this will provide another means of employing the drums. The shaft has an advantage over a power drill in that it allows for single-handed use, making it particularly suitable for sculptural work. Note that the maximum drill speed recommended with these sanding drums is 1500rpm.

Making a table

When the drums are used in a bench drill, it's worth making a false table for the drill. This means that when smoothing an edge of a workpiece, sanding can take place along the whole edge. A piece of mdf or similar, 20mm thick or thereabouts, should be cut a little larger than the drill table, and a hole a little larger than the diameter of the largest drum is cut in its centre with a holesaw. The mdf is then bolted to the drill table, and allows the sanding drum to be locked at a height with the drum slightly



The sleeves are gripped by tightening a nut on the shank of the drum with a small spanner



The drums can be used freehand for all sorts of internal sanding jobs



A flexible drive shaft fitted in a drill is a useful alternative method of working



A false table fitted to a bench drill allows highly controlled sanding



The workpiece can be moved freely round the rotating drum

below the surface of the false table. Its height can then be adjusted as work progresses so that the whole of the abrasive surface of the drum is used.

To mount my table I used four of the T-bolts and small knobs contained in the comprehensive and very useful Axminster jig hardware set (cat no 950114). The heads of the bolts had to be recessed into the upper surface of the mdf; this was simply achieved by counterboring with a 20mm bit. This mdf table is secured and removed in a minute or two. Carriage bolts can be used as an alternative to the T-bolts.



The drum can be raised and lowered through the opening so its entire surface is used



TESTED BY
ANDY STANDING

Buttons on the top and front of the screen control the camera functions



DeWalt DCT410 cordless inspection camera

This inspection camera is an extremely useful piece of kit to have around. It enables you to look into places where you would normally have no access, and to find and to retrieve lost items. It even makes it possible to examine the internal workings of your machinery and diagnose any unseen problems.

Clever design

The DeWalt has a small handgrip with the compact battery mounted on the base. The flexible camera cable is mounted on the rear and can be twisted and turned to look in any direction. The large clear screen mounts on the front of the handle and has its various controls arranged on the top edge and the front. There is a slot in the side for a Micro SD card, onto which it can record photographs and video.

Using the camera

This inspection camera is a highly sophisticated device, though it's simple to operate. Both the handle and the screen switch on separately, and the handle has a revolving wheel that controls the brightness of the LED light on the camera. The removable screen is a joy. It simply unclips and then communicates wirelessly with the camera. This makes it much easier to manipulate the camera while the screen is in a convenient viewing position.

Buttons on the screen control the magnification of the lens, which can be zoomed in. You can also take a photograph or make a video. A hook and a magnet are included with the set and these can be attached to the camera to allow you to retrieve things. The Micro SD memory card can be removed and the images and videos downloaded onto a computer for more detailed viewing.

Summing up

This is a magical machine, and fascinating to use. Unfortunately its high price means that its use will be restricted to professionals who genuinely need its sophistication. This is not to say that it is overpriced; it is actually one of the cheapest around. However, if it helps you find that expensive lost diamond ring, you might still be able to justify the cost.

£280



The Micro SD photo and video card fits into a slot on the side of the screen

SPECIFICATION

BATTERY	10.8V 1.3Ah Li-Ion
CABLE LENGTH	900mm
CABLE DIAMETER	17mm
SCREEN SIZE	69mm x 50mm
WEIGHT	1kg

VERDICT

This is remarkable detective tool that's convenient to use and extremely effective at what it does.

- PROS**
- Detachable screen
 - Zoom lens
 - Photo and video capabilities

- CONS**
- It's expensive!

VALUE FOR MONEY



FURTHER INFORMATION

- DeWalt
- 0700 339258
- www.dewalt.co.uk

A collection of handcrafted wooden and bone tools and pens. The items include a large red-handled chisel, a yellow cylindrical container, a yellow bell-shaped object, a yellow conical object, a yellow oval object, a yellow pen, a red and yellow pen, a yellow pen with a black and red pattern, a yellow pen with a red and white pattern, and a yellow pen with a black and white pattern. The items are arranged on a white background with a blue and white striped border at the top.

I tested the Micro modular system when it first came out several years ago (see *The Woodworker* February 2009 pages 80-81). Since that time the product range has been

considerably expanded, some new tools have been added and three new sets are now available. If you haven't looked at these tools before, the choice can seem confusing at first sight. My advice is to telephone your chosen supplier first to discuss your requirements.

As I explained in my original test, the system is based on one metal handle that's designed to take the whole range of blades. The handle is manufactured from industrial-grade aluminium alloy. It measures 145mm

in length, has a maximum diameter of 22.5mm and is bored to take the tool shanks. It's very well made and attractively finished in a burgundy red anodised colour. The handles have a knurled surface and are pleasant to grip.

The red anodised finish is particularly hardwearing, and there's no sign of any deterioration with my original set. The grub screws grip the blade well and it's a simple matter to change blades. I must admit I do have more than one handle, but this is a luxury and isn't really necessary!

Blade sizes are given here in imperial

measurements because Robert Sorby tools are very popular in the USA. Their metric equivalents are given throughout in brackets.

It's difficult to decide which set to go for. Rather than buying a set, I would prefer to pick the tools that I knew I was going to use. All the blades are sold separately, so this is no problem. A handle costs £15.95 and individual blades cost from £10 to £17. The leather tool roll is also available as a separate option, so you can stock it up with the blades you've selected. It costs £34.20.

I've used this system since it first appeared and I'm very happy with it. The new tools make it even more versatile.

- Positive blade grip
- Comfortable handles
- Blades ready to use

- Sharp arrises on some of the blades

100%	100%	100%	100%	100%
100%	100%	100%	100%	100%

- Robert Sorby
- 0114 225 0700
- www.robert-sorby.co.uk
- Thomas Flinn & Co
- 0114 272 5387
- www.flinn-garlick-saws.co.uk
- Turners Retreat
- 01302 744344
- www.turners-retreat.co.uk



£129.60

The 12-piece set contains some blades you might never use

This set contains a handle and 12 blades. These cover a multitude of uses from general turning through to hollowing out. The 1/2in (12mm) roughing-out gouge and the very thin parting tool are new to the range, but a Spindlemaster is not included. All the blades are well made and ready to use. However, this set is relatively expensive unless you have a use for most or all of the tools.

This set comprises a handle and three tools: a 1/2in (12mm) roughing-out gouge, a 1/2in Spindlemaster and a 1/16in (1.5mm) parting tool. It's claimed that the Sorby Spindlemaster is much easier to use and sharpen than a conventional skew. Moreover it can be used for concave cuts and is, therefore, a very versatile tool. I found it easy to master and a valuable addition to the system. This set is a good choice to start with if you wish to turn pens or other small items.

£52.50

The cheaper 3-piece pen turning set is a good choice to start with





SHARPENING THE BLADES

It is very easy to sharpen these blades, particularly if you have the Sorby ProEdge sharpening system and the small tool rest accessory (above). The blades can be removed from the handle and placed on the rest to be ground to the appropriate angle. I keep the edges really crisp with a ceramic stone. The blades have all been tested for hardness at the cutting edge, which is reassuring. My one little grouse is that some of the arrises are rather sharp and needed a little attention with a stone.

£114

The 6-piece set comes packed in a handy leather tool roll



6-piece woodturning set

This set consists of a handle and six blades supplied in a leather tool roll. The tools are a 1/2in (12mm) roughing-out gouge, a 1/4in (6mm) side scraper, an 1/8in (3mm) parting and beading tool, a 1/4in skew chisel, a 1/4in round-nose scraper and a 1/4in spindle gouge. The cowhide leather roll stores the tools neatly and protects the cutting edges. There is room in the roll for a second handle and six more blades, should you wish to add these at a later stage. The tools all stay securely in place in their pockets.

This is a good practical set, but I would choose to add a 1/8in (1.5mm) parting tool at £10.55, the Spindlemaster at £17.20 and the multi shear scraper at £16.70.



TESTED BY
ANDY STANDING

Axminster AWC20HP compressor

An air compressor is a useful addition to the workshop. It can be used to power nailers and staplers, for spray finishing, blowing dust out of tools and machines, and even pumping up car tyres. This Axminster model is a compact and efficient machine, and is also very good value for money

Air compressors are available in a wide range of sizes, but for most woodworking shops a fairly modest machine will normally do the job. Obviously, before you buy one, it's important to decide what you want it to do. If you want to power just a single small nailer, you can use one of the smallest models. If, however, you use continuously-running tools you'll need a larger machine. Smaller models have limited tank capacity, so they can store only a small amount of air. This means their motors will run more frequently, which can be annoying. The larger machines don't have this problem and also run more quietly. However, they're more expensive and take up more space.

A simple design

The air compressor remains a reassuringly simple machine. Its electric motor is directly connected to a crankshaft. This drives a piston in a cylinder to pump air into a receiver tank where it is stored. The release of this air is controlled by a valve connected to a pressure gauge which can be set to suit the demands of the connected tool.

Using the compressor

The Axminster is straightforward to use. After attaching the wheels and filling it with oil, it's ready to go. The motor runs reasonably quietly and fills the tank rapidly, shutting off when maximum pressure is reached. The output pressure gauge is easy to read and set. It would happily power my largest nailer and performed faultlessly. The tank is large enough to stop the motor running too often, so it's fairly peaceful to live with. It's easy to move around, and small and light enough to be easily transported on site.



£111.50



The tank and output pressure gauges have easy-to-read dials

SPECIFICATION

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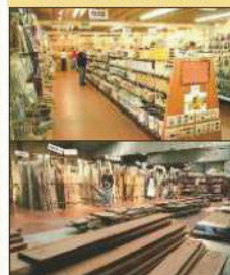
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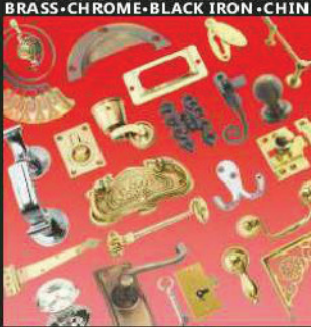
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SUMMER 2011
PROJECTS: Davenport desk part 2, Drying rack, Gate-leg dining table, Shaker-style kitchen dresser
FEATURES: Routing basics 2 – choosing & using cutters, Textbook joints 3 – the housing joint, Gadgets for woodworkers, Shop notes
TURNING: Getting a grip – turning between centres, Suspended vessel, Turning tools 2 – the spindle gouge
TESTS: 4 small planer thicknessers compared, SIP lathe, Axminster bandsaw, Metabo Plus mitre saw, DeWalt router, Proxxon drill/grinder, Microplane rasps



AUGUST 2011
PROJECTS: Cutlery cabinet, Oak coffee table, Outdoor bench and table, Patio planter
FEATURES: Routing basics 3 – setting up your router, Textbook joints 4 – the dovetail, Drawing arcs and curves, More gadgets for woodworkers, Shop notes
TURNING: Getting a grip – faceplates and screwchucks, Beech bowl, Turning tools 3 – the skew chisel
TESTS: Four SIP dust collectors, Einhell table saws, Bosch cordless sabre saw and orbital sander, Metabo drill/driver, Kity spindle moulder, Proxxon carver, Foreord Flexi Drive



SEPTEMBER 2011
PROJECTS: Miniature chest of drawers, Bedside book cabinet, Occasional table
FEATURES: Routing basics 4 – cutting techniques, Textbook joints 5 – machine-cut dovetails, Tormek system upgrades, More gadgets for woodworkers, Shop notes
TURNING: Low-tech chucking, Ribbed bowls, Sharpening the five key turning tools
TESTS: SIP bench mortiser, Axminster bandsaw, Trend cutters, Metabo random orbit sander, Mafell planer, Startrite planer thicknesser, Woodstar drill press, SIP scrollsaw, Trend Loc blocks



OCTOBER 2011
PROJECTS: Five-sided display cabinet, Desk caddy, Plant stands, Classical side table
FEATURES: Mobile work station, Routing basics 5 – home-made work aids, Portable power tools 1 – drills and drivers, More gadgets for woodworkers, Shop notes
TURNING: Three-tier egg tower, More low-tech chucking devices, Thin-walled vase, Using CBN grinding wheels
TESTS: Bosch mitre saw, Proxxon angle grinder, Kreg saw guide, SIP planer thicknesser, Einhell sliding mitre saw, Festool belt sander kit, Dakota magnifying glass



NOVEMBER 2011
PROJECTS: Sunroom dining suite in oak, Toy knights' castle part 1, Apple store
FEATURES: Working Wood with Paul Sellers, Routing basics 6 – guide bushes, Portable power tools 2 – circular saws, More gadgets, Shop notes
TURNING: Making cabriole legs on the lathe, Holding bowl blanks, Three-tier display dome stand
TESTS: Bosch random orbit sander, Radian router cutter, Bosch cordless drill/driver, Veritas plough plane, Woodstar planer thicknesser, SIP mortiser, Makita cordless chainsaw, DeWalt belt sander



DECEMBER 2011
PROJECTS: Sycamore bedside cabinets, Knights' castle part 2, Slate-topped occasional table, Toy tank engine
FEATURES: Routing basics 7 – guide bushes and templates, Portable power tools 3 – sanders and planers, Gadgets for woodworkers, Shop notes, Children in the workshop
TURNING: Miniature yew vase, Five festive presents, Cabriole-leg stool
TESTS: Metabo Quick jigsaw, DeWalt sliding mitre saw, Quansheng bench planes, Makita cordless planer, Colt drill and countersink set, Narex chisels, Makita router cutters



JANUARY 2012
PROJECTS: Twin pedestal desk 1, Library bookcase restoration, Round replacement window, Handicraft storage box
FEATURES: Routing basics 8 – choosing a router table, Children in the workshop, Gadgets for woodworkers, Shop notes, Workshop dust extraction
TURNING: Apple-shaped box, Set of napkin rings and stand, Satinwood hand mirror
TESTS: CamVac dry vacuum extractors, Festool Domino joiner, Einhell scrollsaw, Dremel multi-tool kit, Working Wood: The Artisan Course



FEBRUARY 2012
PROJECTS: Twin pedestal desk 2, Two sapele sideboards, Sequoia occasional table
FEATURES: Routing basics 9 – using a router table, Gadgets for woodworkers, A tale of two artisans, Portable power tools 4 – jointers, Shop notes, Buying raw materials
TURNING: Salt and pepper mills, Crown trinket boxes, Natural-edge bowls
TESTS: Narex mortise chisels, SIP 10in table saw, Axminster bench mortiser, DeWalt drill driver twin-pack, Quansheng block plane, Dremel VersaTip, Veritas Poly-gauge, Bosch inspection camera



MARCH 2012
PROJECTS: Living room toy chest, Alcove storage unit, Pivoting occasional table, Tapestry frames
FEATURES: Horizontal router table, Jointing jigs and Miller dowels, Shop notes, Gadgets for woodworkers, Building a workshop cyclone
TURNING: Decorated off-centre bowl, Laminated 3D apple, Stave jointing techniques
TESTS: Cyclone Central cyclone kit, Jet bandsaw, Axminster sliding mitre saw, Axminster deluxe saw stand, Bosch 18V cordless SDS+ hammer drill, Proxxon two-speed fretsaw, Festool router



APRIL 2012
PROJECTS: Nest of tables, Wooden models, Carved name plaque, Bathroom cabinet, Chisel plane
FEATURES: Kitchen worktop jig, Portable power tools 5 – jigsaws and reciprocating saws, Gadgets for the router, Shop notes
TURNING: Elm vase with waterproof liner, Creating barley twists, Kitchen scoops
TESTS: Bosch plunge saw and guide rail, Supertuff bandsaw blades, Axminster oscillating belt sander, Skil multi-tool, Bosch cordless drill driver, Colt Forstner bits, Veritas saws and plane, Festool work table



MAY 2012
PROJECTS: Mackintosh-style dining chairs, Embroidery stand, Games table restoration
FEATURES: Tuning a budget bandsaw, Preparing your stock, Portable power tools 6 – multi-cutters, Shop notes
TURNING: Elm bowl with a scorched rim, Double barley twist candlestick, Tool handles
TESTS: Bosch cordless nailer, Scheppach saw bench, Quansheng spokeshave, Makita drill/driver kit, Bosch multi-cutter, FAMAG lip-and-spur drill bits, Japanese mitre square, Trend router cutter sets, Axminster drill guide, Festool extractor



JUNE 2012
PROJECTS: Cherry dresser 1, Jewellery chest, Pedestal side tables, Guestroom towel rail
FEATURES: Marking and setting out, Portable power tools 7 – routers & router tables, Using a vertical panel saw, Shop notes
TURNING: Banksia nut projects, Metalworking tools for turners, Two-tier tripod spice rack
ON TEST: Trend combination router base, Famag Forstner bits, Dremel compact saw, Makita cordless circular saw, Trend goggles, Axminster table saw, Einhell multi-tools, Trend hex key set, Mafell circular saw with guide rail

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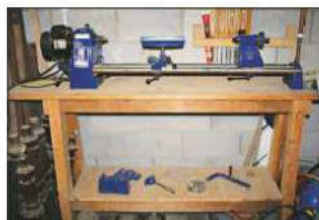
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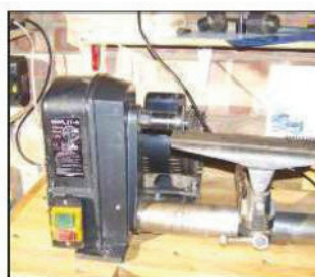
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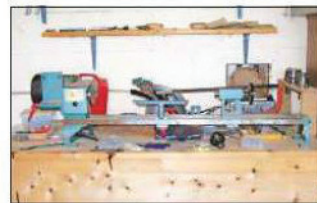
Woodworking books: five fine woodworking techniques books, Fine Woodworking Design Books 2 & 3, Windsor Chairmaking by T Moser; £10 each. **01446 710506** (Vale of Glamorgan)

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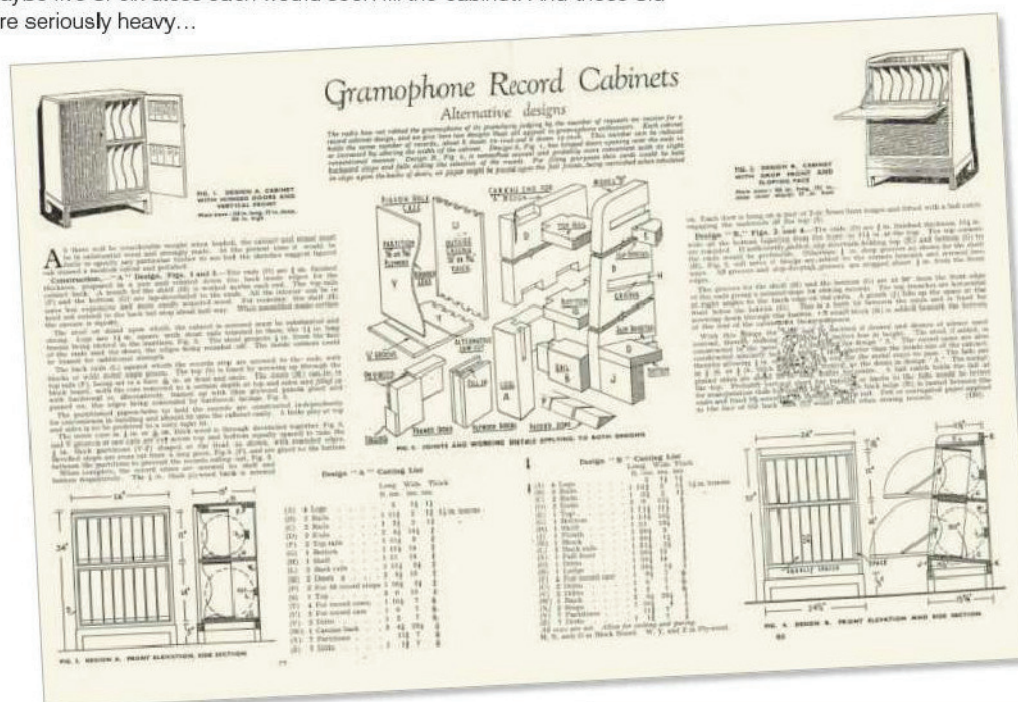
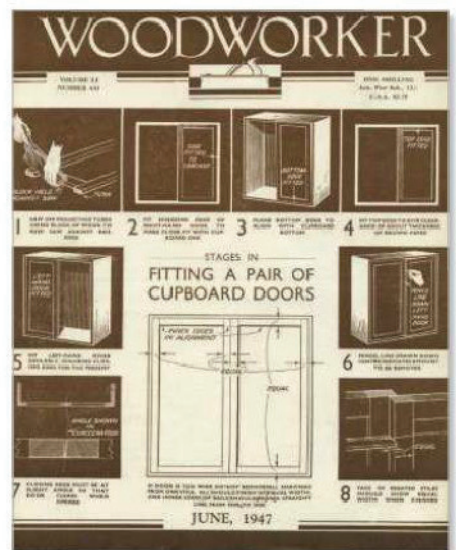
The years immediately after the Second World War were hard for woodworkers, because their raw materials were in such short supply. However, they say Necessity Is the Mother of Invention...

Our archive consists of magazines in several different states. Until the late 1960s the publishers Evans Brothers offered for sale a bound volume of each year's issues, minus the magazine covers (which carried the advertisements) but with an annual index included at the front. These bound volumes have naturally survived better than individual copies, but we have managed to acquire a number of the latter piecemeal from readers who have often found a boxful in an elderly relative's loft. The issue for June 1947 shown here is one of them, and is unusual in featuring a simple woodworking article on fitting cupboard doors.

The increasing use of magazine binders into which readers could fit their monthly magazines led to the eventual demise of the bound volume, but it did mean that surviving copies from about 1970 onwards kept their covers. These are a wonderful archive of changing tastes in woodwork and home design, and incidentally also reveal the upward spiral of prices. The 20-page issue for June 1947 cost a shilling (5p in today's money).

This issue opened with an article on building a workshop using 4in thick breeze blocks for the walls and 2in blocks for the roof structure. With the shortages in mind, the only new timber parts required were the rafters; the door and window were to be second-hand fittings.

This was followed by articles on making a small wall mirror with a tubular lamp and a sprung bed base suitable for use with an interior sprung mattress – hardly a mainstream woodworking project. Both were essentially economy projects. But then came the month's blockbuster – a selection of designs for gramophone record cabinets, each of which would hold eight dozen 10in and the same number of 12in records. These played for about three and four minutes respectively, a limit that defined the length of the popular song until the LP came along in the 1950s. It's easy to imagine how a couple of symphonies and a concerto or two requiring maybe five or six discs each would soon fill the cabinet! And those old 78rpm records were seriously heavy...



More from The Woodworker archive next month...

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BS250 shown with optional stand and pedal wheelkit. BS300 and BS350S shown with optional pedal wheelkits. Prices valid 01.05.2012 - 31.08.2012. E&OE.

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