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BRITISH Woodworking

Oct-Nov 07 £3.30
Issue No.02

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TECHNIQUES

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PINE COFFEE TABLE

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Ryoba-Douzuki saw p34

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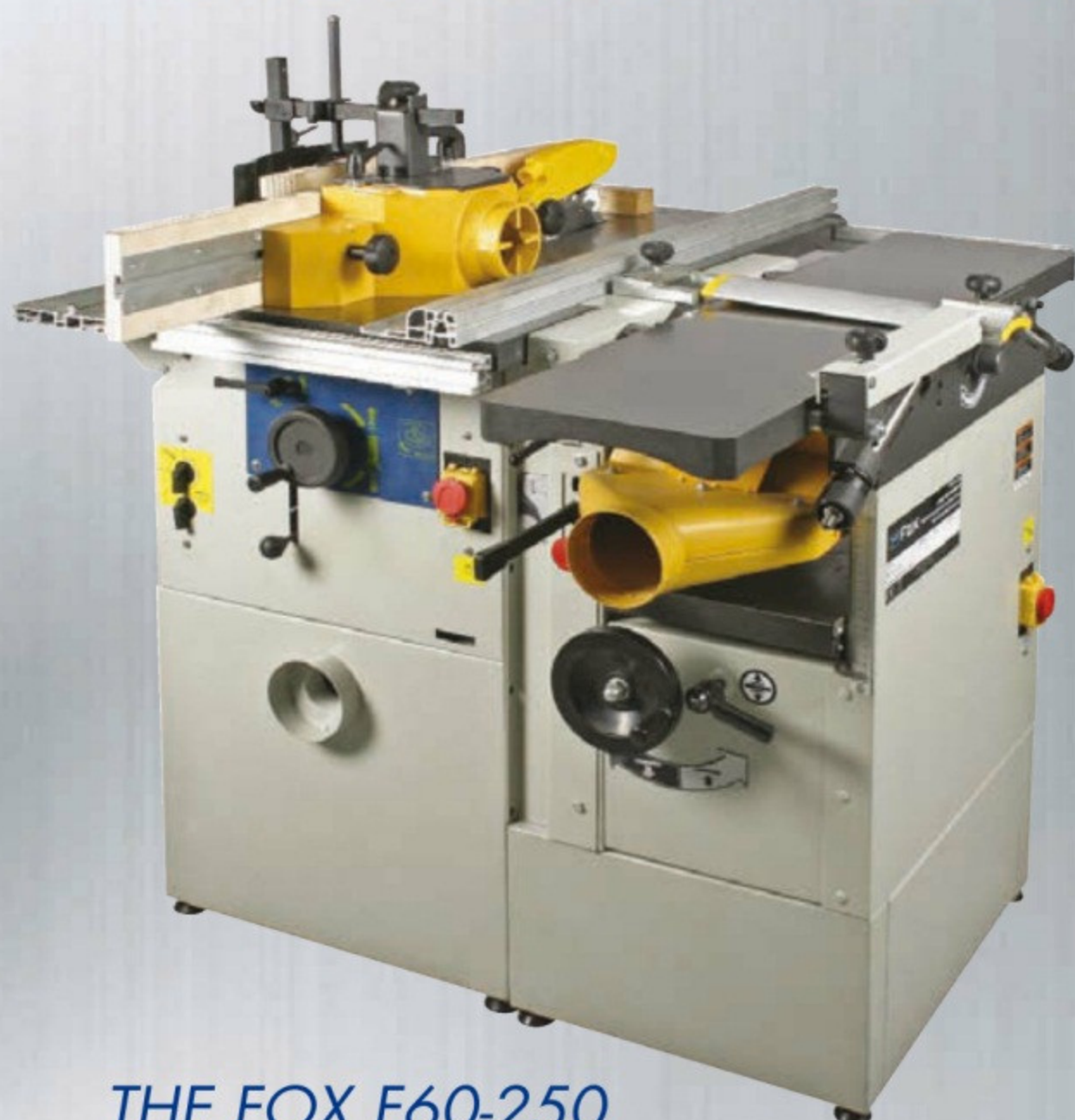


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Max. thicknessing capacity;	248 x 190mm /2.5mm per pass
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Feed roller diameter:	32mm
Surface planer table dimensions;	256 x 1085mm
Overall weight;	156kg



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BRITISH Woodworking

The UK's No.1 Woodworking Magazine

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**Traditional
Woodworking**
10 PAGES OF CLASSIC
TECHNIQUES

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Thanks to everyone who sent us messages of encouragement after the first issue, and especially those of you who enclosed a cheque and subscribed! We're welcoming two new contributors this month. Gordon Fry and his young family moved to France four years ago and will be regularly updating us on the fun and frustrations of woodworking over there. Alan Wood brings a fresh approach with his Foundations series on basic skills, starting with marking out.

And we've some new ideas. The project drawings are now all drawn in Google SketchUp, which is free software for a PC. You can download the models to get a better look and to adapt the designs. Oh, and our campaign to promote native British wood starts on p72.

Nick Gibbs
Editor & Publishing Director
nick.gibbs@britishwoodworking.com

PS To subscribe please turn to page 50. You get a free annual index that's fully searchable if you subscribe. Thanks.

BRITISH
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The UK's No.1 Woodworking Magazine



David Savage writes about sycamore this issue and why it's not a weed if you treat it carefully



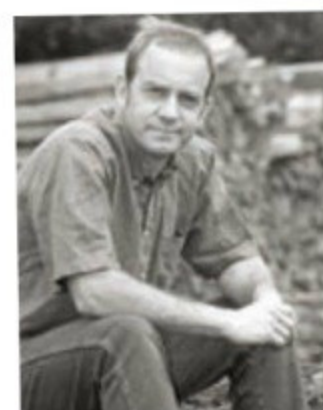
Tino Rawnsley advocates the use of local wood and asks if the free lunch has reached the mints and coffee yet



Steve Maskery has spent the last year working on a DVD of jigs, and has been testing tenon strength for us



Alan Wood has won prizes for his dovetailed boxes, and now he's passing on his detailed approach to marking up



Gordon Fry is our very own County Carpenter, writing from France about working with wood in Normandy

How we test

We test products with many things in mind, but our scores reflect value for money. We search to find the latest, the best and the most innovative kit for woodworkers.

British Woodworking expects woodworkers to take suitable safety measures, and to attempt new techniques with caution and care. We endeavour to encourage a commonsense approach to woodworking, but take no responsibility for any injuries that readers suffer.

THE FORUM

Send your comments, tips and questions to feedback@britishwoodworking.com

LETTERS

First issue

You should feel very proud. The first edition of *British Woodworking* was excellent quality and a really enjoyable read. Looking forward to the next issue. A great achievement. Well done.

Paul Griffin

Thanks. You've picked up on exactly what we've been trying to achieve. Although we hope British Woodworking will be useful, and help woodworkers resolve challenges, and that copies are kept for years as reference, primarily we want it to be something people really enjoy reading, without too many mistakes!

Nick

Project Finder

A feature I particularly liked in the first issue was the Project Finder (BW01:41). I have been telling myself I should write to one of the woody mags and suggest something like that.

Harvey Salmon

Thanks. Our theory is that increasingly woodworkers can find projects and plans by searching the internet, and don't have to wait for one to possibly turn up in a magazine. Already we've had people asking for help, and we've been able to point them in the right direction (see p10).

Nick

Workshop Essentials

I'd just like to say how much I've liked Steve Maskery's Workshop Essentials DVDs on Jigs and Accessories. He has managed a good balance of how it's made, showing the key processes. One real winner is the inclusion of dimensioned SketchUp drawings that enable

the various pieces to be examined and manipulated in three dimensions. Steve's video compares very well with Norm and Router Workshop, and is in many ways better because of the inclusion of the added content.

John Emmerson

I'm sure Steve will appreciate your comments. You can find out more about the DVDs from www.workshopessentials.com. Steve has helped us with our drawings this issue, most of which are in SketchUp for the reasons you mention, John. If anyone wants any of the SketchUp models, just email us at info@britishwoodworking.com and we'll send them. In the future they'll obviously be available from our website. Steve has also done some footage of his tenon test, which you can see on YouTube (see p56). We aim to be truly multi-media!

Nick

One more thing!

I couldn't get hold of a copy of *British Woodworking* on publication day, and used the delay to think of all the things I'd like to see in a magazine. You've managed to meet most of my requirements. You must be doing something right. Very right. There is one thing I'd like to see: an annual index.

Eric Coates

We do have the index in mind, and are already building it up. We are planning to make it available to subscribers. Distribution is a huge problem for start-up magazines these days, and we need as many people to subscribe as is feasibly possible. If you like what you see of British Woodworking, please,



please, please subscribe or at least put in an order at Smiths or your local newsagent. Thanks. Every little helps.

Nick

Busy, busy, busy

Wow, what a great start to a magazine. Issue one is excellent. You certainly have been busy. I would like to take out a subscription. Can you bill me through PayPal?

Gordon Watt

You can pay by PayPal. In fact at the moment, with our bank not helping a jot, it is easily the best way for us to do business. It is safe and secure, and all that needs to happen is for us to send you an invoice through PayPal and you pay by credit card of from a PayPal account.

Nick

Ferrous Rage

There is a point of information about your test of the Evolution Rage 3 saw (BW01:22): this is a multi-function saw designed to cut many materials including ferrous metals. It hasn't just got a 'nail biter' blade, but its blade can cut 6mm mild steel section. There is a downside to this as I believe the blade

rotates more slowly than usual and so the saw would not be very efficient with any other conventional type of blade. I have the hand-held version, which uses a similar blade, and the performance on metal and mixed materials is astonishing, but I would not try to fit another TCT blade. This is a remarkable but specialised tool which is in many ways unique.

Henry Boulton

We hadn't noticed that, Henry, but will now have a go on metals. We'll heed your advice regarding the blade. We're looking at a very different mitesaw this issue; a tiny thing from Rexon.

Nick

Fffffffantastic

The first issue of *British Woodworking* is fffffffantastic, a Big Well Done to you. It has the same energy as *Good Wood* had when you edited that. Thanks for all your hard work, without it we would all lose out. And thanks for showing my treadle lathe. Do you know anyone who can help with the blade tensioner wheel and bracket?

Andy Nicholl

Thanks. Actually I've just remembered that I saw someone at Yandles Woodworking Show last week with a treadle lathe. It was one of the local associations. I will try to see if I can find the details. We'll make a mention on our Free Ads page on p79.

Nick

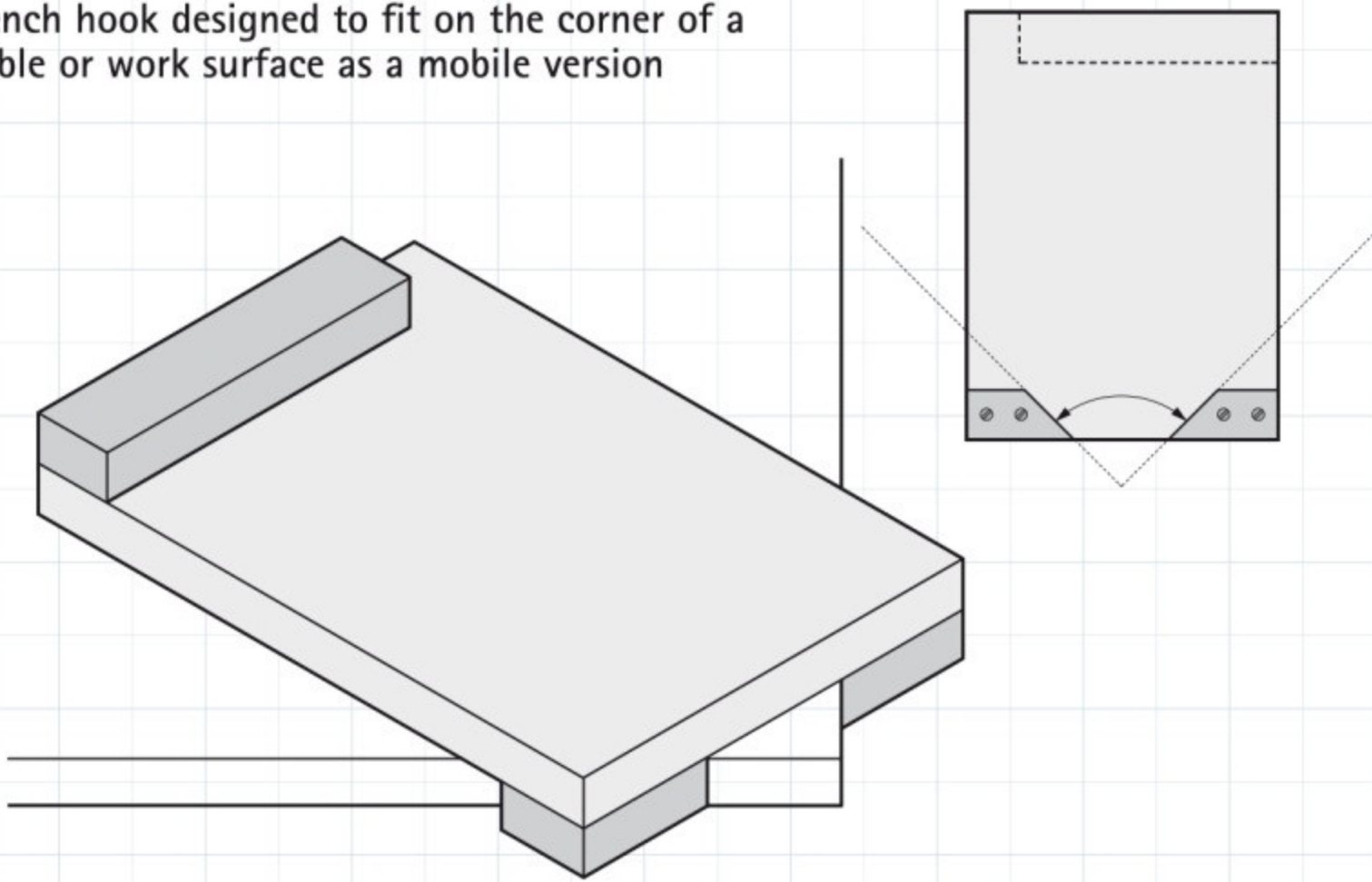
Biscuiting

Can anyone tell me why biscuits are referred to as 0, 10 and 20? I can find no link.

Gordon Watt

GIOLITTO'S WAY

An unusual tip from Peter Giolitto this issue: a bench hook designed to fit on the corner of a table or work surface as a mobile version



QUESTIONS & ANSWERS

Racal battery

Can you tell me where I can find a battery pack for a Racal Dustmaster?

Eric Lewis

Thanks to a couple of people at UKWorkshop for helping with an answer to this one. You can buy these from www.farnell.com (0870 200200) or www.greenham.com, and you can buy cells from www.eurobatteries.com. By the way, we've been criticised by somebody at UKWorkshop for using their forum to gain free advice from which we can profit. As a compromise we will be making a small donation to the Dorothy House Tulip Fund, which was set up in the name of Pete Martin, the late Deputy Editor of Good Woodworking magazine.

Outrigger

At Westonbirt we were asked how one might fix an outrigger to a Fox Superlathe for bowlturning.

Russell on UKWorkshop says that you ought to look at the Nova model, which attaches to a vertical surface with two bolts.

"The other option," says Russell, "is to make a floor-standing toolrest, fixed into a bucket of concrete." Gerry Ward at Hamilton, who distribute Fox kit, says that the outrigger should be able to be fitted, but they don't have the part themselves.

Driftwood

Walking along the shores of local firths I often come across decent pieces of driftwood. Before using a piece does it have to be treated in any way, by being washed and dried to remove the salt?

Pete Simpson, Dingwall

We wouldn't have thought so, though you may want to clear any sand or dirt before you work it through a bandsaw or similar as it's

likely to be very abrasive. I imagine you can find some fantastically well-seasoned roots and logs on the foreshores of lochs as the water recedes.

Old planes

I have a number of old planes previously owned by my husband. Do you know if they are worth anything, and how I might be able to dispose of them?

Hilda Strudwick

You might ask Mike Hancock at Classic Hand Tools how much he'd value them at. You could also ask Tony Murland as he has recently written the Antique Tool Value Guide. From the photos you've sent us there may be some value in your combination plane, but we doubt much in anything else. You could donate them to Tools for Self Reliance (www.tfsr.org). We can supply a list of old tool buyers and sellers.



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ON THE WALL

Michael Watson tells us what's hanging on his workshop wall

Can you just.....?" must be the most insulting request we ever get. It implies that the person regards the task as trivial, of little value, yet we know that not only does it take us away from some other work we are doing, but there is potential for great problems. Even worse, the phrase can be followed by the word 'borrow'. When I was about seven, my father took me into a builder's office, and



there, on the wall, was the notice: 'The Management regrets that the spare set of tools is already out on loan.' I could not resist making one for my own workshop. I have a fear, a real phobia, of being asked to lend tools, in particular to someone who is difficult to refuse. What does one say when asked to 'just' lend a plane, even worse to be reassured that they will sharpen it afterwards! Fortunately I have one of those small Rali planes with disposable blades, and it really is the answer to this problem. I used it when asked to "just plane up a kitchen cupboard at my house for me".

Send us your workshop photos to feedback@britishwoodworking.com.

READER GALLERY

Clive Bickley used to have an ottoman full of shoes until he decided to make a dedicated chest to keep pairs in pairs



Organised "I was interested in the blanket box article in the first issue (BW01:10) because this piece is a shoe cupboard that looks like a blanket box," writes Clive Bickley. "Our old ottoman was 40 years old and doubled as a seat. It had been re-upholstered a couple of times and was quite tatty. I kept my shoes in it, but the ones you wanted were always at the bottom of the pile. So here was my idea to replace the ottoman, but also act as a seat. I was delighted to receive *British Woodworking* and see that Nick is back in business, and if I am right

it is his own magazine. I wish you every success in the future."

Clive Bickley

Thanks, Clive. You're right the magazine is 'mine', with lots of help from a loyal band of contributors, subscribers, advertisers, friends and family. Every bit of help is needed for us to survive, so thanks for the encouragement. If anyone would like details of how Clive made his 'blanket' chest, do contact us at [British Woodworking](mailto:info@britishwoodworking.com), by email to info@britishwoodworking.com. And if you have projects you'd like featuring, send them in. Nick



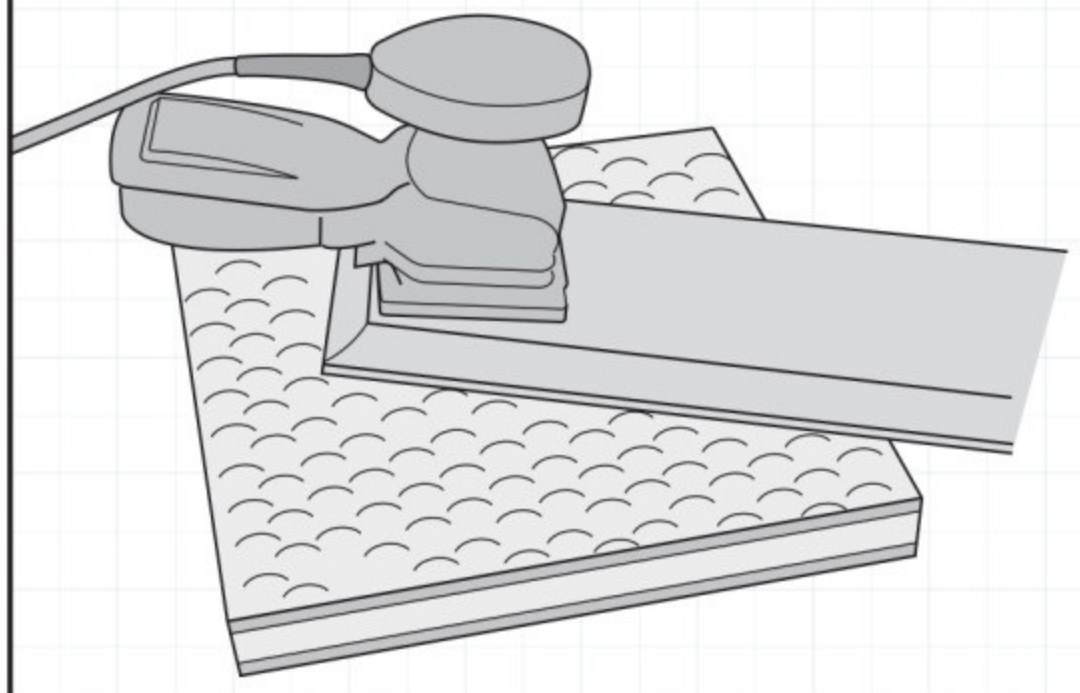
TIPS FROM READERS

Send your tips to tips@britishwoodworking.com or to our postal address on p3

Sanding boards

"I have made a sanding board by gluing carpet underlay onto both sides of a piece of chipboard," writes Ian Welford. "It stops things moving about whilst you sand by hand or by power. In fact it has been so successful that I use a larger offcut to cover the workbench when I sand panels. The ribbed surface allows the dust to drop clear and protects the surface from contamination."

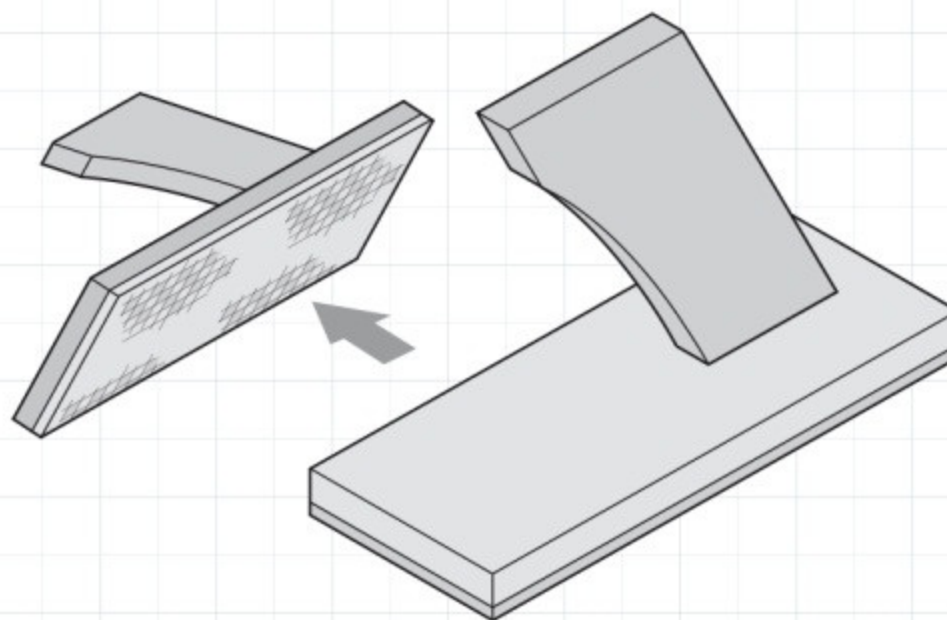
Ian Welford uses carpet underlay as a base for sanding



Sticky pushblocks

"I use router matting stuck to the bottom of my pushblocks to improve friction," writes Derek Willis. It is non-slip and helps when it comes to using machinery.

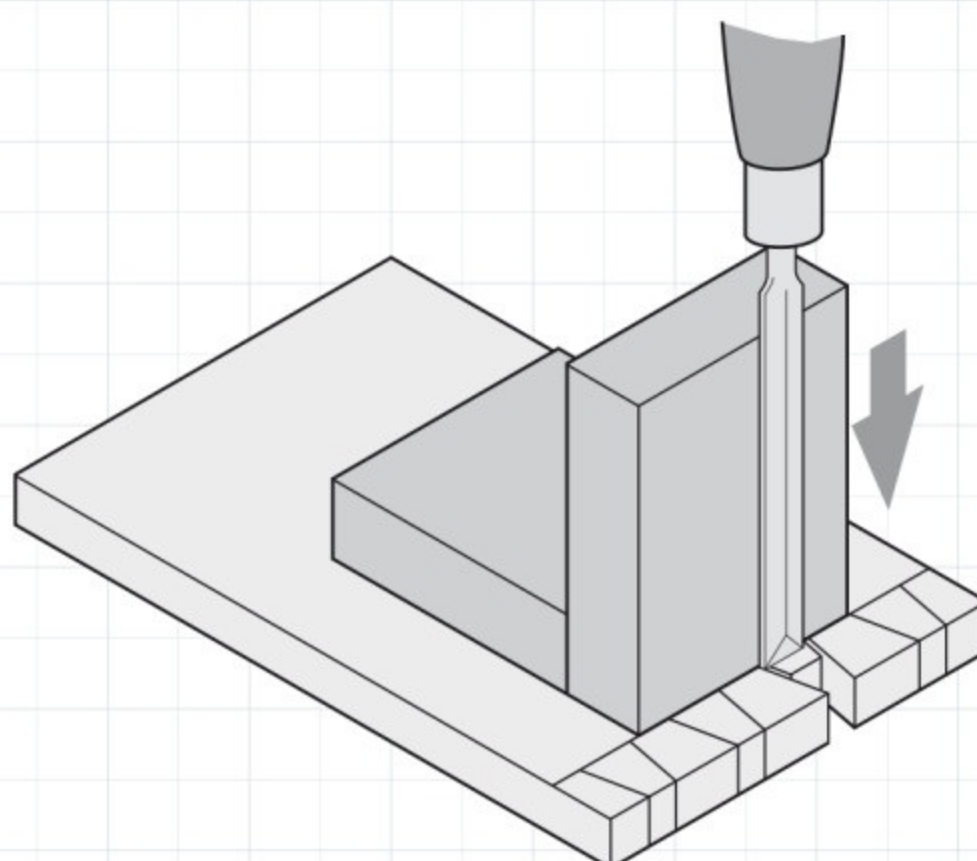
Derek Willis adds router matting on the bottom of pushblocks to improve friction



Finishing tights

Terry Brown starts French polishing by applying a coat of sanding sealer which is cut back and finished off with Webrax (or similar) once dry. "Scrounge an old pair of tights from your wife or girlfriend," he says. "If they catch on the grain, it needs more fine finishing." Terry has also written in to remind us of the tip to hold the sides of a mitred box together in line with masking tape on the outside face before assembly. "Once taped, turn the parts over and put glue on the mitres. Then you can fold the parts together, inserting the top and bottom into the groove as you go. Bring the last mitre up closed and apply tape over this joint to hold a perfect box in place until dry. If the box is a tad out of square, just clout it with a mallet or put a clamp across the diagonals."

David Pears actually uses his wooden square for trimming the shoulders of tenons, but it works just as well for dovetails. It helps to keep the chisel vertical



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WHAT TO DO IN AUTUMN

The biggest event on the woodworking calendar is the North of England Woodworking Show from 23-25 November at the Great Yorkshire Showground at Harrogate (www.skpromotions.co.uk or 01934 420365). This is the 15th year for the show, and we'll be there, with fresh new copies of issue three! Other new exhibitors include John Mylands, who made a welcome return for woodworkers at the Yandles show in September. We'll also be taking a close look at Mulecab's stand (should we escape our own), where they'll be showing the Accusquare fence we love and the new Oneida cyclone dust extraction system for America.

Further south there's the D&M Tool Show at Kempton Park from 16-18 November (www.thetoolshow.com). There are Robert Sorby turning demos across the country in October and November (www.robert-sorby.co.uk), and a turning demonstration at Keenleysides in Northumberland (01670 823133) on 13 October. There are also various free events at John Boddy Fine Wood Store, including carving, turning and finishing (www.john-boddys-fwts.co.uk).

COMPETITION WINNERS

The five winners of the DeWalt Belt Sander in the final issue of *Traditional Woodworking* were Mike Jackson from Manchester, Lee Lord from Exmouth, Peter Clements from Rotherham, Janet Hicks from Fareham and Dale Hayton from Kent. The winner of the Tormek T-7 Wetstone Grinding System in the first issue of *British Woodworking* is Ken Smith from Southampton.

PROJECT FINDER

We've been asked to find plans for a breakfront cabinet, and for the making of a cabriolet leg. Keith Barber has been researching both topics and has found a breakfront at The New Yankee Workshop (item 1213, www.newyankee.com). He has also found information about cabriolet legs in *Tables and Desks*, one of many books in The Art of Woodworking series. These can be bought secondhand from Amazon.

Festival of handtools

Handtool enthusiasts flocked to the Festival of the Tree in August at Westonbirt, where we met the Canadian planemaker Konrad Sauer



At last, in late August, the sun shone, and it shone on lovers of handtools at the annual Festival of the Tree where devotees found bargains, new toys, masterclasses, seminars and demonstrations by remarkable craftspeople from around the world. The event is shaping into the premier opportunity for anyone interested in handtools to discover products they'll never have seen before and learn new techniques and ideas to take home to the workshop.

And how the visitors flocked in. What makes this event so special is that it caters for people with a passing interest in wood alongside handtool fanatics, and it's an ideal venue to bring the family for a day out at splendid Westonbirt Arboretum in Gloucestershire. And, of course, *British Woodworking* was there, Nick Gibbs spending four days planing oak legs for the workbench he's making, and his wife Tina Wall rushing and caning chairs at this most

friendly of shows. But many of the visitors came to meet and hear two Canadians, planemaker Konrad Sauer, and Rob Cosman, a craftsman best known for his DVDs and for his work with Lie-Nielsen Tools. Sauer (www.sauerandsteiner.com) is an unlikely maker of planes. Previously an art director with an advertising agency in Toronto, he started making his own furniture and began fettling old Bailey and Stanley planes. "I hit a wall with bedrocks," he says, referring to the adjustable frog mechanism found in many cast metal planes. "I was making household tables and cabinets; one of the Weekend Warriors. But when I connect with something I have a tendency to jump in with both feet."

He bought a Spiers Coffin Smoother with Brazilian rosewood infill from an antique tool dealer in Canada. "It outperformed everything," he explains. "The Bailey design allowed for mass production and versatility, but for wild crazy grain or marquetry you



Festival Konrad Sauer using one of his own planes (left and above). The small block plane is his son's, but we got to use it and it is a delight. Mike Hudson (far left, inset) was showing Clico's British-built Clifton planes at Westonbirt, where woodworkers could buy anything from axes to grinders

need something with a light cut, and a blade that isn't going to move." He believes there's more chatter in a Bailey design, which can make planing to a high finish on awkward grain much more difficult than with an infill plane, which has the blade rigidly held on a rosewood or ebony bed.

In 1999 he and a friend, Joe Steiner, began discussing the construction of planes, reading Jim Kingshott's articles and talking to tool collectors. The idea to make their own infill plane was fermenting, but there were gaping holes in the information they could find. Living an hour and a half apart they began building a plane each. "Mine took 80 hours to make," says Sauer. When at last they'd completed their two Plane No.1s they placed them on the bench and discovered they were radically different.

At that stage they certainly hadn't considered making planes as a business until a customer came knocking. "She said: 'That's really cool. Can you make me one?' Suddenly we realised we might be on to something, but only to fund making our own planes."

The pair met at a Canadian institution, Tim Horton's Doughnut Shop to discuss their first commission. Rule No.1, they agreed, was that it had to be fun. It had to be worthwhile, they agreed, and started estimating the price they'd need to charge. They totted up the materials and labour and came up with a price of C\$1600, asking themselves "are we prepared to work for

less?" With some trepidation they rang up Karen McBride, their first client, and told her the price. "Great," she said, "when can you start and when can it be done?"

"That's when the lightbulb went off for me," Konrad Sauer told us. That first commissioned plane took 50 hours to make. Steiner and Sauer had already split the manufacturing tasks between themselves. "We didn't want people to ask for a plane that had been built by just Joe or I."

After three years Joe Steiner decided to give up making planes, and Konrad bought the business off him, though the planes are still named after them both. He's always getting faster, though, searching for ways to improve the manufacture. "You have to develop an ability to be in the process, but stand back and take an aerial view to rearrange it. And I need an infill plane to make an infill plane because I know exactly how many passes will remove the appropriate amount of wood, and I know how they are going to work."

Konrad works to capacity, has a one-year backlog of orders, and has no intention to sell through a middleman. He doesn't employ anyone and hopes that's how it will stay till he retires. "The reason I enjoy it so much is that I have amazing customers to work for. I want people to use my planes." Try one, and you'll be hooked.

NEXT ISSUE! Watch out for our interview with Rob Cosman, and his ideas on how we can encourage new generations to take up woodworking in the next issue of British Woodworking magazine.

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Glass-topped table

Bill Newton explains how to use templates to form a sandwich of laminates in the making of his low, glass-topped table. To add a twist of complexity the mitres on the top are uneven.

We take a peek into Bill's tiny workshop and look for inspiration at the Celebration of Craftsmanship & Design

This coffee table is designed with a shaped underframe and turned stretcher rails. The long, curved rails (A) are laminated by overlapping three layers a little like brickwork. The legs (B) are cut and shaped from the solid, and the intersection between the rails and the legs is made using a halving joint. The table is made from pine, and has a clear finish (Chestnut Melamine Lacquer). Had it been made from a hardwood I would probably have reduced some of sections to lighten the construction, however made in pine it needs that 'chunky' appearance. The top is constructed from softwood sections (D and E) that are differing in width and mitred on the corners to form a frame, with dowels to strengthen the joint. The top is rebated to receive a toughened glass insert; this has polished edges and needs to be toughened for safety reasons.

1 Producing templates

First, it is necessary to produce two MDF templates, one for the rails (A) and one for the legs (B). These templates need to be carefully marked out on 6mm MDF and they should be labelled with all the relevant



information for that component, particularly the position of the halving joint and the drilling centres for the stretcher rails. The templates are not handed, and you only need one for the rail and one for the leg. However make sure you put an identifying mark at one end of the shaped rail template

because there's a chance the curve won't be symmetrical along its length and you will want to lay out all the laminates so that they match. Mark clearly which is the top on the leg template. Both the templates need to be left long at each end to provide a running on/off section for the bearing-

with curved rails



The curved side rails are produced by sandwich laminating shorter lengths, overlapping a bit like brickwork. The legs are cut from solid

guided router cutter you'll be using to trim the edges of the legs and rails (Pic.2).

Careful preparation is valuable with the templates. It's well worth drilling the positions of the stretcher rail centres through the rail template with a small drill bit so that you can pin the template to the

leg or rail for shaping, and can mark out the drilling centres from the template. The halving joint positions can also be transferred from the template to the component once the pieces have been shaped. The templates are very important to the outcome of the table and care should

Laminating



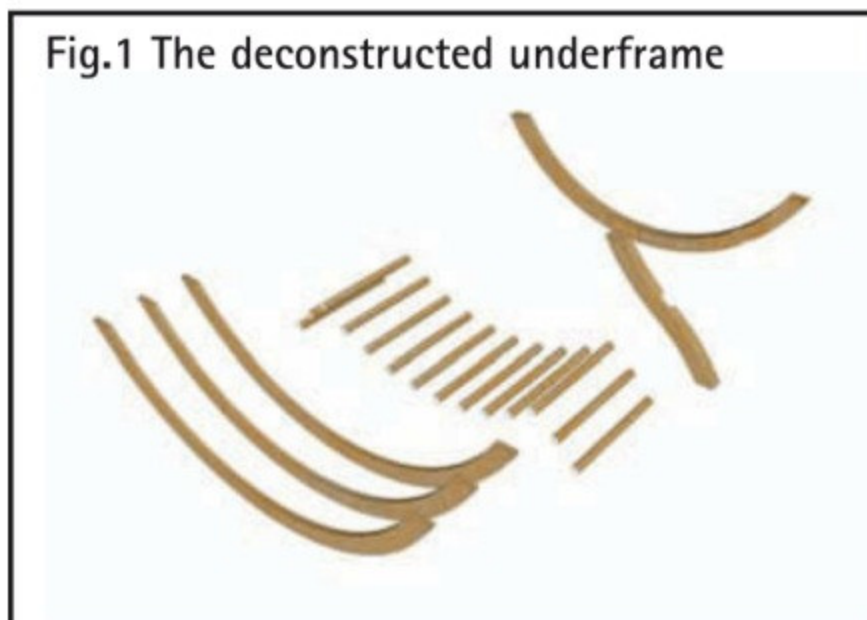
Pic.1 Using SloZap cyanoacrylate instant glue to fix laminates together temporarily before gluing up the sandwich (below)

It would require a wide board to cut the curved side rails (A) from a single board each. It would also mean the grain is quite short as it curves up towards the top, and there is a greater risk of the piece snapping. You might notice short grain on the feet of chair or table with curved legs; the pointed ends sometimes snap off. So Bill has built up his lamination like brickwork. The outer pieces (the bread in the sandwich) comprise two pieces which are joined at the apex of the curve. The inner laminate comprises three pieces, with the short central piece bridging the join in the outer laminates.

To make sure there are no gaps in the joins between the laminate components Bill glues them end to end with cyanoacrylate instant glue to hold them together long enough to cramp up the sandwich (below). This sort of adhesive is used these days by site carpenters for joining mitres on architraves before they are fixed in place.



Fig.1 The deconstructed underframe



be taken when producing them. They act as both setting-out rod and guide for cutters. So the edges must be smooth and all drilling centres and other information on them must obviously be accurate. The template for the rails should also show where the parts of the inner and outer laminates join (see Fig.3). It helps to mark these in differing colours to avoid confusion. To make the templates I copied them off my computer full size and stuck them to the 6mm MDF. If you want electronic versions of the templates simply email us at info@britishwoodworking.com and we'll send them to you free.

2 Making the shaped rails

Using the template, mark out the individual laminations, leaving a good margin of 10mm on either side for final cutting back after laminating is complete. I cut these laminates on my little Delta bandsaw, including the joints, and tidied up the joints on my disc sander (a converted lathe), though you could do that by hand with a



Pic.2 Initially a template fixed below the rails guides a cutter (above left), but you may well need to use the rail itself to finish the job because the cutter probably won't be long enough and you will need to raise it up. A guard (above right) offers protection and afterwards you can sand the leg smooth with a drum sander fitted in a pillar drill



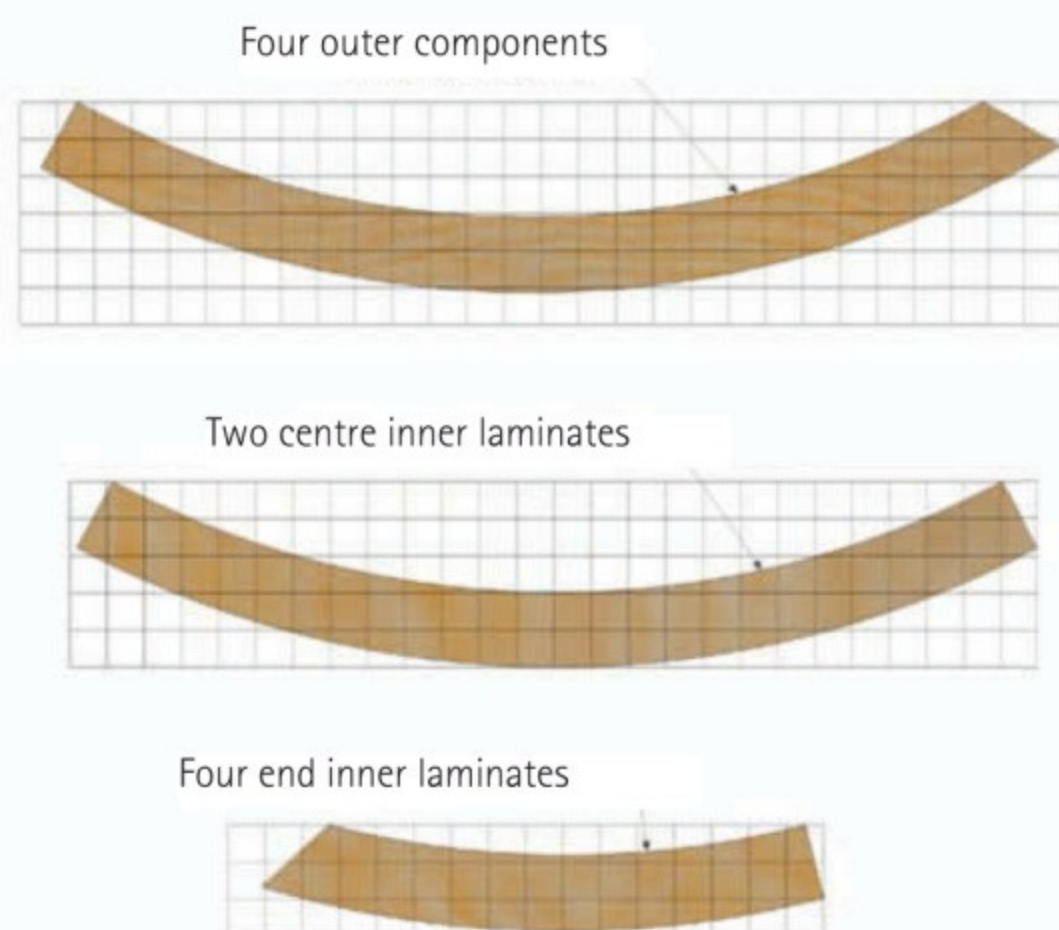
block plane. The inner laminates (the jam in the sandwich) comprise three separate pieces, while the outer laminates are made up of two pieces each (Fig.1 and Fig.3). That way the joints overlap, like brickwork.

After checking, the joints are assembled together on a flat surface using a cyanoacrylate adhesive (SloZap) and held together for the glue to cure. This leaves you six separate laminates; two inner ones and four outer. Clean off any waste glue, and glup up the laminates using at least

seven G-clamps to each rail. Place aside overnight for the glue to cure.

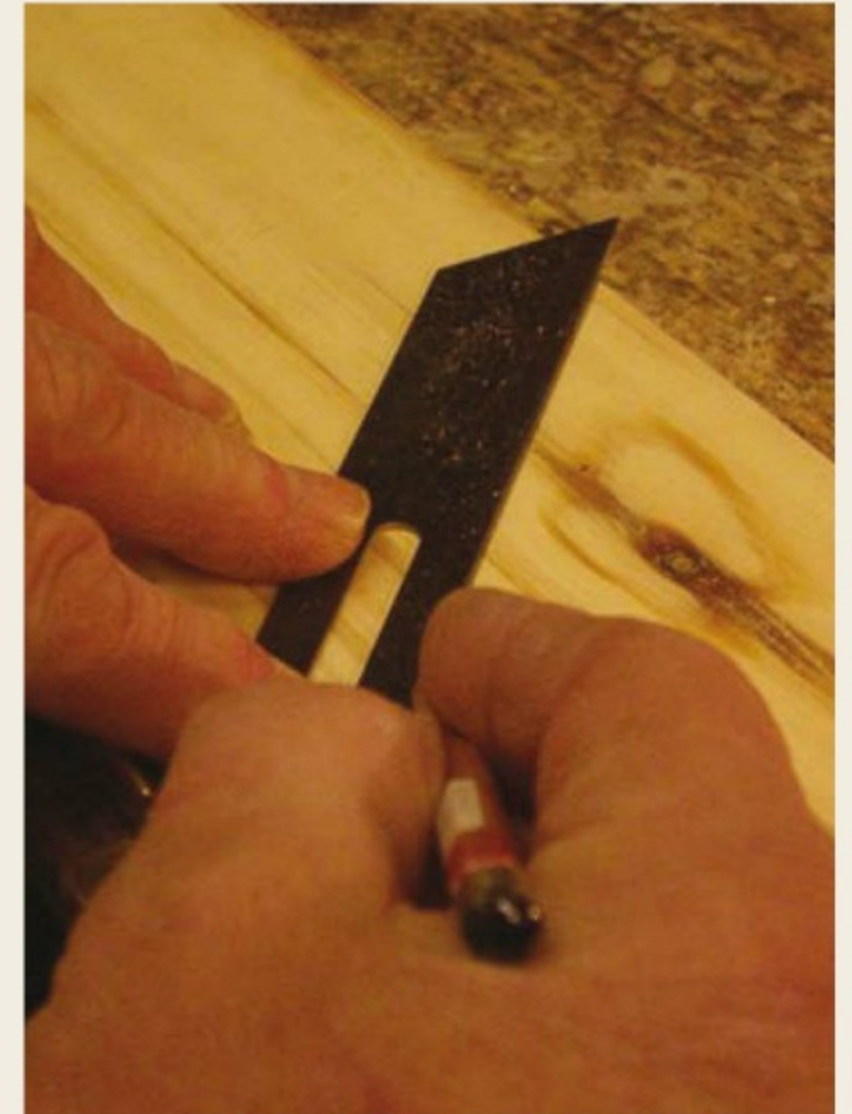
Once the adhesive has set, place the rail template on the inside face of the rails and fix with small nails near the ends (in the waste area) and through a number of the stretcher rail drilling centres. Cut away the waste on the bandsaw, leaving 2mm of material for removal with the router. I did the truing up on a router table using a 12mm bearing-guided flush cutter. The Wealden cutter (T8030B, 0800 328

Fig.3 Components to make up the rails



Pic.3 Glue up the frames all in one go to make sure they are identical (but handed, of course)

Back to Basics



When you are attempting to mitre two components of unequal width you don't cut the angle at 45°. Instead you have to adjust your sliding bevel (above) to the correct angle for each piece. Bill does this by marking one piece to length, then measuring back from the end of that piece by the width of the other component. You then mark a diagonal line from one mark to the other. It helps to have two sliding bevels. Make sure you've milled up some extra pieces (as you should always do for setting up), and mark them out and cut the mitres to check they line up.

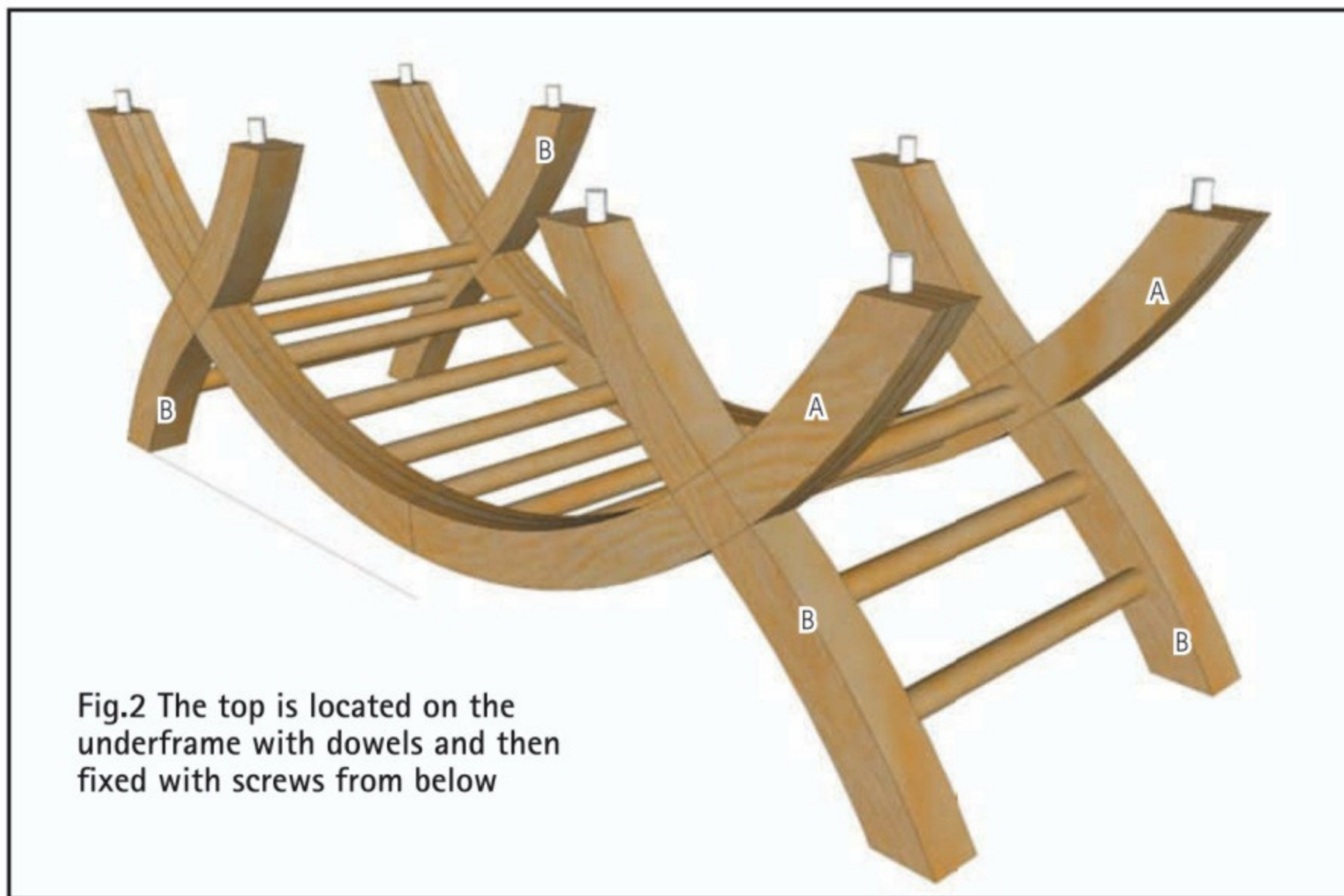


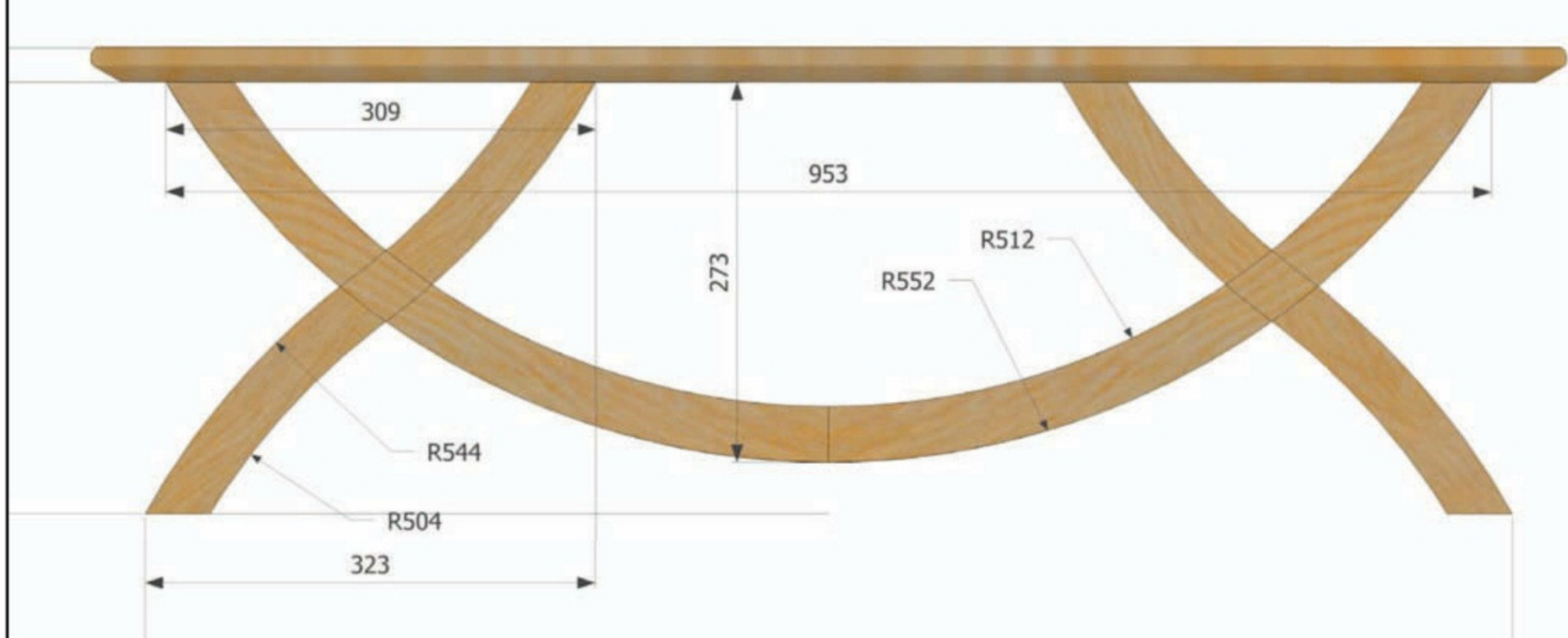
Fig.2 The top is located on the underframe with dowels and then fixed with screws from below

4183; wealdentool.com) I used has the bearing on the shank of the cutter, rather than at the end as is the case on many trimming cutters. This way the template has to be fixed below the workpiece. This cutter would only cut 25mm of the rail in one pass. So once the template has been removed you raise the cutter in the router table and run the bearing against the trimmed surface to remove the rest of the waste. However, before removing the template from each of the components, remember to transfer the marks for the halving joints, make marks for drilling the stretcher rails, and mark the cut-off points at the ends of the rails.

In addition, it is important to remember to make a pair of rails and two pairs of legs, because the components are handed. Pairing is done by reversing the template and marking from the opposite side of the template. Remember to clearly mark the top of the legs and one end of the rails from the identifying mark on the template to make sure they are consistent.

Once the legs and rails are ready, pass them through the thicknesser to finish them at 36mm and to ensure the rails and legs are the same thickness. Try to remove equal amounts from both sides of the laminated rails to keep a balanced construction and avoid any possibility of timber movement.

Fig.4 Side elevation of the table. All drawings in this article are produced in SketchUp (see panel, p18)



3 Cutting the halving joints

Sand the shaped faces (you might think of them as edges) of both the rails and the legs before cutting the halving joints to avoid material being removed from the halving joint area later, which could loosen the fit. Any gaps will be glaringly apparent.

Now mark out and cut the halving joints. Great care is needed to ensure that the legs and rails cross each other in exactly the same position and at the same angle. This is extremely important if all the stretcher rails are to run across the width of the table parallel. Mark out and cut the joints so that the rail is seen from the outside to run uninterrupted through the halving joint.

The halving joint is exactly half the thickness of the rail/leg and follows the contours of each; for that reason I chose to remove the bulk of the waste by hand, then finishing to depth with a hand-held router. This routing process includes careful cutting back to the lines with the router to ensure the housing follows the contour of its 'mate'; constant checking and final careful 'easing in' with a chisel guarantees a good fit. Once all of the halving joints have been cut, assemble the two frames and place together as a pair and check their uniformity. Make any necessary adjustments to align the components and then glue together. Assemble the two frames at the same time, to make sure they are identical,



placing paper between them at the joint areas (Pic.3). Clamp them firmly at the joints, at both ends and then use further clamps to keep the legs and rails aligned to one other.

4 The stretcher rails

While the frame sets, prepare and turn the stretcher rails (C). For quicker turning, I



Pic.4 Joining the two frames with the turned stretchers is very fiddly. This attempt (left) failed and Bill had to fix the pieces to a board to keep it all true

Pic.5 Bill uses an Axminster dowel jig to drill dowel holes to reinforce and locate the mitres on the top frame

thickened these to produce a 19mm octagon, using a V-shaped carriage (similar to the one Nick Gibbs has used to rip roundwood in this issue on p57).

The turned spigot or tenon on the ends must match your drill bit for the rails. In my case that was 12.5mm. It's a good idea to make yourself a template to check all the spigots are identical, and finish them with a small chamfer to make assembly easier.

I turned the stretchers in two goes, first one end and then the other. Once I'd turned all the tenons on one end I changed the headstock drive centre for a small cone, and then turned the remainder of each stretcher rail. Use a large calliper to mark out the shoulder length of the rails, turn the second tenon, and then finish the remainder of the rail to 16mm diameter and clean up. This way enables all of the rails to remain concentric to the spigots and lets you check them all against a template for fit. The rails are plain turned without any detail or decoration, the intention being to keep them simple in appearance to avoid any distraction from the overall design.

5 Trimming the frames

With the adhesive set in the frames, remove them from the cramps. At this point I used a 6mm round-over cutter on all of the edges, except the top and bottom of the legs, and the ends of the rails. You don't to



A table made in a shed

Bill Newton works in a small shed at the bottom of his garden, where he has a computer for designing with TurboCAD, countless planes, and any number of other tools hidden away in cupboards and drawers



As you walk into Bill's tiny shed there's a computer immediately on your right (1) and lathe straight ahead (2). The lathe doubles as a disc sander. On your left, as you enter, is the bench (3), the end of which is covered with planes and below that a home-made extractor (4). Bill has recently bought a hold-down from Axminster (5), with a tapped steel plate set into the bench to hold work for routing. At the far end of the shed is a mitresaw tucked in the corner (6), and underneath that a small planer-thicknesser. Beside the lathe is a home-made polisher (7), while in the ceiling hang all sorts of tools. Bill would love a spindle moulder, but has a 'ring' fence for his router table (8)



round over the edges if you want a sharper effect. Using the drilling centres marked out from the template, drill the spigot holes for the rails 12.5mm diameter 16mm deep.

Then mark out the cut-off positions at the top of the legs and rails. You will need a straight edge at least 1m long, which you clamp at the marks you previously applied to the top of the rails from the template. Draw a line across the legs and rails. Similarly, mark out the bottom of the legs for trimming.

Cut off on the ends on a bandsaw, or by hand, and clean up the ends either by hand using a block plane (watch the grain direction to avoid breakout) or with a disc sander (which was my favoured technique this time).

6 Making the top

Mark out the parts for mitring. The end rails and side rails differ in width. These 'mitres' are 36.5° on the rails and 53.5° on the ends; when assembled they must make a 90° corner. Cut the mitres on the bandsaw and then carefully sand back to the line on the disc sander or plane the mitres by hand with a sharp smoothing plane. Alternatively, of course, you can cut these mitres on a tablesaw; I don't have space for one.

Whichever method is used it needs to be carried out with care and accuracy. Each corner should be checked for accuracy; they



Pic.6 Rebating one of the components for the top for the glass

must be square. Take the pairs of components and check the long points of the mitres line up. Do this by clamping the side rails together and planing or sanding the joints while they are together; treat the ends in the same way.

I have reinforced each of the mitres with two 6mm dowels. The first dowel is positioned about 50mm in from the long point; the second dowel is positioned 70mm from the first. Mark these positions on both members of each joint and carefully drill for the dowels using a drilling jig. Of course if

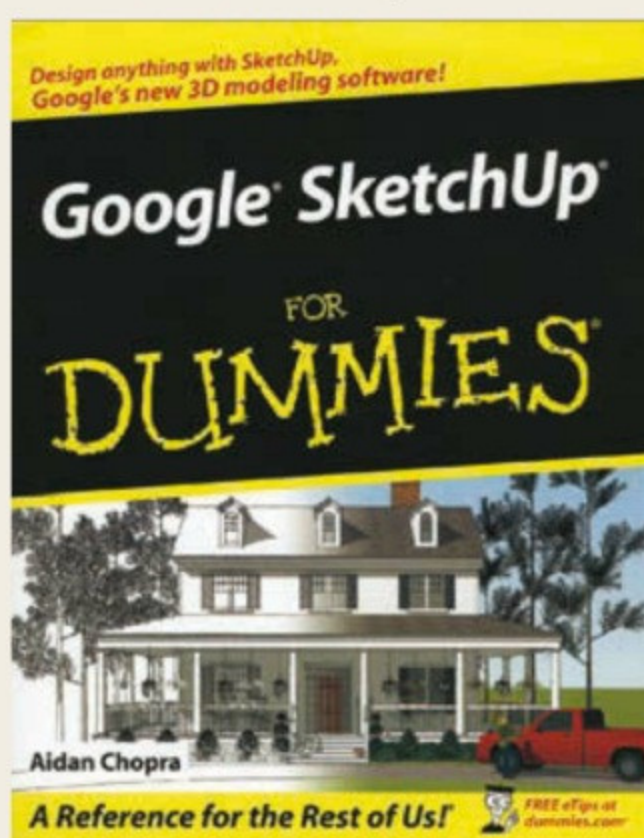
you have the resources and technology you could use a biscuit jointer or Festool's new Domino system (see p58 for more details of this joint).

The joints are assembled with PVA, making sure the dowels are well glued; the top is then assembled using four sash cramps. Check the assembly is square, and there's no twist (wind). It must be flat. Then set it aside for the glue to cure.

Then do a preliminary clean-up on

Working with SketchUp

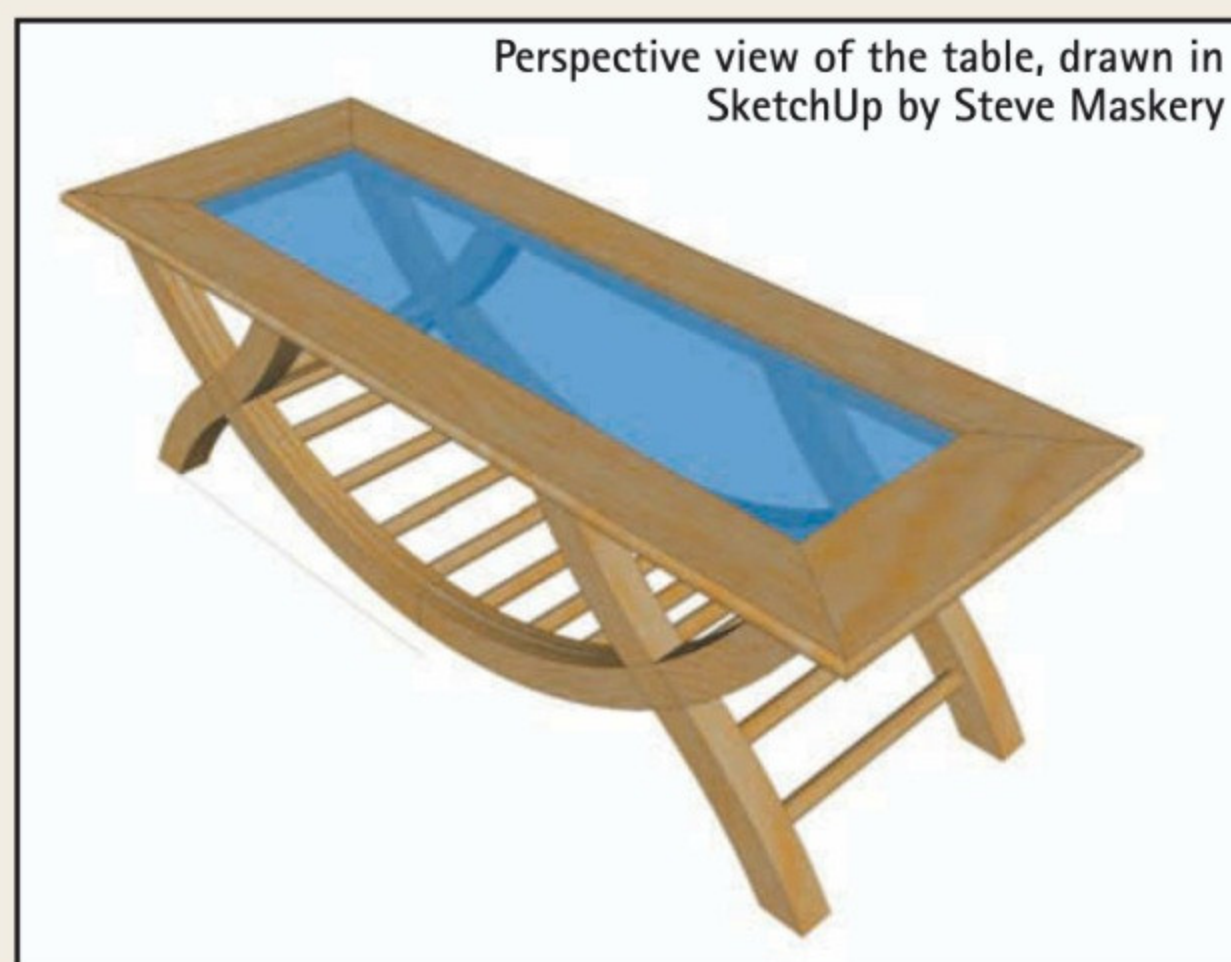
Google SketchUp is free software you can download from the internet. With it you can design furniture in three dimensions, and then use that model to provide the dimensions for each component, or just to view your piece prior to making. We are now using SketchUp for all our plans so that woodworkers can download the model and then adapt it to suit their needs. From that model you



create elevations, plans and view details. You can look at the piece as if using an X-ray, and you can alter the colours and textures. And of course you can change the dimensions and play around with the design.

Our website can't offer downloads easily yet, so for the moment you have to email us at info@britishwoodworking.com for the SketchUp models. We can also provide you with a

Perspective view of the table, drawn in SketchUp by Steve Maskery



cutting list. And go to sketchup.google.com/download.html to download Google SketchUp 6 for free. In time you can buy the Pro 6 version, but the free one will do for the moment. If you get hooked you can buy *Google SketchUp for Dummies* from Amazon for about £10. It is full of tips and techniques.

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Pic.7 Bill uses a jig for drilling the holes for a screw and a dowel to attach the legs to the top of the table

the top before rebating for the glass and applying the edge detail. The rebate was applied with a Trend cutter (No.C040; 0800 487363; www.trend-uk.com) fitted with a Trend bearing (No.B16A) to produce a rebate of 9.5mm x 4.5mm; the corners left by the cutter need to be removed by hand.

The mould applied to the edge was done using a 9.5mm round-over cutter (Wealden No.T1336 fitted with bearing Nr. TB452). This was applied to both top and bottom edges of the top. Once the rebating is complete, then measure for the glass (reduce the tight measurements by 2mm to 3mm) and order the glass. The glass should be toughened for safety reasons and the edges also require polishing, so it could take a while to be delivered. The glass merchants will know exactly the safety regulations regarding the thickness of glass



Pic.8 Use callipers to get the tenons on the end of the turned stretchers spot on

you need should you change the dimensions of the table.

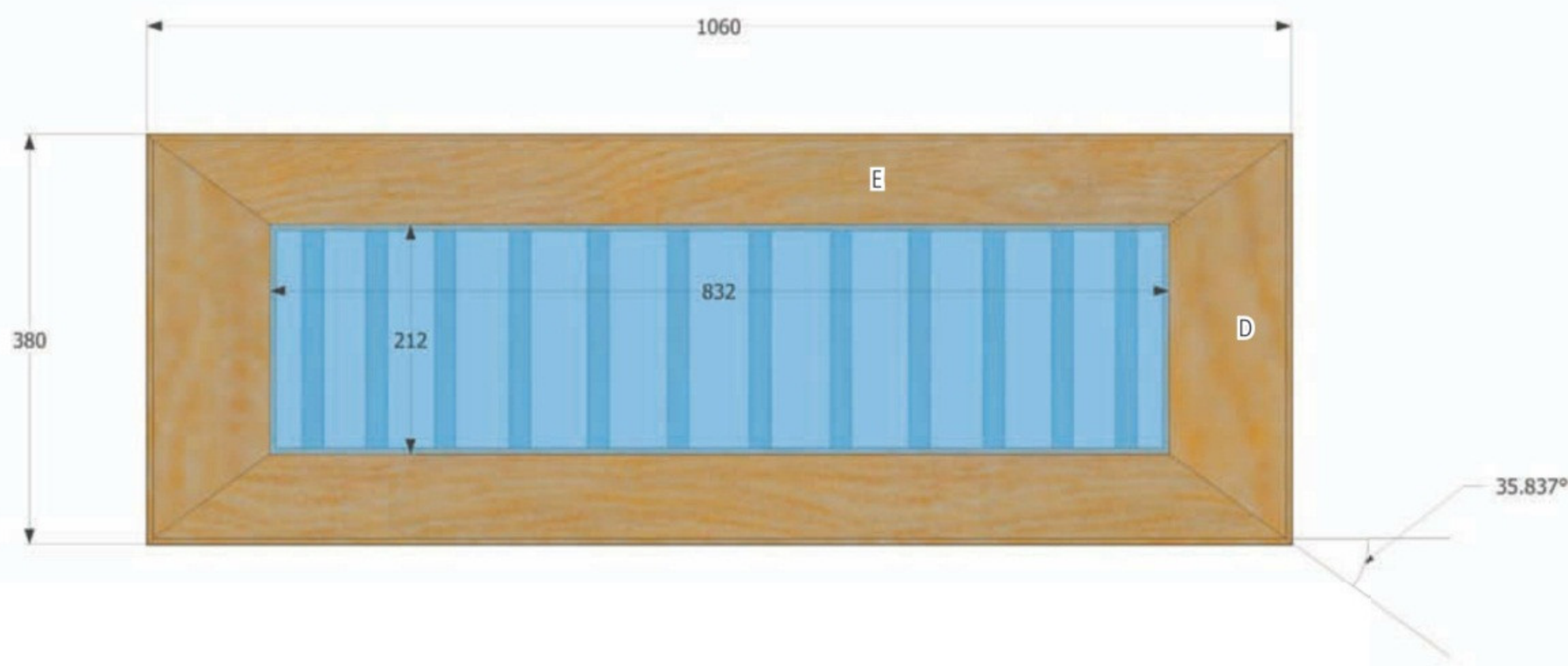
7 Assembling the underframe

Before assembly, clean up the inside surfaces of the underframes and make sure the stretcher rails are thoroughly cleaned up. You will need a flat board or a flat surface to work on, and a large square; these are to ensure that the frame is flat and square after assembly. You will also require at least six sash clamps with a minimum capacity of 600mm respectively. Apply adhesive to each of the sockets drilled in the underframe members and insert the stretcher rails. Cramp the frame together working on the flat surface and constantly check the frame

for square and wind.

The frame proved to be difficult to assemble, so the sash clamps across the frame were removed and the frame was lightly cramped to the flat board and squared up, then one clamp was lightly reapplied across the frame. This method was much better. I think there were too many clamps working against each other initially and they distorted the frame. Great care must be taken with this assembly as it is critical to the outcome of the table. Leave for the adhesive to set then the underframe can be attached to the top. This is done using a 6mm dowel in the top of each of the connection points. In addition to these a 1 1/2in, No.8 wood screw is used on each

Plan of the table, drawn in SketchUp





Pic.9 When Bill chose the timber he was intending to stain the table to hide the blue marking, but his client preferred it 'natural'

of the external corners as a mechanical attachment. To position the dowel and screw holes and to keep them perpendicular to the top I knocked up a self-made drilling jig from 12mm MDF with a 6mm drill bush inserted for the dowel centre and a 4mm hole drilled through the jig for the screw centre (Pic.7). The jig is cramped into position on each leg in turn and the holes drilled. Remember the screw holes are only required in the outer positions, not on the inside; the dowels are drilled 15mm deep.

Locating the frame on the underside of the top is a bit awkward. One way is to use pointed dowel centres in each of the dowel holes to transfer the positions across. To position the frame accurately I clamped two

L-shaped positioning blocks (Pic.10) on the two of the corners of the top. This allows you to lower the frame into place on the underside of the top. To stop the dowel centres dropping out, stick a little strip of masking tape over them to keep them in place. Now press down on each position to make a clear mark, insert a screw into each screw position, and give each a light tap to mark the screw centre. Drill for the dowels 15mm deep and drill the screw centres with an appropriate pilot bit.

Before final assembly clean up the top and underframe ready for your finish. I prefer to start with 120-grit paper and work down through the grades to finish with a 240-grit paper. All sanding is carried out by hand, no mechanical sanders are used because it is too intricate. It's particularly important to avoid cross sanding on the mitres and on the halving joints.

Apply glue to the dowel holes and insert the dowels, then assemble the underframe and the top, using the screws to pull the assembly together. When the glue has set use clean cloths dampened with clean water and dampen all of the surfaces. Allow the wood to dry, then sand the whole of the table with a 240-grit paper.

8 Finishing

All of the finishes were applied using a good-quality polishing mop. I think these round brushes used to be made from squirrel hair. I gave the table two coats of Chestnut Cellulose Sanding Sealer (01473 425878; www.chestnutproducts.co.uk), brushed on

TIP



Pic.10 To locate the legs on the underside of the table top, Bill makes a simple L-shaped jig, which is cramped in position once you've aligned the legs. Then you can use dowel centres in the holes in the legs and mark the exact position to drill dowel holes in the top. Stick a small piece of masking tape over each dowel centre to stop them falling out

and allowed to dry before being cut back with a 320-grit silicone carbide paper. Then a further two coats of Chestnut Melamine Lacquer were applied, which were also cut back between coats with the same paper. The final coat, once hardened, was finished with a neutral Black Bison wax (www.liberon.co.uk) applied with 0000 grade wirewool and then buffed up to a finish.

If you have any questions email us at info@britishwoodworking.com. We can supply a cutting list for the table.



A celebration of glass-topped tables

The Celebration of Craftsmanship & Design exhibition in August was the perfect venue for anyone looking for inspiration to design their own low, glass-topped table

The quality of furniture was the usual high standard at the Celebration of Craftsmanship & Design in Cheltenham in August. We couldn't help noticing how many low glass-topped tables featured amongst the exhibits. A fair number of woodworkers doubled up by visiting the Festival of the Tree at Westonbirt and this show over the same weekend, as they're only 20 miles apart.

Otter Regular visitors to the annual Celebration of Craftsmanship & Design will have seen Derek Pearce's distinctive tables before. This playful otter is typical. Derek always tries to include humour in his pieces, and if you get to see Betty Norbury's new book *Bespoke*, you'll find a bed of his with a carved pair of trousers draped over the footboard



Burr elm Sean Feeney has been squirreling away the burr elm that he's used for the feet of this English oak table since the 1970s. He keeps the burry bits that get removed when you mill the wane edge off burr elm boards. The oak is bought locally: "It helps to sustain a microcosm of local economy," he says. He tends to buy logs in the round, then go down to the sawmill on a Saturday to watch them being milled, and to guide the cutting by watching how the log performs, starting at the top and working their way down. The legs are all the same radius, just offset a little, with the outer layer rounded





Crabby Oliver Drake has built two versions of his Crab Table. They are both inspired by the idea that he wanted to be able to display knick-knacks that might otherwise be hidden away in a drawer somewhere. And he liked the idea of using the design of a printer's tray for the drawer. "I lined the compartments with old postcards," he told us. "They are all British landscapes; places I've been to. You can buy them from memorabilia shops in Bristol." The oak is English, bought from Nigel Howe (07899 794125) in Somerset, who like Oliver Drake is a member of the Forest of Avon Woodworkers Co-Operative, which aims to buy timber as locally as possible

Flexi ply The laminations for Justin Williams and Jane Cleal's table in Macassar ebony have flexi-ply at the core, to lighten it, and then layers of 2.5mm MDF for a smooth surface on which to lay the 0.5mm veneer, which would otherwise show the ripples of the flexi-ply



Old man's pipes According to Gordon Fry, who is now writing a regular column for *British Woodworking* about his life as a country carpenter and furnituremaker in France, wild French cherry smells a bit like old man's pipes. The grain and figure is smaller than in England. Gordon had considered sycamore, but the customer didn't want it too white and too stark. The curved rails comprise four laminations, each about 3-4mm thick, and when he started they kept splitting, so Gordon changed from using quartersawn strips to crown cut. The quartersawn tends to shatter along the edge. Find out next issue if the table receives a Guild Mark from the Worshipful Company of Furnituremakers



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NEW TOOLS

All the latest tools and equipment tested and rated for a better workshop

Tormek T-7

Antique restorer and furnituremaker Rob Leach was given a Tormek for his 30th birthday. Three years later he gets to test the new T-7 and we ask him if at £370 it's a jig too far?

Woodworkers either 'get' the idea of a Tormek or they don't. Antique restorer, Rob Leach has had his Tormek 2000 for three years now, and uses very little else for sharpening his plane irons and chisels, though he has a diamond stone for honing and working on the backs of tools. He was the ideal candidate to try out the new Tormek T-7. Retailing at about £370 it's not a pocket money purchase, and we wanted to know if the new jigs, extras and Tormek's offer of three free stones for the life of the machine are worth the cost.

The bit people either 'get' or

'don't get' about the Tormek is that it really is more than just a wetstone grinder with some jigs tagged on. "I've never use it without the jigs," says Rob. "I'd be all over the shop at such a slow speed."

So we left the T-7 with Rob for a week or two, and returned with some trepidation to find out how he'd got on. Rob is one of those woodworkers who's able to produce the most remarkable results with the simplest of tools. He's not obsessed by the angles and metallurgy of planes and chisels, he just gets on with it. We weren't sure he'd like the idea of some new gizmos. How wrong can one be?

"The new jigs are fantastic," he said. "Every workshop should have one of these!" The jigs to which he refers are the new Square Edge Jig (SE-76) and the new Truing Jig (TT-50). Both are improvements on the previous versions. "I wish I hadn't just bought the old version of the Truing Jig," Rob said when we got to his workshop.

The machine itself is no different to the 2006, just blue instead of green, but the beauty is in the small refinements to specific add-on components



The Square Edge Jig, Truing Jig and Stone Grader are the stars of the extras with the Tormek T-7, but there are also a book, video and honing compound, plus the excellent angle setting device. Oh and the foam box base can be fixed to a wall to store your extras. Neat!

that are packaged with the basic model. And, it is their addition that Tormek must hope educates owners to the benefits of buying extra jigs to take full advantage of the kit.

One of the key ways one can use a Tormek to its full is to take care of the stone. It is all too easy to assume that because everything happens slowly with a wetstone grinder the condition of the stone and its accuracy isn't important. Once you realise that it's the jigs that make the Tormek so valuable,

you come to recognise that the stone surface must be square to the toolrest. Because the stone is so much softer than those on bench grinders it will clog and glaze, and abrade poorly.

Rob Leach understands this all too well. "The two-sided Stone Grader is great. It means I can open up the stone for faster cutting when I've taken a knick out of a carving chisel, and then you can dress the stone with the fine side for a better edge on your tool." The Truing Tool is a great improvement, with

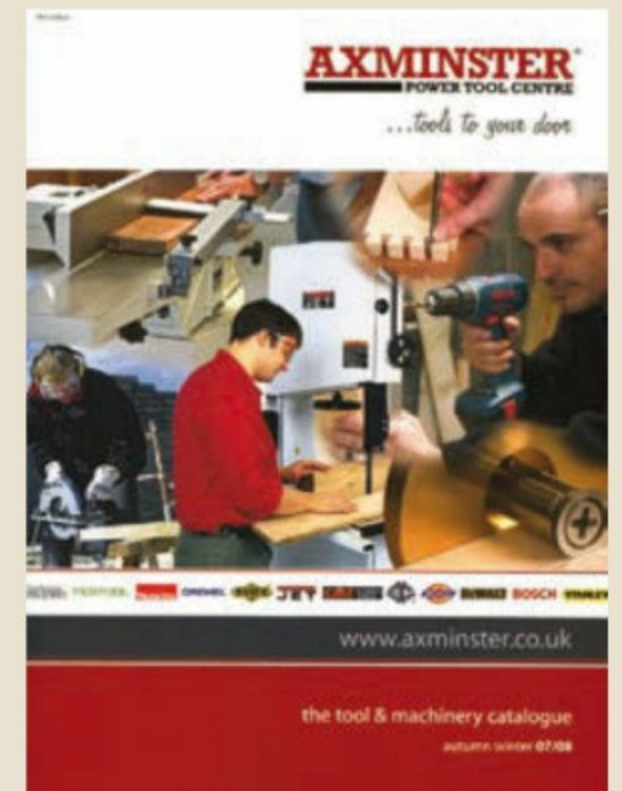


There are a few profiled leather honing wheels available and they just screw onto the end of the main spindle for honing gouges

HOBBYMAGAZINES.ORG

NEWS

New cattles



The new Axminster catalogue includes some interesting new kit, including the Bosch All Rounder which we've tested this issue, and Lie-Nielsen Router Planes and a new style of honing guide which APTC call a 3 in 1 Sharpening Sled. Call 0800 371822 or visit www.axminster.co.uk.



Like Axminster, Trend (0800 487363, www.trend-uk.com) have also got a new honing guide in their latest catalogue, plus an interesting setting jig which might work nicely with the Richard Kell honing guide we've been sent by Workshop Heaven. Other new products include a new small T4 router and a professional version of their Airshield respirator, plus more Rotatip router cutters for 1/4in collets.



The Square Edge Jig comes with stops to right and left so that you don't accidentally run off the edge of the stone. Rob Leach knicked a finger the other day when he did exactly that because he hadn't fitted the stop. He says he'll be suing *British Woodworking* as he was testing at the time!

simple fine adjustment, less play and two knobs to move the cutter across the stone steadily.

Rob does a bit of carving, which you'll see next issue on the replica Waring and Gillow chair he's been producing. So he was very excited to have a go with the Profiled Leather Honing Wheel Tormek supplied as an extra (LA-120, c.£27).

Rob, like most Tormek users, has the grinder on a normal bench, and he's been complaining about the mess you get from constantly turning the machine around to use the stone and then the leather wheel. So we suggested he try working the other way round, with the jig and tool facing him. That way you don't need to move the machine and get water everywhere. It makes life so much better, overcoming one of the key reservations some woodworkers have about Tormeks. As long as you're using a jig the grinding is simple, and you get a better view of the edge and can lift up the bevel to check your progress more easily.



Most people grind with the tool facing away from them (as Rob is doing, top), but it's actually better in some ways if you hold the jig facing you to see the edge better. It also means you don't need to turn the grinder around to using the leather honing wheel

Rob also feels that the Square Edge Jig is a big step forward, especially for chisels, which sit more firmly on the plate. He also liked, and was keen to keep, the Fingernail Gouge Jig we lent him for his carving tools.

The T-7 isn't cheap, and a 'naked' version would certainly cost less, but it's the jigs that

make the system, and with the improvements, and the free stone offer, the T-7 is no jig too far. In fact we suspect that Rob will be have been on the phone buying extras as we were leaving his workshop!

More details from BriMarc 0845 330 9100, www.brimarc.com.

THE MITRESAW QUEST

Rexon M2150AE



Our search for a mitresaw has taken us to a new extreme in the form of Rexon's £85 M2150AE (www.rexon.co.uk, 01709 876611). This is about as compact as mitresaws get, but it packs quite a punch for its diminutive stature. Able to cut a 127mm-wide board, 50mm thick, it has two speeds and a 216mm blade. We keep forgetting to turn the laser off, and return to the workshop to find a red glow, and when you use the saw the laser does that thing of cutting out the moment you start lowering the blade, which is disconcerting but not critical.

Actually one of the first things we did was to change the blade to one of the Freud samples we'd been sent, which fortunately had the same 30mm bore, but are only 200mm diameter rather than 216mm. The improvement in cut, however, was dramatic and you can feel the saw is better balanced and smoother with the new blade. It even gives less of a kick when it starts up. Changing the blade is a real fiddle, and I'm sure the instructions assume you have three hands and some extra fingers.

The Rexon cuts square, the table and fence are true, and unlike the Fox and Rage we tested last issue (BW01:22), there are holes in the fence to attach sacrificial wooden facings. The extraction port works really well, easily the best so far. Its limitation, of course, is that unlike saws with slides the Rexon can only cut



boards up to 5in wide. But it would be fine for mouldings, and would fit neatly into a corner for occasional use. It is pretty noisy and has a hefty kick on startup.

SHARPENING

A heavenly way to sharpen?

The 'scary sharp' approach to sharpening is with lapping paper, according to Workshop Heaven

Matthew Platt's Workshop Heaven website focuses on handtools, with a few accessories for power tools, and he's convinced that one of the best ways for part-time woodworkers to sharpen chisels and plane irons is with lapping paper fixed to 10mm float glass.

The Scary Sharpening System (£78) comprises an A4-size piece of glass, 15 sheets of three grades of 3M lapping paper, 3M Scotch Weld Craft Mount to fix the abrasive in place, some camellia oil as a lubricant (which doesn't solidify), a roller for flattening the paper and removing bubbles, and some orange router matt to stop the glass slipping.

To stop the honing guide tearing or wearing the lapping paper the kit comes with a Richard Kell Mk3 two-wheeled guide, which has a wide brass plate, and a pair of steel pins underneath for positioning a blade square. A rosewood wedge holds the tool in place. Of course, you can buy any bits of the kit independently, and there are further options that feature less expensive versions of the Richard Kell honing guide.

We've fixed the three strips of lapping paper across the glass, with a roller-width gap in between. In hindsight, next time we'll leave a little bit more of a gap as the guide tends to wander a little and the abrasive doesn't need to be that wide. There are three grades of lapping paper, helpfully colour-coded, starting with white 60 micron, then a green 30 micron, and the finest is 5 micron in a fetching brown.

They have chosen float glass because it tends to be flatter than toughened, but it



Next time we wouldn't stick the lapping paper down so close together as you need a bit more space for the honing guide wheels. The roller helps to remove any air bubbles, but then so does honing



Just as we went to press Matthew Platt sent us vastly improved instructions for the Kell jig, which make life far simpler when it comes to setting up

needs to be 10mm thick for strength. There's a piece of matting to stop the glass moving, and you can certainly get your tools sharp. And you do need a honing guide as you're bound to dig in otherwise. The Kell guide is a thing of great beauty, and well made. We just found it trickier to set up than other honing guides, but the wide wheels give it a great feeling of stability. Other honing guides would wear out the lapping paper.

In theory this is great to use, and once the paper loses its edge you simply pull it off and stick down another strip, which only cost £4.20 for one sheet of each grade. However it won't be for everyone, and we suggest you buy some lapping paper and have a go on MDF or glass before you decide on further investment after a trial.

Visit www.workshopheaven.com.

TURNING

Ready, Steady, Test

Turning textures for a great gift

We like to make a project every issue with some of the tools we're testing. A new Legnoart grating kit from Craft Supplies seemed like the perfect opportunity to give Sorby's Spiralling and Texturing System and Box Hollower a go (www.robert-sorby.co.uk, 0114 225 0700). The grater kit is solidly made, with a plastic insert in the top that screws up into a wooden handle, and we can confidently reveal that it will be well received as a present, and that the grating action is good.

The Spiralling System takes a little longer to master. The spinning wheel on the end of the tool chases a spiral of variable pitch. There's a knack to presenting the wheel to the slowly-revolving cylinder to create the initial marks, and then gradually lowering the handle to make the cut. Once you've learnt the trick it works back and forth across the surface, producing beautiful spirals. You have to choose your

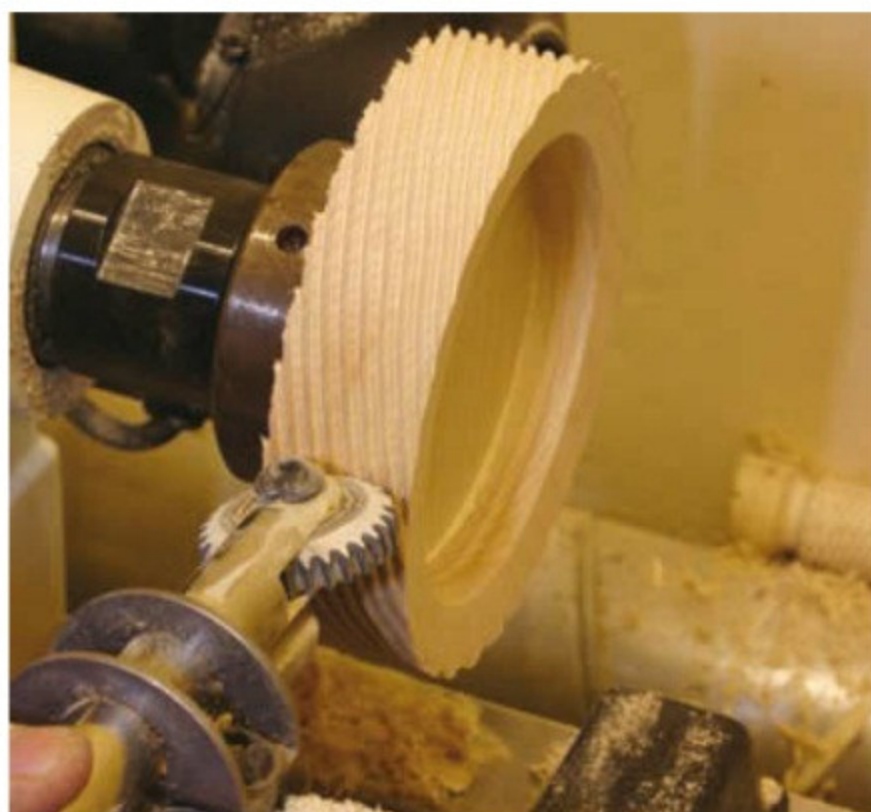
wood carefully though. The sycamore we chose tended to tear a little, and it was certainly easier to work on smaller-diameter pieces.

And you have to consider how to start and stop the cut. As you can see we tried one knob with a flat at the end of the spiral, and one with a sharp edge. Feathering out the spiral, as we've done on the sycamore here, means you actually leave a section of flat wood with shallow grooves. We prefer the effect on the yew knob.

Hollowing the base for the cheese was done with the Box Hollower, which is designed as a scraper to 'cut' the sides and the base of a turned box. It certainly does make that tricky job much simpler, especially because the cutter is articulated and can be adjusted to suit your angle of approach. The Spiralling System isn't cheap at £124, but the Box Hollower seems good value at about £25 considering how simple it makes an awkward job.



Craft Supplies' Legnoart Conical Grater (210mm high) costs £7.45 from www.craft-supplies.co.uk or call 01433 622550. We turned the base and top from a piece of sycamore from Craft Suppliers that cost £2.25. The other trial top (left, above) is made from yew, scrounged from cuttings from a tree in the local churchyard!



There's a knack to using the Spiralling System. It worked beautifully first time, and then we couldn't get it to cut spirals again until we'd got used to the action. Smaller diameter pieces are the easiest



With an articulated tip you can get the Box Hollower into sharp corners for the turning of, you've guessed it, boxes, and in our case the base of our grater. It works well cutting both long-grain and endgrain



Sorby provide three spiralling cutters and one that textures the surface. The pitch of the spiral is determined by the angle of the tool, which is set with a hex key, lining up a score mark on the shaft with stamped numbers

PowerTools

Early Christmas

Bosch's new All-Rounder should be in some Christmas stockings says Nick Gibbs, while the new Makita jigsaw is a beaut

Bosch's All-Rounder (the PMF180E Multi) has Christmas written all over it. But unlike so many naff electrical presents you get given, this is really quite handy. The blades are ideal for trimming skirting or flooring, and it becomes a powerful little orbital sander once you change over to the detail sanding pad. Impressively the extraction works really well, with a pile of dust as evidence the moment you turn off the vacuum.

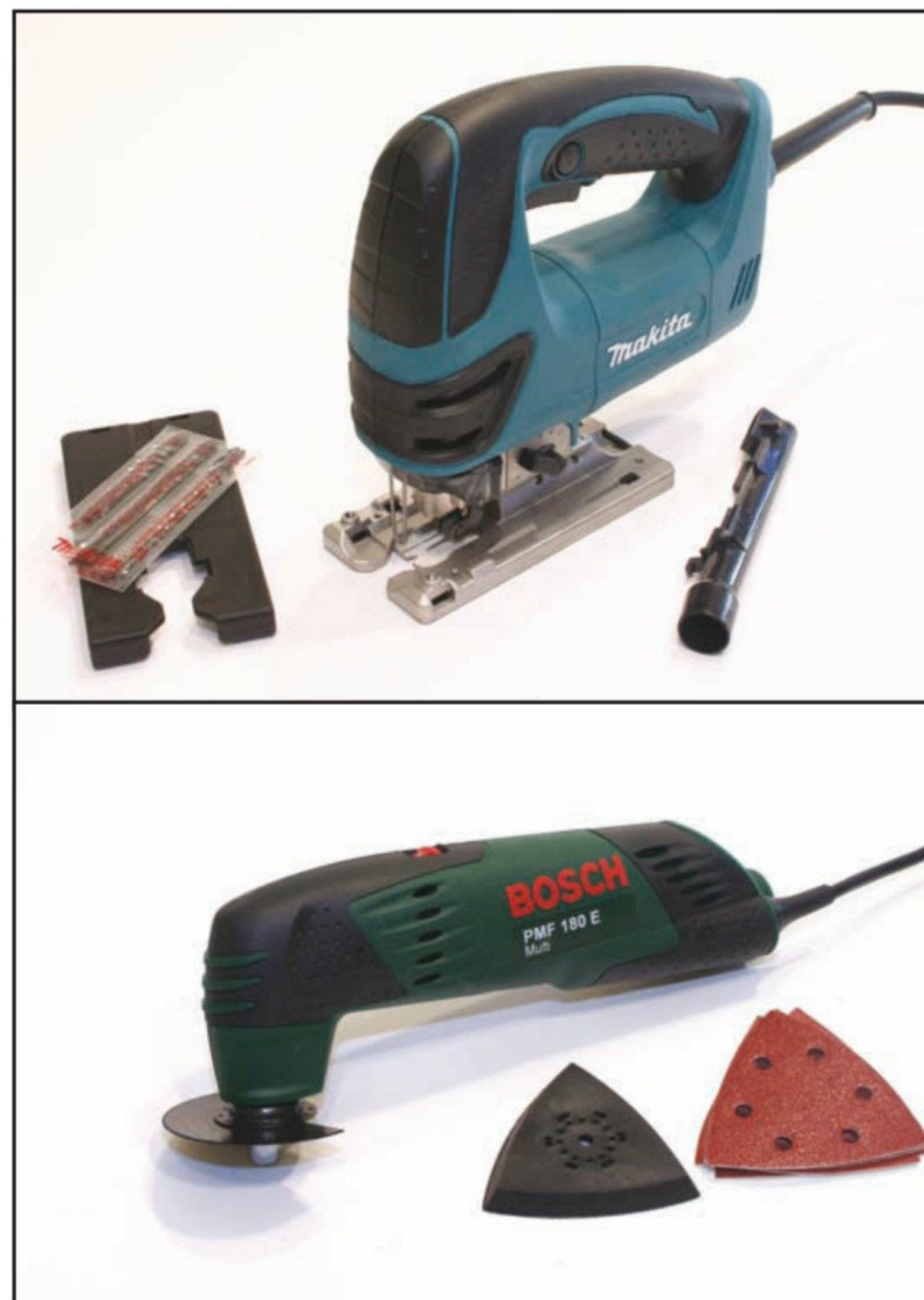
Professionals will probably favour a Fein over the Bosch (which costs about £70), but for home woodworkers this does a great job as both sander and saw.

Meanwhile Makita's new 4350FCT jigsaw (retailing at about £170) is described as a heavy-duty jigsaw. It has a 720watt motor and a really solid

base, and Makita claim it can cut 135mm-thick boards. It is a lovely powertool: compact, well built, quiet and purposeful. There is a quick blade release mechanism which makes blade changing so much easier than the days when you had to search for your hex key. Makita also say that the base is a new design in forged aluminium, and it certainly is very stable, even when hanging half off the edge of a board.

The 4350 is really smooth to work with. It wouldn't take up much space in a workbag for carrying around the house for DIY duties, and the extraction works very well to remove the dust at source. At least we assume it does by the amount of sawdust lining the tube after a quick go.

It's not that clear what's



happening to the dust because the blade is set so far back into the base. This makes for a more stable saw, and reduces the amount of dust flying up into your eyes, but it's at the cost of visibility, especially if you have the plastic insert in place. There is, however, a Job Light to guide your way, which works pretty well, and with or without

extraction the line seems to be always clear of dust.

My only other reservation is the slow start. It makes the saw nice and gentle, but it means you can't feather the throttle, so as to speak, so easily when you're moving through a cut because there's a delay between pulling the trigger and the motor revving up.



The dust extraction tube (when fitted to a vacuum!) does seem to remove dust from around the blade. Setting the blade far back into the base reduces visibility, but there's no dust on the line

It's surprising that a powertool can combine sanding and sawing as effectively as the Bosch All-Rounder. The extraction must work because when you turn it off there's dust everywhere

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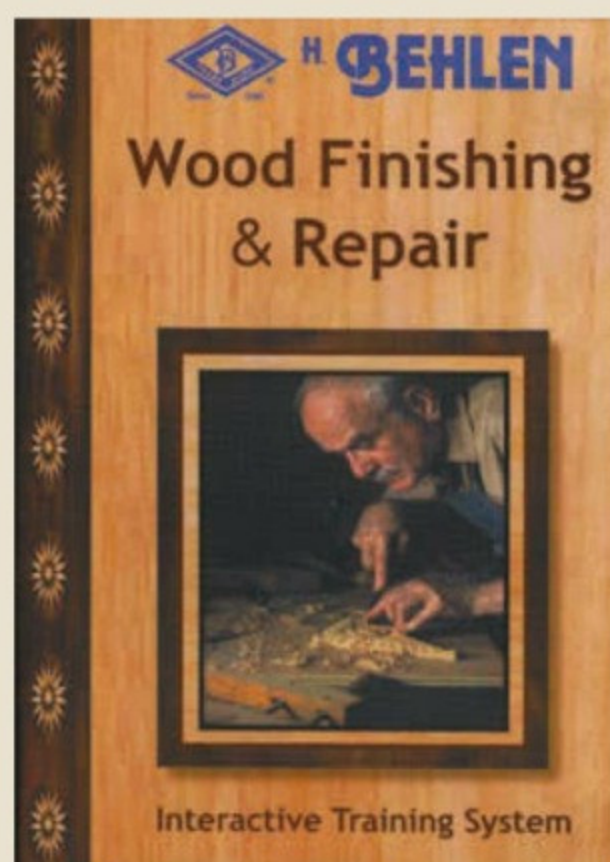
FINISHING

Mylands are back

Anyone's who wondered where Mylands had gone, can breathe again because they're back in town, with a stand at Yandles. They've been working on new products and packaging for us woodworkers, and we should see more of them in the near future (www.mylands.co.uk).

Behlen DVD

Behlen have a DVD on Finishing and Repair that covers anything



from the use of epoxy resin on repair breaks to the filling of voids with wax using a burning iron to melt wax and level the surface. It's a really detailed description, given an intriguing cosmopolitan feel by the accent of the narrator. He shows the use of different types of burnin' waxes, and you'll learn a lot very quickly. We are probably going to have to do a translation page (see Do It Like Norm on p82 this month) in the future. We'll need to explain the grades of wet and dry abrasive they use. The DVD is something of a promo for Behlen products, but it's well illustrated and very clear. We couldn't find the DVD on the website so call 0115 973 7288.

HANDTOOLS

Gator Clamps Bar-Man

We test Gator Clamps' Bar-Man and Clamp N Spread to see if they take on the sash clamp

Quick release clamps are popular for all sorts of reasons. They offer speed and versatility where the common sash clamp can be fiddly to prepare and is limited by the depth of the jaws. They are ideal for fixing jigs in place because the jaws are long enough to reach over the edge of a worksurface. Gator Clamps' Bar-Man is more than a jig-holding device because it is sturdy enough to compete with a sash clamp. You may not want to use it for assembling panels, but we found it to be great for chairs and stools. The trigger gives you plenty of whallop, and the release catch is well-positioned.

The Clamp N Spread uses the same technology, but has a clever double handle with a release lever that switches from push to pull easily. It is



Gator Clamps have a wide range of cramping products, including the Bar-Man and the Clamp N Spread (above and right) and framing and straight edge tools



designed, one assumes, for taking chairs and the like apart. It works well enough, but it is quite difficult to judge the pressure you are exerting if you're used to using a rubber mallet. Both products are well made, and starting at about £17 they are a useful addition to

one's cramping armoury, though they'd take some getting used to before they replaced any sash clamps. Sizes start at 150mm and go up to 1000mm. Contact www.planetmfg.co.uk, 01686 688383.



The Clamp N Spread is powerful dismantling frames, but they don't replace a rubber mallet entirely



The Bar-Man is excellent for chair assemblies because you can hold it with one hand and see what's going on

New at Yandles

On show, a saw that looks ideal for small workshops, and a new chuck from Sheffield

Record Power revealed a new tablesaw at Yandles Woodworking Show at the beginning of September, and it could change the way we look at saws for the small workshop. The TS200C costs about £600, has a soft-start induction motor and a 10in blade, but most importantly it has the sliding beam of a large panel saw, butting right up against the blade. This means that you don't have to remove the whole crosscut sliding carriage assembly when you want to do some ripping, and it doesn't get nearly so much in the way.

A further advantage is that you can clamp the workpiece directly down onto the table, which is especially useful when you are cutting short items. Oh and it also means that there's no friction between the workpiece and the table, except the 'waste' side of the blade (where the table is cast iron). The 10in blade gives you that much more clearance under the

crown guard than an 8in model. Watch out for a full test very soon.

Just around the corner Robert Sorby were introducing their new Patriot chuck. The Patriot is a four-jaw chuck, with a protective band around the outside to stop any knocks. There are a host of jaws and accessories available, the principle being that once you've fitted the body to your lathe there's no need to remove it, you just change the jaws to a faceplate, a screwchuck, a drive or a centre. The chuck costs about £140 for the basic model, which includes the body, 2in jaws, key, adaptor and the screwchuck insert.

Jaws from a SupaNova will also fit the Patriot, and vice versa. Sorby have designed the dovetailed jaws so that there is a good overlap between the sizes, which gives you greater flexibility and means you don't end up with no-go zones. We'll be testing the chuck soon.



The sliding beam on Record Power's new tablesaw butts right up to the blade. The black metal fixing at the far end of the table is used to hold a workpiece down against the mitre fence. The sliding table can be locked in position when you want to rip. There's a section of cast table to the right of the blade



The extraction on the TS200C combines dust removal from below and also from the crown guard. We noticed a tiny amount of flex in the rip fence, and will be checking that when it comes to testing the saw for real



Sorby's new Patriot chuck encloses the mechanism within a steel and aluminium body. The idea is that once the chuck is in place you can fit any of the accessories without needing to remove it from your lathe. The accessories range from screwchucks to faceplates, various dovetailed jaws, deep jaws and even blue jaws you can turn yourself



HANDTOOLS

Ryoba-Douzuki saw

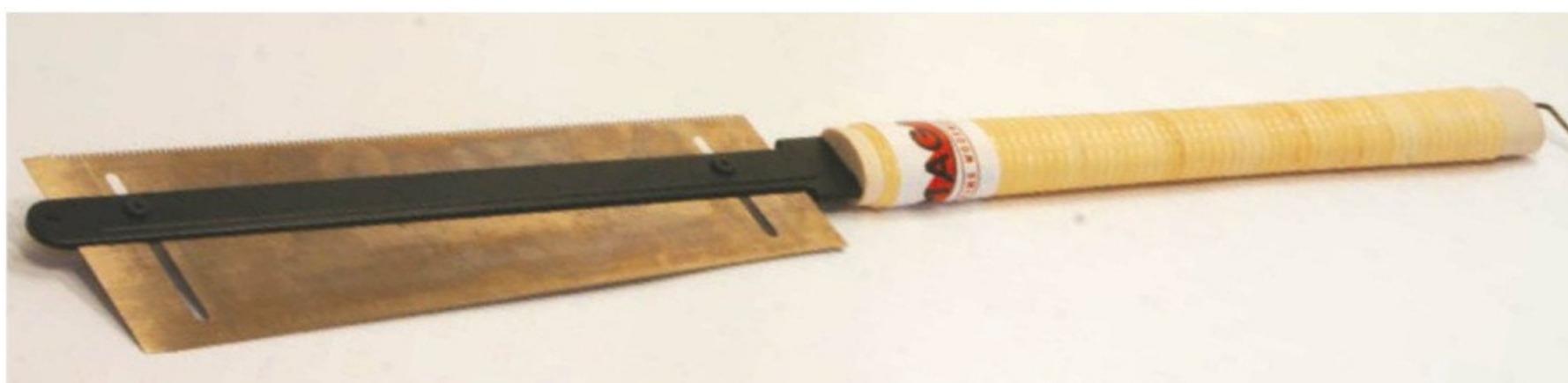
A new style of Japanese saw provides great versatility



According to people who know, Ryoba means double-sided in Japanese, and Douzuki translates roughly into 'with a back'. Which describes this saw rather well. What it doesn't mention is that the back element of the saw also doubles as a depth gauge or stop. That makes this saw ideal for cutting tenons. You use one edge for ripping down the cheeks and the other for crosscutting the shoulders. The depth is relatively easy to sort out with a couple of hex wrenches and three hands, but once you have the knack it's fine. The idea of being able to repeat cut with a Japanese saw is superb.

The teeth on one edge of the saw, which

costs £45.85 from Classic Hand Tools (01449 721326, www.classichandtools.co.uk) have a set of 0.45mm and spacing of 1.4mm for ripping, while the other has the typical Japanese crosscutting tooth shape and no set. It is a joy to use, and you can cut deeper tenons than you might imagine. The blade, which is marked with scales for easier setting up, is a little thicker than some Japanese saws I've used, and seems to keep to the line perfectly. We really enjoyed cutting the tenons for the covershoot with it, and there'll be no need to do any paring afterwards if your marking out is accurate. A replacement blade costs £28.



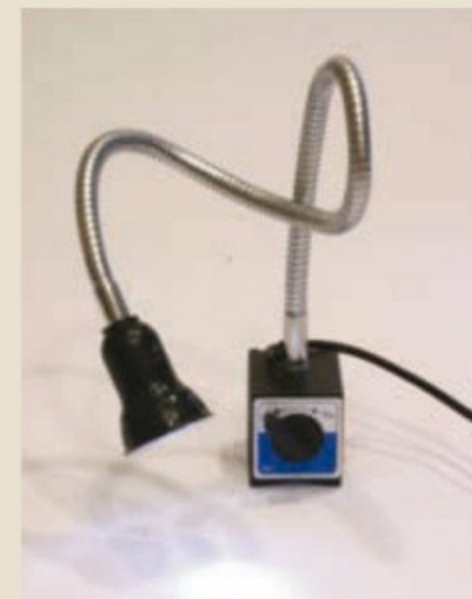
FIRST IMPRESSIONS

In our workshop

The people from Freud came to visit us in the workshop recently, bringing with them the 3000 router, which they consider the best on the market for using in a router table. This



is a bold boast, considering the competition from Triton, Trend and Bosch. However the router does feature a collet that protrudes through the base and a height adjustment mechanism that can be accessed from above through a hole in a router table.



As well as picking up the grater kit from Craft Supplies, we went home with a sample of their bendy LED light, with magnetic base. We enjoyed fitting it to various steel machines, illuminating the cutting line.

We've made a new friend at British Woodworking in Mark Hancock, who's been demonstrating the Rolly Munro hollowing system at various shows over the summer. We'd already been supplied with a sample to test from The Shed (www.thesheddirect.com), but Mark gave Nick Gibbs a lesson, showing him how to adjust the height of the handle to engage the cutter. Once you have the idea it works really well and can remove anything from a slither to a wadge.



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The Country Carpenter

Four years ago Gordon Fry and his family moved to France to set up a fine furniture and joinery business. Now you can follow their progress in every issue of *British Woodworking*



September 2007 Building a French set of oak doors

Having run my own business for the last 12 years, four of which have now been spent in Normandy, I know only too well that new enquiries arrive in varying forms. It is often said in France that the best marketing is 'bouche à l'oreille', literally from mouth to ear. However, I do believe that perhaps a fair percentage now

arises from that great creation, the internet. It is our UK customers who tend to find us on the net; the local French clientele prefer to pop by and meet me face to face.

The commission for a pair of oak front doors was probably the fastest sale I've ever made, and we received the confirmation and deposit within 12 hours of sending out the estimate. Perhaps this is electronic communications at their best? No need to wait for cheques to clear now, a bank transfer was organised that very

day. The client was restoring his stone longère in the Perche region of Normandy and wanted new oak doors and windows. The project brief was to create two equally-sized oak doors within an oak frame, along with fan lights above. The doors were to be glazed, and from a design perspective I felt that two lower solid panels per door would look aesthetically pleasing.

Choose your wood

Having selected a tree at the local sawmill for the purpose and transported it back to the

workshop, work could commence by preparing the timber. As with all jobs, I prefer to draw a full sized story-rod first. The next important task is to check supplies of all the other materials I am going to need, including door furniture, glass, gaskets and varnish.

Several years ago, I was fortunate to have a 'stagiaire' (trainee) work with me from the local technical college. Patrick's tutor came to visit the workshop to assess how he was getting along and was fascinated to learn about an English approach to cabinetmaking. After this, he invited me to see the college and also gave me a list of useful suppliers. It was from this list I obtained the name of the ironmongery firm I currently use. Glazing suppliers, however, have been somewhat more of a challenge to find. In the UK I used a small friendly factory in Sussex (Balcombe Glass) with whom I had developed a good working relationship; it never seemed to be a problem when you asked about glass or prices.

Here in France, however, the story is somewhat different. We found what we believed to be a magnificent factory in Caen for producing all sizes and formats of glass, with an army of



Longère One of Gordon's most recent commissions was to make new oak doors for a longère in Normandy, replacing the old single door with a pair, plus fan lights above

workers processing orders on a huge scale. Then the disappointments came in. When asking for a rep to help me understand the French methods, I was told I would have to wait several months (and in fact we are still waiting!) because he had reportedly 'broken his leg' and there was no one else available. So I suggested to Sarah, my wife, and the children that a trip to the Normandy beaches could be fun. Naively, they agreed, until they realised my ulterior motive was to include a somewhat lengthy hour at the aforementioned glazing company trying to understand their products and services.

Door gaskits

The gaskit supplier I found, however, was a different story. This company is based in the South of France, so four pairs of ears pricked up when I started to make enquiries with them. Unfortunately, this time we didn't have to go and see them so a quick trip to dip our toes in the Med wasn't to be as this company was extremely helpful and sent lengthy samples of gaskit products.

Living in the sticks over the past few years has taught me that journeys need to be worthwhile and many a time I've kicked myself for not picking up that extra box of screws. France is a vast land mass and most of our suppliers are at least an hour's journey away. Not only can the delivery times on certain items be several weeks, but it always pays to have the lock or handle in front of you so things can be tested and visualised before fitting.

The making process

So early one morning the peace of the valley of the Pays d'Auge was broken by the humming of my circular saw, planer and the essential dust extraction.



Alone When you're building large doors by yourself you have to use any support you can find. Here Gordon's rebating the stile for the French double rebate system, and below setting out the tapered mid rail joint on the stile

Work had now begun on the preparation of the timber for the door-set. Stiles, top, mid and bottom rails, along with muntins and panels were being machined into their relevant sizes.

After several hours of noise pollution, calm was restored as the newly shaped timber was put face up and face sides together so that they could be marked out for jointing.

The first job is to cut rebates for the glass on the stiles, and then ovolo mouldings on the stiles and muntins. Once that's done the stiles are trenched for the raised and fielded panels.

Then I'll normally move on to the preparation of the tenons. In this case the top and mid rails were marked out somewhat differently to the bottom rail, as



they had to allow for the rebates for the glass. The bottom rail was to have a counter ovolo moulding milled onto the rail ends, as the stiles had the same ovolo moulding on each side.

Working alone, I need an armoury of Sedgwick machinery, including a three-headed tenoner, which makes light-work of tenons and can shape a counter profile on the third head. It's a bit like an over-sized spindle moulder.

I purchased this useful machine a year ago, due to an increased demand for windows,

doors and staircases on the local French market. It wasn't all plain sailing, however. I purchased the machine from Scott and Sargent in Sussex and took it back to France in a pick-up truck. Little did I consider the offloading of this weighty and top-heavy machine as it was being loaded on with a crane.

A hasty telephone call to a farmer friend brought about a solution, with the use of a loader on his tractor. The new addition to my workshop fitting in well, it was only a case of wiring it in. Frustratingly, single-phased electricity supply is only rated up

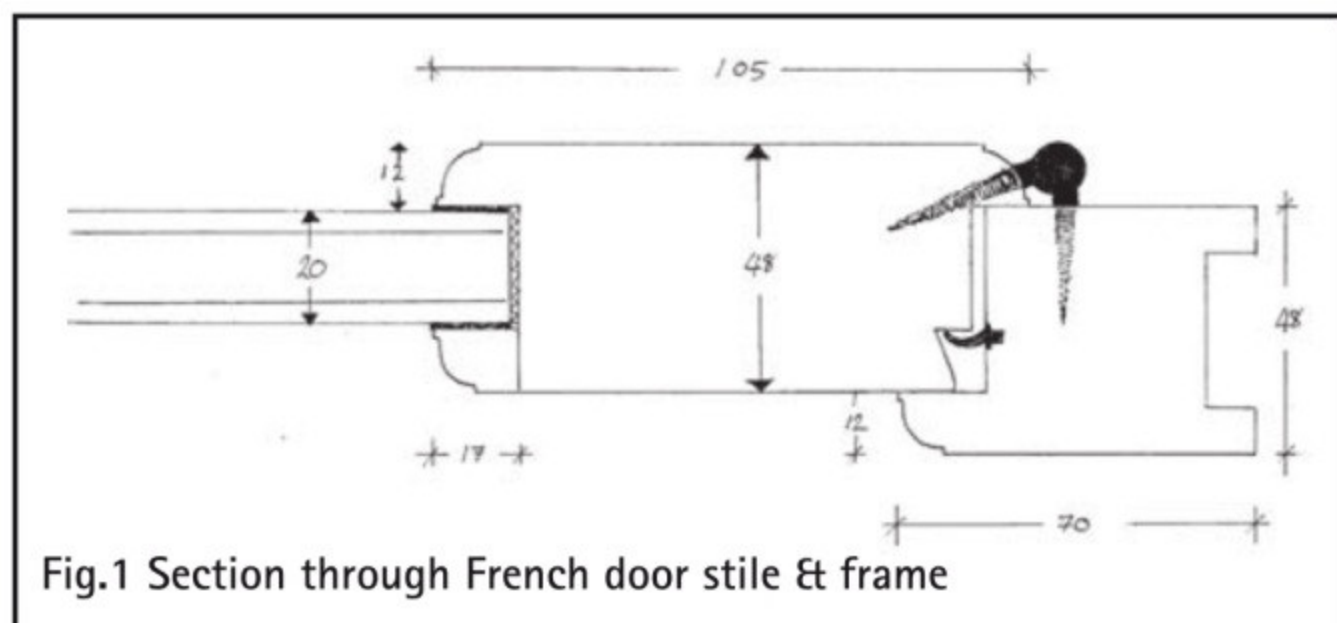


Fig.1 Section through French door stile & frame

to 32 amps in France and the new tenoner requires 40! I tried several electrical outlets, but their response was to tell me that there was no such thing as a 40 amp fuse. We might as well have landed on Mars. It is hard to believe that we all live in Europe when so many differences still exist. My solution came via an electrician friend in the UK who obtained this elusive fuse and kindly posted it out to me.

The tricky mid rail

Everything was going well enough with the doors. So far so good. But now the thinking cap has to go on for the creation of the mid-rail joint! As you can see from the drawing (Fig.2), and just from the photo if you peer close enough, the mid rail has a tapered joint.

You start by cutting tenons on the mid rail as you would for

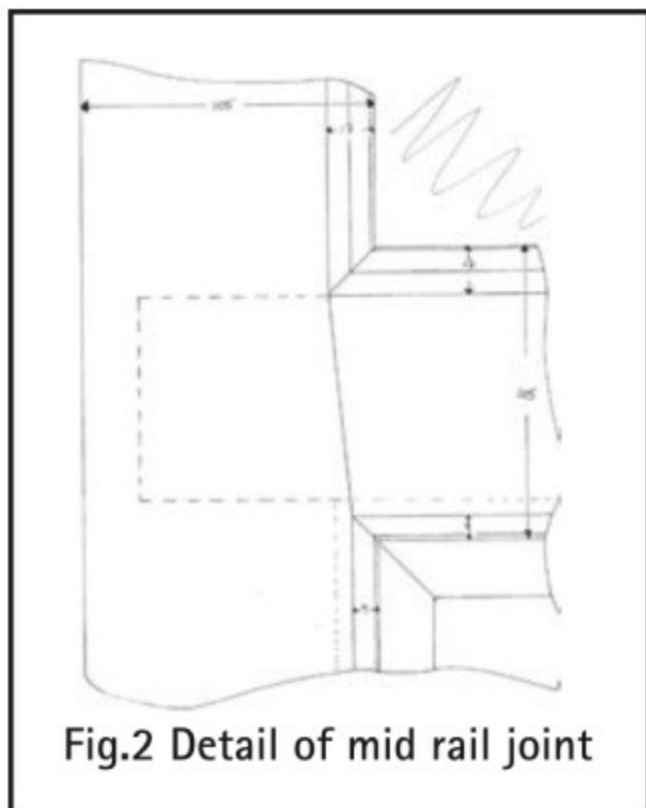


Fig.2 Detail of mid rail joint

the top rail, to give you the references to mark and cut the tapered joint. The first datum point is on the top shoulder of the rebate. The second point comes from the shoulder line of the counter profile end. This mark is brought up and over onto the face of the proposed tapered face. Then the second line can be applied with the use of a marking gauge. This is set from the furthest point of the ovolo shoulder (about 9mm here). The tapered line can now be struck between the two points and the 45° angle can be marked here too. The shoulders can now be cut as close to the scribe line as you dare. The joint could be pared by hand to achieve a tight fit at a later stage. And if you understood all that you're welcome to come over and work for me!

The rail is offered into the

Profile With an ovolo moulding on both sides of the stiles you have to work a counter profile on the end of the stiles



Taper Look closely and you'll notice the tapered joint on the mid rail. This presents a few challenges for the maker!

stile so that the datum point can be found on the stile with the use of a square. Once the points are found, I was able to scribe the taper and mitre line. The waste is cut away with the use of a router and once more you can pare the final part by hand. I didn't think it was going to be easy, but how satisfying when it all comes together (but don't look behind you to see the pile of offcuts only fit for firewood in the corner!).

Glazing the door

An English door would now be glued together and ready for glazing, however, the French have a somewhat different method of making a door, in that they use a double rebate method. And to top it off, they incorporate a rubber gasket into the door frame to prevent drafts, by creating an air-lock around the door frame (Fig.1). This then requires an air-chamber milled around all the edges of the

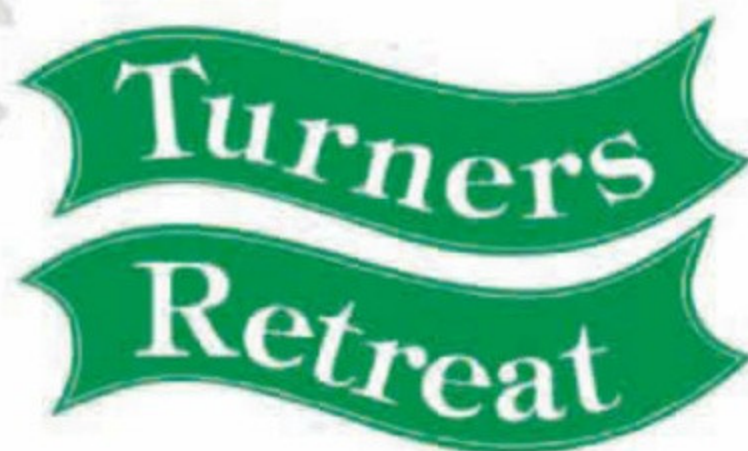
door, so that it can actually open. There's nothing worse than closing a door, pulling the handle and finding it won't open due to suction.

The final construction processes are to fit the glass, apply the beading, hinges and locking mechanism. The doors were simply oiled so that the client could then reapply at will.

Many an Englishman has been puzzled on buying a door in France as it comes with a frame of its own. The difficulty then for the maker of such doors is that, at the final stages of the project, the units can become large and cumbersome as the hinges and lock are fitted on a flat bench, rather than on site as in England. This can definitely cause a problem when working alone. At times such as these, I rely on a friendly neighbour or hope that Sarah can spare a few minutes away from our three young children! À bientôt.



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Perfect shoulders

In the first of a series of articles on working with handtools Alan Wood gives us a pictorial tour of his approach to marking out with a knife

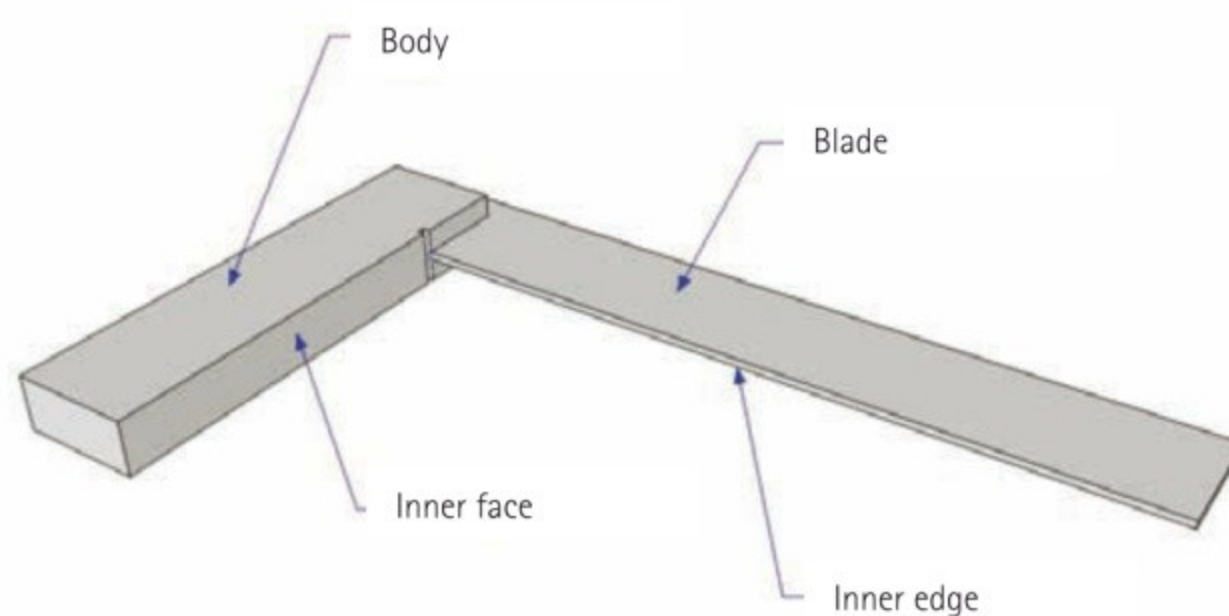


To be successful in making wooden joints by hand you will need to be able to mark a shoulder line accurately using a marking knife and try-square. You will notice that I use a Japanese marking knife, which has been transformed, and I'll be explaining how to go about that in the next issue. For the moment I want to introduce the principles of marking.

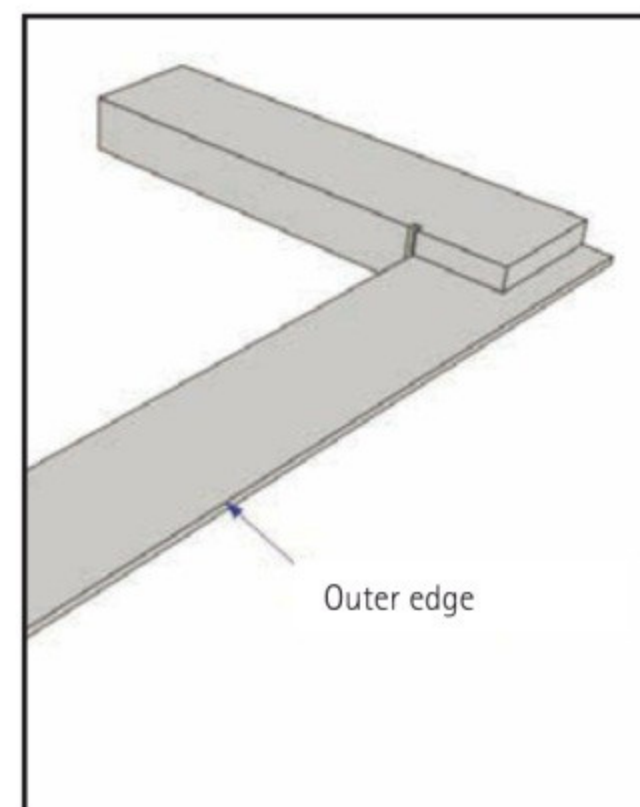
I own two engineers' try-squares, a 50mm and a 150mm. I bought the smaller one with the intention of using it when marking out small pieces of timber, but in practice I find that I use the larger one on nearly every occasion. I believe that it is important to start with a clear and clean bench as sawdust and shavings get in the way. It is very easy for small bits of sawdust to attach themselves to your square as you pick it up, so make sure it is spotlessly clean before every single line is marked. I tend to wipe the inner face of the body with my finger each time.

The examples shown here were done on a piece of 68x21mm section softwood from a DIY store, planed all round. It is ideal for building your skills. Check that it is flat and square and off we go.

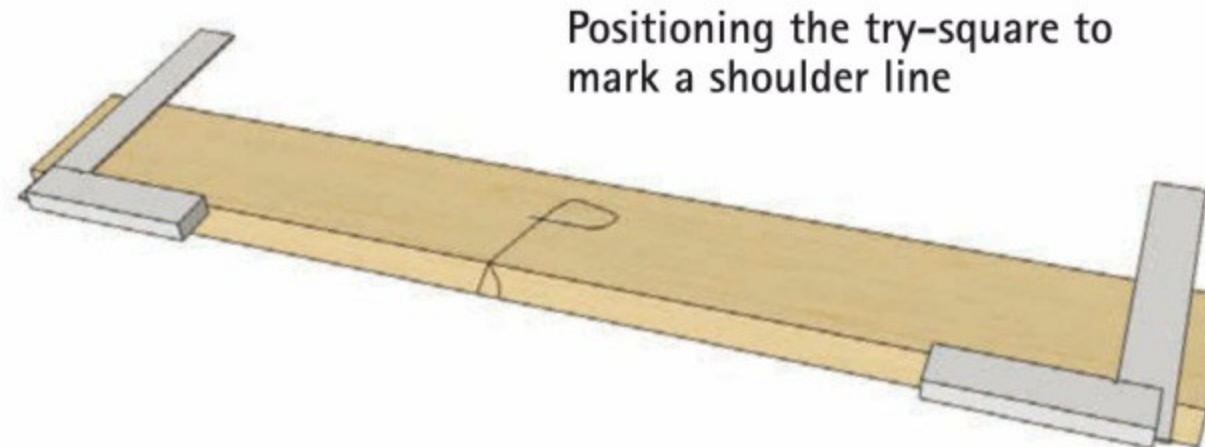
The engineer's try-square



Right edge Only the outer edge of the try-square is used for marking shoulder lines. I use the inner edge for checking the flatness of timber. With regular use the outer edge becomes worn, so it makes sense to use the inner edge for checking.



Positioning the try-square to mark a shoulder line

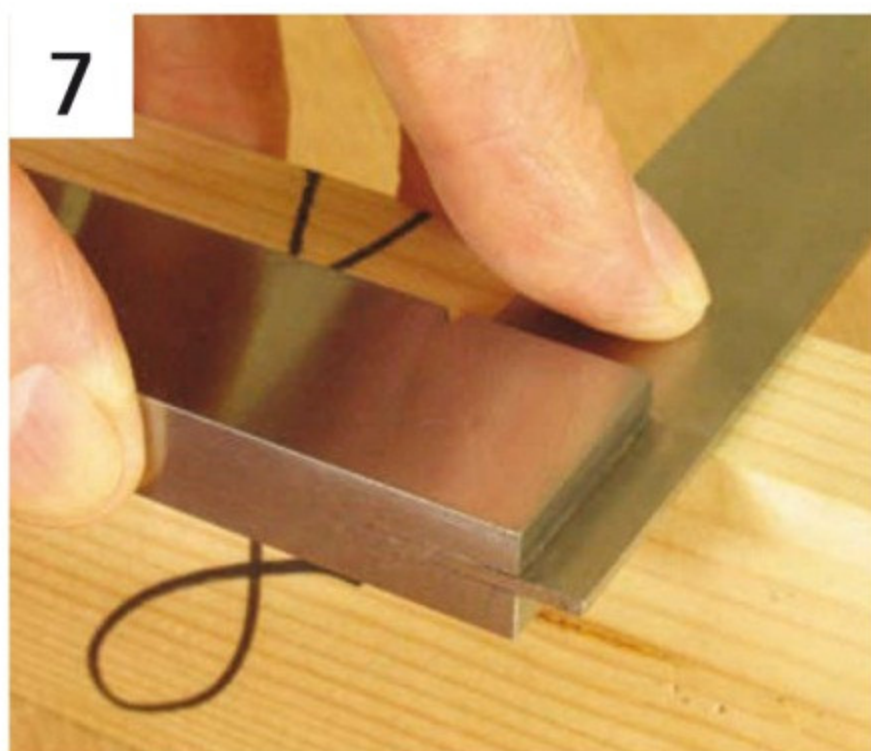
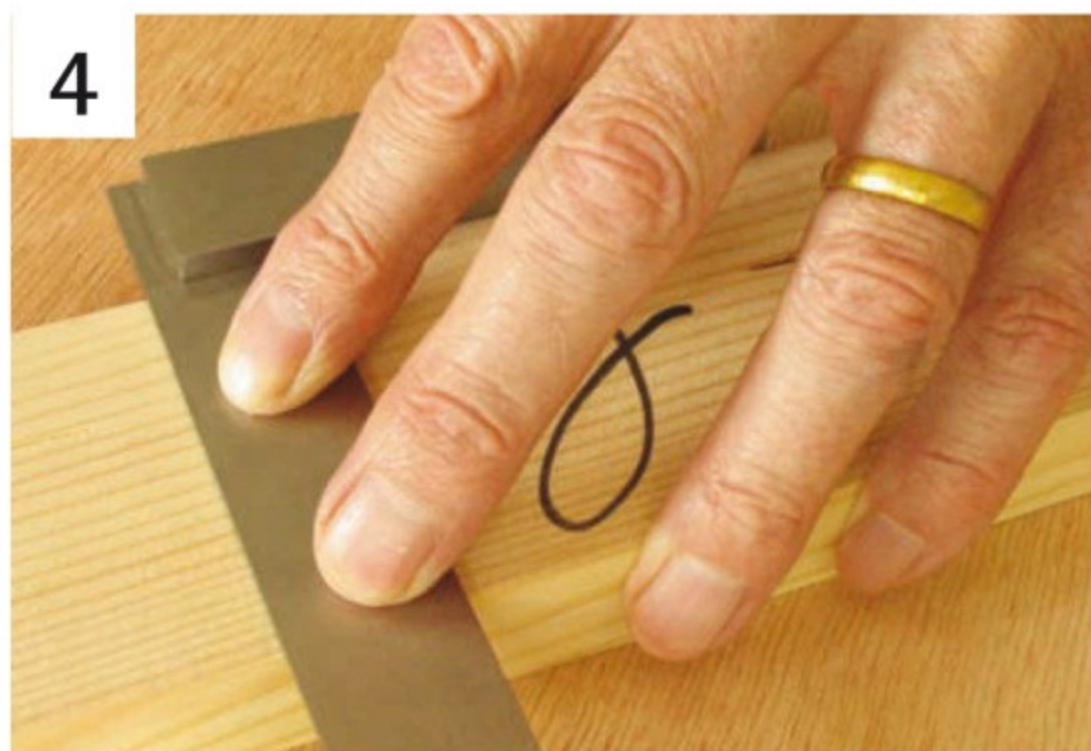
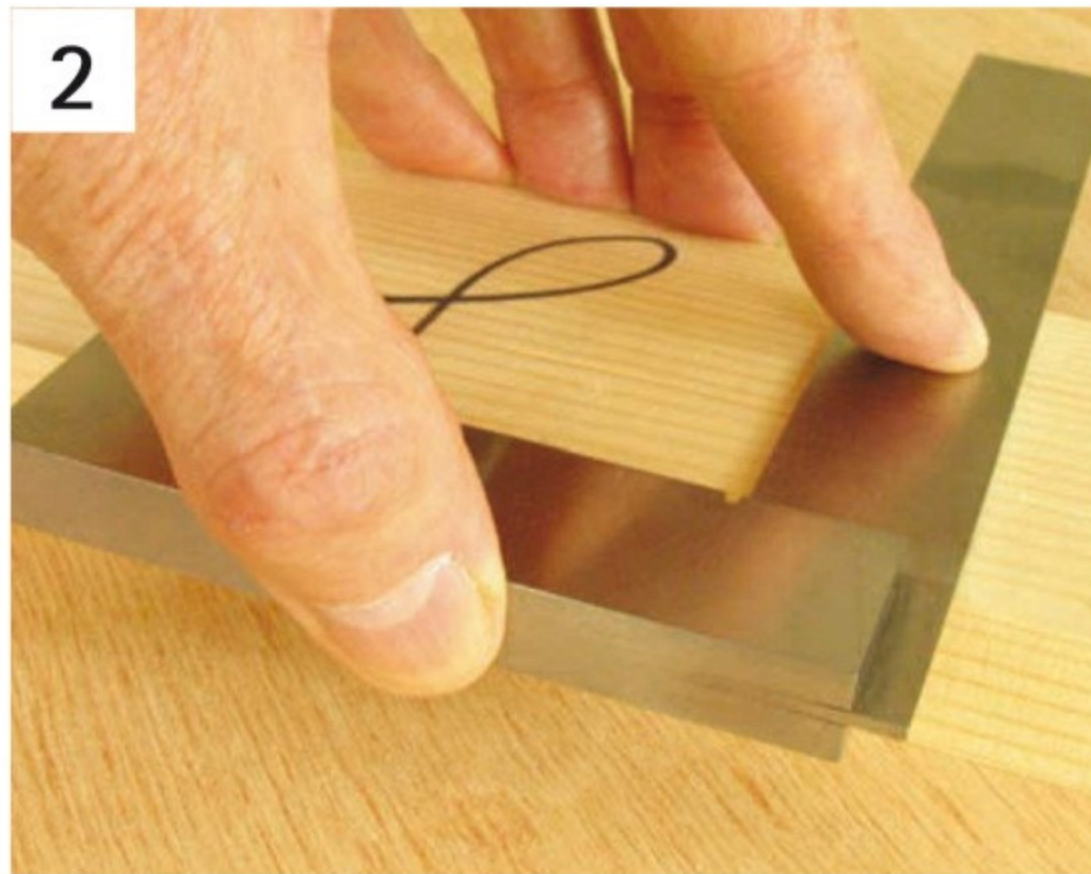


Positioning rules There are basic rules for marking shoulder lines with a try-square. The body of the try-square is always up against the face side or face edge of the timber during the marking out process, though there are exceptions. For instance, when marking out dovetails the end of the timber, when appropriately prepared, will also become an accurate datum surface, which I refer to as the face end. Depending on where the shoulder line is being marked determines the positioning of the square. Here are two positions for marking a piece to be cut to length.

1 Holding the try-square



Holding the square These seven images show how to hold the square against the edge and side. I've marked the traditional face and edge marks with felt tip pen, which I wouldn't normally do (1). My thumb is pushing the inner face of the body against the face edge of the wood (2), while my index finger is pushing the blade down onto the face side, close to the top edge. My other three fingers are gripping the timber (3). Sometimes I'll put two fingers on the blade (4). Another approach is to 'pull' the body of the square against the edge with my fingers (5 & 6). The finger positions are similar for marking the face edge (7). If you are new to woodworking I recommend you clamp the wood in a vice to mark the face edge



Holding the knife

I hold the knife in my right hand, and grip it between my thumb and middle finger, about 50mm from the tip of the blade, with my index finger on top. If your fingers are too close to the blade there is a risk of injuring them during the marking out process.



Not too close Be careful not to catch your fingers on the blade



Simple grip Hold the knife between thumb and forefinger

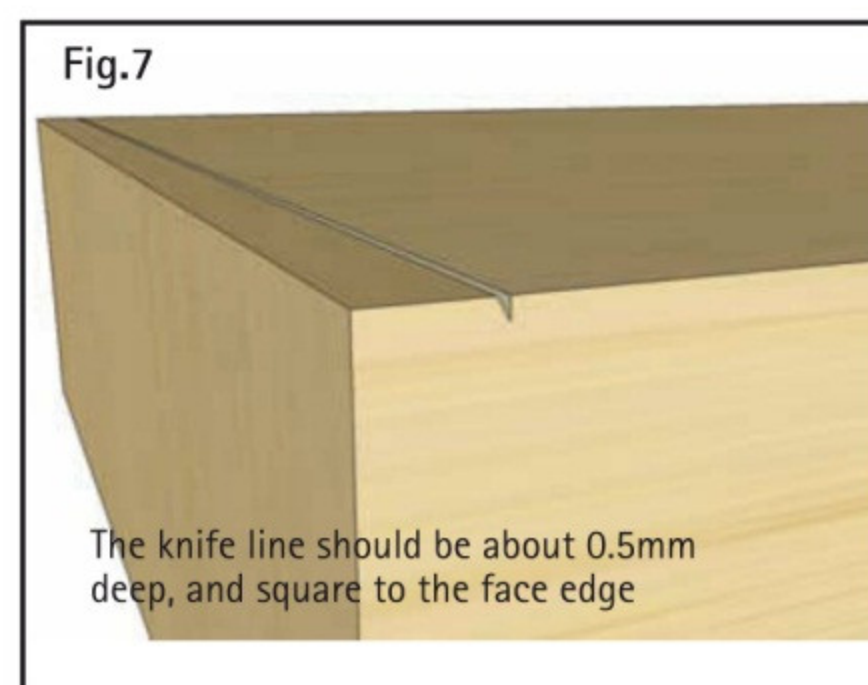
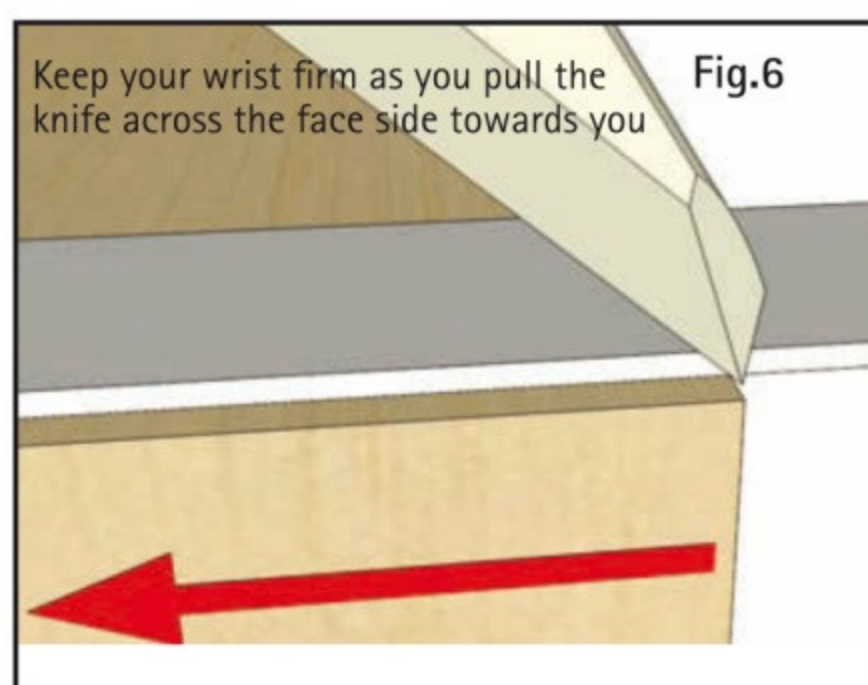
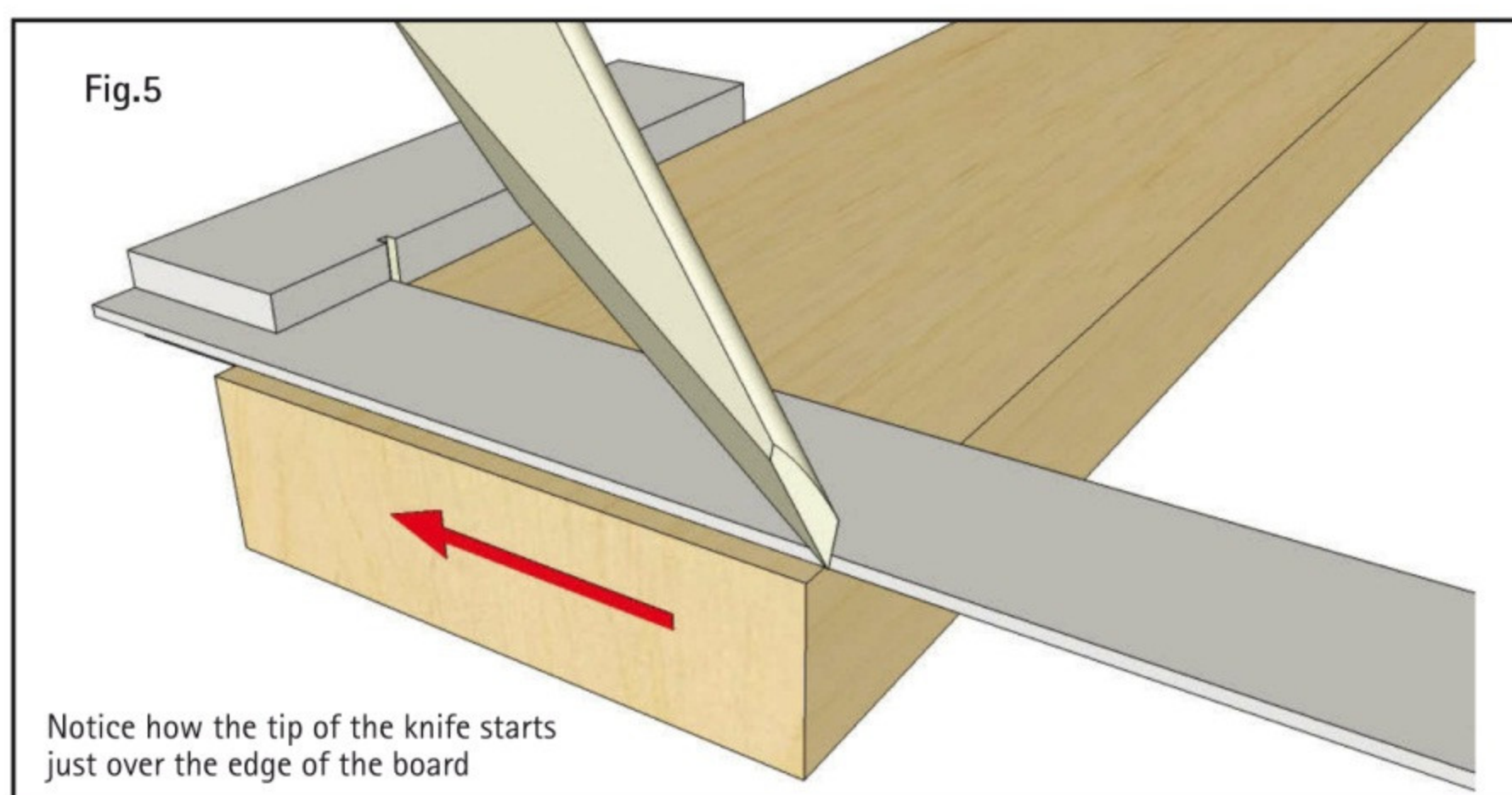
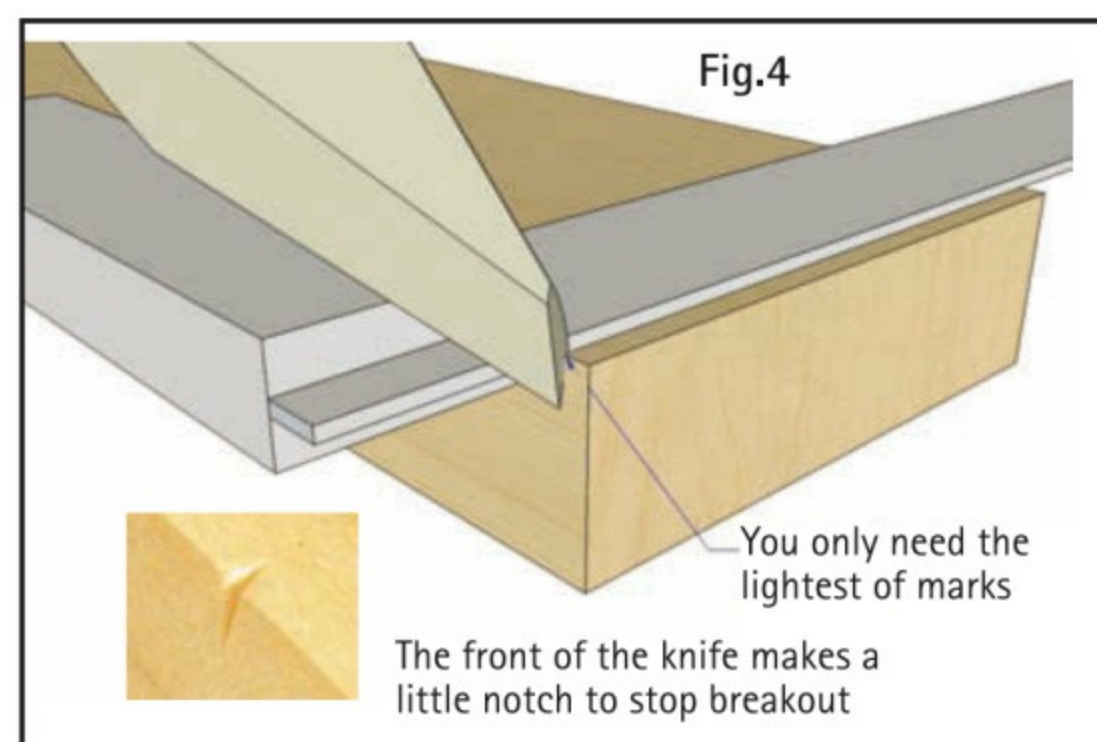
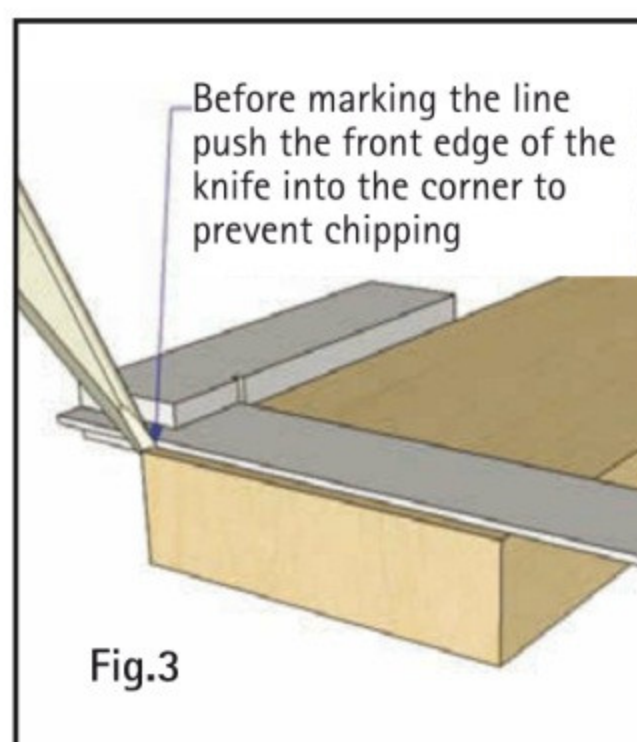
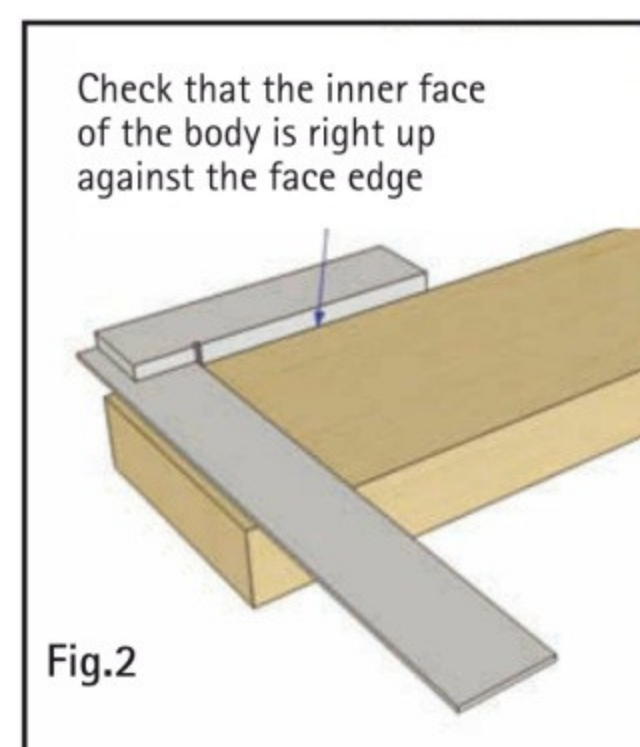
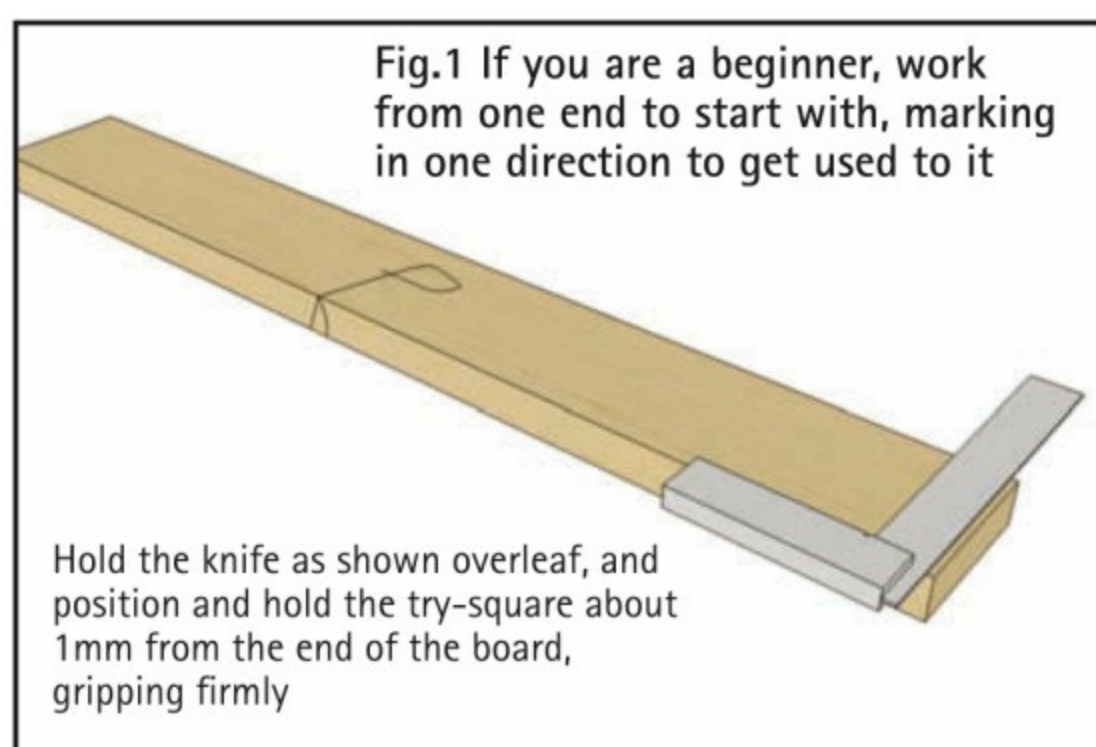


Middle grip Sometimes you will want to hold the knife with your middle finger along the back

2 Marking your first shoulder line

Chip breaker I recommend beginners work from one end of the practice piece, and progress towards the centre (Fig.1). By concentrating on marking in one direction at a time, I feel that you will build your skills more quickly. Remember to keep the bench and the try-square clean. Check the board is still flat and square, even if you checked it a few days ago when it was bought! It may seem a bit extreme, but the advice comes from experience and time-consuming mistakes. Check your knife is sharp. When marking across the face side for cutting a board to length you have to be aware of the timber you are working with. Some are soft and easy and enable you to work with fine detail, whilst others, and I'd include English oak on that list, can chip easily, causing problems during the marking out process. The system I have developed is designed to prevent breakout or chipping, and I start by pushing the front edge of my adapted Japanese marking knife up against the corner to prevent any chipping (Figs 3&4).

First line Once you've made that mark at one end of the line to stop chipping, move the knife to the other end of the line to be marked (Fig.5). Hold the knife with your wrist firmly locked in position and pull your arm backwards whilst the tip of the knife is kept tightly up against the outside of edge of the try-square, in a vertical position. At the start of the cut the tip is just over the edge (Fig.6). My aim is to make the shoulder line about 0.5mm deep, and I achieve this by making three light passes of the knife while the try-square is held firmly in position (Fig.7). The result should be a good straight line, at right angles to the face edge, and in the region of 0.5mm deep.



3 Marking the edge

Edge marking Having marked the face side, the next job is to mark the face edge. Either clamp the timber in a vice or if you are more experienced just rest it on the top of the workbench. Position the try-square about 12mm away from the first knife line. Place the front edge of the knife into the first knife line (Fig.8). With the knife in that position slide the try-square until it touches the back of the marking knife (Fig.9). Check that the inner face of the try-square is still up against the face side and tighten your grip on the try-square, then remove the 'front edge' of the marking knife and position it just beyond the far corner of the face edge (Fig.10). Once again I aim to mark the shoulder line in three light cuts. Lock up the wrist and move the knife towards your body (Fig.11), remembering that it is only your shoulder joint and elbow that are bending. The wrist remains locked. The two remaining lines are marked in the same manner, remembering that the leading edge of the marking knife is located in the mark you have just made. I've found this method extremely successful, but needs practice. Do this a few times and you'll end up with a piece of timber textured at one end with a series of 0.5mm deep lines (Fig.12)!

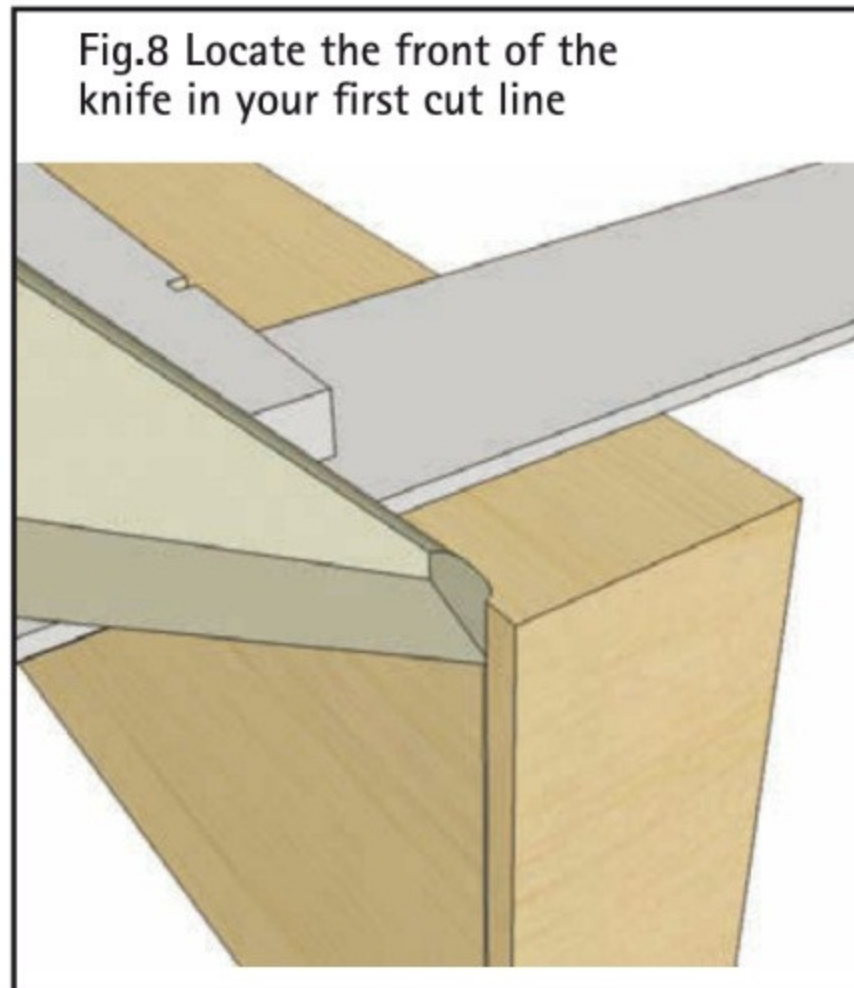


Fig.8 Locate the front of the knife in your first cut line

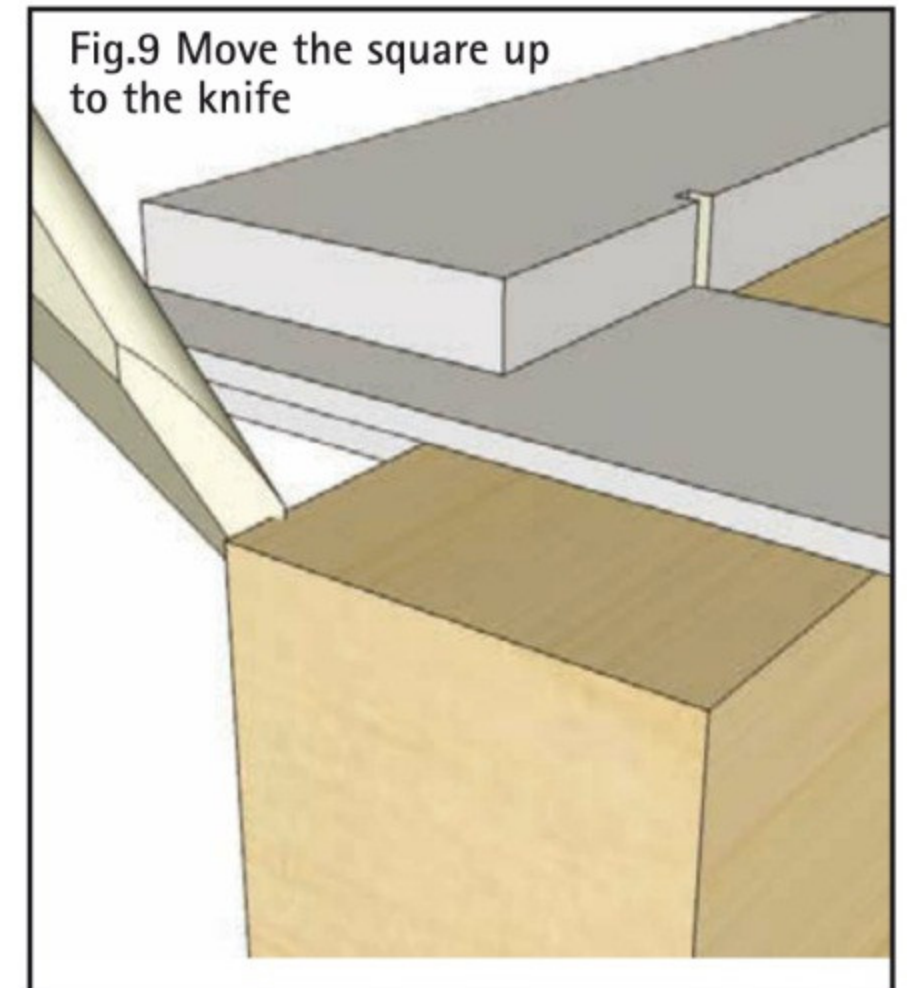


Fig.9 Move the square up to the knife

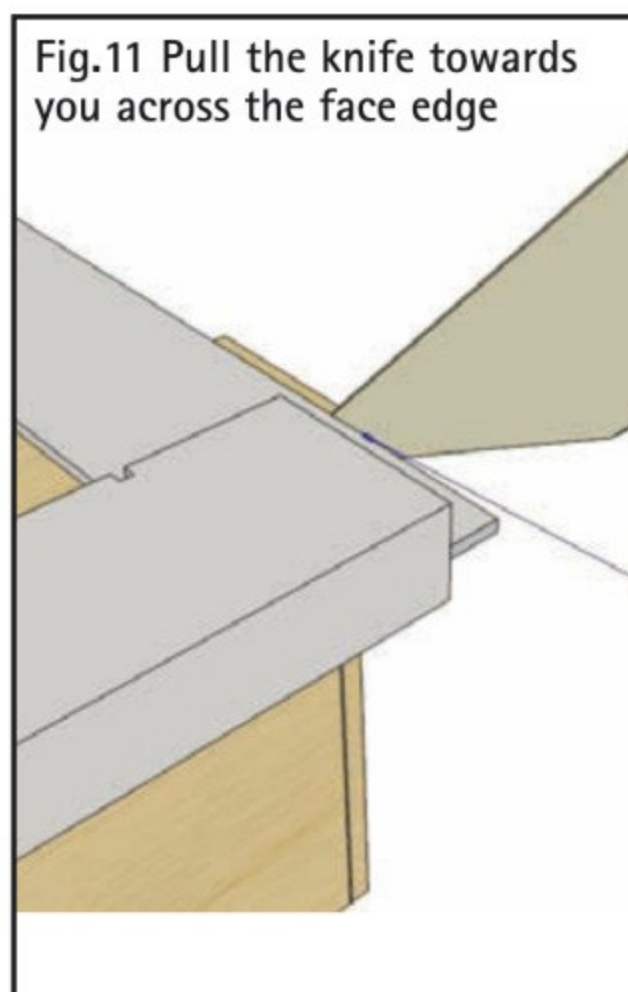


Fig.11 Pull the knife towards you across the face edge

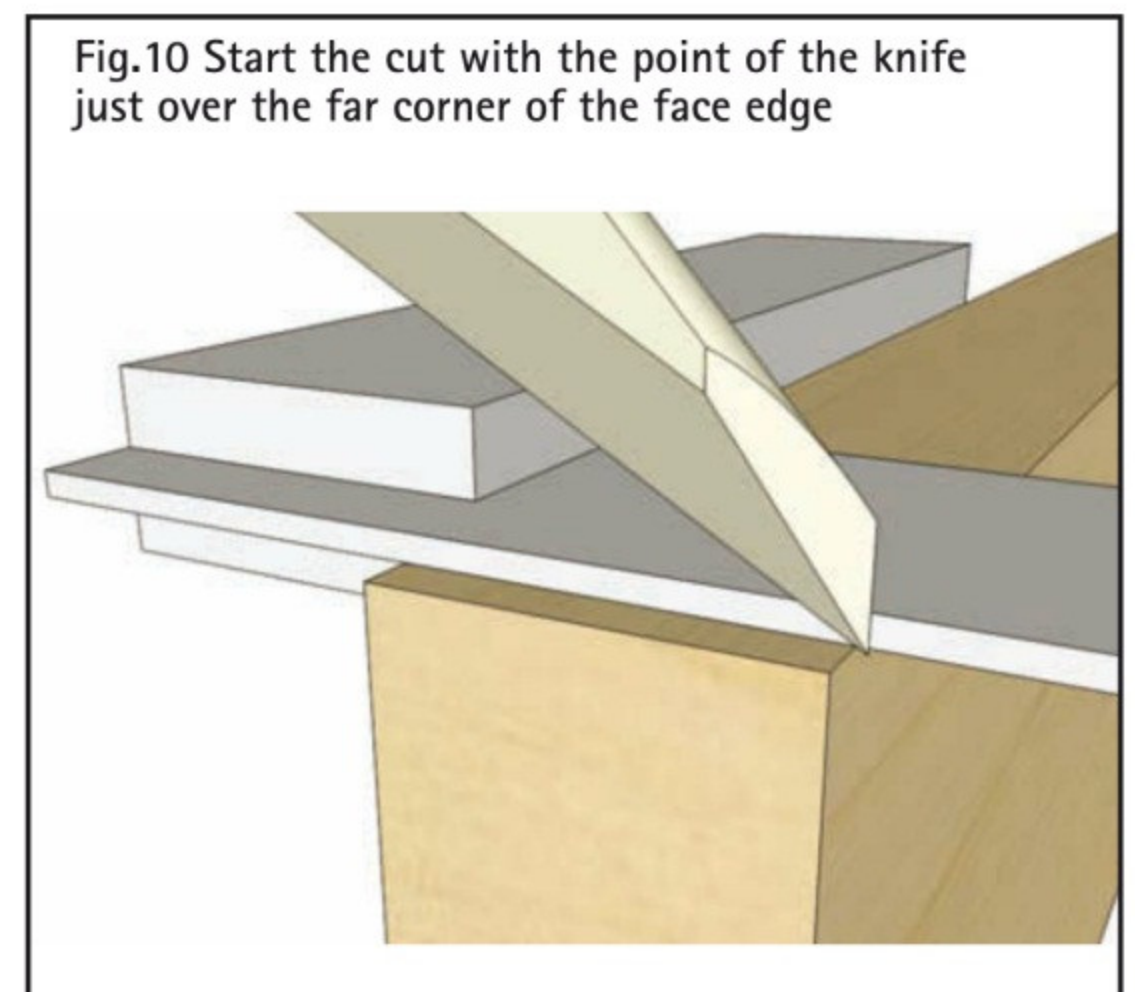
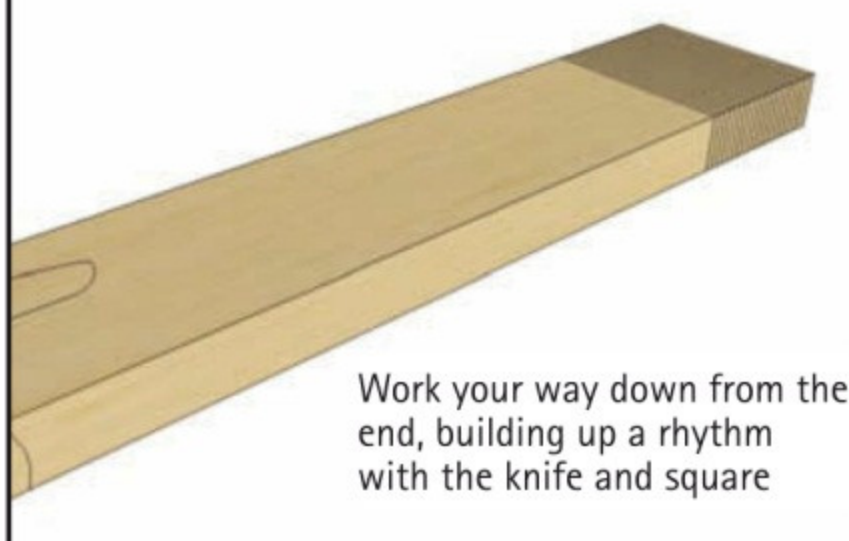


Fig.10 Start the cut with the point of the knife just over the far corner of the face edge

Fig.12 The practice piece



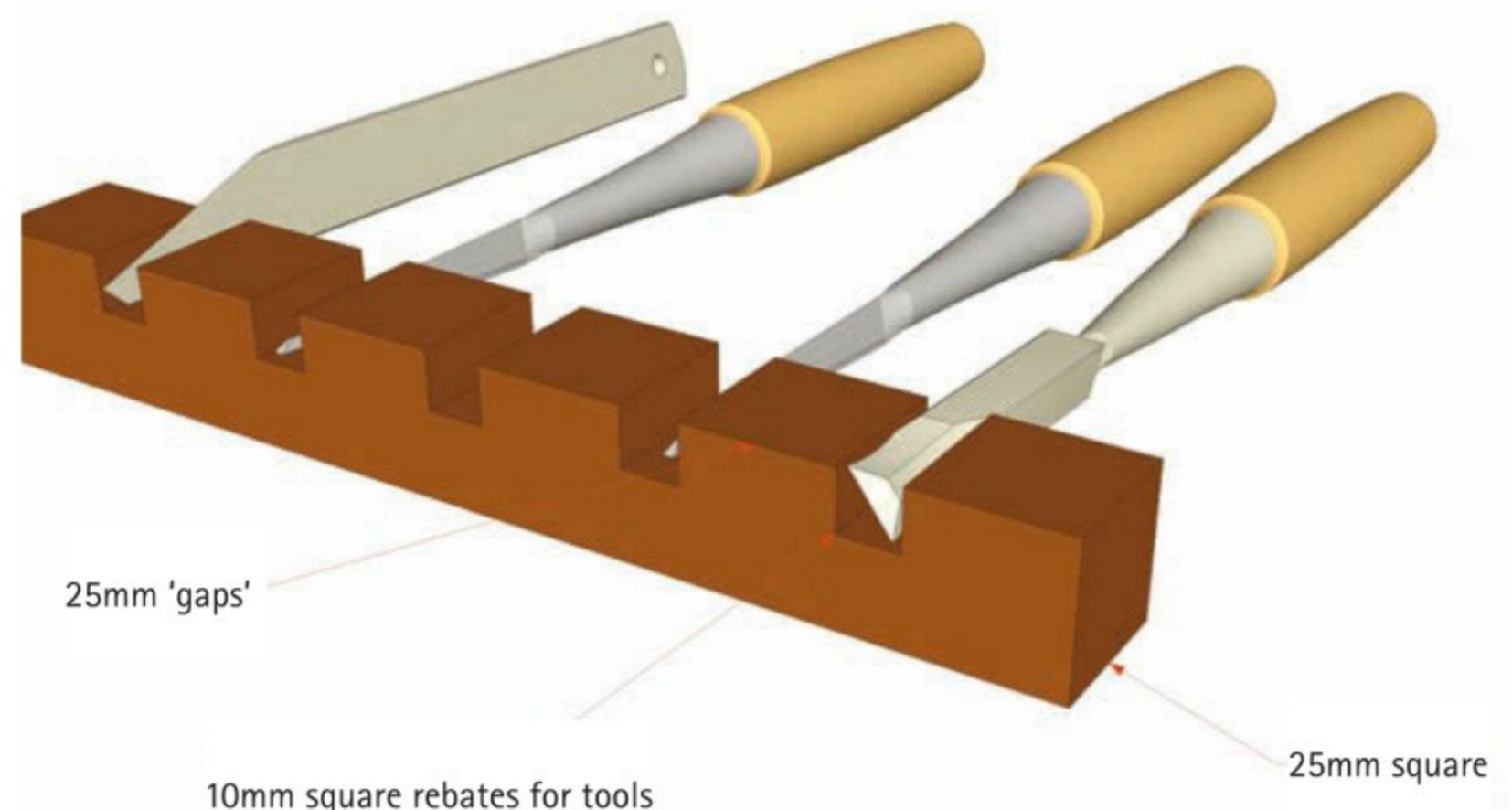
Work your way down from the end, building up a rhythm with the knife and square

Next Issue

In the next issue of British Woodworking Alan Wood will explain how he adapts a Japanese marking knife and the best way to mark up and cut a piece of wood exactly to length.

TIP

It's a good idea to make a chisel tidy for the workbench to take your favourite chisels and marking tools



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The principle of both saws is that they offer crosscut and ripping functions in a compact package, which is very helpful on site. This is also ideal for a small workshop if you don't have room for a tablesaw, and may only have a small bandsaw for curved or detailed work.

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The Question

Which bird is famously as yellow as DeWalt machines?

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DeWalt Mitresaw Competition

Your answer

Please circle A, B, or C below

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A sand free of dust

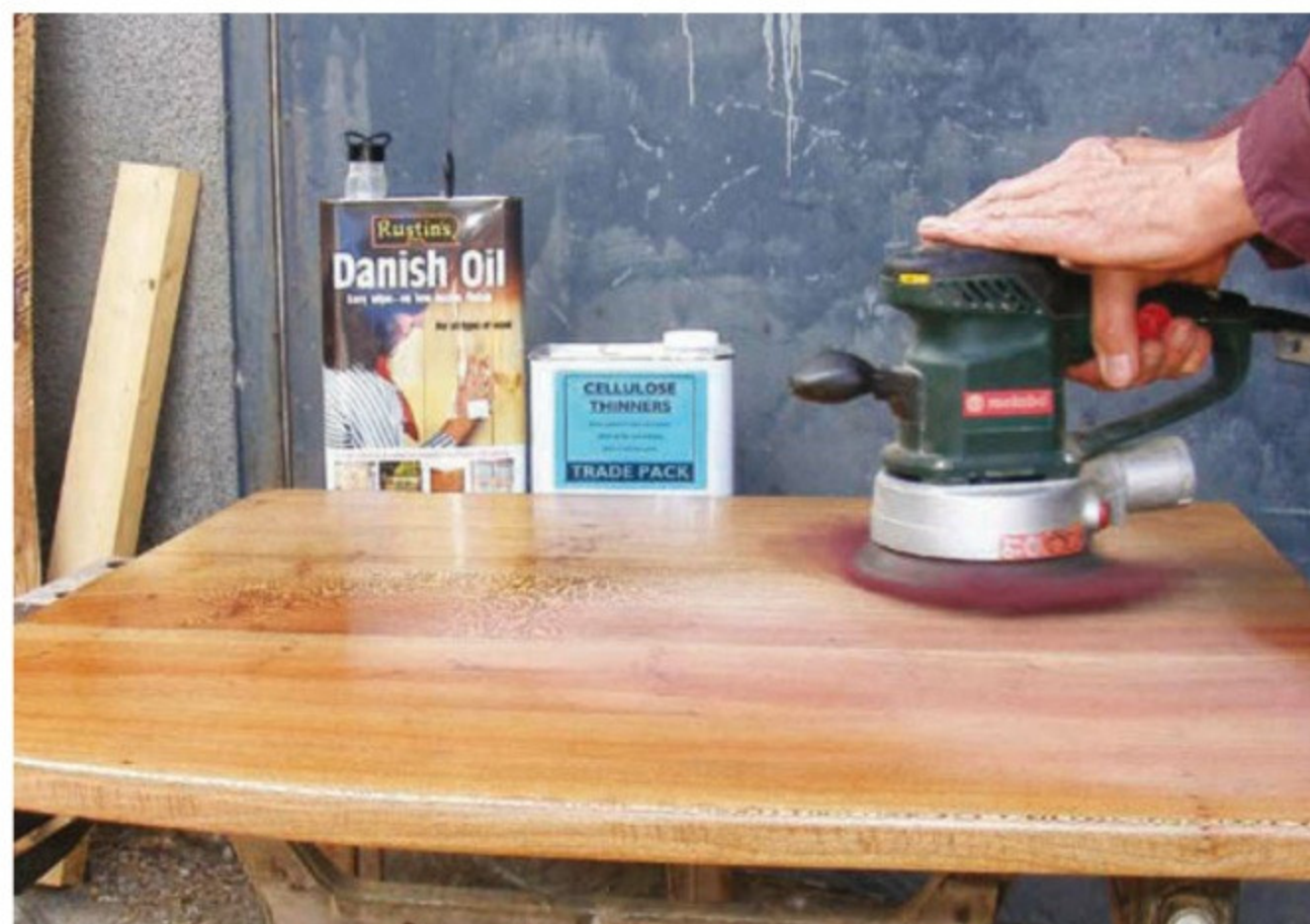
In the first of a series on sanding, Tobias Kaye discusses ways of dealing with dust

Sanding is a horrible business. No-one goes into woodwork because they enjoy it. Sanding destroys the natural look of wood, clogs the pores with dust and cuts down the lustre. Unfortunately it also brings out the grain by the simple means of removing all tool marks, broken grain and similar distractions from wood's natural beauty. So we all do it. Only a few devoted admirers of the arts and crafts movement laboriously finish their furniture with finely honed cabinet scrapers or obsessive woodturners like me their bowls with such diligent cuts that the wood may stand proud without abrasive. No, the perfected finish from sanding, smooth to the touch and unblemished to the critical eye, glassily reflects the the modern age of science and the media subjecting life to ever closer

critical investigation revealing details that didn't matter till we spotted them.

Still, our forebears sought out sharkskin and horse-grass to smooth their wood so here are the methods I use to allow the grain of my work express itself. To begin, it's important to bypass all the hardware shop scratchy stuff and focus on hi-tech abrasives. Those paper-backed glass or alox materials in your DIY store racks are fine for window frames or boat repair but for the fine furniture or tricky turned surface something better is well worth finding.

A quick visit to www.csmjustabrasives.co.uk, who seem to be the leading supplier of home workshop abrasives, reveals a wealth of cloth-backed, hi-spec materials, some of them flexible enough to use for turning. CSM sell products from the market-leading Hermes of



Pic.1 Sanding oil into the surface with a Scotchbrite pad fills the grain and thickens the finish

Germany. Their RB406 is bright blue with yellow backing and very popular with turners. My own favourite is by another manufacturer, Vitex, and snappily named KK532.

Genuine alox, this material does not leave a fine slurry in the endgrain that with RB406 (which is carbide based) can make whiter woods look a little dirty. Both these products are very long lasting making their cost price well worthwhile. Vitex is available from some of the smaller woodturning suppliers such as www.stilesandbates.co.uk. However the ultimate turner's material and a whole new concept in abrasives is Mirka Abranet (www.t-jtools.co.uk) as tested last issue.

With abrasive grains bonded to a fine net, a bit like cheesecloth, this products lets the dust pass right through. From the coarsest 80 grit through the finest 600 it outlasts and outperforms everything else I have used. The see-through, blow-through net makes it brilliant if you are set

up for point of contact extraction but is still highly effective for hand or pad sanding as far more dust can escape where other materials clog. The only problem I have had is folding up on drill-mounted pads; creases form which can leave scratches.

As one of those necessary evils sanding also involves you in breathing problems. Either you put those off till hills are for other people to walk up and the wife gets another room to escape your wheezing, or you address them head on.

Masks & respirators

Paper masks might meet HSE standards (don't get palmed off with anything less than FFP2S) but take a look in the mirror at the end of work and notice little dusty roads down beside your nose. Where do you think the dust that left those footprints went? Rubber masks are more effective and in the winter work quite well. I won't talk about sweaty summer afternoons here. I recommend them for weekend



Pic.2 A fan-filter really helps to keep the dust down



Pic.3 Cedar looks good with a very low shine. I chose to use sesame oil for the first coat and three coats of liquid paraffin later on

woodworkers but anyone addicted to working with wood should invest in a respirator like an Aircap or Jetstream and get your fix without snorting lines of fine powder.

An ambient dust extractor is also useful. Cloth bag type chip extractors fill the air with dust the moment you switch them on, but fan-filters such as the Microclene from people like www.toolpost.co.uk really help to keep the workshop air and surfaces cleaner. If positioned close to the point of work these are very effective.

Dust busters

There are two highly effective ways of keeping all dust out of the air when sanding. For some jobs sanding with oil is the best way. The only drawback of this technique is that the dust gets well bedded into the endgrain. This evens out the colour and lowers the visual excitement but does fill the grain in a similar way as the pumice that Rob Leach was recommending in last month's issue (BW01:52). I have used this technique for final

finishing on non-turning jobs like work surfaces as I believe that it may also strengthen the oil. Successive coats can be cut into each other. In the picture (Pic.1) I am using a piece of abrasive mat, Scotchbrite type of material, to cut the third coat of oil into the second. I use about 10–20% cellulose thinner to make it go deeper into the wood and speed its drying. The thinner also fills the tin with fumes, excluding most of the air and making the oil stay fresh for longer. Thinners are a health hazard and should not be used with the windows closed.

Turners also use oil sanding, and though there can be some spin-off, it is not as messy as water sanding, which I'll be describing next issue. When turning, a brush in a jar of oil is all you need to keep the surface lubricated and clean off the abrasive as it clogs. The slurry fills smaller patches of broken grain as well as the wood's pores. If you want to cut corners in your sanding for a less-discerning customer you might consider this an advantage.

FIXES FOR FINISHING MISTAKES

No.1 Scratches

It's happened to us all, when we run out of patience on a piece of furniture and start applying a finish before the piece is really ready. Stains highlight any scratches, dents and swirls.

Cause

Other than impatience? Scratches are usually caused by dust caught in abrasive and by not working your way down through the grades with enough diligence.

Remedy

What can be done to repair the damage depends on the location of the scratches and the type of finish you have applied.

- 1 If, sensibly, you've applied the finish before assembly you can wait for the finish to dry fully, then sand it back and start again, taking care not to remove too much thickness.
- 2 When you've used an oil finish or a meths/alcohol-based polish you should be able to wet sand the area to remove the scratches using the original finish and wet-and-dry paper. Start with a medium grade of paper.
- 3 Where a large area is affected you may need to sand back and feather in the next application. Always practise first on an area that is unlikely to be seen.

Tips for better sanding

If you have to make a significant repair to a piece you've spent a while making, you're sure to learn you can't be too careful about sanding and finishing.

- 1 If you are using a powered sander make sure the abrasive is clean, with no embedded dust. Don't start the sander in contact with the surface or it can create deep scratches. Make sure you remove all the scratches you can before moving to a finer grade.
- 2 Use a block (shaped or flat) when sanding by hand. Start with about 120 grit, and then move to 240 and 320, but check first on a piece of scrap, ensuring the abrasive is clean. It's a false economy trying to make it last too long, though you can use abrasive that's been worn on a machine for fine sanding by hand as long as it isn't full of dust particles. Make sure you don't sand across the grain.
- 3 Consider sanding and finishing the components before assembly. This is especially true of 'interior' surfaces that can't be easily accessed after assembly.
- 4 Lay a cloth, like baize, on the work surface so that you don't dent or scratch the workpiece accidentally.
- 5 Use a cabinet scraper to get as close as possible to the perfect finish. It will reduce your reliance on sanding, and you should be able to keep the surface flatter.

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Sycamore

To some a weed, sycamore can be transformed into exquisite furniture if you're careful, says David Savage

E be a weed tha be growing thare." I turned round from the sycamore tree I'd just felled in my woodland copse and saw Harold. Harold's a Devon boy, born and bred, spent most of his working life on the farm adjacent to our land and knows pretty nearly everything about the trees and ecology of the land about here. "They be no use for firewood, they be no use for building, they no use for tool handles." Harold, who is an intensely practical and extremely intelligent man, is absolutely right, sycamore is not the most useful timber. But sycamore is also very beautiful and has its place in furnituremaking, particularly contemporary furnituremaking.

The surface of sycamore has a whiteness when new that yellows and honeys in the first few years of ownership that always reminds me of the colour, the hair of a beautiful blonde-haired woman. This is no bimbo by the way; no dumb blonde. This is a sensual sexy woman with a dangerous

side to her character; long-legged and golden-haired.

The tree we are cutting down is not a big one. Just as Harold said, sycamores around us grow like weeds and this tree is probably less than 30 years old. The timber from the butt and only the butt is used for furnituremaking as bough wood can have tension and compression stresses. The butt on this sycamore is about 10ft long. As it was grown in a copse it's been sheltered from the extremes of weather and grown reasonably straight and true. The girth of this tree is about 18in in diameter, a usable not too large not too small tree, but still by Harold's rating a 'bloody weed'.

Now the fun and games with sycamore usually revolve around cutting at the right time of the year, planking it up real quick and getting it dried as fast as you can. For the beauty of the blonde is just that, being blonde, and the surface of a sycamore can easily be discoloured by a grey stain. This is a stain, a bit like a fungal stain, that



Linenfold 2, with sycamore doors

actually penetrates the board, often quite deeply. This grey stain sycamore is often sold in the trade as 'weathered sycamore'. Now if you fancy weathered blondes, then that's your business, but in this case I'd agree with my old friend Harold, I wouldn't even use it for tool handles.

The correct way to dry sycamore and avoid this weathering involves careful handling when the sycamore is sawn into planks. In our case, that's mostly 1in boards but with a couple of 2in from the middle. As these boards are coming off the saw, they are carefully being stacked up, not as usual horizontally with stickers between them to let air reach both sides, but in this case we are standing the boards on end, it's called end racking.

The time you do this is relatively short. A good windy day will do the job and dry the surface of the sycamore. You're not drying the whole board, you're not drying its inside, you're just getting the moisture off the surface of the wood. Once that is carefully dried the sycamore can be stacked out with good bone dry 1in square stickers between the boards to air dry as usual. Better still the whole log can be transported



Moulding planes Si Smith has been creating these linenfold doors using moulding planes, working towards a fence by removing the packing strips. You can just see the shallow grooves where the waste has been removed using a tablesaw



and put in a vacuum kiln. Now I'm not a big fan of kilns, most of my wood is air dried, and then carefully finished off inside our workshops, but a modern vacuum kiln will extract moisture from a log relatively quickly and keep sycamore white.

The time to buy sycamore is in the early spring. Most logs are felled between Christmas and the end of January and converted and vacuum dried between the end of January and the beginning of March, so if you've got a sycamore job go hunting in the spring.

When you get it home, you find that like

most blondes it responds to being spoken to gently and stroked in exactly the right manner. The grain and figuring on sycamore is not wild or pronounced, it's subtle and soft. Quite often it can be planed in both directions, but will come to a shimmering finish with a correctly used cutting tool. Most of our finishes on sycamore now are

Let there be light See how Si is using the light to illuminate the edge of the door he is working. If you can't see where you're going!



coming directly from the cutting tool. Shown here in construction is Linenfold 2, a sideboard made in sycamore with a Caucasian elm top. The vertical sycamore surfaces were formed to emulate the rippled folds of fabric curtains. All of the doors and side carcase components are made from solid sycamore, probably starting off about 3in thick. I drew the profile on the top and bottom of the doors and Si Smith, who is responsible for this part of the job, tablesawed within a hair of the line, then cut back to the line with an assortment of weapons including moulding planes, routers, block planes and anything else that we could lay our hands on that would give us a halfway decent surface.

The most successful of these in this instance were old fashioned moulding planes which we found we could adapt and fiddle with to give us the shapes we wanted for the job. You can see here in one of the illustrations Si Smith is using as a fence a series of strips of ply or hardboard. As each section is completed a strip of ply is removed and the moulding plane moved that bit nearer to the fence. In that way the strokes of the moulding plane, which is a pretty unjigged tool suitable for the finest workmanship of risk, is made pretty controllable.

Moulding planes need very careful sharpening. Usually the irons on these planes were made in the late 19th Century and are of genuine high carbon steel. These kinds of blades put modern cryogenically treated blades to shame, but they do require skilled sharpening and if treated properly can form and hold the keenest of edges. Combine this with a high cutting angle and a careful hand and the silky white shavings should be produced as a matter of course.

Find out more about David Savage and his courses at www.finefurnituremaker.com

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Recycling poplar

As if running this mag isn't enough, Nick Gibbs escapes to his Old Cotswold Outhouse to make our entry for the Poplar Challenge

The floods of July passed through our part of Gloucestershire in a rush, and the Old Cotswold Outhouse suffered a little, leaving a slurry of wet sawdust across the machine room. Fortunately the only area to be affected was the bit I hadn't started reflooring. I'd taken advice from a woodworking forum, and I've finished half the workshop, laying inch thick foam beneath chipboard, and adding a 4mm top layer of ply which can be replaced when it wears out, and has a nicer finish

than the chipboard. It's lovely to walk on and the dust sweeps up so easily.

The machine room is still bare concrete (which I hate for the dust, the cold and the hardness), and it's there that a pack of poplar was standing when the rains came. It was waiting to be transformed into something remarkable that might win *British Woodworking* the National Forest Company's Poplar Challenge in August (BW01:82).

As readers of *Traditional Woodworking* will recall, I've

recently started a new venture producing chests for people to store plastic and cardboard while they wait to take it to the dump or for councils to collect their recycled waste. One little story in the local paper has led to about five or six orders for the bins, which are made largely from very cheap B&Q tongue and groove cladding. They cost about £20 in materials, and I was selling them for £55, but a friend arrived the other day and offered to pay £95, so the price has suddenly risen.

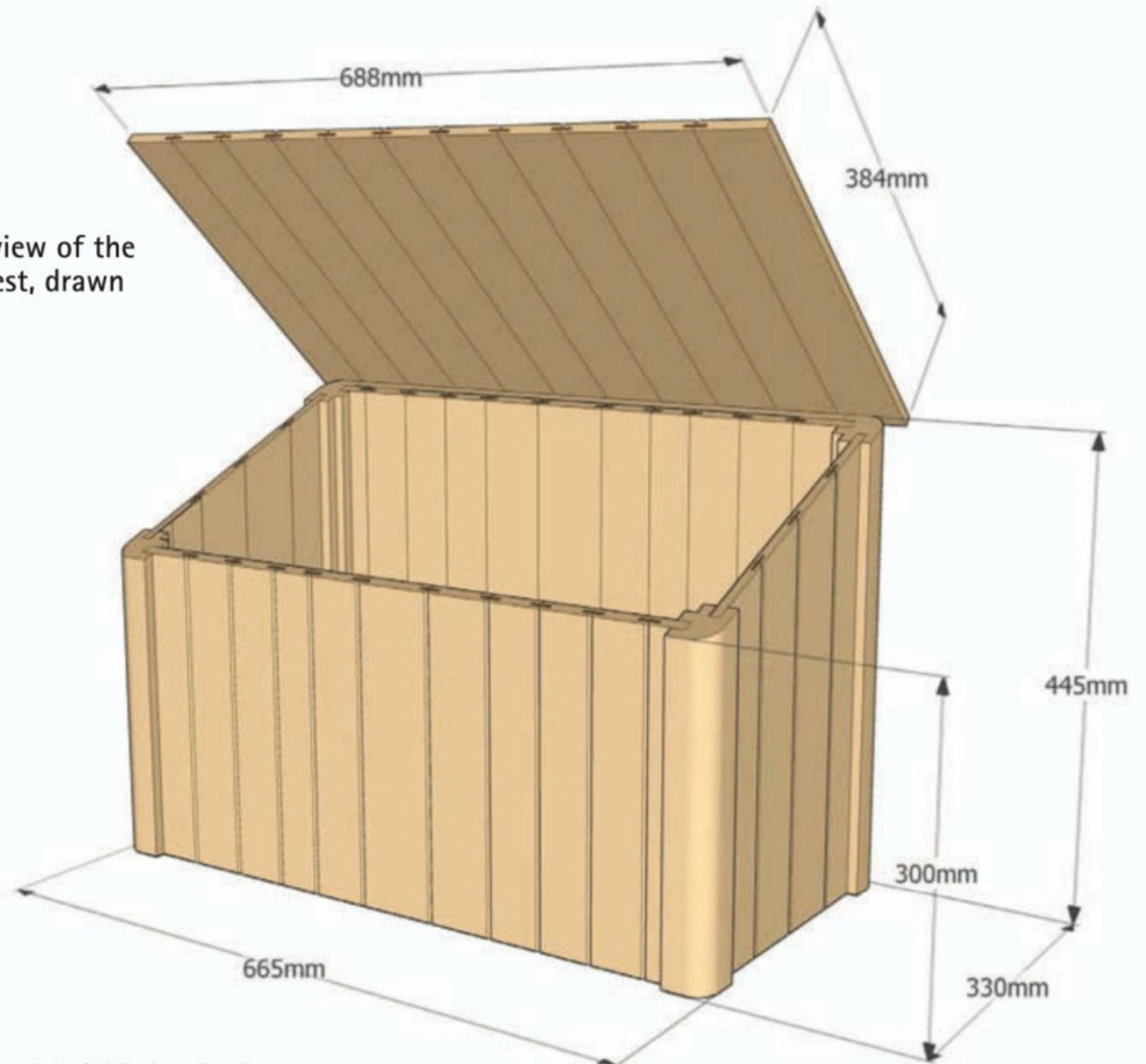
It struck me that a recycling

chest would make a fitting subject for the Poplar Challenge, it being a species that grows fast and has plenty of qualities, if only people knew about it. So often it gets wasted. This also offered me the opportunity to try out new techniques, and perhaps find quicker and better ways to build the boxes.

The pack comprised four sawn boards, about 40in long, 6in wide and 1in thick, and four battens of similar length, and about 1 1/4x1in section. Finally there were two 40in round logs, about 7in diameter. I saw



Perspective view of the recycling chest, drawn in SketchUp



The SketchUp model of this drawing is available free by emailing info@britishwoodworking.com

Competition To enter the Poplar Challenge you had to make something from the pack of boards and roundwood (above). We used the project as an opportunity to test the Dakota Bandsaw Resaw Jig (top, inset). We chose to make a recycling bin. We're told the visitors were really interested, probably because the chest was a bit nifty from oiling it with Organoil rather late in the day, the night before the closing date! Read on to find out whether the judges (far left, top) agreed with the public

potential for making corner posts from the roundwood, quartered to present some bark one the outside, but I knew I'd have to plank up the rest to find enough wood to create ends, front and back, and a top. The bottom of the box is slatted from offcuts.

To do the resawing of the logs I rang up Rutlands (01629 815518, rutlands.co.uk) and ordered a Dakota Bandsaw Resaw Kit (£29.95, DKGB), for which you also need two Clamp Grip Guides (£19.95 each, DKG36). I've been wanting to

have a go with one of these for ages. It's quite fiddly to set up, especially as it comes with no instructions, and in the end I had to use the photo from the catalogue to make sense of it.

You end up with your log clamped between two angled stantions, to which are fixed steel points that are squeezed into the endgrain. The log, the pair of stantions and one of the guide bars then slides along the other guide bar, which is fixed to the bandsaw table. It helps a lot to take a portable planer to the underside of the log first so



Resawing To see how the Dakota Resaw Jig shapes up we made ourselves a carriage from offcuts to see if conversion from roundwood to boards could be done as effectively with our own jig. It proved to be very successful, though it needs a little refinement

that it can rest on the table and move smoothly. Otherwise it works well enough, especially if your bandsaw is set up well to cut straight. You have to hold the log carefully as it can twist and bind on the blade.

However I couldn't help

wondering if I might not be able to make a V-carriage for very little expense, and wanted to see how it compared, performance wise. All you need is a piece of ply, 1/2in will do, a bit longer than your log, ideally. You then cut a piece of 2x2in

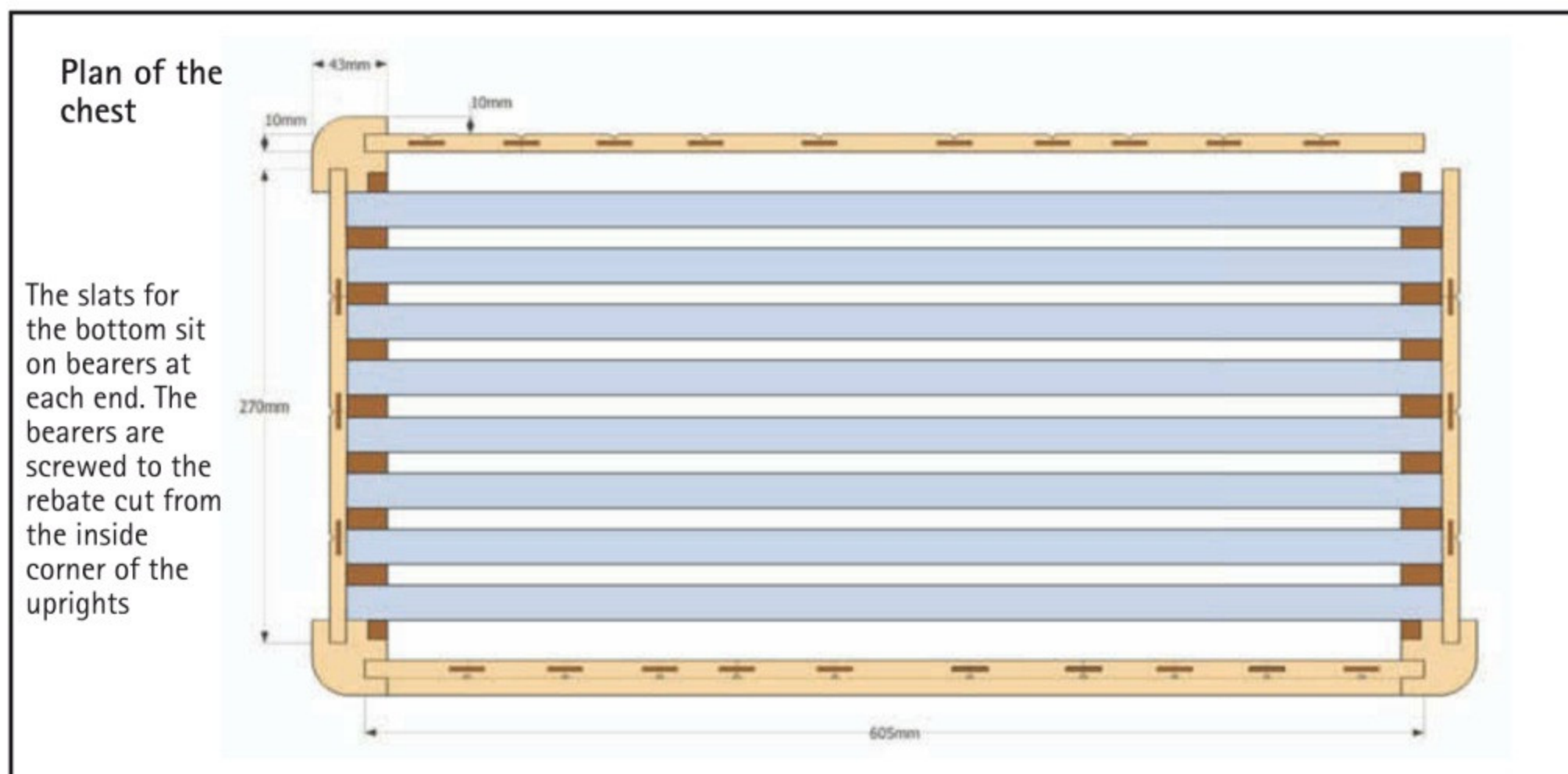
stock in half, at 45° along its length, and screw them to the base. Get the bandsaw going and cut halfway along the carriage, and then cramp it to the bandsaw table to give you a firm base for round stock.

To cut the post in two you do need to mark a top centre line along its length. The Dakota jig will hold the roundwood steady, but I knew I'd need a reference if I was doing it freehand. Actually my carriage was simpler to use than I could possibly have hoped, supporting the wood beautifully. In the future I'll make an adjustable version, so that the 45° supports can be pushed closer together or further apart. For the little effort it required in the making, it certainly beat the Dakota jig for price, which I'd buy again only if I already owned the Quick Clamps. For £30 it's just about worth it, but for £70 I'd make do with my own simple version.

From the bandsaw

Once you've halved the log it's simply a question of planing the face straight and true, and then planking it up against a fence. Such were the restrictions on materials that every board counted, and there was little room for finesse if we were going to build a big enough box to impress. I wanted the judges to gawp at the quantity of wood we'd extracted from the pack.

So I decided not to plane and thickness the boards for the ends, the front and the back, all



of which were to be milled from the roundwood. They finished 10mm thick, with a nice rough effect. I've always had a soft spot for a bandsawn texture, and was pleased to see at the Celebration of Craftsmanship & Design in Cheltenham this year that Rupert Williamson had produced a fantastic cabinet called *The Rock* using bandsawn ash, perched on a remarkable, angular underframe. Rupert tried to show me how the underframe is constructed, but he was madly trying to get people to sign his copy of Betty Norbury's book, *Bespoke*, and I didn't understand!

The boards ended up of all different widths, but my new Record bandsaw (BS350) performed superbly and they are a consistent thickness. To hide, or highlight (depending on your view), the boards were run over a V-cutter on the router table to disguise any inconsistency. I didn't want to have to do any sanding after gluing up the panels, otherwise the rough surface might be compromised.

Then the edges were grooved using a brand new Freud blade in my tablesaw. With the crown

Quartering Once the logs had been halved they could be ripped into slats for the panels



Roughsawn It was a relief to discover that Nick is in fine company in choosing a roughsawn effect for the panels of the chest, straight from the bandsaw. At the Celebration of Craftsmanship & Design in August Rupert Williamson was showing *The Rock* cupboard, featuring a textured surface to the ash cabinet created on a bandsaw!

guard removed and but the riving knife in place I had two pushsticks to hand, and wore safety glasses, and made sure I stood to one side in case of kickback. The 2.4mm blade cut a perfect groove, but I couldn't find appropriate plywood to use as tongues and ended up thicknessing 6mm ply down to size. Only afterwards did I discover that if you cut 6mm ply in half with the bandsaw you

make yourself two perfect pieces of 2.4mm ply!

Having stood in the flood for a day or so, the boards weren't too dry, and moved all over the place once they'd been milled. The panels proved tricky to glue up with the thin ply tongues, and I ended up doing it a few boards at a go in stages.

Corner posts

While the panels set, I started



Time-consuming It took ages to glue up the panels as they tended to bend under any pressure. To continue with this approach we are going to have to construct some form of panel cramping jig, or else not glue them at all, but hold them in a frame. Once the panels were set they could be screwed to the corner posts

work on the corner posts, which I'd already machined into quarters, with the waney edge on the outside corner. To take the panels I routed 10mm grooves into two of the faces of the posts, using the inside faces as references. At this stage a lot of bark was left on the outside, and only later could we nibble it away on the tablesaw to find the right effect. Less bark looks best, with a hint of untouched

tree highlighting the corner. To hold the panels in place a notch has been removed from the inside corner of each post, along its length, so that you can screw through the post and into the panel for fixing. This technique has proved so successful that I intend to repeat it on the orders I've got to complete and deliver!

So economical were we with the roundwood that three of the four sawn boards could be used

Grooving We used the Freud Pro blades we've been testing to groove the slats for thin ply tongues (top left). The featherboard helps to keep the slat tight against the fence. The edges of the slats are bevelled so that any discrepancy when the panels are glued up won't show. The ply tongues had to be thickened down to 2.5mm. We later discovered the cutting 6mm ply in half on the bandsaw produces two pieces 2.5mm thick, which would have been perfect and saved us time and wood. The corner posts are going to be replicated when we come to make recycling chests again from normal tongue and groove. Unfortunately the patent recycling chest didn't win *British Woodworking* the Poplar Challenge. The main prize went to Pat Corcoran for his Poplar Framed House. John Harrop's Eggs were considered the most original entry and Mel Dowding's Poplar Jigsaws the most commercial. We'll be back next year and we want that cup!

for the top and the final one for the slats in the bottom. To help the rain run off more easily, and for effect, the top boards are planed and thickened smooth, but the V-groove effect is repeated and the edge joints are reinforced with ply tongues.

Time was running out to get the chest to the National Forest in time for judging at their Wood Fair on Bank Holiday Monday. *British Woodworking*

was exhibiting at Westonbirt's Festival of the Tree in Classic Hand Tools' fantastic marquee, so we had to wait to find out the result. With all the offcuts mulched up and displayed in a box inside our chest surely it couldn't fail, for symbolism alone. Obviously the ref needed specs, 'cos Pat Corcoran's model house in poplar won the top award, but we'll be back next year. What shall we make?

The Great Tenon Debate

Hoping to resolve a 'discussion' Steve Maskery sets out to test the strength of various mortise and tenon joints

Some of my woody friends and I have been discussing mortise and tenon joints recently, and there's been a thread on the subject on the UKWorkshop Forum. There are some at the traditional end of the spectrum who claim that the only M&T joint worth making is a traditional one, cut with handtools, or, as a special concession, with a hollow-chisel mortiser, but preferably a steam-powered one, or driven by an eight-year-old boy whose day-job is cleaning chimneys. You get the picture.

There are others who have abandoned traditional M&Ts completely, in favour of the loose tenon, sometimes known as the floating or slip tenon.

Personally I'm between the two, but fairly well over to the latter end of the spectrum. I will always choose to use a loose tenon if I can. The only situation in which I would not prefer it is in heavy-duty architectural joinery, such as doors which are exposed to the

elements, but I don't do that kind of work very often, so for my normal furnituremaking fare, the loose tenon is always my first choice.

Loose mortising

In a loose tenon joint, both components have a mortise cut into them. This is usually cut with a router and jig or with the new Domino tool introduced last year by Festool. The Domino looks and handles like a biscuit joiner but cuts like a router, producing an accurate, predetermined mortise. It's a superb machine, but its price means that it really only has appeal at the production end of the woodworking market; many hobbyists will baulk at the cost.

You can do a similar job with a hollow-chisel mortiser, but it is a pain to do in the endgrain as you have to remove the bed and re-attach the bed vertically, which in my case means drilling and tapping new holes. By the time you've done that you may as well have cut the things by hand.



Joints on film You can watch Steve's experiences making and breaking the joints by visiting YouTube where there is a film of his endeavours, in two parts. You can find the link on the *British Woodworking* website (www.britishwoodworking.com)



Routing is a more suitable option for the home woody, as most of us have a router, and making an accurate and easy-to-use jig is not difficult. I published such a jig a few years ago in *Good Woodworking*, and a more developed version of it is now available in my DVD series *Workshop Essentials: Jigs & Accessories*. The mortising jig is

in Volume 2 and there are several tenon jigs for different situations in Volume 1. On the DVDs you get the video and workshop plans to print out.

The two mortises are bridged by a loose tenon. This is loose as in 'separate', not loose as in 'sloppy'! Festool supply ready-made beech ones which fit exactly the slots made by the

Domino machine, and Trend do the same for their BeadLock system, but it's not difficult to run off a few metres of stock on your tablesaw and router table. If you do make your own loose tenons, or indeed your own Dominos, I suggest machining up long lengths of stock and, then cutting off pieces as you need them.

Now the detractors of loose tenon joinery say that there is more to fail, because there is double the area of mortise. I, on the other hand, maintain that that is not the case, because one of those mortises is into endgrain, so we have face-grain to face-grain aligned gluing, and, as modern glues are supposed to be stronger than the wood itself, this is not a weakness.

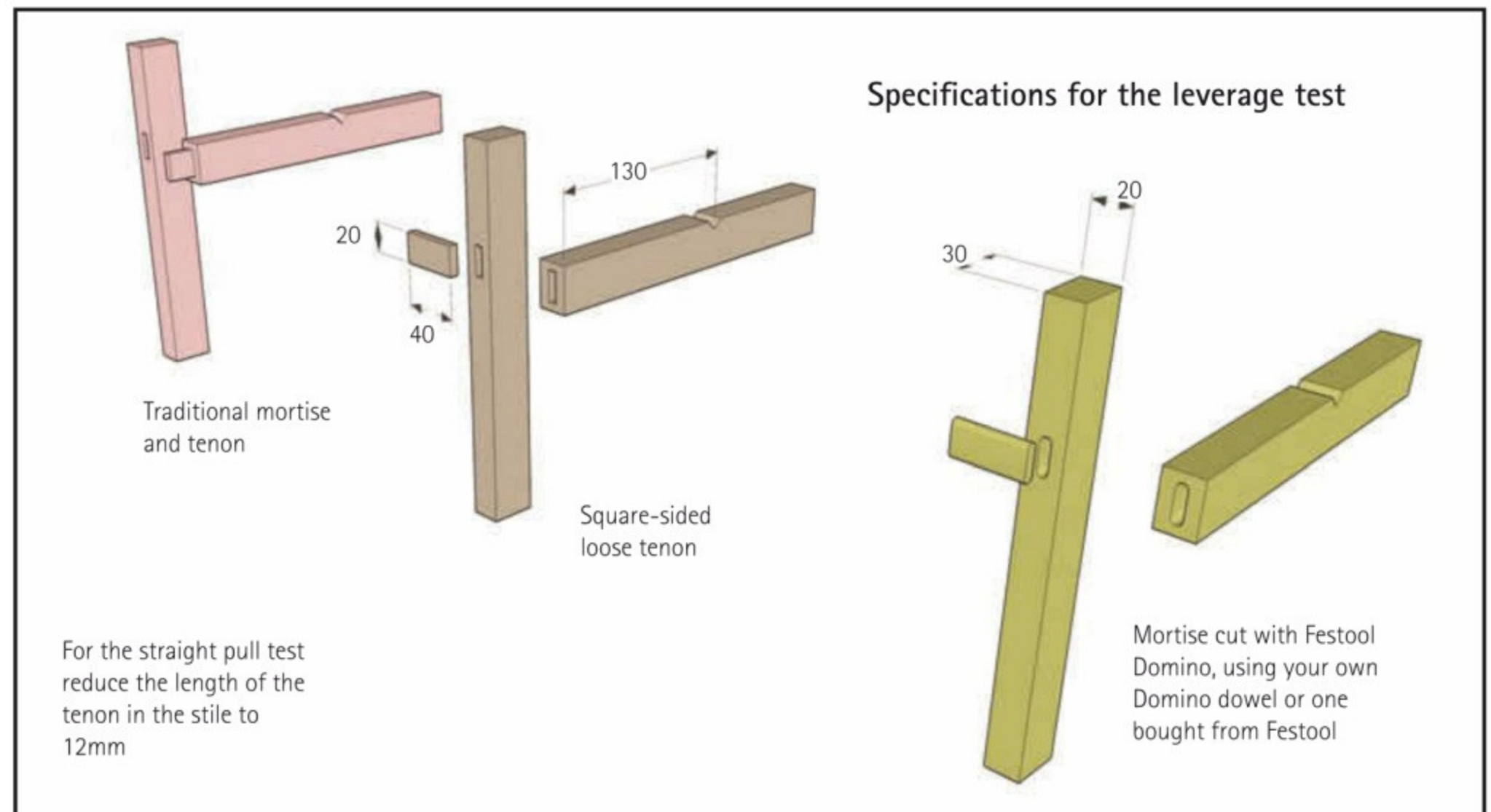
So I've decided to set up a little experiment to see who's right.

Testing the tenon

It would be nice to think we could test the tenons scientifically, but in a proper scientific experiment you control the variables, ideally only making one change at a time. Not only do we have to deal with potentially inconsistent jointing techniques, but the rounded tenon for routed mortises and the traditional square tenon have differing glue areas for the same dimensions. We decided to keep the overall dimensions the same.

A 'proper' test would also do the same thing many times, take an average reading and calculate standard deviations. I'm not going to do that, as I have neither the resources nor the inclination. I am, however, going to make two examples each of four M&T joints and subject them to two different tests.

1. A traditional M&T cut with a router jig and a hollow-chisel mortiser.



2. A loose tenon cut with a hollow-chisel mortiser.
3. A loose tenon cut with the Festool Domino.
4. A home-made loose tenon that's cut with a home-made router jig.

Each joint will be subject to a straight pull test and a wracking test, and I've chosen the tenon size as 1/4in and 6mm. My router and mortiser cut 1/4in, the Festool Domino 6mm. I know that's not identical, but it's a close match, and I don't think that the thickness should make much of a difference on these kinds of tests.

Testing requirements

I know that my methodology is flawed. The glue should be weighed out to the milligram, and the grain structures will vary between samples (although they are all cut from the same board and I have tried to keep similar cross-sectional grain patterns). And just because a joint behaves this way under my tests, it may be different if the joint is repeatedly stressed, or is in a different environment (eg. outside), or indeed, if different timbers are used. Is it as successful in something oily like teak as it is in pine? I don't know. That's the sort of

question asked at the end of a research paper for the next person interested in the subject to investigate.

So one fine day I cut all my joints and glued them up, doing my best to make them as equivalent as possible, and I left them to cure for 24 hours. Four were a straightforward T-joint, which I intended to pull apart with a straight pull, and the other four were more like a gallows and which would be stressed like one, too.

The sophisticated testing rig consisted of a bucket and some paving blocks. I did the gallows test first, holding the test joint in my vice, putting bricks into the bucket and looking for first signs of failure and then total collapse. Piling bricks in a bucket isn't that scientific either, but time was limited! The straight-pull T-test had the joint supported on the top of my Workmate with the bucket hanging down below.

You can see how I got on by visiting YouTube, because I filmed it. However, I did not have the excellent services of Bob The Cameraman, so don't expect the same quality as my DVDs; it's a bit home-grown.

The straight pull tests were the most surprising. I hung the



Traditional One of the options was to cut a traditional mortise and a traditional tenon. Here Steve is cutting the mortise with a 1/4in hollow mortise chisel

T-sample from the steps of a ladder and loaded it up with a bucket of bricks. The original set had a 40mm tenon length and I couldn't break that at all, even loading the bucket up to the max, about 40kg. So I reduced the tenon length to just 12mm on the second set, thinking that would be easy to



Test of strength Steve wanted to find out if the loose tenon, the traditional tenon or Festool's Domino is the strongest. The test will be more authoritative once many woodworkers give it a try

break. Not a bit of it; they all survived.

In the leverage test, I held the test piece in the vice and hung the bucket from the arm, like a gallows. They all started to open up at about five bricks (15kg) and they all failed at eight and a half or nine bricks (30kg). Given all the variables, like the tightness of the joint, grain etc..., I think that the tests are so close as to be inseparable, at least in this particular set of tests.

One of the biggest

weaknesses of this little test is the fact that I did just one sample of each test. I really need to repeat it many times over. And this is where you come in. If you'd like to be part of the Big Tenon Test you can reproduce my little test in your own workshop. Email *British Woodworking* for the specification and results sheets (info@britishwoodworking.com). You can also ask for the SketchUp model if you want it. Do as many of the four tests as you have the facilities for. If you don't have a Festool Domino, just do the others, it doesn't matter. We'll average the results for each test and compare the averages. Obviously the more people who take part, the better.

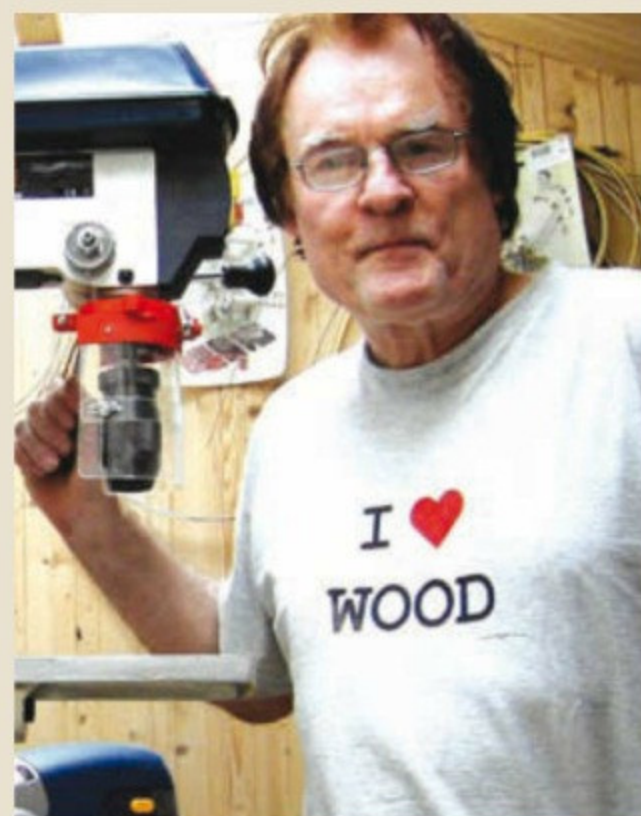


Weight of bricks Steve used bricks to test the strength of various tenon joints. He seems to need a bigger bucket and more bricks!



Inventing

Jeremy Broun is intrigued to notice some of his early improvised routing methods are not unlike Festool's Domino System

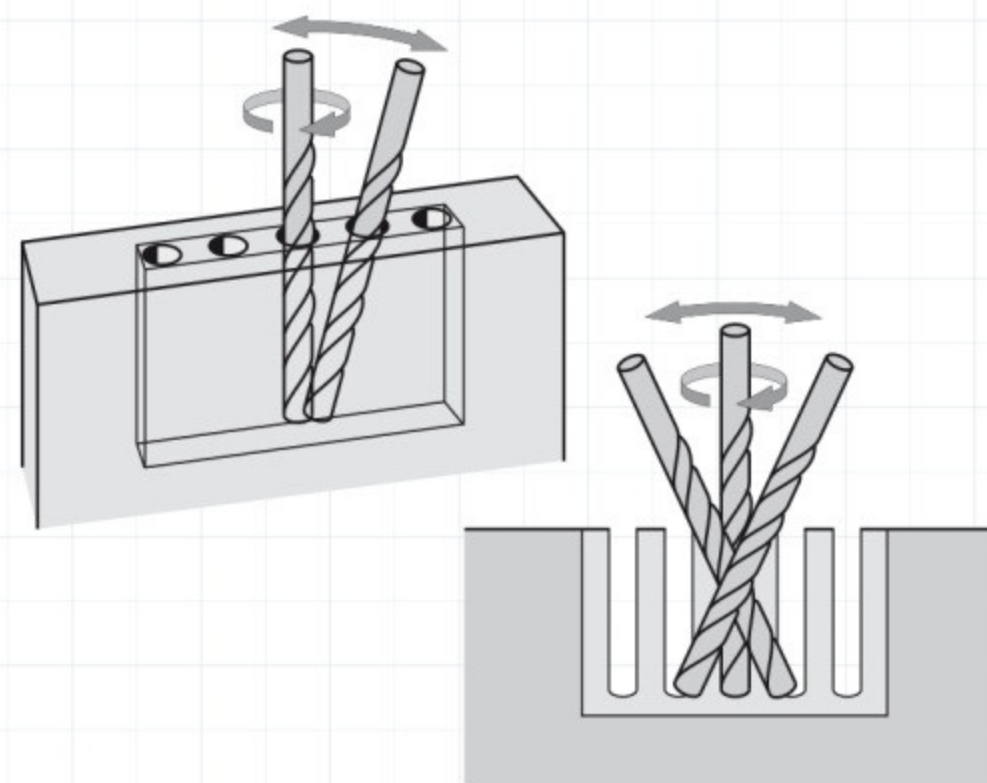


my router" after I reminded him that in my book *The Incredible Router* (published in 1989) and subsequent DVDs I have shown that the router is in fact the most versatile tool in the world! So I managed to get my hands on the Domino and was intrigued that the novel rotating-cum-oscillating action of the cutter was not that dissimilar in principle to how I used a drill and a router to make deep tenon inserts when I first started making furniture with only limited equipment.

It all started with some recent postings on the furnituremakers' forum (www.designermakers.org.uk) about the Festool Domino system (www.festool.co.uk), which some say is "doing what no other tool can do". David Savage challenged me to "eat

In the mid-70s I devised a simple plywood routing jig to take a guidebush and a 63mm-long straight cutter to cut deep mortises for loose tenon inserts. The secret was to drill out the

Fig.1 Jeremy used to waggle a drill bit to remove the bulk of the waste from mortises before routing



the Domino effect

bulk of the waste first (using the jig orifice for locating the holes), wrenching the drill backwards and forwards to break through the fibres between the drilled holes (Fig.1, left). But it meant the mortise could then be quickly and precisely routed.

The making of the loose inserts (in ash and elm for my chairs) was easily done by cutting a long length, radiusing the edges on a router table, then chopping up to the desired lengths and disc sanding a tiny bevel to help ease the fit. I ran a small tenon saw groove down the length as an air release channel.

Over the years I have made numerous routing jigs including the JKB Omni Jig (Pic.2), which cuts variations of tenons, dowel joints and single dovetails for frameworks, and there have been other jigs for making carved 'adzed' dishes and 'planing' wood. My case rests that the router is the most versatile tool in the world and its only limitation is the imagination of the user!

However, it would be unfair to make a straight comparison between my low-cost improvised jigs and an obviously high quality dedicated tool such as the Festool Domino. One doesn't exclude the other. A healthy and active workshop will include a range of devices.

The Domino jointing system is a development of biscuit jointing, which revolutionised woodworking a few decades ago. However the 'biscuit' in question here is a very sturdy



Pic.1 The Festool Domino System produces an elongated mortise to take a solid wood 'biscuit'. By increasing the 'waggle' of the cutter the mortise can be made into a longer slot for edge jointing

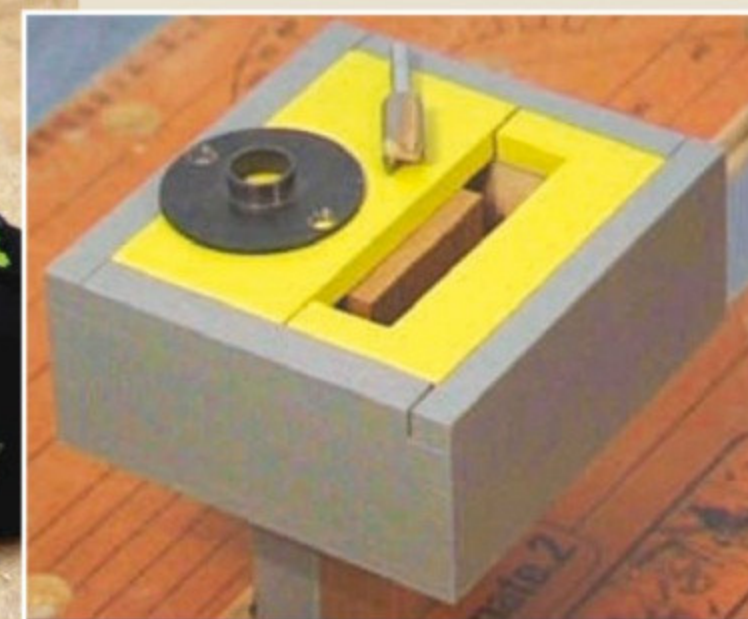
and precise solid beech tenon insert called the Domino dowel, available in five sizes ranging from 5x19x30mm to 10x20x50mm.

The minimum thickness of the insert is 5mm and the maximum depth of insert is 50mm making it suitable for frame and carcass constructions ranging from cabinets to chairs. The joint is claimed to be over six times stronger than a biscuit. As with dowels and biscuits the insert can lie side by side to increase the strength of the member.

I was immediately struck by the high build quality and by the user-friendliness of the tool. I didn't even need to read the manual to see how each function works. All the important settings of fence depth, fence angle, and plunge depth are notched in standard, clearly-marked increments so it couldn't be easier or quicker to use. So too is the setting for the swing action to determine

the three 'dowel' widths. Woodworking isn't just a visual skill, you are guided by feel and sound as well. The novel dual action of the solid cutter makes a healthy chew into the wood fibres allowing the chippings to immediately escape through the dust take-off. Locating the tool onto the workpiece is just like a biscuit jointer and guided by a centre mark. There are some nice details such as being able to adjust the pendulum swing setting (width of Domino dowel) whilst working and this gives you the option of either precise joint location or lateral leeway (a loose fit) by using the next width size down.

For the creative woodworker it seems a shame that such a satisfying precision fit of the highly-engineered Domino dowels into their slots should be hidden from view. Time permitting, I look forward to gluing up some small thin-sided butt-jointed boxes, and then intend to cut the joint



Pic.2 Jeremy's Omni Jig, which was designed to cut many joints

straight through adjacent members to expose the Domino.

At its fairly hefty price (c.£510, with dowels costing about £45 for a pack of anything from 1800 to 510 depending on the size of Domino dowel) the Festool Domino System is clearly a connoisseur's choice but a sound investment in a professional workshop. Professionals I know of who own one seem very pleased indeed. As a jointing system it is excellent, offering versatility, high precision and optimum strength in particular for small-sectioned work.

Of course, I may still use my biscuit jointer for edge joining boards and it will certainly never replace my router!

Jeremy Broun is publishing The Revised Bespoke Edition of The Incredible Router. A CD-Rom is included for videos, plans printouts and access to internet links. Available for Christmas. Contact Jeremy on 01225 332738 or at www.woodomain.com.

Twin tenon benches

To keep the design of his English oak benches simple Peter Bishop had to devise a strong joint, and the result is interlocking twin tenons for a larger glue surface

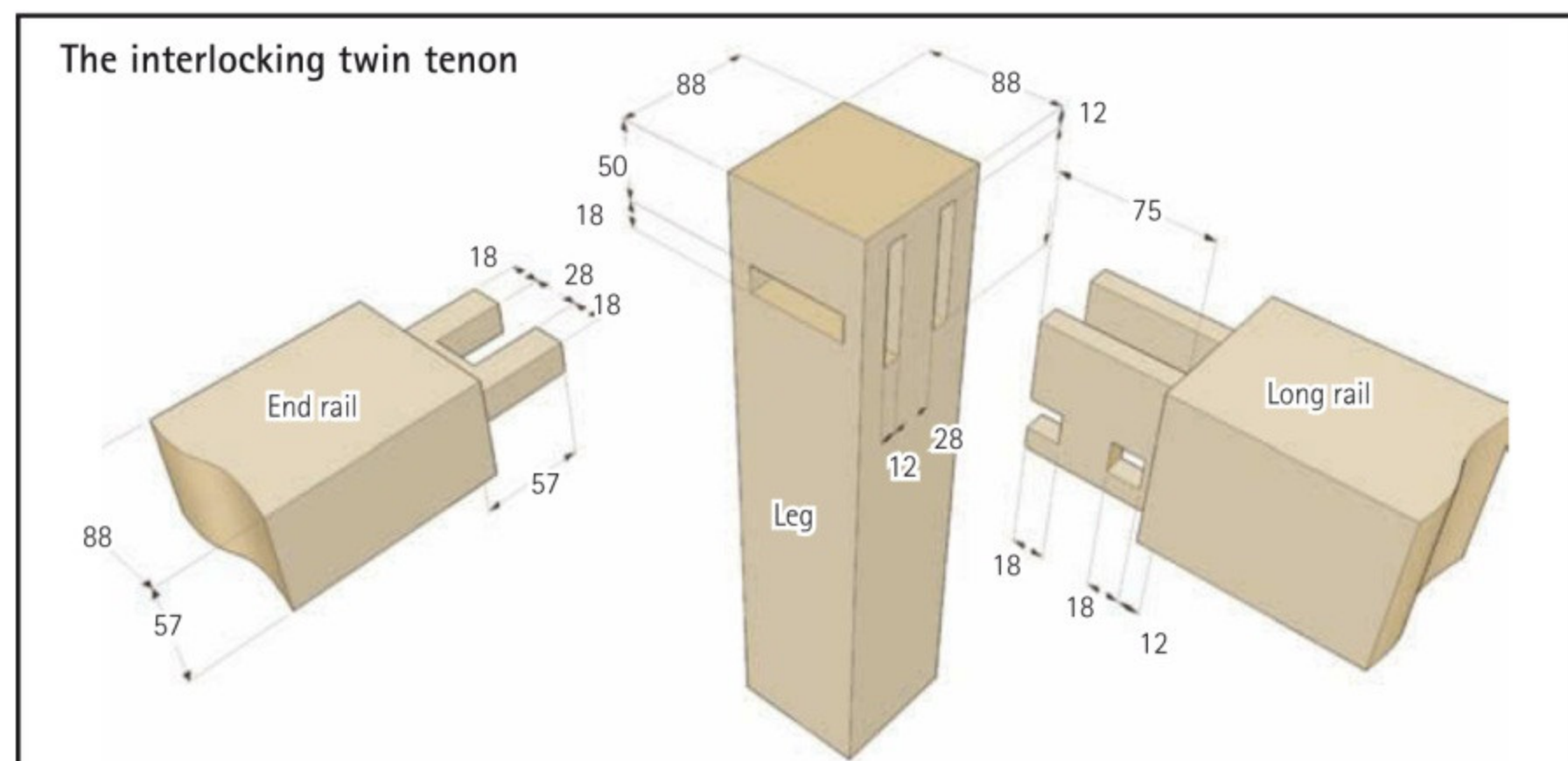
This is a great project using well air-dried English oak that has the potential for use both inside and out. The design has the legs positioned at the corners, a contemporary feature often seen these days. It presents a need to find interesting solutions to the provision of strength to the corner joints of these weighty pieces. Because of the weight involved, the size of the cross sections and the length of the side rails, a strong joint is needed in the corners. I chose deep twin tenons as the solution. A single large tenon, on its own, could possibly weaken the corner if not an extremely good fit.

Twin tenons overcome this providing both the extra surface area for the glue to adhere to and a reduction in the possibility of side flexing. The shorter end rails are jointed with a single tenon, which is split in two to look a bit like a twin tenon. This is horizontally aligned, and as an added bonus they are driven through the side tenons to make doubly sure they held firm.

Looking at the bill I got for this oak and some other stock I bought at the same time it's not cheap. The components are all to be cut from through and through sawn boards with waney edges. It is highly recommended that you double the amount you need to

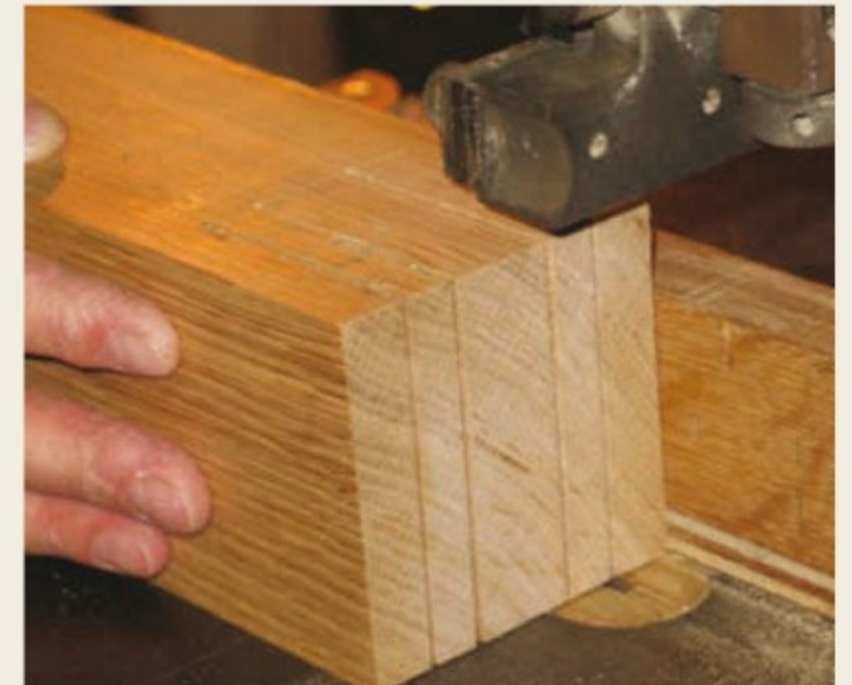
ensure you get enough out. At around £35 per cubic foot that means these two benches probably cost £175 each before we started any work on them!

However, oak will last for years and years if it's looked after, therefore I reckon that's not such a bad price. Once you've chopped the nominal sizes out of the planks each piece can be planed and thickened





How to cut twin tenons



Batching Set up the bandsaw to cut all the inner cheeks of the double tenon then the outer cheeks (which are being cut here). Use a stop for repeat cuts



Shoulders Cut the shoulders by hand or on a tablesaw or router table, then cut the final set of cheeks with the bandsaw fence left in the same position



Waste Cut the final two shoulders and then remove the waste from between the twin tenons with a mortiser. The cheeks have already been cut, but this is an effective way of keeping the shoulder between the tenons true and square

square. Cut the legs to length but nothing else at this stage.

1 Mortising

Mark the legs out showing the top and bottom positions of the mortise holes on

each; a clamp across them will hold them firm. If the mortises are to be cut on a machine only one leg needs to be marked with the width of each tenon using a mortise gauge. You set to this one and cut all the others to match. The largest mortise chisel I have for my machine is a half inch, and because I set the thickness of the tenons at 5/8in I had to double cut each mortise hole. The holes are in matched pairs. Having set the depth stop about 1/2in from going right through, chop out the waste down one side. Release the leg, turn it round and chop down outer side of the other one. Make this initial series of cuts in





Marking-up If you are cutting the tenons by hand you will need to mark up all the components, and the best way to ensure consistency is to mark up the shoulders all in one go, as a batch. Alternatively set a stop on the bandsaw when cutting the cheeks and then use a stop for cutting the shoulders on a tablesaw or mitresaw

all the legs. Re-set the position of the cutter and repeat the process chopping out the waste to the full 5/8in.

Always cut the mortises first and fit the tenons to them. You can trim a bit off the tenon to make it fit but it's difficult to stick a bit extra back in the mortise if it's too big! The side rails are now cut dead to length allowing for the depth of tenon. I cut the main shoulders on my pull-over crosscut saw, with a raised blade, and the cheeks trimmed off on the bandsaw. Raising the pull-over crosscut further enables the top and bottom shoulders to be cut. No haunches; there's a nice square top to each leg. The rest of this waste can then be cut off on the bandsaw again. But there's a big



Assembly Glue up the two side frames and leave to set, and then assemble the whole bench. It really helps to have a flat surface on which to work. Make sure you do a test run as it is critical that the interlocking tenons fit together neatly

chunk in the middle of the twin tenons to get rid of. Cutting from both sides I used the 1/2in mortise chisel in my machine to cut it out flush with the shoulders. Trim up the tenons to fit, match and mark each corner. Up to this point it does not matter

which face the mortise holes are cut on the legs. The only factor might be to turn any defects so that they are on the inside.

2 Cutting the end mortises

Now each set of side rails and legs needs to be handed to make up a set. Work out which of the twin tenons need to be mortised for the end rails. Cut into them and mark the bottom line from the adjacent face. Working from this you can mark out the pairs of twin tenon holes. It should probably be around 3/4in thick with a step in the middle. This step will be formed by the other tenon joint.

The technique for cutting this mortise hole in the machine is slightly different. You have to work from the back to the front cutting each one individually. It will take several goes before the whole lot is chopped out. Once cut and cleaned out the end rail tenons can be cut in a similar way to the others. Test all the joints for fit, clean up the inner faces of the components and you're ready to start gluing up.

At this stage another consideration will be the type of adhesive to use. PVA is unreliable under pressure and in damp

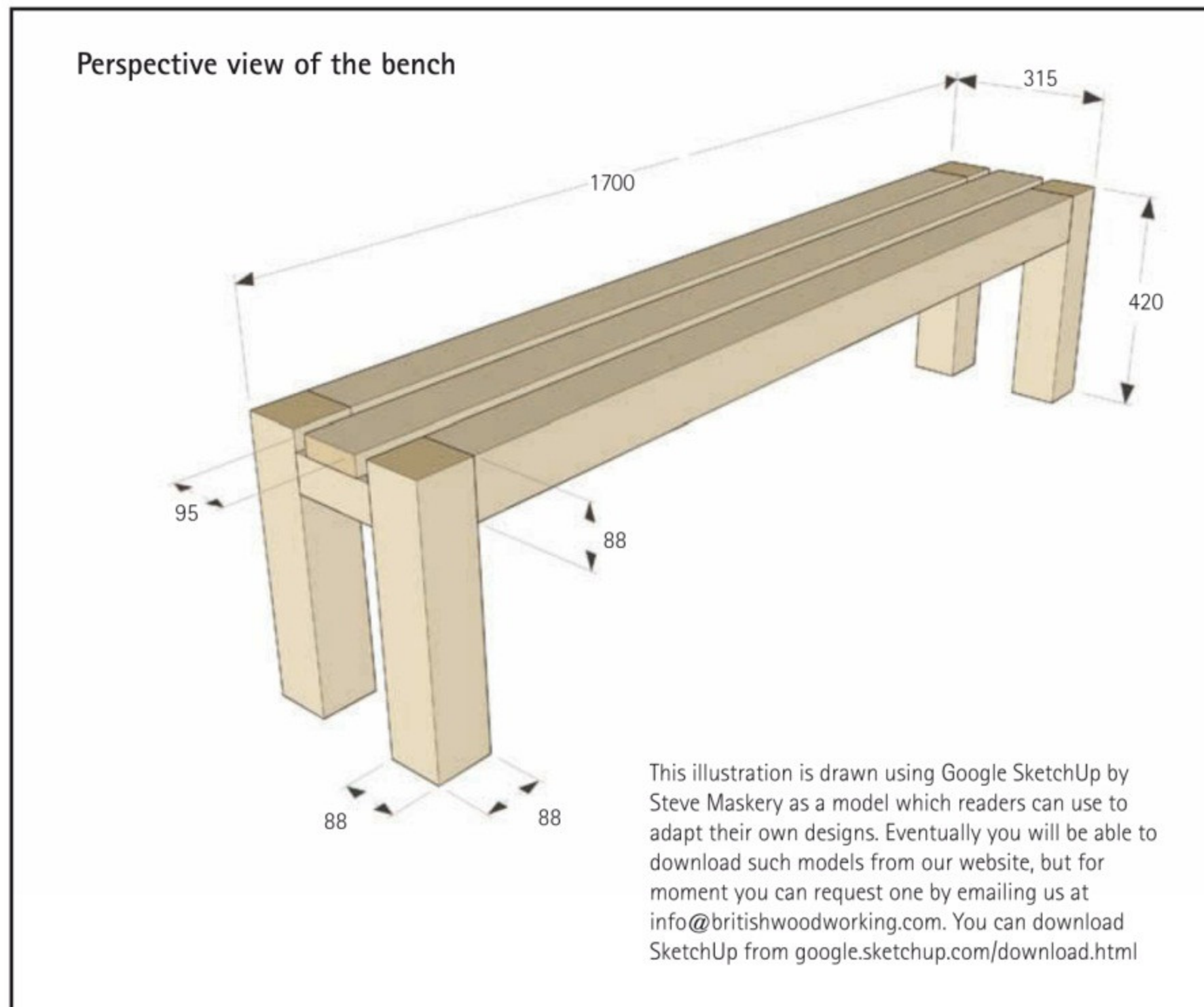
Interlocking tenons

The tenons on the short end rails protrude through the inner of the twin tenons on the side rails. This lets you have longer tenons on the end rails, and increases the gluing area. This helps to strengthen the joint without weakening the twin tenons.



Interlocking Cut the twin mortises and tenons first, then insert a piece of scrap into those mortises for the cutting of the single mortise for the end rail. Otherwise you can split the inside of the mortise





conditions. My favorite is a powdered resin mixed with water. This provides a really rigid joint that is far stronger than the adjacent wood. It's also a good gap filler and once cured sets solid.

If you use resin try to choose a cool day. Hot weather accelerates the curing process which can be helpful but, if you've got lots of joints to make it might start to go off before you've finished! To clamp up the side assemblies I had to take the tails off two sash clamps and join them together. You'll only need one if everything is right. Once the sides have been made up and the glue gone off, the rest of the mortise needs to

be finished, by hand, to take the end rails. A slightly smaller flat bit will remove most of the waste. Chisel out the rest. Once the joints fit glue and clamp them up to make the main frame assembly.

Finish off by routing off any sharp edges, sanding down the outside faces and coating the surfaces with a suitable oil. I chose tung oil because it provides a hardier surface. First coat was thinned 50:50 with white spirit, applied, wiped off and allowed to dry. Second coat was 75:25 and the last pure tung oil. Repeated annually this should help maintain the appearance of the benches.



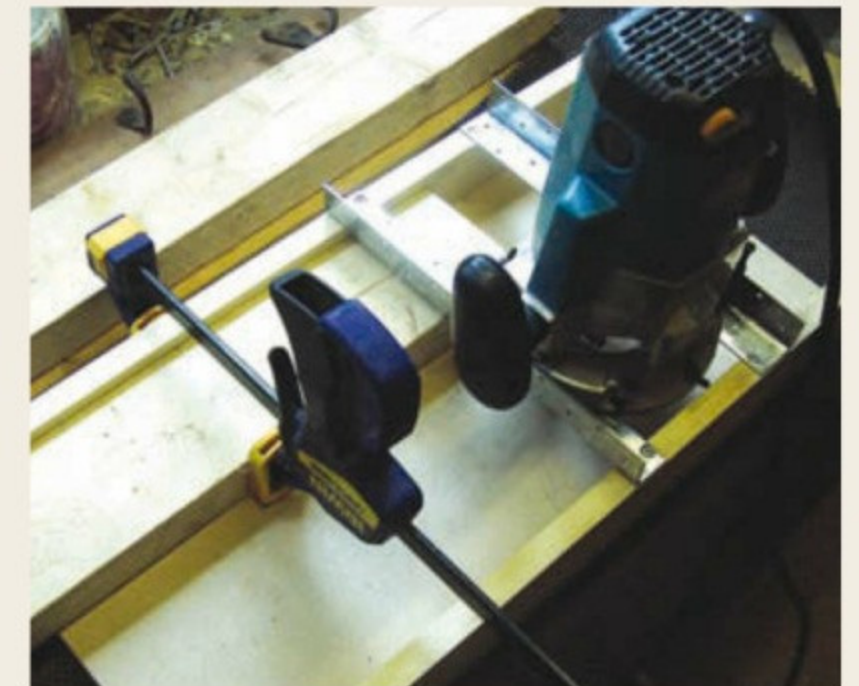
Gluing Peter used a resin adhesive to assemble the bench. He glued up the side rails and legs first, and then assembled the whole bench once that had set



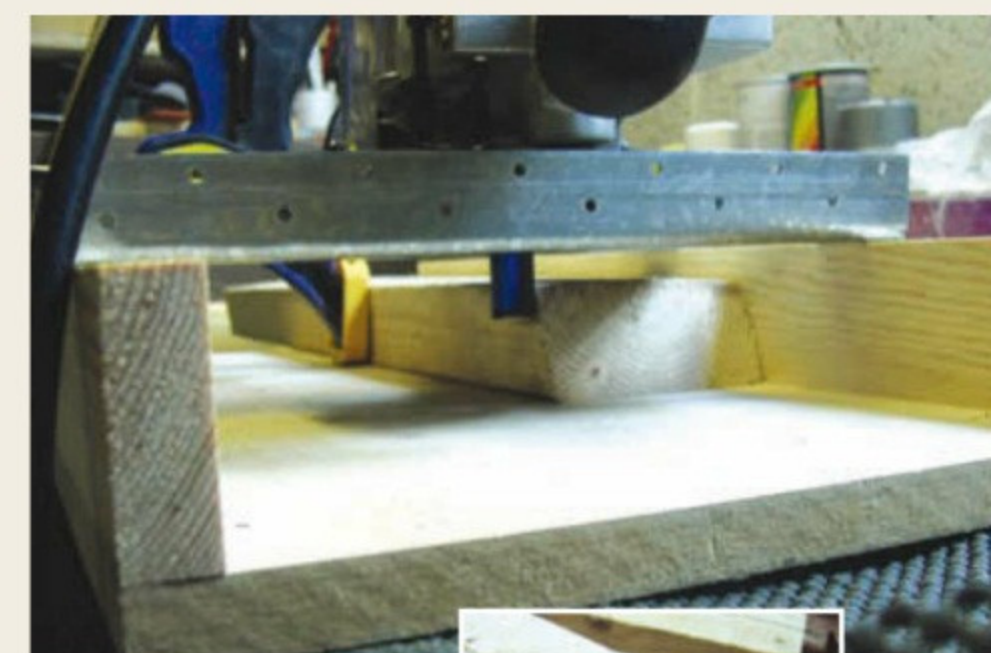
Interlocking The mortises for the end rail tenons are cut through the assembled twin tenons. Drill out most of the waste first and then chisel the holes square

Large tenon jig

Reader Olly Parry-Jones has made a carriage jig for cutting large tenons



Simplicity I took the idea for the jig from the *Stanley Book of Storage and Shelving*, where the jig was used for a circular saw, but the principles are the same. The base is 18mm MDF, with 2mm-thick angle iron sitting on two timber fences (58x19mm). There's a good 260mm of space between the fences so I can cut multiple tenons next to one another, and have space for the cramp. It is 600mm long, but for extra support I use scraps of 18mm-thick MDF along the bench.



Stops The workpiece must be held against the rear fence because of the rotation of the cutter. You can screw or clamp a stop to the right of the rails for repeat tenoning if you have cut the workpiece exactly to length. I use a 3/4in Tornado cutter from Rutlands (www.rutlands.co.uk), which is 1 1/4in long. The angle iron could be better, and I'm looking to replace it with something better; perhaps acrylic. But for the moment it works well.



Top 10 Ways to Cut Tighter Tenons

Watching Norm Abram on the telly you'd think the only way to cut tenons is on a tablesaw, so we decided to find out. We asked 800 woodworkers which approach they favour, and were faintly surprised by the very British result and some great tips

The tablesaw is certainly one of the most popular ways of cutting tenons these days, for both the shoulders and the cheeks. With jigs and guards to make the saw safer, tenon cutting is likely to go the circular way in the future, but for the moment it's not top of British woodworkers' favourite techniques, just pipped into second place. That's not to say it doesn't have its advocates and disciples. So here's our Top 10 of Tighter Tenons.

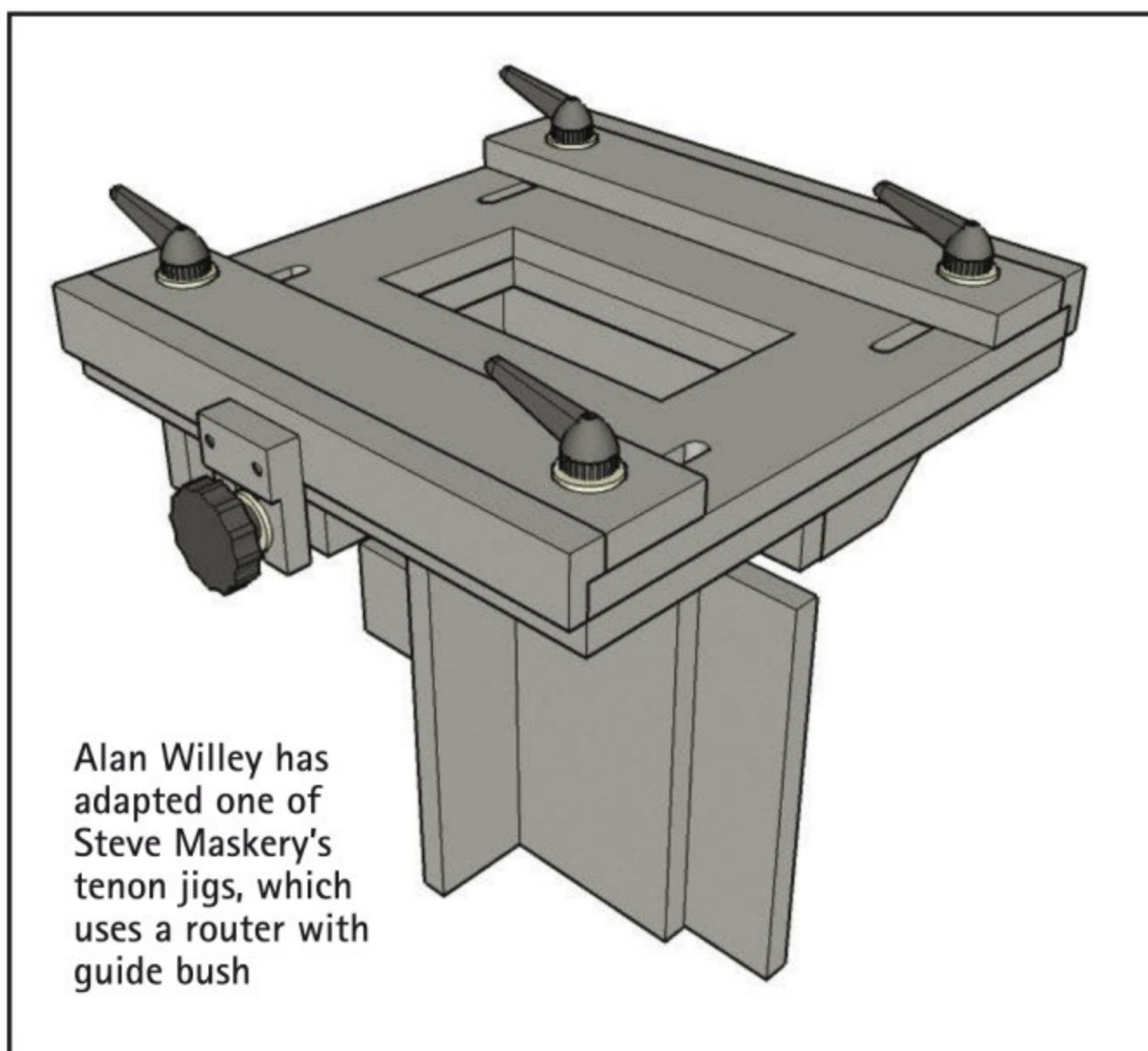
10 The mighty tenoner

I run a small joinery business (Murdoch Joinery), and I use a Sedgwick tenoner. That way I have a dedicated machine and don't have to keep switching over spindle moulder functions. It only needs one pass and any discrepancies in timber thickness do not affect tenon thickness as the cutters are a fixed distance apart.

Nathan Hart

9 Give it a slip

Until recently I rough-cut tenons on the bandsaw then trimmed them on the LittleRat, saving wear on the router cutter.



Alan Willey has adapted one of Steve Maskery's tenon jigs, which uses a router with guide bush

Last year I discovered the Joint Genie, and by fitting a 10mm-thick block on the end-stop bolt, and by drilling with or without it, I can place 8mm dowels 2mm apart; somewhat like the Trend Beadlock, but without the expense of dedicated materials. There is room for four dowels in the endgrain of a 13/4in rail.

Bill Gilson

Unless I am making a through-tenon with wedges, I now use slip tenons more or less exclusively. I use marine ply to

make the tenons and I run off a few lengths of the right thickness when I start the job. This method requires mortises in both the rail and the stile, but the rails are easily secured in the vice upright for routing. I don't square the mortise, but mill the tenon stock with a small rounding cutter.

John Barr

8 The router jig

I have tried a few methods of cutting tenons, but find the best and most accurate is to use



WoodRat *mods* Tony Sutton has added aluminium jaws to his WoodRat to make it stronger for cutting tenons. The MDF facings can be moved up and down

a router and jig. I can't class it as my own, but a modification of a design by Steve Maskery. The router is a 1/2in model with a spiral bit that gives perfect results each time.

Alan Willey

For tenons from 50mm to 150mm wide I make a simple jig and use a router. I would not use a tablesaw as this would mean removing the crown guard and I believe it to be at odds with the safety guidelines.

Bob Gennard

7 By router table

My preferred method of cutting tenons is the router table. I use a CMT milling cutter which produces a very clean cut.
Michael Esler

6 Radial arm saw

My preferred method is to use a radial arm saw with dado cutters fitted. Shoulders can be done at the same time. Bandsaws are ok, but can take a lot of time setting up to get them 100% accurate. Spindle moulders are restricted by the length of the tenon.
Allan Solomon

For most I nibble them on my mitresaw, using the depth stop and stop blocks to control the size of the tenon. It's quick and simple to set up, and repeatable.
John Emmerson

I tend to cut tenons on a radial arm saw. It isn't quick by it is accurate and the saw marks make a good key for the glue.
Tony Troughton

5 The WoodRat

Myself, I prefer to use my WoodRat. It is so easy to adjust to obtain a perfect fit and provides an extremely fine finish. In addition you can gang smaller tenons as I did recently when making some gates for our local bowls club.
Chris Sherriff

I have a WoodRat on which I cut my tenons, amongst other things. As far as I am concerned it is the best way to cut tenons.
Paul Cross

I normally use my WoodRat. All the tips I have picked up come from the WoodRat forum or Aldel's website (www.aldel.co.uk). There's a tip there for a little bag to catch fallen cutters!
Rod Bould

I cut small tenons on the WoodRat after adding new aluminium jaws to it to strengthen the jaws. Tenons are

Cutting tenons safely on a tablesaw

Cutting tenons on a tablesaw inevitably requires you to remove the crown guard, though there are pivoting guards that are suspended from an arm to protect you from the blade. Few woodworkers we know own these, and many follow the images they see on New Yankee Workshop or in American magazines, working without either crown guard nor riving knife. Here at *British Woodworking* we see absolutely no reason for removing the riving knife, which has the essential job of ensuring the board doesn't bind on the blade and catch.

Obviously a riving knife that rises above the top of the blade can't be used for cutting tenons, and you may need to consider that when you buy a tablesaw. The riving knife is even more important for ripping boards when the released tensions in a board can easily result in a bind and a catch. When ripping it tends to be best to position the larger portion of the board between the rip fence and the blade, rather than a narrow offcut which can easily get trapped there and kick back. Obviously when you're ripping you'll be standing right in line with the blade and flying offcuts. It is frustrating that the depth of cut on many tablesaws is restricted not by the size of the blade but by the fixing of the crown guard on the riving knife, so many woodworkers are tempted to remove the guard and even the riving knife to rip deeper.

Funnily enough there was an article in an American magazine recently about European tablesaws, promoting the use of a riving knife and crown guard, so perhaps the safety tide is turning across The Pond. There was also, infamously for those people who follow the UKWorkshop Forum, a photo in *Good Woodworking* recently of a very short piece of timber being held against the mitre fence by hand. Cutting short items should always be done by clamping the workpiece to the fence with a toggle clamp or similar.

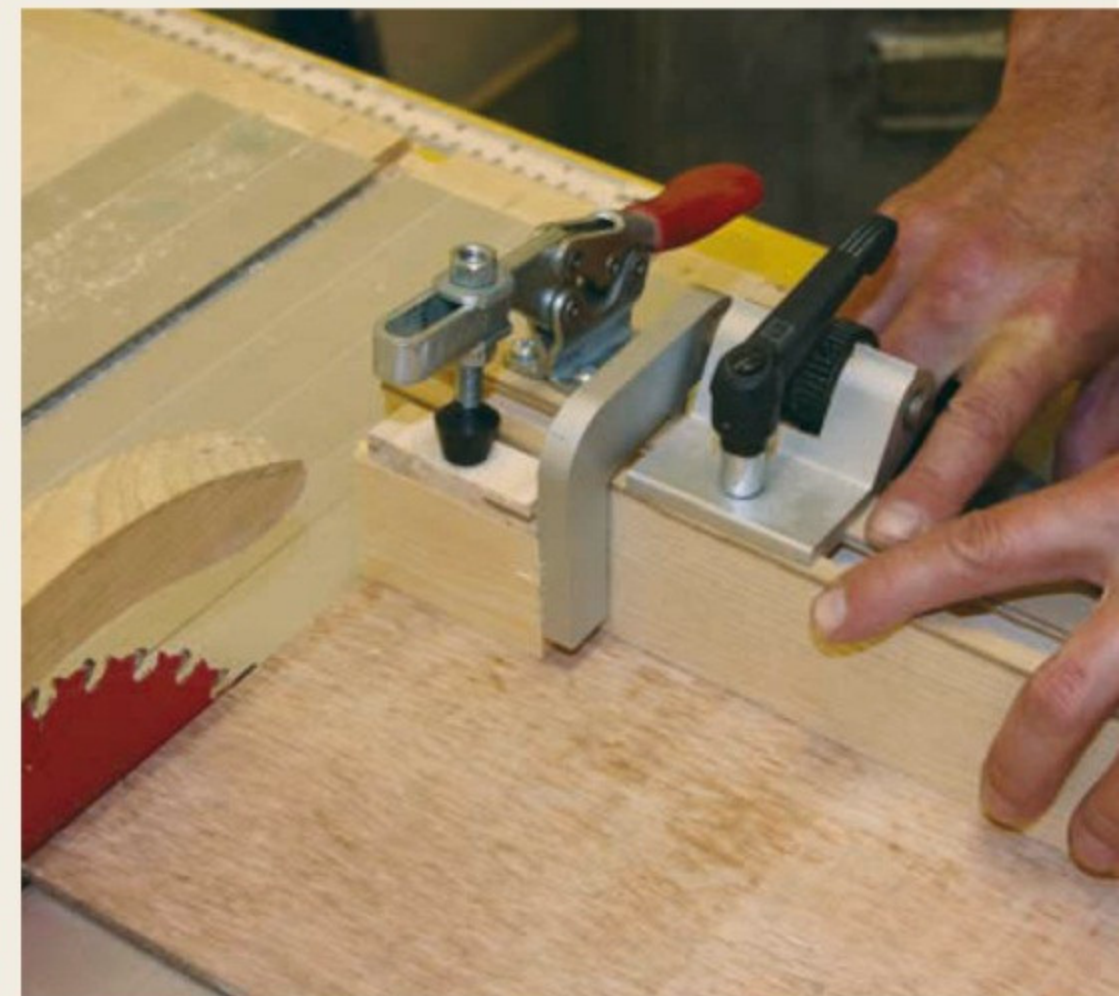
The main safety issue when you've removed the crown guard is that there is no protection if the wood binds in the blade and catches and kicks back. So make sure it doesn't bind.

The other problem is that the blade is obviously unguarded and in a senior or busy moment you can graze a finger or hand or arm across the blade. One solution, we believe, is to ensure your hands are never close to the blade, so you always clamp the workpiece to the mitre fence when you are crosscutting without a crown guard. We are also experimenting with a simple guard that is fitted to the rip fence. While this may not provide the full

guarding of a crown guard, it should stop pieces flicking upwards into your face and also stop you accidentally touching the top of the blade.

Certainly if ever there's a moment you really, really must be wearing eye protection it's when the crown guard has been removed. And if possible stand out of line with the blade. If you feel uncomfortable about what you are doing, stop and do it more safely.

You can cut both the shoulders and the cheeks



Safe and short When you cut small components on a tablesaw it is essential the workpiece is cramped in place so your fingers won't be drawn into the blade if there's a catch

of tenons on a tablesaw. Many people use it for the former and then remove the waste on a bandsaw or by hand. Unlike cutting by hand, for which you tend to mark up the shoulder lines individually or as a batch, and leave extra on the end of the tenon, when cutting shoulders or the whole tenon on a tablesaw you have to start with the workpiece cut exactly to length and use the end as a reference.

To cut the shoulder safely you use the rip fence as a stop, but you must make sure, as a few woodworkers have mentioned here, that the stop block does not extend beyond the front of the blade. You should never hold a board against a mitre fence and against the rip fence at the same time; if either of the fences isn't square there's a good chance the wood will bind, catch and shoot across the workshop. To cut the cheeks safely you must use either a home-made or bought jig, both of which hold the workpiece vertically, and keep the user's hands away from the blade with handles.



Adjustable jig Ernie Bowden's tenoning jig is adjustable in a couple of ways, and has handles for extra safety. Notice how the jig runs with a wooden bar in the mitre slot as a guide



WoodRat Chris Sherriff used his WoodRat to cut the many small tenons in the making of these gates for his local bowls club

now a doddle. The jaws have wooden linings that can be raised up and down.

Tony Sutton

I used to cut them on the bandsaw, then a router table, until I bought a WoodRat!

Roy McKay

4 The tenon combo

It really depends on the size of the tenon and the piece of wood. In general I try to cut all shoulders on my Kity tablesaw, which gives good control on depth and tenon length. Whenever possible I use my Delta tenoning jig to cut the tenon thickness, but when

rails are long and less than 8in wide I use my bandsaw to cut the cheeks. If that's not practical I'll finish by hand or with a hand-held router. If any adjustments are needed I finish off with a magic piece of kit, the Kid 24 Plane Boss or Rabbet Plane, which uses a razor blade.

Brian Titmuss

I use a three-stage process. First the length between the shoulders is cut on the tablesaw. I have a Scheppach with a sliding carriage. Then the tenon cheeks are roughed on a bandsaw (leaving 1-1.5mm for finishing). Finally the tenon

thickness is finished with an Elu 177 fitted to an Eumenia radial arm saw frame. It's all a bit fiddly, but very, very accurate. I'm a mechanical engineer by profession, so I suppose it satisfies that side of my personality.

Dave Harrison

If the tenon has only two shoulders, I cut it on the mortising attachment on my planer. Since I only use two widths of mortise (8mm and 10mm), this enables me to set the tenon dimensions quickly for repetitive cutting, by fixing the height stops on the mortiser table. I use a bandsaw when there are four shoulders.

Denis Solomon

The technique I use depends on the quantity to be made to take into account machine set-up, cleaning-up time and jig-making. If I need to cut a couple I will use my Japanese pull saw or a British-style tenon saw and enjoy cutting them by hand. For more than four I set up the tablesaw for crosscutting for the shoulders and the bandsaw for the cheeks. For more than 20 it is worth setting up a router and jig, but the noise and the dust is enough to put me off. I really enjoy using

a tiny little plane that was left to me by my grandfather. It is solid cast metal, but only 3in long with a 1in blade held in place with a rosewood wedge. It is perfect for trimming oversized tenon cheeks.

Patrick Hudgell

3 Working by hand

I prefer the old-fashioned way of cutting them by hand. Being confined to a wheelchair I find I can position the timber better for cutting by hand to get an accurate cut. When using my bandsaw and tablesaw I find it time consuming setting up the machines and testing with waste material to check my setting up, for the few tenons I may be cutting.

Bob Elliott

As a little tip, I use a bit of silicon wax, as used for the surfaces of machinery, on the face of my tenon saw, which allows for a smoother run and better hand control.

Brian Bender

I prefer to cut tenons the old-fashioned way, by hand. Just as accurate and a lot less prone to error. A cough or a sneeze can cause a gouge or worse, and that's always likely to happen when there's no stock available to cut another part.

Colyn Blundell

If you're working by hand make sure the pins on the mortise gauge are sharp and then test your square.

Len Clarke

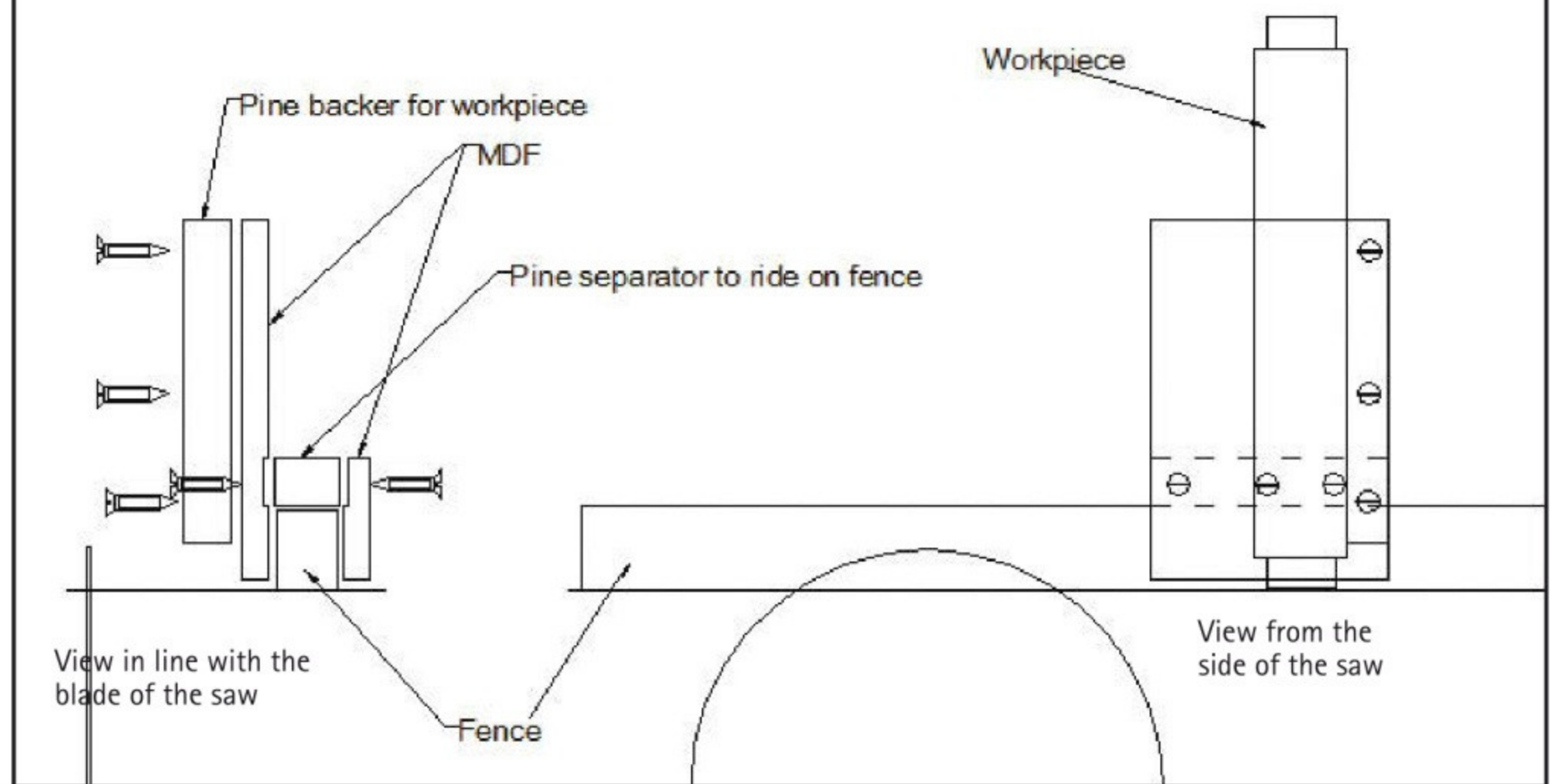
Last time I cut tenons by hand, which is easy to set up for a few tenons. The sawn finish gives a good surface for gluing. I wonder if the polished effect of routing a tenon would affect glue strength?

Marc Conroy

If it needs to be a precise fit I mark the shoulder lines with a knife, however my tip is to lightly mark around the shoulder



Jim Collis has made a tenon jig for his table saw



Tenon jig This shop-made jig drops over the rip fence and the workpiece is clamped to the face of the jig. This keeps your hands well away from the blade. The solid wood core adds weight to the jig to give it better balance and makes it safer

with a pencil first. If the line doesn't meet you can always re-square the timber.

Mike Watkins

I cut all my tenons by hand, as I do with most other joints. Although I have most machines I like working almost in silence, but I do have the radio or music playing from time to time.

Robin Stanley

2 Norm's table saw

I have always used a table saw to cut tenons and have recently bought a Dakota tenon jig from Rutlands.

Graham Burford

I use a heavy cast iron tenoning jig which has handles and slides easily. I have made a spacer to go between the workpiece and the fence of the jig. The spacer is the thickness of the tenon minus the kerf of the blade and means you cut the first cheek with the spacer in place then remove the

spacer and the jig is perfectly set up for the second cheek. It really simplifies the task of setting up.

Larry Martin

I use my table saw to cut tenons, setting the blade height so that I can nibble away at the waste and setting up the rip fence (with a piece of scrap clamped to it) to give me the correct distance to the shoulder. The scrap is only short so that it doesn't push the workpiece against the blade, so there is no danger of it snagging and causing kickback.

Richard Knisely-Marpole

1 The bandsaw rules

I cut my tenons by bandsaw. I should add that my complete inability to cut anything accurately by hand means that I have to rely on tools like my bandsaw, but any gains there are soon lost when I try cutting mortises with my naff mortiser. I know I need practice, but it is a salutary tale about buying cheap equipment. The poor results are disheartening and so I have tended to avoid this particular joint. When I replaced my cheap Argos chopsaw with a quality Elektra Beckum



Shoulder plane Patrick Hudgell loves using a small shoulder plane for cleaning up tenons. The plane was handed down from his grandfather and has a rosewood wedge holding the cutting in place

compound mitresaw the accuracy of my cutting improved no end and the confidence and pleasure in my work soared.

Chris Middleton

I always use a bandsaw. It is really easy to set up, and I believe it to be really safe and quite accurate. I often toy with the idea of using a router but it seems really noisy and more time consuming than the bandsaw.

Ciaran Lavery

I cut tenons on the bandsaw because, for me, it is the least hassle and the most accurate.

Geoff Manning

Put me down for bandsaw. I don't have a dedicated tenoner, and all the others take too long to set up or to do.

Harvey Salmon

I use a bandsaw because once it is set up it is fast, accurate and repeatable, and in full view.

John Gibson

I usually make them on my small bandsaw. This has a thin kerf blade, and my tip for repeatability is to use length stops, the fence and a featherboard.

Roger Thomas

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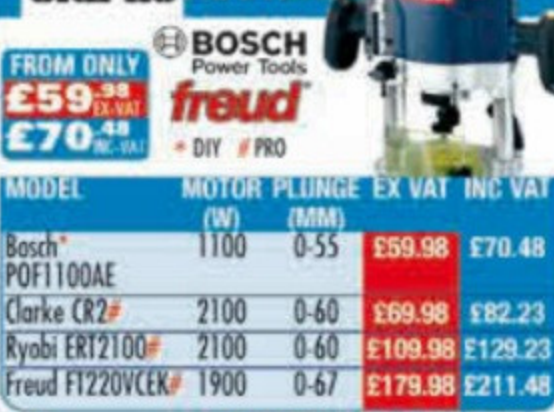
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DW721K	2000	300/30	90mm	£999.00	£1173.83
DW728K	2200	350/30	110mm	£1595.00	£1874.13
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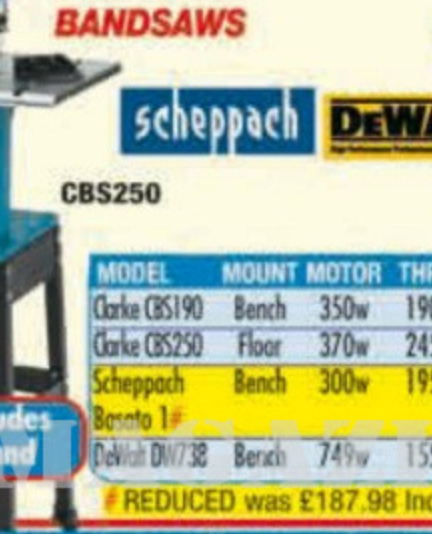
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Skil A160HJ#	400	2850	65	£14.99	£17.81
B&D	450	80-3100	55	£22.99	£27.01
KS400E#					
Ryobi EJS 600QEO*	600	600-2600	75/8	£42.99	£50.51
Makita	720	800-2800	135/10	£97.99	£115.14
4340FCT*					
DeWalt	701	0-3100	130/10	£137.99	£162.14
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Going native locally

For British woodlands and forests to thrive they need markets for the timber they produce reports Nick Gibbs

PHOTO: JENNY MARTIN, WOODNET



PHOTO: JENNY MARTIN, WOODNET

Great British Timber Sweet chestnut (*Castanea sativa*) air drying in stick. Known as poor man's oak, it is strong and durable, but more difficult to use and lacking the silvery figuring. Speaking of which, three straight growing oaks (left) need thinning. With any luck the timber will end up in the hands of a sympathetic woodworker!

One of the more surprising questions we get asked repeatedly is where one can buy good British hardwoods. English oak must be one of the most famous species in the world, yet many woodworkers can't find it locally, bemoan the high prices or complain that the quality doesn't match imported wood.

Recently we went to buy wood for a *British Woodworking* project from a local timberyard

where they sell a reasonable range of hardwoods. We asked if they might have some English oak, and were directed towards a dust-covered pile that hasn't been touched for years. While we were there a huge lorryload of beautifully stacked pallets of oak were being unloaded. The wood was as straight as you like, stamped with FSC on the side, kiln-dried with no wastage, from Slovenia, and sold as European oak. My guess is that

it's white oak (*Quercus alba*), as is imported from America. There's good demand for the wood, all high quality; straight-edged, straight-grained and ready to be milled and converted into kitchens.

Designer makers producing bespoke furniture tend to use native hardwoods, and that's one of the reasons their work is expensive, because British boards are often more costly and more time-consuming to use than the imported timber that's streaming into British ports as sawn boards, or as flooring. Sean Feeney, whose English oak table is featured on p22, tells us that he bought the timber for that piece from brothers Tony and Alan Lancaster in Southam (01926 810101), one of a few small sawmills struggling to survive in his part of

Warwickshire. "European timber is kinder to machine," Sean says, "but it doesn't have the character."

Certainly the spread of mainstream timberyards selling native hardwoods is thinner than we'd all like. In fact, considering the quality and economy of timber being imported from Europe and the US, one wonders how small sawmills can survive at all.

Timber harvesting

Britain's record in managing broadleaved forests and woodlands has been poor for the last 100 years, with the Forestry Commission's focus primarily on the growth of conifers for pit props and building. Those post-war demands are now outdated, and the FC's priorities have moved

TIMBER SELECTION

Which oak?



As part of our Go Native! campaign to encourage woodworkers to use British timber, we took some oak samples to Yandles Woodworking Show, and jokingly asked visitors if they could tell the difference between oak grown in France and England. Alec Golesworthy of Timberpride (01666 504436), where we bought the boards, said that he doesn't think many people can tell them apart.

We asked people as they passed our stand to make an educated decision based on years of experience (otherwise known as a guess), and select the English oak. The first correct answer out of the hat would win Nick Gibbs' book, *The Ultimate Woodworking Course*, for which they may or may not be grateful!

We can now reveal to those who had a go at Yandles (and at Westonbirt's Festival of the Tree as well) that the answer was A. The first correct answer plucked from the bag was from Roger Buse, of Hegner UK, on the stand next to ours, so obviously his entry's been returned to the pile, and the real winner is Roger Dawson of Shepton Mallet.

The good news is that about 64% of visitors got it right, with some declaring the French to be creamier to plane or slightly darker, and the English to be well, English.

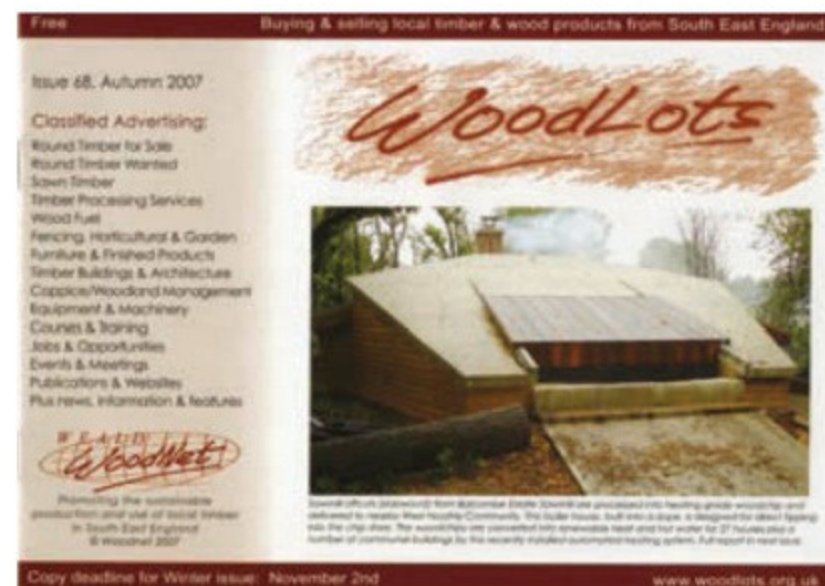


towards the support of mixed woodlands that provide the public with amenity/recreation, plus a sustainable harvest of hardwood and softwood timber.

It is in everyone's interest to promote the use of native timber because it stimulates a market for British wood and justifies the management of Britain's woodlands. Yet foresters and sawyers constantly have to combat the misguided assumption that 'management' is a dirty word; a Bad Thing. The image of clear-felled tracts of forest seems to tarnish the perception of how we should be maintaining the precarious balance of our countryside.

Most of the evidence appears to indicate that a managed woodland is a healthy woodland, letting light into the forest floor and encouraging a wide diversity of flora and fauna to thrive. Unmanaged woods tend to revert to jungle, to the advantage of some rather than all wildlife. They also become impenetrable, making extraction of timber expensive, even if the

Selling local wood Tim Orson of Dean Oak Co-Operative checking moisture levels in the mill's kiln. WoodLots promotes local wood and wood users in South East England



trees are growing straight and tall enough to be worth felling for timber.

Of course there are plenty of examples of beautifully-grown stands of timber (particularly oak) around Britain, with large estates managing their forests commercially, and as David Savage mentions elsewhere in this issue, there's plenty of sycamore, plus loads of ash and chestnut. Helped by Channel 4's highly successful *Grand Designs*, the resurgent timber-framing industry is buying huge quantities of green oak for building, some of which comes from Britain.

However the supply of British hardwoods is scattered thinly across the country, and is often

invisible to the average woodworker like you and I. The challenge is to make the provision and purchase of British timber more widespread, so that we woodworkers can purchase some of our own wood from a local source, to stimulate the local economy and to cut our log miles.

Fortunately there is a fair weight of political will to do exactly that. There are now a number of organisations around the country that are working to connect wood users and wood producers, to stimulate local markets for timber to create a self-supporting infrastructure and economy that will survive into the future. These initiatives take many forms, but are usually



Dean Oak volunteers A couple of days a week volunteer woodworkers meet at the Dean Oak Co-Operative to manage the sawmill and timberyard

based on the principle of networking, informing woodworkers that they have local options when it comes to sourcing their materials.

One of the most conspicuous has been WoodLots, which started in the mid-1990s as a free national newsletter offering advertising (for free) to anyone selling wood in the round or as boards. "It became a national timber marketing magazine, distributed regionally by the Forestry Commission," explains Jenny Martin, who works for WoodLots now. When the funding from the FC ran dry a few years after its launch the production and distribution of the newsletter was put out to tender. WoodLots couldn't survive private management, was merged with EcoLots, and

eventually withered away. "Fewer people were receiving it and fewer people were advertising," says Jenny. The network was dying. EcoLots survives as a website.

Recently East Sussex County Council, who supported the launch of WoodLots originally, stepped in to rekindle the flame, stimulated by the densely wooded nature of their area, and by the high proportion of small, unmanaged woodlands in the county. Distribution of WoodLots grew from 250 to 1000 in the first year of its reintroduction, and it now has 1900 'subscribers', and is supported by some advertising and by some funding.

The aim is still to stimulate local markets for local wood. When WoodLots started many woodland owners could not afford to remove timber from their woodlands, the price of felling and transport outweighing any return. That's often still true today, however Jenny Martin senses that the mood is changing and that there are now more opportunities. "There is increased awareness in renewables," she



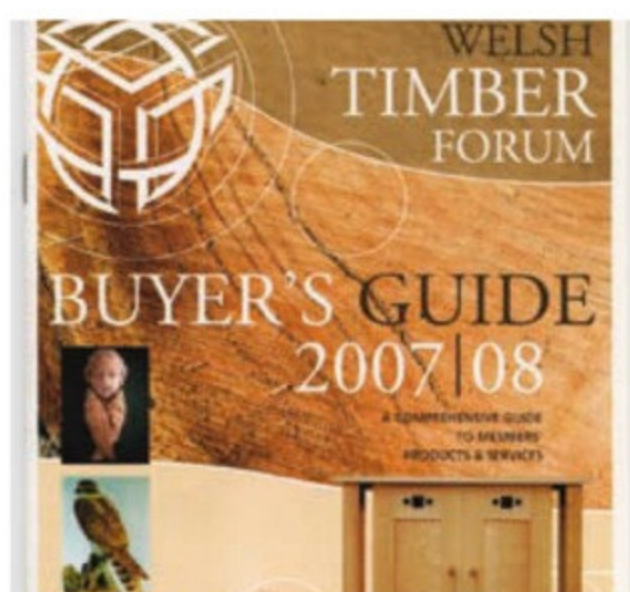
says, "and people are more aware of wood and wood products as renewable products." There is more concern about road miles and about the rural economy these days. People support farmers' markets, she says, to support local businesses, to buy less food from far away, and because they have greater trust in the production of meat, cheese, vegetables and fruit that's grown nearby. "WoodLots is a version of that," she adds.

WoodLots is a network, one of the principles of it being that the success of one part has a knock-on effect upon others. As an example Jenny Martin uses the case of Environment Agency offices in Rye that now have a wood-fuelled boiler for heating and hot water. This type of boiler is fed with wood chips or pellets and is highly efficient, producing very little smoke but plenty of heat. Grants are available for their installation, but a problem remains with the

supply of wood chips, which makes woodfuelled boilers uneconomical and far less 'green' when the chips have to be shipped in from a distance. It just so happens that a local woodland near Rye is now coming under management because it is receiving a grant to improve its butterfly habitat, and it is going to have to extract timber to let in more light. Even after the grant runs out continued management will provide the boiler with a cost-effective supply of chips and the woodland with some income to guarantee a sustainable future.

Once it is under management, and the work is being done to extract wood for chipping, the woodland may also be in a position to harvest timber for furnituremaking, and could potentially have some cash to market their wood.

WoodLots has helped drive business for many wood-related enterprises, including





Sheffield The Eccleshall Project in Sheffield provides workspace for craftspeople (left), a gallery to display their work and sells timber on site

Charlie Willment's TreESPanner Timber in Surrey (07713 083625, treESPanner@tiscali.co.uk), which was set up almost exactly 20 years ago, just before The Great Storm of October 1987. Charlie had ordered a WoodMizer mobile sawmill when the winds came, and now sells native timber as well as milling logs on site for woodland owners. He loves WoodLots. "It's the only publication in which I take a display advert rather than lineage," he says. "I get milling enquiries, offers of timber and enquiries about supplying wood. Lots of people get to see it as it's available in libraries and online."

At his farm near Dormansland, Charlie sells many British species, all of which have been sourced locally. He sells to timber-framers, turners, furnituremakers and even people building sheds in their back garden, and welcomes anyone

BACK TO BASICS

Dealing with waney-edged boards

Waney boards are more wasteful but worth the effort

British hardwoods are often sold as they are milled, with waney edges following the original shape of the tree. When you buy a board like this the timberyard will average out the volume by measuring the thinnest and thickest widths. Sometimes they may remove areas with defects, like big knots or splits, from the price, but usually you just have to accept there will be considerable wastage. You may need to buy twice as much timber as you 'need' to cope with the wastage.

Waney-edged boards can be difficult to manhandle in a small workshop, especially if they aren't perfectly flat and won't travel across a tablesaw or through a bandsaw comfortably. You're better off not taking the mountain to Mohammed, resting the board on sawhorses and trimming off the wane with a portable circular saw, or doing it by hand with a rip saw.

Because the edge of a waney board wanders, cutting a long strip off the edge can seem wasteful. You have to realise that with waney-edged boards there's little you can do about the wastage and vacillating about it can be as costly in time as cutting off the edge immediately. However, sometimes you may want to cut the board into shorter pieces, depending on your needs, as you may be able to get smaller pieces from the waste.

The dirt that's embedded in the bark can ruin an edge, so it's worth using a tungsten-tipped blade for ripping it away, and there's no harm in doing



Straight edge Ideally start with the truest edge when it comes to removing the wane. You don't have to use a handsaw for this job!

the work outside so that muck isn't brought into the workshop. Start with the truest edge, and start with a straight line as near to the edge as possible, and try to follow the grain as well as possible.



to come over and have a rootle around. "I'm not on the high street, and there's no sign on the road, but anyone can come in and have a dig around. It's a bit self service and if there are two of you there I'm stuffed!"

He agrees that there are probably many more operations around the country than most woodworkers imagine. "Most people with mills have succumbed to the temptation of building up a bit of a stock of timber." If you want to find someone like him you could try 'Sawmills' or 'Mobile sawmills' in the Yellow Pages, or you could look out for a wood fair in your region. Woodworkers can find timber in the Sawn Timber for Sale section of WoodLots (www.woodlots.org.uk), or find mobile sawmillers in the Timber Processing section.

Another option is to ring up manufacturers of mobile sawmills like Logosol (01361 840251) who advertise in *British Woodworking*, and ask for a local user. There is also a list of mobile sawmill manufacturers on our website, in the Resources/Links section.

Elsewhere, the Welsh Timber Forum is taking a collaborative approach to promoting local timber and anything made from

wood. It has 125 members, and every year produces a Buyer's Guide booklet which is distributed to anyone likely to want products or services provided by its members, who pay £50 a year. In October the WTF will be exhibiting at the NEC's Grand Designs show (5-7th Oct), and we found them at Westonbirt's Festival of the Tree in August. The Forum has a website (www.welsh timber forum.co.uk) and a phone line that's always manned (0845 456 0342). We wanted to find some particularly wide cherry for a commission by Tobias Kaye, and were given two numbers to try.

In the West Midlands a similar operation, called Heartwoods, is doing much the same thing, with the remit of connecting wood producers and wood users. Based at the Green Wood Centre in Coalbrookdale, Shropshire, Heartwoods has a Directory of mobile sawyers and timber suppliers on its website (www.heartwoods.co.uk). In Yorkshire there's Yorwoods (www.yorwoods.org.uk), which runs the Yorkshire Woodfair from 27-28th October. For virtual guidance you can try EcoLots (www.ecolots.co.uk), which has an online directory of timber suppliers across the



Sustainable Scottish Wood (01383 851328, www.scottishwood.co.uk) is a community sawmill set up near Dunfermline to supply locally-grown sustainable timber. They have a stock list on their website, with prices for hardwoods ranging from £20-£40/cuft

country, which you can search by region.

Co-operative wood

A 'woodier' approach is being attempted in the Forest of Dean, on the cusp between England and Wales. The area is reportedly the largest oak forest in the British Isles, and in 2000 the Forestry Commission and The Countryside Agency joined forces to create The Dean Oak Project, encouraging local craftspeople to use low-value local oak in the making of exhibits that could be displayed at a promotional show. Despite

a large volume of timber being harvested, and a large number of woodworkers living the forest, at the time you couldn't buy oak from the Forest of Dean in the Forest of Dean, and the agencies wanted to stimulate demand and supply in the area.

Such was the success of the project that a group of active woodworkers went down the pub one evening and formed The Dean Oak Co-Operative, which now runs a sawmill at Parkend. It's far from being a commercial concern yet, relying still on volunteer sawyers, funding from Woodland



Stock The Dean Oak Co-Operative have gradually been building a stock of wood so that one day they are in a position to sell enough to employ people to manage the sawmill and grow the business



Promotion Spreading the word about how local timber can be used, and encouraging people to buy products made from local wood is all part of the interconnected network stimulating British woodlands

Heritage, amongst others, and a site courtesy of the Forestry Commission. However it has built up a huge stock of timber, has been able to buy two mills and a kiln, and has a retail outlet to promote the work of its members at the nearby Dean Heritage Museum.

We went to visit the co-operative's sawmill in July, on a Thursday when volunteers are there to help mill logs, organise the yard and sell timber to any of its 220 members. We paid our £1 subscription, and can now buy wood from the co-operative. And at £19 per cubic foot of kiln-dried oak we'd be mad not to.

"We try to match the national price," says Tim Orson, a key volunteer, who's been one of the driving forces behind the operation. Like many of the members he's a woodworker, and has had to learn new skills to convert trees into boards successfully. "Someone told us that you have to read your log," he explains. Usually it's a case of matching the qualities of a log with the demands of the market, creating a balanced supply of instant cash crops like green oak beams, and premium boards for which you can charge a higher rate in two years time.

They've learnt that you don't mill oak on a hot summer's day as it will crack in a few minutes. "We now know that wet and breezy weather makes good conditions for milling, otherwise the oak surface will check within an hour. But we have had the great advantage of not inheriting pre-conceived prejudices. We're the only people who will take horse chestnut, which is a beautiful, beautiful timber. We sell Corsican pine, spruce, hornbeam, beech, yew, holly and Turkey oak."

Britain has some of the finest wood anywhere: all you have to do is ask for it!

BUYING LOCAL TIMBER

Wood that pays stays

Tino Rawnsley calls for greater use of local wood

Timber is a global commodity and in this country currently we import 90% of our timber needs. Despite the valiant efforts of conservation bodies such as the Forest Stewardship Council, old forests continue to be 'mined' unsustainably. Our small and overcrowded islands have amongst the lowest tree cover in Europe, a measly 12%, with much woodland in the UK in small and 'non-commercial' plots. Management of our woodlands is poor due to low wages for forestry workers and high costs of living, plus skill and knowledge shortages, collapse of traditional markets and timber values held down by cheap imports.

Our woodlands, which were once busy and thriving, have fallen into neglect; the canopy grows unchecked and closes out light, and the biodiversity declines. For years we have paid little attention to the potentials of our woodland as a resource to supply basic needs for building timber, fuel and livelihoods. We have long ago abandoned our once proud 'wood culture'; a culture of good craftsmanship and wise and forward-looking silviculture in favour of the gods of financial expediency and convenience.

Despite this gloomy scenario there are glimmers of hope. The realisation that with imagination and thought trees and forests can offer unprecedented opportunities to develop a truly sustainable future. That 12% is actually increasing year on year. As land use changes and farming becomes more intensive so more land becomes available for forest.

And as recognition slowly dawns that the 'free lunch' is down to the 'coffee and mints' and that



Woodsmen Tino Rawnsley displaying his designs for wooden buildings at Art in Action, and with his logging arch (below)

we had better look to processes and systems that fit into a future of dwindling supplies of cheap energy and unlimited global transport, it is time to pay attention to fostering our natural reserves, time to stop using up our 'capital' and concentrate on culturing the growing 'interest' that trees represent.

The movement for local wood is still in its infancy, but has many parallels with the organic, local, and 'slow food' movements. Wood like food is a product of the land and it can be healthily and sustainably produced.

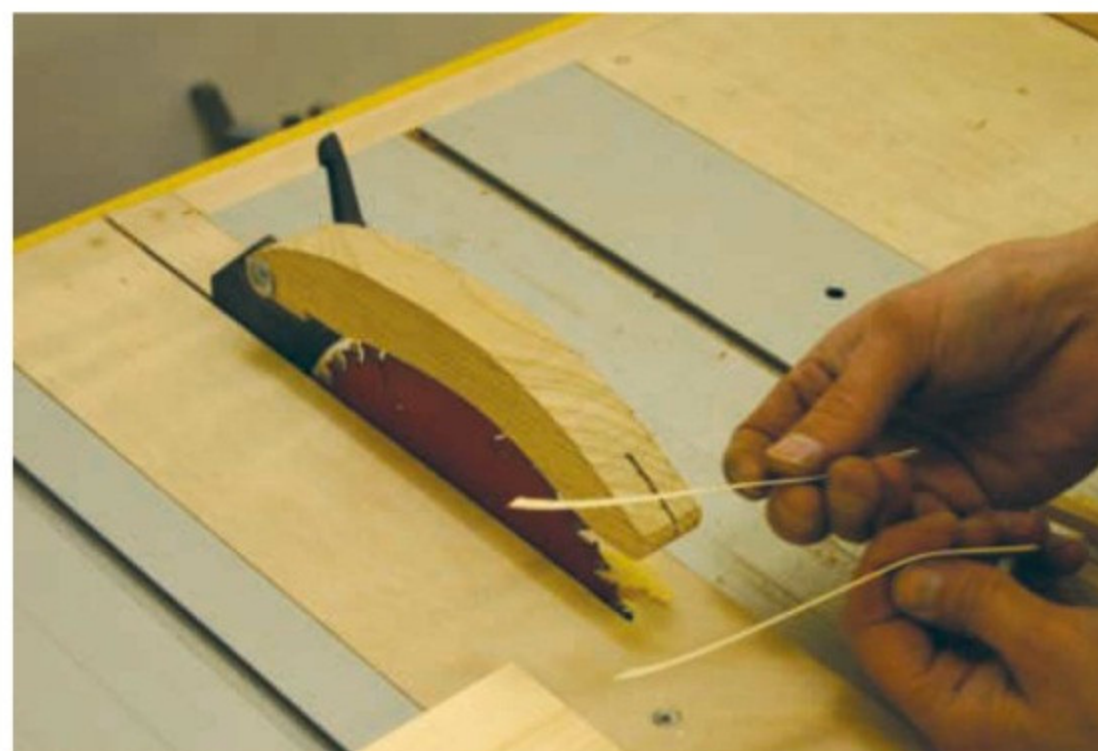


UPGRADE

Tools, tips and techniques to improve your workshop and equipment

Free ways to a better saw

You don't have to spend a fortune to make an inexpensive tablesaw easier to use and more accurate. You can make the mods from offcuts



Pic.1 With a zero-tolerance plate you can cut slithers of waste without worrying that they'll get caught in the gap and kick back at you

Though one of the wisest decisions we made in 2007 was to buy a Mulecab Accusquare rip fence for our Scheppach tablesaw, you can improve the accuracy and usability of any such saw for next to nothing. No tablesaw is ever going to offer everything you need, and there will be bits here and there you just don't like, but then life's about compromise and woodworking's often about making the most of limited resources. In the case of the tablesaw there are a few simple improvements that can be easily made at very little cost.

1 Zero-tolerance plate

One of the more disconcerting ways that tablesaws can fight back is that small pieces of waste get caught between the blade and the table and kick back. The

solution is to replace the metal insert with a wooden one that has no gap. This is very simple to make, and the design is only really determined by the design of your saw. In our case the insert is aluminium, about 2.5mm thick. We had to thickness some thin ply to get it level, and then fed it into the saw to cut the slot. It screws down in place, and isn't perfect because you have to remove a few screws to change the blade. But it has vastly improved the sawing experience, with offcuts no longer dropping down into the saw, or having to be retrieved when they get caught.

2 Adjustable wooden fence

Many woodworkers like to replace extruded aluminium fences with wooden

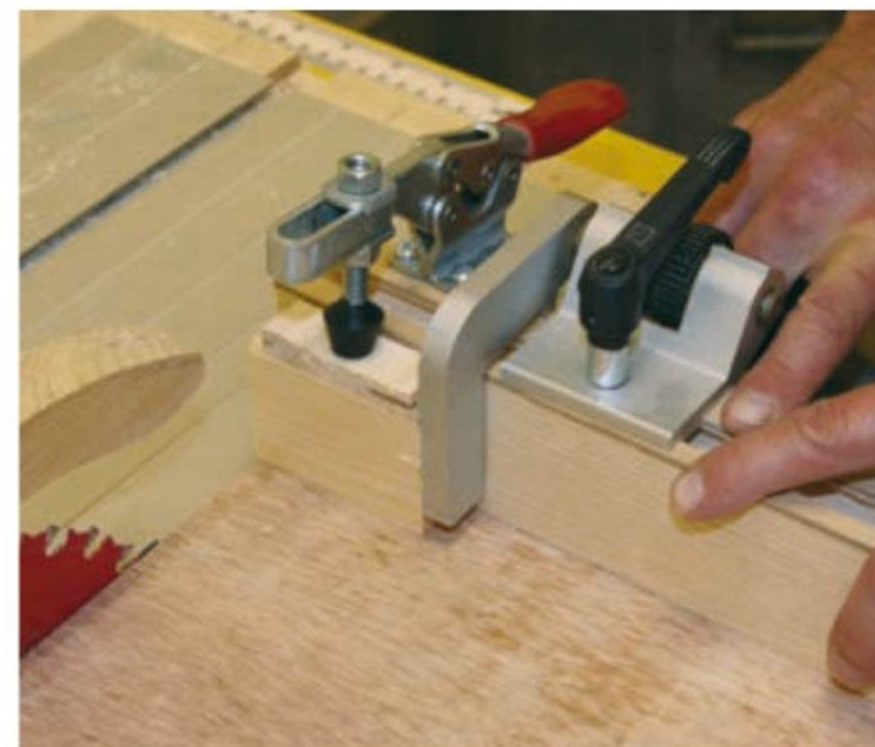
ones which give you more flexibility. With a wooden fence you can add a toggle clamp to hold small pieces in place, you can trim it exactly to length, and you can add a track and adjustable stops to the top face of the fence. Oh and you can screw a false ply table to the fence if you want to hold the workpiece in place with the toggle clamp. Fortunately Steve Maskery has recently launched a DVD of jigs, amongst which are instructions on how to make your own sliding fences. We adapted his technique of routing a channel in the fence and then covering it with a layer of thin ply stuck in place with wood glue. Then you rout a groove in the ply to create a slot into which fits the locking bar from our mitre fence (Pic.3). The principle works for most designs. The same has been done



Pic.2 Extruded aluminium fences can be fine, but by replacing them with a wooden fence you have far greater flexibility



Pic.3 To make a sliding fence with a slot for adjustable stops you have to rout channels in the fence, then cover them with ply



Pic.4 By adding a false ply table to the underside of a wooden fence you can hold down small items with a toggle clamp



NEW TOOLS

Freud Blades



We've been using a variety of Freud Pro blades in the workshop for the last few months, and have to admit that we've been surprised that they're not as expensive as you might expect (between £13.40 and £23.60 for a rip blade). We took images of the cut when they were fitted and then again after a fair amount of use, and couldn't find much difference, but then Freud tell us that in their tests they've been cutting up to 500m. Of course they would say that, but they are currently promoting a Money Back Guarantee and say that they've only had three returns from 14,000 products sold in the last three months.

Certainly they made a big impression on us, immediately improving both our tablesaw and the Rixon chopsaw we're testing as part of *British Woodworking's* Mitresaw Quest. No longer does the tablesaw stall when trying to rip to its capacity, and you can almost edge-joint direct from the saw. "I used to argue with Andy King at *Good Woodworking* about this," says Nick Gibbs, "contesting his assertion that the tablesaw is the most important machine in the workshop. Certainly I'd forgotten how important it is to fit a good blade, and what a big difference that can make."

The universal blade will do for most jobs, and still seems to rip well, but it is the width that can be more influential. It helps to have a thin crosscut blade for trimming, with a 2.5mm kerf. A thicker (about 4mm) blade for ripping helps if you are using it for trenching as well as cutting.

To find out more about Freud's blades contact them on 0870 770 4275 or visit www.freudtooling.co.uk.

Pic.6 With this extruded aluminium table you have to line up the holes for bearers with the screw holes that take the facing for the original table. It's only really worth taking this approach if you are adding new rip fence runners as we did for an Accusquare

along the top of the fence to take the Scheppach adjustable stop (Pic.3), and it works a treat.

3 False table

One of the flaws to a sliding carriage is that the workpiece is held on the carriage, but runs across the table. This causes unnecessary friction, and means you can't use a toggle clamp near the blade to hold small items in place. That is unless you've bought one of Record Power's new TS200C saws, with its sliding beam (p33) that butts up against the blade. The free solution is to screw a false ply table to the underside of your mitre fence. Now when you hold a board against the fence you can also put downward pressure on the wood to hold it against the false table. An

added advantage is that the waste is raised off the table and drops away better.

4 Extension tables

Extending the table to the sides and back is a real luxury, which you can pay for in most cases, but you can make one from offcuts if the budget is tight. There are a few ways to do this (and Steve Maskery has made a version that folds up and down on his DVD), but we went for a far-from-perfect but effective right-hand extension by screwing maple bearers to the front and rear edge of the extruded aluminium table. Supports are screwed to the inside face of these bearers (Pic.5), on which the ply extension table sits.

You can fix shelf brackets of some form to the saw body and use them to provide further support to the extension. We've noticed that our table is beginning to dip a little so some support is necessary.

5 Crown guard

The design of our original crown guard for our Scheppach saw reduces the possible depth of cut, and though it incorporates a dust extraction port, we discarded it for a wooden guard. This is less intrusive, but does the job of reducing the consequences of a kickback and it deflects dust away from the operator. A sawcut at the rear simply bites on the riving knife, and the Bristol lever and bolt has been taken off the original guard.



Pic.5 Our table extension rests on maple bearers, to which are screwed support rails, and then, in our case, an Accusquare fence

Win!

Dremel

Limited Edition Tool Kit

worth
£140



The kit contains everything a hobbyist could need: a Dremel 300 Series Multi Tool, the new Multi-Vise, Flex Shaft, Dremel DVD and two accessory cases; kit worth £140. If you don't win, fear not the kit will be available nationwide soon for only £70, as saving of 50%. Anyone who buys or wins the kit will be able to enter a prize game with the unique code on the back of the DVD with the kit. You can enter by visiting Dremel's website, www.dremel75.com.

The Question

Which anniversary does Dremel celebrate this year?

A 65th B 75th C 25th

Your answer

Please circle A B C

Please send your answer on a postcard to Dremel Competition, British Woodworking, Ampney St Peter, Cirencester, Glos GL7 5SH.

Name.....

Address.....

Postcode.....

Telephone.. ..

Email address

We guarantee not to pass your details on to any other parties, however we would like to be able to inform you of any news and releases of our own by email or post. If you would prefer we do not do so please tick here ☐

The winner will be the first correct entry plucked from the hat after the closing date of 1st November 2007

Next Issue

On Sale 27th November

Out in his rural workshop Rob Leach explains how to make replica chairs the craftsman's way

At the British Woodworking workshop we ask, "Is the Freud 3000 really the best router table router?" To test it we build the tidy shop's benchtop table

When should I sharpen? Learn how to tell it's honing time

In his Old Cotswold Outhouse Nick Gibbs creates last-minute Christmas presents and reveals the jigs to make them more quickly

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Rob Leach learns chip carving to make a replica Waring & Gillow chair to match a set of 11



Stewart Linford loves the engineer's vice

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ADDED TIP

If you're having problems moving sheet materials around, visit a car boot sale and pick up a cheap skateboard. Fix a flat wooden top to it and add battens to keep the sheet material straight, and away you go. Probably not best on gravel, but fine in car parks!

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Do It Like Norm!

In the absence of an Anglo-American woodworking dictionary, Steve Maskery explains some US terminology

It was George Bernard Shaw who said that England and America are two countries separated by a common language. It's also true in the language of woodwork. An American planer is a thicknesser over here, whereas a planer over here is a jointer over there. Our sycamore is their maple and their sycamore is our plane. It can all be very confusing.

With the rise and rise of the American TV woodworking show, of which Norm Abram's long-running series *The New Yankee Workshop* is the best known, and now web-based channels such as the woodworkingchannel.com, we Brits are more exposed than ever to American woodworking, American practices (good and bad) and American terminology.

So when Norm routs a dado, I rout a housing, when he fires a couple brads, I fix with a couple of panel pins. He mills a rabbet on a shaper, I cut a rebate on a spindle moulder. And what's with yellow glue? As far as I can work out, yellow

glue is simply PVA with yellow dye added! I have no idea why they do that, do you? Perhaps it's to stop someone confusing it with cream and suing the Titebonds of this world when it clogs up their coffee.

Buying lumber

There is one area where I really do think the Yanks have a better system than ours and that's when they buy lumber (we buy timber, but over there timber means a standing tree). The unit of measurement over here is increasingly the cubic metre. Now that's a lot of timber and the numbers are frighteningly large per unit price, and ridiculously small for the amount one actually buys.

They pay for their lumber by the board foot, which is the equivalent of a piece 12x12x1in. It's a sensible, useable unit and it is possible to visualise it in my mind, whereas just what does a cubic metre look like in board form? It is easy to imagine how much a board 2in thick, 6in wide and 5ft is likely to cost.



Measuring up Converting between metric and Imperial quantities and sizes is much simpler if you happen to own an InchMate calculator. Never forget that there are 1728 cubic inches in a cubic foot and 1,000,000,000 cubic cm in a cubic metre!

Hardwood in the UK is sold variously by the cubic foot or the cubic metre. The latter is, as I've mentioned, too large to contemplate readily unless you're buying it all the time. The former may be smaller and therefore easier to visualise, but there's always the challenge of converting between inches, feet and cubic feet.

The solution is, of course, that there are 1728 cubic inches in a cubic foot, and 144 cubic inches in one of those American board feet. So a board 60in long, 6in wide and 2in thick of oak costing £48/cuft comprises 720 cubic inches, is 0.41 of a cubic foot and will cost you £20 (plus the VAT, no doubt). A board foot costs 1/12th of the cubic foot price. However the board foot route is running out

of time in a Britain that's kicking and screaming its way towards full metrification.

A cubic metre comprises a mind-boggling 1,000,000,000 cubic cm. Perhaps then there's a future in devising a board metre of sorts to make quick calculations based on a cubic metre price. We've tried all sorts of options, and the best we can do is to imagine a board 13 and a bit inches wide, 1in thick and 1m long. That gives you 100th of a cubic metre of timber, and all you have to do is divide the cubic metre price by 100 to find the cost of that piece.

It might help to know that there are 35 cubic feet in a cubic metre. Roughly. Don't get downhearted; being British on has to keep one's pecker up, doesn't one?

ON TELEVISION

As we go to press things seem to have gone a bit quiet woodworking-wise on TV. However Nick at UKWorkshop tells us that by going to Google Video (www.video.google.co.uk) and searching for New Yankee Workshop you can find all sorts of old and new episodes. We watched a particularly good one about the making of a replica of Henry Studley's Hanging Tool Chest. And you check out The Old Crankee Workshop, which is an hilarious, short parody of Norm on YouTube. Oh and don't forget while you're on YouTube to watch Steve Maskery's footage of our tenon test (details on p56).

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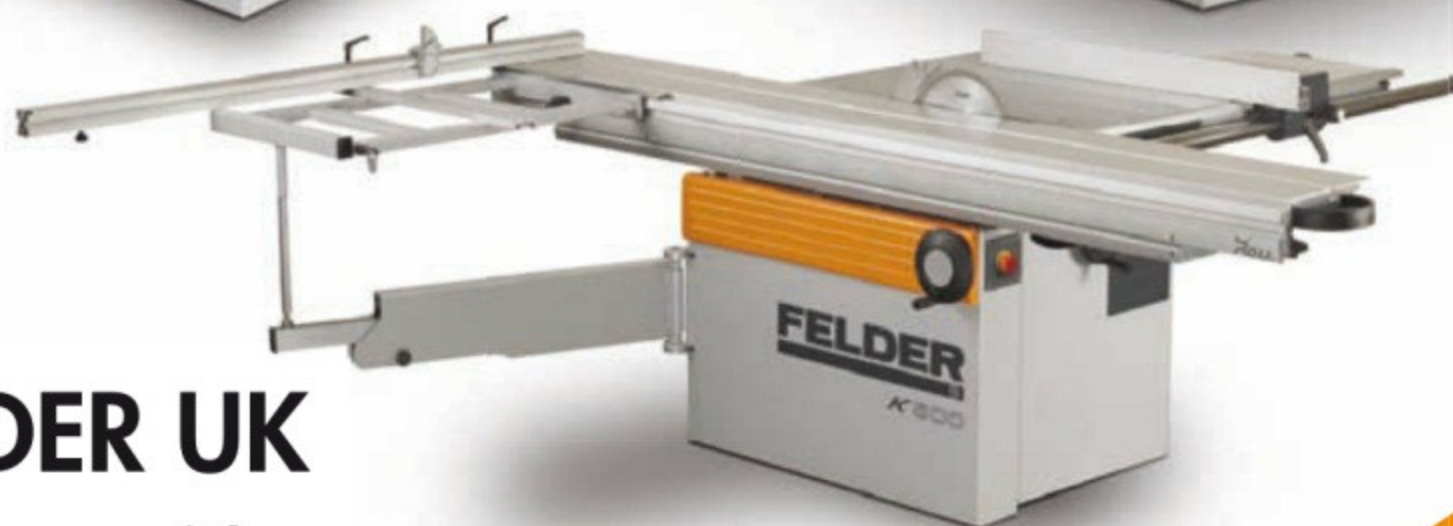


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