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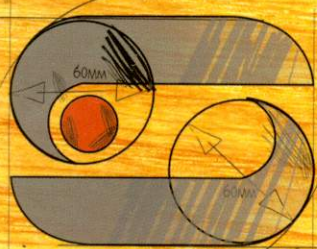


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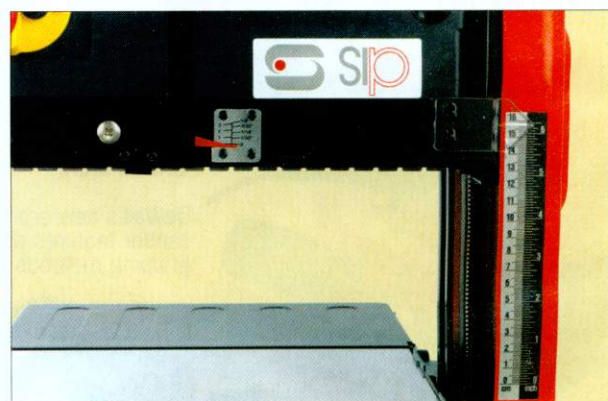
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Good Woodworking

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Good Woodworking, 30 Monmouth St, Bath BA1 2BW ☎ 01225 442244,
email: goodwood@futurenet.co.uk • Customer queries – ☎ 0870 444 8472



Working with wood gives most of us a great deal of pleasure, but if you're like me it's a real bonus if the timber smells good too. Recently my workshop has been full of some rather pleasing aromas. I've been working on a project that involves a wide range of hardwoods and softwoods from around the world. Some smell quite unpleasant, but there are some really sweet-smelling ones, too. Several of the more exotic species come from Mexico, which gets my vote for producing the greatest variety of timbers with gorgeous grain.

By the time you read this I will hopefully have conquered Kilimanjaro in aid of The Tigers Club Project (www.tigersclub.org). Many thanks to everyone who sponsored me, including Trend, BriMarc and Real Life Toys and many regular Good Woodworking contributors. I'll let you know how I fared in a couple of months time. In the meantime, there's just time for a quick final visit to the gym...

Phil Davy
Editor

**Win Panasonic
18V tools! p65**

Check out our new website: www.goodwoodworking.co.uk

Great new tools on test...

Bosch Drill

A unique attachment keeps your walls and carpets clean **p17**



DeWalt Sander

DeWalt's new orbital sander features dual gripping methods **p20**



Hitachi Mitre Saw

At last, a new mitre saw from the boys in green **p18**

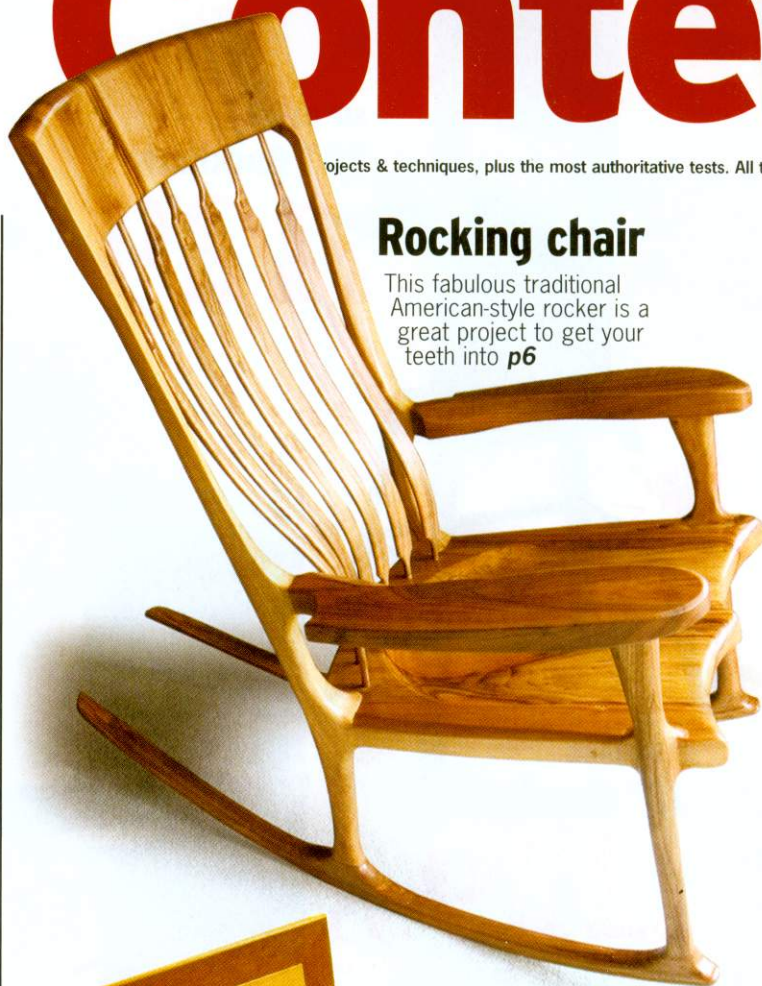


Conte

projects & techniques, plus the most authoritative tests. All tes

Rocking chair

This fabulous traditional American-style rocker is a great project to get your teeth into **p6**



Cutlery box

Time to have a go at boxmaking we reckon **p60**



Head board

Learn simple routing techniques as you make this superb cherry panelled divan head board **p40**



Weekend wood

Quick and easy projects: bathroom mirror and plant hanger **p88**



Reclaimed wood

Why fine furniture-makers scour the docks **p25**

PROJECTS

Rocking chair classic 6

A superb challenge for the experienced woodworker

Workshop Guide: Router table 30

Make this novel but very useful workshop routing aid

Divan headboard 40

Routing techniques dominate this bedhead's construction

Cutlery box 59

Learn the basic craft of boxmaking with this great project

Weekened Wood: 88

Garden basket hanger and an octagonal painted mirror frame

FEATURES

Workshop Angles 25

Visit fine furniture maker James Codrington

Masterclass: Rough and smooth 36

Why hand tooled finishes make all the difference

Craftmanship on show 66

Why the Cheltenham exhibition is essential viewing

Improve your finishes 68

How to cure your most common finishing problem

Letter from America 76

Why a boatbuilding workshop has all the answers

TURNING

Timber for turning 78

Ian Wilkie visits a top timber merchants for turners

Go to work on an egg 82

Turn a simple but elegant egg rack for the kitchen

REGULARS

Letters 12

Hints and Tips 22

Competition: JET workshop 35

News, Diary and Books 56

Woodworking Answers 71

Subscriptions 84

Readers' Workshop Ads 97

Benchtalk: James Coulson 98

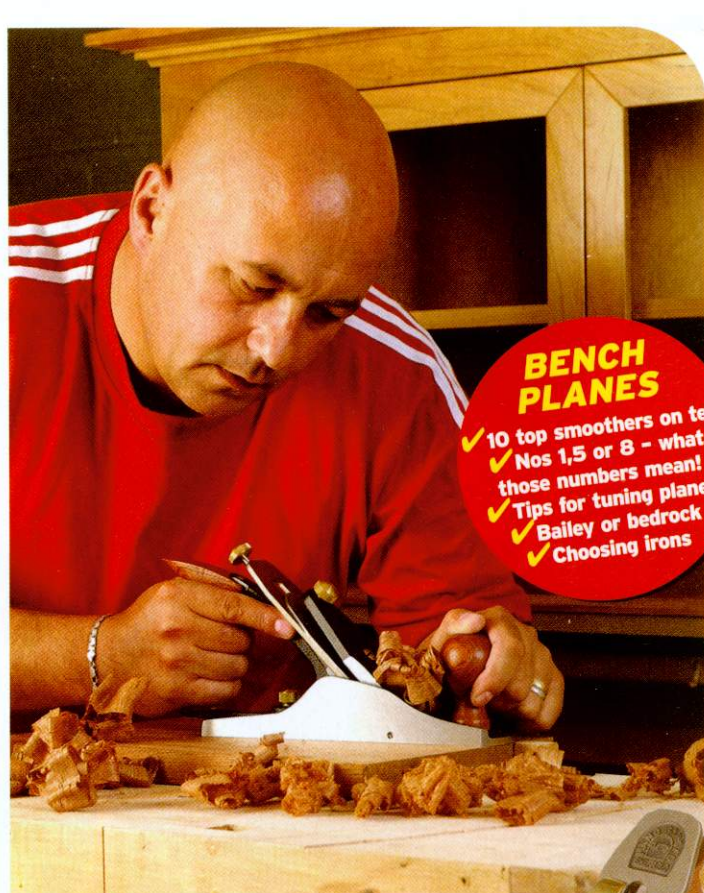
TOOL TESTS

New Tools On Test 17

DeWalt D26420 Sander, Bosch PSB 1000 RCA Drill
SpiroCrafter, Hitachi C10FSB Slide Compound Saw,

Bench Planes 44

We test 10 of the best No4 smoothing planes on the market to see which deserves a place in your workshop – with some surprising results!



BENCH PLANES

- ✓ 10 top smoothers on test
- ✓ Nos 1, 5 or 8 – what those numbers mean!
- ✓ Tips for tuning planes
- ✓ Bailey or bedrock
- ✓ Choosing irons

Bench planes

Your guide to which you need, what to choose and how to make the most of those budget bargains p44



Workshops: Router table

Make this zero-loss table and increase your plunge p30



Rack 'em up

Turn this cracking egg rack – and a few eggs to go in it p82

WIN! WIN! WIN! WIN!

Panasonic 18V tools

Win your share of £1100 worth of superb Panasonic cordless tools. Two great prizes up for grabs p65

A JET WORKSHOP WORTH OVER £10,000! p35

PLUS





Rocki

Looking for a change from building straight lined furniture like dressers and tables, I was immediately attracted when my daughter suggested making a rocking chair for my grand-daughter. This brought to mind the furniture of Sam Maloof and the flowing, sculptural nature of his creations, especially his rocking chairs.

Research in books and on the internet was both discouraging but also rewarding. The discouragement arose because I came to realise that I could not hope to imitate Maloof's style without obtaining plans of some kind, as there were so many subtleties involved in making a good rocking chair that any plans I drew up would likely fail to respect these. The reward came when I found Hal Taylor's website (www.haltaylor.com), through which he sells plans for his lovely rockers which are clearly Maloof inspired.

Hal's plans can be adapted for people of most sizes but a good rocker is built for a specific person, and to build one for my nine year old granddaughter, who is growing rapidly, seemed a waste as it would only be usable for a short time – even if I finished it within a reasonable time period. As I felt rather daunted by the scope of the undertaking I elected to build the chair for my daughter



Chris Knight details the construction of this classic rocker. Designed by American chairmaker **Hal Taylor**, it's the perfect challenge for experienced woodworkers

Timber and Templates

Having purchased Hal's plans I scoured the country for the English walnut I had decided to use. Hal advises some three cubic feet are needed, but this assumes 95% good wood and with English

Creating the basic seat to leg joints



01 Prepare cutting templates for the various parts by scaling up the drawings to the given full lengths



02 Use the templates to choose the timber for each part, selecting it for grain and figure as well as strength



03 Cut parts to approximate size then rout to the line using the template to guide the router



04 The seat joints need absolute accuracy in cutting. Make up jigs to enable you to rout the notches to size

ng on the porch

walnut it is very difficult to find clear timber without the knots and shakes that this wood is prone to.

All parts are cut from 51mm thick wood after planing so I looked for 63mm sawn timber which I found at Associated Timber Services near Grantham. I bought several 3m boards (enough for two or maybe three chairs depending on wastage) and took them into my workshop to acclimatise for a few weeks.

The joinery involved in building the chair is not particularly complicated but does rely upon accurate cutting and well fitted parts, most of which are joined at compound angles. Bent laminations are used for the rockers and back braces. Hal's plans are basically a set of templates used for shaping the parts and also the forms used for laminating the back braces and rockers. The detailed instructions cover every step of the building and dwell in detail on all the really challenging stuff, at which point you see the wealth of experience and thought that has gone into the design of this chair.

Constructing the Rocker

1 Cut out the template patterns and glue with spray-mount or similar adhesive to 6mm ply (MDF bruises too easily and I wanted these templates to last for several chairs). After bandsawing the rough shapes, sand and shape to the line with a bobbin sander and spokeshave. A jig to mount a hand-held belt sander on its side makes this a useful addition to the shaping armoury.

Arrange the templates on your wood to make best use of its

figure and grain. In order to see the grain well, first skim the timber with a plane and use a wet cloth to reveal the figure. There are traps for the unwary. The major one is that, when first cutting parts out from your wood, apart from the back legs all other parts are initially cut as oversized rectangular billets of various sizes. This is to facilitate setting out and cutting various angles that would be impossible if parts were cut with curves at this stage.

Another challenge is the fact that before you have made a chair, it is difficult to visualise the relationship of all the parts. It gets very tough around the knots –

looking for symmetry or nice figure whilst avoiding structurally weak timber and keeping in mind how the parts will ultimately be arranged and shaped. It pays to make a second set of templates, for the billet-shaped pieces so that after deciding on the ideal configuration, you can then modify it as needed.

2 Cut out the various billets and back legs with a jigsaw, taking care that the blade cuts vertically in this thick timber – it can really spoil your day if the blade cuts at an angle, leaving you with a tapered piece too small to do the job. Now use the

PROJECT GUIDE
Difficulty
 Advanced
Time
 50+ hours
Type
 Furniture

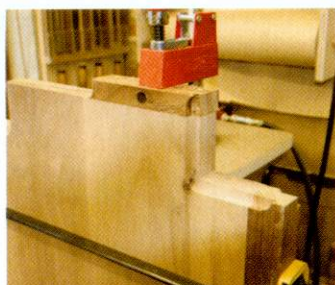
Win a set
 of original
 Hal Taylor
 plans
 p56

Should I buy the plans?

The plans and instructions given here should suffice to enable experienced woodworkers looking for a challenge to determine the basic construction method and adapt it to their own requirements and methods.

Less experienced readers may prefer more detailed plans that they can follow step by step. The nature of Hal Taylor's specific construction method is such that it would be impossible to show it all here, and therefore I'd recommend that such readers consider Hal Taylor's full package. The cost of this is \$275 (+p&p), which includes a 135 page book of instructions, illustrated with 200 pictures and accompanied by all templates full-sized. You also get access to Hal himself, either by phone or email, to help with any problems encountered as you go.

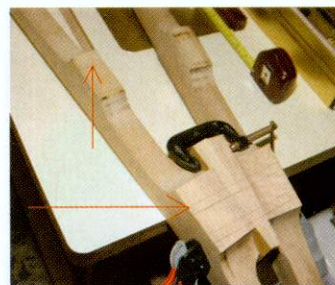
To order a full set of plans
 contact Hal Taylor either on
 ☎ 001 540 752 2721 or by email
 at www.haltaylor.com



05 Use a $\frac{1}{8}$ in radius rebate cutter to cut a $\frac{1}{8}$ in rebate either side of each seat notch to form a central tongue



06 Rake the rear legs to a 6° angle by gluing 6° wedges to the joint area. Cut these on a table saw with a jig



07 Mark out the seat and arm joints on these legs by cramping the pair together and marking across both



08 Cut housings to fit snugly over the tongues on the seat notches. Round mating corners with a $\frac{1}{8}$ in rounding cutter

Project • Rocking chair

MATERIALS YOU'LL NEED

Timber

Steve used ash and oak for his two sets of tables. You'll need 2in thick boards for the legs and 1in for the rails and tops

template for the back legs to mark carefully the precise cutting line for the bandsaw and then cut the back legs to shape. You can achieve final shaping to the line with sanding, or as I did by using the template in conjunction with a bearing guided bit.

Use the templates to cut the laminating forms for the rockers and back braces from (preferably) a hardwood – I used 2in thick poplar. Drill these to accommodate around twenty clamps per form, siting the holes in the form to ensure clamping forces are normal to the curve for each clamp and to avoid interference between clamps. Big adjustable F clamps are easier to deal with than C clamps in this regard but are more expensive.

3 Glue up the seat blank from the basic billets – the number of pieces depend on how you chose (or were forced) to lay out the seat parts whilst looking for the most attractive arrangement. This is straightforward edge jointing and no reinforcement is needed but, if you believe in belt and braces, then biscuits or preferably dowels can be used as long

as they are placed below the level to which the seat will be scooped out later.

4 With the seat still in the square, cut out the notches that form the basis of the joints with the legs. Accuracy is critical here if the joints are to fit perfectly with unobtrusive glue lines after shaping. For the front legs a router with a simple jig ensures the correct positioning of the legs and the clean-cut surfaces left by the router make the subsequent joinery easier. The back leg notches are too large to cut with a router. You could use a table saw but you will need one with a 75mm depth of cut, failing which it is necessary to cut them by hand, working carefully to ensure very clean and square notches.

Now rebate the notches above and below the seat to leave a tongue centred in the thickness. The rebate cutter should be of a size that matches the radius of a rounding over bit to be used later in the construction. I used a $\frac{1}{2}$ in rebate cutter with a $\frac{1}{4}$ in diameter to match a $\frac{3}{8}$ in radius round-over bit. It's vital these sizes match and test cuts on scrap are advised. I got both the rebate cutter and the rounding over bit from Wealden. Use backers to avoid tearout when routing the rebates.

5 Drill a series of seven holes in the seat blank for the back braces (or splats) with an angled jig. The jig should have an 82° angle and be long enough to allow the seat blank to rotate on it on a small pin to ensure the holes are located on the arc of a circle. The radius of this should be 11 $\frac{1}{2}$ in. Ensure that the angle at which they are drilled is towards the centre of the circle.

The holes are actually drilled at two angles at each station, one at the 82° mentioned, and another at 90°. The effect of this is to make

TIP

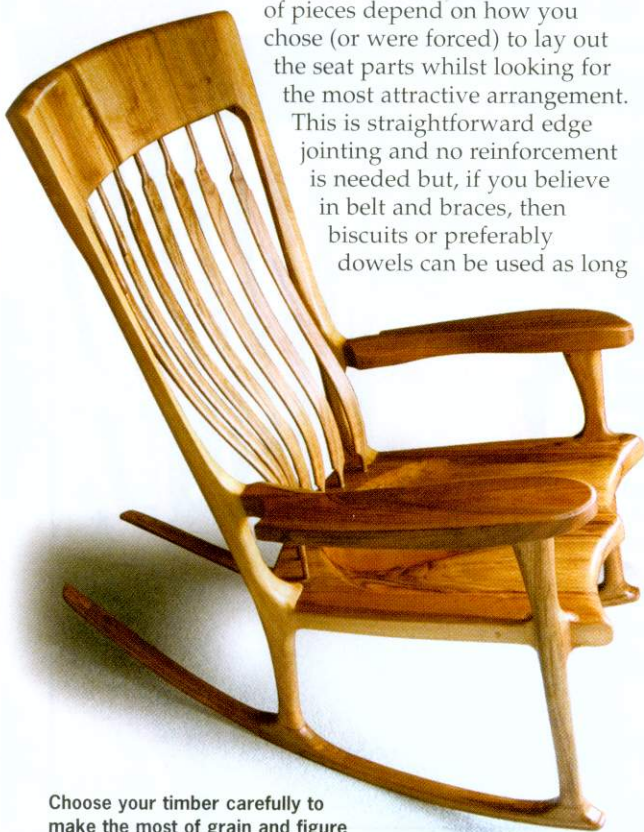
Hal's instructions are carefully sequenced to ensure you don't run into trouble. After one chair it is possible to make changes to accommodate a personal preference here and there but the first time around it pays to follow the sequence exactly; even though it does not always appear very efficient, it is actually very logical.

each hole slightly dovetailed in its section, allowing room for the spigot ends to move slightly and allow the splats to flex.

6 With the holes drilled the seat can be roughly shaped and scooped out using whatever tools work best for you. I used the recommended angle grinder, which is very good for removing waste rapidly, followed by a curved shave and sanding with a random orbit sander and by hand.

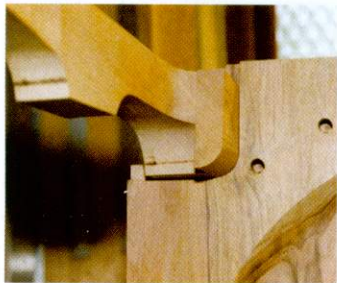
7 The headrest is formed from a number of blocks, coopered and edge-glued to form a curved piece some 600mm wide. The exact angle on each 'stave' will depend on the number of pieces used. The back legs will be bevelled to some 18° each, so the headrest will describe a total of a 36° arc. Before gluing, the blocks are checked to conform to a curved template. Temporary clamping aids need to be glued to the headrest as it grows – these are sawn off at a later stage.

8 Both the back braces and the rockers are made from thin strips ripped from the billets cut out earlier and laminated together on pre-prepared formers. A total of 32 strips are needed for the back braces and these are sorted for appearance and matches. Use a damp cloth to reveal the figure. It really helps to have an



Choose your timber carefully to make the most of grain and figure

Shaping the seat and legs



09 The tight joint at the rounded corners depends on a matching set of cutters and absolute accuracy in cutting



10 Make a 6° jig to enable the brace holes to be drilled at the appropriate angles and radius on a pillar drill



11 With all jointing finished you can now start shaping the seat with spokeshaves and sanders



12 You'll need a selection of tools to shape the scoop of the seat and the front pommel. Adjust the shape to suit

CONSTRUCTION: Carcase details

assistant for the laminating glue-ups, especially the back braces. There is a lot of gluing to do and lots of clamps to apply which needs more hands than I have! The sets of strips are glued and left in the clamps for 24 hours. Wax the laminating forms to avoid glue squeeze-out sticking to them.

9 Whilst the laminations are drying, use the time to get on with the back legs by refining the shaping and by gluing on the extra wood needed to form the joint with the seat. This block is glued onto the inside face of each of the two rear legs where these will be attached to the seat, and, after gluing, must be cut at a 6° angle on the tablesaw using a taper jig (or bandsaw then plane to the line). The joints with the seat are then made square to this tapered face, thus throwing the legs themselves out at a 6° angle.

Mark up the two legs for the seat joints, cramping them together angle to angle and marking across both, before cutting using a crosscut sled jugged to hold the leg at the correct angle. Make multiple passes to 'nibble' out the groove. After rounding over the inside front corner with the 3/8in round-over bit, test-fit each leg to the seat.

10 Cut the seat joint on the front legs whilst the legs are still in billet form and fit these to the seat. These joints have many surfaces which can interfere and they are challenging to fit – refine the mating surfaces with 320 grit sandpaper as needed, constantly testing the fit and gently sanding any shiny spots. Note that these legs are square to the seat.

11 Before the front or back legs can be joined to the seat, their shapes must be substantially refined. From marks made during

the dry-fit, use the bandsaw to cut the basic curves as shown for the back legs and then using yet another jig (needed to present the bit at the correct height) rout the sharp corners.

Gluing the legs presents a challenge because of the large glue area and tightness of fit. Despite using Titebond Extend (to provide more open time) for the

back legs, I found they grabbed very quickly whilst clamping up, and only with the greatest difficulty did I succeed in closing the joints. After much experimentation, I used Balcotan Polyurethane for the front legs. Unlike PVA based glues this has no tendency to immediately swell the joints, and they closed easily. Use shaped clamping



TOOLS YOU'LL NEED

Tools without which it would be hard to make this chair, are a **bobbin sander**, an **angle grinder**, a selection of **rasps**, a **spokeshave** for concave curves and a couple of small diameter **in-cannel gouges**. Lots of **clamps** are needed for the laminating procedures.



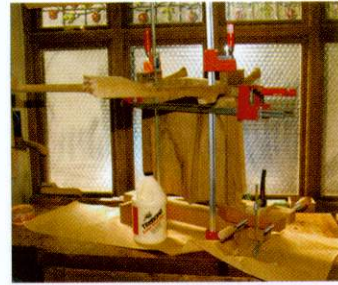
13 The final seat awaiting assembly. You'll probably need to joint up several pieces to obtain the correct width



14 The front legs are jointed while in the square then the shape refined both before and after assembly



15 The front legs are square to the seat while the rear ones taper at 6°. Check for square and rock at this stage



16 When totally satisfied with the leg components you can go ahead with the final main seat assembly



Shaping the arms

cutting coves on the table saw, is fraught with danger, so unless you are totally at ease with this use of a saw I suggest you hollow the arms by hand – slower but safer!

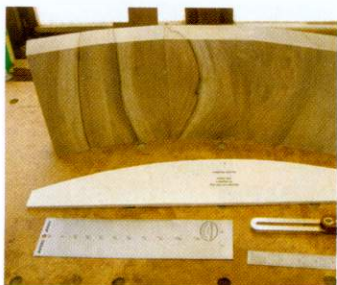
A wooden workbench with three drawers and three drawers.

blocks to prevent damaging the legs with the clamps.

12 With all legs glued to the seat, the front legs are shaped further. Hal again recommends using an angle grinder for this purpose and I found this to be surprisingly delicate in practice, although a variety of rasps and gouges come in handy for the trickier bits.

13 Now turn attention to the headrest, which is first cut from the coopered blocks in a smooth curve on the bandsaw and then trimmed to width using a crosscut sled on the tablesaw. The same 6° angled jig which was used for the joint between back legs and seat is used for this job and it ensures the ends of the headrest are cut at the same, correct angle to fit between the

Fitting the crest rail and arm rests



20 Angle grinders are a useful way to remove much of the bulk when doing the final shaping of the legs

back legs. The headrest is also curved from top to bottom, being sawn in this way once markings have been made from a dry-fit between the legs.

14 With the headrest shaped and temporarily fixed in position mark the positions of the holes for the back braces using a straight edge that is fitted in turn in each seat hole. The holes are drilled at an angle to match the curve of the seat braces. Fit the headrest temporarily in position and refine the shaping, fairing the underside into the back legs.

15 Shape the arms (see box) then screw and glue them to the front and back legs. Counter-bore the screw holes for matching timber plugs, deep enough not to be exposed by any further shaping. When the glue has cured, fair the back legs into the arms.

With the arms attached and the headrest screwed temporarily in position, the chair is now more rigid and it is a good time to clean up the inevitable glue-squeeze-out and to more fully refine the curves at the joints.

Finishing Your Chair

18 After a thorough sanding with Abralon, working through the grit sizes to 500, the chair can be finished as you choose. Before applying the finish, go over the chair with naphtha or water to reveal any glue spots – they're particularly hard to see on end grain such as where the legs are faired into the seat – I missed a few spots, to my chagrin.

Three coats of Liberon finishing oil followed by a paste wax brought out the colour and figure of the walnut very well. I did not want to use a film-forming finish as the back braces, the legs and rockers will all flex in use and I did not wish to risk a film finish cracking in use.

Fitting the back braces

16 Cut the bottoms of the braces to shape (Hal supplies a template for this or you could make your own) and then round over the edges with a router – a laminate trimmer is useful here – to form a spigoted end. Place the braces in position in the bottom holes

and then mark to length against the backrest before shaping the tops similarly.

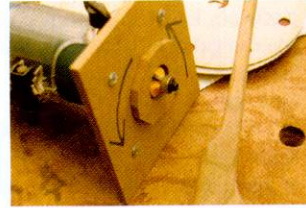
Now, with the headrest and back braces all fully shaped, glue and screw the headrest in position and plug the screw holes with either a matching or contrasting wood, as you desire.



25 Take the shape of the former for laminating the back braces from the drawings or reshape to suit



26 Clean up the edges of the shaped formers with a plane and trim overlength at either end



27 Cut the desired front profile on the bandsaw then round over the ends to form a round spigot end



28 Cut and fit the bottom ends first then offer up to the crest rail to determine the top shape and length

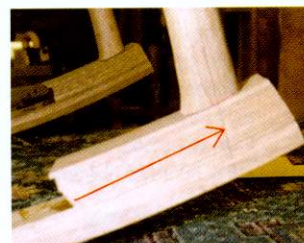
Shaping the rockers

17 The rockers, which were laminated earlier, require additional stacks of laminations glued in position to support the legs. Once everything is set, place the chair on these stacks and mark up legs and stacks for drilling. Bandsaw the stacks roughly to shape. Clamp the legs in position on them and drill through the rockers into the legs for fixing screws.

Now the legs can be temporarily screwed in position and the chair tested. My daughter wanted hers tipped back a little further – the addition of an extra 3mm laminate strip under the front legs was enough. With this test completed, round over the upper surface of the rockers on the router table and then glue and screw the to the chair. If joints are not

perfect, it is easy to adjust them by pulling a piece of abrasive between the two components to 'snug' the fit.

Use what ever shaping tools you like to fair the rockers into the legs. I used a selection of rasps, chisels, a drawknife and scrapers. The trick is find what works at the varying angles of attack and access you are presented with.



29 Build up the intersection of leg and rocker by adding extra lengths to the laminated rocker blanks



30 Rough shape the rocker then glue and screw the legs in place, first sanding the butts to a perfect fit



31 Fair the rocker into the leg with whatever tools suit you then sand to a smooth finish



21 Fair the rough shaped legs into the seat with chisels and abrasives until you have a smooth transition



22 The tops of the arm rests are gently scooped for a comfortable shape before fitting them to the legs



23 The rests are simply glued and screwed into place on the legs, with plugs covering the holes



24 After assembly the backs of the rests will require final fairing into the rear legs as shown

Letters

Something to get off your chest about the world of woodworking? Write to us at Good Woodworking Letters, 30 Monmouth Street, Bath BA1 2BW

Website wonder

Excellent idea to put timber suppliers up on your website. Just a small request though, would it be possible to group them by area, eg London, South East, South West, Scotland etc? This would make it so much easier if you wanted to go to the yard rather than click 30 links to find one near you!

Steve Bevan, via email

A good comment Steve. We were intending to do this at some stage, but reckoned we'd get the basics up ASAP then sort out the rest when we got more time. We also intend to extend this service as and when we get more addresses. PM

Budget bargains

Budget tools will always raise heated conversations as to whether they are worth the cost or not. Some brands may have the same internals as others, but they do not all carry the same after sales

service. I generally tend to buy a cheaper make of tool if it is something that I am unsure as to whether or not it will get much use. If it does, and it gives up, or doesn't measure up, then I will gladly pay for an upgrade. And yes you can get good after sales service from budget tools if you buy the right ones.

With regards to Peter Kebbel's letter about JCB, I purchased one of their corded hammer drills some

time back. Whilst perched at the top of a ladder drilling holes to mount a new TV aerial the trigger stuck on. A quick yank on the lead separated the plug and socket to stop the drill. This was bad enough, but to find out that I had owned the drill for 14 months meant that the 12 month warranty had also expired.

Two e-mails to JCB to enquire about spares did not even warrant a reply as I heard nothing. Needless to say the drill then went into the

bin, still in immaculate condition as it had probably only done a total of about two hours work.

I must add that this is only my experience, although because I never even received a reply I would never consider buying the brand again. The same however cannot be said of Axminster Tools, and Screwfix. Both I and many people I know could not fault either. I have had occasion to contact both companies with regards to faults or queries and both have been excellent.

Paul Bell via email

Old Wives' Tales Considered by Jeff Gorman

Pull the saw backwards to start.

When starting a cut it is very easy for a novice to apply too much pressure so that a tooth gullet will interlock with a workpiece corner (arris). You can be advised to start with a backwards stroke to round the arris. However, a pulled saw will not cut very efficiently and be more likely to drift and wander, especially in inexperienced hands. An expert will apply a featherlike touch to the first forward stroke and get straight on with the job without unnecessary messing about.

Safety again

I wish to thank Peter Kebbell for his supportive letter (GW 151) referring to my letter in GW147 and Andy Cooper's response (GW 149). I had not intended to reply to the rather rude comments of Mr Cooper (patronising, monkey do, etc), however Peter Kebbell has restored

Readers Gallery Victor Hatherley, Dorset

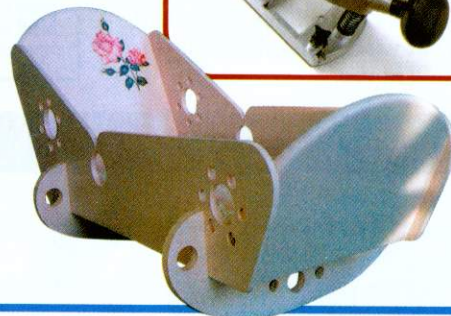
It seems to me that the thrill and excitement of the latest sophisticated electronic toy is but short lived. The youngster waits impatiently to acquire the newest innovation featured in the TV ads. Yet I notice that the old-fashioned toy still has its attraction and continues to prompt imagination and playtime

fantasies as it did of yesteryear.

With this in mind I have made many such toys for youngsters of varying ages and both sexes. I thought that fellow readers might find it interesting to see photos of a brief selection of such toys which, for the most part, are made from off-cuts of material from larger

projects, well sealed MDF and finished with non-toxic colour and water-slide transfers.

As a point of interest, I have had many parents tell me how much continued fun and amusement such 'old-fashioned' toys have provided and how they have withstood the ravages of many hours of playtime.



WIN a TREND router

Each reader whose work we feature here will receive a Trend T3 router. Send us some sharply-focussed, 6x4in colour prints and a few words about yourself and your woodworking, plus your address and telephone number.



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Contributors Jeff Gorman, David Savage, Dave Roberts, Mark Corke, James Hatter, John Everett, Mac Simmons, Ian Dalziel, Chris Knight, Andy Brough, Martin Aplin
Photography Pete Martin, David Askham, Illustrator John Lander
Publisher Mike Lamond
Group Publisher Katherine Raderecht
Ad Manager Belinda Symington
Sales Executive Steve Pyatt
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my faith that some readers can understand the written word.

Mr Cooper says that I laid into David Free, "essentially for using a dado head". I never mentioned the word dado, but it seems some readers are obsessed with stacked dado heads. My letter was intended to illustrate that safety devices are no substitute for respectful use of dangerous machines, that teachers (or demonstrators) should lead by example and, the point that Peter Kebbell raised, should the HSE allow such dangerous use to be shown on TV? It would be interesting to know what action the HSE would take should someone be injured.

I have even seen one of the 'experts' pushing wavy edged planks through a totally unguarded table saw by hand. If David Free is so safety conscious then perhaps he could dedicate a programme to the types of guards he uses when not on TV.

As for patronising, the *Oxford Dictionary* defines the word as meaning: "to treat someone in a way that suggests they are inferior". I cannot see where I made such remarks. And for 'monkey see, monkey do', I would suggest that example is the foremost method of teaching any activity, including good manners, and the willingness to accept another's opinion, no matter how different it is with your own.

At the risk of a further remark on patronisation may I say to Peter Kebbell that I have just returned from Market Harborough, which is a very pleasant little town. Pity the great tool store in the town centre is now closed.

PS: Any idea where I could purchase a high power (2Kw) fixed base router. Only plunge routers seem to be available in Europe.

Bill Irvine, Glasgow

Performance Pro did introduce such a router to the UK about two years ago (GW 126), but whether it is still available we do not know. Porter Cable have a cordless version available through Rutlands (☎ 01629 815518) so it may be worth contacting the latter to see whether they are bringing in PC's mains voltage router. PM

Letter of the Month

In association with

trend

WIN a TREND router

Savage Chairs

Chairs 2004 was a great success but apparently not for David Savage, who said that the committee were running around like scalded chickens. (Does he mean 'scalded cats' or 'headless chickens'?) I found the committee very helpful, very professional and very good at public speaking at such a large event. He goes on about rain-soaked tents. There were three enormous marquees, waterproofed and carpeted, supplied generously by the Forestry Commission. So it rained – so, this is Britain.

David says the preponderance of Windsor chairmakers and Shaker replica chairmakers was for him disappointing, because:

"There is a kind of negativity about people that make reproductions or replicas of existing styles of chair".

The main speakers included Dr Bernard (Bill) Cotton, author of *The English Regional Chair*, which shows many regional differences in Windsor design and ladderback chairs. Scott Swank, president of the Canterbury Shaker Village, New Hampshire, USA, is an expert on Shaker design and culture. Mike Dunbar (Windsor Institute, New Hampshire USA) teaches the making of many different types of American Windsors.

David Savage then goes on to criticise Tino Rawnsley. Tino says, and I agree with him: "The idea of handmade work should be accessible and not driven by design for the sake of it". David's remark that Tino's chair was "rather dull" was not called for and out of order. His own chair has a saddled seat, not dissimilar to that of a Windsor but with too sharp a pommel for safety's sake. The leg attachment to the seat is a direct copy of Sam Maloof's method of construction.

Most people are fairly symmetrical (ie, they have an arm at each side of their body, and a left and right leg, usually of similar length), therefore I would suggest

that, for a chair to be comfortable, it also should be symmetrical and not slope to one side with sharp edges and corners.

The Oxford English Dictionary gives the definition of a chair as a 'moveable seat with a back for one person.' *Clouded Blue* (George Morgan) took six people to carry in a marble base, then another six to carry in the walnut and granite upper base. I did not see them bring in the top part. I think it must be difficult to sit on, as the part I assumed to be the seat was about four feet from the ground and it must be like sitting on a lop-sided, small surface-area toilet seat, that would have soon given you pins and needles in your feet.

David Savage goes on to say: "Never pay attention to critics George, remember they have never in their lives made anything, nor will they ever make anything. They are content to sit on the sidelines and from their comfortable vantage point highlight the successes or failures of those who do have the courage to have a go. They have never known failure, but they'll never know success either."

I hope the seat "these critics"



Morgan Design's Clouded Blue will be talked about for years to come, I suspect...

The Letter of the Month wins its author a Trend T3 variable-speed router, plus a box of cutters. For details of Trend tools and stockists ☎ 0800 487363 www.trendmachinery.co.uk



sit on from a comfortable vantage point is either a Windsor or a Shaker, rather than a lop-sided creation which has been made just to try and be different in the name of 'design' or 'art'.

I find his article very negative and his attitude to be pompous. To suggest not to take any notice of critics, I find hypocritical as the majority of his article was to criticise others.

I'd like to suggest that David sticks to designing weird furniture and does not have any aspirations of designing aeroplanes or cars, as these need to be symmetrical, and making either lop-sided would mean flying or driving round in circles finally disappearing up your own exhaust pipe, blowing smoke at your baffled followers.

Ken Groom, Argyll

Much as I admire the craftsmanship in most handmade chairs (whether ancient or modern), I also found some of the exhibits a bit dull. It was the more contemporary designs that I will remember most. David Savage was certainly not alone in his views, as I discovered talking to some of the makers over the weekend. But what a great opportunity to examine some 140 very different chairs. Chairs 2004 was a fantastic event and the organising team is to be congratulated. PD

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We endeavour to ensure all techniques shown in Good Woodworking are safe, but take no responsibility for readers' actions. Take care when woodworking and always use guards, goggles, masks, hold-down devices and ear protection.

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NetWorks

There's all manner of useful information to be found on the Internet for the woodworker. We help separate the screws from the sawdust

Through the looking glass

If you fancy creating a wonderland remote from the very practical and mundane world, take inspiration from Straight Line Designs Inc at www.straightlinedesigns.com. They declare themselves as '... a custom furniture design and manufacturing company that has a reputation for both a signature style and quality work. Our designs almost always lean towards the whimsical and unusual and our



philosophy has always been to work closely with our clients, and to encourage a very "hands on" rapport'.

Not so plain sailing

At One Ocean Kayaks website www.oneoceankayaks.com Vaclav Stejskal invites you to 'Check out my Kayak shop to see how wood strip kayaks evolve from paper plans to glistening gems'. He offers the warning that 'Browsing may result in Kayak Building Addiction'.

Wood Strip Construction consists of 'bead and cove cedar strips glued together edge to edge over a form (mould) and then covered on both sides by

fibreglass cloth and epoxy. The result is a high tech structure called the composite sandwich core. Look for both the index of Wood Strip Kayak Building pages and the index of the well-known 'Stitch and Glue' process that uses flat plywood sheets.



Watch your back



Mother Earth News at www.motherearthnews.com/menarch/archive/issues/077/077-128-01.htm says 'Folks who make the switch to wood heat often find that their saving in fuel cost is tempered by the extra effort involved in cutting, splitting, hauling, and stacking the cumbersome combustible'. For many woodworkers the very idea of burning wood might go against

the grain (no apologies!), but when it comes to handling heavy logs, green woodworkers will have something in common and find Mother Earth's log-lifting tool a boon, though you might need the help of a sympathetic garage or other workshop to do the necessary welding. It is also able to serve as a sawing horse to hold a hunk of timber while you cut the log to chair-leg or other lengths.

You can also get advice about arsenic-treated wood from 'Choosing Safe Lumber' on the home page.

Only joking dear!

The caption of this drawing at www.woodworking.org/WC/UncleFester/Images/5plane.jpg might appeal to some woodworking widows/widowers. It reads 'We need to talk'.

When trying to find other woodworking jokes by nibbling away at the address to find them I found that the people at Woodworker's Central are keen to tell us that 'We're sorry, but our site is closed from the back door. But you're welcome to come in the front if you like.' The address is: www.woodworking.org.

The principle headings include: Plan Search and Article Search, Woodworking plans, Got a woodworking question? Bulletin board, Tool Survey, Woodworker's Maze, Do you know your

woodworking? Accident Survey, Wood Sampler, Member Websites and a Tutorial for people not yet accustomed to surfing the Web. There's enough here to keep you (and your telecom supplier) happy for many hours. Maybe you can do better than me in finding some more humour?



Gleanings from the Net

Harvested by Jeff Gorman

That's Life!

Second Income in Retirement?

Edwin Pawlowski: It works for some people. The problem is that you can enjoy a hobby and walk out of the shop any time you want. You make what you want and finish it the way you want. If you can sell it, that is a bonus.

Where you can get into trouble is having people order what they want. Ugly stuff with ugly finishes and 'I need it by Saturday as it is for a birthday party I'm going to'. When that happens, you no longer have a hobby, but a job.

People hint that they'd like to have something just like it after seeing what I made. Most of the time I tell them what the material cost and

they stop hinting. OK with me!

Anon: Terms of Agreement -

Requests from Friends/Relatives
You cannot pay me
You can't ask when it will be done.

Anthony Seo: Every man is born with a certain number of bad dovetails in his body. Could be 2, could be 20 could be... well? And there ain't no way they are going to go away by themselves. You just have to cut them out and endure the pain!

Tim Douglass: We get so involved in projects that we allow our workspace to become a disaster area. I just let it get worse

and worse until I no longer enjoy working in the shop. Eventually I figure it out, clean up, and enjoy my hobby again - but I always seem to forget the lesson learned the next time around.

Hints & Tips

Wayne Anderson: I got epoxy to flow into cracks by using vacuum. I put a blob of epoxy over the crack, then put the piece in a plastic bag and suck the air out. The epoxy disappears into the crack like magic. Remove the piece and wipe off the excess right away. I used a Food saver, but would imagine a good freezer bag and a hose from the household vacuum cleaner would work ok. Just takes a couple seconds.

David Sobel: In humid Florida - make sure that none of your tools actually touch Silica gel packs that

are saturated with moisture. They will quickly rust any steel they touch. Don't ask me how I know! I only use chunks of camphor now, and I'm much happier for it.

John V Schaik: To take out the nails from pallets, drill a hole directly into the centre of the nail head. Use a bit roughly the size you think the nail is. I just used a 1/8" bit but it depends on the size of the nails in your pallet of course. This causes the head to pop off. The ones that don't are easy to remove with an old set of tile nippers.

Cleaning a Bandsaw Blade

Dissolve about 1/4 cup of washing soda in enough warm water to fill a pan to a depth of an inch or so. Coil the blade, and drop it in. Let it soak for five or ten minutes and wipe it clean.



"Oddest job I ever had was up North in a monastery. Nice earner, but no booze, birds
or machinery allowed within its four walls. So, it meant carting everything
I needed in the van, spending a month on my Jack Jones, hand-carving
finials on a new staircase. Boy, was I glad to
get back to civilisation
at knocking-off time.
THAT'S WHEN YOU REALLY APPRECIATE THE VAN WITH ALL ITS MOD CONS.
I'd whack on a CD and crank out Whitesnake full blast. Religiously screaming my head off
on the ride home. As far as the job goes, I think the monks were pleased,
but with their vows of silence they couldn't say."

The no compromise Ford Transit 'Air Pack' (featured). Air conditioning. Full bulkhead. Power operated, tinted windows. Power mirrors. Stereo radio/CD. Front fog lights. 'Quickclear' heated windscreen. For more information call 08457 111 888 or visit www.fordvans.co.uk Heart of the workforce.

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ON SALE

21 JULY

Guitarist

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THAT GIVES YOU MORE**



On Test



After a new power tool? Want to replace your bandsaw?
ANDY KING gives new products a workout to help you decide

Prices

We show manufacturers' list prices where possible, including VAT. Value for Money ratings are based on these prices. Many items will be cheaper in the stores, so it pays to shop around

Bosch PSB 1000 RCA drill

£119.99 ☎ **01895 834466**

www.bosch.co.uk

Motor: 1010W

Speeds: 0 to 2700rpm

Capacities: 30mm wood,
12mm steel,
16mm masonry

Drills are probably the most mundane of power tools, but equally one of the most used. All but the most anti DIYer will have one of some sort at home, and it's at the home user this tool is being targeted. As a drill, this one is very good. Bosch always seem to put out great tools for the budget user, concentrating on good ergonomics and design along with quality of finish. The PSB 1000 RCA is no exception.

At 290mm in length, it ranks alongside most of the battery drills out there for size. As it's a mains model, it conforms to the pistol grip design, and is therefore a bit front heavy, although not excessively. A rubber soft grip makes the tool comfortable to control.

The drill has a spindle lock, so bit changing is simple, the inclusion of a 13mm, single-sleeved Rohm chuck making this all the easier. A sliding switch on the top of the drill toggles between hammer and drilling function, with an 18 position dial behind it setting the speed. The trigger has variable speed, so this can be controlled easily. Above the trigger is a standard forward/reverse through button.

On its own this drill is impressive enough, but what sets it apart from the crowd is its dust collection system. Anyone who's suffered the wrath of their partner after drilling a hole and got dust all over the wall and the Wilton will appreciate this neat device. It clips underneath the



Not only does it collect dust efficiently, but the box ensures you drill squarely

drill and is designed to form a seal around the area where the hole is to be drilled. A small clear plastic front window helps you align the drill correctly though, even with this, I found it a bit difficult to see a mark.

A square central tube links to a hole on the drill directly below the motor fan. It pulls air through it so that dust from the hole being drilled is sucked into, and trapped in the filter box at the front of the collector. The collection box has a small comb-type air filter to retain the dust so it doesn't transfer back into the drill itself. Two sprung-loaded outer rods on the collector keep it running parallel as the hole is drilled, with a maximum plunge of 100mm. A rotating stop on one of the posts can be used to limit hole depth, and the collector also keeps the drill bit square to the wall, a handy bonus. Length of the filter system is 310mm, but it only adds an extra 100mm to the drill's length, so it's not overly obtrusive. As it's made from plastic it's lightweight.

The theory is good, and it works. It retained most of the dust when drilling several holes into bare blockwork, the rough finish creating lots. On a finished plaster surface, where a tighter seal can be made, results were even better.

This new Swiss-made drill is excellent, ideal for the DIYer who wants more than the cheap Chinese 'own brands' out there offer. The dust system makes it even better value.

What the performance ratings mean



Superb. Can't be faulted



Excellent performance



Good, but not the best



Scope for improvement



Don't bother

GW verdict

- ✚ Build quality, neat dust extraction
- ✚ A bit tricky to see marked position

Value for money
Performance



Hitachi C10FSB Sliding Compound Mitre Saw

£868.32 ☎ **01908 660663**

www.hitachi-powertools.co.uk

Motor: 1090W **Speed:** 3800rpm

Capacities: 312x75mm @ 90°,

218x75mm @ 45°

Noise: 94db(A)

Typical street price: £586

Hitachi build their tools to last, and consequently they get plenty of mileage from them before an upgrade or new addition is made to the range. The mitre saw is a case in point, with the C8FS sliding compound flying the flag for many a year.

Now two new saws have appeared, identical apart from a laser guide. We tested the non-laser model.

The Japanese-built C10FSB has an impressive pullover capacity of 312x75mm at 90°. This makes it one of the biggest capacity saws on the market while still retaining a reasonably small footprint for portability. It still needs plenty of room from front to back though, (with the saw head pushed back it measures 1050mm) as it has twin external bars to support the head. However, this enables you to do trenching on the saw using a threaded depth setting rod with a wingnut to lock the position.

On their top end saws, Makita and DeWalt incorporate a quick-setting feature to swap between full cuts and trenching, without having to wind the wingnut back. This is something I would have liked to have seen on the Hitachi. A small knob on the bar bushing casing is used to lock the saw head back for standard chopping cuts. Slackening this means the head will run smoothly and freely throughout its travel.

A double compound feature enables the head to tilt over to the left or right. This means you can always have your face-marked timber against the rear fence, no matter what the angle

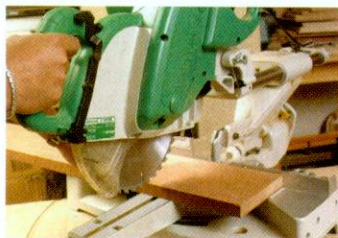


you are cutting. This is useful when making mitred skirting cuts, for example, ensuring the cut is accurate every time.

The fence to the left of the saw flips over to enable the head to tilt and to allow clearance for the motor housing.

On the right, the top part of the fence is removable, again to give clearance.

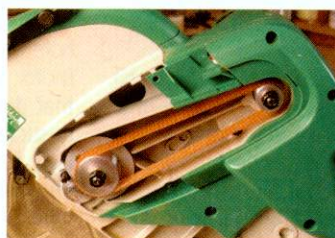
Some saws have indented settings so that a cornice mould can be cut by setting specific turntable and tilt angles, but this is based on one specific cornice angle. These angles are indicated on the saw, but Hitachi have an optional cornice accessory that clips to the base, along with an angled clamp that means you can position the cornice at the angle it will sit at. This leaves you to set just the mitre angle, simplifying the job tenfold. I would love to see this included as standard, but for kitchen fitters it has to be an



As well as compound cutting you can make trenching cuts



You lock the mitre angle via a solid Bristol lever at the back



Removing the cover on the handle gives good access to the drive belt



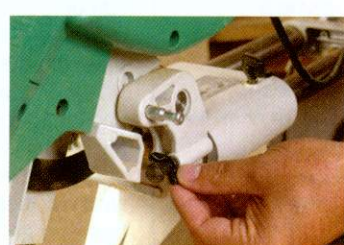
As a double compound saw you can tilt the head over to the left...



...or to the right. The upper part of the fence is removed first



A neat splitter device stops thin offcut slivers being thrown about



Trenching depth is adjusted with a wingnut, but this is rather tedious

accessory worth getting hold of.

The turntable has an angle range of 102°, rotating to 57° to the right and 45° to the left. Positive indents for common angles are positioned at 15°, 22.5°, 30° and 45° to left and right. A small lever below the twist-lock handle releases the indent to enable the table to rotate. This range is adequate for most tasks, and although a lot of the pro models tend to swing beyond 50° in both directions, the double tilt and extended right hand range of the Hitachi should accommodate most compound cuts.

Mitre capacities are decent enough, with 218x75mm the maximum at 45°. With a 45° compound angle introduced, this capacity becomes 43mm deep to the left and 40mm to the right, to accommodate the motor housing as it travels through the cut. This will limit it when it comes to making double compound roofing cuts, such as jack rafters for example, where 50mm thick timber is predominantly used. This is a pity, as a saw like this would be very useful in such a situation.

Although the saw has a brush motor, it's belt driven, so doesn't have the crashing noise and jerking start of a direct drive saw. It does have a 'brush' sound to it though, slightly rough compared to the sweetness of an induction motor. This shouldn't detract from the saw itself, though, as the cutting performance was spot-on, leaving crisp, pin-point accurate cuts in hardwood and softwood alike.

The finish from the negative raked 40 tooth blade was excellent, the cut line smooth as silk, leaving barely a feathering on veneered plywood. End grain looked and felt as if it had been planed. The 90° and 45° indent angles are accurate, as is the 90° vertical position.

All in all, the C10FSB saw stacks up fairly well against the competition, although a limited depth on compound cuts and the archaic trench stop work against it. Excellent build quality and normal cutting capacities make it a solid performer.

It's currently on offer with a free leg stand for about £586.

GW verdict

- ⊕ Double compound facility
- ⊖ Limited compound cutting depth

Value for money ●●●●○
Performance ●●●●○

SpiroCrafter

£32.95 ☎ **0845 165 9244**

www.milescraft.com

Hands up who remembers the good old spirograph? Happy hours spent with coloured biros, a load of plastic discs and some paper? Well, now you can relive those joyful times with the router...

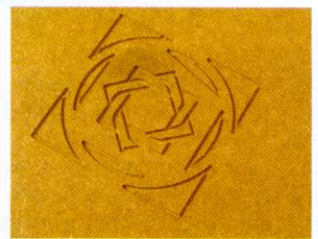
This clever little jig has a variety of shapes cut out of a plastic template (two supplied). By rotating these within the jig frame itself, you can build up a complex pattern on your work. Six lugs on each template slot into the jig frame, each position marked with a letter. This gives six groups of four positions within the frame. Each cutout in the template has a number, so it's easy to reference these against a letter position, so preventing mistakes.

Also in the kit are four guidebushes, of 17mm and 24mm diameter. They enable each opening in the template to give a different pattern. Two into a MilesCraft Router Converter or Dremel router sub base (so you can use a Dremel tool to make the cuts). A sub base is also provided, into which fit the other two bushes. This has multi position holes to fit most routers, although the smaller ⅜in/8mm machines are best for ease of use.

A setting tool helps centre the bushes up perfectly, the bushes fitting into the base with a twist-lock action. It's easy to swap them over if the pattern needs it.

The final part of the jigsaw is a pencil guide. This enables you to trace out a design with either a 17mm or 24mm bush before committing yourself to routing. A good feature if you want to see how it will look beforehand, especially on a complex pattern where you may not need to rout an entire portion of the cut-out.

Using the jig is easy. It



Four guidebushes are provided, enabling you to make patterns like this quite easily

can be either screwed or clamped to the workpiece, then you just rout the part of the template required, moving the insert, and routing again. Simple designs can be done quickly, but more elaborate patterns are quite labour intensive. Persevere and the results can be worth it.

Feathering left by the bit will need to be lightly sanded back to keep the profile crisp. Ideally, a smaller straight bit of 4mm or under is best, or alternatively a V bit to keep the pattern as delicate as possible. Minimal plunge is also a better option – only a couple of millimetres are needed to transfer the pattern so that it stands out prominently. This is where a Dremel, with its finer profiles available, can be an advantage.

The jig isn't limited to this though. Varying plunge depths can lift a pattern dramatically and, by plunging through the work, fretwork-type panels can be made. A book of patterns is supplied

but, as with most jigs, the SpiroCrafter is as creative as you are. For even more adaptability, should you own a set of guidebushes for your router, you can dispense with the sub-base and use the vast array of sizes available to turn out even more shapes. You may find that you go overboard at first, carving everything in sight, but get past that stage and a subtle carving here or there can raise a piece dramatically.

The jig is limited to small diameters on rose-type patterns. It's difficult to hold the jig in place when making cuts onto smaller pieces of work, such as a bed post, although double-sided tape will work.

GW verdict

- ⊕ Easy repetitive shapes
- ⊖ Circle diameter limited

Value for money ●●●●○
Performance ●●●●○

DeWalt D26420 Orbital Sander

£405.38 ☎ **0700 4 339258**

www.dewalt.co.uk

Motor: 350W **Speed:** 12,000 to 22,000rpm

Weight: 3.0kg **Orbit diameter:** 2.5mm

Typical street price: £185

DeWalt inherited some classic heavy duty kit when they took over the Elu brand in Britain, some of it still obvious today under the DeWalt label. The sanders are a classic example, with the Elu MVS94 becoming the DW634, which still appears in the current catalogue. Their new orbital sander, the D26420, is a step away from the big, heavy duty utilitarian looks of those Elu designs, concentrating more on style and ergonomics while still retaining the performance where it counts.

The rubber-backed grip extends over the whole top of the sander, so you can hold it either palm-grip fashion or in the more traditional back handle position. A removable front handle gives you more control when used as a standard sander. Used as a palm grip, you have easy access to the stepless variable-speed dial (positioned for the right hand user), so you can easily adjust speeds on the fly.

A sander doesn't need excessive pressure to work, its own weight or light controlled pressure should be enough, and the cast alloy base gives the sander weight, eliminating the need for additional pressure to get it to cut back a surface, easing strain on the tool. The casting has a 42mm outside diameter (36mm inside) extractor port at the rear and it comes with two methods of dust capture. The small round cloth bag is the most unobtrusive, but paper bags have better efficiency, trapping more fine dust. The inclusion of the plastic cradle and paper bag gives you the best of both worlds, although the overall tool length is increased. The casting has a slightly textured lacquered finish, giving it a silver lustre, but there is a slightly raised, rough looking

seam from the casting process, which in the days when competition wasn't so cut throat would have no doubt been polished back. It's not detrimental to the performance but is a sign of the times, I suppose. The half sheet base has two plastic lugs that operate the rubber-shoed steel paper clamps. These are very efficient, gripping the paper tightly to the pad.

Eight holes in the pad enable dust to be pulled through to the bag. A second base is provided, swapped by removing six screws. This accepts Velcro backed abrasives, ideal if you swap grits regularly, and tends to perform better than standard clamped papers. Three sheets of 100 grit aluminium oxide

abrasive are provided for each base.

The sander operates smoothly with barely any vibration and is easy to control. I found it a comfortable ride held either way, locking the trigger in using the righthand orientated button. Although it has a small orbit, coarser grits will leave noticeable swirls, and this was the case on some cherry-faced MDF. These can be difficult to remove even moving through finer grits. Sanding another piece using 320 grit abrasive left a glassy finish with no sign of swirling.

The variable speed function is ideal if you work materials other than timber, enabling you to also sand plastics and metal with

equally good results.

For the trade environment, the DW26420 is an excellent tool. I like the fact that both dust options and abrasive holding methods are supplied as standard, something a lot of manufacturers exploit as optional extras, so top marks for DeWalt here. By comparison with the DW634, this new sander looks more like a sprinter than a shot-putter. It's easier to control and certainly gets my vote.



GW verdict

- ⊕ Dual dust and paper options
- ⊖ Speed dial/trigger right-handed

Value for money
Performance



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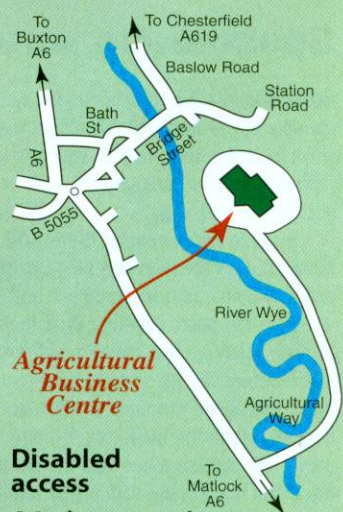


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Hints & Tips



Pete Martin rifles through your latest hints and tips to help everyone improve their woodworking. This month includes tips for routing mortices, laminating curves, flattening oilstones and making scrapers

Cabinet mortices

When routing mortices in cabinet sides for rail and shelf tenons, this simple device accurately restricts travel of the router allowing the cutter to be taken close to the mortice knife line without any risk of going over it. Made up of 6mm ply

with a stack at one end and a cut out at the other, it has strips of sandpaper glued to the underside.

In the example, rails/shelves are 20mm thick and the router cutter is 10mm to produce tenons of that width. Allowing for the cutter to be taken to 1mm short of the mortice knife

lines, the required slot will of course be 18mm long.

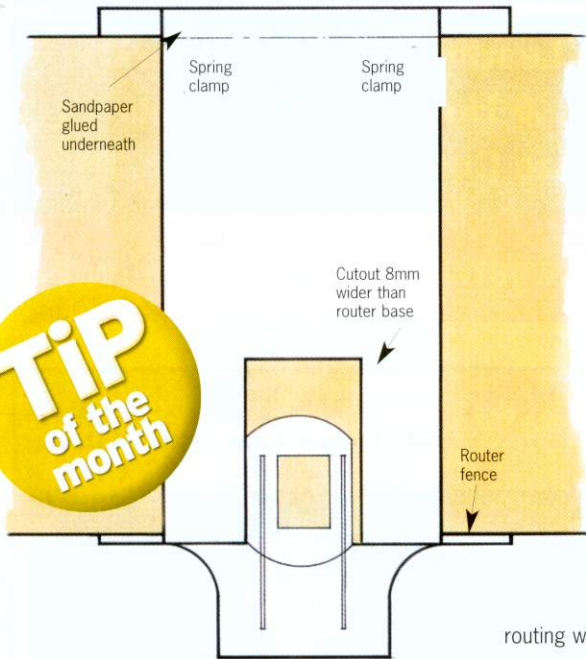
The cut out is as wide as the router base, plus the distance of router travel. As the cutter is 10mm, travel in this case is 8mm.

Assuming that the router fence has been adjusted to position the cutter between the mortice gauge lines, the device is used as follows.

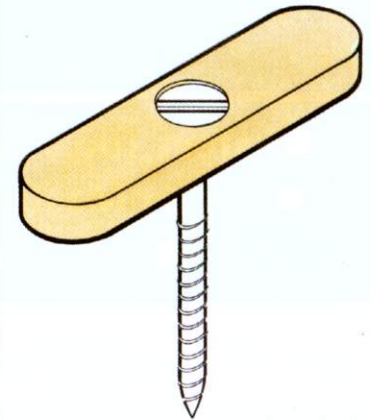
The router is locked with the cutters touching the work surface. It is then moved to position the cutters 1mm from a mortice knife line. The device is located with the appropriate cut out side up against the base. The stock and sandpaper prevent any movement as two spring clamps are attached.

With the mortice length dealt with, full attention can be given to routing with fence tight up against the work edge.

Victor Bell, Lincoln



Tap tap



I am a great believer in tapping about half way down either pre-drilled holes or directly into softwood to give woodscrews a good start, especially when projects are difficult to line up or fitting shelving etc in to wallplugs. Here is an easy to make tap that will do the job. If the screw works loose after a while it can be easily be replaced.

J. Chasemore, Sunbury on Thames

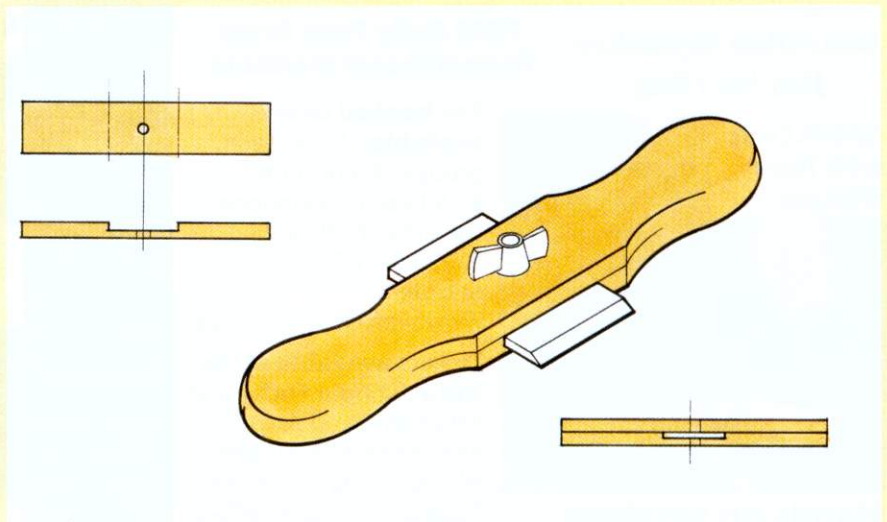
Spokeshave scraper

Spare spokeshave blades can be picked up cheaply at car boot sales. I utilise them in various ways including this scraper which is ideal for refining rounded components such as instrument necks and chair legs.

Prepare two pieces of hardwood to 9x1in and 1/2x1/2in. Cut a recess in one piece to take the blade and drill a hole in both to take a bolt and wing nut.

Glue the parts together (bolt the blade in place to align then use two clamps and remove the blade before the glue sets). Next round the bottom edge and shape the ends to form comfortable handles. Hone the blade razor sharp to its existing angle and burnish a hook on the back edge. Insert the blade and secure with a bolt and wing nut. Set just proud of the base. It should produce fine shavings – the best angle being determined by the hook produced when burnishing.

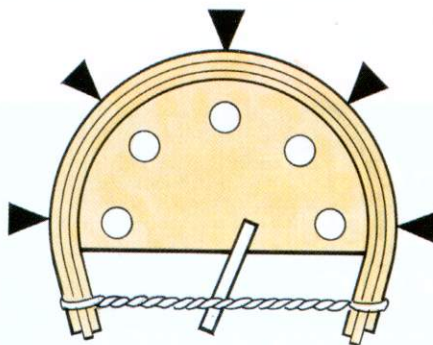
Peter Giolitto, Epsom



Close curves

When bending solid or laminated wood around a curved former there is a risk of the ends straightening if the wood is cut near the finished length. To avoid this, I make the wood too long for the former and pull the extending parts towards each other with rope twisted into a Spanish windlass. This helps to ensure, when cut off, the finished ends will maintain the curve. It also helps the cramps to take the strain while the glue is setting.

Gilbert Harrison, Watford



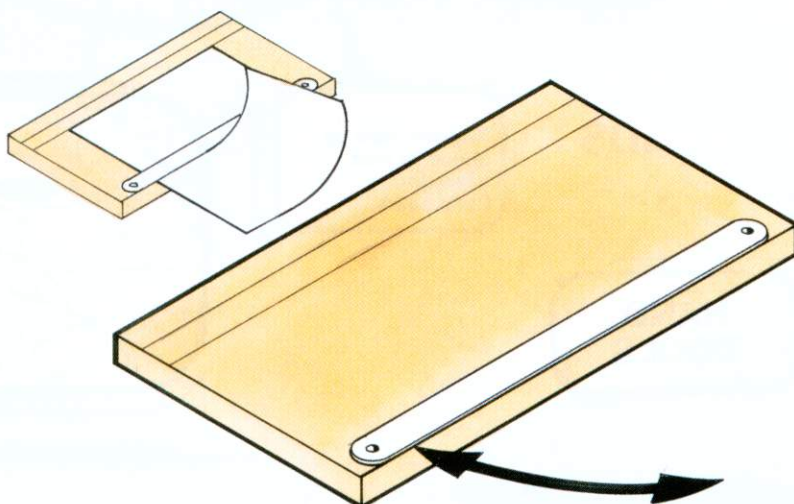
Exactly there

Most of us tear a sheet of abrasive paper into four by pulling it against the edge of a steel rule. Exact size may not be important for hand use, but if a piece has to fit a sander, greater accuracy is needed. To avoid the trouble of marking out the sheet, I made the tool shown.

It's a 300x150mm board with a (300mm) old hacksaw blade, its teeth level with one

edge, held loosely with a screw at one end. Mark prominent lines from that edge at half sheet distances. In use, a sheet of abrasive is put face down level with a line under the blade, held level with the board edge. The screw holds down one end of the blade - press down on the other while pulling up the sheet to tear.

Fred Barker, Solihull



Lapping it up

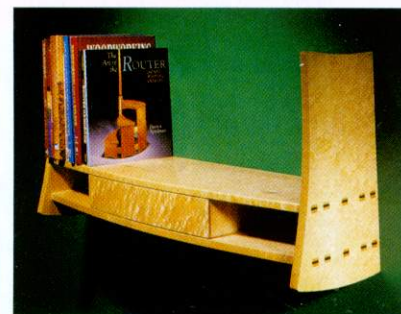


I recently found that, when trying to level the face of two sharpening stones on a sheet of glass with abrasive paper glued to it, this method was not successful. This was because it was difficult to glue the abrasive paper down, without getting air pockets under it and the paper would soon turn into sludge after working the stone across it.

I discovered a much better way to level the face of stones is to use a diamond hone (like the ones made by DMT) and run it back and forth along the stone, using a little water as lubrication.

Alan Jackson, Preston

win a LEIGH JIG!



Stop for a moment.

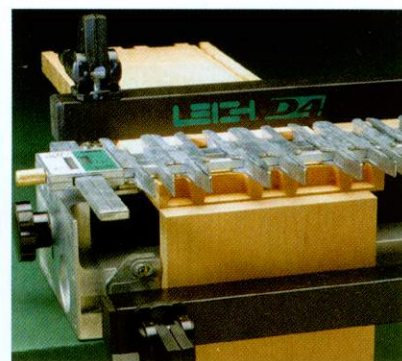
Think a while about your workshop. What clever tips have revolutionised your woodworking, making it easier, safer and more fun?

Perhaps you've picked up hints from other woodworkers or just worked them out yourself. However large or small they are, other readers are bound to benefit from your tips. So send them in to us at *Good Woodworking*, along with simple sketches or photographs if necessary. It's well worth the effort as each month we will award the winner a £35 **BriMarc** voucher, while each of the runners-up will receive a £25 voucher.

The **BriMarc** catalogue, which we'll send to the winner and all the runners-up, is jam-packed with great ideas that have been turned into clever woodworking tools. If you would like a **BriMarc** brochure and details of your nearest stockist just telephone 0845 330 9100.s

Send your ideas to Hints and Tips, *Good Woodworking*, 30 Monmouth Street, Bath BA1 2BW. Don't forget to include relevant sketches and photos.

Tip of the year



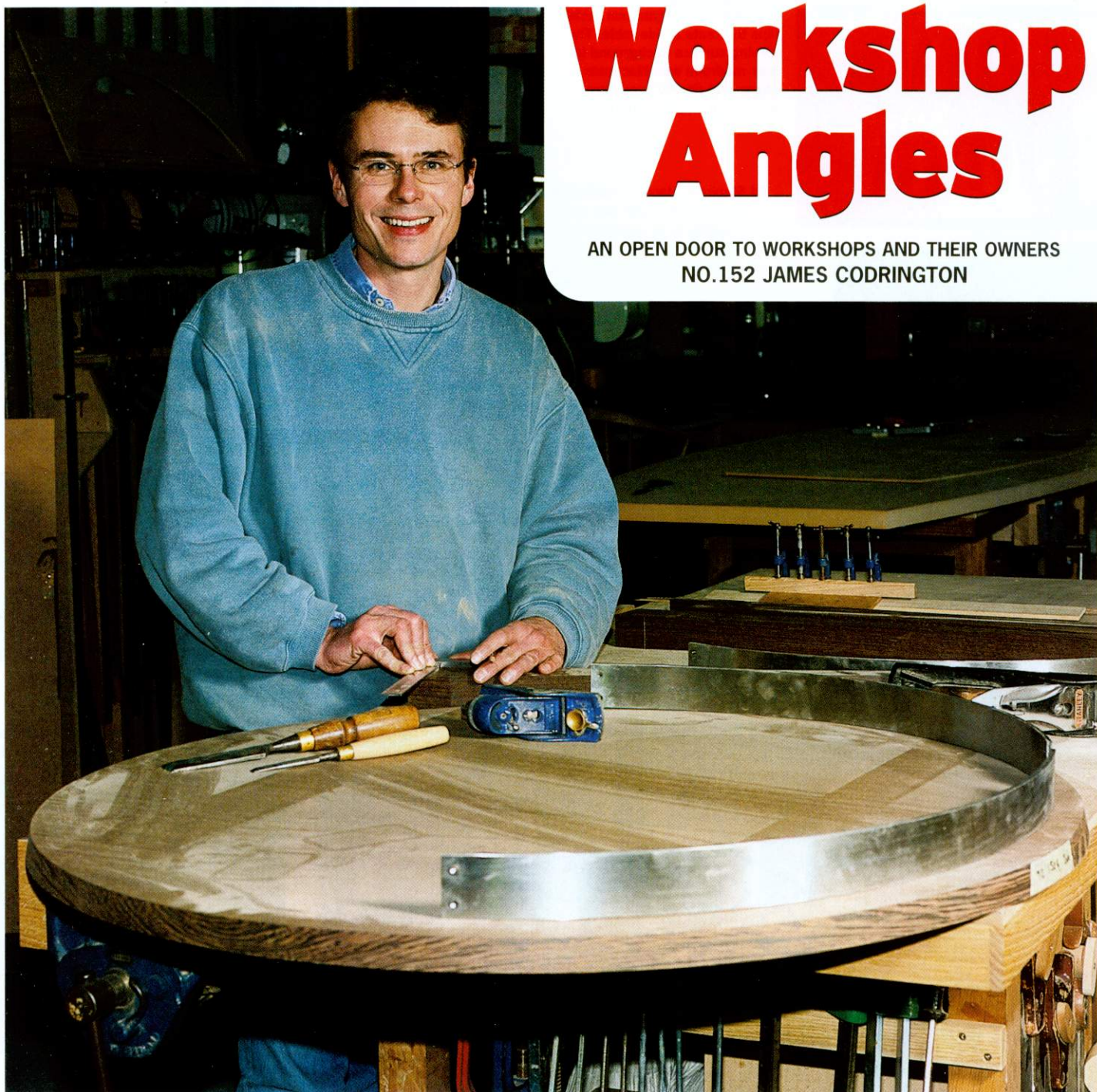
In addition to Tip of the Month, we will also award a **Tip of the Year** prize to the best idea published in these pages during the year. The winner will receive a complete **Leigh D4 Dovetail Jig** worth £375 from **BriMarc**. This innovative Canadian jig was tested in GW 86 along with nine other dovetail jigs and was highly recommended by editor Phil Davy. It handles material from 3mm to 30mm thick and up to 610mm wide. It's beautifully engineered and simple to adjust.



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Workshop Angles

AN OPEN DOOR TO WORKSHOPS AND THEIR OWNERS
NO.152 JAMES CODRINGTON



Most woodworkers find their workshops cramped and long for a bit more room to expand. Not furniture-maker James Codrington, though. His rural workshop was

originally a modern farm engineering building designed to accommodate large vehicles. With an area of 2000sq.ft there is certainly no shortage of space.

"It's perfect for us, because it already had three phase power, a kitchen and planning permission for change of use," explains James.

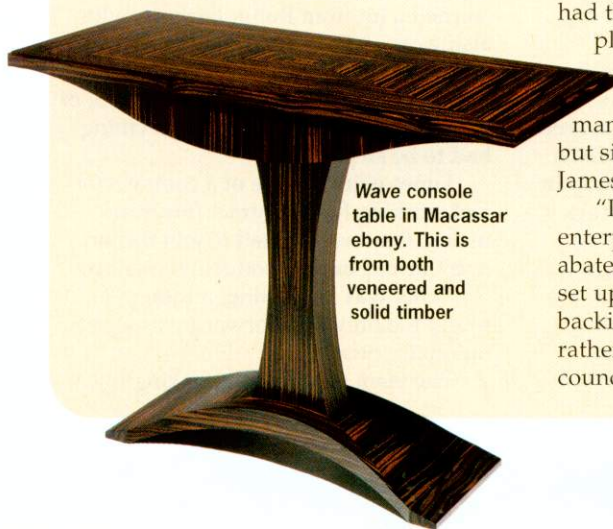
Moving workshop is something many woodworkers probably dread, but since setting up his own business, James has moved four times.

"In London we had a council enterprise workshop, but had a noise abatement notice slapped on us. They'd set up these light industrial workshops backing on to a new development of rather smart little town houses. The council planners had not really thought

about that! After two years I moved across the river, then to another site in Wandsworth. I eventually got to the stage of not having enough space in London, and I'd always dreamed of moving to a workshop in the country. With two staff and a family keen to move, we spent about a year searching for somewhere in the south west."

James moved to Somerset in 2001 with Edmund Stephens and Stuart Webster. The three of them have recently taken on an apprentice who's on day release at Yeovil College.

"I actually sold a lot of the plant from the first workshop and shrunk from a three man team to being on my own. I bought smaller machines and had less space," James reflects.



Wave console table in Macassar ebony. This is from both veneered and solid timber



This cherry backgammon table flips to create a side table. The playing surface background is burr madrona with Macassar ebony and rippled sycamore points and counters (left)



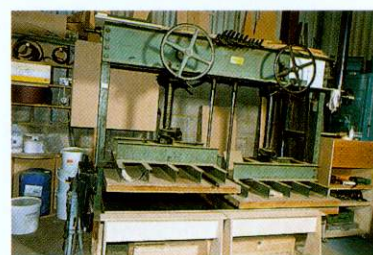
It may be basic, but the Clarke bench drill gets plenty of use



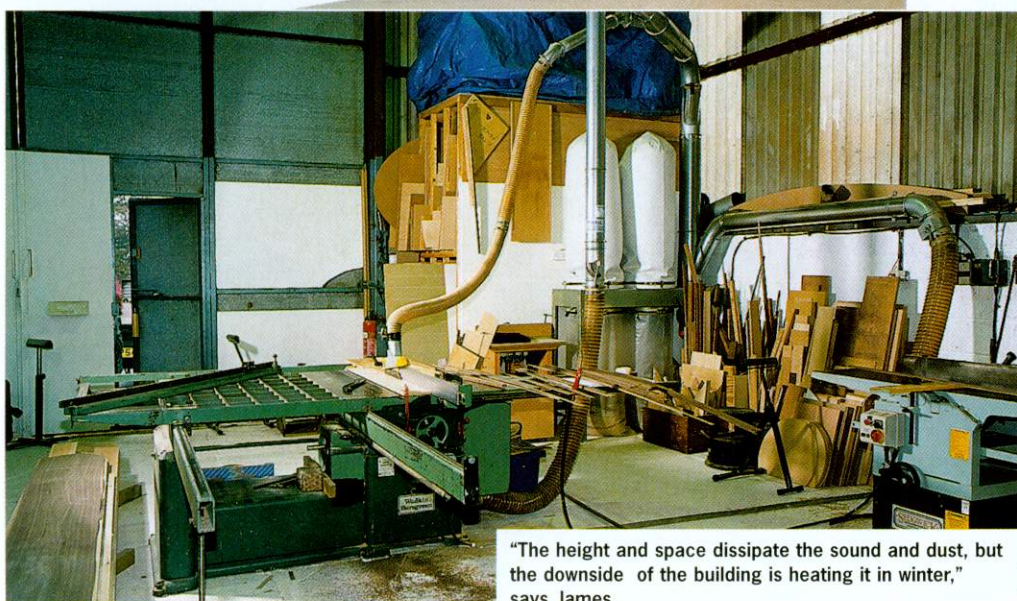
Ed Stephens, James Codrington and Stuart Webster with seats waiting to be sculpted from rough-hewn oak blocks. They were originally part of the London Docks (right)



Ed cutting an MDF top for a dining table. It will eventually have a coloured lacquer finish



Aerolite glue is generally used with this huge Wilkinson heated veneer press



"The height and space dissipate the sound and dust, but the downside of the building is heating it in winter," says James



Drawer detail from the Parasol Desk, contrasting sycamore and purpleheart

"Fortunately things picked up and the business could expand. As we grew I upgraded the machinery."

Most of the current machines are secondhand. A Wadkin Bursgreen panel saw sits in the centre of the workshop.

"It's a good 20 years old. They are very solidly built," says James.

An ancient Sagar spindle moulder had been disconnected and was waiting to be replaced by a slightly more modern Wilson machine.

Computers play an important role in the design process.

"After I set up I decided I had to learn CAD," James admits. "I found an architect offering lessons in Autocad, so I went off and did evening classes. It was very intensive, but I learned the basics. I

still use a pencil for initial sketching, then go straight to the computer. I draw things to a technical detail so the guys can build it. To get an accurate cutting list you have to build every component on CAD, though. Sometimes that's not necessary to get a visualisation.

"We're still developing the workshop. so Ed and I put the whole thing down on CAD, measured the machines and moved them around on the screen," he explains.

"We're still a fairly small workshop in terms of what we produce. We've stuck with trying to make practical pieces of furniture rather than necessarily showy pieces. We've made enough now that are out there to be seen. People hopefully will come to us because they've seen something we've made. Our work has a

definite signature, but essentially each piece is client-driven."

James trained at Rycotewood College, and his first employer was Martin Grierson. "It was a valuable time. I also learned a lot from Robin Furlong, who also worked there then. Martin stressed the ultimate attention to detail in everything. Rycotewood instilled a lot of that in me, but with Martin everything had to be so precise."

James gained more of a commercial feel working for a contract furniture-maker, then was invited to join Senior and Carmichael as production manager.

"That was interesting, although I found the only way forward was to set up on my own."

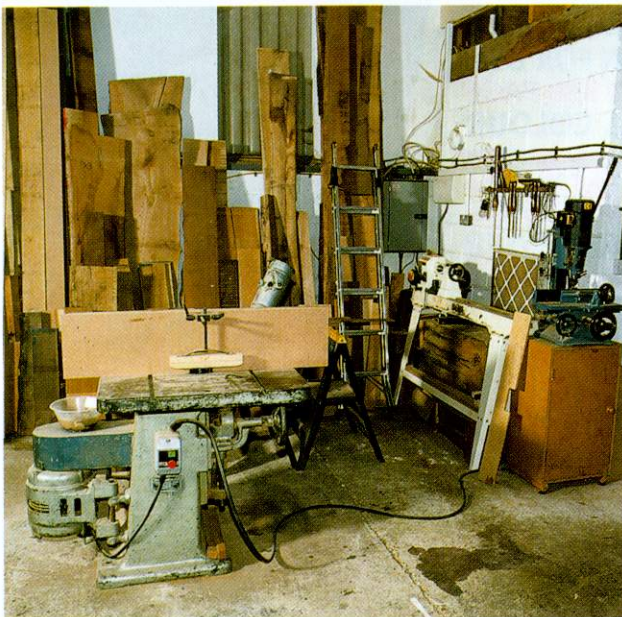
The team specialise in making fine



With the shop measuring 50x40ft, each person has plenty of bench space



Mobile cabinets mean access to hand and power tools is easy anywhere around the workshop

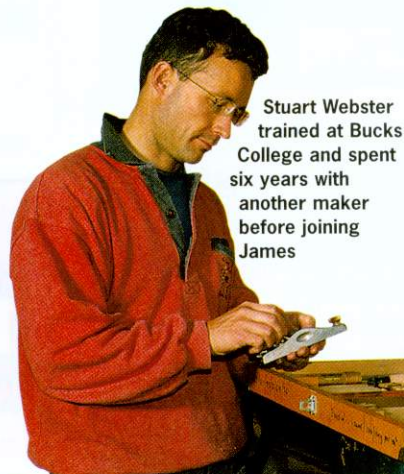


This old Sagar spindle moulder was due to be replaced by a newer machine that complies with safety regulations

Sash cramps and abrasives are neatly housed along the wall (right)



Jigs and templates are carefully stored for future use



Stuart Webster trained at Bucks College and spent six years with another maker before joining James



furniture, so it was a surprise to find a couple of huge blocks of old oak sitting on trolleys tucked away in a corner.

"They're from the London Docks," James tells me. "The oak has been stained by water, steel fixings, weather and muck. The client gives the timber supplier a drawing and they chainsaw it or put it through a band resaw. They specialise in reclaimed timber. It's a rolling programme, with some in a gallery and some sold. We get them in this rough state and plane up and sand the sides, then scoop the seat out so it's more comfortable. They're more of an architectural feature, somewhere you can just perch your bum. With some of the oak you can still feel the moisture. It does move dramatically. Sometimes we have

to extract bits of metal fixings, so you have to watch your tools. They're fun, a bit of a diversion from our main line of business. They've slightly lost their novelty factor as they're quite hard work from a manhandling point of view. There's a slight groan when another batch is booked in!" laughs James.

"You can count the regular clients on one hand. They're our core business. Private client work fills the gaps and keeps up the interest.

As well as showing at Cheltenham's *Celebration of Craftsmanship*, James and the team are exhibiting closer to home. "We're trying to attract local interest in what we're doing, as well as working for our main clients in London. It would be nice for local people to find out that they

can commission things too."

www.codringtonfurniture.co.uk

Words by Phil Davy

Photos by David Askham

Parasol Desk in solid and veneered purpleheart, sycamore, masur birch and burr madrona





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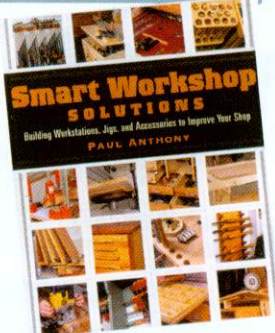
Workshop guide page by page

Router table p30



Build a router table with
zero-loss plunge ensured

Workshop book p32



Don't we all just need more
of these? Essential reading

Workshop gadgets p33



Can you guess what it is yet?
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Take it to the max



 This quick and easy router table from **Ian Dalziel** is simple to set up and lets you use your router's maximum plunge depth with no loss of cutter capacity

minimalist design, to keep it small and portable. Although the concepts used might easily be applied to a more substantial and complex unit with storage or dust collection under the table, the present design favours simplicity and minimum cost. The whole project took only 10 hours to do, and cost less than £30 – a bargain considering no other table could match it for performance

The design takes out all the disadvantages of the bigger table. Here the router is suspended by a pair of rods passing through the guide-rod holes of the router, and also through a pair of metal crossbars, which are fixed to an aluminium plate. The latter is cut out to receive the router's own base plate. Removal of the router is thus achieved in seconds – withdraw the rods and the router drops free. In use, the rods are held in place with locking knobs.

Because the router base sits flush with the tabletop, full plunge travel of the router is

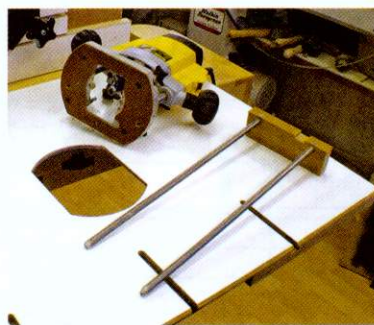
This is my second router table-top: my first, holding a ½in heavy-duty router attached to a RouterLift, works well but is over-built and takes up too much space. It's effective, but was an expensive setup and has the usual drawbacks, such as permanently tying up the router because it's awkward to remove, fiddly cutter changing, inability to fit guide bushes, and loss of cutter height due to the base plate.

This table is a deliberately

MATERIALS YOU'LL NEED

18mm plywood
18x18mm square bar plus 5mm aluminium sheet (use 5mm steel if unavailable) from a local engineering shop
8mm bar (B&Q @ £2.84 per metre)
8mm coachbolts
White Formica

3 Drill two 5mm holes on the deep side of the bars where the guide rods go through, and tap them 6mm to take the thread of some knobs (I use Trend's). Sit the plate onto a flat surface and insert the guide rods into the router base. Slide on the bars at either end of the router and position them approx 12mm from either end of the base. Clamp the bars into position then drill two 2mm holes through the aluminium plate to mark the square bar. I also carefully marked which bar went where in case of discrepancies with my drilling. Unclamp, then drill right through with a 5mm drill and tap to 6mm. Drill out the holes in the plate to 6mm then countersink. Attach the bars to the plate using 6mm countersunk set screws. Set up the router again and check that everything slides in freely. Finally



Simple pull-out bars hold the router in place by way of its fence bar holes

drill eight 6mm holes all round the plate and countersink for attaching the plate to the table.

4 The table top itself is made from two pieces of 12mm MDF (later) glued and screwed together. Cut both bits to 605x405mm then position the plate 70mm from the front face



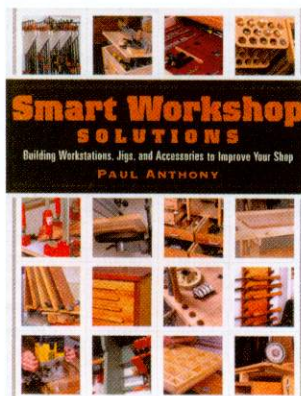
The bars slide through two recesses routed in the table before assembly

and central in the top one. Cut four 400x75mm pieces of MDF, each with a 45° angle at one end, then apply double-sided tape and stick them snugly round the plate to give a size-for-size cut-out. Stick 12mm MDF to the inside face of the 'square' to allow a support rebate to be cut. I used a 1/8in guide bush with a 1/8in straight cutting bit to rout out the waste, then fitted a top-bearing template cutter then removed the 12mm MDF which I stuck on to the inside face. I then set the router to cut an approx depth of 5mm using a fine height adjuster. Now rout out the rebate. Once cut, test the plate for flushness of fit.

5 Once the top plate has been routed, sit it on top of the bottom and mark out where the hole for the router is. I just cut mine with a jigsaw as it doesn't necessitate a tidy hole. Now sit the plate into position and mark on the MDF where the rods will be sliding through. Disassemble again and rout out two 10mm slots, 5mm deep, at the marks where the bars go in each of the MDF boards. Reassemble and check the rods pass through OK.

Mark on the top and bottom boards where the T slots will be going (check the drawings for approx positions). Now line up both boards and, working from the bottom side, glue the boards

Smart Workshop Solutions



By Paul Anthony
ISBN 1-56158-578-5
The Taunton Press
Price £14.95

Despite the in-your-face, full-on Americanisms, I love books like this. The dubious saw bench practices

associated with practically all US woodworking publications can be overlooked as it is the actual end product that is of interest, with masses of tips and ideas packed into its pages.

Very few people in the UK have the luxury of cavernous basements, so space is at a premium in most workshops. Therefore the storage solutions are especially welcome. A picture showing two walls racked out for tool storage shows what can be achieved with a little thought and not too much space. There are a couple of neat lathe racks later in the book for the turner, where every tool is close to hand while still having it's own home.

If you are in the process

of fitting out a shop and looking for ideas, there are some great projects, including a chop saw station, storage cupboards, a T track pillar drill table, and saw station along with other jigs and fixtures to aid your work. Any woodworker should be able to find something of interest, either to build as a replica, or to adapt to suit. Taunton Press put out some great books, and this is one of them.

Andy King

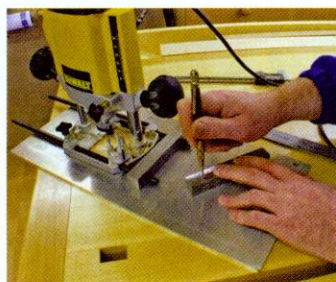
Smart Workshop Solutions

Words	●●●●●
Drawings	●●●●●
Photography	●●●●●
OVERALL VALUE	●●●●●

Adding mounting rods and fitting the router



05 Sit the router in its hole in the insert and measure the distance between the underside and the fence bar



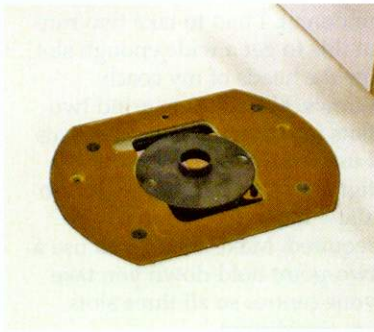
06 Determine their centres (allowing for the laminate) and centre punch the holes on the steel bars for the rods



07 Drill the holes to suit your rods, then turn through 90° and drill and tap holes for locking bolts to lock the bars



08 Position the router and mounting bars on the plate and drill through from below for fixing bolts



Mounting the router this way ensures no plunge loss and lets guide bushes be used

together, then drill, countersink and screw using 3.5x20mm screws. I used a couple of brads first to keep the boards aligned.

6 Lip the top with 20x20mm hardwood banding, then cut out a 15x125mm slot in the front edge for the sliding rod assembly handle. I did this with the jigsaw then cleaned it with a sharp chisel. Make the sliding rod assembly at this point. Cut two 330mm lengths of 8mm rod (I bought this at my local B&Q), then cut a piece of hardwood to 124x40x16mm. Set out the 84mm centres on this, mark down 6mm at your marks and drill two 8mm holes. Drop a bit of glue in, then insert the rods into the router's guide fence (to ensure they remain parallel) and insert the other ends into the handle. From the bottom drill a 2.5mm hole through the handle and each rod then inserted 3x25mm screws to secure the rods into position. Leave to dry.

7 Sand the aluminium plate to provide a key between this and the laminate top. Insert the plate into its final position and drill and screw it using 6mm countersunk set screws, ensuring that they are all flush with the top. I also gave the top a light sand. Cut a piece of laminate about 25mm bigger all round than the top. Apply contact adhesive to

Three for the toolbox

Tools and gadgets for the home workshop

Door Lift

£9.99 ☎ 01482 310666

Multi-use tools don't come much more versatile than this simple little alloy block from Spectra. Its main use is as a wedge for lifting doors into place when hanging them (thus saving your chisels for better purposes!), but the measure on the side, the notched end, an in-built spirit level, and square sides

suggests plenty of other uses, from marking the inset of hinges to squaring off catches and locks, and even a few nothing to do with doors!



FastCap Tape Measure

£6.60 (+shipping) ☎ 001 888 443-3748 (www.fastcap.com)



Tape measures are pretty much the same the world over, but occasionally one crops up that seems well thought out. FastCap's PSSP pro tape hails from the US, thus only Imperial markings, and has a heavy duty rubber casing to protect the extra-wide 16ft blade from the knocks of site life,

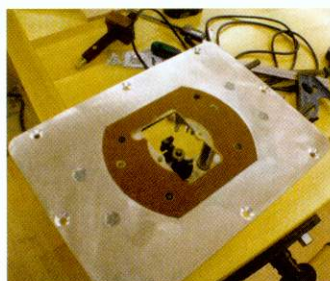
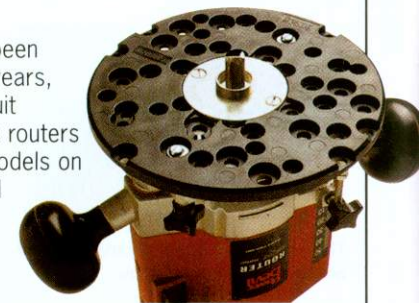
plus a built-in pencil sharpener and a controllable retract mechanism (no more wapped fingers). It also has a wipe-clean area on the side for making notes with a pencil, as well as down the length of the tape itself (where perhaps the metric bit might normally go!) for you to make storey marks to denote walls, fittings, etc, when measuring up a room.

Trend Unibase

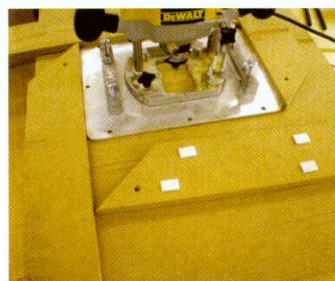
£14.69 ☎ 0800 487363

Trend's Unibase is a dead handy gadget if your router's base won't take the Trend's wide range of guide bushes. Resembling a piece of Swiss cheese, the plastic base is drilled to fit many different router models, and simply mounts via the drilled holes in their bases.

It's nothing new, having been around for a number of years, but is now available to suit Festool and Porter Cable routers as well as many other models on the market. A very useful piece of kit – unless of course you already have a Trend router!



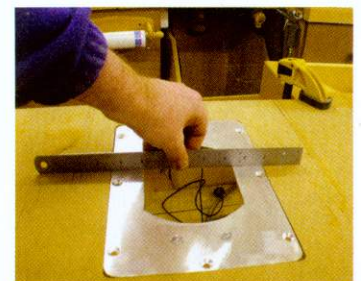
09 When finished the router's base should sit 1mm proud of the top of the plate – countersink the screws



10 Sit the plate on your main MDF or ply table top and assemble a routing template to suit the shape



11 Put 10mm strips inside the template to allow for the rebate when routing (use a 10mm rebate bit)



12 When sat in its rebate the insert should be absolutely flush with the ply top surface

both surfaces and, using three dry sticks, apply the laminate, taking one stick out at a time till it drops neatly into place. Once it's laid, use a laminate roller to work out any air cavities from the centre outwards. Once dried, go around with a flush-trimming bit, round the front corners slightly with the belt sander, then run the router around all edges with a small bit

of a chamfer bit. To remove the laminate where the router sits I used a pierce and trim bit.

8 Project the pencil lines round for the T tracks. I put three in the front for hold-downs and two in the back for the fence. These were easier to do than I thought. First, rout an 8mm slot 11mm deep, then use a keyhole cutter to rout out the

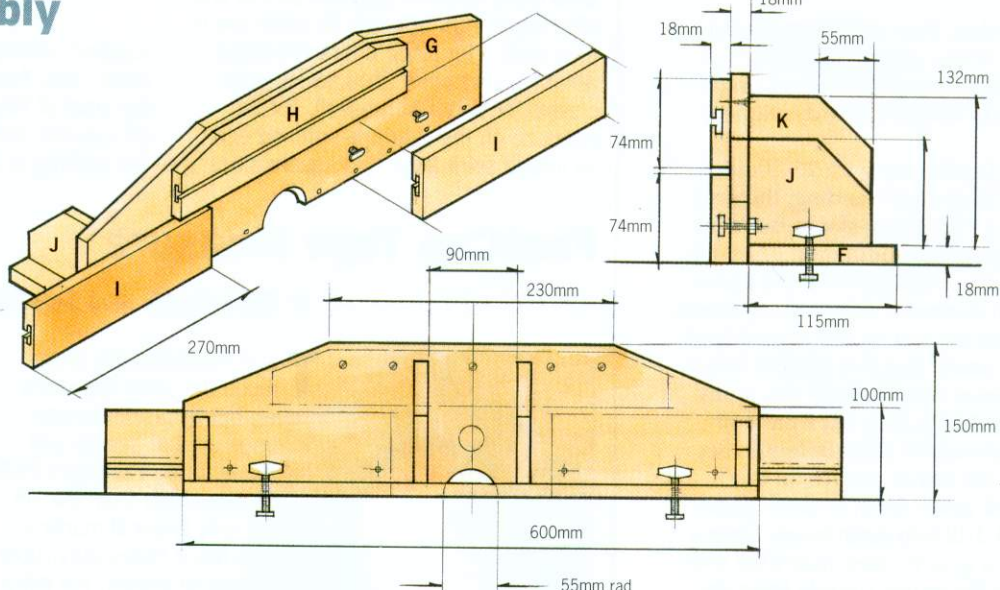
undercut. I had to take two runs at this to get a wide enough slot for the heads of my coach screws. I also had to grind two flats into them. The hold-downs I use require two knobs for tightening so I ran three slots to allow me to reposition if required. Make sure if you use a two-point hold down you take your centres so all three slots are equidistant.

The fence assembly

The fence is an asset to this little table. It's made of plywood with a laminate skin on the front faces only. I also gave it dust extraction.

1 Cut one 600x150mm and a 600x115mm piece of 18mm ply, the smaller for the base, the other for the face. The face piece has two slow tapers cut in it at the bandsaw, leaving a centre length of 240mm and coming down 50mm at either side. Dress out the bandsaw marks at the belt sander. Mark the centre of each and use a compass to mark out a 55mm circle, 35mm up from the bottom edges. On the bottom face rout out a deep chamfer around the hole to allow chip clearance. Go round both parts with a $\frac{1}{2}$ in radius round-over to soften the edges, but don't rout where the two faces will meet.

2 Cut four smaller pieces for



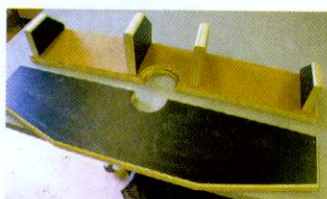
stiffening the fence; the two centre pieces also act as side supports for the dust port. Check the drawings for sizes

3 Run a bead of glue along the base edge then offer the face piece up to it. Put in a

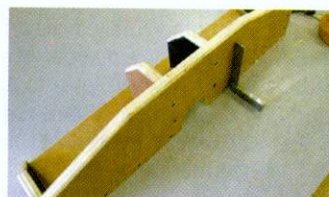
couple of brads to hold in position, then pilot drill and screw at this point, ensuring it's square.. Do the same for the upright supports, ensuring square-ness throughout.

4 Cut more ply for the top

support T track, and the zero-clearance bottom fence guides. These are skinned with laminate to allow easy movement through the cutters. The white also lets me see my pencil marks when doing mortices.



The fence is a simple arrangement of boards with four stiffeners



Make sure the fence face will be absolutely square to the table



Coachbolts locate the fence in the T slots in the table. Note the dust port



Routing a T slot in a fence section with a key hole cutter

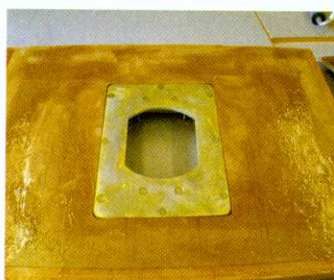
Assembling the top and laminating



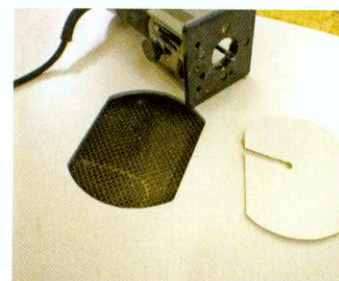
13 Rout matching grooves in the two pieces that make up the top to form the holes that take the mounting rods



14 Lip the assembled table top with hardwood then cut a recess for the handle on the mounting rod assembly



15 When all is finished glue a sheet of 1mm laminate (Formica) to the top face. Flush off round all four edges...



16 ...then pierce the laminate and trim round the centre hole for the router base to protrude into

WIN a JET workshop worth over £10,000!

JET Tools and Machinery Ltd have pulled out all the stops to come up with a fantastic competition, exclusive to *Good Woodworking*. It's the biggest prize that has ever been offered in *Good Woodworking*. Not only will the winner receive a host of JET machines, but they'll win an actual **Lugarde** timber workshop, measuring 4x4 metres!

The prize will be presented to the winner at the Axminster Tools Show 2004 (November 11th to 13th) at the Westpoint Exhibition Centre, Exeter, Devon. You will need to collect the five consecutive tokens appearing in *Good Woodworking*, starting in GW 150 (back

issues still available). Then answer the three questions below. (The entry form can be photocopied if necessary, but the tokens *cannot*. See Rules below.)

Alternatively full details are shown on the *Good Woodworking* website: www.goodwoodworking.co.uk

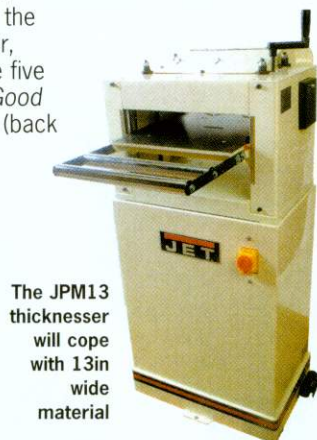
For more details of JET machinery, check out their website at: www.jettools.co.uk



One of the machines you can win is the JET 54A jointer. This has a 6in planing capacity and is perfect for use with the JPM 13 thicknesser



Included in the prize is the Jet DC1300 dust extractor



The JPM13 thicknesser will cope with 13in wide material

How to enter

You need to collect all **five JET TOKENS** appearing in *Good Woodworking* (issues 150 to 155). Answer the three questions, complete the entry form (a photocopy is OK) and send them together in an envelope to: **JET Competition, Good Woodworking, 30 Monmouth St, Bath BA1 2BW**. The winner will be the first correct entry opened after the closing date of **October 25th 2004**.

The competition is also featured on these websites: www.goodwoodworking.co.uk www.jettools.co.uk

Entry form

1. What is the name of the American President's jet?
2. Sir Frank Whittle was co-inventor of the jet engine. Who was the other?
3. Who presents the JET-sponsored TV programme **The Great British Woodshop?**

☐ Tick box if you do not wish to receive further information from Future Publishing Ltd or Jet Tools & Machinery Ltd

Name:

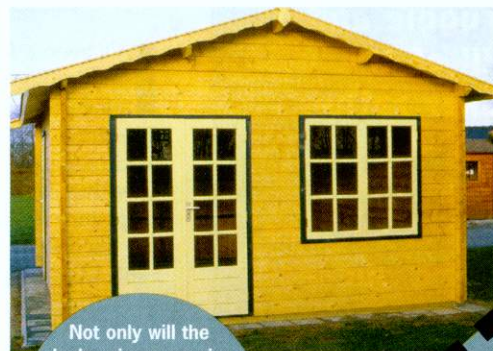
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Not only will the lucky winner receive a shed load of JET machinery, they will also get a superb Lugarde timber workshop in which to use them!

Rules

1. Competition open to all UK residents except employees of Future Publishing Ltd, Jet Tools & Machinery Ltd, Lugarde and associated companies, their families or agencies or anyone connected with the competition.
2. The winner will be announced in *Good Woodworking* and the prize presented at Axminster Tools Show 2004 in November.
3. **No purchase necessary.** Should you wish to enter the competition without purchasing the magazine, please send an A4 SAE for vouchers plus entry form to: Jet Competition, Good Woodworking, 30 Monmouth St, Bath BA1 2BW.
4. There is no cash alternative. Prize includes delivery, but workshop erection and machinery installation is not included.
5. No multiple entries.
6. Competition closing date is 25th October 2004

GOOD WOODWORKING'S BIGGEST COMPETITION EVER!
Win a JET dream workshop
TOKEN 3

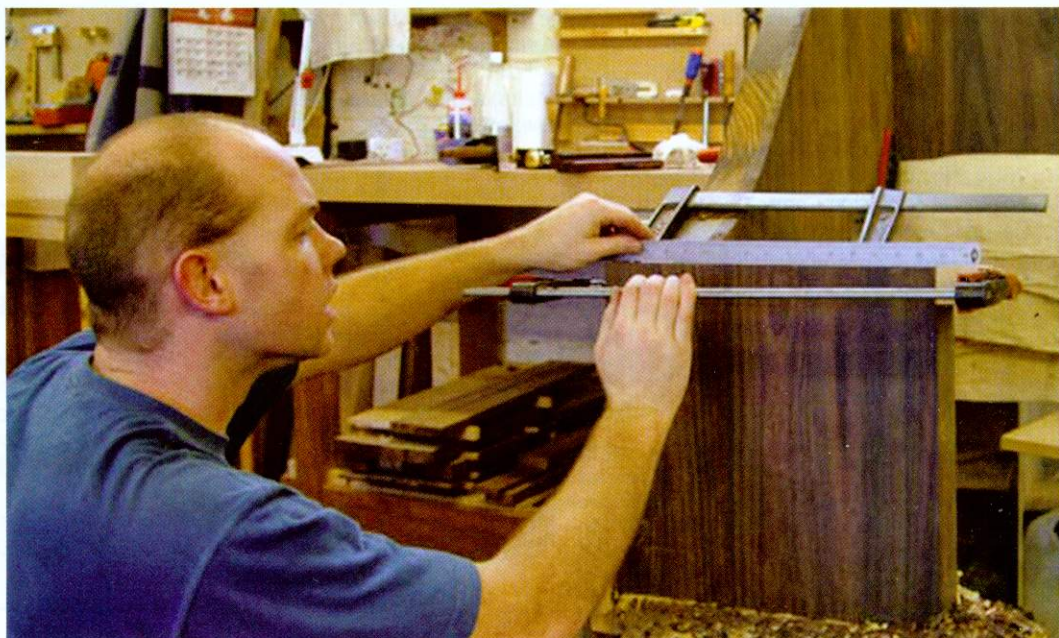


MASTERCLASS

David Savage's expert comment from his own furniture training workshop

Elvis is in the building

A new commission for an old favourite has David wrestling with the age-old problem of perfection and the human condition as he strives to create a finish for a table that reflects the struggle and skill of the maker rather than an industrially perfect surface. Can he succeed? Read on!



It's been a few years since I made 'Elvis', a very elegant and curvy rosewood low table that I made for a regular client who now lives in the US. Elvis has long since left the building but his influence goes on and I still keep making tables that are influenced directly or indirectly by it. This is the latest of that particular strain of thought.

It started nearly a year ago. A lady rang me, looking for an occasional table, and yes she liked Elvis and could I come and see her?

What excited me about her brief was the thought that we would be making a piece of furniture that would be associated with a piece of sculpture by a quite famous British sculptor called Anish Kapoor. Daniela had an apartment in London and

wanted a table that filled a particular space and drew one's eye towards this.

I went along in due anticipation, trying to think about what kind of table this was going to be. My client had never commissioned a piece of art before. She obviously had bought art, and was used to that, but found being involved in the process quite exciting. As we chatted, I showed her a photo and she suddenly realised that Elvis' shape was not what she had in mind, what she wanted was more sinusoidal, curvy or sinuous – 'meandering' was the word she used.

So that's how it happened. I went off thinking about low dark tables, because that seemed appropriate, but I was also thinking how do we make it wave and meander?

A couple of weeks later I

sent some drawings up to Daniela and we chatted about various options. She was now thinking that in the fullness of time she may not stay in the London apartment, and wanted a table that worked in her cottage in the country. This would necessitate lopping off about 4in from the size we'd discussed.

That caused me some problems. When I design a relatively curvy piece I am very careful with the proportions of height to width to depth. I like to build in some very tough classic proportions, usually based on a cube or a square. This gives the design a rigidity not immediately apparent within a flowing structure like this but is nevertheless there. If your client then merrily lops 4in off the length, all that careful proportioning goes



The sections for the top were roughed out to suit a basic template then jointed up with a pair of splines at each joint. The legs are added in a similar way



Once the basic structure was complete the exact shape of the curved edges on the top and legs could be drawn in by flexing a steel rule to an appropriate shape and drawing around it

out of the window.

But we worked around it and I made a table slightly lower and slightly shorter and work commenced.

Choosing the Timber

Before we began making this table we got a lovely consignment of Indonesian rosewood from Bob at Timberline. I have been dealing with Bob for so long that I can ring him up and say "I've got another of those dark tables, do you have anything suitable?" and he'll ring me back with a yes or a no. Usually it depends on whether he's unloaded his kiln recently or taken a consignment of rosewood. But Bob's always my first port of call for anything dark, thick and lustrous.

If memory serves me well we spent over £1000 on that rosewood so I was anxious not to make a mess of it!

Nev, who was given the task of making this piece, first made a template of the top, which we could then lay on the planed up boards to

choose the orientation of the timber. As the grain runs across the width rather than down its length, it's very important to have a decent thickness. I don't imagine the local rugby club will be dancing on this table but we nevertheless wanted to put two rows of splines in each of those butt joints.

The other issue is matching the colour and graphics of the timber's figuring. This can take a bit of fiddling about as the permutations are almost infinite. A rather anal craftsman once told me quite seriously that to make a table top of these eight boards would give 18,493 options. Mathematicians amongst you may tell me he was way out!

Jointing the Top

Next job was to assemble those joints – there were

about 15 or so pieces of rosewood – and cut the ends off square. This was done because I didn't see quite how I was going to treat the edges at this stage. This is not unusual. The image of a piece does not form complete in one's mind's eye, but clarifies as the job proceeds.

The top was jointed up to the two ends which were about 400mm square. This gave us the wiggly shape in 3D and a chance to look at it from all round – remember, this is sculpture.

Then I took my courage in both hands and a steel rule and bent a wavy line down either edge. Nev was on hand to mark a curve down the length, then told to lop off a huge chamfer back to these lines. This of course meant exposing one or two of the biscuits carefully placed in the timber to reinforce the

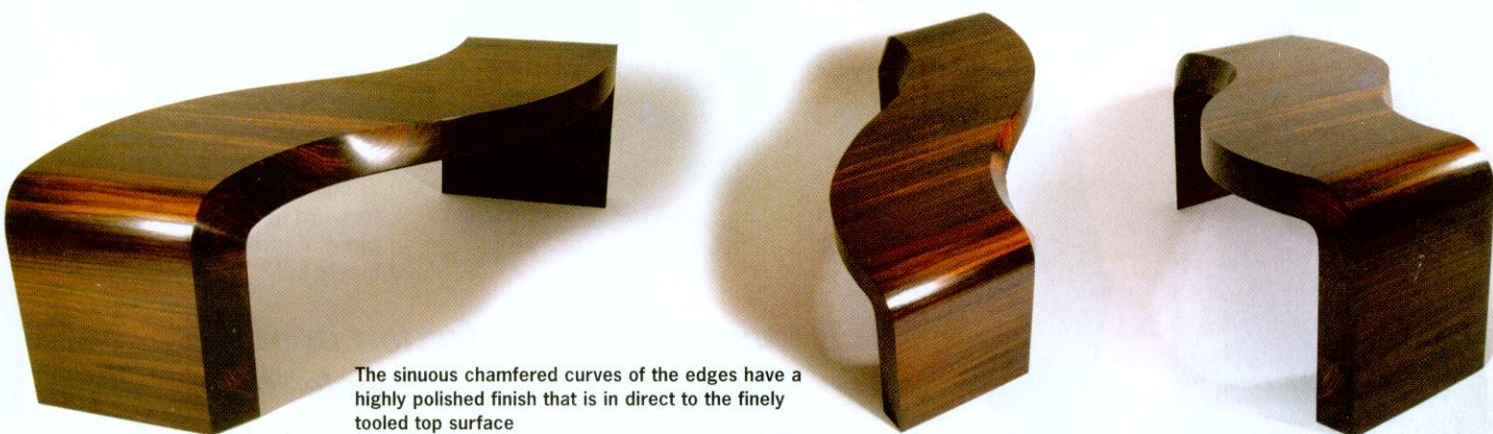
butt joint. I knew that this was likely to happen but as I didn't know where the chamfer was going to go, we couldn't quite place the biscuits to avoid them. So Nev just had to cut out the areas where the biscuits came through and let in a rosewood patch at each spot.

Chamfered Edges

Once I had looked at the table in its square form I decided that I needed a big bold 45° chamfer that started on one corner, ran down one vertical facet of the table and slowly twisted until it was absolutely perpendicular at the other end. So the chamfer flattened itself out as it went along the full length of the table. On the opposite diagonal side I did the exact opposite, so that end started at 45° and tapered out and became vertical as it came towards you. So there's a certain symmetry within this asymmetrical table.

The chamfer left a razor sharp edge, especially when Nev had sanded and

"The image of a piece does not form complete in the mind's eye but clarifies as the job proceeds"



The sinuous chamfered curves of the edges have a highly polished finish that is in direct to the finely tooled top surface

polished the chamfer to 360 grit paper. So we block-planed a small flat on that edge. This was almost the opposite of putting on a small chamfer to 'de-arrris' a right angled edge. Here we were putting a vertical facet to a chamfered edge.

Design by Email

I wanted the edges – these thick, chamfered, swinging, curving edges – to be highly polished and shiny. I could even do that with the ends. But I wanted to do something slightly different with the table top. The following is an exchange of e-mails between myself and my client:

Daniela: I feel anxious sending photos of an incomplete piece, especially so late in the process. On reflection I should have sent stuff as we did it. I have only just learnt how to easily send pictures to clients. Next it will be digital video conferencing, which would be a really good way to show how the pieces are developing in the workshop.

Now we are working on the surface. This is real woody stuff. I want the polished 'arrived perfect from Mars' feeling to the sides and edges of the table. These are important surfaces as they swing and move around a lot, but the top is different.

My fall back position for the table top is the same glowing oil polish as the sides, however, what I am playing with is a surface that is struck straight from the tool. No sanding, just a tool-burnished surface. I want a surface that says this is made by the efforts of a human being – skilled, struggling to be perfect,

especially with this bit of wood, but ultimately failing. It's the struggle that's interesting.

Is this silly? It will probably not work, and you mustn't worry or be disappointed if it doesn't as I can 'just polish it'
David

David: I hope the top does work. I love the idea of the contrast between sides and top, and also of a table which says 'made by a human being' rather than by God-like perfection. You are right in that it's the struggle which is interesting, just as it is the flow which is interesting. We all want polished perfection in our lives, but the truth is that a struggle-free perfection is static and lifeless and tends to leave ordinary humans feeling like failures as we can never live up to the demands it makes on us. I've done workshops with a Jungian analyst whose most famous book is *Addiction to Perfection*. Daniela

Daniela: Now that's what I call hitting the ball back! I had just about given up on the top. We had spent £200 on a new scraper plane that I had hoped would do it, but it didn't. I even told Nev to sand and polish it, but you now give me a reason to push on. Perfection is one of the bear traps of fine making. We need to have clear goals, and the perfect industrial surface is one, but as you say it is so dispiriting.

It is interesting you mention Jung. I am assembling a series of seminars for my students on design, and Jung's 'collective unconscious' comes up as a rationale for timeless work – the

kind of design that transcends the fashion or style of the age. Not that I know much about Jung, but what I do know fits with my general understanding. I will try to pull this one back. You have inspired me.

Don't worry about the usability of the surface. I will build up an oil polish on the tooled 'nearly flat' surface. This will take about six months to cure and harden so treat it gently – mats, etc. Then you can throw what you like at it.
David

Tactile Surface

What I wanted to do, and what Daniela was so interested in, was to put on a surface that wasn't the usual 'sanded to 360 grit and polished in whatever way is appropriate'. I wanted a surface that was more alive than that, a surface direct from the cutting tool – no sandpaper. To achieve this I played around with various different tools.

I thought about using a bench plane with a slightly curved iron to plane little strips across the table, running with the grain. In this way we would get a slightly tactile surface but may have had a problem. The table top was made up of several pieces of rosewood and the grain was running in different directions. We could deal with it once we knew which way it went but what do you do at the joins where the grain could be running in both directions in one stroke?

We tried all of the usual methods of raising the cutting angle to something in

excess of 55°. This involves using a mitre plane and playing with its overall cutting angle by changing the grinding angle on a bevel-up plane (I've spoken about this before). We even tried using a scraper plane.

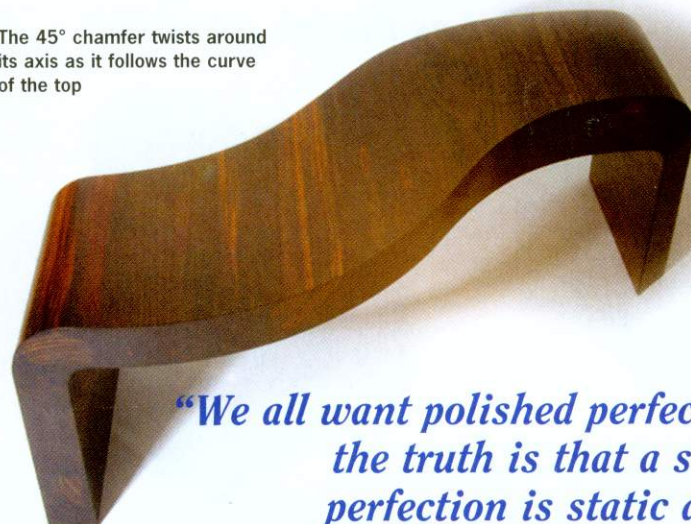
In the end what we came down to was a small block plane with the cutting angle raised to just over 55° and the iron rounded to cut a very small narrow shaving. This necessitated running across that top hundreds of times but we got a controllable result. I am not sure if the end result is that vividly different. But it touches in a very different way! As you run your fingers across the table it feels distinctly unflat. Not corrugated or rough, just unflat. There's a sense of variance in the surface which is extremely appealing. It's clear that it's not the product of machine but of human skill and concentration. You can feel a skilled hand wrestling with the difficult task of creating a surface. It's not perfect but the struggle is visible and it's that very imperfection that Daniela and I find so appealing.

We surround ourselves with objects of industrial perfection that have this tendency to make us feel inadequate. Whereas, if we surround ourselves with objects of 'workmanship of risk', mainly by human beings, we can sense and place our own humanity within that context.

I'm sure this won't catch on. It's impossible to photograph and, as so much of our world is witnessed through a camera lens, will never find a value. Luckily my client finds it valuable. And the table now sits beneath the beautiful Anish Kapoor sculpture, doing its job and hopefully being just as beautiful. And I look forward to making another piece of furniture for this lovely lady.



The 45° chamfer twists around its axis as it follows the curve of the top



"We all want polished perfection in our lives but the truth is that a struggle-free perfection is static and lifeless"

A cherry headboard



Learn to cut perfect scribed and profiled joints on the router as you make **Martin Aplin's** super headboard for a divan bed

PROJECT GUIDE
Difficulty
 Simple
Time
 15 hours
Type
 Furniture

My wife suggested a new headboard for our bed, and we decided on a design that would reflect the panelled doors on our built-in wardrobes. The construction would be of horizontal rails abutting vertical stiles with a wide central muntin. To set off the latter I decided to fit a decorative leaded glass insert, fitted from the back in to a rebate. Raised and fielded panels would fit in the frame.

The moulding and grooving on the rails, stiles and muntin is done by router. Fielded panels fit into grooves routed in the rails. The cap rail is grooved to sit over the top rail and the shaped end pieces are butt jointed, located with biscuits. The bed base is a standard 4ft 6in divan so the headboard is attached by two legs, clamped in the usual fixings. The width of the headboard can easily be adjusted for wider beds or a

single panel version would be suitable for a single bed.

I originally planned an elliptical coloured glass insert, but changed my mind and fitted a rectangular one as I felt this better matched the square features of the headboard. Also, being a novice glass worker, my attempts at making an elliptical insert fell short of what I considered acceptable. I found it much easier to make a square insert so had to alter the elliptical cut-out. The photographs show the original elliptical opening so I'll describe how this was cut.

The glass panel could easily be replaced with a ceramic tile or decorative plaque. Alternatively, the muntin could be pierced with a simple design, favoured by the Arts & Crafts makers.

Making the Headboard

1 Start by preparing the timber. Plane to the sizes in the cutting list or ask your local timber supplier to prepare it for you. The top rail is 10mm wider than the bottom rail so that when the cap rail is fitted, the visible width of the rails will be the same. The lengths stated in the cutting list allow for the stub tenon and scribed profile that will be formed on the end of the rails. This applies to the muntin as well. Leave the stiles over-length, as these will be trimmed after assembly. Prepare some spare material to the same thickness as the stiles and rails as this will be needed to set up the cutter height.

2 The joints on the frame are scribed and profiled, using a router cutter with a double profile so that the inside edges of the stiles

Scribe and profile joints for the frame



01 Set your cutters to the appropriate height and machine the profile on relevant edges of the frame



02 Set the height of the matching scribe cutter by routing a scrap piece of profiled stock



03 A perfect set up should have a reasonable shoulder at front and rear and the front faces should be flush



04 If you fancy a round cutout for the stained glass panel then drill an entry hole and cut accurately with a jigsaw

and rail are grooved and moulded at the same time. By changing the height of the tool, the mating scribed moulding is cut into the rail ends. These cutters should be used in a table mounted inverted router. Note also that they are designed to be used on timber typically from 19 to 22mm thick.

Having prepared the timber, the first job is to join the two pieces that form the central muntin. This vertical member strengthens the frame and divides the frame to improve its appearance as well as making the panel size more manageable. Most of this will be removed to house the glass panel so butt joint the two pieces of timber with a rubbed joint. This, as its name implies is simply a case of applying adhesive to one edge and rubbing the mating part against it to spread the glue. Remove surplus adhesive and clamp the pieces until the glue is dry, ensuring the faces are flush.

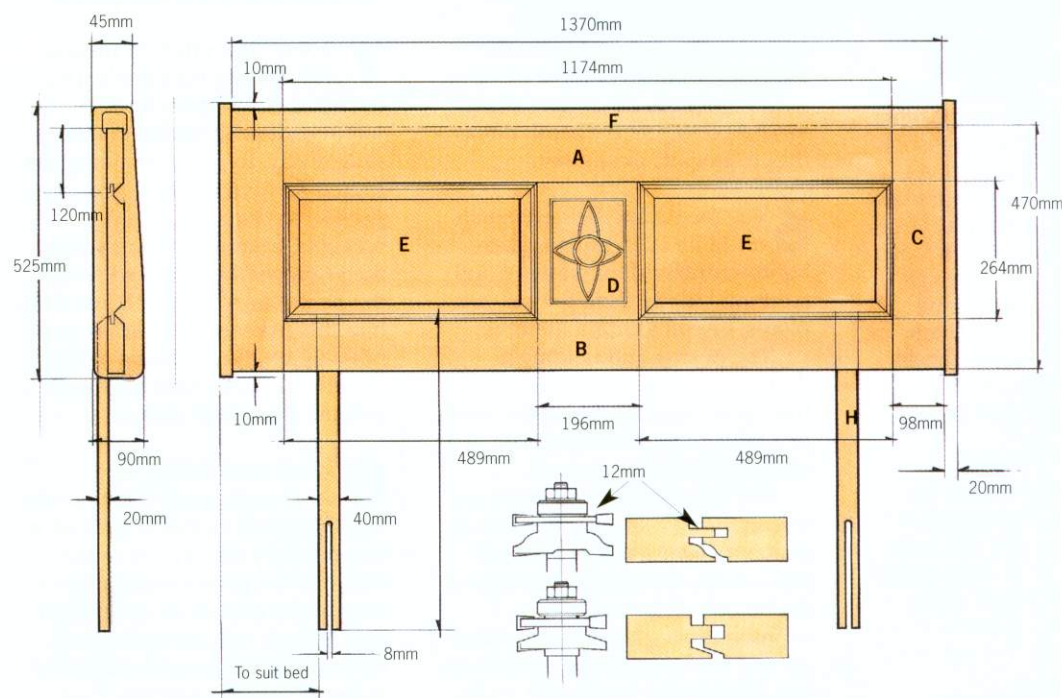
When dry, trim to length, allowing for the extra 20mm on the length for the 10mm tenons. Ensure the piece is truly square.

3 To cut the elliptical hole in the central muntin, glue a paper template centrally on the back of the panel. (if you cut from the front face there will be tear out). The low tack spray adhesive used by graphic artists is ideal as the template easily peels off afterwards. Any residue is easily removed with white spirit.

A jigsaw is used to remove the waste. Drill a pilot hole close to the inside of the line, large enough for the blade to pass through. Follow the line closely, then clean up the hole to leave a smooth curve and rout the rebate using a bearing guided rebate cutter.

4 Now to rout the rails, stiles and muntin and rails. Mount the router in its table. Rout the

CONSTRUCTION: Bed headboard



profile on the rails first. Adjust the height so that the profile is well positioned, with sufficient depth of timber behind the groove. If the rails are too thin, the moulding will not be well defined.

These cutters can cause a small amount of tear out, so, to reduce the risk of this, a very shallow scribing cut (no more than 1mm) can be taken by passing the timber the wrong way across the cutter (ie, with the direction of rotation, rather than against it). Set the router fence so that a minimal cut is taken and with care pass the rails over the cutter. Feather boards will help keep the rail pressed against fence and table. Having made the scribing cut, set the fence back and complete the profile, now working the rails against the cut. Profile all inside edges of the rails, stiles and muntin at this setting.

CUTTING LIST

Part	Qty	Mats	Length	Width	Thkns
A Top rail	1	Cherry	1170mm	120mm	20mm
B Bottom rail	1	Cherry	1170mm	110mm	20mm
C End stiles	2	Cherry	470mm	110mm	20mm*
D Muntin	1	Cherry	260mm	220mm	2mm
E Panels	2	Cherry	485mm	259mm	18mm
F Cap rail	1	Cherry	1370mm	45mm	45mm
G End uprights	2	Cherry	525mm	90mm	20mm
H Legs	2	Cherry	600mm	40mm	20mm

All sizes are finished dimensions. Add 5mm to width and thickness for sawn material

5 Reset the height of the cutter to machine the profile scribed joint. This will form the joint tenon and scribe the rail ends to match the decorative moulding on the stile and rail edges. Using the spare timber, carefully adjust the height of the cutter so that when the joint is assembled the front faces of the stiles and rails are flush. Be careful to work of the



05 Smooth the edges then rout a rebate with the aid of a bearing guided rebate cutter



06 Alternatively, you might prefer a square insert, in which case rebate the relevant edges of the frame



07 It's best to finish the panels before you assemble the frame in case they shrink insitu



08 Rout a wide slot down the centre of the top cap rail to fit around the top of the finished headboard frame

MATERIALS YOU'LL NEED

Timber

The wood is American cherry, chosen to match other furniture in the room. It was readily available at my local saw mill as through and through boards but most timber yards should carry this as sawn boards.

Glass

You can buy leaded glass kits and tools at many larger craft stores

TOOLS

Router plus a two-part or all-in-one **scribe and profile cutter set** (choose from a range of mould profiles available from Trend from £87) plus a **panel raising cutter** to match.

NB: These cutters should only be used in conjunction with a ½in router

correct face of the timber as some cutters require you to work of the back face of the components.

As this scribed profile is routed across the end grain the rails and muntin, clamp a piece of waste timber to the timber being machined to prevent break out as the cutter exits the timber.

6 The raised and fielded panels could be made in one piece, but to reduce risk of cupping and splitting I made them in two pieces, biscuit jointing them.

The raising and fielding is done using a special cutter. Due to their size, these must only be used in a table mounted router, run at a comparatively slow speed.

For the panels, two boards are biscuit jointed, spacing the biscuit at about 150mm centres. Do not place them too close to the edge of the boards or they may be exposed during the fielding. Glue up and cramp until the adhesive is dry. Machine to length and width, allowing for the panel to fit into the routed grooves, but still have

about 3mm clearance around the panel to allow for timber movement in frame and panels.

7 Mount the cutter for raising and fielding the panels. Due the amount of timber to be removed it is advisable to take several cuts to avoid straining the router. Always finish on the edge parallel to the grain so any breakout from machining across the grain will be removed. Rout the panels until they will just slide into the grooves in the stiles and rails. Again the thickness of the panels will determine how well defined the raised section is.

8 Before assembling the headboard, apply finish to the fielded panels as this is difficult to do once they are captive in the frame. If the panels should move they might expose an unfinished area. Also it will prevent them from sticking if surplus adhesive is forced into the grooves. I used three coats of Danish oil, denibbed with wire wool between each coat,

followed by a quality wax polish.

Apply adhesive to all the joints and assemble. Cramp up, checking that all is square. When dry, trim the stiles to length.

9 The cap rail is a length of square timber with all the corners rounded, using a bearing guided cutter. Rout a groove to a depth of 10mm in one face, to the width of the top rail. Use a router fitted with an auxiliary fence, which will prevent the router from wandering off line. The cap rail is glued over the top rail. Trim to length once the adhesive is dry.

10 The end pieces can be any shape you like; experiment by cutting card templates until you find a shape that works. Make paper templates, glue these to the timber and bandsaw to shape. After sawing, clean up the edges and run round them with a bearing guided rounding over cutter. Dowels or biscuits locate the ends to the headboard stiles. Carefully mark out the positions of these. Glue and cramp.

11 The attachment legs have routed slots that locate over the bolts fitted to the divan base. To machine these, use the router fitted with a straight cutter. Adjust the position of the slot so that the headboard can be adjusted to the right height. Leave a small length of solid material at the end as this will support the timber while it is being machined. Trim to length.

Attach the legs to the headboard, gluing and screwing them in place, spacing to match the bolt centres in the divan base.

12 Apply a suitable finish to the headboard, using the same finish as for the panels. Fit the leaded glass insert, using thin packing strips to centralise it. Nail small quadrant beading, mitred at the corners, in place to retain it.

Make a leaded glass insert

The coloured glass insert uses traditional techniques, with lead kames (the H section profile into which the glass is fitted). Here's an idea of what is involved if you want to have a go yourself.

Coloured glass is available in a vast range of colours at about £5 per square foot. Lead kames are about £1.50 for a two-metre length. You should be able to find a supplier through Yellow Pages.

The design is laid out on a paper pattern and fixed to a baseboard. Cardboard templates are used to transfer the shapes to the glass. The glass is scribed using a standard glass cutter and the pieces snapped out and trimmed. A small pair of pincers can be used for small irregularities.



The lead kames are easy to shape by hand and are soldered using small soldering irons and electrical solder wire. Locate them by small nails driven into the base. Build up the glass piece by piece, soldering the lead as you go to secure the glass. Once the design is complete, the lead is gently pressed down to trap the glass.

Fitting cap and end rails and the legs



09 Rout a wide slot down the centre of the top cap rail to fit around the top of the finished headboard frame



10 The end caps can be biscuit jointed in place or could be glued and screwed, using plugs to hide the screws



11 Rout the slot in each leg to fit the bed bolts. It's best to rout this stopped as shown then trim off the end



12 These legs are simply screwed in place onto the back of the frame. Make sure they line up and are parallel!

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Bench planes



There can be few pieces of kit in the workshop as useful as the bench plane. **ANDY KING** takes a closer look at this traditional hand tool and tests 10 No4 smoothing planes, ranging from budget level to professional quality

Contents

Which plane?	p45
Bailey or Bedrock?	p45
Blade choice	p45
Group test	p46
Video review	p52
Fettling a budget plane	p52

No matter how many power tools or machines there may be in your workshop, it's virtually impossible to get by without a few basic hand tools. The bench plane is one of these and comes in several different sizes.

As its name suggests a smoothing plane is used to prepare the timber surface for a final finish, and should be capable of taking a wafer-thin shaving. It may need to be properly fettled, or tuned, first. Most cheaper planes can be improved, and Jeff Loader explains how you can do this on page 52.

The No4 smoothing plane is a good all-rounder, and is particularly useful for many carpentry, cabinetmaking and joinery tasks. A longer No5 jack plane may be better for truing up long boards, doors and so on, but the No4 is more manageable for a lot of work. Many furniture and cabinetmakers rely on a finely-set smoothing plane for their timber, without resorting to abrasives before applying a lacquer, oil, wax or polish.

Plane Quality

Until the about 20 years ago it was difficult to buy a really good quality, accurately-machined plane unless you bought an old Record or Stanley secondhand. Now, companies such as Lie-Nielsen, Clifton and Veritas



are building some very fine tools, although these are far from cheap. Prices reflect the quality of materials used (such as bronze and brass), plus the traditional casting and machining processes involved. Veritas use cast aluminium for some of their components, and all three companies use fine-grained hardwood handles (either cherry or bubinga).

End Grain

As well as preparing long grain, a finely-tuned smoothing plane can be used for trimming end grain. The professional ones tested here actually produced an end grain shaving after honing.

A bench plane is often used for truing edges of thin material. For this a shooting board is generally used, which is simply a couple of boards glued together, one above the other. The tool rests on its side on the wider board, while the material sits on a narrower board above. A wooden stop across one end prevents the material sliding about. You then simply run the plane along the board, so trimming the timber. A jack, fore or try plane is better for longer timber, but a smoother will do a pretty good job on smaller pieces of wood.

The same method can be used for trimming mitres and end grain work generally.

For perfect shooting it's important the cheeks of the plane are dead square to the sole. We checked each tool for accuracy with an engineers square. Some were pretty inaccurate, others spot-on.

Perhaps more critical is sole flatness. These were checked with a steel straightedge, then cross-hatched with a marker pen. Hollows were soon revealed by running the tools across 120 and 200 grit abrasive.

Thanks to Bell Tools (Bristol) ☎ 0117 969 0288 and Screwfix Direct ☎ 0500 414141 for their help with this test.

What size plane?

Originally, Stanley bench planes came in a host of sizes from a tiny No1 through to a massive No8 jointer. Standard smoothers included the No1, No2, No3 and No4, plus a wider 4½ version.

American company Lie-Nielsen Toolworks now produce planes in all these sizes, although the No1 and No2 models have long since disappeared from the Stanley tool catalogue.

In reality, the No1 and No2 planes are too small to be used practically as they're so tiny. Even a small hand would find it difficult to get fingers around the tote, which is probably why they've gone from mass production. Gripped over the frog, these smaller tools can be used as block planes. If you want to teach your kids woodwork and can get hold of a No1 or No2, they are ideal.

The No3 plane is about the smallest size of any practical use, measuring 203mm (8in) long with a 45mm (1½in) iron. Rather compact if you have large hands, the No3 will

perform the same tasks as a No4. It will give a final finishing sweep over the timber to remove imperfections and tooling marks prior to finishing. It's also handy for end grain.

Lengths vary from just 140mm (5½in) for the No1, to the No4 at about 245mm (9¾in). A No4½ plane is a bit longer at 267mm (10½in) and has a 60mm (2¼in) blade rather than the standard 51mm (2in) width.

Most common plane in a toolkit is likely to be the No4 smoother, although some woodworkers prefer the wider and heavier 4½, especially working at the bench.

The bigger jack plane will tackle all sorts of work from quickly removing stock, to flattening and jointing. Good for shooting door and window edges, it's still quite common. Always found in a carpenter's toolkit before the advent of portable electric planers, nowadays the jack is not quite so popular for site work.

This comes in two sizes. The No5 is 355mm (14in) long

A modern Stanley Bailey No5 jack plane



On resinous woods a bench plane with corrugated sole reduces friction

with a 51mm (2in) cutter. Better suited for bench work is the No5½, measuring 380mm (15in long) and with a wider 60mm (2¼in) cutter.

The Nos 6, 7 and 8 planes are designed to true up longer timbers. Often used to shoot long boards ready for gluing together with rub joints, such as table tops. The No6, often referred to as a fore or try plane is a bit of a misfit. It's not much longer than a No 5½ jack, and measures 457mm (18in) long with a 60mm (2¼in) iron.

Measuring 560mm (22in), the No7 jointer gives plenty

more length for truing boards. Extra metal both in front of the iron as well as behind it is essential to ride the humps and dips of an edge, so the wood can be flattened effectively.

Biggest of the bunch at 610mm (24in) long with a 65mm (2½in) cutter, the No8 is a plane that needs a bit of effort to get it going, but again, once it's in motion there's no stopping it!

So which one? If you can only justify buying one plane, go for a No4. Apart from truing up long boards, there's not much it can't do.

Bailey or Bedrock?

Lie-Nielsen and Clifton bench planes are based on the old Stanley Bedrock design, which went out of production in the 1940s. Cheaper contemporary steel planes are known as Bailey pattern.

The difference between the two is the frog, the wedge-shaped casting screwed to the sole of the plane. It supports the cutting iron (blade) and cap iron, presenting the blade at the correct angle to the wood.

In modern tools this is 45° and is known as common pitch. Many old wooden planes have the blade seated at 50°, known as York pitch. Lie-Nielsen make a high angle frog to convert their longer planes (No5½ and upwards) to 50°.

Lie-Nielsen use a Bedrock frog (left), while the budget and mid-range planes are Bailey pattern



Replacement blades

You can upgrade a plane easily by replacing the blade, but this could cost half as much as the original tool in the first place.

A replacement Stanley blade costs about £10. A Japanese laminated blade, which holds a very sharp edge, is around £22. The thicker Victor blade from Clico costs almost £29.



The Clifton two-piece cap iron reduces cutter chatter when planing and speeds up honing. In front is a Japanese blade, with a Victor iron behind



Clifton, Lie-Nielsen and Veritas planes with cap irons and blades removed. The Veritas combines a traditional lateral lever with some innovative features

Stanley Handyman

£37.66 ☎ 0114 276 8888

www.stanleyworks.com

A more basic version of the Bailey plane, the Stanley Handyman design has been around for some years. The range is still made in Britain from grey iron, and this one has two plastic handles.

The grey iron casting has a burgundy paint finish. For a budget plane, the cheeks are remarkably square.

The sole is very slightly hollow, although the mouth is machined more cleanly than some of the other budget planes we tested.

Front and rear edges of the sole are slightly sharp and could do with a quick run round with a file. Overall length is 245mm, with a width of 63mm. This is the lightest plane at 1.6kg.

A traditional lever cap is provided which is pretty

crude. The casting has been plated, but it's not been ground on its upper surface. It works, but does not have a spring beneath like the pricier Stanley Bailey plane has.

It's fitted with a carbon steel iron, 2mm thick and 51mm wide.

There are two screws to lock the frog in place, but there is no rear screw for adjusting its travel.

Instead of a brass depth adjuster wheel, this one is plastic. It works OK, but takes some getting used to as it's smaller than normal. The steel lateral lever is a bit flimsy but does its job.

Typical price is around £27. For occasional DIY use rather than serious woodworking, the Stanley Handyman is not a bad plane.

GW verdict

- Cheeks pretty square to sole
- Plastic blade depth adjuster

Value for money

●●●○○

Performance

●●●○○



Irwin Record SP4

£34.87 ☎ 0114 251 9101

www.irwin.co.uk

The SP4 is Irwin's entry level plane. When first introduced several years ago, this was a great value tool that was inexpensive and ideal for carpentry work or as a spare plane to keep in the toolbox. The original came with beech handles, but sadly the latest versions are now fitted with uncomfortable plastic ones. There are ridges from the moulding process down the front and back of these, which ideally need to be removed with a file or fine abrasive.

The sole is reasonably well ground, although the mouth is slightly coarse.

Cheeks are not ground quite as squarely as the budget Stanley and some of the edges are a little rough and need softening with a file.

Overall length is 250mm,

while the width 63mm. Total weight is 1.8kg.

Record dispensed with the traditional lever cap some years ago on their planes, and now use a brass locking screw rather than a lever. It may not look so good as a pivoting lever, but I actually prefer this screw system.

Fitted with a 50mm wide tungsten vanadium iron, this is slightly thicker at 2.3mm.

While there are two screws locking the frog in place, there is no rear screw for adjusting its travel.

There's rather a lot of backlash on the brass depth wheel. The steel lateral lever works well enough, though.

If you can live with plastic handles, the Irwin SP4 is a good value tool that would benefit from some fettling.

GW verdict

- Reasonable build quality
- No frog travel screw

Value for money

●●●○○

Performance

●●●○○



Faithfull 4B

£31.44 ☎ **01322 321460**

www.toolbank.co.uk



Faithfull's smoothing plane is the only one tested to come in a flock-lined, softwood box. Unnecessary perhaps, but it's a nice touch anyway considering the price.

The tool itself is made in India, which is a bit of a surprise. It's the only one at the budget end to be fitted with heavily lacquered hardwood handles, which make it look traditional and quite appealing. Although highly glossed, front and rear handles are actually quite comfortable to grip.

The sole is coated in lacquer which should be removed before you first use the tool. Try abrasive paper followed by steel wool and white spirit.

With the flattest sole in the budget category, one of the cheeks is not square,

although the other one is pretty good.

Overall length of this plane is 250mm, while the width is 63mm. Its weight is 1.8kg, the same as the Irwin.

Lever cap locking is via a brass screw, which works well enough. The 51mm blade is 2mm thick.

Unlike the Irwin, the frog on this plane has a rear travel screw beneath the brass fine adjuster wheel. This depth adjuster has a slightly nicer feel than the Irwin.

For a limited period you should be able to get the Faithfull 4B for around £26. Not a bad price for an entry-level plane. If you have time to fettle it properly, you should be able to get pretty good results. Jeff Loader show you how to do this on page 52.

GW verdict

- ⊕ Hardwood handles
- ⊖ One cheek out of square

Value for money
Performance



A small plastic depth adjuster wheel is fitted



Depth adjuster and lever screws are brass



Hardwood handles and brass adjuster wheels are fitted



The lever cap is folded pressed steel and a bit flimsy

Footprint 4B

£47.13 ☎ 0114 275 3200

www.footprint-tools.co.uk

Footprint's 4B plane follows the traditional Bailey design. The frog is secured with two screws beneath the iron, slots enabling it to travel back and forth, closing the mouth aperture down. Lever cap and iron assembly need to be removed to adjust this. There's a slotted adjuster screw behind the frog which works well enough, though the cutter and lever cap needs to be reassembled to check the opening each time you alter it.

The blade adjuster wheel is brass and ran freely, though not as well as the Stanley.

It took some work to get the cutter assembly up to scratch, although the back of the 2mm thick iron was the best (apart from the pro tools) when flattening back. It showed a slight hollow behind the cutting edge (like a Japanese chisel), so minimal work was

needed to get it polished. The cap iron needed more work. It had a slight high spot so did not quite sit flush to the back of the blade, causing it to twist as the screw was tightened. A hairline gap trapped shavings, a problem easily sorted out on a sharpening stone.

Beech handles have a burgundy finish too thickly applied, with evident runs. The rear tote is quite chunky but is comfortable enough.

Overall length is 243mm and width 64mm. The casting revealed a slight hollow along the sole length, which could be fettled quite easily. One wing was virtually spot-on for square, the other out by about 1mm.

The Footprint performed quite well for general work, but shavings tended to work under the cap iron. End grain planing caused chatter, so skewing the tool for a slicing action helped.



GW verdict

- + Wood handles, riveted lever
- Work needed on cap iron

Value for money
Performance



A brass blade adjuster wheel is fitted. Handles are hardwood

Stanley Bailey No4

£53.54 ☎ 0114 276 8888

www.stanleyworks.com

Still made in Britain, Stanley planes switched to plastic handles some years ago. On this No4 Bailey there's a slight ridge from the moulding process, though they retain the shape of comfortable wooden versions.

The traditional lateral lever (riveted finger adjuster) is replaced with a folded, pressed steel one. It works fine, but cheapens a tool from a brand that set the standard.

The advance wheel runs smoothly, as fluidly as the Lie-Nielsen and Clifton planes.

Behind the frog is an adjuster screw to close the mouth down for finer work. For this the iron assembly is removed, tricky to get right as you have to reassemble to check the setting.

The lever cap is chrome plated with camlock lever. At

2mm thick, the iron needed minimal work to flatten before honing, and seemed to hold an edge well enough. The cap iron was a decent fit with no daylight when tightened up.

Sole and wings were not perfect, but about the best of all the mid-range and budget planes. Both wings showed very slight deviation from 90°, but close enough to get back to square without hours of work. Likewise, the sole had a slight hollow in its overall length of 245mm.

Planing was better than I'd hoped for. Test cuts were pretty successful and I could make thin enough shavings in end grain and along the grain to leave a good enough finish for most general work.

For resinous timbers you can buy a version with a corrugated sole, about £70.



GW verdict

- + Good adjusters, little fettling
- Plastic handles, lateral adjuster

Value for money
Performance



Stanley's handles have been plastic for many years, sadly

Draper P4

£52.36 ☎ **02380 266355**

www.drapertools.com

At first I thought the Draper plane was in the wrong category. Selling for around £45 it's not exactly a budget tool, however.

Despite being cast from fine grey iron with milled wings and sole, the tool lacks quality, with roughness to the top edges of the casting. Checking for square and true was disappointing. Wings are too far out of square to attempt to fettle them.

The sole shows a hollow curve of at least 0.5mm from front to back, and would need a lot of work to get it to perform to a decent standard. Add the twist and you have a plane sole in need of an engineering shop to grind it back to true.

The rear hardwood handle is an odd shape and lacks the sculpted lines of even the cheapest planes. Its fit to the

casting is poor, with a gap of about 2mm at the back. The front plastic knob is far better.

At 2mm thick, the plane iron is fairly flat on the back and didn't need too much work before honing. The tool comes with a spare blade.

The cap iron is a bad fit, not seating tightly against the back of the blade. Its angle is wrong, so shavings clogged almost immediately. This could be sorted with file and oilstone, but it's a quality control issue.

Planing anything with this tool from the box was all but impossible. General scrub flattening on a 45° angle was achieved as the shavings break up before they get a chance to jam. Long grain cuts clogged over a short distance and end grain chattered excessively. A rather disappointing tool.



GW verdict

- ⊕ Spare blade, easy lever cap
- ⊖ Handle, casting inaccurate

Value for money
Performance



The back handle is a bad fit and rather uncomfortable to grip

Irwin Record 04

£34.87 ☎ **0114 251 9101**

www.irwin.co.uk

Now produced overseas under the Irwin banner, the Record 04 plane still conforms to the traditional Bailey pattern. It's 249mm long overall and 62mm wide. You set the frog by removing the plane iron, slackening two retaining screws and using the travel adjuster screw. This works well enough, and is as easy to set as on previous models.

Unlike the Stanley plane, both tote and knob are still hardwood. Corners have been cut elsewhere, though. The lateral adjuster is pressed steel but works well enough. The Irwin reveals both cheeks out of square. These can be fettled back, but need a fair bit of work.

The sole showed a slight hollow with minimal twist, both of which were close enough to get back into shape with a bit

of elbow grease. The blade was reasonably flat on the back, but needed a bit of initial preparation.

The slightly thicker iron (2.3mm) makes it a tad easier to feel the primary bevel if you hone freehand. It makes little difference on end grain work, with some chatter if the setting is quite coarse until the plane is skewed.

Scrub work and standard smoothing cuts were pretty good, though I found despite a squarely ground iron and the frog seating true, I had to adjust the lateral lever well to the right to keep it square to the sole.

With a bit of work, Irwin Record's smoother will be OK for the tradesman, but it's a sad day to see a name such as theirs relying on imported goods to fly the flag...



GW verdict

- ⊕ Wood handles, lever cap adjust
- ⊖ Lateral lever for square cuts

Value for money
Performance



You still get hardwood handles and brass depth wheel on the Irwin

Clifton No4

£148.71 ☎ **0800 371822 (Axminster)**

www.axminster.co.uk

The Clifton No4 plane differs from the Lie-Nielsen and Veritas in using grey iron for the body casting, rather than the more forgiving ductile iron. This does mean the tool is prone to cracking damage should it get dropped on a hard surface. But to be honest, planes of this calibre are not going to be chuckled about.

It's based on the traditional Bedrock frog pattern of the early Stanley planes. Like the Lie-Nielsen, the frog is held on two pins. Two set screws trap it by locating into dimples on the pins. A fine-pitched central screw advances the frog assembly to close the mouth down, moving it smoothly.

The Clifton is beautifully finished, with lever cap and casting edges highly polished. Cam lever and cap screw are polished brass, while paintwork

is a nostalgic racing green.

With a two-piece cap iron, this tool offers the easiest sharpening method of the three planes. That said, the iron needed a bit more work to get it flat on the back prior to honing. It was very slightly convex behind the cutting edge. The 3mm thick iron is superb, hand-forged carbon steel hardened to Rockwell 60-62C. You can feel the hardness of the steel on the stone as you sharpen...

The lateral adjustment lever follows older Stanley designs with the top part peined onto the main adjuster.

Cheeks were spot-on so it can be used on a shooting board straight from the box. The sole showed a very slight hollow over its 244mm length, though it took just a couple of minutes to flattenback. To be

honest, this was minimal and didn't affect normal planing before I lapped it, but no doubt there are woodworkers who wouldn't accept any inaccuracy on a plane.

The Clifton is an excellent traditional plane that's pretty comfortable, with slightly more finger room between rear handle and frog.



Veritas No4

£146.75 ☎ **0845 330 9100 (BriMarc)**

www.leevalley.com

Despite looking like a traditional smoother, the Canadian Veritas is radically different. It's cast from ductile iron, so if dropped won't break. The casting has a textured finish to the enamelled parts. Sole and cheeks are milled flat with very slight softening on the edges. Cheeks were perfectly true, though the sole showed a minimal hollow, rectified in minutes.

The lever cap is cast aluminium, with a lightly textured surface. Instead of a cam lever there's a large brass knurled knob. Easy to control pressure to hold the blade tightly against the frog. The screw hole on the lever cap is countersunk, and prevents the cap from jumping backwards under load as it works.

Blade adjustment is based on the Norris pattern, with a double threaded rod controlling depth. This sits in a socket enabling lateral adjustment to be made

using the same rod. It works very well. I love this type of adjuster, though you lose the option of tweaking the cut as you plane (as with a traditional centre wheel).

Two small set screws tapped into the cheeks close to the mouth offer further sideways adjustment, minimising movement at the honed edge. This makes adjustment far more responsive than a normal lateral lever.

The frog forms part of the sole rather than sitting within the casting. This creates a huge flat milled area for seating the blade, helping eliminate chatter. The 3mm thick iron is A2 steel, and will take a very keen edge.

Wedge-shaped, the frog is held down with a set screw accessed through the lever cap hole and a brass knob at the back. The assembly sits over a brass adjuster knob. This moves the frog forwards, but because it's part of the sole it

also acts as an adjustable mouth. This is excellent, making it easy to make fast adjustments, although I found the locking knob and adjuster a bit close together.

Handles are bubinga and the rear tote is part of the frog assembly, independent of the sole. It's trapped between top and bottom webs so is less likely to snap, like traditional handles can do.

Innovative design should win the Veritas plenty of fans.





A two-piece cap iron reduces chatter and makes honing faster



Handles are bubinga with a satin finish. Brass parts are polished

GW verdict

- ➕ Two piece cap iron. Polished
- ➖ Not ductile iron, handle clipped

Value for money ●●●●●
Performance ●●●●●



The frog forms part of the mouth, and can be reduced for finer cuts



A Norris-style depth rod doubles as the blade lateral adjuster

GW verdict

- ➕ Unique frog and adjustments
- ➖ Can't adjust depth as you plane

Value for money ●●●●●
Performance ●●●●●

Lie-Nielsen No4

£187.78 ☎ 0800 371822 (Axminster)

www.lie-nielsen.com

American company Lie-Nielsen Toolworks offer two versions of some of their bench planes, with body casting either ductile cast iron as in this case, or a heavier version in bronze. Casting quality is superb, finely milled with a matt black paint job on the internal faces and edges. Being ductile, it will survive if dropped.

Handles are polished cherry and the lever cap bronze. This combination is classy and creates a striking tool. Traditional Stanley Bedrocks had clipped wings and Lie-Nielsen have revived this. Bedrock design relates to the frog rather than the wings though, with a superb easy adjustment to close the mouth down without removing the lever cap and iron.

Two pins drop through the frog to locate it to the

machined bed. Twin set screws trap these through dimples in their sides and secure it. This enables a central screw to move the frog assembly forwards, which works very well.

The blade adjuster wheel is brass, running the wishbone blade advance in and out smoothly making it easy to control depth of cut as you work. There's a fair bit of backlash to take up on the thread, but no more than any other hand plane I've used over the years.

Ergonomically this plane is excellent. The rear tote is slightly closer to the frog than the Clifton, but is still very comfortable. A longer sweep at the top of the handle sits nicely over your hand.

The 3mm thick high carbon steel iron is hardened to Rockwell 60-62 for

improved edge retention. A combination of this and the flat bed of the frog help to eliminate chatter.

The cap iron is removed for honing, but engineering quality makes this a cinch.

Sole flatness and squareness of cheeks is not an issue. They were spot-on straight from the box.

The Lie-Nielsen responds to very fine adjustments which, coupled with the thick iron and solid Bedrock frog, mean you can shave end grain as easily as surface work. A gorgeous tool...

GW verdict

- ➕ Superb quality, easy to adjust
- ➖ Some backlash on depth wheel

Value for money ●●●●●
Performance ●●●●●



A manganese bronze version of this plane is available at £225.34



The lever cap of this Bedrock pattern plane is bronze

FINAL VERDICT

• Smoothing planes

Both the **Irwin Record SP4** and **Faithfull** budget planes are reasonable if you're prepared to do some fettling. The **Faithfull's** hardwood handles just gives it the edge, though.

The mid-range planes are a little disappointing. Although the **Irwin 04** isn't too bad, cheeks were not accurately ground, and the sole needed some flattening. It does have wooden handles and a good feel, though.

Footprint still use a decent lateral adjuster. The tote is a bit thick, but still feels comfortable. Pity about the lacquer job. Again, the sole needed some work to flatten it back.

The **Stanley Bailey** is still quite a decent plane, although corners have been cut. Pressed steel levers and plastic handles cost pence, but cheapen the image. Although not perfect, the casting was about the best in this group. Adjusters operate well, with the blade advance pretty sweet.

I would welcome any of the professional planes into my toolkit! The Norris type adjuster on the **Veritas** is superb, especially with grub screws controlling lateral movement. I find the extended tote too far back from the frog, though.

Traditional planes like the **Clifton** will always get my vote. This one has class, with superb handles and excellent finish. Frog adjustment lifts it further. A clipped tote and risk of fracture if dropped are the only minor disadvantages.

The **Lie-Nielsen** is based on the Stanley Bedrock, and works superbly. Cherry handles, polished brass and bronze parts enhance the ductile iron body for a fine plane. With no fettling necessary, it just emerges as Best on Test.

NEXT MONTH: Scroll chucks

Ian Wilkie tells you which is the best one to buy.

Hand Tool Techniques: Plane Sharpening

By David Charlesworth

Produced by Lie-Nielsen

Toolworks Inc

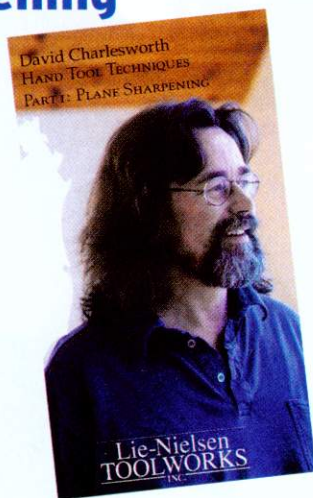
Price: £21.70 incl p+p

www.davidcharlesworth.co.uk

☎ 01237 441288

You may have been sharpening tools for decades, but this new video will help to get your bench planes working even better than ever. Filmed at one of Lie-Nielsen's open house events, David Charlesworth passes on 30 years of experience in a methodical, easy to follow style. It runs for 77 minutes.

After describing the three fundamentals of a finely-tuned plane, he expertly explains how to use and maintain Japanese waterstones, prepare the back of a blade, fettle a chipbreaker, sharpen a curved blade and re-assemble the plane. He passes on some neat tricks using a steel rule.



This is certainly no big budget production, but that's no bad thing. I was amused by the cameo appearance of the canine delegate!

Phil Davy

Tool Techniques: Plane Sharpening

Content	●●●●●
Presentation	●●●●○
OVERALL VALUE	●●●●○

The art

Having trouble planing? **JEFF LOADER** shows you how to get the most from a budget smoothing plane in a few hours

Budget planes generally are not what they used to be. Once upon a time you'd expect far more from even a cheap plane, and certainly not the poor castings and quality control found in most modern offerings. That said it's perfectly possible to take an inexpensive No4 Bailey pattern smoothing plane, and boost its performance to something near to that of the few prestigious brands which retail for £100 plus.

However, not content to let matters rest there, I thought it would be useful to undertake a head-to-head comparison test drive between a fully-tuned plane, one with just a replacement cutting iron fitted (same thickness as the original), and a new tool used straight out of its box, with just its iron sharpened.

I chose a trio of the budget Faithfull No4 smoothing planes for this tune-up and head-to-head contest.

Sole Matters

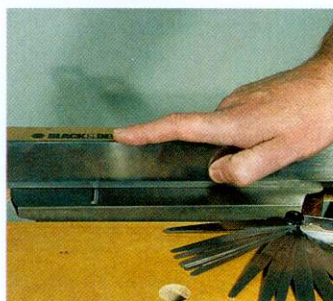
It's a generally held belief that the sole of a plane's cast iron body should be as flat as possible. Despite metal seemingly to be a very stable material, the inherent stresses of the casting renders the sole

prone to movement. Some manufacturers help counteract this on more expensive tools, but inevitably cheaper planes tend to have soles that aren't as flat as many woodworkers would prefer.

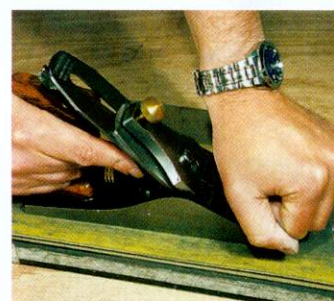
Therefore, the first task in fettling the Faithfull No4 into a super-smoother is to check if the sole is acceptably flat. To what degree of flatness is up to you. I prefer a sole to be no more than 0.05mm out of true for a relatively short No4, although a tad more is probably OK.

A good test for flatness is to place the plane down on to an engineer's surface plate and insert feeler gauges into the gap/s between sole and plate. Any discrepancies can then be fairly accurately measured. However, most woodworking workshops do not have a surface plate, so placing a steel straightedge across the sole will do. This needn't necessarily be of engineering inspection quality, but should still be a decent one. Holding the plane, with the straightedge placed on the sole, up to a light source will soon determine if true or not. If necessary, the plane body may be held lightly in a vice, while feeler gauges are placed between the straightedge and

Preparing the sole and frog



01 Feeler gauges can be inserted between a straightedge and the plane's sole to gauge unevenness



02 Lap the sole on a sheet of 120 grit abrasive paper. This is stuck with spraymount to a thick pane of glass

of fine tuning

sole to check any error.

Usually the sole will be fairly flat across its width, but the chances are it won't be along its length. If the margin of error is too great, it will need flattening. The ideal would be to use an engineering firm to grind the sole for you. This may not be cost effective, so probably the best option is to hand lap it flat yourself.

Hand lapping can be done in either of two ways. The first is to use a plate of flat glass with a suitable grinding powder/paste. I find this method a bit messy and prefer to flatten soles of my planes on a pane of flat, thick glass to which successive grades of abrasive paper are attached.

Using abrasive cut from a roll is best, as just the right length you need can be cut. The alternative less practical option is to join two or three regular sheets together. Spraymount adhesive is best for temporarily sticking the abrasive to the glass. It's easy to remove and doesn't cause hidden bumps and hollows like double-sided tape.

It's crucial that the plane is fully assembled when undertaking hand lapping. This is because the frog and other components exert forces and tension on the plane body.

Start lapping with 120 grit abrasive paper stuck to the glass. Regular woodworking aluminium oxide paper is fine. Wind the cutting iron right back, and begin working the



No.4 plane with Japanese iron (left), a standard Faithfull tool (right) and a fully-tuned plane (back)

plane back and forth with steady, even strokes. Avoid using a rocking motion, as it will be near impossible to obtain a flat sole if you do.

The likelihood is that the sole of your plane will be concave, and this shouldn't be too difficult to work flat. A sole that is convex, or more likely has the toe end curling upwards, is a much more tricky prospect. However, put the workshop radio on and settle down into a steady flattening rhythm. Continually check your progress to ensure you're on the right track.

When the sole becomes acceptably flat – it doesn't necessarily have to be perfect – change to a finer grit (say 180) to start removing the coarser grit marks. Steadily work down the grits to around 600 grit wet and dry. A little water may be used to prevent the paper clogging, although I find this can be messy.

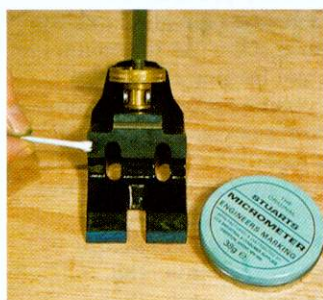
If the plane is to be used with a shooting board, at least one of the sides (or cheeks) must be worked square to the sole (usually the right side). This can be done with an accurately prepared hardwood

batten lightly clamped onto the paper and glass. You then run the plane's sole against it while the side is abraded squarely to it. However, this requires a fair amount of concentration and skill and need only be done if the use of the plane with a shooting board is absolutely necessary.

The Faithfull tune-up model actually had a sole that was reasonably flat for a plane in this price bracket. It was slightly concave along its length, so I worked it until the hollow was less than 0.05 mm, checked with a feeler gauge.



03 Check that the frog is acceptably flat. An engineers square is the ideal tool for doing this



04 Use engineers blue to coat the underside of the frog. This is then clamped in the plane to check the fit



05 Clamp the body in a Workmate and use a homemade scraper to get the seatings flat



06 When widening the mouth, use vernier calipers to gauge that the opposite edges remain parallel

Frog Fettling

This isn't some archaic and nefarious country practice, but the task of ensuring the blade beds down well onto the frog, and that the frog will mate well with the body seatings.

Use a straightedge to check the machined bed (upper surface) is acceptably flat. If it's not, it can be flattened on the abrasive plate. This means removing the lateral adjustment lever and taping the Y depth adjustment lever back out of the way (or removing it). Usually the bed is fairly flat and any particularly high spots or bumps can be carefully filed, without major surgery being required.

The fit between frog and body next needs to be checked for a good fit. Usually, as I found with the Faithfull plane, there are coarse machining marks on the underside seatings of the frog. However, these are usually straightforward to file or abrade flat and true.

Unfortunately, checking to see if the body seatings have been machined flat is much more difficult. A good way to check is to coat the flattened underside frog seatings with engineers blue, then clamp the frog in place. When taken apart again it should be clear if the fit is good or bad, by how much blue has been deposited

on to the seatings. If it shows the parts mate well, leave well alone. Otherwise, fettle the fit with a small scraper. A convenient size of scraper, of sorts, can be made from an old small file, by grinding the teeth away and squaring the tip. Be careful not to blue the blade while grinding.

Cutting Iron

The quality and condition of the cutting iron is one of the key components of a plane. And just like dropping an MG engine into a Morris Minor, one of the biggest performance improvements for a cheap plane is to replace the cutting iron for a better quality one. Often the replacement iron will cost more than the price of the entire plane, but this should be money well spent if a variety of woods are regularly worked. A better quality iron will take a keener edge which lasts longer, and a thicker one helps reduce chatter. If you envisage just planing soft woods or only occasionally using the plane, then there's little point in changing the blade.

Some replacement irons, such as the Japanese laminated ones (from Axminster) are of a similar thickness to the original and are easy to swap. But thicker irons sometimes

need the mouth widening, for even with the frog adjusted the larger blade can choke this aperture. Fortunately the Faithfull plane didn't need its mouth widened to receive the Victor replacement iron, but here's how to do it:

First, calculate how much the mouth needs to be widened. Blue the area of the sole immediately in front of the mouth and then scribe a line across to indicate the amount that needs to be removed. Use a thin flat file to carefully widen the mouth and check the opening remains parallel with vernier calipers.

The new blade needs preparing in the usual way, which will involve hand lapping the back to remove the manufacturer's grinding marks and to flatten it. Yes, yet more tedious lapping!

Cap Iron

The cap (or back) iron must have an end that is shaped to form part of a semi-circle. This must be smooth (and is best polished) to enable shavings to be separated from the blade and pass smoothly over it and away. It's very important that a good fit is achieved between the leading edge of the cap iron and the cutting iron. Any gaps will result in shavings becoming wedged between them, which will inevitably make the plane choke. Flattening on a good quality bench stone can rectify an errant leading edge.

Some makes of cap irons are of poor quality and can be replaced with much better ones, such as the Clifton two-piece cap iron. These are based on the old Record Stay-set cap iron. The advantages of the thicker two piece construction is to reduce chatter by more

Far better than the plastic ones found on many budget planes, rosewood handles add a touch of class and feel a lot nicer



effectively clamping the cutting iron to the frog. It also enables the lower section to be removed, leaving the upper part in place. This means the blade may be lightly honed many times without losing the previous cap iron setting. I fitted a Clifton cap iron to the Faithfull tune-up plane.

Lever Cap

To help ensure that the lever cap firmly and evenly clamps the double irons in place, it's advisable to check that the underside end surface of the lever cap is flat. If not, it can be worked on the lapping plate or a bench stone.

Rosewood Handles

Many planes are fitted with plastic handles, which tend to look cheap and are not particularly nice to hold. Some woodworkers like to make their own replacements out of such woods as rosewood or walnut. Making your own allows a bit of leeway designing them to suit your working grip preferences. For instance, the front knob can be made lower and chunkier – like early Bailey pattern planes – to give a grip more over the top, rather than around it. The rear tote can be shaped and rounded to give a handhold that suits you.

Finish your own wooden handles with a light coat of linseed oil. Much better to grip with sweaty working hands than shiny plastic handles.

To save you the trouble of making your own handles, Crown make excellent rosewood replacements. These are

Preparing lever, cap and iron



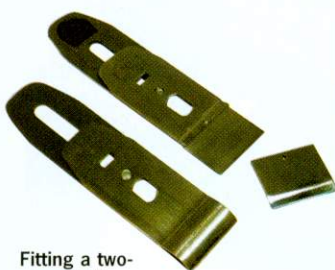
Hone the back of the cap iron to ensure a good fit with the blade



Lap the underside front edge of the lever cap so that it clamps down on to the cap iron correctly



Work the back of the blade (cutting iron) flat before honing



Fitting a two-piece Clifton cap iron will improve most standard bench planes

supplied with extra studding (from Axminster).

Faithfull fit heavily lacquered wood handles to their planes. I fitted a set of replacement handles to the tune-up model, as the rosewood makes it look and feel a bit more sophisticated.

Final Tinkering

While adjusting depth of cut backlash can be experienced, even with new planes. This is where there's play between the depth adjusting nut and Y adjustment lever, or between where the adjustment lever fits into the cap iron slot. Apart from being a bit annoying, taking up the slack can sometimes make it a bit difficult to make fine cut depth adjustments. Unfortunately, if the Y lever is a casting, there isn't much you can do about it. However, most planes these days have Y levers that basically consist of two bent pieces of plated steel. These are fairly bendable and, to a certain extent, can be fettled to take up the backlash. For instance, each of the sides of the Y lever, which engage with the brass depth adjuster nut, can be bent away (forwards/backwards) from each other to form a perfect fit.

In a similar way, the two

tops of the Y lever may be carefully parted to provide a more snug fit in the cap iron aperture. These benefits are negligible, though, especially with thick replacement irons where the tops of the lever may only just reach the cap iron aperture. Probably the best way to totally sort out backlash is to make your own adjustment Y lever out of mild steel if you have the time.

Nowadays, many lateral adjustment levers, like those on the Faithfull planes, are of pressed steel. There's not much you can do to improve these unless you replace them with a better quality one cannibalised from an old, redundant plane.

For a smoothing plane, it's best to have just a small opening between the blade and the front of the mouth. The frog adjusting screw can set this, but even though you may have widened and worked the mouth opening parallel, the blade may not fit parallel to the front of the mouth. Slackening the retaining screws and twisting the frog can rectify this, as there's usually a tad of play between the components.

What does it cost?

All the tune-up items (except the Faithfull N4 smoothing plane) are available from Axminster ☎ **0800 371822**

www.axminster.co.uk

Faithfull No4:	£25.94
Victor 2in blade:	£28.80
Crown Handles:	£14.76
Clifton 2-piece 2in cap iron:	£11.34

Total tune-up cost (with Victor blade): **£80.84**

2in Japanese laminated blade: £21.48 not used

Road testing the Faithfull No4

So, on the starting grid, we have three Faithfull no.4 smoothers. One has only had its cutting iron flattened and sharpened. The second is fitted with a Japanese laminated replacement blade of a similar thickness (plus its cap/back iron was fettled to fit), and the third has been fully tuned. All three plane irons were honed to give a razor-sharp cutting edge, capable of shaving the hairs from the back of my hand...

Each plane was set the task of taking the final smoothing shavings from a variety of woods, ranging from soft pine through to hardwoods that are prone to tearout. Not surprisingly, all three planes performed very well with the kinder woods and were judged to be almost neck and neck after planing pine. However, when working tougher hardwoods (like beech and oak) the fully-tuned plane edged into the lead. It seemed to sit better on the work and gave a more solid feel than the standard model, which is prone to being skittish when the going gets tough.

Interestingly, there didn't seem to be much performance difference between the standard plane and the one fitted with the Japanese laminated blade. Certainly a keener edge could be obtained with the latter, but this was found wanting after planning some gritty iroko. Magnification revealed the cutting edge had a series of minor chips, which resulted in little ridges being left on the surface of the planed work.

Planing timber prone to

tearout (mostly mahogany and black walnut) gave interesting results. The standard issue No4 took created fine finishing shavings, but left clear evidence of grain tearout. Fortunately, the smoother fitted with the super-sharp Japanese iron fared better, with less tearout. But the best performer by far for working difficult timbers was the fully-tuned model. Tearout was negligible and a pleasingly smooth finish obtained.

Results

Finishing a full lap in front of the others, and so stepping up onto the winner's podium, is the fully-tuned model. Its overall performance and handling are far superior to the others. In second place, the No4 with the Japanese blade just pips the standard version to the flag. Because of this, it may not be worthwhile fitting one to a plane that will only get occasional use. That said, the laminated blade does provide a performance boost, particularly when planing timbers prone to tearout and wild grain.

The good news for woodworkers on a tight budget (with the odd wet Saturday afternoon to spare), is that an inexpensive Faithfull No4 plane can be bought and successfully tuned with a decent range of accessories for around half the price of a top smoother. OK, so this may not compare with a Clifton or Lie-Nielsen, but it should definitely burn off any lesser model of standard spec...



An easy upgrade is to fit Crown replacement handles in rosewood. These cost about £15 a set (left)

The Faithfull plane fitted with a replacement Japanese laminated blade. Behind is a fully tuned smoothing plane (right)





News from the wood

Pete Martin brings you all the latest news, products and gossip from the world of woodworking

Woodcraft in Stockton

A new course for Y10 and Y11 school students and community groups wishing to develop skills in woodwork has just been launched in Stockton-on-Tees.

Woodcraft Training Services was set up by tutor Ian Coning, a qualified carpenter and joiner as well as teacher. The workshop

takes up to six students at a time at Stockton Business Centre, Skinner Street. The course is particularly aimed at those with educational difficulties, and typical items made are bathroom cabinets and bedside drawer units.

For more details, contact Ian on **01642 786449** or **07788 585824**.

With no government funding, the course is supported by DeWalt, Irwin Industrial Tools, Magnet Trade, Arco Teesside and Hathaway & Hoyle timber merchants



At last, a Charnwood thicknesser

Charnwood admit to being late in adding a portable thicknesser to their range, the reason being that they were not happy with the many samples that came their way for testing. Not, that is, until they found the W570.

A compact, all metal, 12½in (318 mm) thicknesser, the W570 is powered by a 1500W motor which runs off a 13A power supply. Its weight of only 30kg makes it ideal for 'under the bench storage' or moving from job to job. When it comes to performance however, the new machine's ability to chew the chips is astonishing. With a feed rate of 8m/min, a maximum depth of cut of 3mm and a rubber covered outfeed roller, it can hold its own with much larger and more expensive machines.

Rollers at the ends of the infeed and outfeed tables plus



the provision of pass-over rollers, make for easy handling of heavy timbers. Roller stands are also available for the safe handling of long timbers.

The W570 has a two year guarantee and is competitively priced at £229.00. For further information contact:

Charnwood at **01530 516 926** or www.charnwood.net.

Light up your day

LightBulbs Direct, the Internet-based light bulb specialist has a fantastic offer for woodworkers to ensure the best possible colour matching on work and help banish those winter blues. The company is offering big discounts on all Activa colour balanced daylight fluorescent tubes until the end of October.

high colour temperature (here 6500K) to give a much whiter light than normal bulbs and tubes. Unlike others, however, the Activa range also gives an evenly balanced light across the spectrum, providing an excellent simulation of real daylight.

Cabinetmaking has been Patrick's hobby for many years and he has first hand experience of Activa tubes. "My workshop has very little natural light so I've always had to rely on artificial lighting. Installing Activa tubes was an absolute revelation. Opening the workshop door now is like walking onto the beach!"

Activa tubes range from £10.85 to £17.95 (plus VAT) and can be ordered direct on **01494 723286**. Woodworkers quoting reference Q966 will get an extra 10% discount off the already discounted prices until 31st October. More details on hundreds of other bulbs and tubes, available at up to 70% off retail prices, are on the website at www.lightbulbs-direct.com.



MD Patrick Hudgell explains: "Many wood-workers work in artificial lighting for at least half the year, yet few realise how badly most workshops are lit. Conventional fluorescents emit a very yellow light which gives poor colour rendering, resulting in bad colour matching, eye strain and problems in discerning fine detail.

Activa tubes counter these problems by using a special balance of phosphors to provide the best possible simulation for real daylight. Like all types of daylight bulbs, they have a very

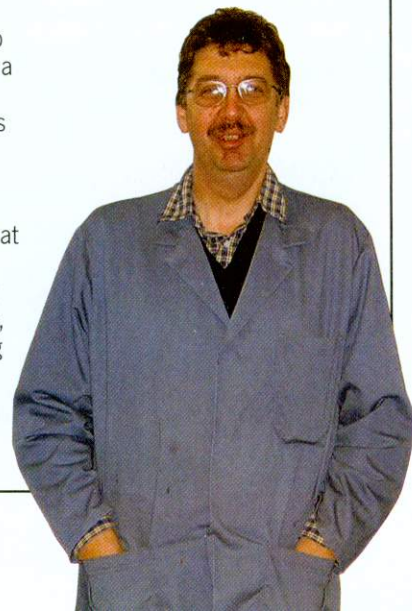
Acquire new skills

Would your woodworking benefit from a course to brush up on old skills or acquire new ones? If the answer is yes, then Bob Lambert's Woodworking Academy could be what you are looking for. Formally a course instructor for Craft Supplies, Bob has been a woodworker for 43 years, 26 of which were spent in the trade from site joiner to joinery manufacturer and from bench hand to foreman furniture maker. He has also spent the past 15 years as a fully qualified woodworking instructor, teaching all levels from absolute beginners to professional improvers.

Bob offers tuition in his fully equipped workshop or at your home. Courses cover: basic woodworking, routing techniques, furnituremaking, cabinetmaking, woodturning techniques, power tool woodworking or home DIY woodworking skills. Whether you need help

starting your chosen project or want to improve your skills, Bob can design a course to suit your needs. If you prefer to learn with friends then a course can be designed for up to four people.

For further details contact Bob on **01623 408343**, email Skillsdevelopment@ntlworld.com or www.woodworkingacademy.co.uk or www.routingacademy.co.uk.



Buying your favourite magazine



Many readers of *Good Woodworking* (along with all other woodworking magazines) may be noticing difficulties in obtaining their copies of the magazine from branches of WH Smith. Major changes at this nationwide chain of high street newsagents have resulted in many specialist magazines

being reduced in number on specific newsstands or dropped altogether to make room for more lucrative products.

Unfortunately WH Smith is a major distributor of *Good Woodworking* (the best-selling woodwork magazine in the UK) and this is bound to hit availability considerably. To make sure you can still read your (hopefully) favourite magazine every month, place an order at your local newsagents (WH Smith will still order it in for you on a regular basis) or, better still, why not take out a subscription. Turn to page 84 for the latest money-saving offers when you subscribe.

The *Good Woodworking* team will be at the Westonbirt Festival of Wood (see Diary) again this August Bank Holiday, so why not come along and say hello. You can even subscribe on the spot!

X-plore the air

There's precious few respirator masks on the market so any new one must be greeted with a cheer or two. The Draeger X-plore range of powered air purifying respirators is a modular system, allowing the user to choose between the various helmets, visors and filters for extra protection in dusty environments.

The X-plore 7300 features a TH PSL filter against hazardous particles and with an adjustable airflow it can provide protection for up to 16 hours. If gases or vapours are present the new X-plore 7500 has a wide range of filters with adjustable airflow offering safe use for up to six hours.

Both the 7300 and 7500 feature integral audio and visual alarms, a multifunctional operating panel and

rechargeable NiMH battery operation which operates for up to eight hours.

As well as being safe and practical, these respirators are light and comfortable to wear and offer options suitable for every situation. For more info contact Draeger Safety UK on ☎ 01670 352891.



Celebrate Craftsmanship

Once again there's a great opportunity to visit the beautiful spa town of Cheltenham and see a wide range of stunning furniture and original decorative arts from 75 top furniture makers and artists. Held from August 21 to 29, most of the work at this years Celebration of Craftsmanship exhibition will

be for sale giving you a chance to own a unique piece of exquisite craftsmanship. This is the 11th year of this popular exhibition, to be held at the Thirlestaine Long Gallery, Cheltenham College. For further details contact ☎ 01242 238582 or www.celebrationofcraftsmanship.com

Diary dates

NEWS, events,
exhibitions, shows
and courses for the
woodworker

In association with

trend
routing technology

PETER CHILDS DEMOS

September 4

Derek Philips

September 18

Tony Witham

October 2

Derek Philips

October 16

Tony Witham

**The Old Hyde, Little Yeldham,
Halstead, Essex**

☎ 01787 237291

WESTONBIRT'S FESTIVAL OF WOOD

August 23-30

A family favourite. Come and enjoy wood sculptures and woodcrafts in the beautiful surroundings of Westonbirt Arboretum, near Tetbury, in Gloucestershire. From August 23, 12 sculptors from around the world will create beautiful sculptures from wood using chainsaws, chisels and sandpaper, auctioning them off on Bank holiday Monday. Over the weekend you can also meet 150 craftsmen including carvers,

turners, pyrographers, toymakers, basket makers - all demonstrating their skills and giving you a chance to buy their wares. *Good Woodworking's* Dave Roberts will be giving turning demos, Paul Hayden will be showing you the joys of green woodworking and there will be rides for the kids in the *Good Woodworking* Toylander!

**Admission: Adults £7.50,
children £1 and Families £15.
Details ☎ 01666 880220**

JOHN BODDY'S DEMONSTRATIONS

September 4

Finishing - Alan Waterhouse

September 11

Woodturning - Andy Routhwaite

September 18

Woodcarving - Peter Berry

September 21

Upholstery - Anne Cochran

**John Boddy's Fine Wood &
Tool Store, Riverside Sawmills,
Broughbridge, North Yorks**

☎ 01423 322370

FANGFEST - FESTIVAL OF PRACTICAL ARTS

September 5 - 6

The Rocking Horse Shop, Fangfoss, York.

Great family entertainment. See artists in their workshops making beautiful wooden toys, leatherwork and pottery. There will also be stands selling toys, handcrafts, tools, equipment and much more.

Free parking. For details call ☎ 01759 368737.

TURNERS RETREAT

TURNING DEMOS

September 11

Open Day

October 9

John Berkeley

Turners Retreat, Woodturning

Centre, Brunel Industrial

Estate, Harworth, Notts DN11

8QA. ☎ 01302 744344

www.turners-retreat.co.uk

CHAINSAWS OUT FOR THE SANDRINGHAM CRAFT SHOW

September 17-19

10am to 6pm

The Sandringham Craft Show has an All Things Wooden theme this year, plus the first ever English Open Chainsaw Competition.

Some of the finest artists, designers and craftsmen in the country will be exhibiting, demonstrating and selling their

crafts and skills, from watercolours and fabric crafts to ceramic sculptures, furniture, woodturning and stained glass.

With a specialist Fine Food Hall, Ferret Racing, Childrens puppet shows and more, it's a family day out not to be missed!
**Adults £7.00 OAP's £5.50
Children £3.00**



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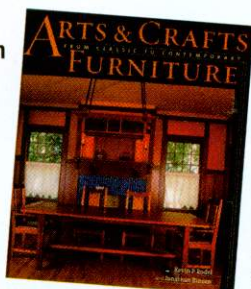
News from the wood

We review the latest woodwork books & videos

Arts and Crafts Furniture

By Kevin P Rodel
and Jonathan Binzen

Published by: The
Taunton Press
ISBN 1-56158-359-6
Price: £29.95



makers from either side of the Atlantic all gathered together in the same place in glowing living colour.

It's interesting to see how the designs varied around the western

I've always liked Arts and Crafts furniture, even if I don't really know a great deal about its history, other than that the movement was started as much by William Morris as anyone, and put great store on individual craftsmanship and simple and utilitarian but ultimately beautiful designs.

So this lavishly illustrated tome serves as a fine history lesson of the movement, as well as a great resource book of ideas, well worth borrowing every time you head into the workshop. Here are the works of Gustav Stickley and the Barnsleys, Mackintosh and Frank Lloyd Wright, Greene and Greene and the Mission school,

world, from the simple Morris chair (actually designed by Phillip Webb) to Charles Rohlfs and his 'decorated planks', and also to discover that the art and craft is not yet dead, but nourished still by many contemporary craftsmen worldwide. If you like plain and simple furniture, buy this book!

Pete Martin

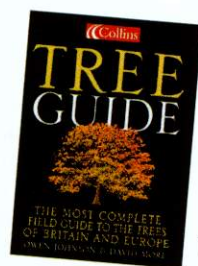
Arts and Crafts Furniture

Words	●●●●●
Drawings	N/A
Photography	●●●●●
OVERALL VALUE	●●●●●

Collins Tree Guide

By Owen Johnson &
David More

Published by: Collins
ISBN 0 00 713954 3
Price: £25



How many of us can recognise easily dozens of different timbers when cut into boards and planed up, but struggle to identify our native trees growing in parks and woodland areas? I'm certainly guilty, so this comprehensive Collins Tree Guide is welcome. Too hefty to slip into your jacket, but at A5 size, would fit a rucksack pocket easily.

More than 450 pages are devoted to hundreds of trees growing across Britain and non-Mediterranean Europe. Everything from familiar flowering cherries to lesser known cabbage palm.

Early pages show winter shoots and shapes of conifer

needles and broadleaves. Each species has at least two pages, with drawings of bark, flowers and fruit (or cones), leaves (some autumn colours), plus a typical tree's appearance. What you'd

expect really, but with detailed information on key species, what to look for, related trees and so on. As an example of this book's wide coverage, oaks are dealt with in no less than 28 pages...

It's not cheap, but this beautifully produced field guide is one for the Christmas list.

Phil Davy

Collins Tree Guide

Words	●●●●●
Drawings	●●●●●
Photography	N/A
OVERALL VALUE	●●●●●

DEMOS AT KEENLEYSIDES

October 16

Woodturning – Mararet Garrard
Keenleysides Mica Hardware,

19 Station Street, Bedlington
Station, Northumberland,
☎ 01670 823133/824988

ROBERT SORBY

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September 4

Data Power Tools, Newport

September 9 – 10

Graham's Machinery, Chester
☎ 01244 382282

September 10 – 11

Yandles, Martock
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September 11

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Sheffield S8 0PA

☎ 0114 225 0700

YORKSHIRE WOODCRAFT WOODTURNING CLINICS

September 4

Woodturning clinic

October 2

Woodturning – Tony Wilson
Yorkshire Woodcraft Supplies
Ltd., Finkle Street,
Cottingham, East Yorkshire
☎ 01482 844200

FREE DEMONSTRATIONS AT ISAAC LORD

August 28

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September 11

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01494 835200

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Spalted knife box



A spalted beech panel and contrasting joint splines makes **Andy Brough's** cutlery box as decorative as it is useful



PROJECT GUIDE

Difficulty

Simple

Time

30 hours

Type

Boxmaking

TOOLS YOU'LL NEED

Router table

Biscuit joint

cutter

Chamfer

cutter

10mm rebate

cutter

Mitre saw,

hand or

powered.

Shoulder

plane or other

small very

sharp plane

Several years I purchased some steak knife blades for which I was going to make turned handles. It became something of a family joke that every time we needed steak knives not enough notice was given to allow me to turn the handles, which would take much longer than cooking the meal!

To bring the story up to date I have recently developed a passion for making boxes and am always looking for ideas, so the inspiration to make the handles eventually came about because I wanted to make the box for the steak knives. Of course, although my box was made for the knives, with small changes it could be used to hold small valuables or collectable items, in fact a jewellery box.

All my previous boxes had 'box joints' and this time I wanted to use keyed mitres in contrasting

timbers that would also match the handles. The beauty of box making is the ability to use either expensive, rare or scrap timbers. In this case I had some reclaimed mahogany, stripped out of an office a few years ago, and some new sycamore left over from my kitchen worktops. The mahogany was 1500x75x50mm, out of which were cut the handle blanks plus a couple of spares, leaving not a great deal for the box. I had no shortage of sycamore and would have selected a piece with some ripple had I not found a small piece of spalted sycamore in the wood turning collection. This then formed up the timber selection.

The first eight hours of the project were spent messing around with the handles, which would determine the eventual size

of the box, if it was to look as though the two were designed for each other. The completed knives were then laid out on a piece of paper and the inside dimensions of the box determined

Making the Box

Always prepare more timber than needed as it's easy to get mitres wrong, and much better to re-cut a new piece than try and make the old one fit. Follow the conventional wisdom and leave the sawn timber in stick for a few days to settle before planing to size. Boxes require a high standard of finish; if a planer and thicknesser are used then all surfaces must be hand planed to achieve the final surface, so allow for around 1.0mm for hand

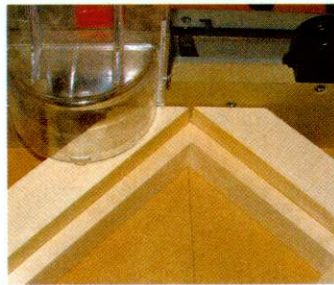
Joining up the frames



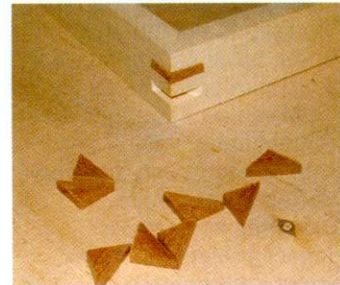
01 Use an accurate mitre saw to cut the joints on the various side and base components



02 Masking tape is the perfect cramp for small boxes. Lay a strip down the outside faces then flip and fold



03 Run the assembled sides through the router table on a jig at a 45° angle to cut slots for the splines



04 A biscuit joint cutter produces perfect sized slots for splines. Put in top and bottom ones by flipping the frame

planning. It is best to surface one face and then hand plane before thicknessing so only 0.5mm needs to be left for hand planning the other face. The trouble with boxes is that both sides of a piece of wood are seen, so ensure one side is perfect before thicknessing.

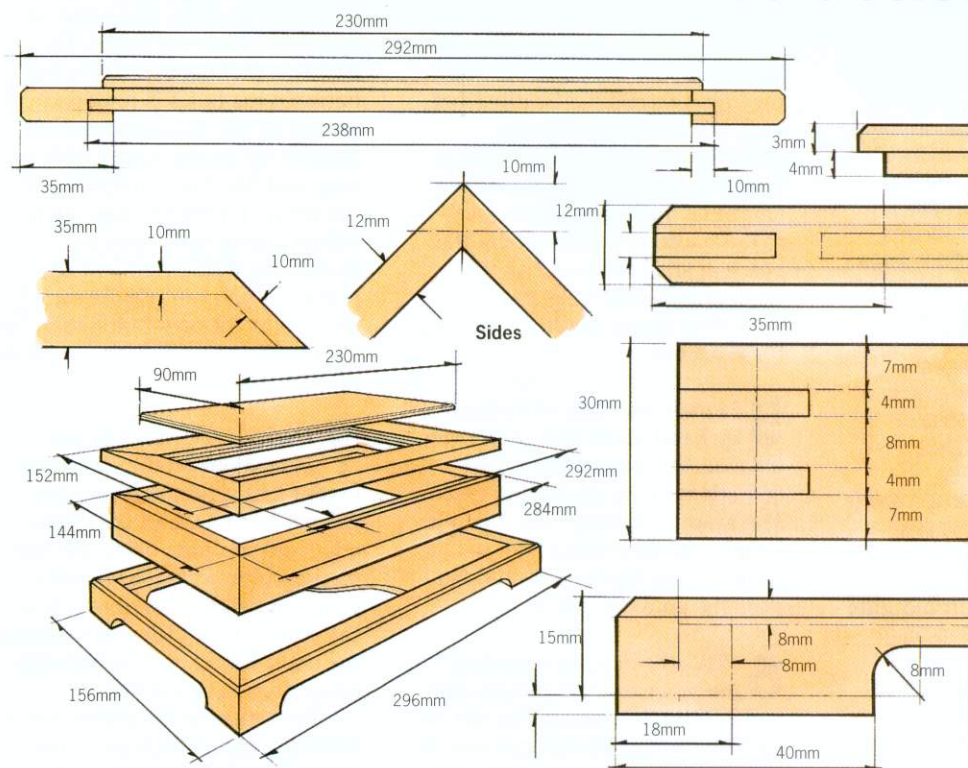
There are three separately made components, the base, box and lid. Each can be completed before starting on the others. Start with the box.

1 Prepare a length of sycamore to finished size and mark the mitre cuts with a suitable gauge. The beauty of the mitred joint is that the grain can run around the box with all the mitred joints being cut in sequence on the inside face. However, the last joint meets up with the grain of the first so that will not match. With sycamore that does not matter but if a prominent grain is evident, then, if you start with material twice the thickness and saw this in half and prepare two sides from each half, the grain will run all the way round. Simple eh!

2 There are several ways to cut mitres, either by hand or power. An accurate frame saw such as used for picture framing is ideal. A powered mitre saw is also a possibility but remember the finish on the cut ends has to be perfect or a lot of trimming with a plane and mitre shooting board will be required. A saw table with a fine toothed blade may be used but ensure there is no play in the mitre slide. And it's better if the timber is clamped to the slide as the blade tends to push the timber away. I can recommend a Triton Workcentre in overhead mode and an 80 tooth blade.

Once the correct angle has been set a sub fence is fitted and the saw run through it, which sets the position where the cut will be and prevents breakout.

DETAILS: Box carcass construction



TIP

A really sharp finishing plane with a narrow gap is required. I recently fitted Clifton blades to my Stanley No3 and shoulder planes, especially for box making, and the results are far superior to those already fitted

3 As all surfaces are planed before cutting no sanding is required, so preparation for gluing up can start. A classic way to glue mitres is with masking tape. Lay the sides, inside face down, against a straight edge and stick tape on the outside over the joints. Turn the sides over, apply glue to both faces of the joint and fold over to form the box. Tape the last joint and put one piece of tape all the way round to pull everything tight.

Check for square by

CUTTING LIST

Part	Qty	Mats	Length	Width	Thkns
A Base front & back	2	Mahogany	296mm	18mm	15mm*
Base sides	2	Mahogany	156mm	18mm	15mm*
Base panel	1	Birch ply	276mm	136mm	4mm
Box front & back	2	Sycamore	284mm	12mm	30mm
Box sides	2	Sycamore	144mm	12mm	30mm
Top frame f & b	2	Mahogany	292mm	35mm	12mm
Top frame sides	2	Mahogany	152mm	35mm	12mm
Top panel	1	Birch ply	238mm	98mm	4mm
Top dec panel outside	1	Spalted syc	230mm	82mm	7mm
Top dec panel inside	1	Spalted syc	222mm	82mm	5mm
Key strip	1	Mahogany	200mm	11mm	4mm
Key strip	1	Sycamore	100mm	40mm	4mm
Handle	6	Mahogany	110mm**	25mm	25mm

Cutting lists give the full length of a piece including the joint but not wastage. Add 5mm in the width and thickness for sawn material.

measuring the corner diameters and pushing the corners until square as required. Add weights to the box to hold the square and keep flat. The best method is to use a frame clamp as shown here.



05 Use a Forstner bit of an appropriate diameter to cut the stopped ends of the mitred and rebated base cutouts



06 Bandsaw the waste between the two holes then rout to a clean finish on an inverted router with a straight cutter



07 Frame cramps such as this from Axminster are the perfect way to clamp up small mitred sections for boxes



08 The bottom sits in a rebate routed in the top edge of the base. This is slightly deeper than the ply's thickness

MATERIALS YOU'LL NEED

Timber

Box dimensions are generally small so most materials can be sourced from the offcuts box

Knife blades

John Boddy's
☎ 01423 322370

Hinges

Restoration Materials
☎ 0161 764 2741

Frame clamp

Axminster
☎ 0800 371822

Ambroid glue

is available from good model shops

4 Whilst the glue is drying a jig for cutting the key slots should be made. This is to be used in conjunction with a router table and biscuit jointer cutter. I used the Trend set, with a bearing that gave a 10mm depth of cut, although in this case the depth is set by the fence on the table. The jig can be fairly crude provided that the internal angle where the box will sit is not less than 90°. The cutter height is set once so both slots can be made by turning the box over.

5 Prepare the strip of mahogany by hand plane to a good fit in the slots but not too tight. Just enough to allow the film of glue. The grain of the key runs along its length and they should be cut slightly over size and planed flush once the glue has dried.

6 Make the base by repeating the procedure for preparation and cutting the mitres. The feet on each end of the base pieces may be cut out by hand or scroll saw, but a neat way is to use a Forstner bit,

which cuts a smooth hole. To cut the radius, the depth of the base is left larger to allow the centre of the bit to guide the cutter. The excess is then removed. The bit between the holes is removed mostly by the bandsaw and cleaned up on the router table or rasp and file. Don't forget to cut the rebate for the ply base plate before gluing up! I used an Axminster frame clamp at this point but you can use the same method as the box. Mark and cut the ply to an exact fit on the rebate of the base and glue in.

7 The same procedures are carried out on the lid frame except that a 10mm deep 4mm groove is cut around the inside edge and the ends using the same biscuit cutter as earlier but at a different height: this time it is in the centre. Take care when cutting the ends to back the timber with scrap to avoid breakout.

The centre of the frame uses a 4mm ply core, which provides strength and something to glue the spalted panels to later! The spalted sycamore had little strength so, rather than make a solid top, I cut thin sections and glued them to the plywood. The width is only some 80mm so shrinkage with the thin section is not likely to cause a problem.

8 Glue the frame and ply core in one go as before. The keys are really only decorative and added once the glue has dried. I should have mentioned before, but for all the keys I used a cellulose adhesive called Ambroid with which I build model aeroplanes. Its original use was to repair kayaks, so it is plenty strong enough, with the great advantage that excess

glue can be wiped off with cellulose thinners after it's dried.

The spalted panels are glued in place and then sanded, as planing proved not to be effective as the surface crumbled a little.

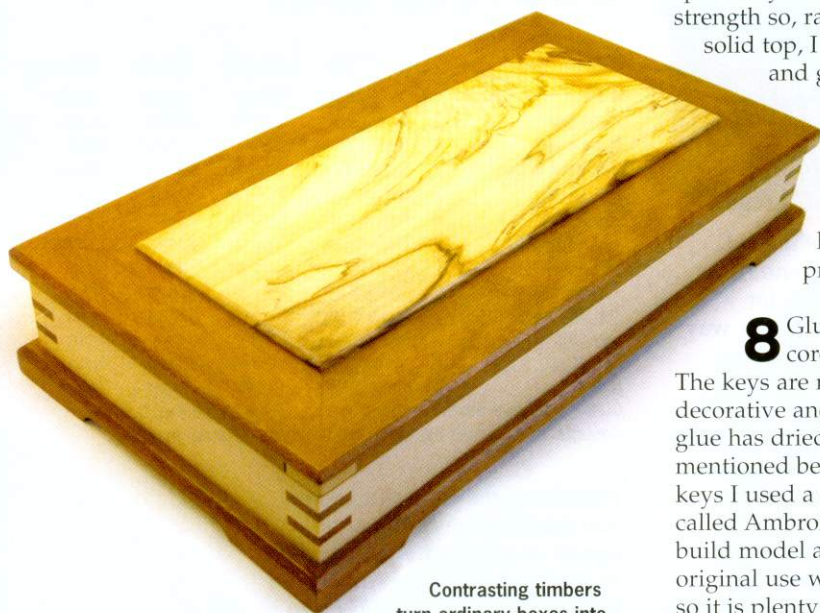
9 If you are going to keep knives in it then add the central mahogany blade support which has saw cuts to hold the blades. Also some 6mm ply plates are needed to raise the handles to keep the knives level.

10 Before starting a project like this the relevant hardware should be bought and taken account off in the construction. This is particularly true of hinges, which must be high quality extrusions.

Hinges need to be narrower than the material that the box is made of, as the position of the hinge pin determines, along with the chamfers on the bottom edge, the open angle of the lid. I arrived at an angle of around 110° by trial and error, using double sided tape to temporary locate the position. To do this you first cut the full, depth housing for the hinge a little too narrow so the centre line is too far off the back of the box. Stick the hinge in position on the lid with the tape and adjust the position with the knowledge that the hinge may need to be moved forwards slightly to its final position. If the hinge has to move in then the lid will have to move back to keep it central on the box. It's easier to do than describe!

Finishing

11 As all pieces are hand planed before construction, very little sanding is required, if any. Give all surfaces two coats of cellulose sanding sealer, rubbing down with an abrasive pad between coats. A final coat of melamine lacquer is added and once hard a final coat of fine wax applied



Contrasting timbers turn ordinary boxes into something special

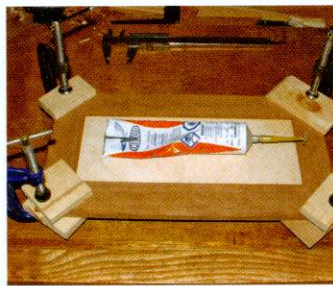
Making the lid



09 Use the biscuit slotter to cut grooves for the top panel in the lid frame. Mitre the ends of the frames at 45°...



10 ...then use the same cutter and setting to cut grooves in the mitred ends for splines to reinforce the joints



11 These splines add a decorative touch. Add the tongued central panel as you assemble the frame



12 Cut off the protruding splines and smooth flush with the frame edges with a very sharp block plane

Turning the handles

The handles are a simple turned shape which is then planed to give two flats which both stops them rolling off the table and also makes them comfortable. The only tricky bit is in rounding the end of the handle with the skew chisel but if this tool causes you problems then a beading tool could be used. Bore the hole

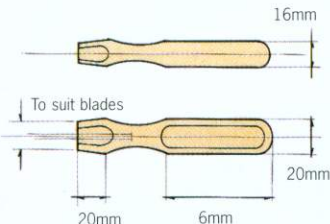
for the tang first. Put this end in the live centre. The blank is 25mm too long, to allow clearance when turning the round end near to the drive centre. Complete turning, sand and remove from lathe. Plane the flats and shave the four flats on the blade end with a shoulder plane. Finish will be as the box.



15 Drill the ends of the handle blanks for the tangs on the knives before you turn the shapes



16 Use the tang hole to centre the blanks on the headstock. Turn between centres with a skew chisel



17 The skew is also used to turn the ends to a smooth curved shape. This takes practice

(except where the baize is to be stuck) with the same abrasive pad and finally buffed to a sheen. Last of all the baize is cut to size and stuck down to protect both box and blades. Actually this last bit is almost the hardest of all to do neatly and is probably better achieved with a non self-adhesive material glued in place with contact adhesive and a piece of greaseproof paper in between to position it. Using self-adhesive material is difficult.

NEXT MONTH

David Cockburn's shapely piano stool will make a useful piece of furniture even if you have no piano!



13 Gently saw the hinge shoulders then chop out the waste between the cuts with a chisel. Pare the recesses flat



14 If you're making a knife box then add a central divider cut with narrow slots to hold the blades

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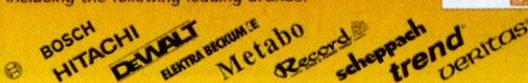
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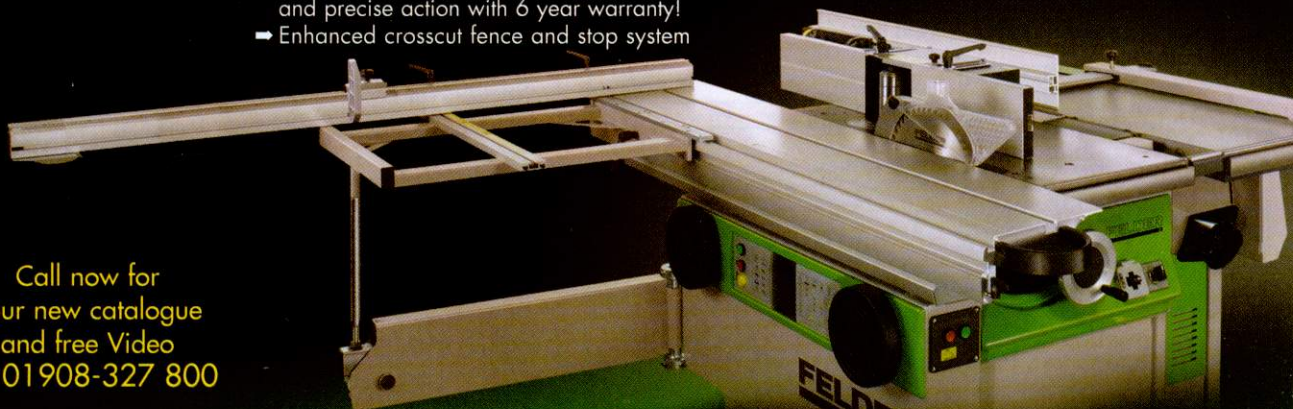
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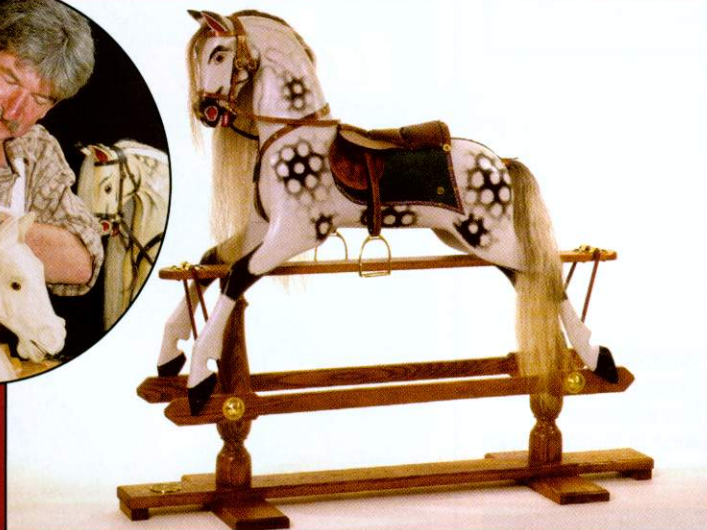
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Panasonic **COMPETITION**

WIN PANASONIC 18V CORDLESS POWER TOOLS WORTH A TOTAL OF £1100

Two lucky winners this month: the winner will get his hands on a superb Panasonic 18V Reciprocating Saw and a Drill Driver, while the runner up wins an 18V Combination Drill

The battery has revolutionised the way we work wood, and in the forefront of battery technology are Panasonic, who are the donors of this month's superb competition prizes., in the form of some superb 18V tooling

Packing power and performance into powertools is Panasonic's forte, and these 18V prizes show just how good they can be. First prize is the catchily titled EYC 150 GQKW reciprocating saw and drill driver package (worth £649.00), with an equally catchy EY 6950 GQKW combi drill up for grabs to the runner up (worth £469). Boasting the highest amp hour (Ah) batteries available, each prize has 3.5Ah NiMh batteries for extended run time while keeping the weight to a minimum.

The variable speed saw is ideal for quickly lopping timber prior to final

dimensioning, ripping out and even pruning the trees in the garden! It isn't just limited to timber; fitted with the correct blade it can tackle plastics and metals with equal ease.

Probably of more use to the woodworker, and well worth getting your hands on, is the battery drill. The first prize has a drill driver as part of the package, ideal for practically all woodworking tasks. With a maximum drilling capacity in wood of 50mm and 13mm in steel, this should satisfy most woodworkers. Andy King ended up drilling close to 300 20mm holes in 19mm MDF on a single charge when he tested it. Very impressive, but very tiring!

Win the combi drill and not only do you get the same impressive timber and steel capacities, but also the option to drill up to 13mm in masonry. This function was



put to the test recently and managed 110 7mm diameter holes in concrete blocks. There's got to be more to life than this!

Both drills have a two-speed gear box and variable speed trigger, along with a 15 position torque collar sat

behind the spindle-locked, single sleeve, 13mm chuck.

Each prize comes with a diagnostic charger, getting the batteries up to speed in 65 minutes. This and the high amp hour rating means you should always have one ready to go.

How to enter and win

To enter our **Panasonic** competition simply answer these three simple questions. Put your answers, plus address, on a postcard or on the back of an envelope (not in it please), and send to:

**Panasonic Competition,
Good Woodworking, 30
Monmouth Street, Bath BA1**

2BW to reach us no later than **Friday 24th September**. No multiple entries please.

1 Panasonic have some of the highest Ah batteries in the business, but what does Ah stand for?

1 Amp hour

2 Always Hot
3 Andy's Holidays

2 Panasonic offer a super duo as first prize, but which dubious 'comedy' duo had a 'Supersonic' member?

1 Morecambe and Wise
2 Little and Large
3 Phil and Bill

3 Not only are the cells lighter, but NiMH is more environmentally friendly than NiCd. But what does NiMH stand for? (Must be a first, two out of three questions are almost relevant!)

1 No Idea Mate, Horsepower?
2 Nickel Metal Hydride
3 Now Involves More Holes

Artistry

Phil Davy reflects on the work of some of Britain's top designer makers...

August may mean holidays and relaxation to most of us, but not to many of the country's finest craftsmen and women. They will no doubt be burning the midnight oil to complete their creations in time for Cheltenham's *Celebration of Craftsmanship* exhibition. If you want inspirational woodworking, there is no better place to visit.

Meanwhile, here is a taste of the fantastic furniture and carving on display at last year's 10th anniversary of this prestigious event.



Trevor Cottell's *Desk and Chair in a Square Metre* contrasts sycamore with brown oak. The back of the chair is built up from horizontal layers



Sawle and Vaughan's *Welcome Bench* in oak is a wonderful combination of straight lines and curves. It would look great in a spacious hall or even outdoors

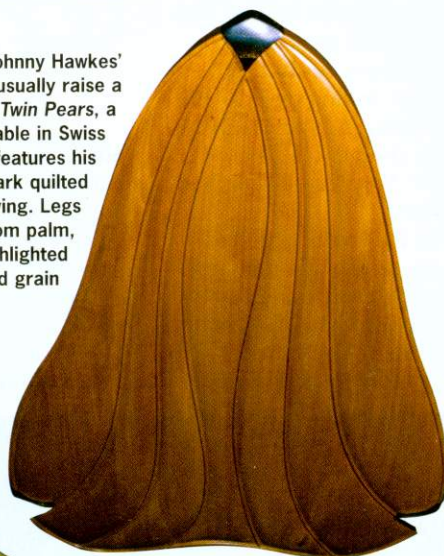


This *Shell table* by Mark Griffiths is made up from birch ply. Veneered in macassar ebony and sycamore, edges were dipped in hot sand to create the scorched effect

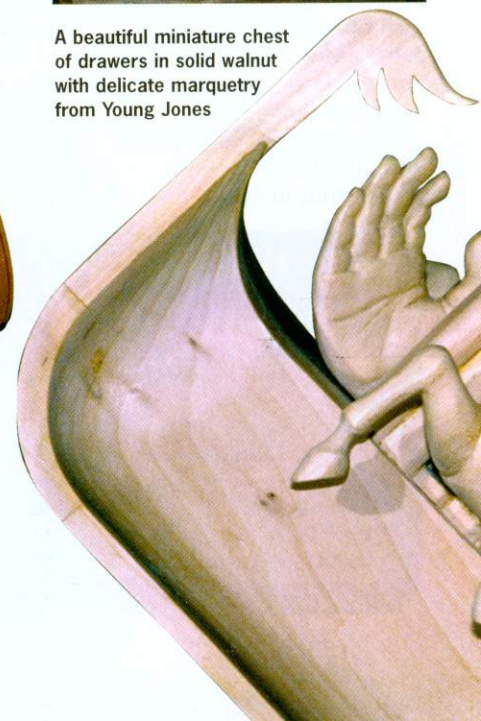


A beautiful miniature chest of drawers in solid walnut with delicate marquetry from Young Jones

Johnny Hawkes' creations usually raise a smile. *Twin Pears*, a low table in Swiss pear features his trademark quilted relief carving. Legs are from palm, with highlighted end grain



Ian Norbury's work never fails to impress. His stunning *Yumitori-shiki* was carved from lime, with a walnut apron and holly fringe. It took even about five weeks to carve...





Detail of the laser-cut marquetrie decoration along the top and bottom of the Egyptian cabinet

This extraordinary Egyptian drinks cabinet in maple from John and Louise Cropper stands about 2 metres high. It consists of three triangular shelf units that revolve to conceal the contents (left)



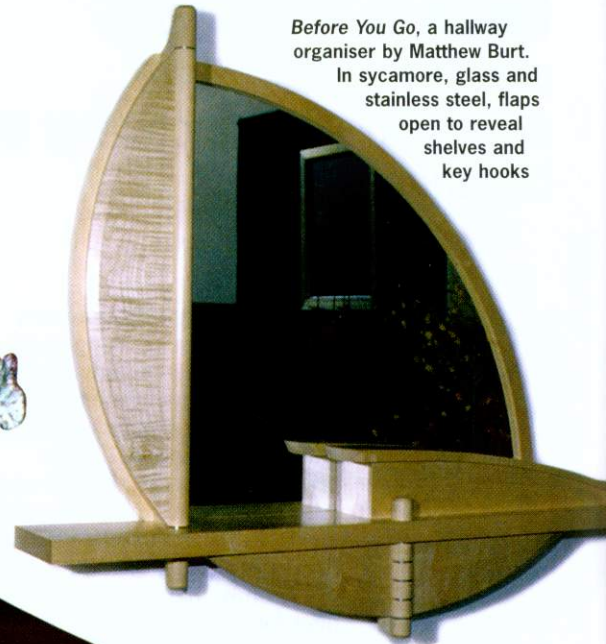
David Lilley retained the natural edge of the English elm door for this unique wall cabinet. Inner carcass, shelves and hinges are from oak, while the finish is Danish oil



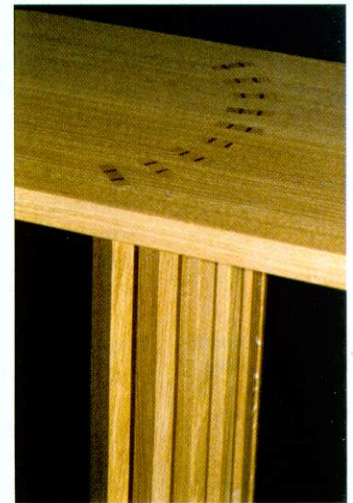
A godchild's drawer cabinet in fiddleback sycamore and holly by Andrew Varah. Each of the 22 drawers has a date to mark each coming year of the child's life, beginning in 2003



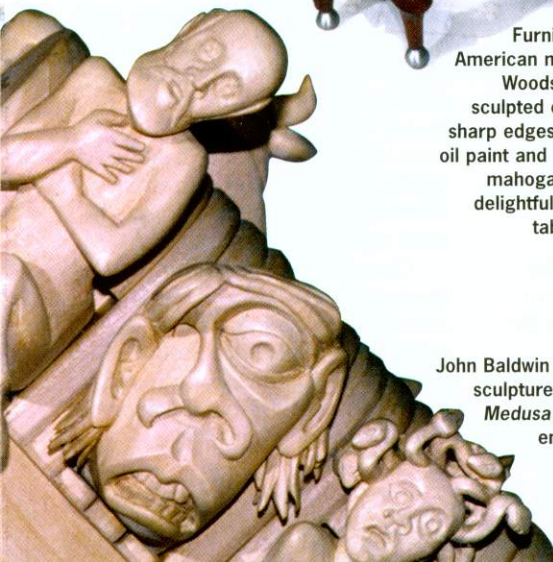
Furniture from American maker Leah Woods combines sculpted curves with sharp edges. She used oil paint and fabric with mahogany for her delightful sculpted table *Vanity*



Before You Go, a hallway organiser by Matthew Burt. In sycamore, glass and stainless steel, flaps open to reveal shelves and key hooks



Curved slatted legs and highlighted tenons on James Codrington's *Centre Point* console table in oak



John Baldwin carves fascinating narrative sculptures from lime. His sinking *Ark of the Medusa* plaque is both intricate and entertaining

Cheltenham 2004

If you want to see the work of around 75 of Britain's finest furniture-makers, turners, wood sculptors and artists, make a note of the dates of this year's *Celebration of Craftsmanship*.

The exhibition runs from August 21st to 29th at the Thirlestaine Long Gallery, Cheltenham College, Bath Road, Cheltenham, Glos. It's open from 10am to 4pm daily, with tickets at £5.50.

Details on ☎ 01242 238582 and www.celebrationofcraftsmanship.com

Blotch-free finishes



Finishing expert **Mac Simmons** details three easy methods to prevent your precious work from developing a bad case of the blotches

Blotching is an extremely common finishing problem that most woodworkers will run into from time to time. It is one of those problems that are tricky to prevent because its effects only appear after the wood has been stained and clear coated. And, of course, then it's too late to do anything about it, and a piece of furniture that you've sweated over for possibly weeks is less than perfect in final appearance!

The leading causes of stain blotching are the soft and spongy sections found in certain species of woods; other causes include inadequate planing of the raw material and poor sanding procedures. But whatever the reason for the dreaded blotching, when it becomes highly visible it takes away from the beauty of the woods and your final finish.

Of course, it's better that you prevent blotching from occurring right from the start – and the techniques I've listed here will prove of great assistance – but many readers will no doubt already have a piece of work that



has been poorly stained and in need of some help. Don't despair – should you have decided that the blotching is too offensive, you can still strip off the colour and coating with a paint remover, and then try one of the following remedies to correct the problem.

Concerns about blotching should mainly be focused on the tops or facings of the furniture. Do not confuse the figurings in a piece of timber with blotching, as these are all natural markings and shadings in the wood, and add beauty to the finished result.

So, here are three easy methods that will help you to prevent or at least reduce the amount of blotching in your finished work.

Seal the Surface

Use a couple of thin wash coats of shellac or a sealer to put a thin film over the wood, and prevent the stain from penetrating deep into the wood. If the stain cannot get into the wood it will not blotch, and will give a uniform colour to the wood. You can also wipe on a 'pre-conditioner', which can be bought commercially or be made by thinning boiled linseed oil with mineral spirits to seal off the woods.

Allow each of these sealers to completely dry before staining or colour glazing on top. Wipe the stain on, and then uniformly wipe it dry. Once the stain is completely dry, you

can then complete the finish with your clear coats. Keep in mind that you only want to put a thin film on closed-grained woods to prevent the stain from blotching; on the deeper open-grained woods you can apply more thin coats, but you do not want to prevent the stain from colouring the wood.

Size Matters

The second method is using a glue sizing, which is a mixture of a PVA and water. The ratio for closed-grain woods is one part glue to three parts water; on opened-grained wood, use equal parts of glue and water. You can make adjustments to the sizing formula depending on the kind of woods you are work on.

Apply with either a cloth or a brush, ensuring you completely cover the entire surface, and then allow for complete drying. The glue sizing will leave a clear translucent skin on the wood, and will seal it from deep stain penetration. If you only apply one coat of size, do not try sanding the 'dry size'. To be sure that you completely covered the entire wood, I suggest you apply two coats of sizing, and then sand very lightly. Do not be too aggressive when sanding, as it is very easy to sand right through the skin.

Once the glue sizing has thoroughly dried, begin your colouring process. A stain or a coloured glaze may be used on top, and then allow for thorough drying. Complete your finishing processes with clear coats.

Try out a series of tests on samples of your timber then stain them and finish with several clear protective coats



Solvent Soaking

In this third method, you can use either the same solvent used to make the stain (water or spirit) or any other compatible one to soak the surface to be stained. While the wood is still wet, apply the stain, and then either wipe it dry, or allow it to air dry. If your stains and solvents are miscible in water, add water in an amount equal to 10% of the solvent dedicated to the stain, and then soak the wood. This will allow you to apply the stain and will slow down the evaporation of the alcohol. If you are using a water-soluble dye, then add 10 drops of glycerin to a quart of water to 'solvent soak' the wood. The glycerin can also be added to the alcohol solvent to slow the evaporation.

The wetting solvents act as a stopper to the stain, and prevent it from soaking deeply into the woods, which is the main cause of blotching. Be sure to allow both the wood and the stain to thoroughly dry, and then complete your work with clear coats. As with all new finishing methods you should always make up complete samples from the start of the process to the finish.

Sample, Sample, Sample

I strongly suggest that you begin each new finish by making up samples on pieces of scrap wood left over from your project.

Start out with your intended finishing process, including the final coats. Regardless of which

one of these methods you decide to use – whether a sealer, glue sizing, or solvent soaking – it is better to learn how to use them on wood samples rather than to test them on your work. After you complete these samples you will know exactly what to expect and will see the final results.

You may want to do some testing, implementing each of these methods to discover exactly how they work and the final results. This will give you a chance to test your stains, glazes, and coatings to be sure they are all compatible in advance of finishing.

Another option you might want to try is one of the newer gel stains. These are a paste type of stain that are less likely to create blotching than most other stains. In some cases, sanding with finer sandpapers may also work.

Be Selective

I personally think that more fuss is made about blotching than is necessary; I would be mainly concerned about it occurring on the tops and facings of doors and drawers on your furniture. Manufacturers allow for some blotching on parts of their furniture and cabinets. After all, wood is a natural material that we have no control over; remember it's not the stains (be they pigments or dyes) that cause the blotching, it's the woods.

As all dyes are permanent, you need to be sure of its effect



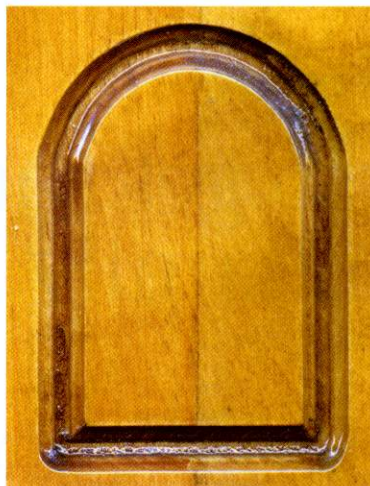
Dye stain being wiped over a panel that has been solvent soaked

before you apply any dye stain to the wood; however, pigmented stains in most cases can be washed out of the woods.

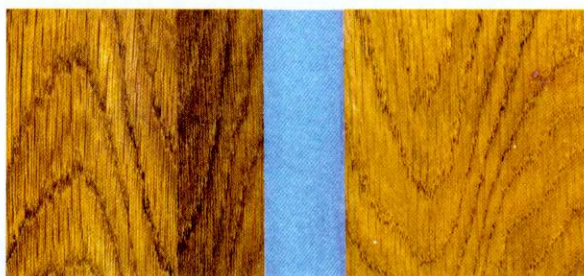
Use of any of these methods to prevent or reduce blotching and you will notice that the stain will be a lighter colour than when you applied the stain directly on top of the woods. This is the most important reason why you should always make samples; the tests will allow you to make any needed colour adjustments to the stain. In some cases, you may like the lighter colour, and then follow the same method you used to make the sample. If you're not happy with the lighter colour, then darken up the stain until you hit the right colour.

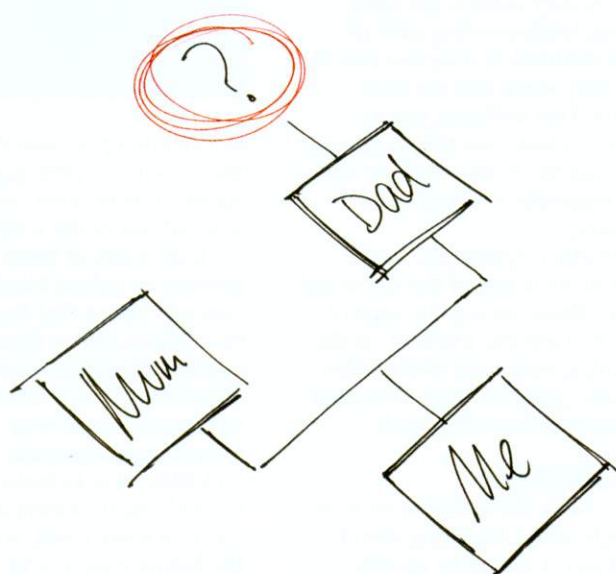
As I mentioned at the start, the biggest problem with blotching is that you see the problem after it's too late. In some cases blotching may be acceptable; when it is not, give one of these easy-to-do remedies a try and see how they will prevent or reduce it.

“Be they pigments or dyes, it's not the stains that causes the blotching, it's the woods”



In both the samples shown left and below, the right hand side has had a glue size applied before applying stain and clear coats across both halves. The result is a finish free of blotches





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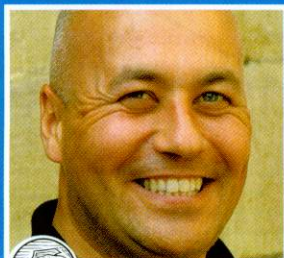
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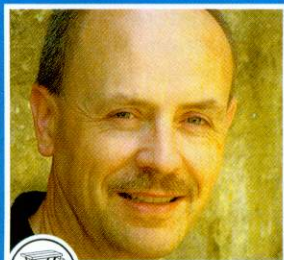
Answers

Our experts answer questions on morticing, drying timber, curing a saggy door and gauging technique

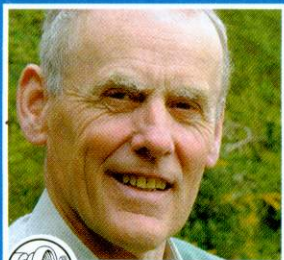
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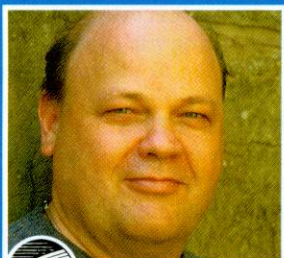
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Drying ash



I have regrettably had to fell an ornamental mountain ash that has had its roots broken by the wind. It had just set its berries so is very sappy. The trunk is quite straight and tapers over 14ft from 7in dia to 2in with many branch 'sprouts' of 2-3in.

Is it useful for woodworking or turning? What is the best way to prepare & process it and the thicker branches for any seasoning method? What are the best regarded methods for

seasoning in the shortest time? Is there anything I could make that would simulate kiln drying if this might be the best method? How long have I got before it starts to degrade or distort on me?

Dave Wooff, Preston

With a maximum diameter of 7in, your mountain ash (rowan) tree is relatively young. Wood of this diameter is too small to plank and it is really only suitable for small turned items.

When it comes to seasoning I suggest you cut the trunk and any

thick useable branches into 18in lengths, leaving the bark on. Seal the ends with Chestnut's End Seal (Peter Child ☎ 01787 237291 in 1lt containers at £4.75). A low cost alternative is to paint the ends liberally with any left-over gloss paint you may have lurking at the back of the garage. Sealing the ends reduces the risk of splitting.

Stack your logs under cover with plenty of air circulation around them and leave for at least a year before trying one on the lathe. It is not really worth trying to construct your own kiln for such a small

Saggy doors



I would appreciate advice on how to re-align a sagging shed door. It is a heavy ledged and braced door and is hinged on three somewhat inferior T hinges. Is it possible to straighten and re-hang the door or will I have to make or buy a new one?

B Small, Birmingham

A shed I inherited when I bought my house had a similar problem, but this can be easily rectified. My door didn't have any braces, just three 9in wide ledges. Wider ledges can remove the need for braces, but over the course of time, gravity takes effect and the boards can start to drop.

In your case, the cause could be down to shrinkage in the timber, opening gaps between the ledges and the braces allowing the planks to drop, the braces being positioned at too shallow an angle, or even the braces being placed in the wrong diagonal plane, making them ineffective.

It's easy to spot if the door is braced incorrectly. Braces should run from the top closing edge diagonally down to the hinge side, supporting the top ledge and throwing the weight back to the bottom hinge. The rake angle should ideally be greater than 45°, so on a door with a central rail, you may have to run braces in a single line instead of a pair of parallel ones.

To get over your problem, the hinges need to be taken off and the braces removed. Most ledged and braced doors are simply clenched together. The nails are longer than the thickness of the timber (using say a 2 or 2½in nail for a door with ¾in thick boards and ledges) and are punched below the face then clenched over on the other side and punched under the face of the ledge along the grain direction.

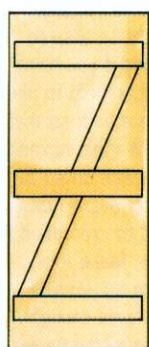
With the braces removed, you can pick up the door and lightly tap it on the ground at the bottom corner of the closing edge, thus

re-aligning the boards somewhat. This is a bit trial and error, so you'll have to check the door in the opening a few times.

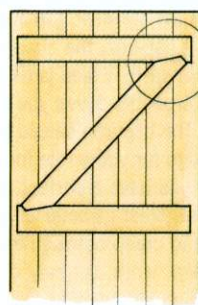
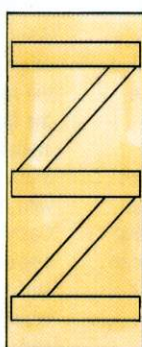
Once you are happy you can then nail the braces back into position. Check the old ones for fit, but the chances are they will be a little shy, hence the dropping problem, so they can be either re-fitted, altering the brace angle slightly, or you'll need to cut some new ones. Unless your door is a top quality one, the chances are the braces will simply rest against the ledges. A quality door will have them notched into the edges of the ledges, providing a shoulder for the weight of the door to bear against.

When it comes to re-hanging, the T hinge will help support a door with no inherent jointing strength. The tendency is to put on a hinge too short for the job in hand; the ratio of hinge size to door width is 2:3, so a 30in door will need 20in hinges.

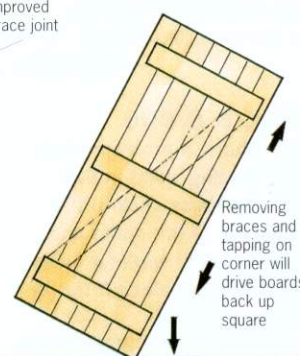
Andy King



If this type (left) leaves the braces at too shallow an angle, then brace as shown right



Improved brace joint



Removing braces and tapping on corner will drive boards back up square

Delving into detail

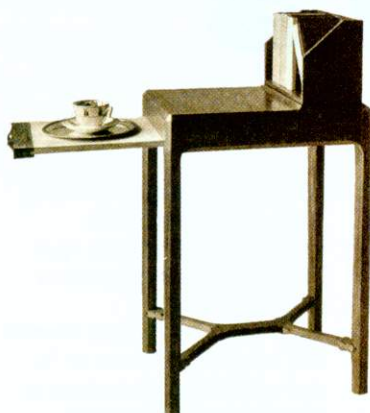
Bridle joint for stretchers by Jeff Gorman

Design

- On a small-scale job, such as stretchers are mostly decorative. On larger items such as dining or writing tables they offer support to the table legs while enabling feet to be comfortably placed while dining or writing.
- The Y's splay angle implies that the axial member needs to be somewhat wider than the arms.
- Note how the terminal tenon shoulders are accommodated by forming a wide 45° chamfer on the inside corners of the legs. This implies that the 'Y' splay angle should be a convenient 90°.
- Leave a gap between the meeting tenon ends, otherwise long-term shrinkage could cause shoulders to open slightly.

Hints for Making

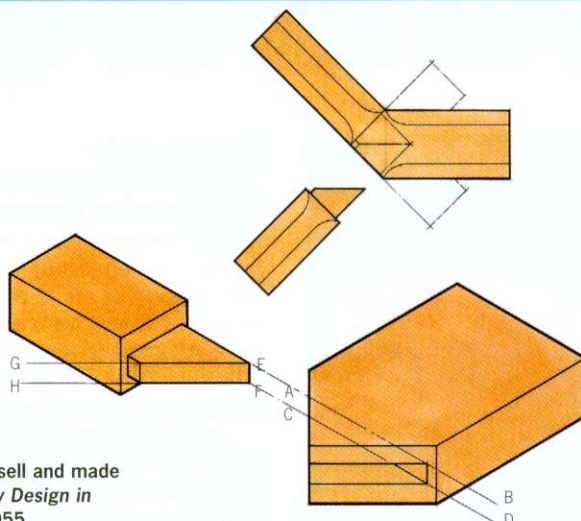
- The stretcher geometry means that to derive the dimensional details it will be pretty essential to prepare a full-scale plan and elevations. Start from four rectangles representing cross-sectional views of the legs and work inwards from there. Failing a drawing board, a sheet of white melamine-faced chipboard can serve very well (even better than



This bedside table, designed by Sir Gordon Russell and made by Gordon Russell Ltd appears in *Contemporary Design in Woodwork* by S. H. Glenister - John Murray - 1955

paper?). On it, right-handers should prepare the left-hand edge and lower edge dead straight and at right angles to each other. It helps to make a large wooden try square for the job. Future jobs will eventually demonstrate that the time spent will be worthwhile.

- Prepare rectangular tenons in the usual way and mitre the ends as shown. When sawing from E to G and H to F, take care not to scar the arris of the shoulder.
- Make a start by sawing on lines AB and CD, then drill out as



much of the waste as you can. A metalworker's drill will be most suitable for boring into end grain.

- Since it involves fiddling in the dark while paring the slot flanks and truing the base of the slot, the latter part of this kind of job is not my idea of fun. Avoid splits by paring across the grain.
- The corner of a draughtsman's set square will come in handy for testing the floors inside the bridle.
- Prior to whole-job assembly reduce the potential for panic by preparing, enhancing & polishing

the stretcher frame as a unit.

- Cramping-up will be easier if you fit the angled cramping blocks I've indicated. Note that the grain is oriented for best adhesion. Use the old trick of including a strip of good-quality cartridge paper between the mating faces. One the job is assembled; the blocks can be safely removed by splitting the paper. Use a water-soluble 'Pearl' or similar glue so that the paper and glue can be softened, enabling clean removal.

amount of timber.

Garden trees may or may not season successfully, and the final results can be disappointing, but it is always worth trying if you have the energy to cut and stack the wood and the room to season it.

Once a tree has been felled it is important to cut and stack it quickly, especially in the summer months. Alternatively, try turning a piece whilst it is still wet into something like a goblet, and see how it turns out. Michael O'Donnell's book *Turning Green Wood* (£16.95 from Stobart 01269 593100) is worth looking at, since he covers a wide variety of projects turned from freshly felled and unseasoned wood.

Ian Wilkie

Tuning a plane



I have a problem when planing wood in that the chips stick in the thin opening of the plane and force me to stop working every few minutes and clean it up. Is there any solution?

Mick Stubbles, Wimbledon

The most probable cause is



Take a look at our planing feature on page 44 for more info on tuning

located at the deflector end of the cap iron (the plate that is screwed to the cutting iron). At the start of a stroke, the shaving will run along the upper surface of the blade until it meets the deflector. If there is even the smallest gap in a badly fitting cap-iron, the shaving will find and enter it. It then jams in place and probably drives you crazy.

The cap iron should be soft enough for you to file (or oilstone) until you have a perfect fit without the slightest glimmer of light being able to creep between them. It can be slow work, but only check the fit when the screw is fully tightened. If the shavings are crinkled in piano-accordion fashion,

it is possible that they are climbing up the blade face until arrested by a blunt-ended deflector, so its edge also needs to be quite sharp. To ease the passage of thin and lacy shavings, some people polish the deflector area.

Possibly the deflector's edge is set too near to the cutting edge. A millimetre or so is usually adequate. More will probably do no harm. Your 'thin opening' or the 'shaving aperture' (ie, the gap between the front lip of the mouth and the cutting edge) can be as small as 0.1mm (3 - 4 thou) but 20thou (0.5mm) should be OK for general jobbing on softwoods.

If you know what you are doing, (and it might be wise to emphasise this) and if you have the right tools, it can help to file the front lip of the mouth so that instead of the right-angle formed in manufacture, it makes about 80° with the sole. Don't overdo this. Cast iron will tend to crumble if the angle is too acute. Make this surface as smooth as possible, though it must be kept straight and at right angles to the flanks of the plane. The lower arris between

the lip and the sole must not be rounded in any way.

Of course, it does help to have a sharp iron. Blunt ones can only produce thick shavings more likely to jam. Incidentally, if trying to cope with sticky stuff that, in spite of all the above, insists in jamming, clearing with a brass brush will do less damage than trying to poke out the shaving with a knife.

Jeff Gorman

Making belts

I have several feet of sanding belt stock to make my own sanding belts but cannot find an adhesive strong enough that will hold the two ends together. Have you any suggestions?

Chris Furneaux, Maidstone

My elderly but undated Oakey handbook 'Abrasives in Action' strongly recommends butt joints made at an angle anything between 60° to 45°. The joint should be backed with 2in wide strip of thin linen or cotton glued with hot glue that I take to mean Scotch Glue. To prevent the cloth shrinking as it absorbs moisture from the glue and then puckering of the joint, it

should be pre-shrunk.

To get the right lengths, cut through a worn belt. Cut a strip a bit longer than necessary. Make certain that in the area of the joint the back of the belt is scrupulously clean. With the aid of suitable battens, clamp the joint area to a cutting board, with the ends overlapping by at least 1in. Sight along the sides of the belt to see that they are in a straight line.

To ensure that the belt ends will have no gaps or frays, make sure that the cutting board area beneath the intended cut is not already scored by previous cuts. Using a wooden straight edge and a very sharp knife, cut with a quick swipe of the knife. It might pay you to practice on some scrap. To be certain that your belts do not slip while you cut, it would be a good idea to also clamp the straightedge.

Working in a warm area, lightly apply freshly made Scotch Glue to the back of the belts. Quickly apply the shrunken cloth and use a decorator's roller to ensure good gluing contact. You can then apply a larger patch of similar material over the narrower one. Wait until the adhesive is thoroughly dry.

Jeff Gorman

Mortice or rout?



I've been thinking of buying a dedicated morticer. I am fairly new to woodworking and am not sure whether this is essential or whether I could get away with using a router as I've seen in some articles. Can you advise on this?

Nick Bowen, York

It depends very much on what sort of work you're doing Nick. For joinery, where you'll probably be jointing a lot of 4x2in and 3x2in timbers (and bigger), I'd say a morticer was essential as the router will not have sufficient plunge depth to cope with the through mortices involved in making say an external door. Few routers will enable you to plunge the 50mm needed even to come in



Simple jigs like this can help with accuracy when routing mortices

Does the team think?



Internet Forums can often offer an instant solution to a woodworking problem. Here's one such useful thread posted at UK Workshop. Check out their website for more at www.ukworkshop.co.uk

Original post

Dog

I use only softwood for making stuff, at present, and even though I put a backing piece on my routing jigs I get serious tear-out. Is this due to the bit (although good quality and new) the speed of the router or something else?

johnelliott

Pine is more prone to ragged edges than hardwood, but the principles are the same for any wood. When I'm machining tenons using a sliding carriage, I use a fresh piece of backing (6mm birch ply) for every tenon, and make sure the whole is firmly clamped.

waterhead37

I am very surprised that a backing piece does not prevent tearout. A couple of thoughts are :-

1. Use hardwood backers rather than softwood that may crush
2. Sharpen your bits with a diamond 'card stone'
3. If your design permits a choice, and you can do it safely, use climb cutting. Double check before doing this!
4. Use packing tape (the clear plastic sort) to tape over the cut lines before routing.
5. Mark the cut lines with a knife before routing

Midnight

Take finer cuts with each pass, no more than a couple of mill...

Dog

I can see where I've gone wrong on two points. I've used softwood as a backing instead of hardwood, and attempted to make a 7mm cut in one go instead of a series of cuts. Simple little things that make all the difference!

Dewy

Cut across the end grain first, as

this is where most break out is likely to occur, then finish along the grain. This way you minimise breakout when routing as you will be cutting it away on the last cuts.

Dog

Is hardwood easier to rout compared to softwood, and do you get a 'cleaner' finish, or does it just depend on how you use your router ?

waterhead37

Well-behaved hardwoods (like the usual furniture species) cut much more cleanly than softwoods. With softwoods, razor sharp tools are needed to avoid crushing the fibres and leaving a ragged looking joint. This applies to routing too. In softwoods, it would be worth trying HSS bits rather than carbide, since the latter cannot be sharpened to as fine an edge as HSS. (For this reason, Woodrat only sell HSS bits).

I don't think working in softwoods is a great way to encourage beginners. Sloppy joints that look rough are too easy to make, especially as a beginner has probably not yet mastered tool sharpening. Cherry or walnut, though more expensive, are liable to prove much less frustrating.

Dog

Where can I buy HSS bits for my 1/2in router ? I'll give that a try as I have a large amount of softwood to get through but at the moment. No hardwood to experiment with, all that will change I'm sure.

johnelliott

You mentioned not trying to rout 7mm in one go. Some cuts I would go 10mm deep easily, more maybe, it just depends on the actual job being undertaken

asleitch

You could try the Woodrat site... www.woodrat.com

waterhead37

I'm not sure who carries these

things in a full line these days - if anyone. Trend had them until a few years ago but appear to have gone over fully to carbide. I think cheap carbide imports killed HSS.

Bosch do/did a few, as did/do Leigh (for their jig). You could also try asking Wealden. Depending on what sizes you want, end mills and slot cutters are available in 1/8in, 3/16in, 1/4in and 3/8in shank sizes from places like Tilgear. These common sizes will usually fit a router collet or suitable adapter.

You won't find HSS router cutters in any but straight bits nowadays or the dovetails from Woodrat. HSS dovetail bits for milling machines will have the wrong angle/size for wood.

Their superior sharpness notwithstanding, if I were going into production mode, I would opt for carbide cutters as they will last far longer between sharpenings. I also favour the replaceable insert type of straight cutter (I use KWO but Trend do them now) and I find these both sharp and long lasting. Being a single cutter, they clear the waste very quickly, avoiding damaging heat build up and they also make a super job of cutting clean mortices (better in my view than the spiral solid carbide type).

Dewy

Last time I looked, B&Q had some Bosch HSS bits. B&D do HSS bits too, often costing more than TCT.

Dog

The size I require is 19mm straight and 9mm straight. I had already ordered and received a 19mm solid carbide 9mm straight bit made by CMT. I've yet to try this bit, but as far as I can see on the Trend website they advertise a 19mm straight bit 1/2in HSS for £30 + vat. At present I'm using a TCT 19mm straight bit 1/2in, again from CMT, but have not tried this with hardwood backing on my jig, which might make all the difference. The cut at 7mm deep x 19mm wide has been smooth but tear out has been the problem.

Gauge the line



Using a marking gauge has always given me grief. I just can't seem to keep the stock of the marking gauge flat on the wood I'm trying to gauge from.

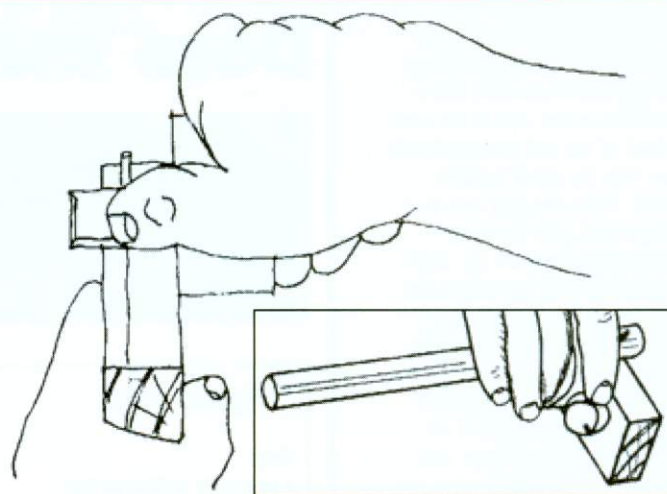
Chip Clements, Kent

If the cutter digs into the wood, the forward motion will make the face of the gauge's stock pull away from the surface against which it bears. The cutter then jumps out, starts another line, jumps out again and so on, making a horrible mess and probably leaving you quite

disheartened. The secret of using a gauge is to ensure that the far corner of the stem rubs on the surface of the wood. This means tilting the stock of the gauge away from you so that the cutter 'trails'. By this means you control the penetration of the point and gain control of what can, for all its simple construction, be a difficult tool to use.

Properly holding the gauge is half the battle won. I hope the sketches are self-explanatory.

Jeff Gorman



from either side of a timber.

However, if you're making furniture, where joints are generally smaller, then there's no reason why you couldn't use a router on a regular basis for morticing. Even a small $\frac{1}{4}$ in model will produce clean sided accurate mortices, especially if you make up dedicated jigs to guide the tool and restrict the movement. Of course, you'll need to either square up the round ended

mortices with a chisel, or round over the corners of the tenons to match. Many people use the latter as a distinct design detail but it's a matter of personal preference.

When cutting a mortice with a router, I tend to make a series of incremental depth cuts, plunging in close to the mortice end, routing along, then coming out near the opposite end. I then clean up the ends close to the line with a single vertical plunge at either end. Some

woodworkers recommend using a pair of fences, one either side of the timber, so as to prevent lateral movement, but I general work with just the one with no problems.

Perhaps the only time when a dedicated morticer is really useful in furniture work is when you have very small components that may prove awkward to joint with a router. If you have a lot of such pieces then I'd recommend something like the small Perform

morticer (from Axminster) which should serve the purpose well.

Pete Martin

Disc sander



Due to space restraints

I would like to utilise my Jet tablesaw as a disc sander to avoid having a separate machine. I understand that it is possible to obtain a sanding plate with a 30mm bore so that this can be achieved but have been unable to find a supplier.

N. J. Downing, Suffolk

I know exactly what you mean, having had one in a drawer in my workshop for many years, but as to where to find one today, well...

I contacted CSM Just Abrasives, who confirmed that they have never been able to source one. I also tried the internet, which again confirmed their existence but was unable to point me at a specific supplier, though I did find a reference to one as an accessory for a Ryobi table saw. Unfortunately Ryobi itself drew a blank. I suspect that these were once made as accessories for radial arm saws and the like, which is probably where mine hailed from. I took a look at mine but it gives nothing away.

Could you not have one made? Why not approach a local engineering shop and have them bore and turn one up to the required size from sheet steel. This will then accept self adhesive sanding discs available from the likes of CSM. Alternatively, turn one yourself from 6 or 9mm MDF. You should get the former onto your arbor, if not the latter.

If any readers can shed more light on the availability of these sanding discs, then perhaps they'd get in touch with us.

Pete Martin

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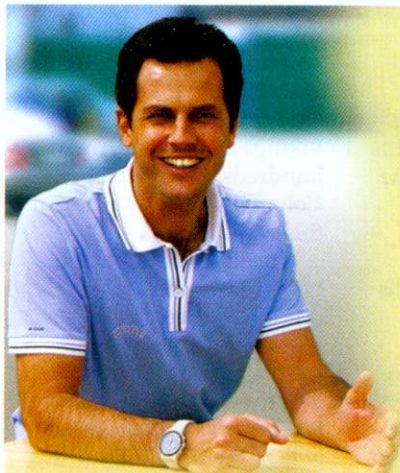
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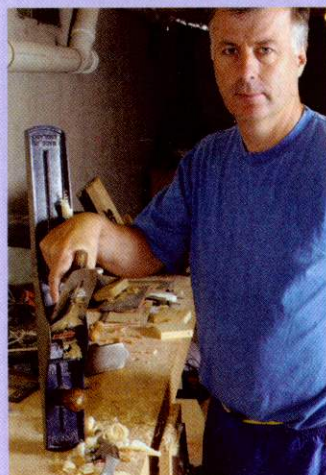
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Letter from



AMERICA



Looking for inspiration for his impending new workshop build, Mark Corke visits the boatbuilding workshops at Mystic Seaport. But when it comes to stocking this new shop with tools, Mark finds that the US can be just as frustrating as the UK

Mystic workshops

One of my favourite places in the North East United States is Mystic Seaport. Most people know it as just that but they – the powers that be – also have to subtitle it ‘The Museum of America and the Sea’, as if no one knows exactly what the place is. I know I that I have mentioned it before in this column and I make no apologies for mentioning it again here now, but it is such a wonderful place.

In addition to the exhibits that they have on display both on land and in the water, they also have a large educational programme of both one day and longer, up to in many cases four weeks or more. Some of these courses are on the water but others are held in the workshops that they have in the grounds.

I ought to mention that this is no museum in the traditional sense. It is very much a working place, as the permanent workshop staff make and restore boats of all shapes and sizes, but the emphasis is most certainly on wooden construction. In fact I have never seen a glass fibre boat in the workshop.



Traditional Skills

Many of the boats that they work on are traditional, and in an effort to pass these skills on it is possible to attend one of the courses and learn a little about what they do, have a good time and hopefully pick up some skills along the way. Although I have yet to attend one of these courses I plan to go on the traditional lap strake construction course during next winter, as I would like to learn more about this method of construction.

Many readers will know this as clinker construction in the UK and it is a method of building boats that has been

around for thousands of years. In fact many academics believe that the Vikings discovered America hundreds of years before Columbus in boats made in this very fashion.

In skilled hands these boats can be built relatively quickly as there is no glue in them but they are held together with copper nails and roves, small dish shaped washers driven onto the other side of the nails to form a kind of rivet. Hopefully I will be able to bring you pictures of the course soon.

Workshop Plans

Of course you have to have somewhere to do this work, and courses are run in a collection of workshops that are dotted around the campus. These are a wonderful collection of buildings and a great source of inspiration for me, as I just love looking into them, smelling the fresh cut wood shavings on the floor and imagining how I might

He's turning into a Yank



Couldn't resist dropping in this picture of my son Sam. He seems to settle in here with every trip over to see me, so much so that he seems to be turning into a Yank, as this photo surely shows!

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Ian Wilkie turns his attention this

month to buying timber. With the needs of the woodturner firmly in mind, he pays a visit to Ockenden Timber in Shropshire to get some hints and tips.

Dave Roberts shows how to turn an egg rack plus some decorative eggs to go in it

For more timber merchants see Classifieds, page 92

Your Guide to Better WOODTURNING

Turning over the pages

- Buying timber: p78 ● Ockenden Timber: p79 ● Repetitive turning: p69 ● Restoring a roulette wheel: p80 ● Dave Roberts: Turn an egg rack and wooden eggs p82

Timber for turning

Woodturners are well catered for when it comes to lathes, tools and finishes, but are reluctant to spend money on timber it seems! I include myself here, although experience suggests that a well prepared blank, particularly for a bowl or platter, is money well spent.

Newcomers to the craft often believe that they can use any old timber they come across, even out of the log basket. The professional turner who produces for resale knows that this is not the case and invests in high quality, interesting timbers.

Handling wood directly from the cut or fallen tree tends to be difficult because of its weight and bulk, and the specialist equipment for cutting is expensive and requires considerable skill to use safely. Few have access to suitable means of transport for large butts or indeed space to air dry timber.



For the average hobby turner it is more practical to rely on specialist suppliers of blanks for bowls and between centre work where all this preparation has already been done. Many turners feel that prepared blanks are too expensive but, as I have tried to show here, so much skill, time and machining goes into preparing the wood ready to put on the lathe that the cost is justified. Wood which has been cut accurately to the round with its surfaces thickened and sanded will revolve with very little vibration when mounted on a screw chuck or faceplate, a great advantage for the turner with a relatively small lathe, and less intimidating to turn.

Ockenden Timber

Ockenden Timber became one of the first UK timber companies to use a portable

sawmill after the big storms of October 1987 which left a trail of uprooted trees across the south east of the country. They are now an experienced operator in the field and use a powerful Forestor horizontal band mill to cut wood on site. This service is used by land owners, farmers, councils and the National Trust.

This is very much a family firm. Robert (Bob) Ockenden is the 'hands-on' man, having been involved all his working life with timber. Brother John is responsible for marketing while wife Elaine runs the shop and wood store. Bob developed a love of turning at 15, so is well aware of the turner's needs and carefully selects the timber, which must be free from knots, worm and blemishes. His care is evident in the standard of blanks sold.

The firm moved to its present site between Bishops





Exotic woods & cast resins

In addition to the normal home-grown timbers Ockenden has a large selection of imported exotic woods: Australian timbers, olivewood from Spain, ebony and African blackwood as well as padouk and purple heart, all from reliable overseas agents and suppliers. Although many turners prefer home-grown timbers, others like to experiment with different woods from far away places. There is also a stock of cast polyester resin rod in various diameters and colours, including artificial ivory.

Castle and Newtown on the Welsh Marches three years ago and the wood yard is stacked with air-drying beech, ash, sycamore, yew, walnut, elm and lacewood. The home-grown woods which come into this particular yard have no commercial use other than in the craft industry.

Selecting & Milling

Bob took me through the stages of processing a piece of timber from raw tree to turning blank. He showed me butts of yew and beech which were awaiting the attention of the bandmill. The beech will spalt as it begins to decay, producing exciting patterns. The length of the wood is not an issue, he is much more interested in a trunk with a good girth to give optimum sized blanks. This is contrary to normal commercial use where length and straightness



Top: A dramatic pile of milled, stuck and banded timber air drying out in the open

Above: The large old bandsaw with its narrow blade which may only last a day

are more important. Bob is looking for turning wood which he selects for its character, pattern and interest.

It is an advantage when sticking, stacking and banding if the planks are not too long, so the wood is cut into shorter lengths. Handling large pieces of heavy timber is not easy; a 4in board, 6 to 8ft long, weighs a couple of hundredweight or more. At this stage, approximately 10% of the wood is lost. One of the hazards in milling wood is hidden metal; nails, wire, and staples. Apparently trees from city streets such as London and Liverpool nearly always contain shrapnel left over from wartime bombing raids which can be 40 foot up the tree. Other timbers can contain spent aircraft bullets.

If any of these hazards are hit the saw blade is ruined, so wood is first scanned with a

Buying considerations

When you see timber advertised for sale which is intended for the woodturner, take the following points into consideration:

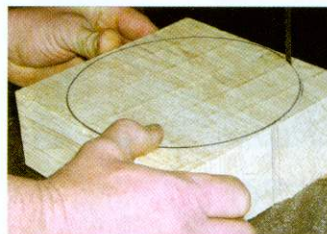
- ❶ The wood should have been carefully selected for the woodturner in the first place, it should not be left-over pieces from the timber yard, or off cuts, otherwise only suitable for firewood
- ❷ Timber should be seasoned ready for use
- ❸ Blanks offered should be relatively fault-free without cracks and large knots
- ❹ The grain, pattern and colour should be interesting and attractive to tempt the turner to experiment and try something different
- ❺ The wood should be ready for mounting on the lathe, preferably cut to the round for faceplate work or accurately squared up for spindle turning
- ❻ Select the diameter and thickness of the blank to suit the capacity of your lathe and



This 14x4in sycamore blank costs £24 and would make a fine platter

keep in mind the size of the finished bowl or platter so that wood is not wasted

- ❼ Blanks for sale should be well labelled and sales staff should be knowledgeable and able to give good advice; take all the time you require to select your wood and do not feel intimidated by the sales staff if your knowledge of wood is limited
- ❽ If you are ordering over the telephone, check how much you are going to pay for carriage. This is not always as prohibitive as you might think. I pays to shop around!



Plywood discs are used to mark out bowl blanks, then planks are cut up on a dimension saw and bandsawn to the round. A large band sander reveals the quality. Edges are then hot waxed. This is not essential but it does enhance the grain and the customer can see what it might look like after turning and polishing

metal detector. This is not always foolproof, and Bob cited a recent experience where a log of walnut, purchased for £400, was scanned but the metal wire embedded right inside was not revealed. Consequently two saw mill blades costing £240 were written off!

Drying Timber

Timber is left to air dry and most species take from 18 months to two years with oak taking longer, typically one year per inch. Considerable wastage occurs during the drying out period. The firm does have a kiln, but this is not regularly used because customers prefer air dried wood, and anyway it is difficult to effectively dry thick stock. Mild winters have led to problems with insect infestation particularly in oaks. Traditionally oak is left four to five years before milling, but since 1987 the ambrosia beetle has proliferated. These insects are able to bore 8 or 9in into the wood in a short time so timber is shifted after 2 years.

Bob is also supplying green oak timber frames for garden structures to feature in an English style park in Japan designed by Bunny Guinness.

Dimensioning Planks

Once milled the wood is inspected and suitable areas for blanks marked out with templates, avoiding cracks, knots and other blemishes. Cracks naturally occur at each end of a board during drying and some 4 to 6in has to be cut off and wasted. The plank is then processed through the dimensioning saw to produce squares. Again each one is carefully inspected and the template redrawn if faults come to light after cutting.

Customers like their blanks cut to the round so the squares are taken to a bandsaw fitted with a narrow blade. This will last for a day when cutting beech; an exotic wood such as purple heart is very heavy on a blade which will probably only remain sharp for two hours.

Sanding & waxing

Next surfaces are belt sanded. This is not strictly necessary but only takes a few moments and is well worth the trouble because the true character of the wood is revealed. Finally the edges are dipped in a wax bath which gives an idea of how the wood will look when polished and generally makes the blank look very attractive on the rack in the shop.

A marbled beech bowl

I used the 200x65mm marbled beech blank that I watched being prepared to make a simple bowl; wood with this type of pattern comes from very large, old trees. I used a Hamlet 6mm bowl gouge throughout, ground straight across as opposed to with the wings well back; this costs £13.90. From the first cut it was evident that the pattern of the beech would be interesting. The wood cut smoothly and no faults appeared; no scraping was called for and very little sanding. I finished with two coats of Chestnut cellulose sanding sealer followed by their friction polish, and completed the polishing with two applications of carnauba wax. I was delighted with the bowl.



The marbled beech bowl on the lathe after polishing

Visiting the shop

Ockenden Timber's yard is in a rural position on the Welsh/Shropshire border but is easy to find. Sales come from a combination of visits to the shop, mail order from their



catalogue and the internet. Often turners on holiday or visiting the area have seen the advertisements or website and pop in. The company is to be seen at the major woodworking shows, and woodturning club visits can be arranged to the shop and yard. This does make an excellent outing for club members.

The shop sells prepared blanks, tools and finishes, and

The Ockenden team are dedicated to their business and customers

Restoring a roulette wheel



I was recently asked to restore an old French roulette wheel, which had a split in the rim and a fine crack in the side. The bowl measured 290 dia x 80mm with three metal stud feet underneath, and was made from a white wood, possibly alder, which had been ebonised. The 160mm dia metal wheel was calibrated 0 to 36 and topped with a

beautifully made four-arm capstan head. The whole wheel rotated on a central steel pointed pillar screwed to the base.

At first I was tempted to turn up a new bowl, but because it was obviously quite old, possibly 90 to 100 years, I decided to repair the cracks, the first rule of restoration being to only replace the minimum necessary.

Repairing the wheel's bowl



01 Time to be brave! Cutting the crack in the bowl with a panel saw to produce a slot



02 The slot is now parallel sided and ready to be filled with a sliver of matching wood

is open on Thursdays and Sundays. If you can't get there Ockenden offer a good mail order service by telephone or through their website. There is a reasonable p&p charge of £4.99 on a min £25 order.

The shop has a big stock of well prepared home grown timber blanks in a wide range of diameters and thicknesses suitable for faceplate and between-centre turning, together with quality exotic timbers and burrs. Wood is well displayed on racks and

everything is neat, orderly and clearly labelled. Quality is high and the prices are competitive. For example the 200x65mm marbled beech blank I watched being prepared cost £6.

In addition, the shop sells the complete range of Hamlet turning tools, accessories from Planet, Chestnut polishes and finishes and VSM abrasives. A small selection of clocks, pen kits etc are stocked. Timber for the woodcarver is also well catered for, with tools and timbers such



The dramatic colouring of purple-heart brightens up shelves

as lime, and seasoned boards can also be purchased for furniture making and general woodwork.



Ockenden Timber

Broadway Hall, Churchstoke,
Shropshire SY15 6EB
☎ 01588 620884
www.ockendentimber.co.uk

On close examination the bowl had been turned in three layers – the shaped rim, the sloping centre section and the base – and the grain was crossed over to reduce the risk of warping. I suspect that modern central heating had eventually defeated this aim, hence the cracks. There was one other problem; because the bowl was no longer truly round, the spinning wheel could not rotate freely and touched on two sides. After some thought I decided my best course of action was to widen out the cracks so that I could insert new wood. I did consider using a proprietary filler but decided this would not be a lasting solution because most fillers tend to shrink over time.

A degree of boldness and courage is necessary in restoration! I used a hard point saw to cut the crack in the rim to produce a 2.5mm slot. I then thickened a piece of African blackwood to 2.5mm using a

thicknesser. The edge of the slice was marked carefully, following the profile, and cut out with a powered fretsaw using a fine blade, allowing a small margin so that the insert would stand slightly proud. This was glued in with PVA and I used a heavy duty spring clamp to pull the two sides of the crack together so that the rim was in line.

When the glue had cured I pared off the surplus using a carving chisels to achieve an absolutely flush surface.

The crack in the lower part of the bowl was more difficult. Quite obvious on the inside, it was just a hairline on the outside and impossible to widen out with a saw. So I used a Proxxon angle drill fitted with a 20mm dia, diamond coated disc in a mandrel. I do not use this drill very often but just occasionally it comes into its own. With it running at slow speed I was able to produce an accurate cut 2.5mm wide about

5mm deep to match the wood I had thickened.

Because the ivory ball is thrown on to the surface where the crack is, I had to make sure the repair left an absolutely flat surface so that it would not be deflected. After a little fitting and checking, and with the aid of a 2.5mm chisel ground from an old watchmakers screw-driver, I was able to glue the blackwood sliver in and trim the excess with carving tools. I did use Milliput for the outside hairline crack, a two-part filler which is kneaded together. It is extremely strong when cured and can be sanded or machined to a fine finish.

The next task was to stop the spinner binding; only a fraction of wood needed removing. I did consider remounting the bowl and spinning off the wood, but the carcass was no longer round nor the bottom flat, and I think the results would have been disappointing; I might even have

caused more damage. Instead I stuck a small piece of 320 J-flex abrasive on to the rim of the spinning wheel with double sided tape. I then lowered the wheel on to the central point and continually hand-rotated the spinner so that it acted as a sanding drum. This eased off the tight spots, and I continued until the wheel spun freely.

Finally I had to disguise the new wood as much as I could and re-polish. I removed the diamond studs and gently hand sanded the bowl with very fine Micromesh from Craft Supplies, starting with 1500 and working up to 4000 grit, and used a tack rag to remove the dust. I used a small brush and Liberon concentrated black spirit stain to re-touch where necessary. When dry I applied four coats of Rustin's Plastic Coating, allowing two hours between coats. After 24 hours I used Rustin's Burnishing Cream to produce a smooth and realistic ebony finish.



03 Passing sections of African blackwood mounted on a backing board through the Proxxon thicknesser.



04 The wood inserted in the crack and cramped up with a soft-jawed spring clamp to exert pressure either side



05 The fine crack was opened up using the Proxxon angle drill with a small blade mounted



06 J-flex abrasive stuck to the side of the rim with double sided tape is rotated with the spinner to act as a sanding drum

Sunny side up



Turn this elegant but useful egg rack for your kitchen says **Dave Roberts** or use it to hold a collection of decorative eggs

Egg racks are always useful in the kitchen and great for craft fairs, especially if you have some turned wooden eggs to put in them. This one has room for 13 eggs; the bottom disc has room for eight and the top five.

The timber used is sycamore and American walnut. These two timbers work well together and will suit almost any kitchen. You'll need a glue gun to stick the discs to scrapwood to eliminate any screw holes left by a face plate.

Turning the Rack

1 Cut the two discs as round as possible on the bandsaw; keep your fingers out of the way. Turning the bottom disc, mount the disc onto a screwchuck and balance up the outside, but don't turn it to the finished diameter just yet. Face up with a 9mm gouge. I used a bowl gouge with an angle of 35°. Pull it from the centre out. Hold a steel rule across the surface to check that it is flat. Sand flat surfaces with sandpaper wrapped around a cork block, and with the lathe rotating. Finally, stop the lathe and sand with the grain. Work through from 120 to 320 grit to leave a good finish ready for sealing with

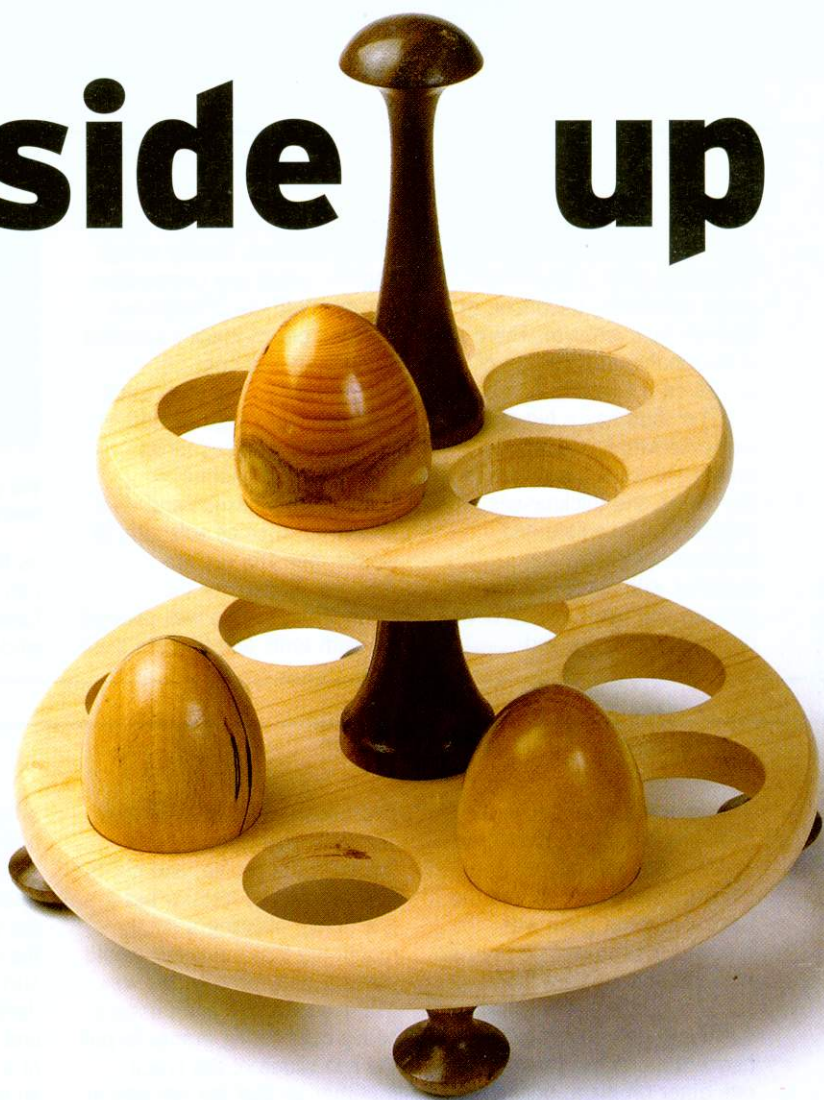
sanding sealer. Put one good coat on and leave it to dry, then rub it back with 0000 wire wool.

2 Use the glue gun to glue the disc to a piece of scrap mounted on to a faceplate or a screw chuck. Make sure it's turned absolutely flat, important for gluing. Leave the gun on for at least 20 minutes to get the glue hot. You won't have to put too much on – just a few spots will hold the disc. Put the glue onto the scrap and stick the disc on. Use the tailstock to add pressure while the glue sets. Now turn the disc to the finished

diameter and thickness before sanding it flat.

3 The finished disc measures 185mm dia by 13mm. Draw a line 30mm in from the outside edge, then mark out eight equal spaces along it; this is where an indexing head is very handy. Walk calipers around the line to check the spaces are equal. The top disc is 140x13mm and is turned in the same way as the bottom and marked with five positions.

4 The holes for the column and the handle are best drilled on the lathe to guarantee they are dead



TOOLS YOU'LL NEED

6mm parting tool
6mm, 9mm gouges
Glue gun
Screw chuck
9mm drill bit
16 and 38mm Forstner bits
Jacobs chuck

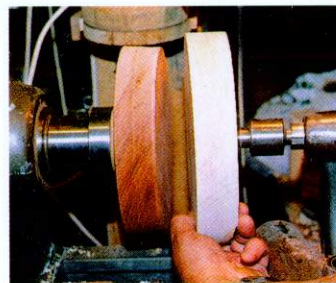
How to turn an egg rack



01 Bandsaw a disc for each of the two main discs and mount on a screwchuck. Rough turn to diameter



02 Face off the front face till it's perfectly flat and remove to glue onto the glue chuck



03 Use the tailstock to apply pressure. Turn to finished diameter then face up the second size and thickness



04 Draw on a circle at the appropriate distance from the rim for the centres of the holes and step these out

centre. The hole in the top disc is drilled right through and the bottom disc just 9mm deep. Fix a 16mm Forstner bit into a Jacobs chuck and put this into the tailstock. Set a low speed and wind in the tailstock slowly.

The holes for the eggs are 38mm dia. Drill these on the pillar drill, leaving the disc attached to the scrap wood while you drill to give more support.

Put the disc back onto the lathe and sand any pencil marks. Don't forget to sand with the grain. Blow the dust out of the holes and apply sanding sealer. Take care when removing the disc from the scrap wood. If you turn some of the wood away you should be able to pull the disc off. Pick off any remaining glue. Give it another sand and then seal.

5 Mark out four positions on the base for the feet and drill four 9mm holes, taking care not to drill all the way through. The four feet are in American walnut. Put a piece of timber between centres and turn it to a cylinder then hold it in a combination chuck. Turn the timber to the finished diameter. Mark off the foot including the spigot. Use a 6mm gouge to shape the foot and use the parting tool to turn the spigot. If you have vernier callipers use them; they give a more accurate reading than normal callipers, especially on small items and when matching four.

6 Cut the timber for the centre column to the finished length, including the spigots, and mount between centres. Turn to the finished diameter and then turn the spigots, one at either end. Check with vernier callipers; these spigots must be a good fit and not a sloppy one. Either end of the column is a small flat and in between is a gentle swoop, which can be turned with a 9mm gouge. This is a simple design so don't make it complicated.

Go to work on an egg

There is nothing too difficult in turning eggs. Hold a piece of wood in a combination chuck or fix it to a screwchuck. It is better to use the tailstock for support while you turn the main shape, then eventually move it away. Hold a real egg beside you to give you an idea of the shape. Turn the egg with a 9mm gouge. Move the tailstock away and finish off the end. Then sand, seal and part it off. Finish off the bottom of the egg while holding it in a homemade jam chuck. This is a piece of wood fixed to a screwchuck with a taper turned inside to fit the egg. Push the egg in and it should hold OK while you sand and finish off the bottom.



Turn the eggs on a screwchuck. Use the tailstock for support then remove to finish

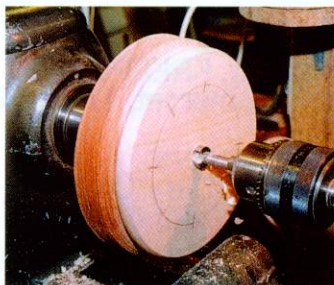
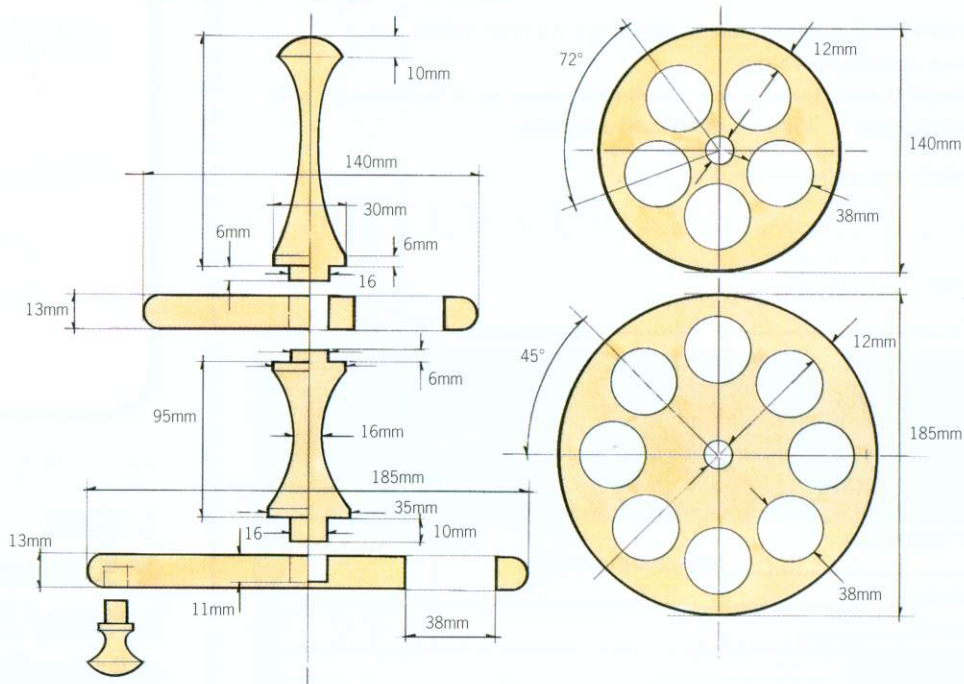
A simple tapered jam chuck will hold the egg for finishing



7 The handle follows the same shape as the centre column and feet. Put the timber between centres and turn to a cylinder. Fix into a combination chuck and bring the tailstock up for support while you turn the main shape. Move it away to finish off the end.

8 If all the spigots are a good fit you will only need a little glue; PVA is best. Put a little on to the spigots on the feet and push them in to the base disc. Glue the centre column into place and then glue the handle on and leave to set.

DETAILS: Egg rack



05 Use a Forstner bit in the tailstock to drill the centre holes for the two centre column pieces



06 Remove the discs still on the chuck to drill the egg holes on their marked centres with a pillar drill



07 At the same time drill for the four feet on the underside, taking care not to break through. Use a Forstner bit



08 Turn the four feet in turn from a single length of walnut. Make sure the lengths are identical to avoid rock

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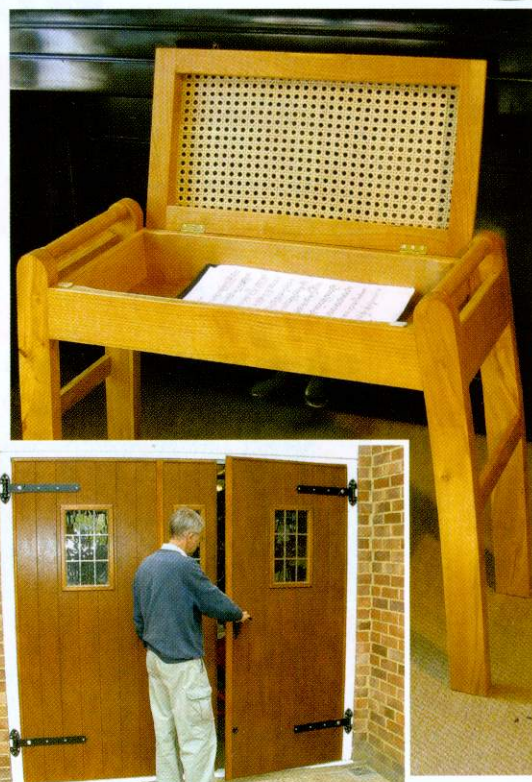
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- Ian Wilkie tests the wide range of major woodturning chucks
- Dave Roberts turns a lamp standard

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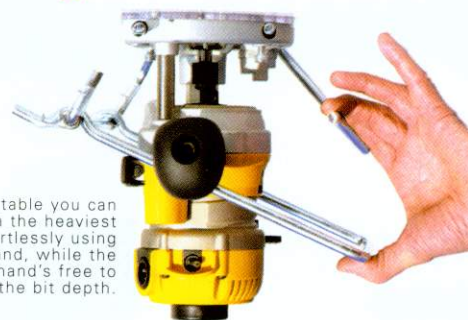
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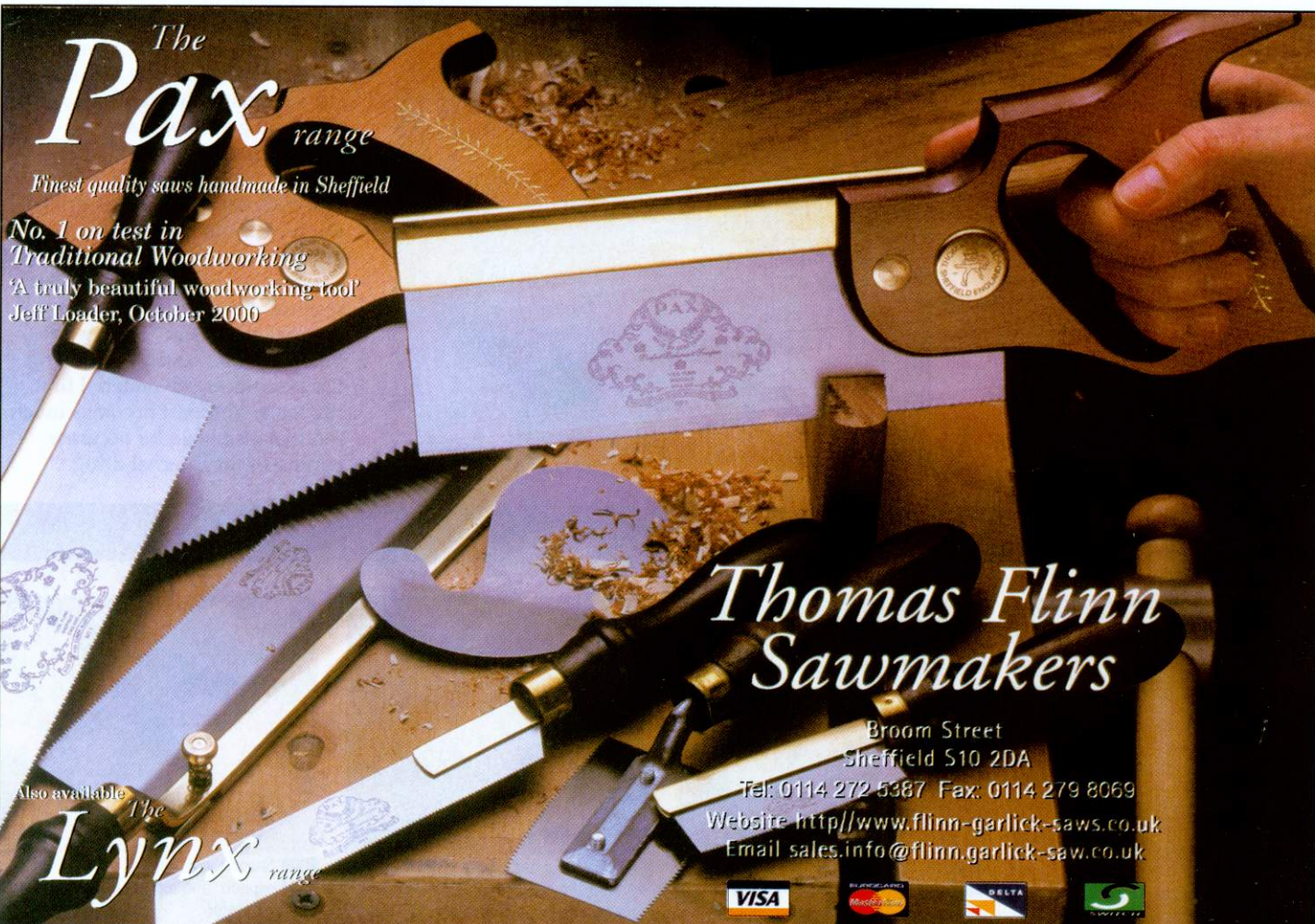
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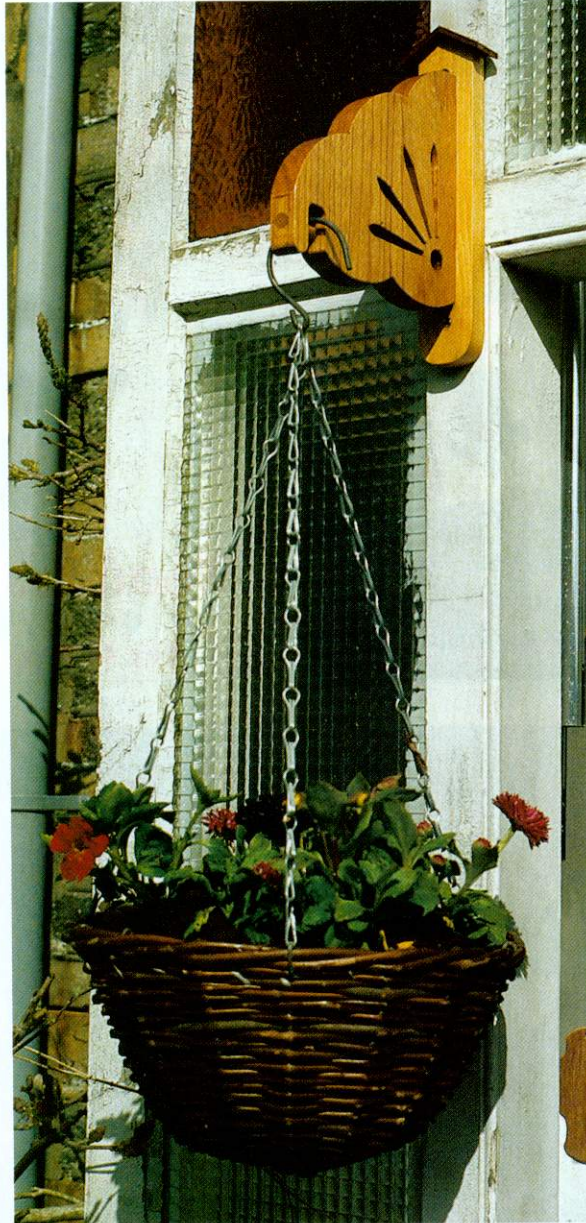
Here's a quick and easy bracket for a hanging basket from **John Everett**. It looks good and has a nifty little design feature to make it more secure

This particular design for hanging baskets is a little different from the more usual types in that the actual suspension point is built into the bottom edge of the wedge shaped part of the bracket and is formed from a small piece of hardwood dowel let into the bracket itself. This helps to prevent it (as far as can be) from being blown away if the wind gets up too much.

The brackets are made from 25mm thick hardwood – oak in the example shown, as this happened to be available as a piece of reclaimed wood. It has a sunburst design incised into it and has a scalloped edge to add to the effect. This is mounted on a backing piece which is also used to secure the bracket in its final position, and this has a small 'roof' feature added to act as a water run-off.

Making the Bracket

1 Start by drawing up a cutting pattern for each bracket to the size needed. This is then stuck down in position on the prepared blanks with a little spraymount



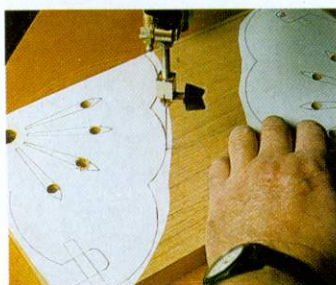
adhesive. Make sure the pattern is orientated on the wood so that the notch for the hanger is cut from long grain and not short, which might snap under pressure.

The shape for the bracket was cut here with a scrollsaw, but a jigsaw will also work well with 25mm thick oak. In any event you will need to drill starter holes for the blade to be inserted for the internal cutouts on the bracket, which will need to be large enough to allow a comfortable fit for the blade to be used.

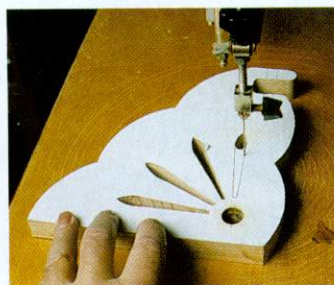
If a scrollsaw is used, then a fairly coarse blade is fine; the recommendation is to have around three teeth of the blade contained within the thickness of the material to be cut. A No 9 blade was used for the brackets shown here. Bear in mind that well seasoned oak of any sort of age is going to be pretty hard, and cutting is going to be fairly slow. Make sure the tension is adequate on the blade and make curved cuts in the tighter areas slow and gentle or blade breakages will tend to occur.

2 With the starter holes drilled for the internal cutouts, cut out the main shape of the bracket. There is no need to worry about residual strength here for the internal cutouts in so hefty a piece of wood, and by removing the external waste material first, the remaining part becomes much more manageable for accurate cutting of the internal design.

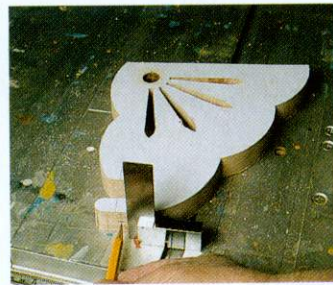
How to make the hanging bracket



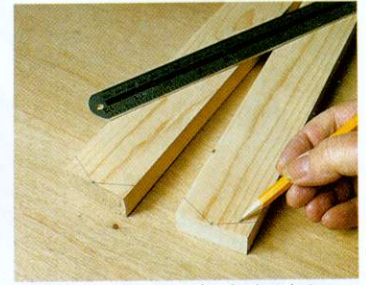
01 Stick full size paper templates onto the timber to aid cutting. Drill access holes then cut the outer shapes



02 This makes it easier to handle the more fiddly inside cuts. You'll need to thread the blade through for each cut

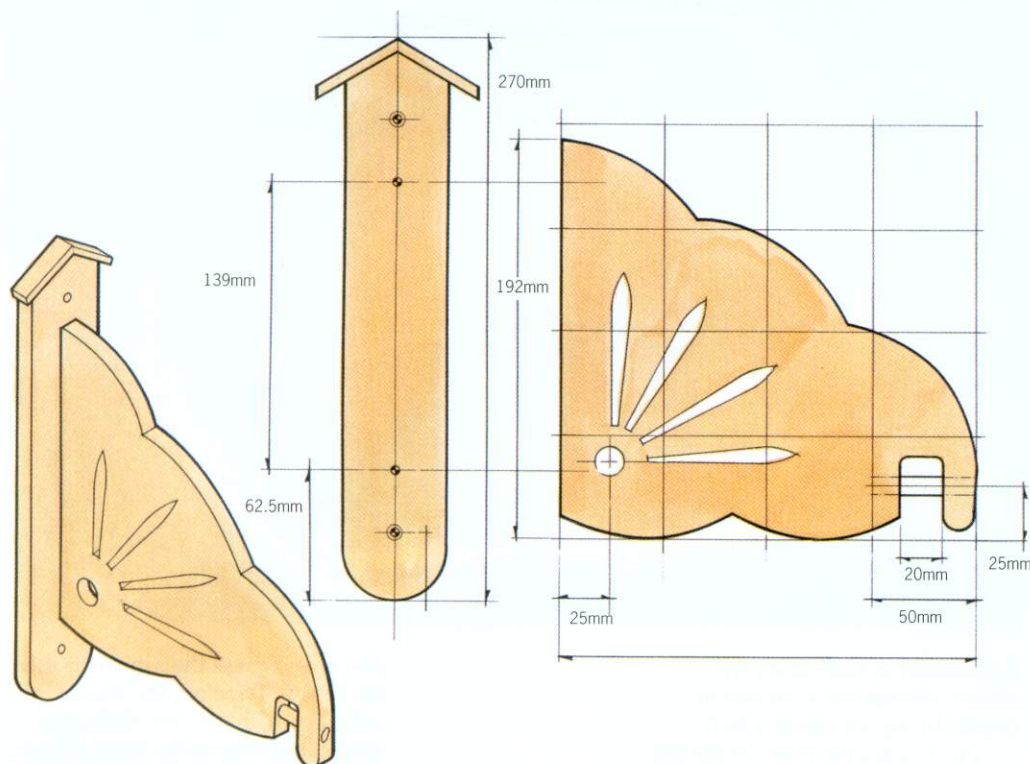


03 Mark out and carefully drill the hole for the retaining dowel. Make sure its square to the timber



04 Shape the pieces for the bracket support. The top has a mitred point to throw off water

CONSTRUCTION: Hanging bracket



3 Once the bracket has been cut out, mark up and cut the mounting strip. The top is cut at an angle of 30° to give a decent slope for water clearance when it rains – and it will! The fixing holes can be drilled at this stage, remembering to make the bracket fixing holes countersunk from the opposite side to the front fixings.

4 The next job is to drill the hole in the front of the bracket for the dowel which will act as a suspension point for the hanging basket hook. Check the actual diameter of your 50mm length of dowel carefully and select a drill bit to give a good fit in the bracket. The hole will need to be the full depth of 50mm so it passes through both sides of the

cut-out in the bracket and will thus be more than strong enough to take the weight of even a large hanging basket full of soil, plants and water.

Drill a pilot hole first to aid direction, as the bracket will not easily fit under smaller pillar drills and a guide for the full-sized drill bit will aid in getting a good degree of accuracy.

The dowel can now be glued in place. A little waterproof glue (polyurethane is good though a water resist PVA adequate) in the inner part of the fixing and then a little around the end of the dowel will prevent any surplus accumulating around the actual suspension portion of the dowel. Once the glue has set fully, sand any small protrusion flush.



A retaining dowel rather than an open notch makes for a more secure attachment for the basket

5 Cut the two small 'roof' pieces at the same meeting angle as the top of the mounting strip and glue and pin these in place on top. A contrasting timber will look good but isn't essential.

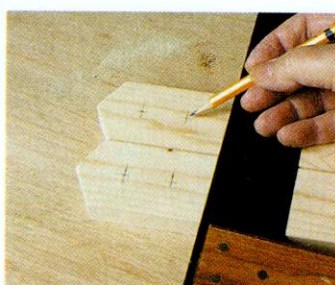
The brackets can now be glued and screwed in place to complete the bracket. For outside use, plenty of good quality weatherproof varnish will be needed to avoid the need for constant maintenance. I used the new Ronseal varnish in satin finish which is claimed to outlast yacht varnish – it looks pretty good anyway.

CUTTING LIST

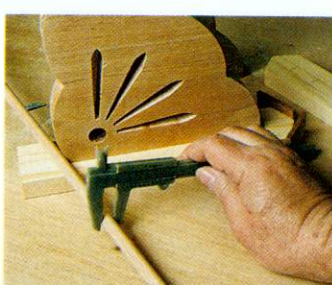
Part	Qty	Mats	Length	Width	Thkns
A Bracket	1	Hardwood	192mm	200mm	25mm
B Back plate	1	Hardwood	265mm	50mm	25mm
C Top caps	2	Hardwood	50mm	30mm	4mm
D Dowel	1	Hardwood	50mm	9mm dia	



05 A hand mitre saw like this is very useful for small projects and cuts clean mitres



06 Mark and drill pilot holes for screwing the plate both to the bracket and to the wall



07 Make sure your dowel is a snug fit for the hole in the bracket – it's likely to swell in use though



08 Note that the timber is orientated so that the notch for the dowel is parallel to the grain direction

Mirror, mirror



The combination of painted MDF and a varnished solid timber make very effective frames for mirrors

reckons **James Hatter**

This simple octagonal mirror is intended for a bathroom, although the design could be used in other rooms or for other applications, such as picture frames. The overall measurements are 428mm high and 575mm long. The frame is made from 18mm thick MDF with an ash inlay. The MDF is painted white to contrast with the clear varnished ash strip inset around the whole frame. 4mm mirror glass is used with a hardboard backing panel. The frame has two frame hangers attached with a nylon cord between them, so that it can be hung on wall fixings.

The project took about four hours to make, and cost about £15 including the mirror and the hanging fittings.

Making the Mirror

1 A total of 2m of 33mm wide strips of 18mm MDF will be required. Cut a 10x12mm rebate along the strips for the mirror glass and backing panel. I used a 12mm straight cutter bit in a table mounted router. For convenience with following operations, cut the strips to give six 200mm lengths and two 350mm lengths.

To cut the groove for the ash inlay, adjust the height of the 12mm cutter to 2mm, and set the router fence to centralise the groove in the top face of the moulding. Run all the strips through the cutter using the same edge in each, to ensure the rebates match when the frame is made. A

hold-down in both cases will ensure rebates are a consistent depth throughout their length.

Put a slight chamfer on the top edges of the moulding.

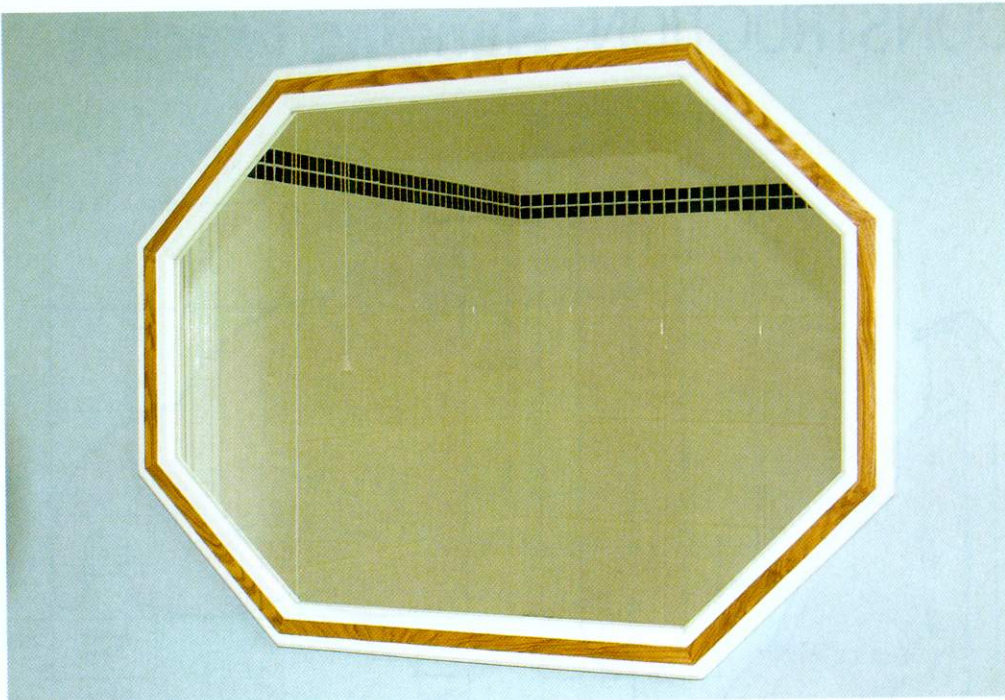
2 The ash inlay strips can be cut from a 12mm thick strip of ash. Make each strip 4mm thick. If you use a fine blade in a bench saw then you will only need to sand the strips smooth. Take care when cutting the narrow strips to adjust the fence so that the strips fall away from the blade. You may also need to cut the strips from both ends, so that the strips do not disappear down the gap between blade and the tabletop. A wooden zero-clearance plate fitted in place of the standard table saw insert is beneficial in such circumstances. Alternatively drop one on as a false table.

3 Sand smooth all the edges of the MDF and the ash strips. Apply adhesive into the inlay

rebate and press the ash strips into the rebate. Wipe off any excess adhesive with a damp cloth, and then clamp the pieces using wood buffers to press the timber down.

4 A 22.5° mitre is required at the end of each frame side. Cut six 176mm lengths and two 325mm lengths. Take care when cutting to ensure dead accurate lengths as well as the angles or the joints will not meet properly.

Lay out the frame sides in the correct order. Prepare a belt clamp and then apply adhesive to the mitre ends and join the pieces together. Tighten the clamp



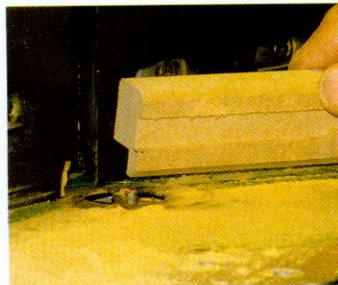
CUTTING LIST

Part	Qty	Mats	Length	Width	Thkns
A Sides	2	Hardwood	325mm	33mm	18mm
B Sides	6	Hardwood	176mm	33mm	18mm
C Insert strips	1	Hardwood	2m	12mm	4mm
D Backing	1	Hardboard	528mm	379mm	3mm

Making the frame



01 Cut a series of strips of MDF for the sides and rout a rebate in one edge to take the mirror and backing



02 Use the same cutter to work a shallow groove centrally down the length of each piece



03 Plane up a series of hardwood strips to a snug fit in the groove and glue in place. Clean off any squeeze-out



04 Mitre the ends to suit your mirror shape and size. Even an elongated octagon will have equal mitres

carefully until all the mitre joints are closed. Check that the frame is square by measuring equivalent diagonals, then leave to set.

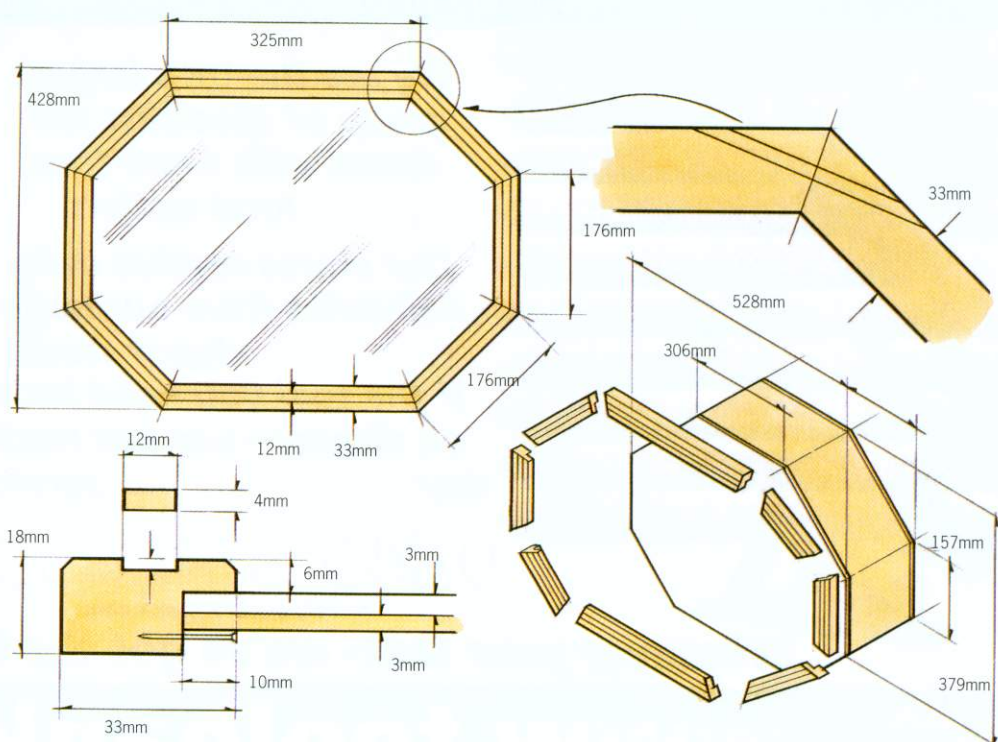
5 The mitre joints are reinforced by cutting a 4mm deep kerf cut across the rear of each joint, and then inserting a pine spline thickened to suit. The cut can be achieved easiest using a radial arm saw. Make the splines slightly deeper than needed then trim flush afterwards with a small sharp plane.

Sand the frame, paying particular attention to getting a smooth and even ash inlay surface.

6 The back panel is cut from a 379x528mm piece of 3mm hardboard. Take the frame and the backing to a glass merchant or glaziers for the 4mm mirror glass to be cut, much easier than attempting to do it yourself. The backing may be used by the glazier as a template.

7 Clean the mirror glass, and then mount into the pre-painted frame (see box below), followed by the backing panel, smooth side outermost. Use 15mm

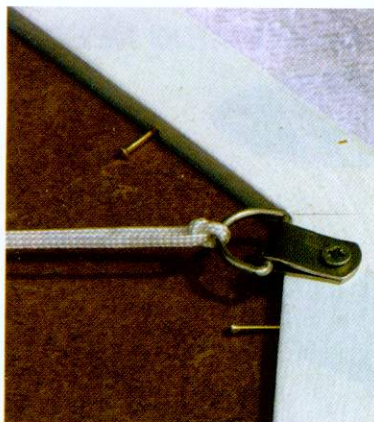
CONSTRUCTION: Octagonal frame



brass panel pins to hold the backing panel in place.

Attach a frame hanger to either side of the frame and use

nylon cord between the two to act as a hanging cord. Put two hooks on the wall and hang the mirror.



Make sure your hanging fixings are strong enough for the weight of frame

Painting the frame

Apply a coat of MDF sealer (I use the one from Rustins) to the frame, denib then apply a coat of clear acrylic varnish by brush. Carefully mask off the ash inlay with strips of masking tape, and then apply two coats of white acrylic primer/undercoat. Follow this with one coat of white satin acrylic topcoat.

Remove the masking tape and remove any white paint that may have crept under the tape. Apply a coat of clear varnish to the frame and to the rear surface of the backing panel.



05 A strap cramp will pull the octagonal frame together but check matching diagonals are equal to ensure square



06 The fragile glued mitre joints are reinforced by first making a saw cut across the joint with a radial arm saw...



07 ...then planing a thin strip of timber to fit and gluing in place. Trim the ends when dry and plane flush



08 Take care when pinning the backing board in place. Picture framing tools are very handy if you do a lot of framing

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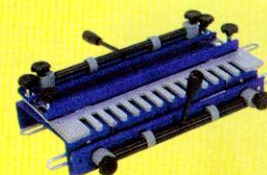
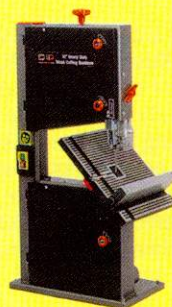
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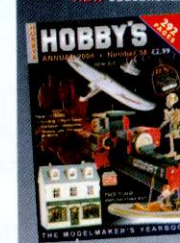
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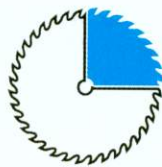
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HAND-TOOLS

Lifetime collection of planes – Norris, Preston, Mathieson, Spiers, etc. Braces, rules, plumbobbs, miniatures etc. Charles Connolly, N. Ireland
☎ 028 82 245543

Arcoy dovetail jig, complete with 3 cutters and instructions. £45 and p+p or buyer collects. W. Enness, Essex
☎ 01621 743049

POWERTOOLS

Bosch POF500A router, new, unused in box, £30. Steve Ireland, Leeds
☎ 0113 2269926

Axminster drum vacuum, twin 1000W motor and cleaning kit. Very powerful, flexible, plastic tubes included, buyer collects. P. Snelling, Surrey
☎ 01483 202807(daytime)

Porter Cable CFN250 cordless 16G nailer, as new carry case, nails, fuel cell, £100. Bucket box pro nail gun holder as in Rutlands Cat, £25 + p+p. Rebel Rotozip spiral saw in case, as new, £60. Draper 1/2in router, used once, £45. Mr J. Smith, Norwich
☎ 01603 449592

MACHINERY

Sawbench – Coronet Consort, 8in TCT blade, rise, fall and tilting. Complete with Dado blade (wobble saw) quiet, 1hp, induction motor, micro adjustable rip-fence, 6in disc sander & table, face-plate turning facility. Top quality, British made on wooden stand, recent full service, £345. Derek Pyatt, Staffs
☎ 01902 791656

Woodworking centre with legs, 6 way supply-hinge, top dust extraction facility. Compact workshop power tool. (Universal templates not included) Used only once, £150. Mr F. Clements, Cleveland
☎ 01642 487603

Axminster CT 150 jointer, with spare set of blades, £250 ONO. Lurem 10x6 planer thicknesser, only used as thicknesser, with 2 spare sets of blades £50.00. Needs attention. Delivery can be arranged. G Cross,
☎ 07973 308865 day/020 8500 6933 evening.

Kity slot mortising attachment for 637 planer thicknesser and Kity combi machine with 3 cutters and instructions. £48, buyer

collects. Brook motor 5hp, English made 1957, AC motor class E, insulation phase 3. Rewound, not used since but tested in February by Mid Surrey Windings Ltd and all in order. £70, buyer collects. G. Jarvis, Kingston on Thames
☎ 0208 5467863

DeWalt DW733 thicknesser as new £250. Rexon Morticer as new £150. Mr David Dowson, Oxford
☎ 01865 424653

Axminster bandsaw, JWBS12, 3 new spare blades, £250. Axminster JBM bench top morticer £150. Drilling machine, Axminster ND16VB, £150. Fern 6in belt and disc sander, £100. Buyer collects. Leslie Jones, Crewe
☎ 01273 568813

10in Elu table saw 2hp, 5A, 400 rpm, 220 – 240V. Model HS10 new motor fitted 1998 – not used since, £50. DeWalt radial arm saw – No blades, 1hp 0.75KW. 220-240v, £50. Mrs Weatherhead, Milton Keynes
☎ 01908 504294

Trend Pro router table, never used, only 3 months old, £250. Plus more workshop machines for sale – call for details. Martin England, Lincs
☎ 01406 351904

DeWalt bandsaw on stand 8in depth of cut, 12in throat, £350. Axminster Morticer CM19T on stand, chisels and adaptors, £350. Multico woodturning lathe, 5 speed with copier, £250. Mr D. Head, Durham
☎ 0191 3841656

Shopsmith MkV complete with the following attachments: bandsaw, jointer, biscuit jointer, crosscut sliding table, drum sander, router chuck and shield (+ bits), 6in dado, 10in sanding discs. Accompanied by various spares – bandsaw blades, 10in rip saw blades, drum sanders of various grades, covers for both the jointer and bandsaw, plus the instruction manuals. Oneway Talon chuck with a range of jaws for sales, but separately and negotiable with the above. £780 or VNO. I. Garner, Oxfordshire
☎ 01295 256975

Perform planer 150mm, new, £85. Fern bench mortiser, FBM 370, new £60. Table saw 200mm, £20. Fern router FBF 8E, £20. Power sander 7002, £20. 12in dovetail jig, £20. D. Dalton, Northants
☎ 01280 703916

Elektra Beckum 315A

bandsaw & stand, some blades, £150. V. Williams, Lancs
☎ 01772 431470 (after 7pm)

DeWalt Powershop radial arm saw, DW125, 10in TCT blade, single phase, £225. An older machine in excellent condition. Mr Jan Peter, Nr. Bath
☎ 01761 418416

Rexon 10in bandsaw, ext. tables, stand, spare blade, £100 Multico 5-sp 13mm pillar drill, stand, morticer attachment, £85. Record DMB65 bandsaw, stand, fence, mitre gauge, £100 B&D Pro dble-ended grinder, grinding gauge, £40 R. Swallow, Croydon
☎ 020 8657 5788

Record router table £100. Ryobi radial armsaw, needs attention to rise and fall, £120, ONO. Axminster masonry nailer and compressor, £110 ONO. Ian Kirkpatrick, Staffs
☎ 01260 227282

Scheppach HF3000 spindle moulder, £500. Mr Neil Atter, Lincs
☎ 01778 342275

Electra Beckum BAS315 bandsaw, Axminster 6in jointer, very little use. Other workshop items, ring for details. Kevin Hopper, Huddersfield
☎ 01484 320716

NWL lathe, 40in bed, face plates, chuck, chisels etc. Record power bandsaw, 12in throat. Clark bench drill. Black and Decker jigsaw and router. Various planes, saws, chisels and clamps. H. Wilson, Herts
☎ 01582 713551

Clark three wheel bandsaw, 3.5in depth, 12in throat, virtually new, £25. M. Hughes, Gwynedd
☎ 01248 353842

Scheppach TKU 12in tablesaw with wheels, hinged rt-hand side extension, sliding carriage and spare 12in blade. £300 ONO. Buyer collects. J. Roberts, Dorset
☎ 01300 341406

Shopsmith MK5110, complete with 4in jointer, thicknesser, bandsaw. Dust collector, router package, many other accessories, £2,200 ONO. W. Marsh, Berks
☎ 01753 833367

Triton MK3 with stand and router plate, little use, £95. 9/16in Makita saw if required, perfect cond, £45. Mr David Parsons, Hants

☎ 01425 612586

Triton Workcentre, MK3 router top, £100. Buyer collects. R. Cable, East Sussex
☎ 07792 086632

TURNING

18 – 40 Poolewood lathe in good working order with chuck and jaws. Bargain £450 ONO. Carriage can be arranged. Mr C. Watts, Kent
☎ 01795 511939

Wadkin Bursgreen lathe, single phase 36in centres, in board 12in dia plus gap bed, 20in dia outboard. Very solid heavy machine complete with chucks, faceplates, chisels etc. £500 cash, buyer collects. A. Miller, West Yorkshire
☎ 01535 604550

Harrison Jubilee lathe, single phase, £325. Axminster disc and belt sander on stand, £75. Both in good condition. Mr R. Pini, Tyne and Wear
☎ 0191 2582886

MISCELLANEOUS

Full rights of registered designs for sale: A selection of woodworking designs for children's toys, nursery furniture, doll's houses etc. All CE approved and registered to ensure originality. Ideal for person with basic woodwork and paint skills. Fantastic potential full/part time. Sale due to disability. Proven success. Emma Brown, Scottish Borders
☎ 01750 21308

Workshop contents, circular saw with bench, router with table, pedestal drill, combination belt disc sander, power planer, hand tools – planes, saws, chisels, tools, router bits, drill bits, miscellaneous screws, hinges and accessories, £499. John Tyler, Bromsgrove
☎ 01527 882439

3M Airlite 100 – 30 OOP. New, still boxed, never used, accept any reasonable offer. Mr N. Chapman, Canterbury
☎ 01227 830225

Unicut 2, with folding table & router adapter (as new) £150.00. Bosch Gex 150 MC in box. £85.00 Mr H Hughes, Cheshire
☎ 01925 632217
isabella.hughes1@ntlworld.com

High quality circular saw blade for cutting non-ferrous metal or plastic. 48 teeth, 6in dia, TCT 16mm bore made by Crowleys, £10 inc. p+p. Ken Chappell, W. Yorks

☎ 01274 598616

Good Woodworking issue 3 to issue 150, most in file boxes, £100 the lot. To be collected. D. Smith, Conwy
☎ 01492 593709

120 woodworking magazines, mixed titles circa 2003/4. £35, buyer collects. P. Anderson, Herts
☎ 01763 246736

10 years of Good Woodworking, mint condition, £50. David Parsons, Hants
☎ 01425 612586

TIMBER

Burr oak: 1 @ 550x300x100, 1 @ 900x350x100, 1 @ 750 x 400x100 - £100 the lot. Spalted beech: 1 @ 450x1200x75 - £50. Ash: 1 @ 300x1500x50, 1 @ 300x900x100 - £75. Or £400 for the lot to include extra yew and spalted beech blocks. Yew branches: 120 or 75-100mm (dia) x 400 - £200 the lot. All air dried. Mr M. Poore, Dorset
☎ 01202 882075

40 rounded 12x12x2in (face-plate) turning blanks in Oak, Elm, Beech and Sycamore. All kiln dried and have been inside our home for the last 8 months. Originally supplied by Poolewood Machinery. Will sell separately or as one lot. Ray Bailey
☎ 07966 094950
ray_bailey@blueyonder.co.uk or 07966 094950

WANTED

Record Power PR3000 lathe chuck. Must be in useable condition. Will gladly pay postage costs. Mr Peter Gray, S. Yorks
☎ 01302 785410

Morso foot operated mitre guillotine – age or condition not important. One needing repair would be OK. R. Green, Essex
☎ 01206 734391

Spare back copies of Good Woodworking, Nos 130 – 135/138 – 140/142 – 147, missing from my collection. Althierems Hams, Belgium
bn250718@belgacom.net

Instruction manual for DeWalt Radial arm saw, Model No. DW8001. Photocopy will suffice. Tony Jefferies, Lancs
Althierems Hams, Belgium
01257 483639
jefferies@glowinternet.net

Benchtalk

2: James Coulson

James Coulson acts as an expert witness at Technology for Timber in disputes over standards, specifications and workmanship. Ian Waller spoke to him about his career in woodworking.



Q Tell me about your role at Technology for Timber?

A I'm Director and Senior Consultant at TFT Ltd, with particular responsibility for Timber Technology issues. I am a Law Society approved expert witness, and I undertake site, relating to specifications, standards and good working practices. Principal areas of investigation are timber construction, carpentry, joinery, shopfitting and kitchen installations.

Q Your website explains that you offer help to solve technical timber problems. What does this entail?

A Apart from the above, TFT Ltd offers help and advice on getting things right at the design and specification stage, as well as going in to sort out the mess afterwards. Prevention is better than cure!

Q Who would you say are your typical customers?

A There are two main groups. The first is the UK timber trade who buy and sell timber to the industry.

They'll come to me generally if a customer complains about the timber supplied to them. It's then down to me to compare that timber to UK and European standards and decide if there is a complaint to uphold. This is generally a matter of grading the timber due to factors including splits, knots and the direction of the grain. I'll then consider what the timber is being used for and whether it is suitable. For instance, a splay knot might be no good for joinery but fine for general construction.

The other set of clients are solicitors who approach me to act as an expert witness, and that can mean cases ranging from a piece of domestic joinery that hasn't been fitted correctly through to a major structural development such as the Globe Theatre.

Q Do you come from a practical woodworking background?

A My late father was in the furniture trade in High Wycombe (the famous chair-making town) for 50 years, and two of my uncles were cabinetmakers; my maternal grandfather was a French Polisher. I learned basic cabinet making at school and college, and I did the three-year Wood Science course at High Wycombe College (now Buckinghamshire Chilterns University). I also completed their one-year Timber Studies Course, gaining a distinction in the process, as well as winning the Course Prize, plus winning two further prizes in the former course. I am currently President of the Institute of Wood Science.

Q As an expert on timber, what wood do you most enjoy working with?

A Hardwoods such as Brazilian mahogany are lovely to work, and many others have a beautiful figure.

"A high quality European redwood from Scandinavia takes a lot of beating... and it smells lovely"

But for practical projects, where framing is the main part, then a high quality European redwood from Scandinavia takes a lot of beating... and it smells lovely when freshly sawn.

Q As your profession revolves around wood, are you still able to enjoy woodworking as a leisure pursuit?

A I always enjoy looking at and working with wood - when I get time! I build DIY projects at home, such as fitted cupboards (hand-built - not from MFI or IKEA).

Q What is your earliest woodworking memory?

A Making a coffee table at school with a ramin top (as suggested by the woodwork teacher: but it was back in 1962) and being disappointed that it stained blue and split at one of the joints. Now I know about the properties of different timbers, ramin is the last wood on earth I would recommend for high quality furniture!

Q Which woodworking project, professionally or otherwise, has given you most satisfaction?

A The Shakespeare's Globe Theatre in London. I was one of the technical consultants to the architects, and had to sort out the drying

and fire treatment of the oak frames, to satisfy modern building regulations.

Q What is the biggest disaster that has befallen you or that you have witnessed?

A A new hospital in Tyneside (which shall remain anonymous) where so-called WBP plywood from Brazil was supplied for external soffits, and it all delaminated because of bad gluing. The supplying company had to foot the bill for replacement and all remedial work, therefore wiping out their profits and more... There is a lesson there for all who specify or use plywood: make sure it is independently certified, with a validated stamp mark (and not just the letters WBP or Exterior rubber-stamped on!).

Q What's the best piece of woodworking advice that you've ever been given?

A Check the moisture content of your timber for compatibility with the end-use conditions; then you'll not have any problems of movement, cracking or warping.

Q What is your favourite power tool and your favourite hand tool?

A A hammer drill (for rock-hard walls!) and a good, sharp chisel.

Bench jottings

For more information concerning Technology for Timber's range of

services, take a look at their website at www.woodexperts.com

Visit one of the following stockists for a hands on experience of Jet woodworking machinery:

Bedford Saws BEDFORD	01234 359 808
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D B Keighley (Machinery) Ltd PUDSEY	0113 257 4736
Data Powertools Ltd CARDIFF	029 2059 5710
Data Powertools Ltd NEWPORT	01633 211684
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G Higgins (Sidcup) Ltd SIDCUP	020 8300 3161
Gleeson's KILCOCK, COUNTY KILDARE (00353)	628 4940
Graham's Machinery (Sales) CHESTER	01244 376 764
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Homewood Woodworking Machinery WORTHING	01903 216 113
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J E T

JTS 315S Site Saw



SPECIFICATION

Table size	550 x 800 (1600)mm
Max. depth of cut with 90°/45°	90/60 mm
Saw blade diameter/bore	315/30 mm
Speed	2800 rpm
Motor: 230 V & 110 V output	2.2 HP / S 100%
Blade tilt range	0-47°
Dust port range connection	100 mm
Width of cut	310 (860) mm
Max. length of cut	600 mm
Weight	50 kg

Only
£340.00 Inc VAT

Right Hand Extension Table
(as pictured) £40.00 Inc VAT

This well equipped machine has a host of features including

- Foldable legs and bayonet mounted rear table extension for quick and easy transportation and set-up
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JTS 315S

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