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- Michael Huntley explains timber-buying theory
- Make: butcher's block table, cake stand, mug tree

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Photograph by David Vickers

Welcome

...to our Kitchen Special. But you'll see from the photo above that I managed to get out of mine briefly thanks to a visit to Makita HQ in Milton Keynes where I got very brave and did what I vowed I would never do, pick up a chainsaw and use it. And this one went through a knife like butter. As well as chainsaws – well, whatever your views on them all woodworking has to start with the tree – Makita is introducing brushless motors; read about them on the news pages, starting on **p8**.

But back to the kitchen and we've got Andy testing various Trend worktop jigs, p28, and meeting a man whose business is designing and making bespoke kitchens, **p48**. Meanwhile the lateral thinking Edward Hopkins extends his to build stairs down to a cellar pantry, **p56**, and Phil Davy starts to replace a worn-out kitchen with the best of the both worlds, a budget build from Ikea and a rather more special worktop, **p74**. We reprise Ted Graham's magnificent butcher's block table, **p42**, along with a faux bamboo cake stand turned by that other Dave Roberts, **p62**. Michael Huntley discusses timber properties and makes a breadboard, **p38**, and Les Thorne turns a mug tree, **p80**.



Andrea Hargreaves, Editor



Andrea Hargreaves
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Consultant Editor



Phil Davy
Consultant Editor

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, and above all, plenty of common sense. Do remember to enjoy yourself, though.*

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Good Woodworking Kitchen Special 2014

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GW 287 ON SALE 28 NOVEMBER



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READY STEADY...

...Bake!

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MUGS AWAY!

Get copying

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Tiger 11/510	2.5Hp	9.5	50ltr	£149.98	£179.98
Tiger 16/510	3 Hp	15.5	50ltr	£219.98	£263.98
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Devil 6005	2.5-5kW	£74.99	£89.99
Devil 6009‡	4.5-9kW	£129.98	£155.98
Devil 6015#	5-10-15kW	£189.98	£227.87

‡ was £167.98 inc.VAT # was £239.98 inc.VAT

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METABO ALSO AVAILABLE

• Powerful 750w motor • 56 litre bag capacity • Flow rate of 850M3/h

‡was £155.98 inc.VAT

MODEL	MOTOR	FLOW RATE	BAG CAP.	EX VAT	INC VAT
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CDE7B	750w	850 M3/h	114Ltrs	£139.98	£167.98

Clarke DUST EXTRACTOR

CDE1000

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• Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

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STAND AVAILABLE FROM ONLY £41.99 EX.VAT £50.39 INC.VAT

CBG8W features 8" whetstone & 6"drystone. # With sanding belt

MODEL	DUTY	WHEEL DIA.	EX VAT	INC VAT
CBG6RP	DIY	150mm	£27.99	£33.59
CBG6RZ	PRO	150mm	£37.99	£45.59
CBG6RSC	HD	150mm	£47.99	£57.59
CBG6SB#	PRO	150mm	£49.98	£59.98
CBG6RWC	HD	150mm	£54.99	£65.99
CBG8W (wet)	HD	150/200mm	£55.99	£67.19

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• A range of compact, high performance wet & dry vacuum cleaners for use around the home, workshop, garage etc.

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CVAC25SS*	1400W	19/17ltr	£64.99	£77.99
CVAC30SSR*	1400W	24/21ltr	£86.99	£104.39

* SS = Stainless Steel

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CHB1500

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		SWINDON 21 Victoria Rd. SN1 3AW	01793 491717
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Good Woodworking

News from the bench

Comment, insight, views and news of woodworkers from around the globe



Angle on Proxxon

Proxxon's new miniature tool has a quiet, powerful DC motor with continuously variable speed control (full-wave electronics) for low and constant speeds even during high contact pressure. Motor power is transferred to the planetary gearing, which is contained in a robust die-cast aluminium housing. The main body of the machine is made from glass fibre reinforced polyamide with a softer section on the underside for comfort.

The polisher is supplied with a rubber backing disc with hook & loop fastening, polishing sponge (medium hard), lambswool polishing disc, polishing felt for metals and non-ferrous metals (medium hard), 12 sanding discs K 2000 and Nigrin, polishing emulsion (75ml) and a microfibre cloth. The polisher and accessories are stored in a polypropylene case with a handle and two snap closures.

The polisher costs £89.95 inc VAT. For more info go to www.brimarc.com

Helping Heroes kit

DeWalt is donating £10 from the sale of each DCK259D2TH4H kit to Help for Heroes. The kit includes a DCD795 compact brushless hammer drill-driver, DCF886 impact driver and two 4.0Ah batteries sold in a Help for Heroes branded TSTAK kit box with camouflage inlay. Both tools use brushless motor technology, reducing friction, thus eliminating energy wastage and maximising the runtime and life of the tool. The 4.0Ah batteries offer 33% longer runtime compared with a standard 3.0Ah battery and all for the same size and weight. The batteries have a charging time of 70 minutes and feature a built-in LED state-of-charge indicator, letting the user know when it is time to charge the battery or swap over to a fully charged one. And there's a 3-year warranty.



Makita expands brushless range

Makita has introduced three new tools featuring brushless-motor technology and shorter length. The DHP481 LXT combi drill is powered by an 18V lithium-ion battery and the brushless motor enables up to twice the run-time of traditional motors and is rated at 640W power output. This two-speed drill will run up to 2,100rpm in high gear and 550rpm in low. It will deliver 31,500 impacts per minute in high gear and 8,250 impacts per minute in low. The 13mm single sleeve keyless chuck enables 16mm capacity in masonry, 13mm in steel and 76mm in timber. There are 21 torque settings and a dedicated drilling mode. The DHP481 will generate 60Nm of fastening torque (soft joint) and 115Nm (hard joint), the highest torque yet from the Makita 18V range.



The DDF481 LXT drill driver mirrors the main features of the DHP481, without the percussion function, and will run up to 2,100rpm in high gear and 550rpm in low gear.

The DTW281 high-torque impact wrench is rated at 280W power and will generate up to 280Nm tightening torque. This ½in square drive impact wrench has a 3-stage power selection function that will produce 3,500 impacts per minute in high, 2,600 impacts per minute in medium and 1,800 impacts per minute in low setting. This enables torque flexibility for varying applications to prevent over-tightening which could damage a fixing. It will drive home an M20 standard bolt and an M16 high tensile bolt.

For more info go to www.makitauk.com

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- **Versatile sander with oscillating bobbin**
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- **Optional 76mm diameter bobbin which requires an accompanying table insert**
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Power	**Input 650W**
Speed	**1,425rpm**
Stroke	**22mm**
Max capacity at 90°	**110mm**
Height of Bobbins	**150mm**
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Dust Extraction Outlet	**50mm**
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Code **709534**

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Axminster Tools & Machinery, Basingstoke, **Hampshire** RG22 6HN. 01256 637477
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Axminster Tools & Machinery, Sittingbourne, **Kent** ME9 8QP. 01795 437143
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For more information visit **brimarc.com** or call **03332 406967**

Prices valid until 31st December 2014



Anarchist's Tool Chest by Chris Schwarz
PHOTO: Lost Art Press



The class of 2014
PHOTO: D Jones/New English Workshop



Chris Schwartz tells students: "Remember, this is wood and it hates you"
PHOTO: D Jones/New English Workshop

Anarchists in the workshop

The summer of 2014 will be remembered among woodworkers as the year that brought the classic English tool chest home. A design that has been transported around the globe for centuries, it has become the symbolic emblem of a true craftsman. Light in weight but built to withstand the rigours of a typical journeyman, the hand tools inside have quite literally shaped our world.

The Anarchist's Tool Chest – after the book by Christopher Schwarz – is now the mark of the modern artisan and New English Workshop held the first course in the UK this year to show 36 students how to build their own chests and make their mark in their chosen craft discipline.

New English Workshop is a partnership of professionals and enthusiasts passionate about preserving the craft of fine furniture making. As well as seeking to promote and encourage the use of traditional methods of working they are focused on providing training, education and tools to the highest standard for like-minded woodies.

New English Workshop courses are designed to promote the craft of furniture making in the best way possible by getting hands on and building pieces using only hand tools, by bringing the best of US and continental woodworkers to the UK and delivering courses across the country. Tutors include Chris Schwarz, David Barron, Peter Follansbee, Tom Fidgen, Jeff Miller and Roy Underhill.

This summer's event was hosted by Warwickshire College in Leamington and saw a total of five students gain a free place on the course. Additional funds are being raised for the college by auctioning off the tool chest built by Christopher Schwarz and contents donated by vendors and artisan tool makers from around the world.

Plans are already under way to make this an annual event and in 2015 it will be held at two sites with a line-up of some of the most influential woodworking professionals that have ever been to the UK at once. There are courses to suit the genuine first timer on limited funds up to advanced practitioners looking to hone their skills. To be part of the hand-made revolution visit www.newenglishworkshop.co.uk and book yourself a place at either Bridgwater College, Somerset or Warwickshire College, both 13-24 July.



The Sawyer's Bench by Tom Fidgen for the 2015 Warwickshire College course



Deneb in action during his visit to the UK in 2013

Lie-Neilsen guru on tour

Deneb Puchalski, hand tool and sharpening guru from Lie-Nielsen, is visiting Ireland, England and Scotland in November. The tour includes two exclusive events in locations that have not hosted Lie-Nielsen demos before: Newcastle and Glasgow.

The tour starts in Ireland at St Mary's College, Galway and the Carpentry Store, Naas.

Deneb is also visiting Axminster Tools & Machinery in Nuneaton, Brodies in Perth and the Harrogate Show (21-23 November) for all three days. Deneb said: "I've demonstrated in Scotland and the north of England before but never been to Newcastle or Glasgow. I'm really looking forward to it and it will also give me the chance to talk about our new tapered saws."

Deneb, who tours North America demonstrating Lie-Nielsen tools, is the recognised authority on how to get the very best from these superb tools. He can help with advice on sharpening, plane tuning and many more techniques.

Lie-Nelson November dates

Wednesday, 12
St Mary's College (with the Carpentry Store), Galway (evening, entry free)

Thursday, 13
The Carpentry Store, Naas (afternoon, entry free)

Saturday, 15
Axminster Tools & Machinery, Nuneaton (afternoon, entry free)

Sunday, 16
The Sheffield Tap, Sheaf Street, Sheffield S1 2BP (2-6pm, entry free)

Monday, 17
The Town Wall, Pink Lane, Newcastle NE1 5HX (3-8pm, entry free)

Tuesday, 18
Sloans, Argyle Street, Glasgow G2 8BG (3-8pm, entry free)

Wednesday, 19
Brodies, Perth (all day, entry free)

Friday 21-Sunday 23,
North of England Woodworking & Power Tool Show, Harrogate (all three days)

Look out for more info confirming venues and times at **www.brimarc.com**





COURSE**DIARY**

Maybe you are bravely planning to build a whole new kitchen, or would like to know how to make some really special stools; if so scan the courses here for some confidence-boosting help.

November
17-20 Bowls, spindles, boxes
23-26 Make guitar stand
25 Turn a bowl
West Dean College
West Dean
Nr Chichester
West Sussex PO18 0QZ
Tel: 01243 811301

20-21 French polishing, restoration
27-28 & 29 Woodturning
John Boddy Timber
Riverside Sawmills
Boroughbridge
North Yorkshire, YO51 9LJ
Tel: 01423 322370

December
1-2 Christmas decorations, gifts (Axminster)
3-4 Beginner routing (Sittingbourne)
4-5 Beginner routing (Axminster)
4-5 & 8-9 Woodturning (Axminster)
10-11 Woodcarving (Axminster)
10-11 Woodturning (Sittingbourne)
Axminster Tool Centre
Unit 10 Weycroft Avenue
Axminster
Devon EX13 5PH
Tel: 0800 975 1905

3-5 Safe operation of wood machines
8-12 Beginner furniture making
15-18 Veneering & laminating
22-23 Tool sharpening & care
Peter Sefton Furniture School
The Threshing Barn
Welland Road
Upton upon Severn
Worcestershire
WR8 0SN
Tel: 01684 591014

4 Greenwood spoon carving
5-7 Handcut dovetails
12-14 Nordic bowl carving
18 & 19 Turned bowl
19-21 Woodturning beginners
West Dean College
West Dean
Nr Chichester
West Sussex PO18 0QZ
Tel: 01243 811301

6-7 & 13-14 Stool course
The Windsor Workshop
Churchfield Farm
West Chiltington
Pulborough
West Sussex RH20 2JW
Tel: 01798 815925

Top turning competition

Digital and print subscribers to *GW* should just be in time to nip along to a real treat of turning when the Worshipful Company of Turners opens its doors to its Exhibition Day of competition entries on 29 October from 10am until 4pm. Held in the historic setting of Apothecaries' Hall in the City of London, it will also be featuring a collection of modern pieces by members of the Association of Woodturners of Great Britain and an historical collection.

Admission is free and tickets can be printed out in advance through the link: www.eventbrite.co.uk/e/2014-woodturning-competitions-exhibitions-day-view-love-buy-tickets-3041225387?aff=eorg

The image is of last year's work but we hope to bring you photos of this year's in next month's magazine.



Louise Hibbert took first prize in the open turning competition for these salt and pepper mills



Raise your glasses

Paul Case, who has a workshop in Osbaldeston, Lancashire and is a member of the Northern Contemporary Furniture Makers, is on something of a roll. Last month we featured his Vetro glass-legged, timber-topped tables, shown at 100% Design in London, and now we bring you this stunning wine cellar for a client on the Isle of Man. Constructed in walnut, the cold room has shelving and storage for 1200 bottles

Super nails challenge win for Rory

To coincide with the launch of the new FatMax 14oz vibration-dampening hammer, Stanley invited tradesmen to take on its Endurance Challenge, for the chance to win an R1 Yamaha super bike.

The challenge was to hit an 8in nail, as fast as possible, flush into a 9 x 8in timber, using the new hammer. It took place at Screwfix stores and Toolfair shows in Harrogate, Exeter and Manchester. Those who achieved the top six fastest times were invited to a weekend at the Silverstone MotoGP, where they also battled it out in front of a live crowd to claim the title of fastest nailer.

After an intense final, Rory Patterson, a farrier from Suffolk, found himself the delighted possessor of the super bike.

For further information go to www.stanleytools.co.uk



Rory with his super bike prize

OFFCUTS

The North of England Woodworking & Power Tool show takes place at the Great Yorkshire Showground, Harrogate from 21-23 November. The show is the largest retail woodworking and power tool show in the country and is now in its 22nd year. More than 30 top demonstrators are taking part, with four 'mini' theatres, a woodworking clinic and over 70 leading companies exhibiting. For more information or to book tickets visit www.skpromotions.co.uk

■■■

A toolkit developed in Wales, which could help reduce the impact of one of the biggest threats to the pine woods of Europe, has been launched at a meeting of tree experts in Spain. The pinewood nematode (PWN) is a tiny roundworm which infests pine trees and causes a condition known as pine wilt, which often kills the tree. It was first discovered in Europe in 1999, in Portugal. Now an international research project, REPHRAME, led by Welsh forestry scientists and involving 11 partners in eight countries, believes it has developed a new way of predicting where and when the pest is likely to spread, and what measures can be taken to control it.

■■■

Sales of British wood products are up 7% and the amount of UK woodland in management has risen to 60% this year, with 250,000 hectares of forest soon to be licensed as Grown in Britain and millions of tonnes of Grown in Britain timber working through the wood chain and into the marketplace.

Good Woodworking Free Reader Ads

Machinery

DeWalt 1150 autofeed planer/thicknesser on stand, £275, Inca Compact Precision 7in table saw with extras, £175, both very good, hobby use only, buyer collects
Rod Liming, Hertfordshire ✆ 01438 714062

Rexon WG-180A wetstone grinder, little used, from new, in perfect working order, £40 ovno
D J Newman, Essex ✆ 01255830411

Record Power RSDE1 high-filtration dust extractor (0.5 micron), DX100R32/57 reducers included, immaculate as used only once or twice, £95.00
Derek Farquharson, Dorset ✆ 07739 096953

Power tools

Triton 2000W router and router table, unused, £200, buyer collect
B Miller, Kent ✆ 01233 638039

Axminster benchtop jointer planer, 156mm, little used, vgc, with manual, £95, buyer collects
John Wheeler, Wiltshire ✆ 01722 718680

Multico 9in surface planer, new motor; Multico 10in circular saw,new motor; both single phase, £400; two 3-phase motors (2.5 & 2kW), floor switches and starter boxes to match, £90.
D C Davies, Carmarthen ✆ 07803818957 after 4.00pm

Miscellaneous

Small workshop facility in South Tyneside or surrounding area, for woodturning and furniture assembly
Martin Williams, Tyne & Wear ✆ 07887 793532

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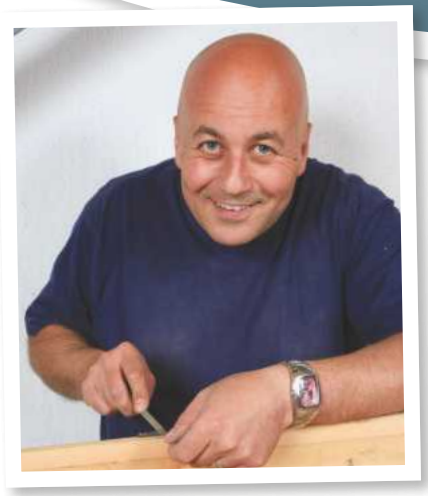
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New products, tools and tests



I'm getting geared up for a few more jaunts up and down the motorways as I type. Harrogate looks like it could be on the cards, and it's a great show normally, so worth the long drive!

I'm also looking to mosey along to Sheffield to check out a few new things, so I'll be reporting back with the lowdown on the latest kit and what caught my eye at the show if it all pans out.

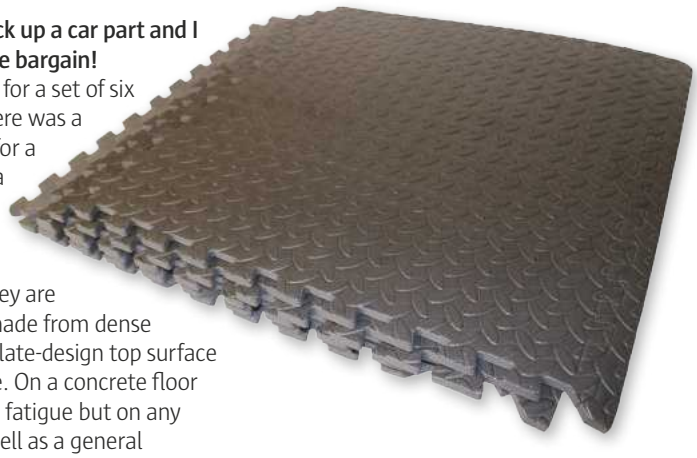
In between it's a trip to the W14 trade show where industrial machinery costing £100s of thousands rubs shoulders with more affordable gear. For updates on all of them, watch this space as they say...



Andy King, Technical Editor
andy.king@mytimemedia.com

Gadget of the Month

Rolson 6-piece floor mat set



A quick trip to pick up a car part and I espied this little bargain! Initially 15 quid for a set of six interlocking mats, there was a 4ft high pile of them for a tenner each – worth a punt on anyone's money...

These are indeed well worth having; they are water resistant and made from dense foam with a checkerplate-design top surface and antislip underside. On a concrete floor they will help prevent fatigue but on any floor they will work well as a general covering or work area at the bench.

Each mat has a jigsaw-shaped edge to interlock with the next one and there are also edges included to give a straight edge to the mat when you have laid them to your desired size and shape.

With each pack covering 1800 x 1200mm (6ft x 4ft) whether you pay full whack at £15, or they have them on offer for £10 still, these are a steal!

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Prices

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Our awards

Good Woodworking Best Buy

Awarded to an excellent performer that offers great value for money

Good Woodworking Recommends

Awarded to an item that stands out as a top performer in its field

How we rate...

★	Don't get your hopes up or your wallet out!
★★	Well, it works but really needs improvement
★★★	Performs well, but you will find better
★★★★	Great performance and value for money
★★★★★	So good, even Andy would get his wallet out!

Top machine!

Andy has no hesitation in recommending this one for all your worktop cutouts



Fit this saw with a suitable blade and it's great for detail work too

This latest machine continues my appreciation of Bosch jigsaws. It can tackle up to 160mm in timber, is a top-end tool and very user friendly.

Bosch has retained the tilting alloy shoe, with the tool-free lever being used to make and base alterations easily simply by releasing the lever, pulling the shoe back against its spring, tilting to the desired setting and redeploying the lever. For 90 and 45° tilts to the left and right, dovetailed indents pull the shoe tightly for a very secure fit, making it easy and quick to achieve a bevel cut at no extra cost.

Bosch is king of the SDS fitting and this one is particularly easy to engage. With no blade fitted the access slot is in an open position, allowing the blade shank to be pushed in. Push against a spring until you hear a click; the outer collar rotates an eighth of a turn around the bayonet shank and secures the blade so it's difficult not to get the blade in the right spot before commencing work, and once you do, it's not going to work loose.

Ejecting the blade is a cinch via a sprung-hinged alloy cage that, when rotated, engages the blade retention collar, swinging it back to its open setting, ejecting it automatically so you don't burn your fingers on a hot blade.

Dust blower

Keeping the work area clear of dust is sorted with a built-in blower that can be switched on or off depending on whether you use an extractor or not. A fixed dust tube is supplied rather than the pivoting one that makes curved cuts easier to manoeuvre: a pity.

Bosch has continued the ball socket cable fit to the back of the saw, which helps on intricate cuts and minimises cable breaks.

The speed dial is tucked into a rear recess, has a stepless action and works well. A very responsive trigger is included, allowing you to speed up or slow down according to the cut being made: a deal breaker on any saw I look at.

Power is via the central trigger, and this can



▲ The recessed worklight provides plenty of light directly around the blade shaft



▲ The base tilts and is held firmly once the base angle lever is re-engaged



▲ Once engaged correctly the bade rotates around the shank to secure it

Bosch GST 160 BCE jigsaw



▲ This lever ejects the blade without you having to touch it



▲ The double roller and side guide help to keep the cuts square



▲ Anti-splinter shoes slide into the base securely



▲ Anti-splinter shoes slide into the base securely



▲ The saw can cut carcassing timbers



▲ With a longer blade you can cut up to 160mm-deep stock

be locked on using the side button. Full marks to Bosch here as the side button is positioned on either side of the handle.

The double LED light is operated with a top-mounted switch. It's enclosed in a rubber cover to prevent dust ingress, making switching on and off a bit tricky.

The pendulum is no different to others, three oscillation settings along with an off position, set with a small side-mounted lever, but instead of a single roller, Bosch has continued with an earlier concept, the blade sitting deep in between a set of side guides, akin to a bandsaw. A set of pivoting rollers above and below the guides gives the blade maximum support as it moves up and down, the pivoting rollers always keeping contact with the blade on pendulum cuts. The concept is designed to give the blade better support through intricate cuts where a jigsaw is more prone to drift, and it makes a decent fist of it.

In use

For deeper cuts especially, the pendulum needs to be engaged on a higher setting to allow the kerf to clear adequately without overheating the blade, but I doubt many of us will engage it for such work; even so it does give more scope for corbel brackets and so forth on bigger timber-framed stuff but there's still a chance of drift on a full-depth cut, especially on a tight radius where the blade can pinch as there's nothing keeping it from whipping and drifting



▲ Making a series of curved cuts on this piece of 80mm iroko proved no problem



▲ The resulting cut was perfectly square

except the cut itself, and a blade that cuts up to 160mm deep has a huge amount of metal unsupported.

For me the more likely operation would be kitchen worktop cutouts, scribing in panels, and doing fancy shaping to exposed rafter ends and the like, which places it in a general construction timber area, and where I think most of us are likely to use a jigsaw.

Conclusion

Bosch has a very well constructed saw here, compact and easy to control in the cut, and with all the major adjustments or switches picked out in red, it's an intuitive tool to get to grips with.

The Good Woodworking Verdict

+ Tool-free base tilt; easy blade swap; unique double roller blade support
– LED light a little tricky to engage

Rating ★★★★★

Typical price: £250.00
Made in Switzerland
Motor: 800W
Speeds: 800-3000spm
Stroke length: 26mm
Max cut in timber: 160mm
Max cut in steel: 10mm
Weight: 2.3kg
Web: www.bosch.co.uk



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Air miles

If you want fast finish coverage on your kitchen cupboards this system flies at 2sq m per minute



This kit is not designed for fine furniture but for spraying a wide range of finishes over bigger surfaces. Bosch says it is capable of applying lacquers and wood stains as well as emulsions and latex-based paints in both solvent and water-soluble compositions.

With a tool-free setup including the hose that fits with a twist-lock bayonet to air supply unit and gun, the high-volume, low-pressure (HVLP) sprayer is very easy and economical to use.

While this system lacks the micro-fine adjustment of a pro one, it still has the basics for setting up the gun correctly to the finish you are spraying via a dial fitted with five stage indicators and 16 clickable positions relating to finishes and uses. This allows you to fine-tune the air supply via a corresponding slider on the air unit.

The gun also has a rotating front air horn for horizontal, vertical and spot-pattern sprays, clicking into each position as you rotate it. And it's not overly noisy.

Once I had selected the correct nozzle – white for wall paint and grey for thinner finishes – I sprayed some Cuprinol wood preserver in a fine, controlled manner. Once dry it was over-sprayed with a Cuprinol Garden Shades finish. Coverage was excellent, and with the airflow on the gun adjusted I achieved a smooth finish without runs.

The gun is capable of firing up to 2sq m a minute, and you can make mist coats too.

Conclusion

For general-purpose spraying around the home and garden this is a cracking little unit, very easy to set up, use and clean.

The Good Woodworking Verdict

+ All-in-one system for most finishes; easy to set up; fast to clean
– Not a gun for high-end finer work; short power cable

Rating ★★★★½
Typical price: £100.00
Motor: 650W
Container capacity: 1l
Length of air hose: 2m
Weight: 3.7kg
Web: www.bosch.co.uk



▲ A twist-fit bayonet hose fits to the air supply, which can be altered with the twist ring



▲ Paint container seals allow different finishes to be used without contamination



▲ Two spray nozzles are supplied and screw directly to the gun



▲ The rotating air horn fits over the nozzle and is retained with a collar



▲ Thinner fluids like this Cuprinol wood preserver can go straight into the container



▲ The application of the Cuprinol was very fast with the wrong nozzle!



▲ Thicker finishes are filtered through the supplied sieve



▲ Coverage with a paint finish is quick and the coverage is excellent

This plane has class

Andy has no hesitation is awarding the full five stars to this Chinese plane



This, the V3 version, has had developmental input from Rob Cosman so there has to be something good going on. Looks alone show its class, seen for example in the screwed-on tab for the lateral lever.

This plane follows the iconic later Stanley Bedrock series, complete with the clipped wings and pin retention for the frog. The beauty of the Bedrock frog design is the ability to adjust the frog position without stripping the plane down. Retention pins secure it to the casting with conical-ended screws that allow the frog to slide along by turning the central adjusting screw.

It's a beautifully engineered setup so the initial setting is a breeze, and quick and easy to alter.

The cutting iron and cap iron are top quality with the ultra-tight fit between the two achieved with a small raised lip on the cap iron.

The quality of the double iron is such that setting the cap close to the cutting iron for finer work is incredibly easy as there's no bulbous springing in the cap to contend with; you simply slide it along to the desired position and tighten off.

The use of a high-carbon steel for the cutting iron over some of the super-hard steels is a plus for me. The composition used here is T10 – water-quenched carbon steel hardened to Rockwell RC63 so it holds an edge well and doesn't take an age to raise and remove the wire edge.

In use

I put it to work flattening back the bench that I built in *GW*238. As with any plane I look at, I usually hone it and try it first. If it works well I don't go looking for anything to do on it. Out of the box this one performed like a dream. The Wood River tolerances meet British standards for square and flatness and are equal or better than +/- 1.5 thou. That'll do for me!

The iron adjustment is sweet and easy. There's a bit of Rob Cosman influence on the yoke or Y lever which has been redesigned to a rounded dovetail profile to minimise backlash when altering the cut.

Conclusion

This plane not only looks classy, but it will also perform for generations to come.

The Good Woodworking Verdict

+ Easy adjust Bedrock design; superb quality throughout
– None

Rating ★★★★★

Typical price: £164.95
Plane length: 380mm
Plane width: 73mm
Plane iron width: 60mm
Weight: 3.2kg
Handles: Bubinga
Web: www.woodworkersworkshop.co.uk



▲ The fit between the back and cutting iron is exemplary



▲ Features such as the screwed lateral tab show great attention to detail



▲ Two outer screws secure the frog and link up with the push-fit retention pins



▲ The central frog screw allows a very fine mouth aperture



▲ The tote is comfortable and puts you in close control of the advance wheel



▲ This part of the Y lever shows Rob Cosman's input



▲ After honing, the plane made short work of giving my benchtop a spruce up



▲ It didn't take long to get a smooth and flat surface ready for a coat of finish

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Decent all rounder

Sharing some attributes of other saws of its kind, this one is well priced, nicely constructed and a good performer



Another day, another saw! This one is part of the Axminster Trade range, which from its own description has a motor that is continuously rated and is a machine designed for a small business of up to six people and a maximum of 1000 hours usage per year. That's not to say, however, that the rest of us can't own one mind you, and if you are looking for a powerful and compact cabinet saw, then this one hits the spot.

It is based around a cabinet-style machine rather than a panel saw, but if you go for the standard package reviewed here there's the option to upgrade to a small sliding carriage and additional cast-iron extensions to increase the cutting capacity along with the saw's diversity.

The basic package comes with two additional pressed steel tables; one a side table to gain additional ripping width, the second as a take-off support table at the rear of the saw.

Fitted with the pressed-steel side table the saw has the capacity to rip a full standard sheet of ply or MDF up to 610mm wide.

If you opt for the full kit the ripping capacity increases and you gain a crosscut carriage with a 1220mm capacity, but with twin slots in the main table and a decent mitre fence supplied, you can make smaller crosscut, mitre and compound work successfully on the basic saw.

The slots are standard 19 x 10mm (¾ x ⅜in) so if you want to upgrade to a better fence there are plenty of options out there.

Biesemeyer-style fence

The fence is based on the Biesemeyer style, running the full length of the table and clamping at the front and rear for working sheet stock, which gives it a good solid fit and eliminates flexing, but there's also a small sub fence for working solid timber stock safely; it can be flipped for thinner materials.

It travels along the tables very slickly as it has a small wheel at the far end to give it fluidity and, with the large cam lock front lever, setting it to any dimension is a breeze.

There's also a magnifying lens cursor to help set the correct width on the metric and imperial setting scale.

A rack & pinion micro adjuster on the fence works well, making fine-tuning of a cut easy.



▲ There's an access panel for maintenance that reveals good solid worm-gear



▲ Rise & fall and tilt have separate adjustment wheels and the handles fold in when not in use



▲ A large paddle lever locks the fence securely

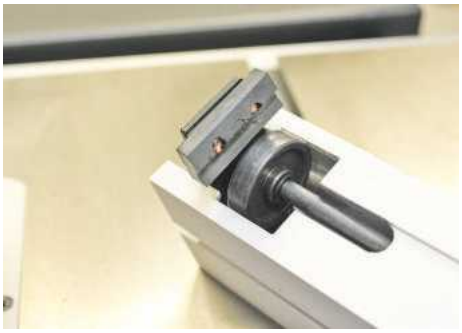
Axminster 10BSB2 table saw



▲ Rack & pinion fine adjustment is a great addition, as is the lens cursor to ensure you hit the spot



▲ The short ripping fence can be used for deep work or flipped for thinner work closer to the blade



▲ This roller at the far end of the fence makes adjustments very smooth



▲ The front paddle lever engages this rear clamp on the fence for a secure fit



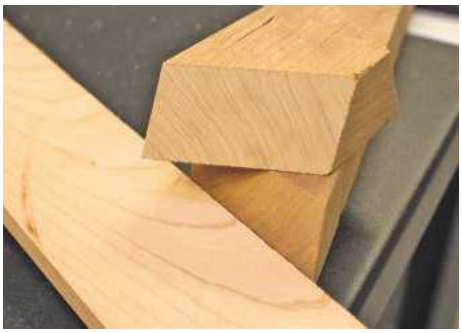
▲ A horn on the crown guard is handy for quickly dropping down to the workpiece



▲ The fence is accurate



▲ A bit of ripping work shows the saw has plenty of guts and there's no problem with full-capacity ripping either



▲ Compound cutting with the mitre fence results in a decent finish off the combi blade supplied



▲ Minimal feathering shows a decent fit straight from the blade

It's identical to some I've seen on other saws at this end of the market, and that's the case for the overall look of the saw; it follows a similar style of cabinet saw, tweaked to fit the importer's own style specification.

Blade adjustment

Blade adjustment is sweet. Large twin hand wheels control the rise & fall and the tilt, and both have folding handles to prevent them being knocked and damaged when not needed.

A look inside the steel cabinet base shows decent-sized Acme thread worm gear that gives the adjustments such easy movement.

It's a right-tilt blade though so it tilts in towards the fence, not a problem in general but I prefer a left tilt as you can cut finer bevels close to the fence without the stock getting trapped. You can move the fence to the left of the blade, but if like me, you are right handed, I find feeding the stock through isn't so intuitive, and on the basic saw, unless you bolt the side table to the left, the rip capacity is minimal.

Axminster has fitted a decent blade to the saw and it performs well in both ripping and crosscut operations, although a finer blade is beneficial if you are working veneered sheets or do a lot of crosscut work.

During my test cutting I did a few compound cuts using the mitre fence and, while there was some marginal feathering, the actual joint came up together crisply straight off the saw, and that's where many will see benefit from this model as it runs smoothly and stably, allowing you to make cuts that will be accurate enough to fit directly from the saw without further work with other tools.

It is more than capable of standard stock conversion as well, and I ripped cherry to the maximum ripping depth capacity without the saw faltering under load; even pushing through hard it worked without a qualm.

Conclusion

There are saws of similar ilk out there, but if you're on the hunt for a solidly built, powerful and compact shop saw this one from Axminster is certainly one to consider. It's fully and easily adjustable for setting the fence, tables and so forth, plus you can retro fit the expansion options if you need to.

It has a three-year parts and labour warranty as well, and for a saw that is designed to work hard on a daily basis, that's a very nice back up to have.

The Woodworking Verdict: Good

\+ Smooth adjustments; easy to adjust fence; powerful, quiet induction motor
– Right tilt blade

Rating ★★★★½

Typical price: £799.94 (standard model), £1279.96
Motor: 2.2kW
Speed: 4000rpm
Max cut @ 90°: 75mm
Max cut @ 45°: 60mm
Max rip with extension tables: 990mm
Weight: 184kg
Web: www.axminster.co.uk

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That sinking feeling

Andy looks at and uses jigs for setting a Belfast sink into a worktop



Andy using the Belfast sink jig

It's odd how what was once deemed as old hat, and either smashed up or dumped in the garden to be used as a plant container, has become a fashionable item once again. Yes, I'm referring to the good old Belfast sink.

With the advent of granite, Corian and other composite worktops, it's a resurrection that doesn't necessarily suffer the problems of old, where a traditional solid timber worktop would be prone to water damage. But as with the majority of water damage issues, a timber workshop that is looked after with a good maintenance programme can prevent this and give you a serviceable worktop for years to come.

Granite and Corian-type options can be maintenance free, but bear in mind that granite has to be templated and custom made whereas Corian and similar composites can be fabricated and fitted successfully onsite like timber.

Composites work well in the kitchen but tend to follow stone-type designs or solid colours and cannot match the beauty and irregularities that a natural timber top gives, plus a timber top can look more in keeping with Belfast sinks, especially if you like a Shaker-style kitchen.

If you fit such things regularly, or want to be sure a fit is as good and less prone to mistakes as possible – and at this end of the market making a mistake cutting and fitting the tops can be an expensive experience – there are jigs available that make the fitting less stressful, so let's have a brief look at the jigs themselves, how these work, and if they are indeed as easy to use as a good jig should be.

Trend worktop jigs

The range of jigs here is all made by Trend, and while this company also does jigs for fitting worktops for the standard mason mitres that many of us will be familiar with, the company has also introduced a set specifically for wooden and composite tops to not only rout a Belfast sink opening along with the all-important drip groove on the underside, but additionally there's a jig for running draining grooves to take water back to the sink as well as a Hot Rod jig.

This Hot Rod one will be of particular interest if you are prone to putting hot pans on your worktops, and allows a set of grooves to be made to retain Hot Rods that keep hot pans or plates away from the surface.

As with standard worktop jigs, a powerful router is essential, one that is capable of taking a ½in-shank cutter as well as a 30mm guide bush for the bigger cuts.

Smaller stuff can be made with a smaller router if you have one, but a single machine will suffice.

Cutters are essential of course, and while some jigs are all inclusive, there's a need to supply certain cutters to gain the required cuts.

Opting for all of these makes the whole experience costly, and for a one off anyone wanting to fit a single kitchen might find themselves better off hiring a tradesman with a range of jigs at their disposal to do the work as it will probably be cheaper than shelling out for the entire set along with the accompanying cutters and guide bushes

All jigs available from Trend stockists. Visit www.trend-uk.com

Belfast sink jig



The aperture for a Belfast sink is normally made to allow a small overhang, normally around 10mm into the sink so that any water on the tops flows back into the sink, not under it where it can set up rot. This overhang is allowed for on the back as well as the left and right side, while the front edge of the sink is normally set up so that it projects just proud of the front of the worktop.

With these as starting points it's simply a matter of measuring the internal dimensions of the sink to then calculate the opening you need to rout.

The Belfast sink jig can be used in two ways, either using the location pins against the front edge of the worktop to set the back edge distance, or, if the sink is very wide, the jig can be positioned with the pin edge at 90° to the edge to allow extra cutting width.

Standard backsets using the pins range from 340mm to 500mm in 20mm increments so it's easy to get the jig set if your sink hits a standard depth.

It's easy to alter should the need arise by simply placing packers between the jig pins and the worktop edge to alter the setting by the correct amount to gain the overhang required.

Using the jig in this orientation, the maximum sink width you can rout is 630mm.

Wider sinks, up to 1030mm, can be routed by swinging the jig through 90°, but now you have to rely on setting out marks to ensure you are accurately in position. That's easy enough though as the jig has a set of datum gauge lines scribed at the corners and end of the routing slot. This sets the jig to the correct backset, allowing for the 30mm guide bush the jig uses when fitted with a ½in-diameter cutter.

It makes life very easy when setting the jig with or without the pins as the top can be marked to the correct aperture and the jig is aligned to these marks using the scribed datums.

In situations where the jig extends beyond the edge of the worktop for the cut at a right angle to it and therefore prevents the scribe lines on the jig being used to align it accurately to your layout marks, there's a supplied datum block with a corresponding scribe mark. This drops into the jig opening close to the worktop edge to show the correct position of the scribe against your layout lines, allowing you to accurately position the jig and clamp it off ready for routing. Using the standard slot gives a 25mm corner radius but if you want a tighter radius there's a small corner aperture within the jig that takes it down to 7mm.

You need to rout the corners first and then join them, using the jig, to rout the straight runs. Again, datum scribes are used so that the jig aligns correctly if you opt for this particular radius setting.



▲ After establishing the aperture the top is marked up to the exact size



▲ Specific backsets can be set using the supplied pins



▲ You can easily shim the jig to alter the backset if needed

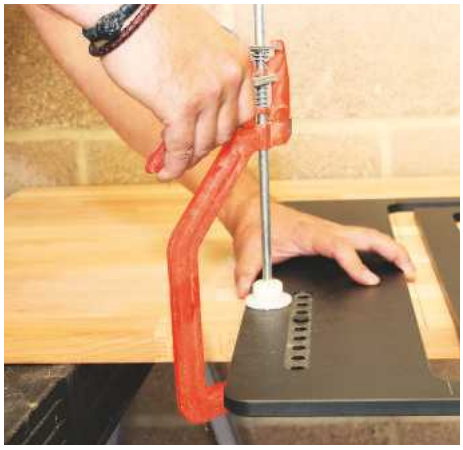


▲ The jig comes with a datum gauge block to correctly set it up to the layout lines

Making the cuts

As with a standard mason mitre jig the cut has to be made by ensuring the cutter engages from the left so that it doesn't break out the front edge of the top.

This means you have to rout one half of the top then flip it over and reposition the jig to rout the other.



▲ Once the position is set the jig is clamped off securely



▲ The cut is made in two halves, working from the left inwards to avoid breakout



▲ Make the cut in a series of passes for best results



▲ The worktop is then flipped over and the marks transferred



▲ The jig setup is then repeated...



▲ ...to make the second half of the process



▲ The result is a crisp clean finish



▲ The drip groove is formed by first marking the backset start and finish point for the cut

You need to transfer any layout marks accordingly by squaring the width across the edge and onto the flip side as well as marking and setting the depth if you aren't using the pins.

Making the cuts in a few passes as is normal with this kind of cut leaves a great finish to the end grain as well as a clean aperture, but make sure you have a sharp cutter and work at a decent pace as the end grain and corner radii can be especially prone to scorching otherwise.

You should also be aware that the waste is quite heavy and although still clamped to the jig during the cutting process, will still prove a dead weight once it becomes free of the worktop. This can, as I found, twist the jig slightly, making the cutter dig marginally into the newly cut aperture. Nothing too drastic though, and easily sorted with a few rubs of abrasive to feather it out.

Had I thought about it, common sense would have told me that you should support the waste piece. Ah, but hindsight is a wonderful thing!

Drip groove

A second aperture in the jig is for the drip groove. This needs a 16mm guide bush as well as a small core box cutter of around 2.5mm radius.

No need for any pins or alignments to datums for this. It just needs the outer edge of the jig aperture to sit tightly to the newly cut opening in the worktop. This gives the correct backset for the cutter to allow the drip groove to sit directly over the sink edge once the top is fitted.

You should set the cut back in from the edge of the worktop by around 5mm so that it



▲ With the jig set and clamped for the drip, the first cut is made



▲ The jig is again flipped to form the second half to leave a neat finish

doesn't let water run beyond the front edge and down the unit. Again, this is a two-part operation, cutting from the left and then flipping the jig to cut the right-hand side.

Conclusion

With the opening complete, on reflection it's certainly a jig that removes the stress involved in calculating what to cut and working out any offsets if you try and template it yourself. Once you know the sink opening and allow the overhang, that's all you need worry about and mark up accordingly.

You would maybe need to do a few of them to justify the outlay, but speed and simplicity of use would certainly escalate the thought process if the kitchen tops are a big investment, which they invariably tend to be once you go past the chipboard core and laminate option.

The Good Woodworking Verdict

+ Easy setup; assured results
– Expensive for a one off

Rating ★★★★☆

Typical price: £118.97
Length 655 mm
Width 600 mm
Thickness 12 mm
Weight 3.6kg



Draining groove jig



▲ The jig has three tapered packers fitted to get the correct fall and a datum line sets it correctly for a full-length slot



▲ You can fit a couple of stops for quicker setup

Unlike the established sinks made from stainless steel, resins or suchlike, a Belfast sink has no projection above or across the worktop so any water from dishes left to the side to dry have to have some way of draining the water back to the sink.

The usual way round this is to rout a run of grooves, and of course Trend has devised a jig for the purpose. Its immediate benefit is a uniform spacing between each groove. The jig can be easily set on the worktop so the resultant grooves will allow the water to run into the sink correctly.

Often overlooked, you see, is the need to get the water to drain once in the grooves; you can easily run a set of coving bit grooves into a top using a batten or straightedge as a guide, but unless they get deeper towards the sink the water simply lies in them.

Trend supplies a set of tapered packers to screw to the underside of the jig: two to the outer edges, and an all-important central one as the router can easily sag and deflect the jig without it, causing the final cuts to be irregular.

The jig has a sight line etched onto the top that you align with the edge of the sink opening.

This sets the correct distance along the top for a groove that tapers into the sink without getting too deep and wide at the sink edge while still retaining enough depth at the furthest point to pick up the water.

Additional holes at the etched end allow you to fit a pair of wooden setup blocks so that all you need to do is centralise the jig to the sink aperture. Additionally, a hole drilled in one corner is used to check that you have the

correct cutter to rout the grooves.

Trend recommends the first groove be about 100mm from the front edge of the worktop, and this sets the jig so that you can identify how many grooves you will be able to run into the sink. You can jiggle this slightly to get a better balance if you find the groove furthest in from the edge isn't in its best position.

You can run up to eight grooves in a row with the jig; more than enough in most circumstances, the only thing you need to remember is that not all of them will need routing in most installations. I find it best to set the jig in place and rout the groove that will lie furthest away from the edge first and then work back towards the front edge. This helps eliminate mistakes when you get in the swing of running the grooves and inadvertently rout a groove beyond the sink aperture.

To position the jig it needs to be secured firmly to the top with clamps, and you have to make sure you get the pressure beyond the tapered packers to ensure it stays flat and not bow up in the middle.

Cutter depth is important as the taper can be quite wide at the sink edge if it's set too deep; it's always best to run a test groove or set the router slightly shallow first and then adjust the cut with a fine adjuster to get the groove deep enough at the far end while not becoming too wide and deep at the sink end. Ideally the sink end should be around 4mm deep so as not to get too wide.

The jig has slots of 455mm long for general use, but you can also fit a batten to restrict the slot length to 300mm if you have a drainer that is closer to a wall or you don't want a big draining area.

Conclusion

Overall, the jig is again a simple enough bit of kit to set up, and as with the Belfast sink, helps eliminate mistakes while returning great results.

This one is also an 'out of the box' experience as it comes complete with a 30mm guidebush and the ½in shank 19mm cove cutter required for the job, so if you have a compatible router you're ready to go.

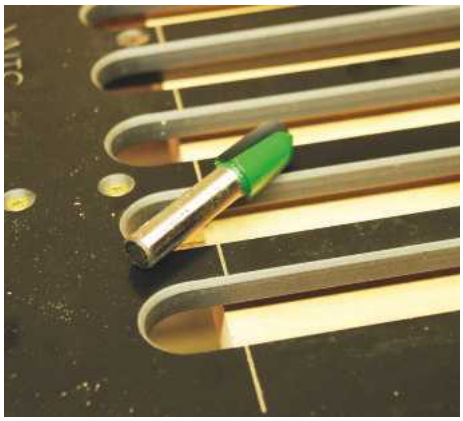
The Good Woodworking Verdict

+ Automatically sets the fall; comes with cutter and guide bush

– Expensive; care needed to ensure you don't rout too far across worktop

Rating ★★★½☆

Typical price: £136.34
Fall: 0.5°
Groove pitch: 50.0mm
Groove length: 455mm
Slat width: 19.8 mm
Length: 625mm
Height: 585mm
Width: 12mm
Weight: 4.3kg



▲ The jig comes supplied with the correct cutter as well as a 30mm guide bush



▲ Set the depth by plunging the cutter and zeroing...



▲ ...then back off the plunge post to the correct cutting depth



▲ Starting at the innermost slot helps eliminate mistakes



▲ Make each pass through the jig until they are all routed



▲ Ideally a few test cuts will help eliminate the scorching shown here

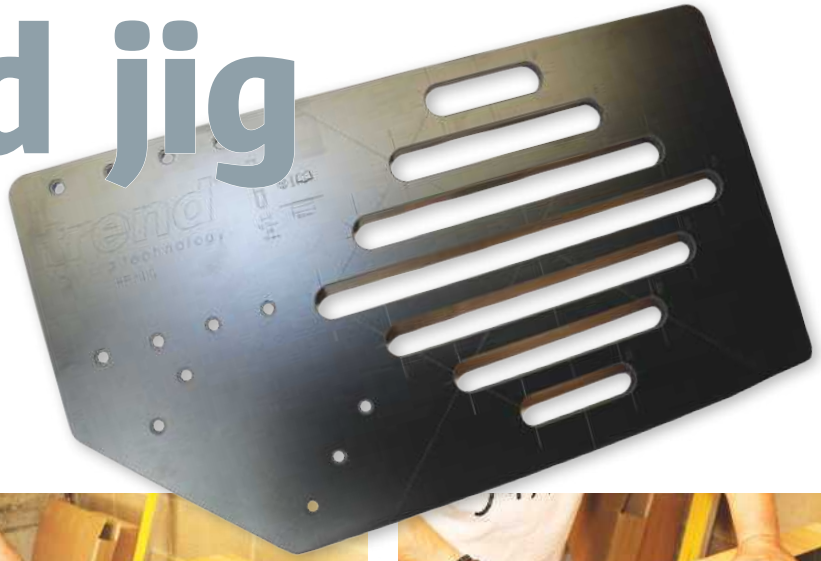


▲ The grooves are clean and consistent with a slight fall



▲ A bit of light sanding and it's ready for fitting and finishing

Hot Rod jig



The Hot Rod jig is designed to let in sets of commercially available stainless steel rods to keep direct heat away from the work surface, so hot pans can be set down.

It's configured to run a diamond or square in a diminishing pattern from a 300mm long centre rod down to a 100mm outer.

With location pins to set from an edge in 50mm increments it's quick to set, positioning in a 90° to the edge configuration giving a diamond formation and 45° for a square pattern. You simply set the pins to gauge the position from the edge, clamp down and rout.

It needs a 6mm or 6.5mm radius cove cutting bit to set the rod width to suit the rod diameters being used (12mm and 12.5mm are common diameters), routing each groove around 5-6mm deep by sitting the router on the jig and bottoming the bit out on the work surface, zeroing the plunge post and then backing off to set the depth.

A 30mm guide bush is again required, but with the jig sitting directly to the work surface waste builds up within the jig slots, stopping the router from travelling fully along the slots.

It's simple enough to blow out the slots as you go and get a full pass, but extraction is certainly better if you have the option, and it's important that the slots are routed in their entirety to ensure the rods sit in correctly.

Etched gridlines allow you to be inventive with your rod layouts or use identical-length rods for easier positioning or setting up the jig for other positions.

Conclusion

With this more convoluted method you have to do your own setting and marking out of positions of the rod centres for the jig to be aligned to, and there's the associated chance of setting the wrong jig slot to the layout lines so of course concentration is key, but this is a jig that gives scope for experiment and a different look to the standard layouts should you require it.

The Good Woodworking Verdict

+ Can be used for different designs; quick to use as standard configuration
– Needs accurate marking out for patterns other than the standard design; no bit supplied

Rating ★★★½☆

Typical price: £66.00
Groove pitch: 50.0mm
Groove length: 100, 200, 300 and 400mm
Length: 700mm
Width: 390mm
Thickness: 12mm
Weight: 3.5 kg



▲ Use the pins on the 45° position for a parallel design



▲ Alternatively set the pins on the 90° setting for a diagonal pattern



▲ Clamp off securely ready for routing



▲ Set the depth by plunging the cutter to the worktop and zeroing the post



▲ Back off the post by the correct depth and it's ready to go



▲ The cuts can be made in a single pass



▲ The slots have some feathering after routing



▲ A few light passes with a fine abrasive soon cleans them up



Pane relief & other fixes

A month or two back, in the course of putting some judicious H&S distance between myself and a solution involving a hastily contrapted hod for rolling furniture up ladders and in through upstairs windows (*GW*284), I claimed to be a fictitious character and a citizen of Legoland. Fictitious or not, the modifications to the window frame that allow it to be opened widely enough to receive large items were perfectly real, and – reality being what it is – have taken much longer than expected. I should've known, of course, that there would be loose joints to secure...

Dave Roberts, Consultant Editor

...Weary wood and worn hinges to replace, as well as the inevitable sanding, painting and putty work that are part and parcel of overhauling old wooden windows. As I'd hoped, September smiled upon my efforts with fine weather, but hoping for the best is only half of the preparation game – the other half is planning for the worst.

Keeping up appearances

To this end, I made myself a dummy casement that slots into place place to fill th'ole, as we northerners say. It didn't take long to run up – it's just a butt-jointed softwood frame skinned with ply – but to stop the place looking like an '80s' squat I then spent as long again painting a *trompe l'oeil* (a faux window complete with glazing bar, bevelled putty, and – to amuse myself – my favourite Waterson character). Because it's sized to match the original and held in place by simple wooden latches, it's quick and easy to fit. The self-adhesive draught excluder around the edge, meanwhile, makes a good seal, and knowing this provides what you might call 'pane relief' – it removes that unhelpful sense of urgency that sometimes attends upon what would otherwise be a weather-dependent job, and which might encourage me to rush.

Tree nails

Talking of appearances, framing farm cottage windows was, in its day, obviously a job of carpentry rather than cabinetmaking. Even so, I sometimes wonder at its comparative crudeness, especially when I'm removing the old cut nails that were used to secure, say, a casement in the frame. Now, I'm blind to neither the commercial advantages of nails nor their mechanics, but even so I just don't feel comfortable using the things; to me anything bigger than a panel pin looks like vandalism. On the other hand, I rather like using 'tree nails' (homemade dowels cut from lengths of proprietary 6mm dowelling) that work, well, like wooden nails with the added benefit of PVA. Even though driving them home involves an amount of Manchester spannering (hammering), pinning wood with wood seems somehow less intrusive, makes for a joint that is not less strong, and can even be used to decorative effect.

Vive le systeme decimal?

Screws, on the other hand – though unsightly unless they're made of brass and neatly set – do at least offer a measure of precision when used as a jointing solution rather than just a quick fix.

A traditional wood screw, for instance, combines the advantages of a dowel to provide location with the mechanical pull exerted by a thread on solid wood. I'm only just starting to come to terms, however, with the metrification of wood screw sizes and find myself reading metric dimensions but thinking in imperial: I'll pick up a box of 4 x 40mm screws, for example, but see them as 1½in-long No.8s. I don't know why I do this; it's like teaching myself to walk with a limp because, unlike the imperial gauges used for screw sizes



The rarest and most valuable native sawdust? Can the loamy waste from Hamish Low's bog oak trunks be used for anything useful or interesting? Time will tell...



Simple latches top and bottom engage with window frame, making the dummy casement quick and easy to fit, while the self-adhesive draught excluder keeps out the weather



Spot the dummy: linseed fingermarks give away the freshly puttied casements, but I think my *trompe l'oeil* works quite well, don't you? It beats a bit of tatty ply anyway

less than ¼in, which I've never troubled to try and fully understand, metric sizes make the relationship between the diameter of wood screws and the drill bits required for pilot or clearance holes immediately apparent. It also makes it easier to apply the rule of thumb which says that a screw's diameter oughtn't to exceed ⅒th of the width of the wood that it's being used to secure.

Interestingly, I read the other day that when Australia 'went metric' in the '70s, one car manufacturer was able to reduce its holding of fasteners by 80% by ditching the baggage of those non-interchangeable imperial sizing systems

Resin resolution...

As a very quick footnote to the hold exerted by screw threads, I recently had another one of those 'if I fix this, I can use it for that' finds at a neighbouring joinery 'shop, which wouldn't be worth mentioning but for the fact that it involved making good an MDF edge from which screws had been pulled. Once disrupted in this way, MDF tends to go to pieces, of course, but with nothing to lose except a handy storage box, I tried reconstituting the edge by injecting a PVA solution into the screw holes to saturate the surrounding fibres, and then cramping the edge while it dried. The fix seems to be successful: quicker than making a new section, it restored the uniformity of the edge which now appears strong enough to take a dowel. Like nails, this isn't great cabinetmaking, but it's a simple solution.

Trade cutting tip

When learning new skills, I find that it's useful to know whether my mistakes are the result of a tool being wrongly used, or my using the wrong tool. When I needed to glaze my refurbished windows, then, I decided to use the little stock of glass leftovers at the back of the workshop and cut my own panes. On the few occasions that I've used a glass cutter, I've had mixed results, so decided to ask my local glazier what he uses on a day-to-day basis. And here it is: a Silberschnitt steel cutter that cost me a mighty £5, and has six cutting wheels, so that as one becomes blunt the next is rotated into place. It doesn't have any tricky in-handle oil reservoirs; instead I lubricate the wheel by simply dipping it in a capful of 3-in-1. So far, it's done me well, and if the results aren't perfect, I feel confident that it's just lack of technique rather than a lack of the right tool.



Good for glass up to 10mm thick, this simple cutter worked well on my 3mm window panes. Best results were achieved by making one firm stroke, and tapping the scored line smartly from below. As ever, practice is sure to help.

...and resin inspiration

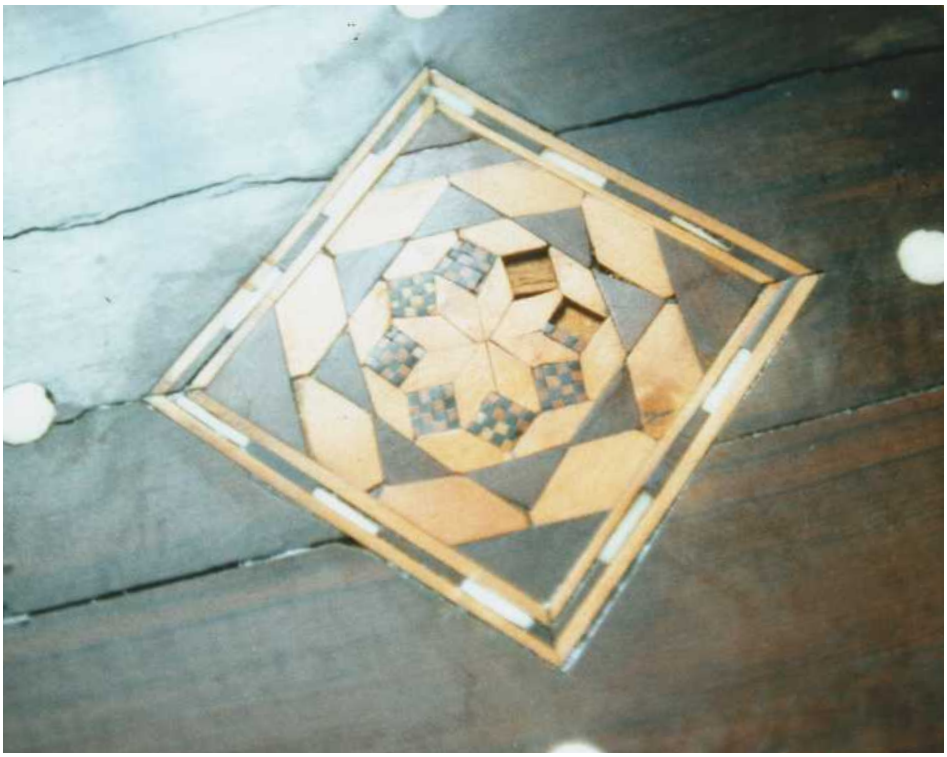
Finally, in a not unconnected thread that also provides a teaser for an upcoming Profile, I nipped over to visit Hamish Low, who is to bog oak what Livingstone was to exploration of the Nile: after a quarter of a century hunting and milling these fenland beasties, he's probably our leading expert on what he suggests is our rarest and most valuable native timber.
While I was there I couldn't help noticing that in the course of milling the trunks, an awful lot of this rare and valuable 5000-year-old oak was being turned to dust. So, to cut a long story short, I brought a bagful home. Having experimented with powdered brass and resin to make castings and inlay, I thought it'd be interesting to see what happened if you tried the same thing with bog oak. 'Course, the thing with newly extracted bog oak is that it's around 50% water by volume, so first I need to find a way to remove a couple of litres of water from what looks like a bag of damp coffee grounds!

Posh matchsticks

Stephen Simmons had a practice run with matchsticks before committing ebony and boxwood to the task

Something like this backgammon board demands very precise work and a lot of patience if the restoration is to pass scrutiny. This 17th-century board had been gathering dust in the attic of Tissington Hall, Derbyshire and was beginning to deteriorate badly. It was dirty and damp had caused much of the veneer to lift, become detached or disappear altogether.

The hand-cut veneer was of variable thickness, from paper thin to a good 3mm, making replacement a bit of a juggling act, and some of the chequered inlay was missing (**Pic.1**). The rest of the pattern was made up of standard wood and ivory inlay but inspection using a magnifying glass revealed ebony and boxwood end-grain chequering. As an eye-catching element of the motif, any replacement had to stand up to close eye contact.



▲ Pic.1 **The problem: missing end-grain inlay of variable thickness**

Cheap and cheerful

There is a legitimate low-cost technique for replicating coloured patterns with earth pigment suspended in transparent shellac but it's best used when the work is normally a significant distance – about 4 or 5ft – from the eye. A good example is the geometric ebony and box stringing round the base of some 17th-century walnut chests when vegetable black and either yellow ochre or raw sienna are ideal. It's a technique for tricking the eye into the rhythm of the pattern. It's easily reversible with meths if you make a mistake. However, it only imparts colour and doesn't compensate for wood loss. So, despite its attractions this cheap and cheerful method was not appropriate here: given its high visibility any replication had to be exact. End-grain ebony and box it had to be...

It was evident from the start that it was impractical to cut 28 individual squares and fit them all into place, particularly given the variable thickness of the surrounding veneer. Although I'd done nothing like it before, two things would obviously make life easier: make longer sticks and cut them down, and glue them together into blocks to form the end-grain chequer pattern beforehand. As the job stood two blocks – 4 x 4 and 4 x 3 squares – were needed, so how many sticks would I need? It would, of course, have been more straightforward to sacrifice the four remaining squares of the second pattern to save this division and work with two complete 4 x 4 blanks, but even at this marginal level the brief was to keep as much of the original as possible. I had anticipated that stick making would be fiddly and wanted to keep the number to a minimum so the implied 28 seemed a bit over the top.



▲ Pic.2 **The solution emerges: the scale is small...**



▲ Pic.3 **...the approach is slightly unconventional...**

Make a mock-up

I took the time-honoured novice's approach and played with some matchsticks. After a couple of mock-ups the way forward emerged. The optimum number of sticks that could be glued into a block at one time was eight and once glued it was relatively easy to halve a block into a 4 x 1 configuration with a scalpel.

So in the end just eight sticks were enough and, at 20mm, long enough to be cut into four if necessary. The raw materials posed no problems... I had plenty of small ebony offcuts and for the boxwood I plundered an old broken ruler. It was the scale of things that provided the challenge. Accuracy wasn't critical for the length but was so for the square section. Measuring the original I got a more accurate reading with metric than imperial so 2mm was

Backgammon board restoration



▲ Pic.4 **...very fiddly...**



▲ Pic.5 **...and requires patience...**

the order of the day (**Pic. 2**). Face sides and edges were created as normal, but normal had to stop there. Width could still be marked with a gauge but small size made it impossible to secure the sticks to square them as normal with bigger pieces. Instead they had to be roughed out and then pared down to size by drawing them gently but firmly over a finely set plane held upside down in a vice (**Pic.3**). Done carefully it should be quite safe – I came out of the process unscathed. But it was surprising how the concentration induced tension... regular hand and finger stretching breaks were essential. And because of the excessive handling it was necessary to degrease the sticks with meths before gluing.

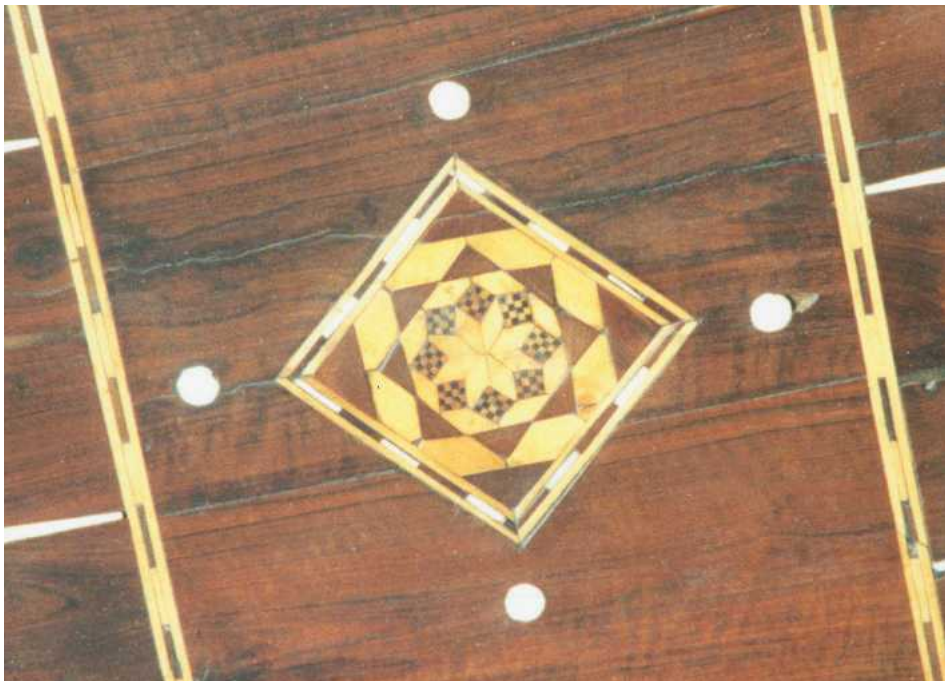
Fine tuning

After the mock-ups, the arithmetic and cutting the sticks, things speeded up as well as becoming less tense. Eight sticks were glued together at a time, using PVA; masking tape was sufficient to bind them together tightly **(Pic.4).** I also used a couple of small bulldog clips over the tape, more to keep things square than apply extra pressure. Once the glue had cured and the excess was cleaned off, the 4 x 2 blocks were cut into shorter lengths – a very fine saw such as a Pax razor or gentleman's saw is recommended – and one was separated for the single 4 x block. A bit of scraping to fine-tune the blocks was necessary and then they were set in place, secured with animal glue and ultimately trimmed with a flush-cut saw (**Pic.5**). The boxwood was a bit stark at first but a gentle rub with 600 grit wet–and-dry and linseed oil when the rest of the work was finished was enough to blend everything in beautifully (**Pic.6**).

Working on fiddly things often involves a disproportionate amount of time in relation to the final product but as an integral part of the job it has to be done. And ultimately it's well worth the effort. Become master of the fiddly bits and you're well on your way to becoming an all-round restorer.

TIP

If possible fiddly work is best done sitting down at a work table rather than standing at the bench, and a comfortable working position is vital, along with good localised lighting and some magnification.



▲ Pic.6 **...but the result is well worth the effort**





Daily bread

This month **Michael Huntley** introduces you to timber and its properties and makes a breadboard

So far in this series we have used softwood for almost everything. But one of the questions that students ask me is: "What timber should I use and where do I buy it?" So here is a little introduction to timbers.

All timber is either softwood or hardwood. This has nothing to do with how hard or soft the actual wood is. It refers generally to whether the tree keeps its leaves in the winter or not. Conifers keep their leaves and are collectively known as softwoods, and broadleaved trees like oak shed their leaves and are collectively known as hardwoods.

Like any good rule there are exceptions. Larch, a softwood, is a conifer that sheds its leaves whereas yew, which keeps its leaves, is a conifer and is a hardwood. Holly is a hardwood that doesn't shed its leaves seasonally. There is also a third class of timbers, tropical hardwoods. These include mahogany, iroko, teak and so on.

Choice influences

A number of factors influence our choice of timber. Cost and availability are pretty high on the list, but so are durability, workability and toxicity. Any good timber list will cover all those characteristics. If you are steam-bending chairs you will want to know about elasticity; if you are laminating you will want to know about gluing characteristics.

So how do you choose what timber to use? Well, as a general rule I now avoid tropical hardwoods unless there is a compelling reason to use them and they come from sustainable sources. For general workshop use and studwork structures I use softwood.

There is one class of softwood that is very useful for structures and that is CLS (Canadian Lumber Standard). All builders' merchants will stock CLS and they come without faults and in standard sizes. Other softwoods come as sawn timber or PAR. Sawn is for rough work, PAR is planed all round. These timbers have not been graded in the same way as CLS and may have faults in them such as warping and winding. They too come in standard sizes, so don't



▲ Pic.1 Timber for Michael's next big project is stacked in his office ready to make a library table in a two years' time



▲ Pic.2 Close-up of the ends of the boards showing checks; these are normal and will be cut off or 'butterflied' together if he is feeling very Japanese



◀ Pic.3 The second from right timber shown here has bowed too much and will be rejected



▶ Pic.4 This post shows three faults: of the two knots the lower one is acceptable in this situation because the post is vertical but would not be acceptable if the beam were being used horizontally; the upper knot (right on an edge and not opened up much) is OK if used such that it is on the top of a horizontal and thus in compression; the split is OK if used vertically but not horizontally

▶ Pic.5 This roughed out seat has a fault on the right-hand side so the pencil lines for the final cutting are shifted to the left, ensuring any undercutting and weakness are on the underside of the seat and away from the leg mortises



Breadboard exercise

It is time for the 6-monthly review! You have got your tools, you have made a toolbox and a trestle, you can saw, chisel and sharpen. What is next? In this part I am going to show a little marking out and planing exercise – making an hexagonal breadboard. Time to do some geometry.

Getting planing practice by constantly squaring up and thicknessing long boards is tedious and boring for the beginner so here is a chance to do some accurate planing on a small project that you can repeat any number of times to make small domestic gifts.

Go to a timber recycling project or joinery yard and get a couple of offcuts, the wider the better. My first piece (**Pic.1**) is 240mm wide. As an alternative I could have used laminate worktop (**Pic.2**).

I want to make polygonal breadboards, in this instance hexagons but almost any polygon would do. My board is long enough to get two hexagons out of it.

Using dividers mark out two circles, one for each polygon (**Pic.3**). In order to draw the faces of the polygon you will need to extend one diameter beyond the circumference in the direction of point C, so you do need a bit of extra length in the board, shown on the right of the image. Then mark a second diameter at right angles to the first.



▶ Pic.1 Start with a suitable offcut

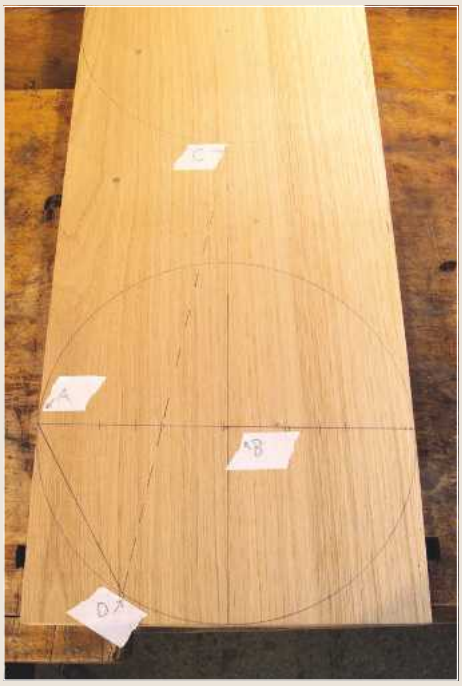


▶ Pic.2 You can even use laminated wooden worktop

The maths bit

Now comes the geometry. Divide the radius by four giving, in my case, 30mm. Next, using a compass step off 3 x 30mm from the circumference along the extended diameter. This will give you the location of point C.

Divide the other diameter starting at point A by the number of sides required, in this case six for a hexagon, and step off the divisions with a compass. Join point C to the second division in from A and extend the dotted line until it meets the circumference at point D. The line from D to A gives you the length of the hexagon side (**Pic.4**). Measure this with a pair of compasses and step off around the circle. These lines will form a regular hexagonal polygon.



▲ Pic.4 Then follow the instructions in the text to determine the length of the sides



▲ Pic.3 The circle set out with one normal diameter and one extended to point C



▲ Pic.5 Saw the edges of the polygon as close to the line as you can

Time to saw

Saw along the lines to give the outline of a hexagon (**Pic.5**), then tidy up all surfaces with a freshly sharpened bench plane (**Pics.6** & **7**).

Make several boards with different sets of marking out and different timbers, perhaps cherry, sycamore, beech, or whatever offcuts you can find. They will become multi-use kitchen boards for cutting, chopping, serving or as trivets to protect table surfaces from hot dishes and teapots.

This may seem like a very simple exercise, but practise until you can get clean square edges bisecting the pencil lines every time.



▲ Pic.6 With a good sharp No.5½ you can get full-width cross-grain shavings and no breakout; try to plane half the pencil line away



▲ Pic.7 A saw, a plane, a ruler and a set of compasses are all you need to get started on your first domestic project



▲ Pic.6 **Waxing the cut ends of timber can help reduce end checks**



◀ Pic.7 **Even so, the timbers get used, the fresh ends are re-stacked and more end checks appear – this is normal**

Sleep stealer



Michael's first commission, a plate rack with 140 joints in it!

When I had finished my training I set up my bench and started taking in jobs. One of the first was a beech plate rack. It was for a kitchen designer and he sent over the drawing, we agreed a price and I got on with it. I was so glad to get work that I didn't actually count up the number of joints. It has about 140 mortise & tenons in it! The delivery date was fixed and I stayed up until 3 o'clock in the morning cleaning up the joints, then had two hours in bed before I oiled it and delivered it at 10am the next day – a bit of a steep learning curve. My wife has now decided that she would like one too!

expect to go and buy exactly what you want unless the merchant has a machining facility, which is rare and costly.

Timber faults

Avoid timber that has splits and cracks down its length. Splits, known as checks, at the ends are normal. Don't worry about checks in the first 4in of a piece, but long splits in the main body are not good. Always assume that the first 4in of a stick might be waste.

Some planks are cupped; this is harder to avoid, see seasoning below. You may have to live with cupping or plane it out as we did in part 2 of this series (*GW*282).

The next thing to avoid is bowed wood. Look down the length and eyeball it for straightness. While looking at the straightness also check for twisting. Twisted wood is in wind, to rhyme with kind. Timber that is in wind makes a project really difficult. You cannot bend, glue or screw wood back into straightness; wood will return to its deformed shape. You must get it into the right shape before you use it so try not to buy rubbish timber in the first place.

The last issue is knots and grain. Knots are unavoidable, the poor tree has to have branches, but when buying timber for a project try to avoid getting knots in awkward places such as in the middle of a joint or the centre of a load-bearing span. There are occasions though, when a knot is a major decorative part of the grain and is very attractive. You will only be able to learn how to read the grain by doing lots of hand planing and sawing in order to get used to the feel of timber. That is why good courses insist on hand tool use only for the first year.

Builder's merchants will only sell softwood unless they have a specific timber yard. Builders' merchants' timber yards will only sell occasional hardwoods. To get a good range of hardwood you need to find a timber yard that only sells timber, so that the clientele are joiners and cabinetmakers rather than builders. It is not unusual to have to drive for an hour or two to find a suitable yard.

Seasoning

All softwood that you buy will be seasoned. Native hardwoods, though, may not be seasoned. Living wood contains a lot of water. When the tree is felled and converted into planks this water has to dry out. That drying process is called seasoning. Timber is planked and then left in stacks with air gaps between the boards for a number of years. The rough rule is one year for every inch of board thickness and then an extra year over.

If the wood is kiln dried then different rules apply. Seasoned timber then needs to be conditioned. This means cutting it to rough sizes and leaving it for about 12 weeks in an environment similar to that in which the final item will be kept. This is to allow the cells of the wood to stabilise to the correct moisture content. You can imagine a dry centrally heated house will need timber of a different moisture content to that in an unheated village hall. Timber will dry differently in width, thickness and length. Certain boards will cup, that is, their flat surfaces will become slightly hollow. The opposite surface will be slightly convex. This will need to be planed out.

Additional information

For more on timber read Alan Holtham's *How to Season and Dry your own Wood*, published by GMC.

Meaty feast

Ted Graham carves up a treat with this butcher's block table in beech





MATERIAL LIST (All sizes in mm)

Component	Length	Width	Thickness	Amount
Wood – Beech				
Legs	890	55	55	4
Rails	500	55	25 (Tenons 25mm long)	4
Rails	450	55	25 (Rails dowelled)	8
Top side panels	500	238	25 (Tenons 25mm long)	2
Beech-faced plywood shelves	505	500	12	3
Side towel rails	500	60	30	2
Dowel for attaching towel rails	250	25	–	4
Top	630	630	30	1
Lockable castors	–	–	–	4

Butcher's block table

My two daughters-in-law had new kitchens fitted at the same time and both wanted a butcher's table to match. Although only one is shown in this article, I actually made the two tables at the same time. It wasn't quite a production line, I admit, but it saved a lot of time when preparing material and setting up hand and machine tools.

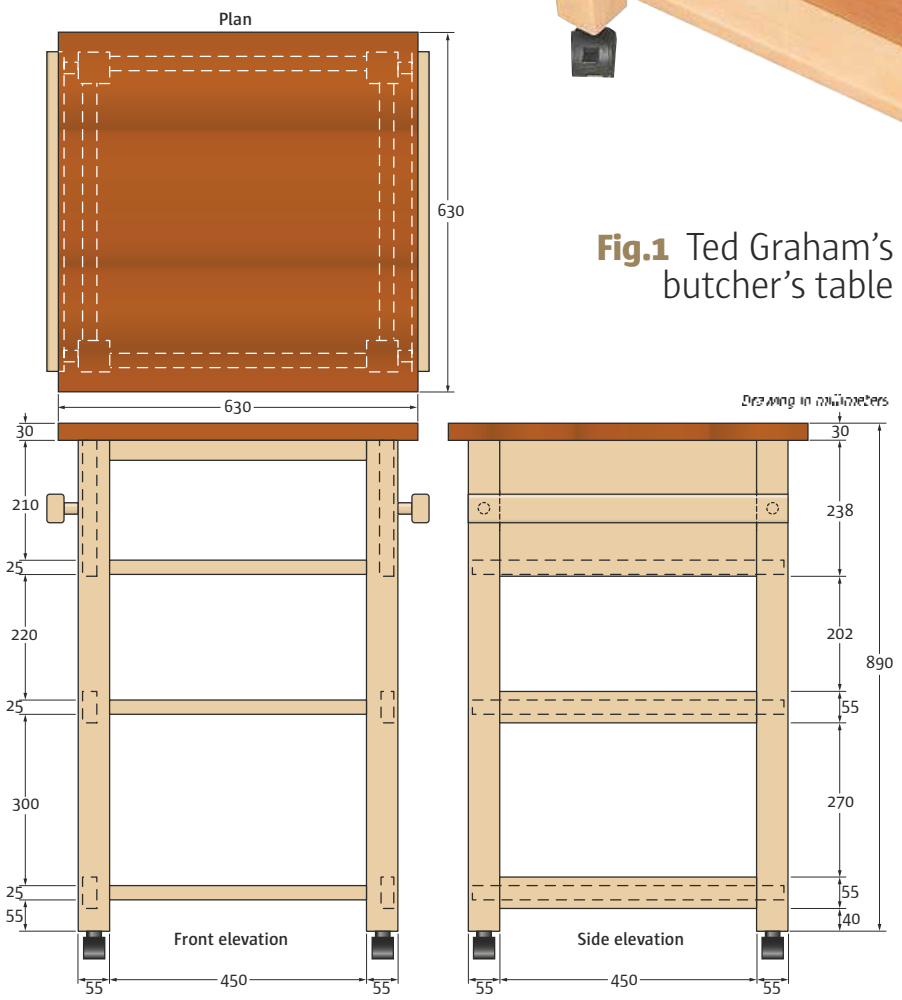
Design sources

Initially, I looked at the design of the butchers' tables already on the market, which was useful for gathering ideas about different storage systems and sizes. There's a lot of variety in the proprietary designs, some of which have open shelves and drawers for wine racks and cane storage baskets. There were, however, a number of common denominators across the ranges: beech was the most common wood used for construction, for example, and the height of most of the tables that I reviewed seemed to be 900mm including the castors, which helpfully corresponds to the height of most kitchen worktops.

Something else that I had to factor into my planning, of course, was the space available for the tables. After careful consideration, I decided to make the table to the standard height of 900mm, and with a tabletop size of 630mm square, with two side rails for towels, three open shelves beneath, and a cane storage basket on the bottom shelf. It's an obvious thing to point out, perhaps, but if you're going to add a basket, it's crucial that you plan around the sizes that are available.



Fig.1 Ted Graham's butcher's table



I chose beech for the whole table as this is a clean non-toxic wood, perfect for the kitchen. The simplest way to source the timber was to purchase a beech kitchen worktop of block construction and cut it to the correct size.

Jointing decisions

In a relatively heavy-duty piece such as this project, a strong framework is essential (**Pic.1**), and this can only be built on a foundation of strong individual joints. For this reason, I based the main construction of the framework on mortise & tenon joints and dowelled joints. The shelves, meanwhile, are located in grooves in the side rails, as you can see in **Pics.2** & **5**.

The reason for mixing my joints in this way was that an effective mortise & tenon joint was not practical on both adjoining rails, particularly with the grooving for the shelves.



The result would have been to weaken the tenon structure, at least in this instance. A dowelled joint, on the other hand, can be worked around the adjacent tenon (**Fig.2**), and can be just as strong.

Initial preparation

Starting with sawn boards, plane the timber to the required thicknesses. A machine planer is ideal, otherwise you can plane by hand. The alternative is to buy the timber ready planed. Sawn timber is obviously cheaper to buy than prepared timber, but the boards will vary in width, so before you visit the timber yard carefully work out how many boards you'll need to buy to prevent wastage. When you're at the yard, take care to check the ends of sawn timber for splits from drying out, as the rough-sawn surface sometime makes these difficult to see.

Once planed to thickness, cut out strips to the widths required – leaving enough margin for you to be able to plane them down to the final size – and then cut them to length.

Marking out

When marking out, you'll need a marking knife, a mortise gauge, a marking gauge, a ruler and a square. A face side and face edge should be selected as the best sides for appearance or grain; these sides will be used as the reference from which your marking out will be done, and will be on the outside of the frame.

TIP

Once tools have been set for marking out, for example when using a mortise gauge, mark out all the relevant parts at the same time.

With a table frame of this design a number of parts are identical, most obviously the side rails and the legs. These parts should be marked out together to ensure consistency and also to save time.

The legs

Clamp the four legs together for marking out at the same time, using a bench vice or sash cramp; again, this ensures consistency and accuracy.

Mark out the location of each rail and use a rail with a square for measuring sizes where appropriate. You should be marking out on two adjacent sides on each leg.

Mark out the mortises using the mortise gauge. The setting for this should be about one third the thickness of the rail, or to the nearest mortise chisel to that size. You can check that your marking out is central in the leg by testing the setting of the gauge from opposite sides of the timber.

Mark out the dowel positions for the other rails. Notice that the rails going into the mortises are horizontal and the dowelled rails are vertical to the frame.

The rails

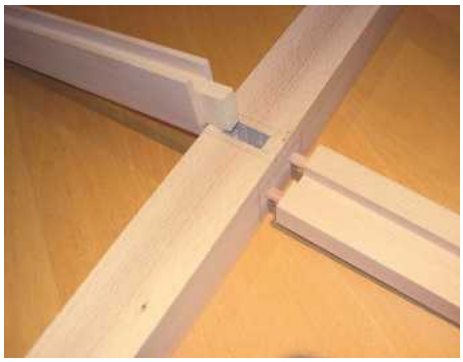
Cut the rails to length. Don't forget, the finished frame may be square, but the tenon rails are longer than the dowelled rails when cut to length. Also, make sure that the dowelled rails are cut really true and square.

Now that the legs are marked out and the rails cut to length, it's a good idea to lay out the legs and rails together in the frame; shape and number the parts so that the frame structure will always go together the same way.

Mark out the tenons using a marking knife and mortise gauge. Confirm the accuracy of the gauge by placing the marked-out rail next to the marking out on the leg, and indicate the dowel location on the end of each rail using a



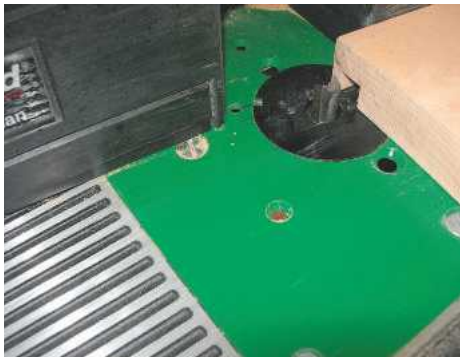
▲ Pic.1 **The basic frame structure of rails and legs without the shelves in place. The shelves help create a very rigid structure**



▲ Pic.2 **Here are examples of the prime joints used in construction**



▲ Pic.3 **Cut long mortises by drilling out the bulk of the waste, and then finishing with a router**



▲ Pic.4 **Ted routed the grooves for the shelves using a 12mm cutter on a router table**



▲ Pic.5 **The lower rail assembly; the leg has still to be cut to follow the groove line for the shelf.**

TIP

Use a bradawl to place a clear point at the centre of each dowel hole ready for drilling.

marking gauge. As with the tenon, confirm the accuracy of the rail by placing it next to the marking out on the leg.

Cutting the joints

We'll start with the legs. It's important with a mortise & tenon joint to always cut out the mortise first and then cut the tenon to fit. On the legs, cut out the mortises using a mortise machine, a plunge router, or by hand with a mortise chisel. If you're cutting out by hand don't use the bench vice to hold the leg, but instead clamp the leg on top of the bench over a leg. This provides a solid support for mortising.

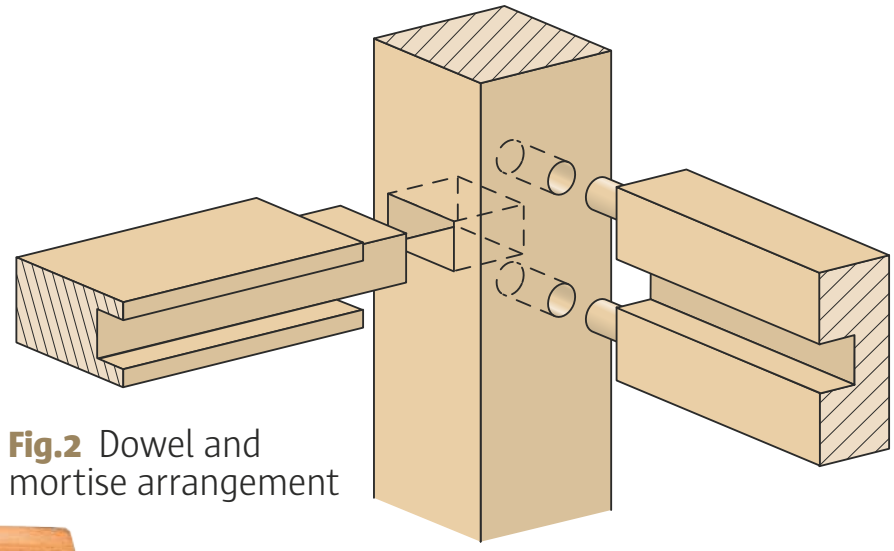


Fig.2 Dowel and mortise arrangement



Using a router, cut out the mortises on both sides of the frame's top. When I cut these mortises, I drilled a series of holes along the mortise line to remove the bulk of the waste, and then finished off using a plunge router (**Pic.3**). This left the ends of the mortise rounded, so I squared them up using a mortise chisel. The smaller mortises lower down the legs, meanwhile, are easily cut out by hand with a mortise chisel or mortise machine.

Now drill the dowel holes in each leg. Use a pillar drill with the depth gauge set or, if you're drilling by hand, attach a collar stop or a piece of tape around the drill at the required length.

Next up, the rails. Before cutting out each tenon, check the marking out against the cut mortise. No matter how careful you are, mortises may vary slightly in size and, if so, the



▲ Pic.6 **The top rail assembly with the grooves cut out.**



▲ Pic.7 **The first stage of gluing: the frame laid out, and the legs routed to take the shelves**



▲ Pic.8 **The wooden strip along the outside of the leg prevents damage from the sash cramp**

tenons can be individually altered to fit.

The drilling for the 9mm-diameter dowels is on the end grain of each rail. Unfortunately, drills of this size have a tendency to follow the softest timber or the direction of the grain. To overcome this, you can drill a pilot hole with a 3mm bit before using the larger drill. Once again, make sure you drill to the correct depth.

Cutting the shelf grooves

You're now ready to dry-assemble the frame, and then mark out on each rail which side will have the groove cut for the shelves – a simple cross will do. I didn't actually mark out the grooves on each rail: for both the tenon rails and the dowelled rails the groove is in the middle of each side that has been marked, so the router – which is attached to a router table for this operation – is simply set up to cut them in the right place. That shouldn't stop you, however, from testing the cut for accuracy with a spare piece of wood the same size as the rail. When you're sure that it's right, cut the grooves as required.

You now need to extend these shelf grooves from the rails into the legs. It's easy to mark out these cuts if you assemble the frame again, and transfer the groove positions over to the legs. You can then break the frame down to make the cuts, before putting it back together again(!) ready to measure up for cutting the shelves. These can be cut for an easy fit, and helpfully the shelves automatically hold the frame square when gluing up. Take the frame apart and cut out the groove section marked on each leg with a saw and a chisel.

TIP

Sanding may mean you lose the joint numbering, but you can put the joint number on the actual tenon and in an area around the mortise where it will be covered by the shoulder of the joint. For the dowelled joints put the number between the dowel holes.



▲ Pic.9 **Use a square to check the frame...**



▲ Pic.10 **...and a ruler to check the diagonals**

TIP

To ensure an exact line-up between the rails and the legs during assembly, support them with inserts of the same thickness. Wipe off surplus glue with a damp cloth and avoid making the wood too wet.



◀ Pic.11 **The start of the complete assembly, with one shelf inserted. The dowel construction can also be seen here**



▶ Pic.12 **Glue and assemble the frame, cramping up until the glue dries**

Gluing

Now that all the joints have been cut and fitted, make sure that the legs and rails are finished properly, that all of the edges are chamfered, and that the sides are sanded to a good finish. Always have a last dry run before gluing up, too, to ensure that everything fits as it should, and also make sure that all the necessary tools and clamps are in place and ready to be used. Glue up the frame in two stages: the two sides with the deep rail should be assembled first, and then these sub-assemblies can be joined together to make up the completed frame.

Something else to anticipate when gluing together is that both air and glue must be able to escape from the dowel hole – if there are no outlets available then the joint will not come together when cramped. If you buy prepared dowels, they'll be ready fluted for this purpose. If, however, you cut your own from lengths of dowel rod, you can use a marking gauge to score a deep line down the length of the rod. Alternatively, you can buy a special dowel plate that scores each dowel and helps to avoid this problem altogether!

Obviously, gluing is a hugely important part of the entire construction process, so getting it exactly right is crucial. For this reason, you should always glue up on a flat surface, and make sure that the sash cramps are directly in-line with each rail, otherwise you risk distortion or twisting of the frame. If necessary, use scrap wood to support components and align joints.

Right, once you're happy that everything's prepared, the table can be put together. Start with the shelves, which are put into place on one half of the table. The other half is then offered up, and the whole lot's glued and clamped together to create the frame. Throughout this stage make sure that the frame is standing on a flat surface to prevent distortion. After the glue has set and the frame is formed, the worktop can be screwed into place. Remember to elongate the screw holes in line with the grain direction to allow for movement of the top. Although the top is of a glued block construction, excessive restriction may prove an issue, particularly later in the table's life. Finally, attach the side rails.

Finishing touches

The completed table is ready for use! I have added castors to the base for the sake of convenience, and applied a finish to the table using Rustin's Danish Oil. I rubbed in two coats of oil very thoroughly, and allowed the table to dry before each application. I find that this provides a good non-toxic finish, which is obviously essential in a working kitchen surface.

Overall, I'd have to say that this project went very well. In particular, I found that the construction process offered a very satisfying combination of machine and hand tool work.



▲ Pic.13 **Side rails add the finishing touch, and are ideal for, well, tea towels!**



▲ Pic.14 **Elongated screw holes allow for any movement in the top**



▲ Pic.15 **Lockable castors are easy to attach and a useful addition**



Behind bespoke

For a relatively new company Benchwood Kitchens has satisfyingly full order books. **Andy King** discovers the secret of its success



Although machinery plays a big part, hand skills are still a major factor

While many of us will go to the likes of B&Q, Wickes and Magnet when it comes to planning and installing a new kitchen, or even considering building one ourselves, at the higher end of the spectrum are small but thriving bespoke kitchen, joinery or furniture-making businesses ready to pick up the work that the better-off customer demands.

Tucked away on a small trading estate in Cirencester is Benchwood Kitchens, concentrating predominantly on Shaker-style designs, but also happy to build to a client's specifications or style as required.

Rob Woodward set up the company only four



Doors are mortise & tenoned, glued and left to dry





Painted components like these doors are made from tulip wood and MDF for stability

A finished face frame awaiting fitting to the cabinet

years ago. With no traditionally recognised woodworking qualification, he had been working as a general builder, concentrating on renovation work, and then got involved in the fitting of high-end bespoke kitchens, but the onset of the last recession resulted in him looking for a change of direction.

He decided to make kitchens from scratch himself and invested in a range of tools to do the job – or so he thought! He bought in at the top, opting for Festool plunge saws and the like to cut the carcases and framing work, but soon realised that it wasn't as easy as he thought. He readily admits that while the tools were excellent, working on a big project such as a hand-built kitchen demands a different setup to ensure repeatable accuracy and consistency. The site tools he was using were not capable of repeatedly handling workshop volumes of timber and sheet components.

He also decided to get some fine furniture-making skills and signed up to training with renowned furniture maker David Savage.

Stock is machined and left to settle and stabilise before a final sizing



Two-unit operation

That set the ball rolling for where Benchwood is now. Operating out of two side-by-side units in Cirencester, the right-hand one houses the upstairs showroom, while the ground floor is the assembly area for all the cabinetry. The downstairs of the left-hand unit is the machine shop, and now the work is carried out on Felder machines comprising a panel saw, spindle moulder, planer thicknesser and flatbed sander among the more run-of-the-mill smaller machines such as mortiser and chopsaw station.

Move upstairs in this unit and the spray shop and prep room take up the whole floor. It's an impressive setup with a large self-contained fully ventilated spray booth, and a prep room to the side for de-nibbing and so forth. It certainly backs up the reasoning that no matter how good the workpiece is, the final finish will make or break it, and the investment here shows that Benchwood places very high importance on this.

Moving back to the machine shop, one thing that was immediately evident on my visit was that stock levels are quite low, there being only a few sheets of veneered and melamined boards along with a few cubic metres of solid timber for face framing and décor work such as lipping, cornicing and lighting rails.

Andy's favourite chopsaw is being used for cutting stock to length



Rob points out that they keep a small level of stock, buying in to order twice a month, otherwise the workshop and machine shop becomes over-run with materials. Also the fact that timber is always purchased twice a month has allowed him to build a good working relationship with his timber merchant, something that is not always easy for smaller workshops.

A good point as a good sized kitchen demands a lot of material even before it's built, and at this level it's unlikely to be your standard 8-10-unit installation.

Overlap work system

The kitchens are produced on an overlapping basis with the jobs scheduled in to allow for one to be in component form or in the paint shop while another is being assembled on the bench. As this one goes out the door the later one is assembled and the next is started. This



A professional spray booth ensures the final finish is top drawer



Various jigs are used for common components



The Benchwood showroom has examples of various styles of kitchen



Many options can be built into the design

process of having two kitchens in production at any time but in different stages allows this small team to keep busy and produce up to 30 high-quality kitchens a year.

Rob is a great believer in the importance of fit and goes out to site to install each one himself. He normally brings in an extra pair of hands or two as needed, and depending on the size of the kitchen and the work that may have to be done to get the room to the stage ready to receive the units, the average fitting time is two or three days.

Rob's background means he can also offer a full package if any alterations to the room or a complete refurbishment are needed, and in the latter situation this can extend the job up to three or four weeks.

On-site electrical and plumbing work is subbed out to qualified contractors, and with the final finish an important factor, Rob also employs a specialist painter. For Rob is not one to cut corners, an example of this being the scribing of a panel against a natural stone wall. Many of us would get a fit as close as possible and then rely on a mastic or caulk to fill and cover any voids but this one is bus ticket tight in its entirety.

Rob points out that while it takes longer to attain such a quality job it not only shows an attention to detail but also gives the customer satisfaction that the job is in good hands and leads to further work off the back of it.

Word of mouth

While he was first establishing his company he bought local advertising as well as picking up work from customers from his building days, but now the majority of work is generated by word of mouth so there's undoubtedly a quality that is desirable to those who approach him for his skills.

It's not just home owners who seek his work though; he also picks up work from another local company to build kitchens to their signature style and that, along with his own jobs, gives him an average of around 24 to 30 kitchens a year that are made by him and his small workforce.

Benchwood Kitchens operates on around 6-week lead times with an average of three months to final fit. He employs a small staff that he has built as a team to utilise various strengths that help the business.

Cabinetmaker Graham Redfern is the oldest employee at 66-years-old and works with his son Mike. Between them they have more than 50 years in the bespoke kitchen industry while Graham Newhook, with a joinery and furniture-making background, provides a different slant.

With Rob's fitting background, the kitchens are produced with the best of each discipline and are made with ease of fitting in mind.

Of course, that's not to say Rob can't turn his hand to woodworking at the bench if needed, and to give himself improved skills he has been a regular client of David Savage, attending block courses on a regular basis over a three-year period to develop core skills in all areas.

Rob Woodward standing at the bench he made at David Savage's



Like father like son

Judging by his beautiful bench in the workshop, David's furniture school and Rob's own skills are proof enough that he certainly does know his stuff, and Rob's reasoning for this development of his skills while still running his own business was that he wanted to be sure he could sing from the same hymn sheet as those he employs.

As he points out, he wants his team to take on board anything he asks of them without them thinking, "he doesn't know what he's talking about," and he still has aspirations to go further by occasional revisits to David's school to hone his skills.

His son Paul is keen to learn and at just 11-years-old is taking the Paul Sellers woodworking course, with the help of his dad, so he's well on the way to getting a place at the bench as soon as he's old enough. Already he is spending Saturdays in the workshop cleaning up the week's shavings and sawdust, and he does a thorough job of it judging by the floors when I was there on the Monday. He also does priming and oiling work on some of the work and even has his own Benchwood uniform to match the rest of the team.





Some of the fitted work shows traditional styles in different environments...

...but contemporary designs are equally well executed

How units are made

Traditional jointing is used for the doors, with mortise & tenons throughout, while the drawer boxes are normally dovetailed, sometimes by hand but mostly on a Leigh jig.

For more limited budgets faceframe work is used extensively, and the Festool Domino jointer is used for this as it delivers good solid joints as well as a fast construction method.

The solid stock for any of the frames, doors or drawers is rough sawn to component sizes allowing for planing up, left to settle for a day or so before having a first pass through the planing process and left to settle again before a final run through the planers to gain the correct dimensions.

This allows any tensions in the timber or differences in the stock as it acclimatises after its initial cutting to settle and equal out so that the final finished piece remains stable after it has been used in the construction.

The team also operates a different build concept to a standard kitchen style, working long runs of units as a single piece where practical. It makes it a bit of a task getting them to site as the weight becomes an issue, but Rob points out the advantage here is a cleaner line with no blocky or joint transitions between each unit.

Additionally, in any areas where a unit needs to fit to a wall a wider stile is made to allow for the scribe. This is calculated so that once scribed the fit comes down to roughly the same dimension as a standard stile, so retaining the look while still overcoming any irregularities in the wall.

The machinery and jigs play an important part in the construction, allowing such components as cabinet sides to be machined up with all the associated notches, rebates and grooves, then stored ready for assembly.

Other storage spots had doors in racks awaiting fitting or finishing, while a few drawer boxes dotted around were getting a tweak or two and notches ready for fitting.

Trad butt hinges

This side of the business is still a very hands-on, ensuring the fitting of the finished drawers and doors is top end, as is the fitting of all the cabinetry hardware.

Benchwood shies away from the familiar Euro-style hinge, instead tending to favour traditional butt hinges. Such is the attention to detail that every hinge used is fitted, and once the door is hung and the fit is correct, removed and individually marked up. This is to retain the same hinge to the same recess, ensuring any discrepancy in the hinges doesn't manifest itself by placing it to a different recess after the finishing process.

All the hardware is of the highest quality, with soft closers used to dampen the doors and drawers, along with other hardware such as racking within the cupboards to eek every inch of space as a usable commodity.

Where blanking panels would be the norm, here the space may become a wine rack or a slot for chopping boards or trays. The showroom displays a great range of options in the style, finish and designs on offer, and not just Shaker, with all manner of worktops, including granite, solid timber and resin-based options.

Benchwood is hitting the mark, and to have a good order book mostly gained by recommendation in such a short space of time indicates that the company should be around for a lot longer. We might well be back to see how Rob's son Paul is faring in a few years time!

Check it out at www.benchwoodkitchens.co.uk

Additional information

David Savage courses at www.finefurnituremaker.com
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EDWARD ESCALATES

Edward Hopkins seizes the kitchen theme of this issue to increase storage area, building stairs by which to access the cellar and turn it into a pantry

Frannie and I have signed up with WWOOF (Worldwide Opportunities on Organic Farms). Volunteers tend the garden in return for board and lodging. It works well. The best wwoofer we had recently was Melodie. She was able and enthusiastic but her English was poor. Either that or I didn't make myself clear. Anyway, I asked her to sow a few rows of beetroot. I went off to do something else and by the time I'd remembered, she'd sown two whole packets of seeds. So now we're full of borscht We have a dozen jars of beetroot chutney, eight jars of pickled beetroot, frozen beetroot and hanging in the cellar three hessian bags of beetroot. Add to that several strings of onions, shallots and garlic and you'll see: we have a storage problem.

The cellar is a bit rough. It is built of concrete block with concrete floor and is a little damp along one side. If we are to use it as a pantry and perhaps make space for a freezer, it needs tarting up. And, because at the moment it is only accessible from outside, it needs stairs.

Is it a wind up?

Above the cellar is a conservatory. I've sawn a hole in the floor and removed one joist. This provides a viable stairwell, but the only way to get stairs in – as opposed to a ladder – is to have winders top and bottom. Winders are demanding. When you wonder exactly where the nosing fits into the newel, you start to





▲ Pic.1 There are several drawings on the wall. There is even one set coming down from the left. Frannie pointed out that the stairs would be better coming down from the right. She was correct of course. This sort of shake-up does nothing to improve one's confidence. The dark patch on the right surrounds a damp corner. I was going to tank this in with concrete, but for now it is safely avoided. Might it even have a cooling effect? Perhaps I'll leave it as it is



▲ Pic.2 The effective position of each batten on the wall can be altered, but these middle posts are fixed to the exposed joist with coach screws and these, unlike wood screws, cannot be moved a quarter of an inch or so. Already I have a frisson of 'I hope I've got this right' Perhaps I'll leave it as it is



▲ Pic.3 I was a bit apprehensive early on. I wanted to maximise storage space and not waste materials so I cut the stairs tight on the basis that some shelf space was provided, some floor standing and, crucially, that you can't see this arrangement in the finished staircase unless you're down on your knees and peering. With hindsight I'd rather the three shelf boards came out to that slanting third winder line



▲ Pic.4 Clamping the winder risers to the batten was easy. Of the two pieces of 2x 2in on the right, the top one is on the tilt. This was because the masonry bit skidded off a stone and before I knew where I was I was half an inch in. Honest. The loose boards have yet to be biscuited and glued

think that winders are so called not because of the way they lead you downstairs, but because of what they do to your head.

I've drawn the stairs on the wall with felt-tip marker. Several times. It all makes sense when you've worked it out, but in the meanwhile there are lots of ways to go wrong. The lines are as accurate as I can make them on a roughly built wall – and for the bottom winders, the floor – but they are not there to be followed precisely. They just help me visualise the stairs.

Traditional wooden stairs have 'risers' and 'treads' housed in a pair of 'strings'. They're wedged in tight and the stairs become a case, rigid in its own right. This can be joined to newel posts that then support the handrail. It's all very clever and well developed, but it's a lot of work. To make a traditional staircase, you need space in the workshop, a half-inch router, templates, and a lot of cramps. Commercial joiners have machine cramps to assemble full flights of stairs. For you and me with only a handful of sash cramps it can be like trying to get an octopus into a plastic bag. So I'm not going to do that.

I've sat down with a mug of tea. I've stared at the empty space. I've played with this idea and that idea; some deliberately crazy just in case I hit upon a stupendously clever way of doing it in a fraction of the time and at minimal cost. I haven't. Never mind.

Cunning plan

I've come back to the obvious. On three sides of the stairwell, concrete walls are just asking to be plugged and screwed with uprights. Between these uprights I'll be able to screw horizontals. I'll screw the risers to the front of the uprights and then let the treads rest on the horizontals. The next riser will sit on the tread and against the upright; and so on up.

Staircase step by steps

I'm not going to go through this blow by blow. Every job is different and mine may not be quite like yours. Here instead are a few principles that emerged along the way.

1 Don't trust cheap spirit levels. Don't trust any level until you've switched it round to see if it reads the same both ways. I turn nasty and hammer the phial out of levels that lie. I should throw them away but they're still straight edges and the vertical phial might be true. I know... and I will, but not just yet.

2 It is important that steps are evenly spaced. I measure cellar floor to conservatory floor and cut a spacer – a piece of 2 x 2in the height of one riser and tread. I mark the top of the steps lightly on the uprights, and later on the posts. Because neither cellar nor conservatory floor is laser level, and because a small discrepancy on one step is a large discrepancy on nine steps, I transfer the marks from one post to the other as the stairs climb. I refer to these constantly, never quite believing that I'll land on target.

3 I aim for a structure that is self-supporting. The uprights are screwed to the wall but their loading runs down to the floor. The horizontals are dependent on their screws so I use big ones. As the risers further season, they will shrink, and may compromise the structure. In softwood, this is a risk I'm prepared to take. If the worst comes to the worst I can glue blocks behind the riser/tread join or perhaps squeeze a line of builders' adhesive.

4 The structure is to be as light and airy as possible. This keeps material costs down. It also means that I can see the entire underside. The stairs avoid the damp corner – which I will deal with another day – but nevertheless there is a nominal risk of rot. Dry rot loves a damp unventilated enclosure, and by the time you know it's there, it's too late.

5 I want as much storage space as possible for all that beetroot and the gluts of the future. By extending the treads backwards, they become shelves, but I mustn't extend them so far that I can't reach the beetroot at the back.

As well as beetroot there is beer. The utility room is too warm in summer. I have three 5-gallon barrels and assorted fermenting vessels that are far better housed in the cool. I'd like to digress here and tell you that home-brew kits are now vastly improved, and that your own beer can easily be superior to many a pint in a pub, at about one sixth of the cost, but this is a woodworking magazine so I'd better not.

6 Although mine is a DIY staircase, I don't want it to look like one. It would make good structural sense to screw the treads down to the risers, but that would betray the 'lesser' construction. I will, however, I think, use nails. I like nails. Two inch ovals will tap beneath the surface. I won't fill the holes – that is unnecessarily fussy.

7 During construction, nothing must be irreversibly fixed. This means that nails and glue must be kept to last. At times the job becomes a literal two steps forward and one step back as the posts, for example, need attention.

Reversibility is fine in theory. When you've securely fixed a component and proceeded to another, you expect that first component to reassemble in exactly the same place. But screw holes wear, and disassembly and reassembly are best kept to a minimum.

8 For several days, the staircase had been essentially complete and I'd been walking up and down it to continue work on the balustrades. The treads were not fixed at all, and I walked on them gingerly. But I decided that even with the treads nailed down, the meetings of the boards would be liable to creak.



When the staircase is cut and done, it has to be dismantled entirely – with the odd pencil marking to avoid hopeless confusion – and then built up afresh, but this time biscuiting the boards and nailing them down. Now the structure is irreversible. If any error has crept in, I'm going to have to live with it. The long sash cramps are real friends

In the old days I'd have run grooves and fitted tongues using the table saw. People speak highly of biscuit jointers but I don't have one and am too mean to buy one now. Instead, I've bought a half-inch router biscuit cutter and a bag of biscuits. It's a whole stage I could do without, but hey-ho.

9 Maybe I'm a closet engineer but I love bolts and their woodworking counterpart, coach screws. I am unashamed at leaving them exposed and visible because I find them positively attractive and – if this is not overstating it – iconoclastic. I have however, just today, backed myself into a corner.

I have long maintained – to myself, if no one else – that screwing into end grain is bad form. I know it is. A screw works by twisting between fibres, but end grain does not allow this. Screwing into end grain appears to work but it is not reliable over time. Yet I happily pilot drill end grain for a coach screw and wind it tight with a spanner. I think it's to do with scale – the bigger the better. But then, when I realised that under the balustrade gate, bolt heads would interfere with the top tread, I thought well, what's the difference and used countersunk screws instead. There! I've said it! I'm not happy about it and I'm not proud, but I do bow to the logic of the situation. I did, you'll be comforted to know, use four inch screws, just to make sure.

10 I'm aiming for perfection but I know I won't achieve it. My brand new mains SDS hammer drill wallops into the wall as if it isn't there. But even with such power, the aggregate in the concrete block can make the bit skid off target. You do what you can to pull the hole round but really you have to accept it as it is. So straight away, a tolerance of 1/16in is built in.

And this becomes the modus operandi. I think of it as 'chasing the error'. It's not that discrepancy can be eliminated: it is that you need to know where it is and therefore where to compensate next time. This requires constant checking of level and square.



▲ Pic.5 Until the staircase was complete, the treads rested in position but were not fixed. They were safe enough to walk up and down, though a couple of them clacked. Battens screwed to the back of the posts held the winder risers in place



▲ Pic.6 It isn't sophisticated, but it is satisfying. Why make life difficult if it can be this simple? I do depend on my radial arm saw for long straight square cuts, though the bevel at the bottom was shot by hand. I picked up my smoothing plane for the first time in several years and found it razor sharp: that felt good. It would have been better if the end of the riser had been chamfered on both edges, but by now I realised that the structure would be more than adequate



▲ Pic.7 The balustrade gate ties in neatly with the rest of the balustrading



▲ Pic.8 Stairs leading to Edward and Frannie's beetroot chutney and beer-filled pantry



▶ Pic.9 With balustrade, banister and gate all done, the stairs still weren't finished. The steps are a little steep and my knees a little weak – they weren't, but after three weeks of making stairs, they are now: we needed a handrail. I vaguely thought of standard brackets and mouldings but I knew I didn't want them. The motif of plastic tube was established. As was bolts. It took ten minutes of playing around to come up with this arrangement. Twenty minutes later, it was done. I don't want to over-egg my own pudding, but having this drop onto my plate was gift upon gift. I would only attempt this with a drill press: accuracy is all. The three tubes are comfortable to the hand. They flex a little halfway down but that is not a problem. The square nut of the vertical bolt is pinched by the two lower tubes

The fourth, inner side can have two stout posts from the cellar floor to the top of the balustrade in the conservatory – the balustrade that stops you falling through the hole. I'm not entirely sure how the inner ends of those winders will be secured to the posts but I'm sure it will become clear. The three straight steps will rest on a frame set between the posts.

Cross-halving is as complex as I want to get. I am determined to avoid mortise & tenons, fancy housings and mouldings. The only machines I have in use are a radial arm saw, a mortiser set up as a drill press and a router table. The radial arm saw was the first machine I bought several decades ago. I used it for everything including ripping and coving which it didn't really like, and I burnt out one motor. The table saw relieved it of ripping and the chop saw made it all but redundant but now the chop saw has burnt out and the table saw is still in Richard's barn. I'm starting again with the minimum. My staircase then will be as easy as is feasible, following my 10-step plan.

Perfection ruled out

It can be trying. How much will you disassemble and amend? How much will really matter? When I came to make the gate I found that although I thought I'd set the posts dead upright, perhaps their disassembly and reassembly had thrown them out. Would I leave them as they were? Would correcting them bring consequential problems? Did I even know where I'd gone wrong? Or should I blast on regardless? Would it matter if I made a gate slightly wider at the top than the bottom? Would anyone ever notice?

It's a tricky one. There's no point in being idealistic. It's not that the job has gone wrong: it is the job. I'm not perfect and neither is my woodwork; I've realised this long ago; but I still want stairs from the conservatory to the cellar. I want them to be safe, strong and attractive. And because there are dozens of other things that need to be done around here I want them soon. Actually I want them today. This evening Frannie is returning from a week away.

She knew I was doing it but she won't know how far I've come. I may as well take the opportunity to bowl her over with my astonishing accomplishment and escalatory excellence. I'll amaze her. I'll present her with access to the pantry of our dreams. Can't do any harm.

Tipping point



The polypropylene tubing works well with the plastic conservatory walls

I couldn't have made this up because you wouldn't have believed me.

I didn't know what to do – this much is believable – for balustrades. I certainly don't want balusters, not the twiddly turned ones available in stores. Our bungalow is of concrete and plastic. It works well but is not a thing of beauty. The previous owners sought to soften it with chintz – mock carriage lamps, trellis and crinkly-edged paving slabs. We've taken the other tack, replacing this with stainless steel, galvanised iron and standard concrete slabs. Twiddly, you understand, is out.

Clumpy is out as well. The easiest balusters would be of the sawn 2 x 2in I'm already using. If I wanted to up the quality I might buy planed. But this would make the barrier look like an overgrown children's playpen, strong enough to hold a small pig. We're heading agricultural, but not that agricultural.

There's nothing smaller available in my local yard. It's time to think sideways. Galvanised panels to match the ones we've had made for the terrace? Too expensive, too heavy and too long-winded. Piping? Three-quarter inch copper pipe would look quite interesting, though it would tarnish to muddy brown. Maybe 1in pipe would be a better strength? No: too expensive and not relating to any surrounding element – good design must belong. Fat rebar? Ditto; and I don't off-hand know where to get it. (I've used rebar for balustrades before. I wired it together and painted it with Hammerite – which 'glued' the wiring in place. I like it, though you do have to see the joke, and here I don't want to risk falling flat, even metaphorically.) So at breakfast this morning, I didn't know. Really, not a clue. I was on my way to the builder's merchant to pick up more timber – and to wander round to see if anything suggested itself – when it occurred to me to call in at the tip.

Someone's rubbish is...

Our recycling centre has an array of goods for sale. Would I find a clutch of Art Deco balusters? Would I want them if I did? Or steel water pipes? Highly unlikely and how would I cut them?

There were no candidates, however remote, bar one. On first sight I ignored it, but on the way back round, I stopped. I bought a bundle of 38 lengths of 4ft, almost rigid, 32mm slightly translucent white polypropylene tubing for £3. Then in town I bought a 32mm flat bit. I'm committed. It didn't occur to me until I was driving home that the white plastic balusters will relate to the white plastic conservatory. It could be not just good, but very good.

Now this sort of thing doesn't happen all the time. I'm not going to open an account at the tip. But the fact that it happens at all is remarkable enough. You have to play your part. You have to drive to the tip, stupidly optimistic that a perfect solution has dropped in from heaven and awaits you. You have to believe that it is possible before it is.

Bake Off special

Turner **Dave Roberts** – yes, he's even more skilled than Solutions Dave – turned this ingenious cake stand to resemble bamboo

This stand is inspired by the faux bamboo style of the 19th century and would display cake in a manner that would delight even the terrifyingly picky Mary Berry and Paul Hollywood. I have used pau amarillo because its yellow hue provides a bamboo-like base and it also takes a stain, speaking of which mine was cut back by applying a coat of sanding sealer to create the subtle colour variations of bamboo.

When turning long thin pieces of timber always use straight-grained material to avoid breakage; using a centre steady will eliminate any tendency to whipping. However, the six cross members, being shorter, could with care be done without the centre steady.

Prepare the trays from a plank of pau amarillo using the planer, leaving only one surface in need of a light sanding.

When it comes to assembly have a dry run before committing to glue.



▲ Pic.1 **Cut the legs on a table saw to get them square**



▲ Pic.2 **Drill the holes halfway through with a 13mm Forstner bit...**



▲ Pic.3 **...and use a 6mm parting tool to turn the areas around the holes**



▶ **Pau amarillo was chosen for the *faux* bamboo cake stand due to its yellow hue and for the way it takes dark polish. The inspiration for the piece has its roots in the nineteenth century, when bamboo from China and Japan became popular**



▲ Pic.4 **Knuckling down: A 12mm skew chisel is ideal for cutting the grooves**



▲ Pic.5 **You can darken the groove by burning it with a wooden wedge**



▲ Pic.6 **A 6mm gouge will remove the timber in between the knuckles**



▲ Pic.7 **Make sure the four feet are matching – you don't want it wobbly!**



▲ Pic.8 **Leaving the sanding quite rough, I used a dark polish for staining**



▲ Pic.9 **Check the size of the spigots (13mm) with Vernier calipers**

Fig 1: Top cross pieces for uprights

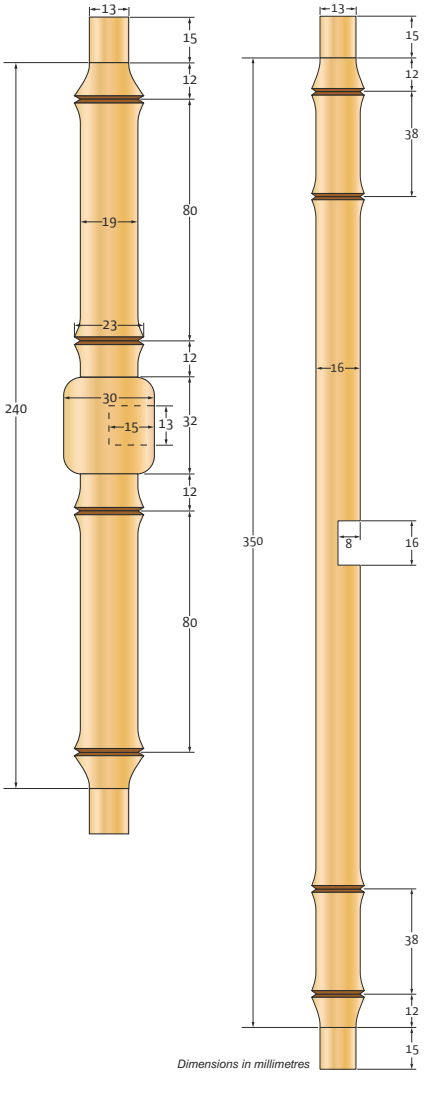


Fig 2: Handle

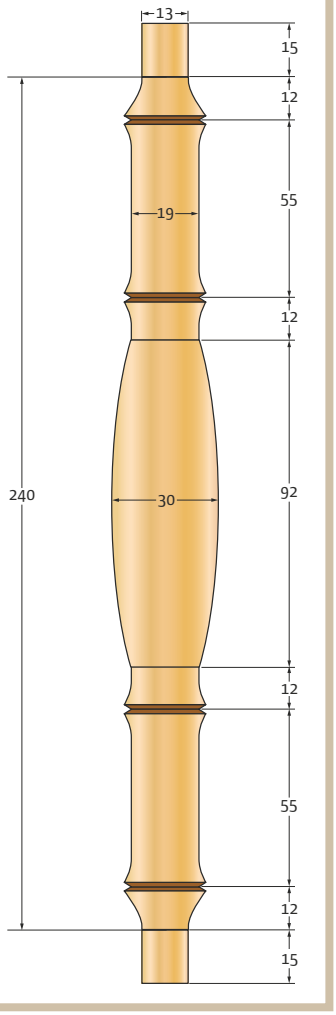


Fig 3: Legs

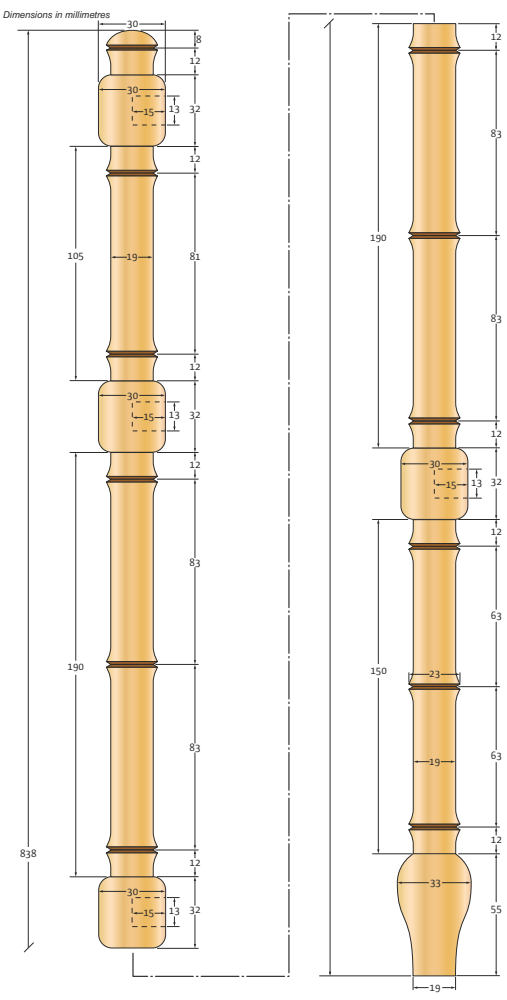


Fig 4: Uprights

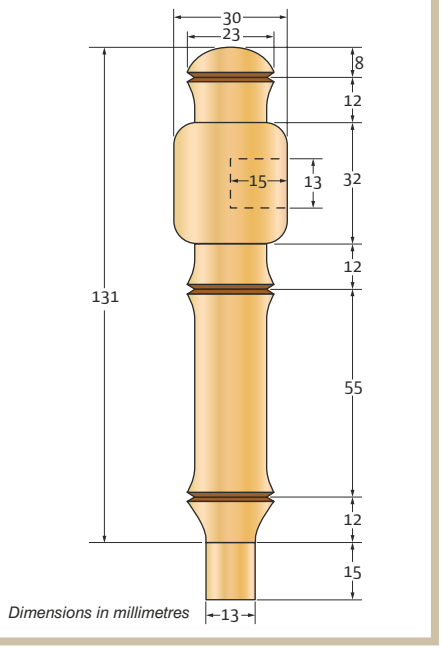
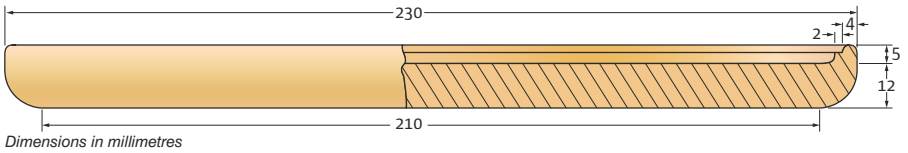


Fig 5: Cake tray





▲ Pic.10 **Blend the end of the cross member into the spigot**



▲ Pic.11 **Use a junior hacksaw to cut a slot into the cross member**



▲ Pic.12 **Clean the slot out, no deeper than 8mm, with a 6mm gouge chisel**



▲ Pic.13 **Drill the holes in the cross members for the screws**



▲ Pic.14 **Turn the thicker handle until it's comfortable in your hand**



▲ Pic.15 **Hot glue the blank for the tray onto a scrap piece of wood...**



▲ Pic.16 **...then carefully turn the outside rim, leaving it with a good finish**



▲ Pic.17 **Turn the top of the tray with a 9mm gouge, keeping an even thickness**



▲ Pic.18 **Using sandpaper and a cork block, you can flatten the surface quickly**



▲ Pic.19 **Put a little PVA on the joints, assemble and leave to dry**



▲ Pic.20 **Finally, screw the trays into the cross members and... get baking!**

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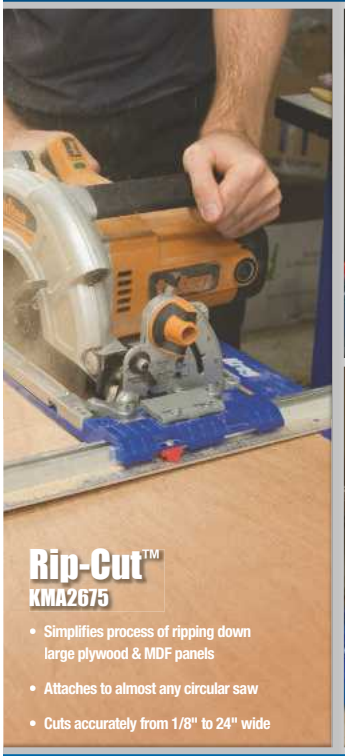
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Good Woodworking Letters & Makers' notes

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2014 MakeIT! award winners James Fitchett (year 12 category) and Dan Cornwall (creative use of materials) at work in the school 'shop

Proskills makes it for schools

GW is delighted to hand over these two pages to the cause of MakeIT! With woodwork largely no longer having a place on the curriculum in schools we want to do all we can to encourage those that are making the effort to teach this important craft as part of their design technology courses. To hear that it is being studied as part of the A level design technology syllabus gladdens the heart, and the Letter of the Month prize goes, of course, to Chatham & Clarendon Grammar School whose student work is featured here.

Andrea Hargreaves



LETTER OF THE MONTH

With no government funding for the past two years, MakeIT!, the school programme run by standards-setting body Proskills UK, is appealing for industry help in its 10th year.

Proskills MD Jonathan Ledger said: "MakeIT! needs industry help more than ever. With no other funding source, it is essential that the wood, furniture, allied industries and sub-sectors continue to support MakeIT! both financially and in kind. Proskills being a registered charity provides a tax-efficient route to supporting young people entering the industries, so get involved.

When you talk with the students and teachers, you realise just how much MakeIT! means to them and how inspired they are by the exciting opportunities of careers in wood and furniture. I look forward to celebrating 10 years of Proskills and to working together with industry partners to ensure that future generations have an even better chance of joining such dynamic and exciting industries."

Tom Brewin, a teacher at Chatham & Clarendon Grammar School, in Ramsgate, Kent explained: "The MakeIT competition process produces a driven, confident, and determined student. It is a very good example of a growth journey which starts at initial idea and finishes with a veneered and waxed outcome. For the staff in my department it has re-ignited our passion for our subject and over the last three years has been an essential marketing tool to celebrate student success."

He continued: "During this year's competition time frame our year 12 MakeIT! students work in the same workshop area as the year 10 students. This open environment where the younger years see the quality of the work produced by the senior students drives up the overall quality of work we are producing for the competition. It created a student-led learning environment and provides the students with the skill set needed for success in our GCSE and A level qualifications."

Long-term survival

To help create an environment which ensures the long-term self-sustainability of MakeIT! a raft of changes is being made to its suite of Schools Into Industry Programmes (SIIPS), of which MakeIT! is just one, in order to enhance the learner participation and experience, and to ensure the programme's long-term survival.

Not only do young people get a hands-on opportunity to take part in competitions involving wood and furniture, but they also gain an insight into the potential careers, apprenticeships and training that the industries offer.

As well as educating students about the different uses of wood and furniture in their everyday lives, MakeIT! demonstrates the remarkable, exciting and advanced technological processes that they may not be aware of, from growth to processing and production.

Key ambitions for 2015 include offering work experience to older participants, create careers advisors from industry in schools and integrate the National Careers Service and National apprenticeship Service support and help into the programme. The age range should be extended to 18 years.

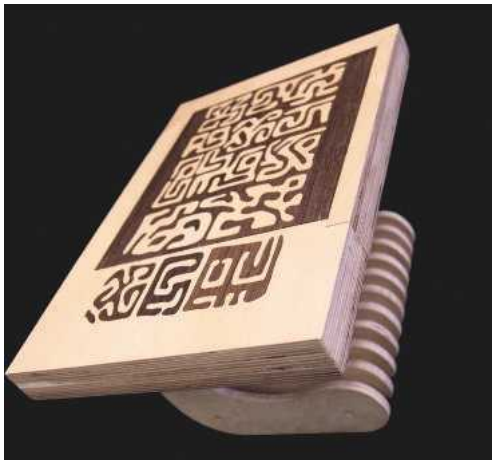
The annual MakeIT! Competition challenges years 9-12 pupils to create a wood-based piece of furniture.

For more info on Proskills UK go to **www.proskills.co.uk**

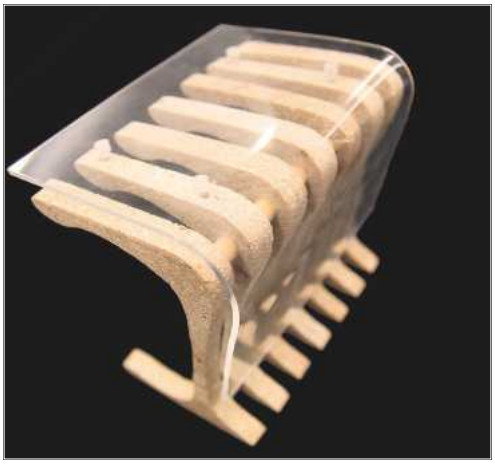


WRITE & WIN!

We always love hearing about your projects, ideas, hints and tips, and/or like to receive feedback about *GW*'s features, so do drop us a line – you never know, you might win our great Letter of the Month prize, currently a Trend Easyscribe, worth £29.99 inc VAT. Write to the address on the left for a chance to enhance your marking capability with this versatile workshop aid.



James Fitchett's year 12 category winner shows aptitude for design and woodworking skills



Dan Cornwell's design won him the creative prize



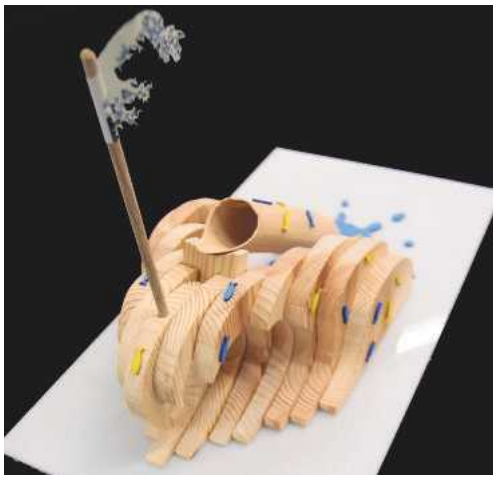
This design secured a runner up position in the year 10 category



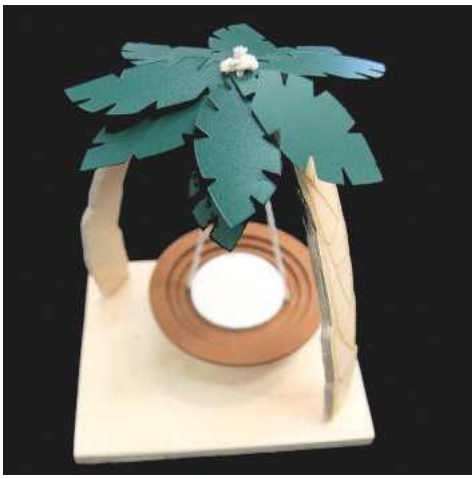
Isaac O'Connor was a runner up in the year 12 category



Senura Ratiyala was a year 12 runner up



Stan Chick's work won him a year 10 runner up certificate



Talya Amores' design secured another year 10 runner up position

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As in the past, NMO will continue to stock a comprehensive range of used and reconditioned woodworking machinery.

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Gareth Tomlinson joined the company in 1985 after marrying Neville's oldest daughter, Judith.

As a small, family-run business, Gareth's role in the company was both in sales and purchasing and, when necessary, to help the engineers in servicing and re-building machinery.

NMO has always had a strong customer service policy and we have felt that this has been enhanced by our desire, whenever possible, to deliver the machinery purchased directly to the customer. This enables us to ensure that the customer is completely satisfied with the machinery delivered and also that the customer understands the workings of the machines.

For five years in the late 1990s Gareth worked for one of the largest woodworking machinery suppliers in the UK as Sales Manager, and later as Export Sales Manager.

During this time Gareth gained a comprehensive knowledge of all types of woodworking machinery. He travelled the world selling single machines through to full turnkey projects.

Gareth returned to take over NMO in 2003, bringing with him a wealth of experience.

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Around the House with Phil Davy



After several weeks living in chaos, the end is thankfully in sight. We've probably all been through it at some stage, but replacing a kitchen is a major project for most people. It's tackling the unexpected problems that take time; building actual units is the easy part. You reach a point when washing up dishes in the bath loses its appeal, while you long for anything but microwave meals. It made me realise how I take my supply of hot and cold running water for granted, though... It's all been in a good cause, however, as I'll be starting married life by the time you read this!



Phil Davy, Consultant Editor

Useful product

Osmo Wood Finishes

Getting the right finish for a hardwood worktop is crucial. It needs to be hardwearing to withstand abuse, relatively easy to maintain and still look good. Although I've tested many oils and varnishes for both exterior and interior use over the years, this is the first time I've tried Osmo products. These natural finishes contain a mix of linseed, sunflower, soybean and thistle oils, plus carnauba and candelilla waxes, with very little solvent. This means they're particularly safe around food and being microporous, enable the wood to breathe.





Used as a system, the Wood Protector base coat is applied first by brush, or smaller items of wood can be dipped. It's designed to prevent timber drying out and must be used together with a finishing product on top. As you brush on Wood Protector the timber surface actually looks quite messy. Then the oil begins to penetrate deeply, creating an attractive golden glow at the same time.

This base coat takes longer to dry than most oil finishes, depending on room temperature and ventilation. It can take 12 hours or more to be touch dry and at least 24 hours before you can add the top coat. For this I used TopOil, which comes in several shades. This appears more wax-like and is simply wiped on with a cloth or used with a brush. Drying time is faster, leaving a gorgeous matt finish, although satin is available if you prefer a slight shine. Ideally, you need to treat the timber with several coats for increased protection.

Of course, Wood Protector and TopOil can be used on internal joinery with equally great results. With a five-year shelf life, Osmo is



certainly pretty impressive stuff and one of the most environmentally wood finishing systems you'll come across. My oak worktop looks fantastic after several coats, and can be revived with Osmo Liquid Wax Cleaner when the time comes.

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Wood Protector typical price: £20.59 (750ml)
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Autumn project

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Home economics

Phil Davy marries up flatpack units with a bespoke look to get the best of both worlds and a kitchen that doesn't bust the bank

Installing a new kitchen must be one of the most stressful projects around the house, whether you're employing someone to carry out most of the work or doing it yourself. In an old property there can be numerous problems that rear their heads once the project is underway. Plumbing, electrics and unexpected plastering work all add to the workload.

Building complete cabinets from scratch means you can use high-quality materials such as birch ply rather than standard MFC (melamine-faced chipboard), but this adds considerably to the time frame. You'll need either a table saw capable of cutting panels precisely or a pro-quality portable saw and guide rail system for accuracy. That and a fair amount of workshop space, too. Alternatively you could order panels cut to size from a specialist sheet materials supplier, though you'll need to be spot-on with dimensions. A comprehensive range of knockdown fittings on the market gives plenty of options for jointing panels, though don't rely on boring holes freehand with a cordless drill for most of these; there's usually little tolerance and for making accurate joints you'll need either a pillar drill or a power tool mounted in a drillstand.

Flatpack economy

I needed to fit a budget kitchen in order to bring the house up to a saleable condition, so decided to use Ikea flatpack units. One advantage of flatpack systems is that you can choose to buy just the carcases, then make your own doors, plinth, cornice and so on to fit. You can also return items you don't need, assuming they're unused. I found this a big advantage as my run of units along one wall was pretty tight. I ended up having to swap units around to accommodate pipework, so juggling different-size units (400, 600 and 800mm widths) was a bonus.

TIP

If using separate blades in your circular saw for ripping and crosscutting, take care. Don't assume that the manufacturer's logo/spec printed on the blade should be fitted face up when fitting. You may find teeth are facing the wrong way, especially if fitting a blade not supplied by the tool's manufacturer.

This 56-tooth crosscut Axcalibur blade produced a great finish





Pipework problems

It's all very well ordering flatpack units and assuming they'll fit neatly against the wall, based on the old base cabinets you're removing. No matter how much measuring and calculating you do at the design stage, it's quite likely you'll come across problems when fitting replacements. I discovered this as the new layout meant that cabinet sides were fouled by several water pipes, a couple of which could not be moved. Where space is not a problem you may be able to simply shift units sideways to miss pipework. Where space is tight this may not be possible, though.

Instead of attaching the assembled base units directly to a steel rail fixed to the wall, I had to screw a length of 75 x 50mm softwood in place first. This meant the rear edges of units would be out from the wall by some 60mm, resulting in a non-standard worktop depth. If ordering a separate worktop, try to leave this until you're sure of the exact positions of cabinets.

Worktop cutting

Instead of installing a regular laminate worktop I decided one in solid oak would be far more attractive. When cutting 40mm-thick hardwood it's best to use a circular saw fitted with a fine-toothed blade. I swapped the standard 24-tooth ripping blade on my heavy Black & Decker saw for a 56-tooth crosscut Axcalibur blade, which gave an excellent finish.

When making sink or hob cutouts, also see Kit & Tools starting on page 28, you're better off with a jigsaw, though make sure you fit a new blade and check the baseplate is dead square. For neatness, cut a few millimetres inside marked pencil lines, then clean up sawn edges with a router running against a straightedge or guide rail. If fitting a shaped sink, make an accurate template from MDF and finish the cutout with a long bearing-guided straight cutter fitted to a ½in router.

Oak & moisture

Oak and water certainly don't mix, so it's essential that whenever hardwood is used in a kitchen or bathroom it can repell water. Whatever finish you decide to use for a worktop, don't expect it to be maintenance-free. Water will eventually find its way through several coats of polyurethane varnish, oil or wax if you're not fastidious about mopping up splashes or repairing small scratches.

It's very important to treat the underside of a timber worktop as well as the top and edges. If not, you could get problems with uneven movement resulting in the top bowing. End grain around sinks is particularly susceptible to the ingress of water, so it's a good idea to apply a couple of extra coats here.

Drainage grooves

You often see expensive kitchens fitted with Belfast sinks with drainage grooves routed into the oak worktop. These obviously allow any rinsed items to dry, but think about that lovely oak. Unless you absolutely must have this feature I'd avoid it like the plague... While most of the water runs down the grooves into the sink there will always be a certain amount that sits on the surface. An alternative would be to make a small subsidiary worktop that sits on top of the main worktop and is removed after use. The same applies to chopping boards; don't be tempted to prepare food directly on the worktop itself! I'd avoid fitting taps that are mounted directly into hardwood, too. They may look fantastic, but you'll be forever drying up water around the base.

Next month I'll explain about fitting the sink and completing the kitchen.

Worktops: build or buy?

Building a worktop from solid oak may seem straightforward, though once you've sourced the timber you'll need a reasonably heavy duty planer-thicknesser. Alternatively, your timber merchant may offer a machining service. I was quoted £35 per hour, which included planing boards to size, but don't expect a perfect finish. You may either have to plane out the ridges or use a belt sander to improve the finish once you've glued the boards together. You could, of course, plane up your boards by hand, which would be hard work but excellent exercise.

If your finished worktop thickness is 40mm you'll probably be working with 50mm-thick sawn timber. Considering boards are likely to be at least 150mm wide, that's a considerable weight to shift around the workshop. Even relatively short lengths are likely to be too heavy to lift on your own when the worktop is glued up to full width.

Biscuit jointing is the easiest method of gluing boards edge to edge, though you'll need some robust sash cramps. Biscuits help with alignment, so if you're careful you could assemble a worktop with very little cleaning up to do once the glue has dried. Again, a long bench plane and straightedge will get the surface flat, though you could speed up work with careful use of a belt sander.

In terms of cost, it's probably cheaper to buy your own timber and fabricate a worktop from scratch. Take into account the amount of effort and time involved and you may want to buy a top ready made, though. Ordering a worktop on the internet is straightforward and you can request a hardwood sample first for about a fiver, this cost being deducted when you buy.

Worktop Express

I ordered my worktop from Worktop Express, which delivers efficiently across the country. The choice of hardwoods consists of oak, black walnut, beech, zebrano, iroko, maple, ash, bamboo, cherry and wenge, enabling you to customise a kitchen even if using standard flatpack units.

Its oak worktops are available in three options; I chose the mid-price prime oak grade. Made from European oak, the quality is impressive, with staves 40mm wide and finger-jointed for strength, and a choice of two thicknesses (27 and 40mm); for Belfast sinks or similar you'll need the heavier worktop. Standard worktop lengths are 2000mm and 3000mm, with widths from 620 to 960mm. Worktop Express offers a cutting and routing service and will also custom build worktops to specific sizes. For more info visit www.worktop-express.co.uk



Solid oak is the traditional timber for a worktop



Planing by hand is worth the workout



Autumn project

Takes: longer than you think **BUDGET KITCHEN MAKEOVER**

Removing units & preparation



1 The previous kitchen had certainly seen better days, especially after plastering the ceiling



2 When planning new layout a marker pen is handy to give a clear idea on final position of base units



3 Removing old units is generally straightforward, though you'll need to disconnect sink taps first



4 Sometimes brute force is the best way to free worktops, though try to avoid disturbing walls too much



5 Remove any loose plaster and fill defects; you may want to skim walls if time and budget allow



6 Replacing old fluorescent lighting with downlights meant cutting access holes for wiring in ceiling



7 With downlight positions carefully noted, existing ceiling was overboarded with new plasterboard



8 New ceiling is now skimmed; when plaster has dried, mark downlight centres and cut with holesaw



9 Sand and clean walls before priming surfaces with diluted white emulsion paint



10 This is the time to alter or replace pipework if necessary; a recip saw is ideal where space is tight



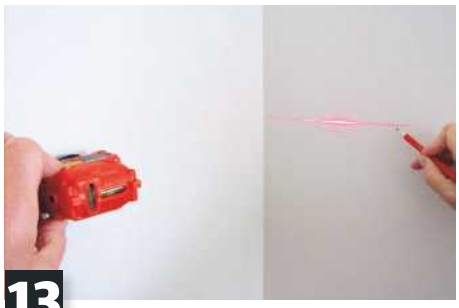
11 Prepare existing woodwork before decorating; use a detail sander for getting into the corners



12 Sand to 180 grit and brush on two coats of satin polyurethane varnish, thinning the first one



Installing new units



13 Establish datum line along wall for base units, using either a laser device or spirit level



14 If required, fix length of 75 x 50mm PAR to wall with heavy screws for attaching base units



15 Ikea kitchen units are anchored to substantial steel rail; fix this directly to wall or timber



16 Lay cardboard on floor before building cabinets; flatpack units are jointed with knockdown fittings



17 Push-fit plastic legs are adjustable for height, so you can level units and accommodate plinth later



18 Position first cabinet against wall; juggling is necessary here as pipework fouls rear edge



19 Check units for height and adjust for level; cramp adjacent units and then screw them together



20 Screw steel drawer rails inside cabinets and assemble drawers; Ikea units use sturdy Blum fittings



21 Make sure circular saw is fitted with suitable crosscut blade; a 56-tooth blade gives a clean cut



22 Check units and specific worktop lengths carefully; select best face before marking out



23 Make trial cut near end of worktop if possible; run saw against guide fence, checking for square



24 Check sawn worktop in place against wall; get someone to help you lift long sections if possible



Autumn project

Takes: longer than you think **BUDGET KITCHEN MAKEOVER**

Fitting oak worktop



25 If necessary, clean up sawn edges with a finely-set bench plane and check they're square



26 Scribe edge of worktop where walls are uneven; Trend's Easyscribe is an ideal tool here



27 Carefully cut away waste with jigsaw; tilt baseplate to give slight bevel for easier trimming



28 Measure front edge overhang by placing drawer front exact distance from back of worktop



29 Mark and rip oak to width, allowing 5mm gap from wall; pin guide batten to long worktop sections



30 Trim sink cutout accurately with router after cutting close to lines with circular saw and jigsaw



31 Choose profile for front edge of worktop; rout top and bottom edges with bearing-guided bit



32 Where worktop sections meet, bore 35mm holes at each end for bolts with Forstner bit



33 Depending on sink design you may need to notch out front edge of worktop; use fine-toothed saw



34 Fill any defects in surface and sand oak with 150-grit abrasive; dampen surface and re-sand by hand



35 Brush on coat of Osmo Wood Protector oil, treating underneath and all edges; allow to soak in



36 Apply several coats of Osmo Top Oil with soft cloth, paying particular attention to the end grain

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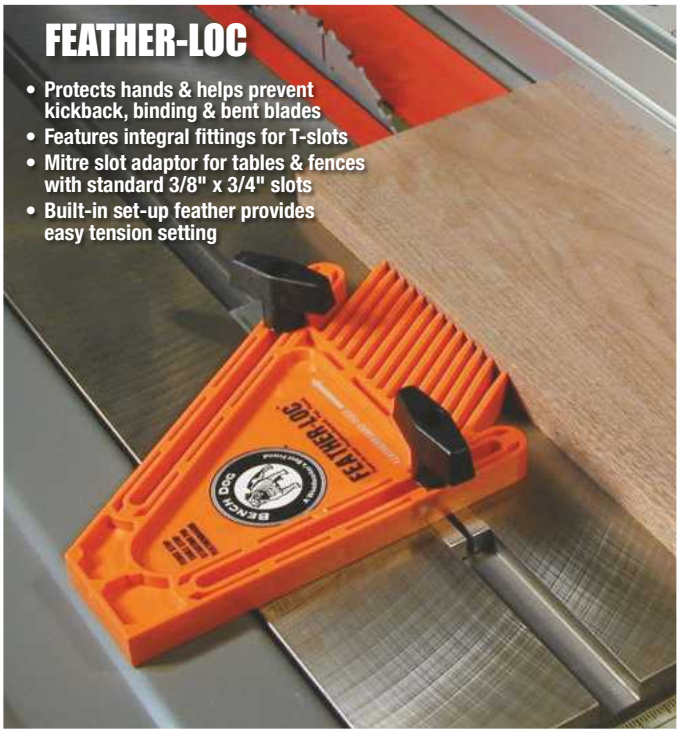


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Mugs away!



When **Les Thorne** ran out of storage space for the family mugs he copied a tried and tested tree



There are many traditional wood-turned items that I have not had the pleasure of making. Either they haven't inspired me or I have never had an order for one; in this case no one would pay me enough money for the finished goods. I have had an old mug tree since we moved into our current house, something like 26 years ago. It's made of cheap pine and has been happy holding mugs up, functional but not beautiful.

The existing one works really well and as we have acquired more mugs now it's time that I copied it and made my first ever mug tree. An added benefit will of course be the huge amounts of Brownie points from management to add to my collection. This is a good exercise in spindle and face plate turning, as well as precision-angled drilling. Simple copy turning and sizing spigots to fit in to the holes add to the interest in making this piece, and I am beginning to think it may be the perfect project for my intermediate classes.

When I finished, I worked out how much I would have to retail something like this. When I counted the materials and time spent it came out at around £60. The original bore a £5 price tag!

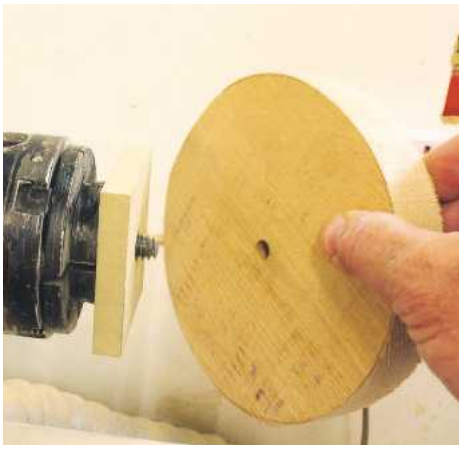




▲ Pic.1 A great big pile of mugs waiting for a home; you can just see the original tree hiding away; remember that the more mugs you have the less frequently you have to wash up



▲ Pic.2 The components are all cut and ready; the one Les is going to turn is from oak, with two rows of fingers like the original on the left, so it will sit under his wall units



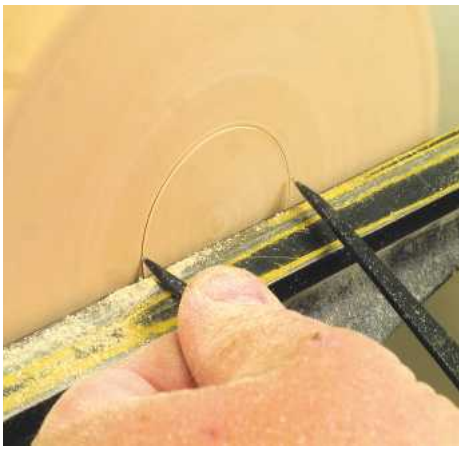
▲ Pic.3 With spindle/faceplate projects Les turns the base first; because of the thickness of the piece he couldn't drill a deep screw chuck hole, so packing is used to shorten the screw



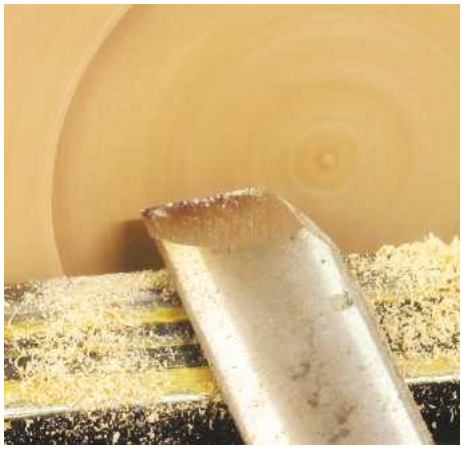
▲ Pic.4 Use a bowl gouge to true up the base; a light pull cut using the wing of the tool is perfect; working from the inside to the outside tends to be easier



▲ Pic.5 A scraper can be employed; the 13mm round skew works really well, especially if you run your fingers along the toolrest as this will act as a guide and a depth gauge



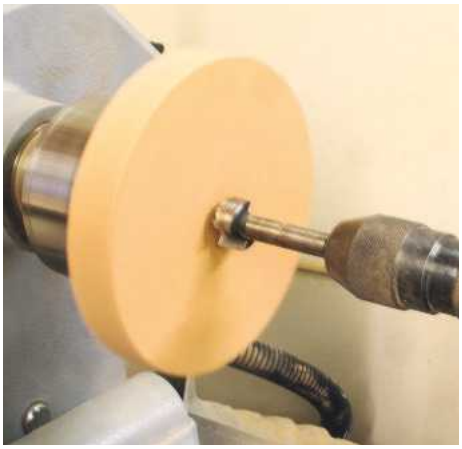
▲ Pic.6 Les is going to use a chuck recess to hold the base while he turns the top; his dividers are set on the chuck jaws' diameter, the left-hand point making a mark to align with the right



▲ Pic.7 Use a gouge to cut a 4mm deep recess, then undercut the edge with an old skew chisel ground to the correct angle for the chuck's dovetail jaws; use a simple light scrape



▲ Pic.8 Before remounting on the chuck make sure the surface is slightly concave; as it is going on a kitchen worktop there is no need for baize on the bottom



▲ Pic.9 The stem needs to fit into the base so Les is drilling a 25mm hole as deep as he can; tackling the base first allows him to turn the spigot on the stem to fit the hole



▲ Pic.10 Remove the initial stock with the 10mm bowl gouge before turning to the signature spindle gouge for the final shaping; turn in the same direction as for a bowl



▲ Pic.11 The corner of the skew is used here to make a groove about 40mm diameter; this will be the bottom size of the spindle, and will match the two pieces together



▲ Pic.12 Les is removing a little more wood from the ogee, his original shape making the base a little too heavy; the groove and edge bead will remain as starting and finishing points



▲ Pic.13 Once the base is sanded mount up the spindle, turn it round and then roughly mark the places where the branches will come out; Les is making up the shape as he goes



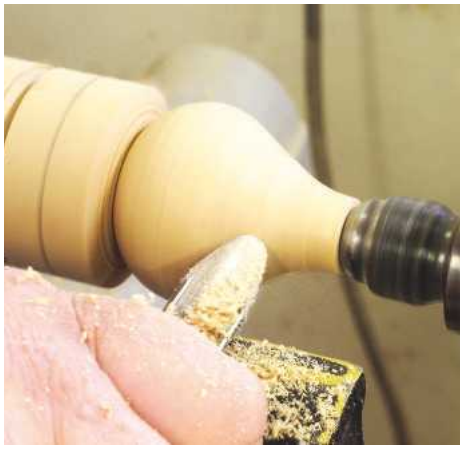
▲ Pic.14 Turn the spigot first, remembering that Vernier callipers with the points rounded over are much more accurate than the traditional bow-leg type



▲ Pic.15 You will need to have some stock around the area that will be drilled; these are being left pretty much full diameter (35mm) to give some strength to the branches



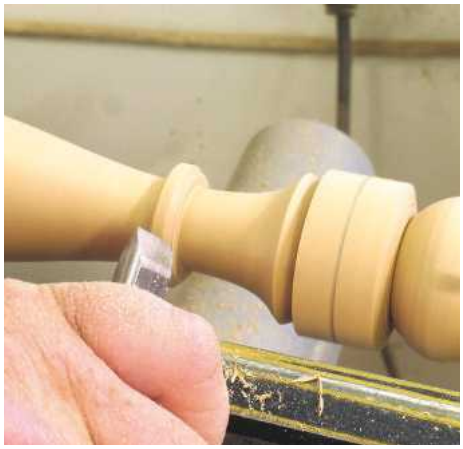
▲ Pic.16 The 13mm rolled edge skew is the best tool for defining these areas. The long point is used to slice into a V cut; the centre pencil line is the where the holes are to be drilled



▲ Pic.17 Les was a bit unsure what to put on the top; in hindsight an acorn may have looked better than the onion shape; he did leave the amount of the finial a little short



▲ Pic.18The rest of the stem shaping is done with the spindle gouge, with crisp details and definitions between the shapes – more difficult to achieve on an automatic lathe



▲ Pic.19 If you have trouble turning small beads just take the corners off and shape with 120grit sandpaper; with a skew only the part that's cutting should be near the point



▲ Pic.20 The Drill Wizard available from Oneway Manufacturing in Canada allows you to mount any drill with a 43mm collar horizontally in the lathe and at any angle



▲ Pic.21 Next Les mounts an 8mm bit in the drill and makes sure the centres line up accurately; a brad point-type drill bit is the best for drilling at an angle



▲ Pic.22 Use a protractor to set the angle for the branches; around 60° seems to be right, but really anywhere around that should work out fine



▲ Pic.23 Make sure that the spindle is locked tight; Les is using the indexing on the lathe to divide the circumference into three but you could mark it out with a pair of dividers



▲ Pic.24 His hole is pleasingly clean; it's very important not to get any breakout on the hole, and this is achieved with a sharp drill and a fast speed



▲ Pic.25 Cut the spigot to fit into the hole in the base; this is a little too loose; to increase the size of the spigot slice some grooves into the wood to spread the timber



▲ Pic.26 For the branches Les has copied the baseball bat shape on the original, but increased the definition; there are only three points of detail to be marked on the pieces



▲ Pic.27 If you bring a curve into the spigot on the branch it will match the angled hole much better; when copy turning take your time get your sizing cuts right to begin with



▲ Pic.28 You can see the pencil mark that tells Les where maximum diameter of the piece is; the skew is good in this case as it will fit down in front of the drive



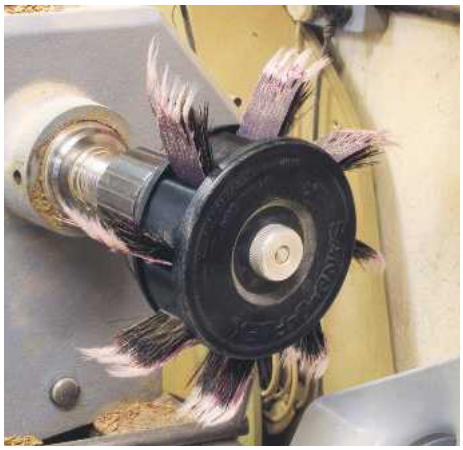
▲ Pic.29 Because of the spring-loaded point on the steb centre it is very difficult to part off the piece between centres so he is leaving a little stock that will be removed later



▲ Pic.30 Look! They all match perfectly; it's always very satisfying to do some batch turning; you can now see the curve that runs into the spigot



▲ Pic.31 Cut off the waste on the drive end, using a bandsaw with a fine tooth blade; leave a protrusion to allow the curve of the rounded end to be carried on



▲ Pic.32 Les's latest acquisition is this Sand-o-flex wheel, designed to sand mouldings without rounding over the detail and ideal for cleaning up the ends of work like this



▲ Pic.33 He has mounted it up in the lathe, which is running at round 1500rpm; hold on to the work and try and present only the end grain to the wheel



▲ Pic.34 Because of the softness of the wheel you will only be sanding lightly, so achieving a perfect rounded end; softer wood would require more care



▲ Pic.35 Les does not think waxes belong in the kitchen so uses an oil or lacquered finish; lemon oil tends not to give a gloss finish, keeping the wood looking natural



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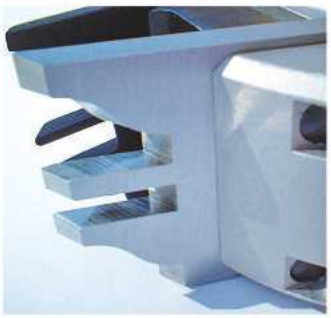
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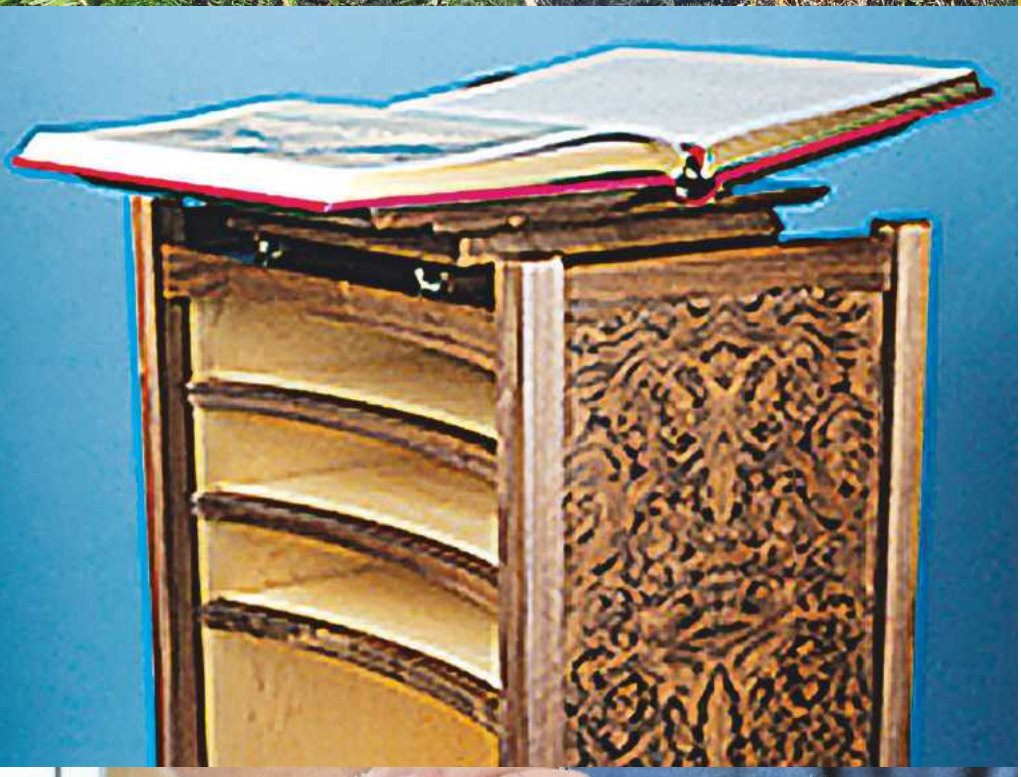
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WALNUT BOOKSTAND

Edward Hopkins meets North Devon furniture maker David Ames who makes a walnut bookstand that involves some particularly difficult engineering. Meanwhile Edward has more storage problems to solve



JIGSAW ROUNDUP

Andy King got so caught up in the intricacies of sink hole cutting this month that he decided it was time to put a whole lot of different jigsaws to the job, to do some comparison testing

PLUS...

...Phil Davy will be finishing off his new kitchen, cutting into his precious worktop, Michael Huntley will be progressing his woodwork foundations course and Les Thorne will be demonstrating more turning techniques

Kitchenalia – domestic treen

Treen is the generic term used to describe small historic wooden household articles. Here are a few examples of domestic treen. It is easy to forget that almost all rural kitchen equipment was made in wood before the days of cheap tin and plastic. Similar items and many other fascinating things are all described in *Treen and other Wooden Bygones* by Edward H Pinto. It is a rare book and rather expensive but worth borrowing a copy from the local library. You might find some inspiration for curious things to make in your workshop.



Pic.1 **A miniature tine or box from Norway, probably 19th century**

The small, 5in overall, Norwegian box (**Pic.1**) was probably made as a gift rather than as an item to be used. The full-size version could be used as a food storage box. It is missing one of its ears that will have to be replaced one day. The carving on the body is regular chip carving but the lid is carved with deeply scrolling foliage. This example is carved out of the solid but in the full-size versions the body is bent wood and stitched together with birch root or similar fibres.

Pics.2 & **3** show a simple beech butter pat mould or print. Here is a challenge for the turners! They are turned in one and then a design is carved on the base. In the 19th century these would have been normal dairy items made by the local woodturner.

Pics. 4 & **5** are of a 'puzzle' carving; this is a little folding bowl stand made from one piece of timber; it is very simple to make so long as you have the pattern to copy

Pic.6 is of some more utilitarian, undecorated kitchen items, a bentwood storage box that has seen some hard wear, a pair of butter pats and a ladle, all of them fairly simple to make if you are not working against the clock

The simple trivet (**Pic.7**) is useful to protect worktops, and good practice for half-lap joints for children to make as gifts, or for grandfathers to make in batches for charity shops



Pic.2 **A butter mould or 'print'**



Pic.3 **Close up of the carved thistle design**



Pic.4 **A carved bowl stand**



Pic.5 **close up of one of the heads**



Pic.6 **A collection of kitchen accessories**



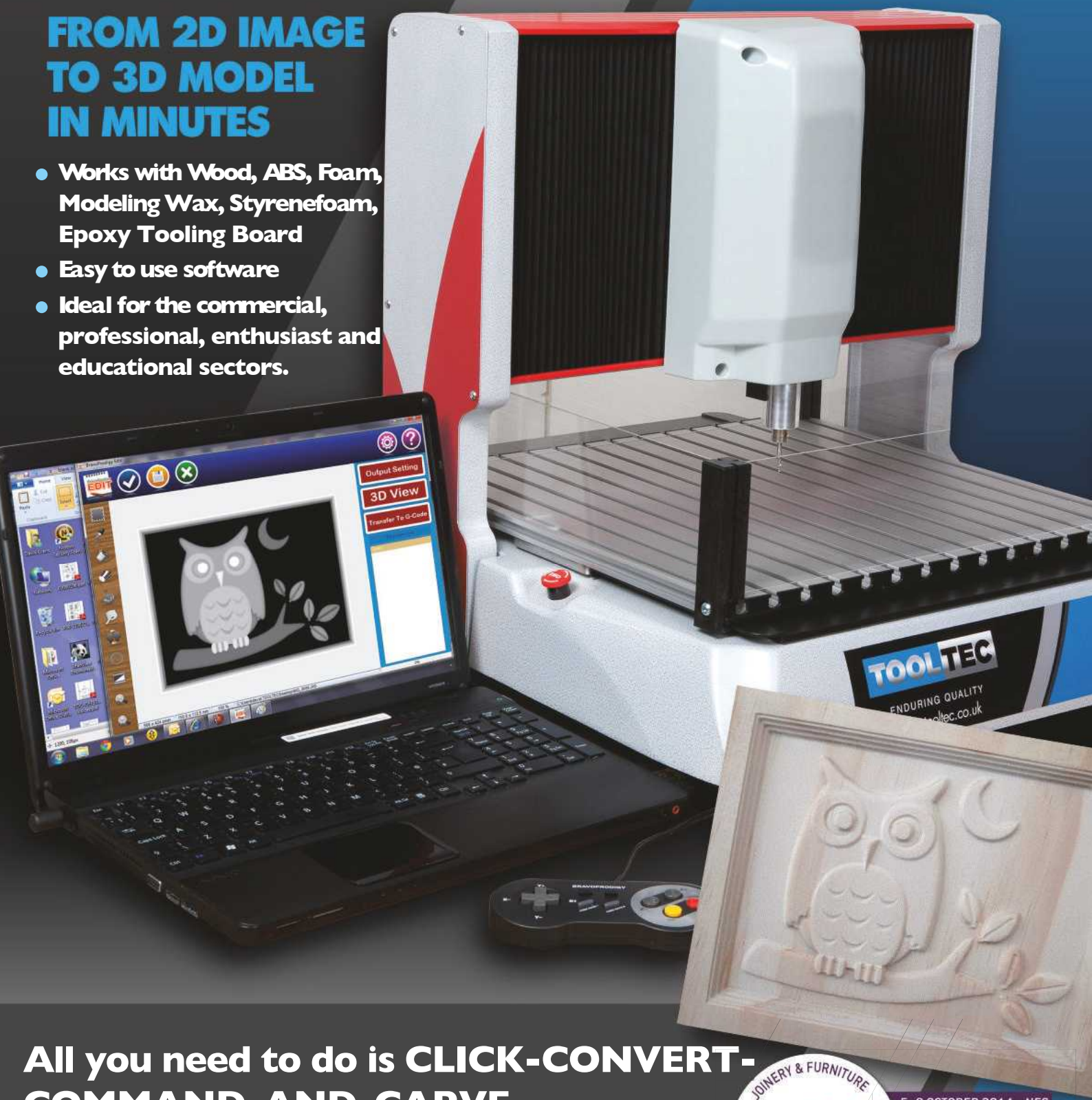
Pic.7 **A heat-resistant stand easily made from offcuts**

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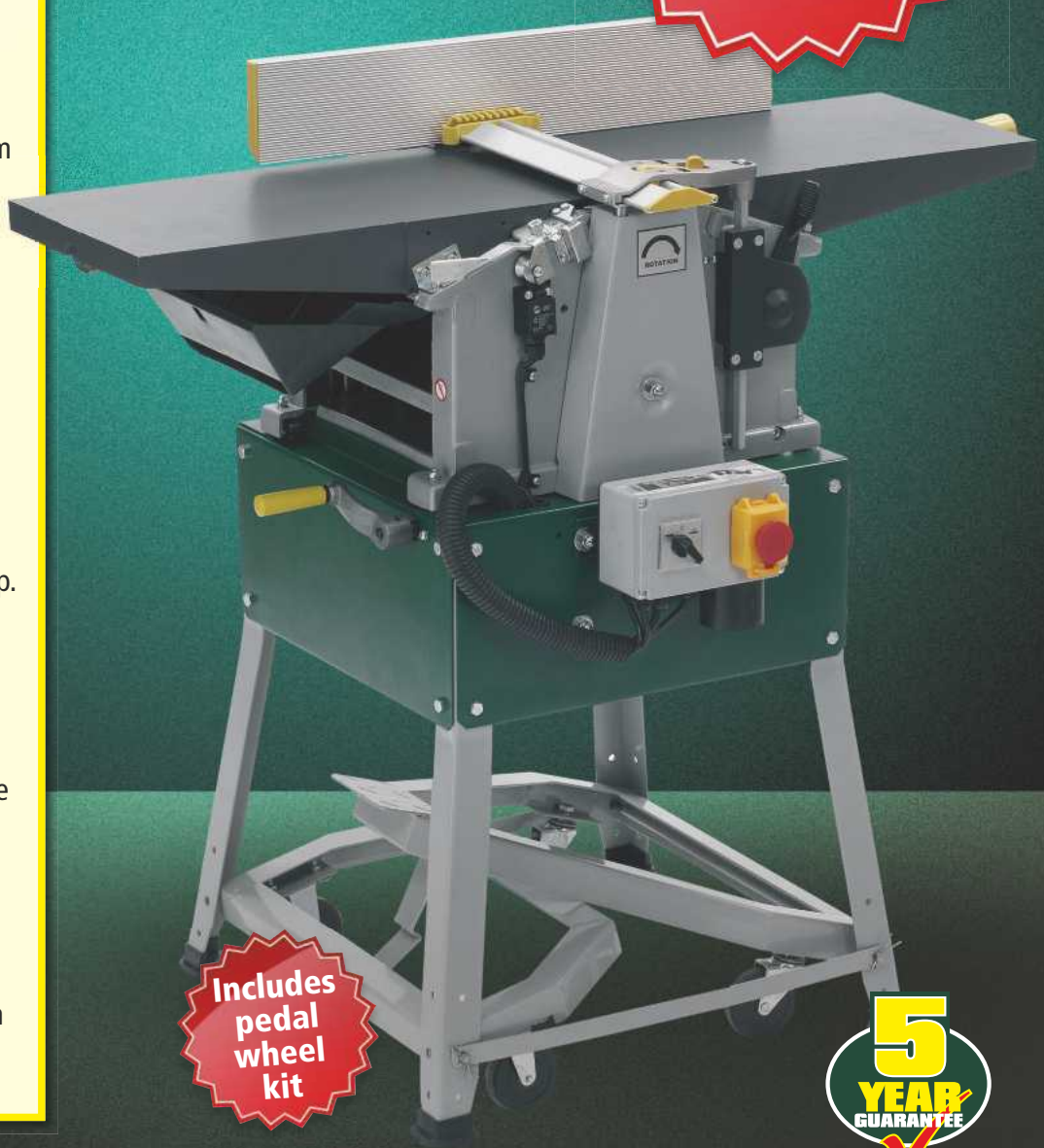
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