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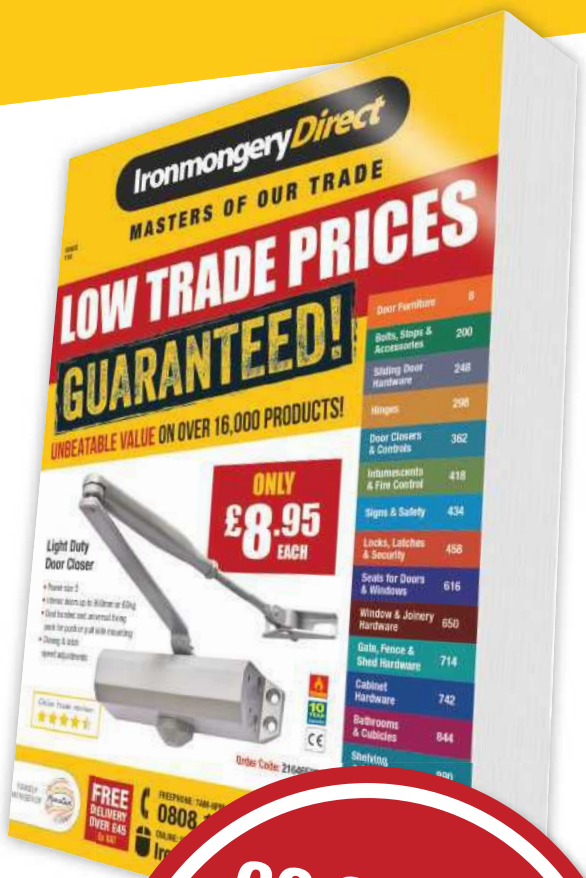

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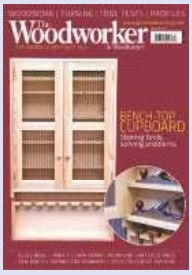

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Tel: +44 (0)1689 869 840
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SUBSCRIPTIONS
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CURRENT & BACK ISSUES
Website: www.mags-uk.com
Tel: 01733 688 964

EDITORIAL
Group Editor: Tegan Foley
Email: tegan.foley@mytimemedia.com
Editor: Mark Cass
Email: editor.ww@mytimemedia.com

PRODUCTION
Designer: Nik Harber
Retouching Manager: Brian Vickers
Advertising Production: Robin Gray

ADVERTISING
Group Advertising Manager: Rhona Bolger
Email: rhona.bolger@mytimemedia.com
Tel: 01689 869 891
Online Sales: Rhona Bolger
Email: rhona.bolger@mytimemedia.com
Tel: 01689 869 891

MARKETING & SUBSCRIPTIONS
Subscriptions Manager: Kate Hall
Subscriptions: Sarah Pradhan
Tel: 01858 438 798

MANAGEMENT
Group Advertising Manager: Rhona Bolger
Email: rhona.bolger@mytimemedia.com
Tel: 01689 869 891
Chief Executive: Owen Davies
Chairman: Peter Harkness

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Welcome

Entering the workshop at the start of the day (or evening) is always a good feeling, and it doesn't take long to get settled in either. My order of acclimatisation is generally lights, heating, radio, work-coat (or apron), followed by some random small work of minor significance just to ease me back into the comforting and familiar world of woodwork. Surrounded by tools, kit and plenty of timber in the raw just waiting to be converted into something fabulous, useful or money-earning (and preferably all three), it's hard not to feel good about oneself.

Despite being moderately busy, I can usually find the time to count my blessings and to appreciate just how fortunate I am to be managing to make a living in such an enjoyable way. OK, we all know the downsides – physical toil, unpleasant dust, the continual dangers of sharp tools and machinery – but on the whole, it's not too bad really, is it?

On the rare times that you do find yourself starting to lose the pleasure (and let's face it, we all do sometimes), a simple show of interest from a passer-by or neighbour is often all it takes to remind oneself of just how lucky we are. In an age where so many people's work is digital, desk-bound and downright dull, to have the opportunity to be making things and actually creating useful stuff that may well endure for years is a privilege indeed.

I expect I'm not alone among fellow woodworkers in having a few projects on the list that have been passed over a few times, generally because they're either:

A) Entirely frivolous.

B) Not judged to be sufficiently important when compared to stuff that's actually needed.

The Editor today, still pleased to be in the woodworking game

My recent resolution is to do something about this, and so I've selected what's possibly the most unnecessary and entirely frivolous project of the lot, and am planning to begin design and construction very soon. The fact that it may well prove to be technically challenging is just part of the attraction, and I hope that, when I finally bring it before the eyes of the waiting woodworking world, it may well inspire others to create something extravagant of their own, purely for the joy of doing so. And if you are at this moment engaged in or planning some kind of whimsical project, why not share it with the rest of us? Write to me on the address shown below and we'll see if we can get it into the mag.

mark

You can contact Mark on **editor.ww@mytimemedia.com**

THIS MONTH THE EDITOR HAS BEEN:

Taking photos ▪ Issuing library books ▪ Making joints ▪ Sliding doors

The Woodworker & Woodturner
MARCH 2018

WOODWORK


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46 A COLLEGE OUT ON ITS OWN

The only specialist one of its kind in the UK, Paul Greer discovers how Leeds College of Building is doing its bit to enrich the woodworking industry


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TURNING

ON TEST

REGULARS

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ANY OTHER BUSINESS

Let's face it, we all love our tools, and that's not just because of the potential they contain and the jobs that they have yet to contribute to. Some of them are intrinsically valuable, either for unique and special qualities of provenance or working beauty, or maybe because you've owned them for years and they've been in the family for generations. All the more disheartening then if they suddenly disappear. Despite the popularity of 'cyber crime' and a welcome drop in crimes of violence, vehicle and tool theft is still a viable option for many a ne'er do well across the land (and I sadly speak from experience).

Chatting with other tradies, it's a subject that often comes up and all the rest of us can do is to commiserate with the latest victim. For as long as I can remember, insurance cover for tools has always been difficult if not impossible to acquire, and this lack of a cushion can double the blow of an unwelcome criminal visit. It was with some interest then that I received the following press release (see page 11) from Richard at Tradesure Insurance. I've not as yet made any arrangements myself with the firm, so I can't speak from personal experience, but it all sounds pretty good and may well be worth investigating. In the meantime, it's worth doubling the guard and upgrading your locks; if your place looks like too much trouble to a lazy crim, then they'll go elsewhere.

Phew! My apologies for this serious subject and, looking for that silver lining in this sort of unwelcome cloud, if you've lost anything, at least you get the chance to start looking through those tool catalogues again, and the justification of spending more time at boot fairs, markets and auctions.

Mark

NEW RIDER RASPS

The Axminster Rider brand now includes a range of round, half round and flat rasps. For any woodworking or furniture making that involves shaping curved or carved surfaces, a quality rasp is invaluable. When it comes to producing a complex curve such as a cabriole leg or similar, a rasp is a must. It allows you to achieve the desired shape quickly, with great control and can leave a surface requiring a minimum of finishing.

The blades of the Axminster Rider rasps are made of high quality tool steel. A CNC machine cuts the teeth (referred to as stitching the teeth). The CNC method ensures precise height and even distribution of the teeth, and the result is a rasp that performs in a steady and predictable way, and leaves an even surface finish. After stitching the teeth, the blades undergo controlled hardening to HRC 45, ensuring every rasp has a long working life. All handles are hornbeam with a stainless steel ferrule.

Round rasps

The 150mm long round rasp is 6mm diameter, tapering to 4mm at the tip and stitched at 20 teeth per cm².

The 200mm long round rasp is 8mm diameter, tapering to 5mm at the tip. The 200mm length is available with either 16 teeth or a fine 22 teeth per cm².

Half round rasps

The 200mm long half round rasp is 19mm wide, tapering to 15mm at the tip. The 200mm length is available with either 16 teeth or a fine 22 teeth per cm².

The 150mm long half round rasp is 16mm wide, tapering to 10mm at the tip and stitched at 20 teeth per cm².

The 250mm long half round rasp is 24mm wide, tapering to 19mm at the tip and stitched at 12 teeth per cm².

Flat rasps

The 250mm long flat rasp is 24mm wide, stitched at 12 teeth per cm².

The 150mm long flat rasp is 16mm wide, stitched at 20 teeth per cm².

Prices start from £13.38 inc VAT and may be subject to change without notice. To find out more, see **www.axminster.co.uk**.

DIARY – MARCH

3* Spindle moulding
6 Woodturning taster day
7–8 & **21–22*** Woodturning
8–9 & **13–14** Introduction to the small engineering lathe
8–9* & **27–28** Routing
12–16 Five-day woodturning course
12–13, **26*** & **27*** Wood machining
13–14* Bowls & platters
15 Bird, bee & bat boxes
16* Scrollsawing
19–23 Windsor chair making
27 Introduction to turned boxes
27–28 Introduction to milling
29 Wood finishes
* Course held in Sittingbourne, Kent
Axminster Tools & Machinery
Unit 10 Weycroft Avenue
Axminster, Devon EX13 5PH
Tel: 08009 751 905
Web: www.axminster.co.uk

9–12 Beginners four-day course – ladies only
24–25 Dovetailing weekend
Chris Tribe, The Cornmill, Railway Road
Ilkley, West Yorkshire LS29 8HT
Tel: 01943 602 836
Web: www.christribefurniturecourses.com

10 Pyrography with Lisa Shackleton
13 Pen turning
14–15 Woodturning
Turners Retreat, Faraday Close
Harworth, Nottinghamshire DN11 8RU
Tel: 01302 744 344
Web: www.turners-retreat.co.uk

3–4 Sussex Trug making workshop
24 Willow garden supports
25 Archeological evidence for woodmanship practices and the wildwood in Southern England; Stone Age to C.100
Weald & Downland Living Museum
Singleton, Chichester, West Sussex
PO18 0EU
Tel: 01243 811 363
Web: www.wealddown.co.uk

3–4 Wood machining
John Lloyd Fine Furniture
Bankside Farm, Ditchling Common
Burgess Hill, East Sussex RH15 0SJ
Tel: 01444 480 388
Web: www.johnlloydfinefurniture.co.uk

The Woodworker Timber Suppliers Directory – MARCH 2018

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A Harrison (Northants)
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Web: www.aharrisonwoodturning.co.uk

Bennetts Timber (Lincolnshire)
Tel: 01472 350 151
Web: www.bennettstimber.co.uk

Black Isle Woodturning (Scotland)
Tel: 07842 189 743
Web: www.blackislewoodturning.com

Brodies Timber (Perthshire)
Tel: 01350 727 723
Web: www.brodiestimber.co.uk

Brooks Brothers Timber (Essex)
Tel: 01621 877 400
Web: www.brookstimber.co.uk

C&G Barrett Ltd, Cilfiegan Sawmill (South Wales)
Tel: 01291 672 805
Web: www.cilfiegansawmill.com

Clive Walker Timber Ltd (West Yorkshire)
Tel: 01132 704 928
Web: www.clivewalkertimber.co.uk

D Emmerson Timber (Lincolnshire)
Tel: 01507 524 728
Web: www.emmersontimber.co.uk

Earlswood Interiors (West Midlands)
Tel: 01564 703 706
Web: www.earlswoodinteriors.co.uk

English Woodlands Timber (West Sussex)
Tel: 01730 816 941
Web: www.englishwoodlandstimber.co.uk

Exotic Hardwoods (Kent)
Tel: 01732 355 626
Web: www.exotichardwoods.co.uk

EO Burton, Thorndon Sawmills (Essex)
Tel: 01277 260 810
Web: www.eoburton.com

Eynsham Park Sawmill (Oxfordshire)
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Ockenden Timber (Powys)
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Web: www.thetimbermill.com

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Timberman (Carmarthenshire)
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Web: www.timberman.co.uk

Tree Station (Lancashire)
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Web: www.treestation.co.uk

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MAKERS CENTRAL: UNITING CREATIVITY

From 5–6 May 2018 Makers Central will be launching its first ever event at the National Exhibition Centre in Birmingham. The NEC is the largest exhibition venue in Europe and host Nick Zammeti believes this will be the biggest and greatest maker event in the UK.

Makers Central is the brainchild of Nick Zammeti of NZ Woodturning. He entered the world of makers when he became introduced to turning in 2015, leading him to create his own YouTube channel. Nick has visited various makers events across the world, which led him to the realisation that there was a gap in the market for such an event in the UK.

Nick's intention is to revitalise the maker community and open the eyes of the younger generation and get more of them off their games consoles, iPads and iPhones and into the workshop.

"The reward in making something is far more satisfying than just a 'high score', plus you actually get to take something away that you can be proud of. The maker community is huge but is in need of a new lease of life and will be a dying breed if we don't watch out," he comments. Nick is determined to spring life back into the maker community and Makers Central is just the beginning. You can expect to see live demonstrations from various makers across the two days as well as a range of collaborations and live YouTube videos. There will also be a prize draw taking place on the Sunday, details of which will be announced at the show. The event opens from 10am-6pm on both days and advance tickets can be purchased via the website – **www.makerscentral.co.uk** – where you can also find further information.

MAKERS YOU CAN EXPECT TO SEE

April Wilkerson – various woodworking
Andre Bandarra – various handcrafted items
Asgard Woodturning – woodturning
Atelier Cabinet Makers – cabinetmaking
Average Joe's Joinery – various woodworking
Badger Workshop – various DIY & woodworking
Beeley Wood – woodworking
BillSin Workshop – works with reclaimed materials
Bryn Phipps – various handcrafted items
BrainFizz (Richard Morley) – various DIY
Carl Jacobson – woodturning
Charlie the Maker – woodturning
Chris Cute – various woodworking
D.C Woodworking – various woodworking
Diesineveryfilmcustomers – knife & blade making
EvanAndKatelyn – various DIY
Gary Lowe – woodturning
Get Hands Dirty – various DIY
Giaco Whatever – film & things maker
Gosforth Handyman – joinery
Ijessup – various soft and hard goods
I like to make stuff – music, websites, software, furniture, vintage scooters & motorcycles
Izzy Swan – woodworking & furniture making
Heath Knuckles – woodturning & resin artistry
Highland Boxes – bandsaw boxes
Homemade Modern – various DIY projects
Jimmy Diresta – woodworking
Jimson's Stuff – various wooden things
JMakes – various handcrafted items
John Clothier – woodworking & woodturning
JP Woodwork – scrollsaw master
KKMakeUK – various DIY
Laura Kampf – artist/designer/maker & content creator
Make it with Dad – electronics, wood, metal, etc.
Make Something – beginners & advanced woodworking
Maker Mike – woodworking
ManCraftingTM – various woodworking
Meighan workshop – filmmaking & woodworking
Mitch Peacock – various DIY
Martin Saban-Smith – woodturning
Matt Cremona – fine furniture
Matt Estlea – furniture making
Mike Waldt – woodturning
Moonshine Metal Works – blacksmithing
Nick Zammeti – NZ Woodturning
Ox In The Shop – woodworking
Paige Peocock – various handcrafted items
Peter Brown – Shop Time – woodworking
Peter Woodbine – woodturning, woodworking, pewter casting & cabinetmaking
Peter Millard – carpentry & cabinetmaking
Richard Martin WoodSeats – upcycling
Sam Fowler – metalworking, woodworking & restoration
Sawblade Projects – woodworking
SE Woodwork – general woodworking
Stuffimade – experimenting with new methods & materials
Susan Gardener – music, guitars, tools, etc.
Templeboy Turnings – woodturning
The Blind WoodTurner – woodturning
Theshadesworkshop – upcycling
The Poultry People – woodworking, metal working & resin casting
The Woodking – woodturning
Tinkerneering – various making
Turning Works – woodturning
TQ Blanks (Mark Lewin) – pen turning
Wayne Clasper – woodturning
WH Creations – woodworking
Woodyoubelieveit – bespoke furniture
Yuval Lahav – woodturning

SNAPPY DRILLING

This handy new set of augers from Trend comprises common diameters of 13, 16, 20, 25 and 32mm. Ideal for general hole drilling duties in wood-based materials, the 159mm long augers will also find favour with on-site workers for drilling out lock and latch mortises and other mortise-type applications, or for drilling holes through joists for cable runs while the 32mm bit is suitable for cylinder-type lock fitting. The inclusion of a 150mm long extension bit allows longer holes to be made with ease.

Each auger has a quick chuck shank for use in standard ¼in quick-change chucks and is manufactured from hardened carbon steel with polished shanks and a black oxide finish for durability.

The four-flute design ensures fast chip ejection along with four cutting spurs on the augers for clean entrance holes into the workpiece along with a screw thread centre point for self feeding into the material.

The six-piece set comes supplied in a durable contoured plastic storage case with soft thermoplastic rubber (TPR) edging to protect the cutting edges and offers easier handling. To prevent wrist injury these augers must only be used with torque control drills.

The SNAP/FAB1/SET six-piece four-flute auger bit set is priced at £33.54 inc VAT and is available from all Trend Routing Centres and stockists across the UK. To find out more, see **www.trend-uk.com**.

BESSEY LAUNCHES MICROSITE FOR TOGGLE CLAMPS

BESSEY is providing an extensive range of information on self-adjusting toggle clamps on its new microsite, which can be accessed in 11 languages. Designers, craftspeople and buyers can find technical details and interesting facts about the unique range of accessories as well as exciting excerpts from the history of the range.

The microsite has been launched to mark the fifth anniversary of its STC self-adjusting toggle clamp range and is designed to inform visitors about the benefits of these special-purpose toggle clamps, which can adapt automatically and in a continuously self-adjusting manner to workpieces of varying thicknesses. What's more, the microsite provides detailed descriptions of the horizontal, push/pull and vertical toggle clamps, which are equipped with self-adjusting mechanisms, covering all relevant information. These include, for example, images of the toggle clamps in practical use, brief descriptions with references to the baseplate versions as well as technical data sheets and downloadable 3D CAD data. The variants that feature a horizontal baseplate also include links that take the user straight to matching accessories. In this way, the range of advanced application possibilities involving BESSEY toggle clamps and welding or multi-function tables is clear to everyone.

The new microsite also provides an exciting insight into the evolution of BESSEY products, as well as including additional links to a distributor search and the full BESSEY product range. You can visit the microsite here: **http://toggleclamp.bessey.de**.

TRADESURE LAUNCHES NEW TOOLS & GOODS COVER

Commercial insurance specialist Tradesure has launched a new Tools and Goods in Transit policy for its customers. The new service means tradespeople can get their equipment protected when it is being loaded, carried, unloaded or stowed within a vehicle.

The company's brand-new policy covers loss or physical damage to tools and cargo, whether it is stolen or simply harmed in a collision – something that is often overlooked by policies.

Overnight protection is included as standard with the goods in transit policy, with theft covered at specified locations and up to 24 hours unattended protection available at any other locations.

Mark Wilkinson, Managing Director of Tradesure, comments: "We are delighted to be launching our new goods in transit policy. We know that tools and equipment are absolutely crucial to many of our customers and so providing them with low-cost and reliable cover is something we are very proud to have created. With low premiums and cover available for single and multi-vehicle customers, this is a great-value policy that gives you peace of mind that your tools are protected."

The goods in transit policy is available for businesses and traders across the UK and the Republic of Ireland. To find out more, see **www.tradesureinsurance.co.uk**.

PREPARING THE FLOORING SURFACE

Preparing a wooden floor for the application of a finish can be a long and tiring process. Osmo UK provides professionals with a quicker and easier option that changes the way in which wood is treated.

To achieve an attractive, aesthetically pleasing wooden floor, it is important to ensure the flooring surface is prepared before the finish is applied. Traditionally, oil finishes require the surface to be sanded very finely to ensure the surface remains smooth. To achieve this result, extra sanding work is required. Osmo changes this process for professionals. When using their eco-friendly wood finishes, the surface no longer requires fine sanding. Due to these finishes being very viscid, and containing both oils and waxes, the wood absorbs the finish to provide a smooth surface, resulting in the extra level of sanding not being required. The guidelines for sanding a floor in preparation for an Osmo product is 100-150 grit, depending on the wood. Generally, 120 grit provides the best results.

Before sanding begins, the surface must be clean, dry and frost-free, with a maximum moisture content of 20% (be cautious with woods containing a high moisture, such as green oak). Clean or slightly sand old microporous (oil-based) finishes or remove old varnishes and lacquers. Sand carefully before application starting with a coarse paper – final sanding grade for brush or roller application is between 120-150 grit. To achieve the smooth flooring surface, the wood should be sanded in the direction of the grain. Moving the abrasive continuously will prevent marks where the sanding machine has stopped. For edges that cannot be reached, the solution is using a special edge sander. The result is a smooth surface with a vivid optical character. For more information, visit **www.osmouk.com**.

CHANGE OF TRADING NAME

As of 1 February, Hamilton Beverstock – the material cutting specialists – changed their trading name to Beverstock Ltd. This is due to the Hamiltons having retired from the company and their shares being acquired by Steve and Linda Beverstock. The move has gone extremely well and the changes will not affect the services provided by the company. The location of the business and staff will all remain the same; however, emails will now be abbreviated to '**@beverstocksaws.com**' and the new website is **www.beverstocksaws.com**. All the delivery drivers are local and the company will continue to invest in the business, with their latest acquisition being a new ABM CNC TCT saw sharpening machine. Please note that all paperwork, which includes invoices, credit notes, statements, delivery notes and driver collection notes, will now be issued in the new name of '**Beverstock Ltd**'.

Both Steve and Linda would like to thank customers for their past, present and ongoing business and look forward to developing the company further in 2018 and beyond.

BOSCH LAUNCHES NEW GENERATION OF PROFESSIONAL LINE LASERS

Bosch presents a new generation of line lasers with three tools for greater efficiency on construction sites: the entry-level GLL 3-80 Professional model, as well as the connected GLL 3-80 C Professional and GLL 3-80 CG Professional models. They are the first line lasers worldwide, which can be controlled using an app and Bluetooth interface. Tradespeople can, for example, switch the laser line on and off individually using the Bosch Levelling Remote App without touching the tool and altering settings accidentally when handling the device. Additionally, operating via app makes set up and work in hard to reach places easier. The brightness of the laser lines can also be conveniently adjusted by the user for better visibility or to save battery power, for example. The Bosch Levelling Remote App is available free of charge in the Google Play Store – **https://play.google.com/store** – and in the Apple App Store – **www.apple.com/uk/ios/app-store** – and is part of the Bosch Toolbox App.

Bosch sensors monitor calibration

For the first time, the connected models also give a calibration warning – the Cal Guard Function a world's first – which informs the user of possible calibration influences. There are various external influences which can interfere with the calibration of the line laser and are not always apparent at first glance. For example, if the tool has been heavily shaken in a fall or stored at a temperature outside the permissible range of between -20°C and +70°C. The tool displays these events via a red LED light that warns the user of calibration errors, thus ensuring precise results.

The app provides users with detailed information about the warning, meaning you can always have an eye on the tool's calibration and can carry out work with precision. The Cal Guard Function also informs the user when the recommended 12-month calibration interval has expired. The Bosch sensors monitor the condition of the measuring tool constantly, even when it is switched off. If the measuring tool is not connected to a battery power supply, an internal energy storage device will support monitoring for 72 hours.

Line lasers with particularly high visibility

All three tools project three 360° laser lines: one horizontal and two vertical. The two vertical laser lines intersect and each also provides a plumb point – one on the floor and one on the ceiling. On the GLL 3-80 Professional and the GLL 3-80 C Professional, high-performance diodes ensure visibility of the red laser lines even in bright environments. The GLL 3-80 CG Professional operates with green laser lines that are up to four times more visible to the human eye than the red laser lines on similar tools.

Universal helper for different trades

The functions of the new line laser generation cover a wide range of applications – for example, for carpenters in furniture assembly and the installation of dividing walls. Since the lines can be switched on and off individually, the laser tools combine the functions of a cross-line laser and a point laser all in one. It can also carry out the interior applications of a rotary laser.

The BM 1 Professional universal mount ensures flexible mounting options. Furthermore, the two Bluetooth models have a dual power supply: they can be powered by both a replaceable 12V rechargeable battery and by non-rechargeable alkaline batteries. They are also 'TrackMyTools' enabled: thanks to the integrated Bluetooth module, registered users can see where their line laser is at any time using the cloud-based inventory management system via the app.

The new generation of line lasers is now available and start from £393.54 for the GLL 3-80 Professional. To find out more, see **www.bosch-professional.com**.

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TMNPL

Engineered Precision

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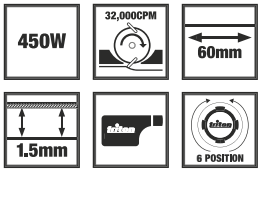
Utilising twin 60mm reversible blades, the **TMNPL** offers the perfect combination of power and balance with excellent grip for safe, one-handed operation, while cutting at 32,000cpm.



triton® Precision Power Tools

tritontools.com

What's new from D&M TOOLS

'THE' TOOL SPECIALISTS ● WWW.DM-TOOLS.CO.UK ● 0208 892 3813

BESSEY STC-S-MFT SYSTAINER CLAMPING KIT

MANUFACTURER: Bessey
D&M GUIDE PRICE: £269.95 (inc VAT)

New from Bessey comes this complete clamp set in a ready to go standard multifunction systainer case, which features a wooden worktop with pre-drilled holes (20mm) ready for the clamps to be situated as required, complete with 14-piece clamp set (eight clamps and six adaptors). It also includes Bessey AUTO height adjustable toggle clamps (six supplied). One size of the Bessey toggle clamp replaces multiple competitor sizes simultaneously. The pressure on the toggle clamp can be adjusted so that even sensitive workpieces – with veneered or varnished surfaces, for example – can be gently clamped. Clamps supplied are as follows: 4 × STC-HH50 horizontal toggle clamps – open 40mm horizontally, height auto adjusts, clamping force 2,500; 2 × STC-IHH25 toggle clamps – opens to 35mm, push/pull type, clamping force 2,500; 6 × set of adaptors (ref STC-SET-T20) and 2 × GTR12 F clamps – opens 120mm, depth 60mm, plus 13.5 × 6.5mm rail and standard F clamp to fit the multifunction system.

BESSEY

NEW

FESTOOL CTL MIDI MOBILE DUST EXTRACTOR

MANUFACTURER: Festool
D&M GUIDE PRICE: See website

FESTOOL

The new CTL MIDI is the ideal companion for assembly, installation or renovation work. The compact wet/dry dust extractor with a 15l container volume is perfect for cleaning work with small to medium dust and dirt volumes. The technical details are also highly sophisticated: infinitely adjustable suction power, two-layer filter bags, flat filter for full utilisation of the filter bag volume or tool-free replacement of the filter and filter bag. Approved for dusts in dust class L, and can be coupled with SYSTAINERS and SORTAINERS on the SYS dock.

Keeping your work clean has never been so easy – thanks to its smooth exterior, the new suction hose ensures everything runs smoothly with improved suction. Practical features on the mobile dust extractors help improve workplace organisation as well as the clear up process. The innovative Bluetooth technology works for both occasional clean-up work and when using cordless tools with the new Festool Bluetooth battery packs.

See our website for the full range of new Festool dust extractors, which feature Bluetooth connectivity.

NEW

SERVICE all-inclusive

Bluetooth remote for switching the extractor on direct at the suction hose

PLEASE CHECK OUR WEBSITE – WWW.DM-TOOLS.CO.UK – FOR THE LATEST PRICES AND DEALS

SHALLOW SHELVES & OPEN DOORS:

The making of a tool cupboard

A woodworking tale of interest and instruction, in which **the Editor** becomes aware of shortcomings in the capacity of his workshop storage and takes steps to address them...

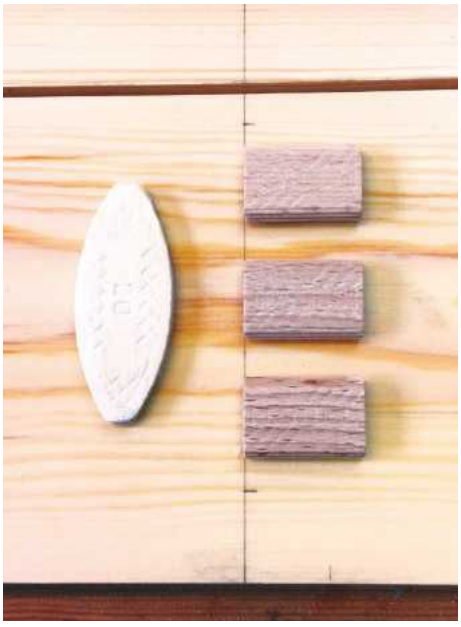
I've been running a few carpentry classes at my workshop of recent weeks (**www.neonsaw.co.uk**), and this has occasioned the need to get some extra hand tools in for students to use. After a couple of weeks of shifting a dozen planes around in a stout cardboard box, it occurred to me that some sort of dedicated storage wouldn't be a bad idea, and this inspirational thought led to the creation of the first of what could well be any number of matching tool cupboards. My design priorities were to keep it simple, keep it shallow in depth (so as not to impinge on the available work-top space), and to keep as much of its contents as possible on display. When it came to overall dimensions, these were limited by the space available: 1,230mm high (to the underside of the rack above) and no more than 700mm wide.

Sourcing materials

I generally make a point of getting in a bit extra whenever I buy timber for a job, and so was gratified to see that I had the makings of a shallow carcass and a few shelves immediately to hand (courtesy of some 4 and 5 × 1in prepared softwood) and with no call to have to go and buy some more. Even though money had clearly changed hands on a previous transaction, the fact that I had a couple of surplus boards to freely utilise made me feel very good indeed. There was also a piece of 6mm ply in the rack and some spare hinges in the brass box, and so, with the major materials taken care of, it was onto the design stage.

Cabinet layout

Even before I had drawn the cab out (and let's face it, they don't come much more basic), I laid out a few planes on the bench top to see just how they could be fitted into the limited space. When it comes to cupboards, my usual preference is for adjustable shelves – easy and quick – but this time I felt that the weight of the planes, plus the lack of flexibility required, meant that fixed shelves would be the way to go. I toyed with the idea of stopped housing joints, but, like so many busy woodworkers these days, went for the simpler option of loose tenons, aka Dominoes. For a simpler open display cab, which might be used for smaller and lighter stuff, biscuits could



1 Three Dominoes offered a much stronger solution than a single No.20 biscuit

2 Marking out for Dominoes is straightforward enough, but a fair bit of care is required to ensure everything will line up on assembly

3 Notching out the marking gauge shelf on the chop saw...

4 ... where some easy chisel work completes the job

5 Forming the step-down on the lower parts of the carcass sides on the bandsaw...

6 ... and cleaning up the simple curve

always be an option, but in this case, and with the shallow shelves required, a single No.20 biscuit seemed like a skimpy way of doing the job.

Preparing components

Despite the shallow depth of the unit (barely 120mm), I wanted the bench top footprint to be as minimal as possible, so opted for a dresser-top step-down with the lower part of the sides reduced even further in width, down to 75mm. After unsuccessfully toying with a variety of ogee curves and similar, I went for a simple quadrant curve, courtesy of my coffee cup rim, and, following a quick bit of bandsaw work, all was looking good. This also tied in nicely with the low open shelf beneath the main carcass, which was intended to house marking gauges, and was notched out on the chop saw with a trenching depth set and then simply finished off with a sharp chisel.

For a display unit like this, which was to be fixed to a wall and sat on a permanent surface, the obvious plan was to go for top and bottom shelves reduced in width by the thickness of the back (6mm birch ply), leaving only the sides to be rebated to accommodate the same. Like a lot of woodworkers, I used to form this sort of rebate with a straight cutter in a router, but over the years I've found that it can be run very safely on the table saw with the use of a Suva guard. This enables a very clean rebate to be cut in much less time and with a minimum of dust.

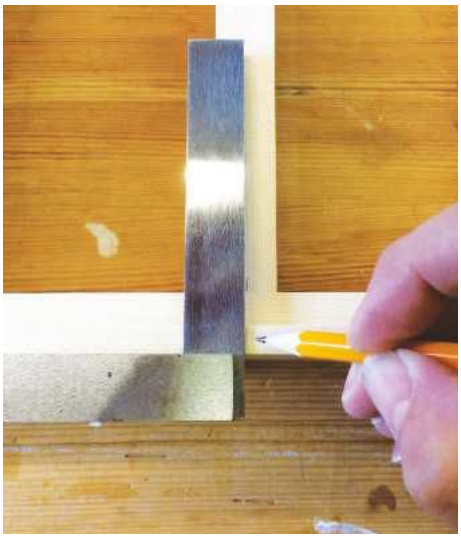
Dry assembly & glue-up prep

With all the component parts prepared for jointing and cleaned up where necessary, I made a sensible

7 Safely rebating the sides under the Suva guard

8 After a trial assembly, the carcass is ready for the glue-up

9 All clamped up and nice and square



10 Marking the shelf centre positions prior to fitting the back

11 The back is pinned on; note 5mm gap at bottom (grrr!)

dry assembly and, when all was well, prepared for the glue-up. There's absolutely no mileage in rushing this part of a job, so always make sure you have everything to hand and plenty of time on the clock before you begin. Clear and legible marking is a vital part of the final assembly; if anything is going to get mixed up and put in place upside down – always a danger when you have a number of identical parts like shelves involved – it will be when the glue is going off and any too-snug joints are swelling up with the moisture in the glue, leading to a need for vigorous use of the rubber mallet (aka the Persuader).

Ply back

After a final check for square and wind, the carcass could be put to one side and my thoughts turned to getting out the ply back. I never like to let things like available materials or ease of construction influence my working designs, but for once I was mildly annoyed with myself for not making the overall height 1,220mm, the exact width of a ply board. Never mind, just this once I chose economy over exactitude, and resigned myself to having to live with the knowledge there was a small gap top and bottom on the carcass back. The back was pinned into place, but not before I had marked the centres of all the shelves to ensure a trouble-free pneumatic pinning procedure.

Doors

With the carcass all boxed off, it was time to get the doors onto the production line. Although I generally prefer a wide-ish rail and stiles on a door, I wanted the contents of the cupboard – all those lovely planes – to be visible and generally admired by all, and this, together with my aim to complete the unit without having to put my hand in my pocket, meant that a width of 57mm would fit the bill, this being half the width of a couple of 5 × 1in boards and some offcuts that were cluttering up the timber rack. When making any kind of panelled frame, it can be very tempting to form the necessary rebates by simply routing them in after the door is finished. While there are a few occasions where this practice is (just about) acceptable, for a tool cupboard in a teaching environment, which would be used and observed by any number of eager students, there was only one way to form a panel recess and that was by employing the correct stepped

12 The try-out for the stepped shoulder Domino joint for rail to stile

13 Making sure my measurements were spot-on (actuality v maths)

14 All the component parts Dominoed and ready for gluing

15 These days, I always use a little palm router for hinges

16 The cupboard in place, and approaching completion

17 Pinning the brass grilles in place

18 The magnetic catch spans the two doors

shoulder joints. Now, I enjoy a mortise & tenon as much as the next woodworker, but as I had the Domino jointer nicely warmed up, I decided to see how well I could use it to form a loose tenon joint with stepped shoulders. Always make a practice sample first I tell my students, and that was just what I did. With a bit of fiddling about it was clear that it would work out nicely; it simply required some careful marking out, some accurate setting of the chop saw for the shoulders, and some steady work with the Domino jointer. I've found that cupboard doors made with Dominoes come out on square every time, and these ones, despite the potential for error, were no exception.

Although I briefly considered glazing the doors, everyone knows that glass doesn't last long in a workshop, so I had to look at alternatives. Casting my eyes around the dustier corners of the Neon Saw, they alighted on half a dozen brass radiator grilles that I salvaged from a skip a few years ago. The perfect solution thinks I; stylish as well as (semi) transparent and at no extra expense too! The best way to cut this sort of thing is with a guillotine, such as you'd find at a sheet metal workers; suffice to say I spared this expense and made other arrangements. With the doors cleaned up, fitted and hung, the panels could be dropped in, and held in place with offcuts from an earlier saw-based operation.

Knobs & catches

After a single coat of Danish oil, all that remained was to sort out some knobs and have a look at what kind of closing catches for the two doors I could find in stock. After a bit of time wasting with some tiny rod magnets (best suited for a little box I think), I dug out a long catch I had removed from a vintage '70s kitchen a while back. This proved to be up to the job and, after fitting the – slightly mismatched – knobs to the optimum spot on the meeting stiles, I stood back and declared the job complete.

I'm pleased to report that I've since fixed the unit to the wall, loaded it up with assorted planes and marking gauges, and am now enjoying its usefulness and attractive appearance on a daily basis. **ww**

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Dust Category

L Simple, harmless dust such as house dust, varnish and plaster, as well as materials such as soil.

M All wood dust and dust from putty, filler and cement, concrete (AC), tile adhesive (AC), and paints such as latex and oil paints, not to mention quartziferous materials such as sand and gravel.

H Dust containing carcinogenic or pathogenic particles and dust containing mould spores, asbestos, mineral fibres, bitumen and artificial mineral fibres such as glass wool.

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INCLUDES LEFT & RIGHT TABLE EXTENSION

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CTS15 NEW	2000W	250mm	£119.98	£143.98
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Stanley Multi Angle	Clamped	72/60/40	£17.99	£21.59
Record TV75B	Clamped	75/50/32	£20.99	£25.19
Clarke WW7	Bolted	180/205/78	£29.98	£35.98

Clarke QUALITY CAST IRON STOVES

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CBS1-5

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Devil 700	15	£99.98	£119.98
Devil 900	24.9	£139.98	£167.98
Devil 910 SS* NEW	17.6-24.9	£159.98	£191.98
Devil 1600	36.6	£169.98	£203.98
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DEVIL 7003	230V	3	£59.98	£71.98
DEVIL 6005	400V	2.5-5	£74.99	£89.99
DEVIL 7005	400V	5	£84.99	£101.99
DEVIL 6009	400V	4.5-9	£119.00	£142.80
DEVIL 7009	400V	9	£139.98	£167.98
DEVIL 6015	400V	5-10-15	£179.00	£214.80
DEVIL 7015	400V	15	£199.98	£239.98
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CESNG2	Electric	18/18	£39.98	£47.98
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- 'V' Twin Pump

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT
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7/250	2 HP	7	24ltr	£94.99	£113.99
11/250	2.5HP	9.5	24ltr	£109.98	£131.98
8/510	2HP	7.5	50ltr	£119.98	£143.98
11/510	2.5HP	9.5	50ltr	£139.98	£167.98
16/510*	3 HP	14.5	50ltr	£209.00	£250.80
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CS4-8

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- Powerful 750W motor
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- Flow rate of 850M3/h

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Einhell TE-PL850	850W	3mm	£52.99	£63.59
B&D KW750K - GB	750W#	2mm	£57.99	£69.59

Clarke BELT SANDERS

Makita

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Clarke CBS2	1200W	480	£79.98	£95.98
Makita 9911*	650W	75-270	£86.99	£104.39

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Learning CURVE

Tasked with making an Art Deco style coffee table with curved ends, **Peter Dunsmore** shares the build with us here as well as the challenges he faced during its construction

A very good friend of mine showed me a photo of an Art Deco style coffee table that he wanted me to make for him. Saying I was daunted at the prospect was a slight understatement but for some reason he had faith in me and so I was left with the challenge of making this table with curved ends. Now, right at the outset, I would just like to say that this is the method I came up with that developed a little as the project progressed. Having learned quite a lot from this I thought it would be a good idea to concentrate on how I made the curved ends and mention one or two things that I would change if I were to make something similar again, as well as a bit of an overview of the remainder of the project. All in all, it was a bit of a learning curve!

The initial thoughts

After looking at the initial photo for a while I thought that the project could be broken down into smaller components. If the curved ends were removed I would be left with two boxes, or cabinets, that housed the drawers sandwiched between the three shelves. That part would be straightforward. Creating the curved ends that would fit accurately onto the ends and make for a flowing shape was the tricky part.

In the past I have used what is termed 'bendy ply', which is easily obtained online. This is plywood laminated in such a way that it can be bent to a tight curve. I used 5mm-thick bendy ply although it is available in other thicknesses. My thoughts were to make a mould from MDF and wrap three layers of this plywood around it and secure the curve in place with ratchet straps until the adhesive had dried. Ratchet straps are readily available online

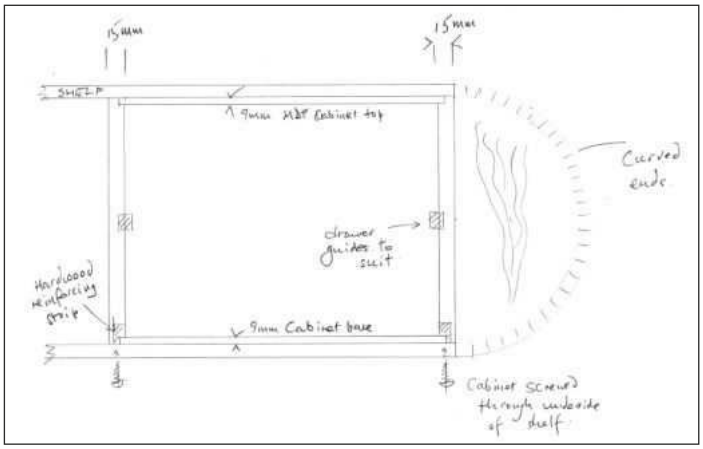


Fig.1 Outline drawing of lower drawers – upper drawers similar

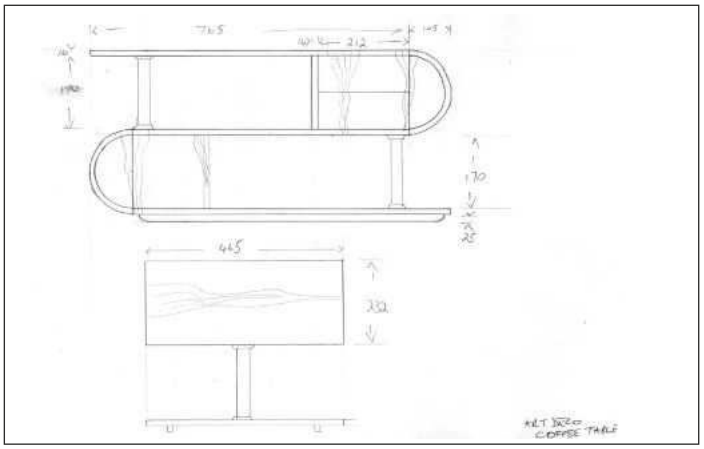


Fig.2 General dimensions also showing veneer flowing down through drawer fronts

1 Make one accurate template using MDF

2 Use the template to make six accurate formers for the mould

and I managed to find some priced at £2 each. This method resulted in an extremely strong rigid curve that was perfect for the coffee table.

Making a start

Initially I thought it would be useful to make the mould the length of the table top as it would make the joining of the curve to the flats easier, but in retrospect this proved unnecessary. The mould box that is required need only be about 300mm in depth and this saves a considerable amount of expense and hassle. I used a router fitted with a trammel bar, or suitable jig such as the Trend N-Compass, to cut a semi-circle at the end of a piece of MDF cut to a radius that is 5mm less than that of the radius of the inside curve for this table (**photo 1**). Next, I cut six pieces of 12mm MDF to 170mm wide and used the template to curve their ends, with a bearing-guided trimmer and some double-sided tape to secure the template in place (**photo 2**). One of the formers requires 4mm to be removed (**photo 3**) in order that 9mm MDF can be secured in place to leave a 5mm recess on the curves. Although the photo shows a larger cut, I found that the mould I initially made was way over-engineered. The next step is to glue the 9mm MDF panel and screw it to the six formers, taking particular care that everything is square on assembly. Butting the assembly up against a straightedge ensures this. I spaced all the components equally to ensure the mould worked well when it finally came to being used (**photo 4**).

A piece of bendy ply was then cut to fit around the curves and this was glued in place over the curve, so it finished level with the flat surfaces. Using another piece of ply over the curve as the glue dries acts as a softener as the straps are pulled tight (**photo 5**). It is better to wrap the straps over the underlying formers where the maximum strength is.

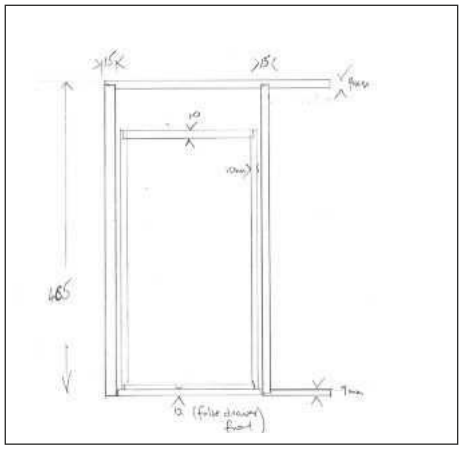


Fig.3 Top view of drawer assembly – both sets of similar construction

3 Cut the formers as shown in the photo

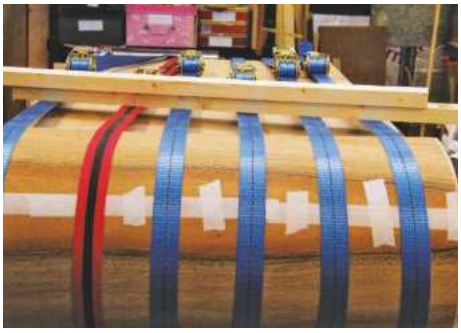
4 Space the formers evenly

5 The straps are pulled tight evenly

6 The first stage can be seen on top of the mould

7 Experiment with the veneers to make a feature of the grain

8 The edges are sanded square using a sanding stick



9 The taped outer veneer is a feature on this curve

Making the curve

Making the curve is quite challenging in that once the adhesive has been spread, you have little time to strap everything down. However, a dry run will ensure the straps are set to the correct length and facing the right way. On this project, both the inside and outside faces were veneered and this is easier laid while the bendy ply is flat. The inside face is a plain mahogany while the outer piece is a figured English walnut, which is cut in such a way that it will make a visually attractive join with the table top surfaces. I took two pieces of bendy ply and spread an even, generous amount of PVA onto one surface before wrapping both pieces around the mould. You can place a third piece across to act as a softener, which helps to spread the pressure. The straps need to be pulled tight, applying an even pressure across the width of the mould before being put aside to dry overnight (**photo 6**). You don't need to worry about the curve being uneven along the length as this will all be trued at a later stage. Before laying the veneer on the outer curve, I had to put a little thought into the final result as the outer exposed curves are a feature of the table (**photo 7**).

Joining the veneers

Joining veneers together to give a seamless join is not difficult. I use the following method and it works well. Begin by cutting the two pieces where required with a sharp knife and a straightedge. I had two pieces of timber that were planed flat and square specifically for this purpose and these were used to sandwich the veneer with. I left an overhang of about 1mm and made sure that both timbers were level along the front face (**photo 8**). I used a sanding stick to smooth the edge of the veneer square and flush with the timber, then joined the veneers using veneer tape before laying them on a piece of bendy ply. When this has dried, adhesive can be spread on the ply and this folded around the previously made curve (**photo 9**), then the straps tightened evenly. It is important that the top and lower edges are pressed flat and to achieve this I used a couple of pieces of timber squeezed between some cramps (**photo 10**).

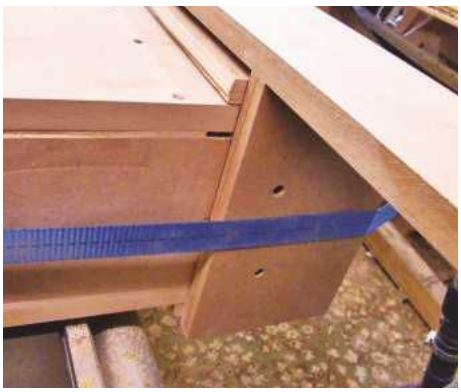
Trimming everything square

When the adhesive has dried you are left with two veneered curves that wobble about on the bench – these require a fair amount of truing. The following method works well. Take one of the curves and push this in place onto the mould and run a pencil line around the inside curve at both ends. Remove the curve and saw away the excess, cutting on the waste side of the pencil line (**photo 11**). Secure the curve onto the mould and hold in place with a ratchet strap. Sand the plywood level (**photo 12**) with the mould using a scrap piece of MDF onto which is glued some abrasive paper using a spray-on contact adhesive. This next stage requires a little careful marking out. Use a square to draw a line perpendicularly with the base of the mould that marks out the diameter of the curve on the side of the mould. Repeat this on the other end. Screw a straight piece of MDF along this line and repeat on the other end (**photo 13**) and use a ratchet strap to tighten the curve onto the mould. Both these timbers should be of equal length and correspond with each other. The photo explains this much better than words! Note that the curve is secured firmly in place with a ratchet strap

10 Note the timbers cramped to press the plywood flat

11 Saw on the waste side of the pencil line

12 Sand the plywood level with the edge of the mould



13 Note the ratchet strap goes around the mould

14 The MDF guide is level with the edge of the upright timbers

15 Use a bearing-guided trimmer to level the edge

around the sides of the mould. Screw a suitable straight piece of MDF along the front edge of both perpendicular timbers (**photo 14**) and ensure this is held firmly in place. Repeat this on the other side of the mould. Fit a bearing-guided trimmer to a router and set the depth of cut so the cutter just touches the floor of the mould when the router sits on the MDF guide previously fitted (**photo 15**). Use the router to trim the edge of the curve level with the guide and repeat this on the other side of the mould. The end result should be a curve that sits level on a flat surface (**photo 16**). Repeat with the second curve ensuring this is pulled firmly into the mould and held securely. Take several shallow cuts rather than eating into the plywood in one go. Both curves should then sit flat (**photo 17**).

The next step

The edges of the curves need to be decorated with small wedges of veneer cut to radiate around the perimeter of the curve (**photo 18**). These are cut slightly oversize and superglued in place. When the curve is completed, sand the inner and outer edges level, sanding along the grain to avoid scratches across the curves. Repeat this for the remaining three ends and when completed, put these carefully aside to avoid damaging them.

Making the three shelves

Rather than an exact step-by-step account of how to make the next stages, I thought it would be a good idea to outline some points that would be useful. Both the lower and upper shelves are identical in dimension while the middle shelf is shorter in length by the diameter of the curved ends. All three shelves are made from 15mm MDF, which, after being veneered on both faces, will match the edge of the curve. Both the top and lower shelves are rounded at the ends to make the design flow smoothly through the curves while the middle shelf is left square at the ends to join neatly with the curves. Lay the veneers so the joins complement the top of the curves where they meet. A point worth mentioning is in the choice of veneers. I was fortunate to be in possession of some striking English walnut but not quite enough of it. Ideally the veneer pieces should be 900mm in length; this will allow the centre 470mm length to be glued to the shelf and leave 215mm on each end to flow down through the shelf edges, on through the drawer fronts and through the next shelf edge on one side and repeated in a similar way through the opposite faces. I overcame the shortage by joining offcuts together to flow through the drawers where it is less noticeable. After gluing the main shelf veneers in place, lay a balancing mahogany veneer on the underside. When this has dried use the two remnants either end of the 470mm piece to glue on the edges of the shelf, taking care to match the grain as it flows through (**photo 19**). Another point worth mentioning is to use plain mahogany or similar where the drawer housing cabinets will fit, which will avoid wasting the decorative walnut.

Making the cabinet

The cabinet itself, in comparison, is quite straightforward to make. As previously mentioned, the rest of the table was split into three shelves and two cabinets that housed the drawers. Both cabinets are identical to each other apart from there being a handed pair. Both sides

16 The curve should sit level on a flat surface

17 A satisfying result!

18 Small wedges of veneer are glued around the perimeter

19 Cut the veneer carefully so it flows through the edges

20 Several dry runs later to make sure everything fits together

21 Fit the spring-loaded drawer openers before the top is glued in place

22 Gluing the curve onto the end of the drawer housing cabinet

23 When gluing the shelf in place use a batten to keep the shelf flat with the curve

24 The individual components ready for finish sanding and varnishing

25 The N-Compass jig is made for this part of the job

26 Aim for a push fit of the column into the base and top pieces

27 The completed Art Deco coffee table in situ

are made using 15mm MDF and the rear face is made from 9mm MDF. These are joined together using rebates cut into the inside face of the rear panel. The base and lid are also made from 9mm MDF and these sit into suitable rebates cut along the top and lower edges of the sides. Note that both the lower and upper lid are set back by 20mm from the front edges to allow the drawer fronts to recess into an opening. The rear piece is curved where it overhangs the box side to match the interior radius of the curved end piece (**photo 20**) and a corresponding semi-circle fits onto the front edge to fit neatly into the curve. I found it useful to glue a piece of hardwood along the lower edges of both side pieces to provide a better fixing for the screws when the cabinet is fixed to the shelves. Before the final assembly of this stage, remember to cut the rebates into which are glued the drawer guides ensuring they remain parallel with the side lower edges. Before gluing anything, try a dry run and secure everything together with masking tape. If all fits satisfactorily, take the individual components apart and veneer the sides opposite the curve and the front vertical edges. Ideally the vertical edge uses the appropriate part from the veneer that flows down from the shelf top. Careful cutting and no throwing away keeps your mind focused on this project!

Making the drawers

Before the lid is finally glued in place it is advisable to make the drawers less the false drawer front. These are made from maple to complement the dark walnut veneers used on the table. Cut rebates along the front and rear vertical edges to make a more secure butt joint on the drawer corners and cut a rebate along the lower edges, into which is fitted the drawer base. Something I do to make a neater end result is to cut the rebates for the base about 1mm deeper than required; I then cover the drawer base with baize up to the edges before gluing this into the drawer. This makes for a really neat join between the drawer sides and base with the excess baize pinched between the timbers. The drawers are opened and closed simply by pushing the drawer in by 2mm or so and the spring-loaded catch pushes the drawer out. To close the drawers, simply push the drawer in fully and the catch automatically resets itself. It's a fantastic way to avoid drawer handles and keep the lines of this table clean and simple (**photo 21**). When satisfied that all goes together as it should, you can then glue the top panel in place.

Assembling the shelf

The next step involves gluing the respective curves onto the cabinets. A dry run is obviously helpful and once this has been tried successfully, spread a little adhesive onto the curved edges of the cabinet and secure the curve in place with a ratchet strap at each end (**photo 22**). Wipe away any squeezed out adhesive with a damp cloth. Glue the top shelf in place with adhesive spread over the cabinet lid top, and use clamps to hold the shelf down while a helper pulls the shelf towards the top edge of the curve. Clamp a straight batten of timber rubbed with candle wax over the join to keep both of the pieces level with each other (**photo 23**), then repeat this process with the middle shelf on the other cabinet. Two lengths of timber screw onto the underside of the lower shelf like skis to raise the table 25mm off the floor, which helps protect the veneered edges if it is moved along.

Finishing off

The false drawer front is made from walnut timber. This has to be veneered in such a way that the grain flows on through as a continuation of both the top and middle shelves, which are trimmed to be a sliding fit into the cabinet openings. These need to be finished before they are finally fitted in place on the drawers. I opted for a matt polyurethane varnish as a finish for this project as I thought a shellac French polish would have been ideal aesthetically but not practically. Varnishing is best carried out as separate components (**photo 24**) after smoothing down with fine abrasive papers. Use a vacuum cleaner to remove the dust before applying the first thinned coat of varnish. Allow this to dry before de-nibbing and applying a second coat. The final assembly consists of screwing the middle shelf into the underside of the top cabinet side walls, and the lower shelf is secured in a similar way. Make two pillars to support the weight of the shelves, particularly the one with the cabinet directly above it. The pillar itself is a piece of waste pipe from a sink wrapped in veneer adhered with a spray on contact adhesive. Both ends fit into a suitable circle of walnut, which needs to be cut with a router (**photo 25**).The Trend N-Compass really comes into its own for this sort of part and the central hole is used to put a screw through and into the shelf (**photo 26**). Ensure it is located centrally. It is not necessary to screw the top part in as the weight is all downwards and the pillar is in compression. When all is dry, finish the project with a dark wax and buff to a soft sheen. **WW**

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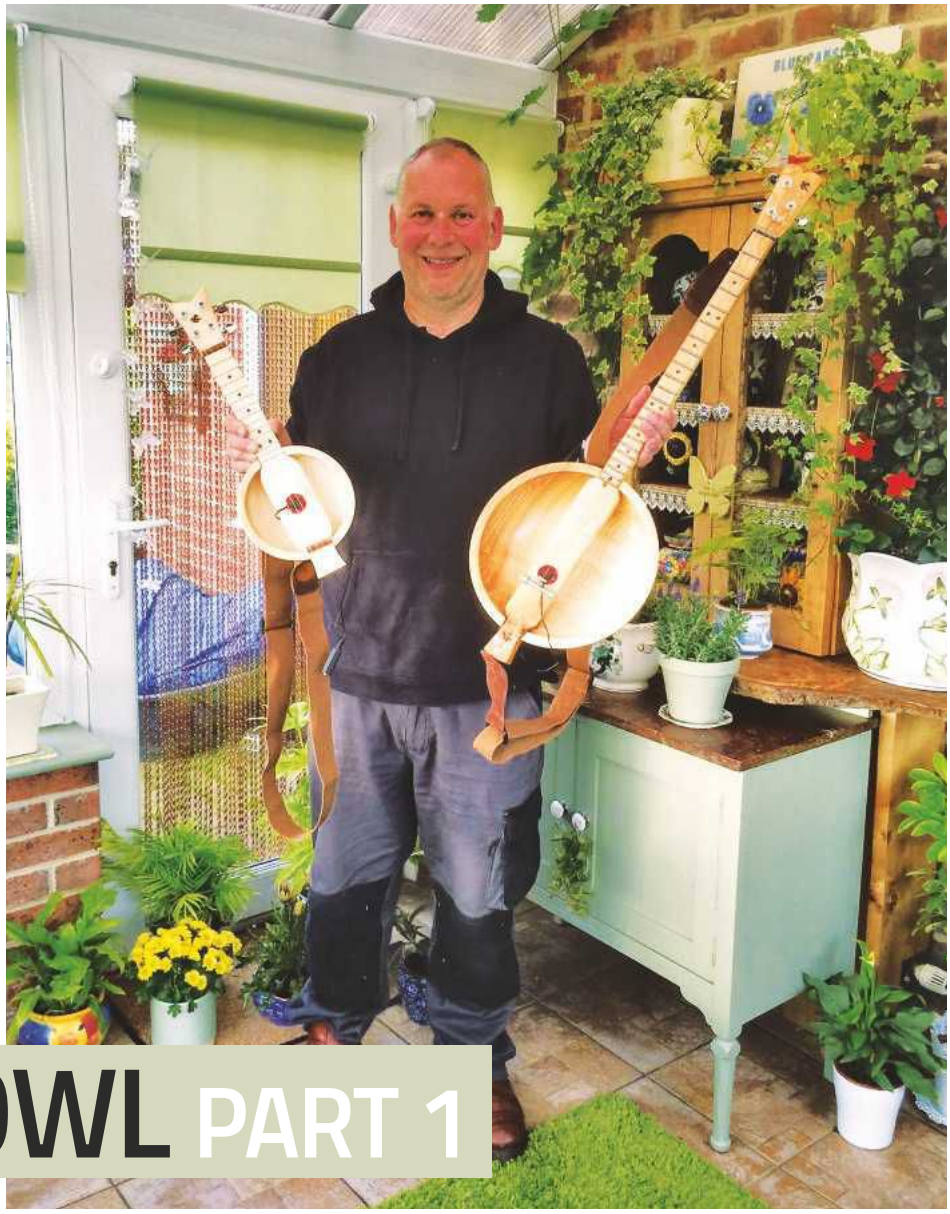


BLUES BOWL PART 1

In the first of this two-part instrument build, **Andrew Hall** begins by turning the bowl element of his 'Blues bowl'

I often get asked as to how I came up with the idea of creating the 'Blues bowl'. A good few years ago, on my 40th birthday, my wife bought me a guitar, and years before that I had tried to play but never had any lessons, so I started learning the guitar and then had an accident on the lathe. It was my own fault: I rushed to get a piece of work finished and in the process I managed to trap the third finger on my left-hand in between the toolrest and a hollowing tool. The hollowing tool won and split my finger. It took at least nine months to heal properly and to this day I cannot press a string down with that particular digit without experiencing some discomfort. Then, on New Year's Eve 2015, I was watching Jools Holland on TV and a musician came on called Seasick Steve, who played a guitar with three strings and a slide on his third finger. As I have always liked Blues music – early Rolling Stones, Chris Rea, and Mark Knoffler, to name a few who are always playing in the workshop – I thought about making a bowl with a neck, all of which would be turned on the lathe, with the components then joined together to make an instrument. That was it – I was inspired. It was in March 2016 that I made my first Blues bowl. The small Blues bowl to the left of the photo above is the core from the centre of the bowl. I tune the four strings in the Ukulele tuning and call it a 'Bowlkulele'.

Online research

I did the usual online research and couldn't find any reference to a Blues bowl being made, although I did find instruments made using gourds, loads of information on the cigar box guitar, as well as Tobias Kay's sounding bowls. My thoughts then were that this would be an interesting project to demonstrate and the turning part was fairly simple, as well as presenting an ideal use for the basic woodturning tools.

Tools required

The tools I used here include the new range available from Crown Hand Tools. These all have an M42 razor edge, which gave me the opportunity to try the spindle roughing gouge, bowl gouge, parting tool, spindle gouge and the skew chisel. I was very impressed with all the tools, which do keep their edge for a long time. I completed the whole project without having to sharpen, but when I did need to, I sharpened the skew using James Barry's diamond daggers from Trend, which performed brilliantly.

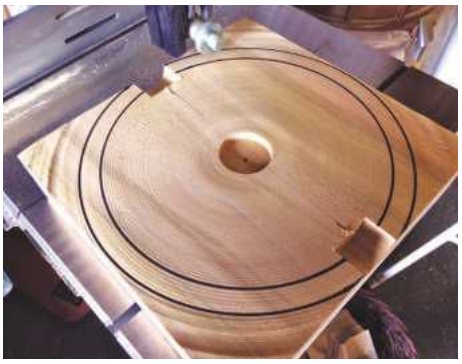
Timber choices

I made this particular Blues bowl from tulipwood. I've been experimenting with different timbers and wall thicknesses, and to date I have made about 20 different Blues bowls from sycamore, ash, cherry, oak, burr elm, horse chestnut and the tulipwood one shown here. I am planning to make one from yew, but for that project I will have to be masked and gowned up, as well as having to wear gloves and barrier cream as I have a terrible reaction to yew. My nose pulsates for days after and sometimes I get a rash, so always be careful when turning this timber. I have a friend who has the same reaction to oak. **WW**

1 For the body, start with two pieces of material measuring 300 × 300 × 75mm

2 Next, find the centre of the square section, and put a screw in each corner to hold the pieces together for drilling, or hold them with hand cramps. Don't use quick cramps as they are not strong enough and can move when you start to drill the neck holes, which are 38mm diameter for a three string and 42mm for a four string. Here you can see the material being drilled with a sawtooth or Forstner bit in a pillar drill, as well as the cramp method of holding

3 You can then take the material to the bandsaw and cut the blanks to a round. You can cut both together if screwed at the corners, or separately if you choose to use the cramp method



4 The next step is to find the centre. You must be very precise as if the centre is slightly out, the neck will look twisted. Drill a hole 50mm or 55mm, which will be held in the jaws of the chuck for turning. I prefer this to the faceplate method as it is more accurate. Here you can see the blanks once cut…

5 … and if you wish to turn two bowls at once to create the outer shape shown in the inset here, you'll need to make a bung

6 When I turned the outside of the bowl, the tulipwood blank I used revealed a star shake, so I filled the cracks in with black car body filler mixed with brass filings

7 Turn and shape the outer section of the bowl and cut a 95mm diameter spigot that is 5mm deep. I use this spigot size as it allows me to core the blank and save this in order to make a Bowlkulele. Cut your spigot to match the size of your chuck

8 Here you can see the sanding process required. I am using the Simon Hope arbor in a cordless drill, and work from 80, to 120, to 180, then 240 and 320, before finishing at 400 grit. Safety equipment such as extractors, a good quality face mask and a brush to dust off the residue in between grits will prevent scratching from the particles left from the previous abrasive grade

9 I use the Woodcut bowl saving system to core my blanks. If you haven't got a system, then turn the centre of the blank out as a normal bowl

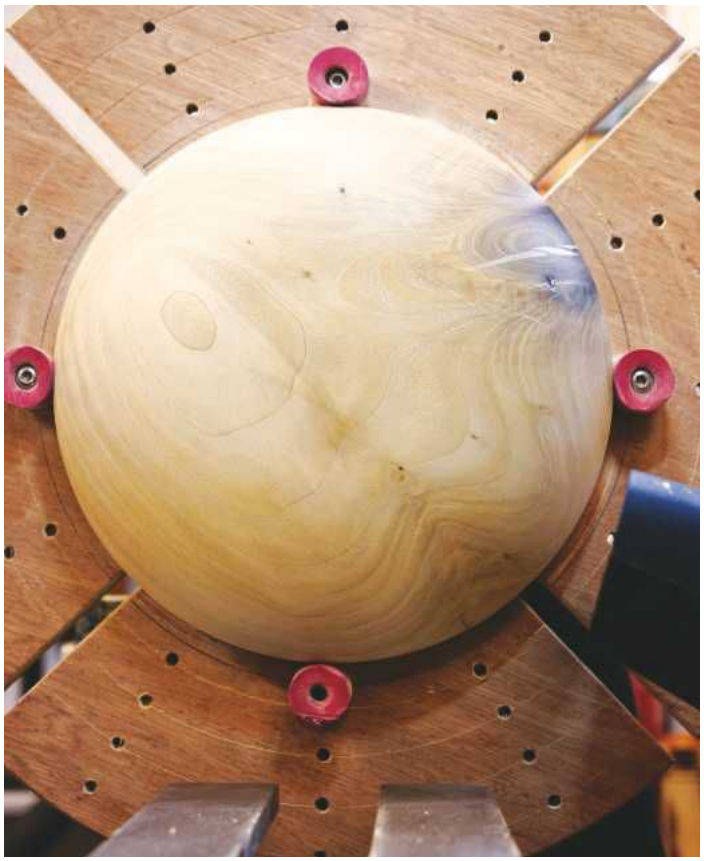
10 I use scissor callipers to check the wall thickness

11 Turn the centre of the bowl out. I used the 12mm M42 razor edge bowl gouge to remove the bulk. This tool is ground with a long swept-back grind

12 Check the wall thickness and turn to 15mm, which should be consistent throughout the bowl body. To make the final cut, which is always the most important, I used a freshly ground 16mm bowl gouge, which allows me to get a lovely clean, flowing cut as the edge is a very short, traditional grind

13 Sand through to 400 grit as previously…

14 … then check the wall thickness is a constant 15mm. Turn and sand the spigot off so that the curve flows nicely to the centre



15 If you prefer, you could use a jam chuck to remove the spigot. I make my jam chucks using laminated plywood. Keep the revolving centre in the middle of the spigot until you are left with a 12mm dowel, then carve this off. Sand through to 400 grit ready for polishing. Note: I don't use sanding sealer as I use either the Beall or Chestnut buffing system. That's the turning part of the body complete, now to make the neck

16 Take a piece of stock measuring 950mm long × 75mm × 75mm. Find the centre…

17 … and then place it between centres. I use Steb centres, which are available from Robert Sorby, so that if required, I can remove and replace the stock between centres easily and accurately

18 Mark out the head and tail square section using a square and face side/face edge mark to accurately delineate the section

19 I use the 10mm bowl gouge to cut the pommels on the head and tail

20 Turn the remainder of the neck from square to round using the skew chisel. If you prefer, you could use a spindle roughing gouge instead

21 The final cut on the cylinder is made using a skew with the toolrest positioned 6mm above the centre. Use the lower third of the skew blade to create a lovely smooth, planed surface

22 Using a set of bow callipers, check the diameter of the section where the tail and neck of the bowl fit: three string is 38mm and four string is 42mm

24 Using the skew or spindle gouge, turn a half bead 25mm along the material to the 15mm dentil

23 Using a parting tool, turn down the diameter for the neck size to 38/42 × 15mm dentil. For those of you who are new to turning, I always recommend stopping the lathe and checking the diameter. If you hold the callipers and turn at the same time, make sure the callipers are rounded over and not pointed. New callipers are always pointed, so grind them round and hold them at the rear of the turning, so if they do catch, they spring away rather than towards you

25 Mark the width of the bowl and then create another dentil and 25mm bead that are the same as the tail end of the neck, using the skew or spindle gouge

NEXT MONTH

That's the turning all completed. In part 2, Andrew will describe how he takes the project from a bowl and spindle to a musical instrument, as shown above

26 Check the bowl fits nicely and neatly to the 38 or 42mm diameter

27 Turn a series of dentils every 100mm and turn down to the finished diameter, maintaining stability using a centre steady

28 Sand and finish the neck to 400 grit, as described previously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Andrew Hall


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A saw to build a saw bench:
PART 1 – THE SAW

In part 1 of building a sturdy saw bench, **Robin Gates** finds himself restoring the saw that inspired it, constructing a Heath Robinson saw clamp, gluing rosewoods, and making a 'baby's tooth'

Do you suffer from 'woodworker's block?' When I'm staring at an empty bench, stuck for what to make, picking up wood and putting it down, my standby remedy is to return to the tools. An idea invariably crystallises while I'm honing a chisel or fettling a plane. Just setting the hands to work in a familiar way is enough to kick-start the creative process. That's what happened when I re-discovered this old saw last autumn. I'd dismantled it for restoration a year earlier, then abandoned it for some reason lost in the mists of domestic routine – interrupted by an urgent sortie to the shops, most likely, or some earnest local politician leaning on our doorbell. Anyway, no sooner had I resumed rubbing away the rust with a sheet of silicon carbide (**photo 3**) and a dash of three-in-one oil than the die was cast: build a saw bench!

For too long I'd been making do with sawing on old crates and rickety chairs, with my saw kerfs wandering like country roads as a consequence. Surely it's enough to grip the work and follow the line through drifts of accumulating sawdust without also having to stabilise the tottering platform I'm leaning on. Yes, the day of the saw bench had arrived, but restoring the saw would come first because I was determined it would have a hand in building the bench. That seemed only fair. It was a warm day in early September when I found my inspirational saw. The schools had gone back, the only visitors in town seemed to have arrived by mistake, and I was taking the long way home from the supermarket passing a favourite antiques shop or two. You take your life in your hands entering some of these establishments, where floorboards creak like trap doors to the underworld, and stock is piled so precariously you risk setting off an avalanche of stuffed birds and crockery if you so much as sneeze. When encumbered by shopping bags I dare not go in, and resign myself to looking in windows.

The E-Type saw

And doorways, because that's where my gaze locked onto this sleek and curvy tool, the E-Type Jaguar of 1960s hand saws. It was languishing among rusty garden forks and trowels in an old fire bucket, like a fallen idol. Suddenly the shopping bags were of no consequence, as my hand went instinctively to my wallet. A £10 note changed hands, and I raced home with a Spear & Jackson 22in 10 points panel saw slotted among the various groceries.

It is, I should add, the Double Century model made to celebrate S&J's bicentenary, and I'd 'had my eye in' for one of these rosewood-handled beauties since refurbishing a Double Century tenon saw some months earlier. The streamlined, foxy-looking handle on this saw marked a bold departure from its more decorative ancestors, and is less popular with old saw aficionados as a result, but I love its smooth simplicity and – more importantly – the way it feels. S&J said the design had been based on 'an opinion poll of experienced joiners', and for them it seems ergonomics had counted

2 A sharp saw and a solid bench make cross-cutting a pleasure

3 Removing rust with silicon carbide abrasive and oil

4 The saw clamp of oak battens and G-cramps anchored by crook holdfasts

1 The restored S&J panel saw and its first project, the sturdy saw bench

for more than the twiddly ornamentation of tradition. Balance, I read, was achieved by placing the handle to deliver thrust half way along the toothed edge, which I put to the test using a straightedge perpendicular to the mid-point of the handle. Sure enough, one edge crossed the other at precisely 11 inches.

This launch model, costing three guineas in 1960 (equivalent to £63 today), was soon joined by 24 and 26in 7 points models, more typical of the cross-cutting hand saw's specifications. But the 10 points panel saw with its shorter blade and smaller teeth is, to my way of thinking, a handier tool – more manageable and capable of finer cuts. You can use this saw to cut larger joints,

5 Using a sliding bevel as a guide to the angle of the file

6 Filed teeth catch the light

7 Polishing the blade with Autosol and a rolled leather strap

8 First cut with the sharpened blade without its handle

9 Using the card scraper single-handed on the rosewood handle

10 Reaching the handle's cut-out with a hollow scraper

11 A single application of the wax-oil mixture

12 Cleaning the saw nuts and Double Century insignia

and rip with it too, albeit slower than with a proper rip saw. If there's room for only one hand saw in the tool bag, this is a good all-rounder.

Picking up the pieces of the dismantled saw reminded me of the problems that had contributed to its long hibernation in the shed. Firstly, it was as blunt as a butter knife, and the need for a saw clamp to sharpen a blade of this length had me scuppered. Secondly, the handle's top horn, that back-swept curl of timber nestling between forefinger and thumb, was a splintery stump. Had it been a plain beechwood handle I'd have tackled the repair sooner, but this handle was of exotic (and, these days, endangered) Brazilian rosewood. That said, the teeth were all present, the blade was straight, and the mechanics of the handle were essentially sound, with slotted saw nuts seemingly never turned since new. Many a brass saw nut bears the twisted grin of a slipped screwdriver; I've mangled a few myself.

Cramps & battens

Now I had a project in mind, the saw's earlier problems evaporated like morning dew. Who needs a proper saw clamp when G-cramps and oak battens are to hand (**photo 4**)? My improvised set-up was a decidedly Heath Robinson affair, levelled on wedges and anchored by crook holdfasts, but it did the trick. I already had a couple of Stubbs' triangular saw files, and since the teeth appeared level I decided to skip jointing, so all I needed was a good light.

One advantage of my small workbench is that I can move it single-handed. Sometimes it works best against a wall, other times in the middle of the shed, allowing access from all sides. For this job I parked it perpendicular to a window where oblique daylight would catch the shiny surfaces of teeth as they were filed (**photo 6**), bookmarking my place along the edge. The scatter of swarf along the saw clamp is another indicator of progress, so long as it remains undisturbed.

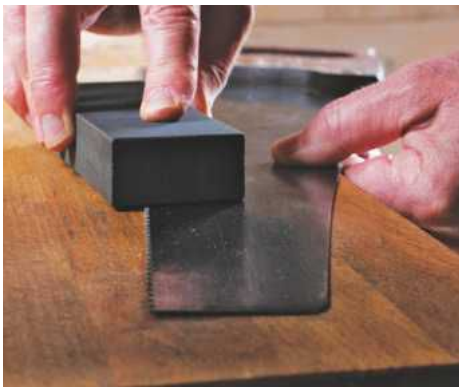
The S&J catalogue described this saw's teeth as 'hard and as tough as the practical limitations of setting and sharpening permit', and they do feel harder than some older teeth I've tackled. They certainly don't sing too sweetly under the saw file, producing a screech like fingernails on an old school blackboard; anyone walking by the shed that afternoon may have wondered what torture was being inflicted within.

For advice on filing, I turned to S&J's booklet *Concerning Handsaws*, published in the 1950s. Summarising, for a cross-cut saw, this says to file at an angle of between 65 and 75° to the blade, working simultaneously on the front edge of the tooth set towards you and the back edge of the tooth set away. A bevel gauge on the bench helped me to eyeball the angle. Skipping a gullet, you move to the next tooth but one, completing the job by filing the 'skipped' teeth from the

13 The blade has a mysterious fifth hole

14 Setting teeth with the Eclipse 77 saw set

15 Close-up on the plunger and anvil set at 10



16 A light pass of the set teeth with an oil stone

17 Cross-cutting Norway spruce for the saw bench

18 The last detail of restoration was the damaged horn

19 Making a stop cut with the hacksaw

opposite side of the blade. 'Two or three slow steady strokes with the file' per tooth are recommended, if your ears can stand it.

Finishing with a dab of Autosol metal polish rubbed on with a rolled-up leather belt (**photo 7**), I was impatient to see how the blade performed, and tried it – as yet, without the handle (**photo 8**) – on a ¾in ramin board. It sliced through the timber every bit as sweetly as I'd hoped, with the only real deficiency being in my choice of make-do saw bench, a somewhat unsteady tool box – but I'd be addressing that need shortly.

The handle bore patchy remains of a lacquer finish, which I worked back to bare timber using card scrapers (**photo 9**) before rubbing in a light coat of my lemon-scented beeswax and liquid paraffin wax-oil to enhance the grain (**photo 10**). This oil-rich rosewood needs nothing more. But the horn repair would have to wait because (a) I had no suitable timber for it, and (b) I had a saw bench to build.

A mysterious hole

There was a surprise in store before I refitted the handle – in fact more of a mystery. I'd been handling the pieces of this saw daily, scrutinising every detail, yet only as I was polishing the saw nuts (**photo 12**) did it strike me there were four of them and five holes in the blade (**photo 13**). Why the extra hole, I wondered. The company's pre-existing panel saws of this length (the Spearior and Sovereign, for example) had five saw nuts, so perhaps the Double Century married the new four-nut handle to one of those older blades.

S&J described this blade as 'taper ground', meaning the plate thins from cutting edge to back so as to run freely with less set on the teeth. Out of interest, I measured the tapering with a micrometer, and it's very subtle: from 0.035in just above the teeth to 0.030in at the back. Exactly what 'less set' amounted to remained a matter for trial and error.

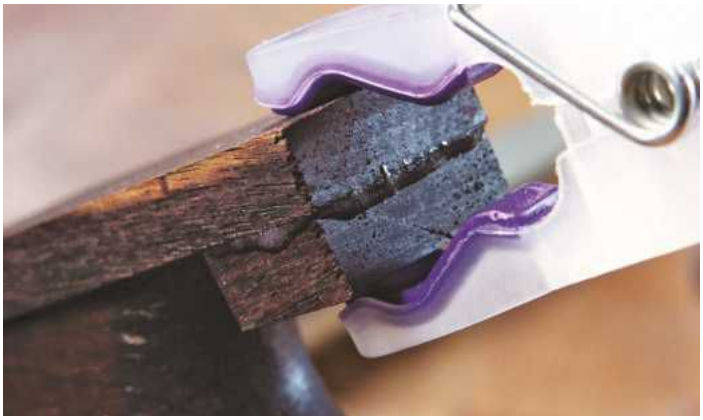
In a trial cut of kiln-dried but resinous Norway spruce (**photo 17**), earmarked for the new saw bench, I found the saw ran less easily than when cutting ramin, a well-seasoned and fine-grained hardwood. On the basis of this experiment, I decided to set the teeth with the anvil of my Eclipse 77 saw set rotated to 10 (**photo 14**), corresponding with the saw's 10 points – following the saw set's instructions. Then, to even out any inequalities in the set of the teeth, I rubbed a medium carborundum stone lightly along each side. After a deal of sawing, I reckon the 10 setting is about right for this kind of softwood, but for future sawing of hardwoods I may turn the anvil back to 9 or 8 and re-set the teeth. According to the micrometer, the lateral distance between points averaged 0.055in when set to 10.

The saw performed flawlessly in building the saw bench – more of which later, because

20 Chiselling a bed to receive the repair piece

21 The Record 102 cuts beautifully across the grain

22 Elastic bands hold the repair while adhesive sets



23 A clothes peg clamped the second piece in place

24 Carving the new piece to marry with the old

when that project was finished, I needed to remove the handle again and repair its broken top horn (**photo 18**). Its splintery end had been clawing my hand like a dog begging for walkies.

Endangered rosewood

I'd been searching high and low for a matching piece of Brazilian rosewood to graft to the saw's handle, but since 1992 this endangered species has been listed in CITES Appendix 1, with stringent restrictions on its trade. I did find some for sale in the UK, presumably imported before 1992, but it was a bit pricey, and had been cut to make knife scales, making it too thin for the saw's chunky top horn, in any case.

Eventually I settled on Indian rosewood as a more eco-friendly and commonly available alternative, finding a close match in a piece recycled from a broken knick-knack box. Although a shade too thin, it was long enough to be sawn and laminated to the required thickness.

The two rosewoods from different continents revealed interesting differences in their personalities as I began working them. Tracing the damage to its furthest extent, I hacksawed a shoulder across the top of the Brazilian rosewood handle, then pared up to it with a chisel to make a flat bed for the graft (**photo 20**). This hard and heavy rosewood curled off the chisel like dark chocolate, smelling deliciously of roses. My dinky Record 102 block plane proved useful here (**photo 21**), being pulled as much as pushed across this narrow surface, and I was able to achieve a satisfyingly close fit for the repair piece in what was essentially an elongated rebate.

Up close, the Indian rosewood revealed a lovely purplish hue to its streaky darkness, and was similarly easy to work, but gave off a nose-twitchingly earthy scent. My first impression was of teak or old leather, but others have described it in less complimentary terms – comparing it to sweat, and burning dung.

Since oily rosewoods resist many everyday woodworking glues, I wiped the mating surfaces with the solvent acetone, to remove oil and improve adhesion, and used standard Araldite, a slow-curing two-part epoxy resin. I clamped the job lightly with elastic bands (**photo 22**), hoisted clear of the sticky areas by lolly sticks. It was a two-stage glue-up, with the second piece being clamped by a clothes peg (**photo 23**).

After 24 hours I chiselled the new timber to blend with the old, using an archived catalogue image as a guide to shape. My Parry & Bott corner vice was a great help in placing the handle exactly where needed (**photo 25**). To my eye the two species seem pretty well matched, and the Araldite glue lines all but disappeared under the scraper.

Baby's tooth

Repaired and restored to work, the only thing this saw lacked was an edge guard to protect its teeth (**photo 32**). I prefer a positive-fitting wooden edge guard over the plastic type, which can be a fiddle to fit and is easily lost. For tenon saws I cut the slot with the saw itself, but that's near impossible with a 22in blade, so I made a mini-version of the router once known as a 'granny's tooth', which I've christened my 'baby's tooth'. This comprises a flat

25 The corner vice is a versatile assistant

oak stock with an adjustable cutter filed to shape from a 12 gauge 2in steel screw (**photo 26**).

For this kind of small-scale metalwork I use another clamp-on table vice, the Record 80 or 'Imp'. It's a solid little workhorse, with 2¼in jaws and a close-fitting square-section slide that virtually eliminates racking. The clamp attaching it to the bench is as rugged as a Record G-cramp, manufactured in one piece with the rear jaw, and ribbed for extra rigidity. This vice also has an anvil tough enough to soak up the hammer blows of riveting, and a bending guide for small diameter pipe or rod, so it's highly versatile.

I began by filing flats on the front and sides of the screw's lower threads (**photo 27**), taking care not to damage the upper threads, which would function for depth adjustment, then squared off

26 Filing a 2in 12 gauge screw to make the 'baby's tooth'

27 Flats are filed on the sides and front

28 A hollow filed above the edge improves performance

29 Honing the edge on a fine diamond slip

30 The stock is a plain oak block

31 The screw thread makes the cutter adjustable for depth

the tip and shaped a back bevel to reduce drag. Experiment suggested a hollow above the cutting edge improved performance (**photo 28**), which I shaped with a jeweller's round file.

I honed the cutting edge on a diamond slip (**photo 29**), finished it on a leather strop, and screwed the cutter into its pilot hole until just proud of the sole. A panel pin acted as a fence in the early stages, positioning the cutter centrally on the edge of the timber.

The first passes were to establish a straight groove, then I progressively lowered the cutter, thread by thread, with the fence pin becoming redundant as the groove took over with guiding the cutter. I stopped at just over 12mm depth, by which point the cutter's leverage on its adjustment threads had made its fit in the stock a bit sloppy. (For another job that would be sorted by boring a new pilot hole). My first groove made with a 0.1in cutter was a tad too loose for the saw, so I made another at 0.075in and that was the Goldilocks size – just right.

To finish, I radiused the ends of the guard with a spokeshave, bored holes for a couple of ties, and stowed my new-old panel saw having already completed its first project – the saw bench. And that's what I'll be describing in part 2, when I cut loose tongue and halved 'T' joints, use joiner's dogs, and concoct a new finish to seal and subdue the bright white timber. **WW**

32 Saw teeth are protected by the new edge guard

33 The sleek and curvy, E-Type Jaguar of 1960s hand saws

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Carsten has been working as a professional woodcarver for over 20 years

CARSTEN NILSSON

A true woodcarving artist

Carsten Nilsson is one of the few professional woodcarvers left in Sweden who is able to provide carpenters, designers, conservators and individuals with quality woodcarving. Every piece he makes is carved by hand in his workshop in Hammenhög, Sweden.

Since 1996, Carsten has worked full-time as a professional woodcarver. His work ranges from the restoration of precious 17th century pieces to modern furniture prototypes for well-known designers, but he is mostly famous for his unique design of mirrors, chandeliers and pepper mills. To be able to create these unique handicrafts, sharp tools are essential.

Carsten says: "When I carve a mirror frame, I use about 30 different carving gouges. To meet my own demands on quality woodcarving, I need tools with perfect edges. You can get sharp tools in many ways, but of all the whetstones and machines I have tried, nothing beats the Tormek for speed and result."

Carsten uses different grinding stones for different purposes so he can get his tools to exactly the right condition, enabling him to focus fully on his creative work.

"I use two Tormek machines: one with the original grindstone and the other with the Japanese waterstone, to get the extra finish on the tools. When I'm in my workshop, I want to concentrate on the woodcarving and my creation, not the tools. And when it's time, I can quickly sharpen a new edge, to achieve a perfect result."

Online following

In addition to having his work displayed in exhibitions around Sweden, Carsten is also very popular on Instagram, where he shares photos and videos of his creations. For example, you can see a fast motion video of how he makes a beautiful pepper mill from scratch, or photos from when he carves all the playing pieces of a Monopoly set from just a piece of wood.

If you want to learn more about Carsten, watch the video from Tormek's visit to his workshop, available at **www.tormek.com**. You can also see more of his work at **www.carstennilsson.se**, or on his Instagram page: **@woodcarver.carsten.nilsson**.

Carsten's workshop in Sweden

A hand-carved mirror frame

Carsten's popular pepper mills

"When I carve a mirror frame, I use about 30 different carving gouges"

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A sudden start

It could have been a new-fangled mousetrap; we look at the making of this fun gadget from *The Woodworker* of March 1968

Reading through back issues of our favourite magazine is always a pleasure, and half of the fun for me is noting the variety of timber-based solutions for many tasks and problems that might be considered unlikely at best. One such hand-wrought solution is this wooden starting gun, featured in *The Woodworker* of March 1968, and probably a popular item back in its school days. As a joint production by the combined wood and metal shops, it does the heart good to see this kind of inter-departmental cooperation, much better than the rivalry that often occurs. While some departments seem like natural antagonists (fill in your own examples here), I'd like to think that there would have been a fair bit of workshop cooperation back in the day, even though the current chances of such a thing are very slim outside of Further Education these days.

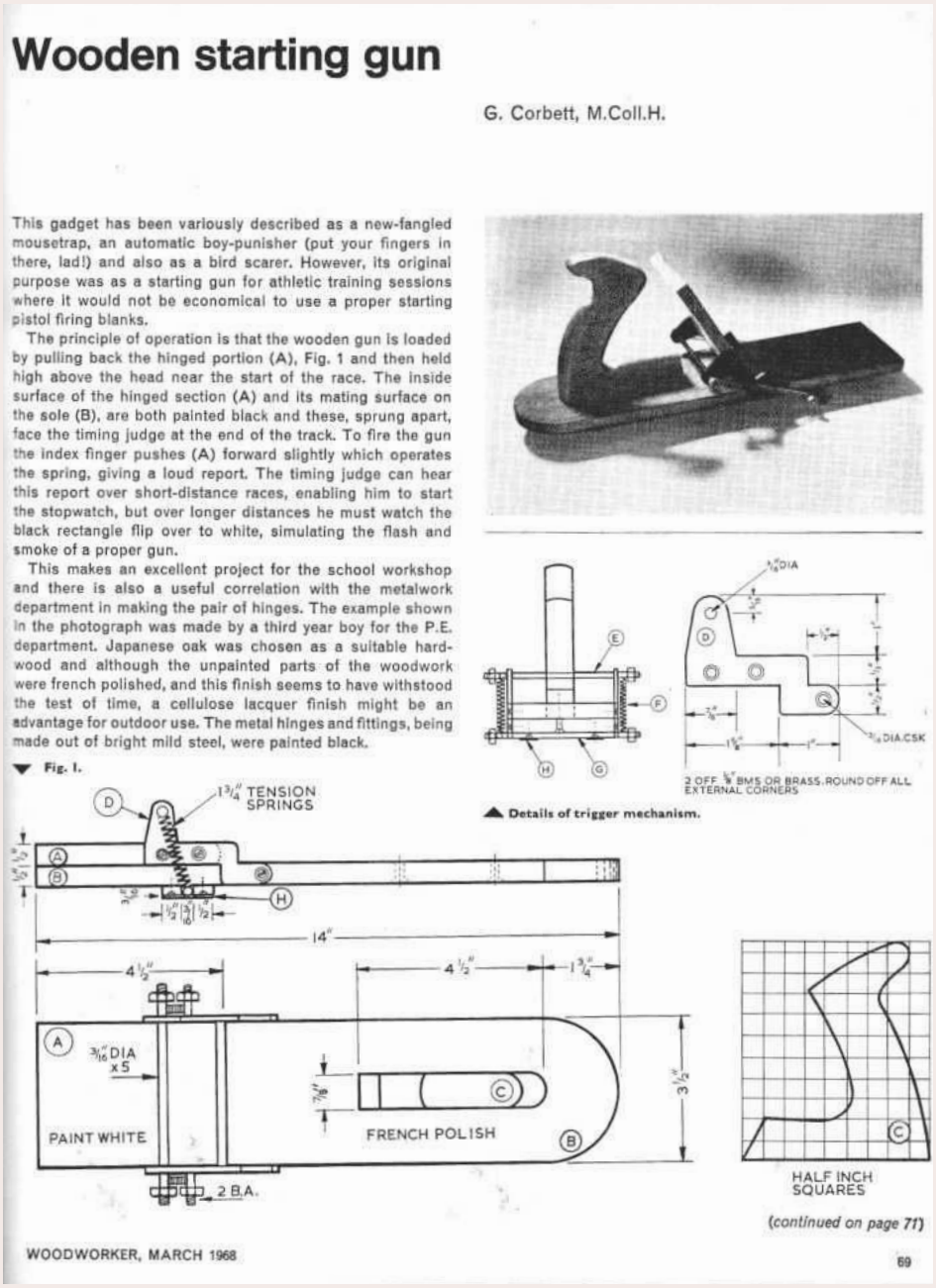
Pull the trigger

Anything that makes a sudden loud noise is always going to be a hit with many, and if it's even remotely gun-like then the average young person (and mostly boys) is going to want to have a go. To my mind, this job would have been greatly improved by the addition of a trigger, but, having had some recent personal experience of this sort of thing (the torpedo-firing submarine for example), I can see why it was left out – it's very tricky to pull off and probably best left to a gunsmith.

Design & visuals

As well as admiring a tidy job well turned out, I have to commend the design, which takes into account the speed of sound and its inevitable lag over distance. The visual element, showing black change to white and thus emulating the flash and smoke of a real starting gun, is a neat addition and must have greatly enhanced the usefulness of this device out on the sports track. And funny to read of casual punishment, the sort of thing which might have today's head teachers reaching for the smelling salts, something that was entirely commonplace 50 years ago.

mark



Wooden starting gun

G. Corbett, M.Coll.H.

This gadget has been variously described as a new-fangled mousetrap, an automatic boy-punisher (put your fingers in there, lad!) and also as a bird scarer. However, its original purpose was as a starting gun for athletic training sessions where it would not be economical to use a proper starting pistol firing blanks.

The principle of operation is that the wooden gun is loaded by pulling back the hinged portion (A), Fig. 1 and then held high above the head near the start of the race. The inside surface of the hinged section (A) and its mating surface on the sole (B), are both painted black and these, sprung apart, face the timing judge at the end of the track. To fire the gun the index finger pushes (A) forward slightly which operates the spring, giving a loud report. The timing judge can hear this report over short-distance races, enabling him to start the stopwatch, but over longer distances he must watch the black rectangle flip over to white, simulating the flash and smoke of a proper gun.

This makes an excellent project for the school workshop and there is also a useful correlation with the metalwork department in making the pair of hinges. The example shown in the photograph was made by a third year boy for the P.E. department. Japanese oak was chosen as a suitable hardwood and although the unpainted parts of the woodwork were french polished, and this finish seems to have withstood the test of time, a cellulose lacquer finish might be an advantage for outdoor use. The metal hinges and fittings, being made out of bright mild steel, were painted black.

▼ Fig. 1.

▲ Details of trigger mechanism.

(continued on page 71)

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DO GET IN TOUCH

If any readers have memories and photos of things they or their forebears made from *The Woodworker*, please get in touch as we'd love to see them. Just email me on the usual address: **editor.ww@mytimemedia.com** and we'll get them in the mag

A COLLEGE OUT ON ITS OWN

The only specialist one of its kind in the UK, **Paul Greer** discovers how Leeds College of Building is doing its bit to enrich the woodworking industry

Founded in 1960, Leeds College of Building (LCB) is, surprisingly, the only specialist one of its kind in the UK. Each of its three campuses is an easy walk from the city centre, and a fourth (costing £14 million) is on schedule for completion in 2018.

The College offers a wide range of courses and is inclusive for students of all ages, from 14-16 provision. It works with 20 local schools and 120 students have access to construction courses, through to mature students and operatives who may require upskilling opportunities to retirement age.

Its retention rate for 16-18 year-olds is 87%, and its full-time prospectus features nearly 30 building-related options, from architect to wood machinist, with the choice of an apprenticeship or study route available in most.

Even on Friday (normally a quieter day when many trainees are with their employers), when I was kindly shown round by Derek Whitehead, the Deputy Principal, students were working purposefully and vigorously, quite independent of obvious supervision.

Full, part-time & adult provision

The entire student body numbers about 7,500, including roughly 2,500 apprentices. About two-thirds of them are Leeds-based, with a further 15% from the surrounding area, and a similar percentage from further afield. Occasionally, students come from as far as Cornwall, and for such as them, good accommodation is normally found.

LCB presents options to suit all levels of experience, including those aged 19+ wanting a career change, or to upgrade building trade qualifications they hold. Its OSAT (On Site Assessment and Training) programme lets experienced workers prove their worth by converting their existing skills into a nationally-recognised qualification, which in turn makes them eligible for a Construction Skills Certification Scheme (CSCS) card.

Skills Start is a programme aimed at people attracted to a practical career but lacking the relevant qualifications. It includes a one-day taster leading to a six-week course and Level 1 diploma in one of five areas, which include carpentry and joinery. A wide range of both accredited and non-accredited courses (many lasting only one or two days) are well-suited (though not exclusive) to sole traders and the self-employed.

Apprenticeships aren't age-restricted, but entrants must be employed in the construction (or similar) industry, and the employer needs to contribute to the cost through the new Apprenticeship Reforms. Higher-level and professional courses (up to NVQ 7) are available, too. Many students in the 19-23 age-range don't pay course fees, while those ineligible for financial assistance may find an Advanced Learning Loan helpful; 16-18 are free.

Timber trade specialisms

Bench joinery is the first of these featured in the prospectus, and best-suited to people wanting to be workshop-based, making such as cabinets, doors, stairs and window-frames. Full-time or apprenticeship routes are offered. The apprenticeship route can lead to either the NVQ Level 2 diploma, or the Level 3. Beginning L3 by the study route, though, depends on first gaining L2 in carpentry and joinery.

Carpentry is another major choice, and likely to attract those preferring to work on building sites or in dwellings. Trainees learn how to fit floorboards and partitions, as well as workshop products already mentioned.

One of the College's many spacious workshops

Good drawing skills really make a difference

Students often learn best working together

Furniture-making is workshop-based, and involves turning out such as chairs, tables, bookcases and wardrobes. Students employ a wide range of power and specialist hand tools to achieve intricate shapes or fine finishes when required.

Shopfitting entails making and installing fixtures and fittings in any number of settings, from shops or offices to bars and restaurants. This often proves an ideal choice for people who thrive on variety, and are keen to learn skills equal to any challenge. Shopfitters must be able to follow complex drawings and plans, and to work closely with other tradespeople, such as electricians, plumbers, and tilers.

Wood machining is vital work, to produce in quantity the range of timber items used in the industry. Finished ones may go to DIY stores, builders' merchants, or construction firms. Machinists often start with raw timber, and students undergo meticulous instruction in using woodworking machinery safely. The apprentice route is the only one offered here, the NVQ Level 2 diploma being obtainable in

Assembling a flight of stairs is always one of the trickier jobs

Gloves and goggles reflect the safety-first culture

The workshops are light and generously sized, important considerations for skilled construction

two years, with the Level 3 normally completed in a further 13 months.

In any of the above specialisms, an LCB student keen to follow the apprentice route but lacking an employer can start a study programme and change when they find one.

In recognition of the timber trades areas being among those in the UK with the highest rates of injury, LCB delivers a three-day course entitled 'Safe Use of Woodworking Machines'. Robert Thompson's Craftsman Ltd, was one firm whose staff undertook it, partly because the LCB training machines matched those they use every day. The feedback from participants was noted as being 'extremely positive'

FURTHER INFORMATION

Besides its excellent prospectuses and website, LCB offers five open days between October and May, plus frequent taster days, some for females only. To find out more about the College and courses on offer, see **www.lcb.ac.uk,** email **info@lcb.ac.uk** or call **0113 222 6000**

Links with employers

Local organisations like Leeds City Council and Wakefield District Housing (WDH) and national ones like Highways England, are among the 1,500+ with which LCB has links.

Some of the College's employer projects are very specific. For instance, one with Balfour Beatty, the multinational construction and infrastructure group, involves training some of the firm's most promising quantity surveyors for the Level 5 Higher Apprenticeship in Sustainable Built Environment. All the participants work on major national projects, including Cross Rail in London, and motorway improvements.

English & maths

Whatever their work or study level, students are expected to further their command of English and maths. Those lacking GCSE grades A*-C (new 9-4) in either attend classes aimed at getting them to this standard, whether GCSEs or Functional Skills. Raising literacy and numeracy capabilities is important, not only for the precise calculations essential in such as timber trades, but for the financial competence and customer care so important when dealing with clients, or running a business.

Nearly half of each year's 16-18 intake at LCB have been modest academic achievers, and it is to the College's credit that their pass rates (when including English and maths) are at 85%, and run to 93% without these. The pass rate for the 19+ group is a very impressive 99%.

Support networks

Every student is allocated a personal tutor capable of helping them with academic, personal or financial matters, if required. This may include assistance with applications for work or higher education, or maybe referral to a specialist for such as career guidance. LCB has a team dedicated to providing an Inclusive Learning service (ILS), which amounts to removing or reducing any obstacle to progress. Students have their own Individual Support plan, and the prospectus contains strong statements promoting equality, inclusion, and safeguarding.

International link

LCB has enjoyed a 25-year partnership with a college in Essen, in Germany, involving a wide range of exchange projects, including some employing timber trades. A recent one has been to design a Traditional European House, allowing 20 Leeds students to visit Essen, where their classroom and workshop activities have been complemented by enjoyable social and cultural ones.

Success stories

The College has its own awards programme and ceremony, but it's not unusual for individual students to prove themselves beyond its walls. Becky Munro, an LCB apprentice working for Mott Macdonald, was voted Apprentice of the Year for 2017 at the National Rail Staff Awards held in Coventry. She was also named 'Best Apprentice Under 19' at the BTEC Awards, and 'Best Apprentice Under 25' at the Women in Construction Awards. Becky is currently studying for a Higher Apprenticeship in Sustainable Built Environment in Civil Engineering. No fewer than 58 of the College's students have gained first, second, or third place in recent regional and national competitions. **ww**

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BACK TO BASICS
HOLLOW FORMS

As **Colin Simpson** says, hollow form turning is a popular area of woodturning but knowing where to start can be a bit daunting for the beginner. Here, he breaks down the different types of tools and techniques required as well as explaining the steps you need to take

Turning hollow forms is a popular area of woodturning nowadays and there are a great number of different tools on the market designed to make the task easier. These range from simple scrapers to covered ring tools with adjustable articulated heads like the Hamlet Big Brother, or the Rolly Munro tool. These tools all work well but they are expensive and, if you only want to make one or two hollow forms, then it can be difficult to justify the cost of them. There are cheaper specialist tools available that work very well for smaller forms and, for this project, I am going to use two types: a probe or toothpick cutter and a swan-necked scraper, together with my swept-back bowl gouge.

Different techniques

There are many different ways to create a hollow form and the most challenging is to hollow the piece through a small aperture. In these cases, you cannot see what the tool is doing and have to 'feel' the cut. However, it is perfectly feasible to hollow a piece through a wider hole and then plug the hole with the same or a contrasting wood.

I like to stand in front of the hollow form when I am turning it; this way I can keep my spine straighter and put less strain on my back muscles. If you have a lathe with a swivel headstock, then you can make use of this facility. If the headstock doesn't swivel but does slide along the bed bars, then it might be possible to remove the tailstock and slide the toolrest and headstock to the far right of the lathe and work off the end.

Mounting & shaping

I used a piece of ash: I started with a block 125mm square and 150mm long. It will make the initial turning easier if you cut the corners of the square to make it an octagon. This is easily done on a bandsaw. Start by mounting the blank between centres and convert it to a cylinder using the spindle roughing gouge (**photo 1**).

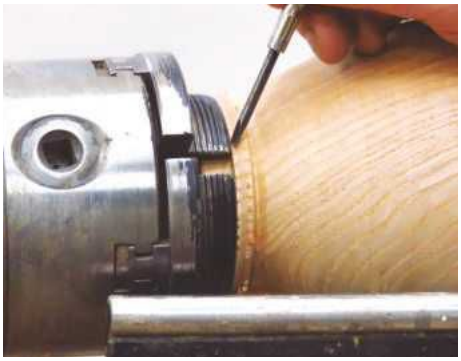
Use a skew chisel on its side or a parting tool to make a spigot at the tailstock end to fit your chuck. This is a peeling cut and should start higher than centre. The cutting edge should move through an arc as the diameter of the wood reduces and the handle should be raised (**photo 2**). Next, use a spindle gouge or swept-back bowl gouge to roughly shape the outside of the form before mounting the piece in the chuck (**photo 3**). Now mount it in your chuck. It is important that there is no gap between the shoulder of the spigot and the top surface of the chuck's jaws (**photo 4**). This gives the strongest hold. The bottom of the hollow form will go into the spigot when the piece is reverse chucked at the end.

Complete the final shaping of the outside at this stage. I used a 10mm spindle gouge.

1 Turn the blank to a cylinder using the spindle roughing gouge

2 Cut a chucking tenon or spigot on one end

3 Start to shape the vase with a spindle gouge



4 Avoid a gap here; it will weaken the hold

5 Complete the shape of the vase and true up the top

6 Drill a hole down the centre of the vase

7 My hollowing tools: a swan-necked scraper and a 'toothpick'

8 Start hollowing by widening the hole using the toothpick

9 When the hole is large enough, use a swept-back gouge on its side

Using the 10mm spindle gouge, clean up the top and cut a shallow 'V' towards the centre (**photo 5**).

Hollowing using specialist tools

The lowest part of this 'V', at the very centre of the piece, helps centre the drill bit and stops it from wandering. I am holding this drill bit in a handle. Keep the drill horizontal and push towards the headstock (**photo 6**). Remove the drill often to release the swarf. If you do not do this there is a danger that the shavings will bind round the drill and wedge it firmly in the hole. If you don't like the idea of drilling by hand, you can put the drill in a Jacobs chuck in the tailstock. Note the piece of masking tape around the shaft of the bit. This is my depth stop. When this reaches the top of the piece, the hole will have just gone into the spigot at the base.

Photo 7 shows the two specialist tools I am going to use on this piece. These are made by Robert Sorby, but other manufacturers make similar tools. The shaft of the tool on the right is semicircular in shape and has an adjustable 'toothpick' type HSS cutter inserted in the holder. In this mode it is used with the flat surface of the semicircle on the toolrest. The toothpick can be replaced with a HSS teardrop scraper bit and this is used with the semicircle on the toolrest to enable shear scraping. The hook or swan-neck tool on the left also has a semicircular shaft. Note that the cutting tip is in line with the main shaft.

Start hollowing using the toothpick cutter to widen the hole. The tool is used in trailing mode – handle held slightly higher than the cutting edge. The actual cutter is small, so very little pivotal force is felt, even when overhanging the toolrest by some way. It is quite efficient at removing wood, but the downside is that the surface finish it leaves is not very good. Start with the cutter inside the drilled hole and widen the hole by swinging the handle to the right, making the cutting tip move to the left (**photo 8**).

The toothpick can be used to remove most of the wood inside the hollow form; however, you can also use a bowl gouge with a swept-back grind. Use it on its side with the flute facing 9 o'clock. The bottom wing does the cutting, acting like a scraper (**photo 9**). I am working on the top third first and I want to get this to the finished thickness while there is still a lot of wood in the bottom two-thirds of the piece. This gives the piece greater stability during the turning.

Shavings will build up quickly inside and it is important to remove these. Compressed air is ideal for this if you have a compressor. If not, use the low-tech method of a straw (**photo 10**). Wear eye protection and do remember to blow!

Photo 11 is a view from above the lathe showing the entry angle of the bowl gouge to cut near the shoulder of the piece. However, I cannot undercut the shoulder enough because the shaft of the gouge is rubbing on the inside wall of the opening. This leaves a thicker wall than I would like, and I use the swan-neck tool to cut away this thick wall (**photo 12**). Note that the toolrest has been moved back to enable the straight part of the shaft to rest on it. This keeps the cutting tip in line with the part of the shaft that is being supported on the rest. If you do not do this

10 It is important to regularly clear the shavings from the inside of the hollow form

11 The gouge cannot reach underneath the shoulder of the vase…

12 … which is where the swan-necked scraper comes into its own

13 Stand upright and keep the tool handle under your forearm

14 Use double-ended callipers to check the wall thickness

15 Use a light source to check progress…

16 … and clean up the inside as necessary

17 The Simon Hope sanding ball – great for sanding inside vessels like this one

18 Double check the depth of the vase and mark the bottom

and allow the curved part of the shaft to sit on the toolrest, the rotational force of the wood will make the tool twist anti-clockwise.

Photo 13 shows my stance when using this tool. I try to keep my spine as straight as possible. Do not be tempted to crouch down to try to peer into the hole while you are cutting – you won't see anything. Try to develop a feel for what the tool is doing. Note I am holding the tool low down on the handle and the rest of the handle is under my forearm. This helps to control the pivotal forces as the tool moves further over the toolrest. I am moving the tool forwards and backwards, taking light cuts from the opening down to the widest part of the hollow form.

Keep checking the progress regularly, using double-ended callipers to gauge the wall thickness (**photo 14**). I am trying to achieve an even wall thickness of about 6-7mm. Having achieved this for the top third of the piece, the same cuts and tools are used on the lower two thirds. It is important to finish the top part first before reducing the wall thickness of the bottom part. If you thin out the bottom part before the top, there will not be enough strength in the piece to allow cuts to be made near the top.

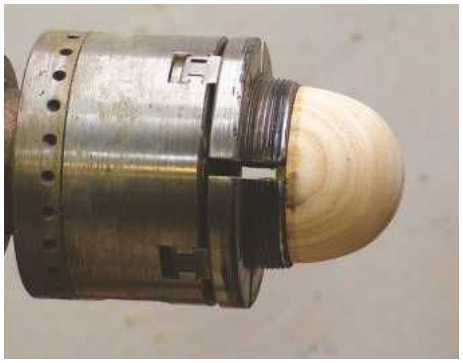
There will be a time when you will want to peer into the void. There are flexible LED lights that can be inserted into the necks of hollow forms, but I find this method (**photo 15**) perfectly satisfactory. Here I am checking that the cuts have gone right to the bottom of the hole I drilled. There was a little roughness on the inside wall, so I took a few light cuts with the scraper in the swan-necked tool (**photo 16**). Again, I can cut from the bottom of the hole up the wall and the other way.

It is not possible to get your fingers inside the hollow form to sand it, so I resorted to a commercially made sanding ball (**photo 17**). It comprises a hard rubber ball with hook-and-loop material stuck to it and screwed to a shaft. I use 50mm diameter sanding discs but make eight or nine cuts round the circumference to enable the disc to wrap round the ball. It is ideal for sanding inside such vessels where your fingers can't reach. Sand the outside down to 600 grit.

Double check the depth of the hollow form – it would be a shame to go through the bottom at this stage – and mark where the bottom of the vase will be (**photo 18**). Remove the piece from the chuck and turn a scrap piece of wood to a cone shape. The smallest part of the cone must be able to fit inside the neck of the vase (**photo 19**). Use some folded paper towel to protect the neck of the vase and place it onto the cone dolly using just enough tailstock pressure to hold it in place (**photo 20**).

Next, use a spindle gouge to make light cuts to complete the shape of the bottom of the vase (**photo 21**) and slightly undercut the base, leaving just a small stub for the revolving centre (**photo 22**). Sand this last bit to blend in with the rest of the vase and polish the whole piece. I used Danish oil.

You can now sand the stub off using a sanding arbor in a Jacobs chuck in the headstock of the lathe (**photo 23**). Finally, I gave the piece a second coat of oil off the lathe – the finished piece can be seen in **photo 24**. **WW**



19 Turn a dome shape to fit the neck of the vase

20 Mount the vase onto the dome and use the tailstock to hold it in place

21 Complete the bottom of the vase…

22 … and turn away the remainder of the chucking point, leaving a small stub

23 Sand the stub away using a sanding arbor in a Jacobs chuck

24 The completed hollow form in ash should look something like this

The Woodworker & Woodturner

Drop us a line on paper or via screen and keyboard to add your voice to the woodworking crowd; you might be one of the lucky few who will manage to get their hands on a coveted *Woodworker* badge! You can write to us at ***The Woodworker,*** **MyTimeMedia Ltd, Suite 25, Eden House, Enterprise Way, Edenbridge, Kent TN8 6HF** or send an email to **editor.ww@mytimemedia.com**

★STAR LETTER

DUAL-PURPOSE CHELATING PROJECT

Dear Mark,

Reading Robin Gates' Ditto box article gave me a push to check my current chelating project (the treatment of rust using molasses – see the December 2017 issue of *The Woodworker)* and once again, I had neglected to top up my 10:1 formula of water and molasses (see photo). I generally buy it in bulk from a produce store as 20 or 25 litres is only twice the price of a small bottle from the grocery aisle. Evaporation is the enemy here and in 30+° heat it doesn't take long for the level to drop as seen in my small chelating vessel (capped storm water). For large items – bigger than a rip-saw blade – I use a plastic water fountain container of around 165 litres, and hang items from some rural bailing twine or tie-wire looped handles. I like to leave the soaking for four to six weeks. The smell is tolerable to gardeners but others may complain. My main purpose of mentioning this is that as a horticulturist, I learned that the byproduct, including the coloured slime, is wonderful fertiliser for the impoverished or blooming garden. If the person is a gardener, it is therefore a win/win to use to remove rust. For best practices it should be dug into the soil; however, like inorganic or organic fertilisers, it can be applied straight to the ground surface (best moist and definitely not onto the foliage) after removing any mulch, then the mulch is replaced over the fertiliser. This provides the benefit of immediately starting the decomposition of this organic fertiliser (and attracting beneficial organisms and worms) as well as masking the aromas created by the molasses. Happy gardening and working wood.

Ranald Millar (Queensland, Australia)

Thanks for that one, Ranald. I'm not a big gardener myself, but I hope that more than a few readers will look at this dual-purpose practice and reap the benefits thereof. In a country like the UK, there's rarely a shortage of moisture, and it's a very unusual workshop that doesn't have anything rusty in it. Mark

Rusty metal goes in, rust-free metal comes out

WORKSHOP INSURANCE UPDATE

In response to John Doonan's letter that was featured in the January 2018 issue regarding the difficulties of obtaining insurance for tools, Roy Stoddard writes:

Dear Mark,

I live in a listed farmhouse, which includes a holiday let and substantial outbuildings. I am insured with the NFU Mutual and have had no difficulty in insuring my workshop and tools to the value of £15,000.

Your readers could try the NFU who would expect readers to insure their property with them, but they tell me that their standard house policy includes £5,000 cover for outbuildings and contents. Obviously NFU would need to deal with each application on its merits.

Hope this helps, **Roy Stoddard**

Hi Roy, thanks for that tip – I've only ever heard good things about the National Farmers' Union; a friend of mine had all manner of subsidence problems and they sorted it with absolutely no question. I always thought it was just for rural properties, but I guess they must cover towns and cities too? **Mark**

WOODWORKING TOOLS FOR BEGINNERS

Dear Mark,

I'm completely new to woodwork (or is it carpentry?) and would appreciate some good advice on what tools I will need.

Thank you, **Erica**

Well Erica, that's a question indeed, and one that's tricky to do full justice to on this page. Although there's plenty more out there to acquire as your career or interest in the subject grows, an absolute basic kit starts with the following:

- Bradawl
- Chisels – assorted
- Combination square
- Hammer
- Mallet
- Marking gauge
- Pin punch
- Pincers
- Plane
- Pliers or vice-grips
- Saw
- Screwdrivers – various
- Sliding bevel
- Stanley knife

And I sincerely hope you bump into a friendly tool dealer in the coming weeks! **Mark**

A tool chest filled with all manner of useful woodworking kit

WADKIN SPARES UPDATE

Finally, I'd like to offer our thanks to those with advice for Jim Walmsley who had the Wadkin Tradesman planer/thicknesser for which he was having trouble obtaining spares. Unlike most of their machines, it was made in Brasil, and a special mention has to go to Walter Taylor from Birmingham and his knowledge of ex-Wadkin staff. **Mark**

GET IN TOUCH! Don't forget, we're always keen to see your photos, so please don't hesitate to send them in if you've snapped something of interest recently. Email me on the usual address: **editor.ww@mytimemedia.com**

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Rare rasp to the rescue

Andy King uses an exotic Liogier rasp to make a handle for a saw that he is refurbishing and while he's at it, seizes the chance to experiment with saw-setting systems

Having heard great things about hand-stitched rasps, I was intrigued to receive a call from Douglas Coates offering me some Liogier rasps to try. First Douglas established what I would be using them on – as in a project, not timber – as there are numerous designs and profiles as well as coarseness of cut and so forth. He wanted to know if I was left- or right-handed because the stitching is done to suit; you wouldn't get that with a mass-produced rasp!

I had thought about making a replacement handle on a Taylor Brothers saw that has always felt a little clunky, so now was a good opportunity to test the Liogier rasps, make a handle and address an issue with a saw-setting problem on finer-toothed saws, all in one hit.

Leaving the rasp selection to Liogier, I was surprised how small they are, the most diminutive being a riffler with a paddle and knife profile at the ends for finer work in tight areas. The bigger rasp, half round and stitched only on the half-round side, also curves to place the teeth into the concave side of the bend. My own mass-produced rasps are pretty chunky in comparison, but for a saw handle, a smaller file is certainly better suited.

Choosing a pattern

Look online for patterns; **www.backsaw.net** has a great range, all pictured against graph paper so you can scale the image to the correct size and print it out.

From this collection, I selected a closed-handle Spear and Jackson No.26 design used between 1830 and 1910. I also selected a suitable pattern for an open handle. Selecting a timber is up to you, but you'll find fruitwoods such as apple on older Disstons, while beech is traditionally used on the mass-produced end of the market.

Lie-Nielsen favour cherry and having a short piece already finished to 21mm thick, it gave me enough to get both handle styles from it.

I find 21mm is about the right thickness for

The saw prior to the renovation

1 Spray mount glues fast without distorting the pattern

saw handles, but you can experiment if you have bigger or smaller hands.

If you are considering upgrading a few saws you could make a ply or MDF template, but it is just as easy to print out full-size patterns and glue them directly to the handle blank using spray mount contact adhesive (**photo 1**).

The pattern needs to be orientated in a way that doesn't leave a lot of short grain that can potentially weaken the handle, especially the open-style ones.

Cutting the handle

Once the handle is glued down it needs to be cut out close to the line. As an older-style handle often has cosmetic embellishments of intricate

2 Use of a drill and Forstner bits produces the cleanest holes…

3 … or cut out with a scrollsaw

4 The closed handle was going to give the best results, so I opted for that one

ALL ABOUT LIOGIER

France was once the hub of the hand-cut rasp makers with roughly 200 located around Lyon but now only Liogier, a family-run business, remains, with the only other hand-stitched rasp company, Auriou, based around 200km away in Saint-Juéry.

Depending on the size and coarseness required, a Liogier rasp can have between 4,000 and 10,000 individual teeth, each cut into the file by hand.

Like a saw, the need for uniformity is paramount. A high tooth on a rasp will affect its ability to leave a clean, uniform cut.

The coarseness is measured in grains, with No.1 the coarsest through to No.15.

The slightly random nature of a hand-stitched rasp makes for a very fast and clean cut.

More information on the Liogier process and range of rasps can be found at **www.liogier-france.fr**

5 Draw the outline of the blade, the screw holes and where the spine will sit

curves, drilling these points with suitably sized bits makes it far easier to clean up as the holes should leave clean transition points to work into.

A drill press and Forstners are the best for clean holes if you have them (**photo 2**), but you can simply cut to the template line – and spend more time cleaning up – using a bandsaw or scrollsaw (**photo 3**), or even a jigsaw or a coping saw.

As I had opted for both an open and closed handle, having removed the old handle and placed the blade on both blanks (**photo 4**), I found the open handle didn't really have enough meat left to pick up on the original drill points through the blade, so I concentrated on the closed handle. The open one will keep for another day and another saw.

6 Cut the saw using another fine saw

7 After marking up...

8 ... saw down to the recess edges...

9 ... and chisel the waste away...

10 ... in a process of trial and error

Cutting blade slot

The next step is to make the cuts for the blade to slip into the handle. Placing the blade over the blank, you can easily alter it until you get the best position for the back to sit into the blade as well as the 'hang' of the handle, or the angle the handle sits in relation to the blade. Altering this position can make the cutting action that bit more aggressive as you push down through the saw rather than in line, but as the handle blank has a defined flat top area, I simply used that as a reference, keeping it in line with the back. Using the blade as a reference point, draw the outline of the blade on the blank as well as the screw holes and where the spine sits (**photo 5**). Transfer these across to the top and bottom of the blank and draw a centreline through the front edge of the saw to pick up with these. You will have to extend the saw cut beyond to account for the way the blade sits into the blank.

Cut the saw with another fine saw (**photo 6**) or put the old handle back on the blade and use that. Next, step it to remove the waste for the saw spine before marking up (**photo 7**), sawing down to the edges of the recess (**photo 8**) and paring away with a chisel (**photo 9**). You will probably need to do a bit of trial-and-error fitting to get it right (**photo 10**). **ww**

11 After using the chisel on the grip area, go on to the file

12 I defined the lamb's tongue detail with the riffler...

13 ... and completed the finer work with the Liogier rasps

14 Using the bigger one, I found it easy to hold the blank in my left hand while shaping

15 The double-ended riffler is great on tighter radii

BLADE CLEAN-UP

With the blade still out of the original handle, it's a good idea to give it a bit of a spruce up.

Standard aluminium oxide abrasives work well, but I have a couple of Garryflex abrasive blocks – available from **www.axminster.co.uk** – that are perfect for this sort of work. The spine was done with the same block and polished it in only a few passes, so I gave the saw nuts a buzz over as well.

I didn't go for a high polish, brand-new look, so a dig or two on the spine retained the patina of old, as did the medallion nut.

From here, the saw is in need of setting and sharpening, and with a 14tpi profile, a finer set than my old faithful Eclipse 77 saw set is capable of, which brings me on to the problem of setting finer toothed saws...

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Spare that chair

Iain Whittington uses the fast and simple green woodworking techniques of the bodgers of old to save an antique chair

Like most woodworkers, I am asked periodically by friends and family to undertake repair and restoration projects. One of the recurring projects is the repair of chairs, a task that is often uneconomic for a professional restorer to even quote for, as the value of a single chair is frequently less than the cost of the repair.

When a friend's 17th-century William & Mary-style ladder-backed oak chair went literally splat over backwards, shattering one of the horizontal cross-splats, they thought of me. Now, the damaged piece was one of the graduated width, horizontal slats that are mortised into plain cylindrical stiles in these high-back chairs. The normal way to replace them would involve the complete disassembly of the ladder back and its re-assembly with the new slat in place – very time consuming and not very good for maintaining the original character of the chair. The alternative route, that I chose, owes more to chair bodging than fine furniture-making. Last time I repaired one of my friends' chairs, I turned a new stretcher from a bit of oak left over from the frame of their house. So, as I knew the chair's owner had been converting a winter wind-fall oak into firewood, I thought it might be appropriate for this one to be repaired with a bit of oak from their hedgerow. Hence I asked for a suitable oak log (**photo 2**) to be delivered with the chair, from which the replacement slat could be fashioned 'in the green'. Since green oak can be bent relatively easily, I hoped that by using a quarter-sawn slat the need to disassemble the chair could be avoided.

Improvisation

Well, chair bodging is not one of the skills I am equipped for, so I had to look round my Devonshire rural maintenance kit to find tools that could be used to good effect. I have a couple of hand axes – a splitting axe and a trimming axe – that could be used, but I had to turn to a bill-hook as an improvised froe (**photo 3**). One swift blow with a felling axe halved the size of the problem, after which the improvised froe could be used to rive a suitable blank that in turn could be cleaned up with the trimming axe (**photo 4**). I used a Swedish drawknife (**photo 5**) for the bulk of the waste removal (which is a robust tool that can be helped with a mallet if needed), before turning the billet on its side for final shaping with a drawknife (**photo 6**).

Chinese plane

Being green oak, using a modern iron plane to square the edges would not only have marked the oak, but would have quickly rusted the base and blade of the plane, so out came my wooden Chinese plane, which was well-suited to working with wet wood (**photo 7**). With much of the rough work now done, a drum sander was set up against an adjustable fence to act as a thicknesser (**photo 8**) to match the slat to its neighbours, before transferring the shape to it with a flexi-rule and cutting it out on a bandsaw.

With the end-of-day approaching, I did not want the new slat drying straight (or worse still, twisted) so I set it up in a curve with the help of my twin-screw front vice and a bit of old dust extractor pipe (**photo 9**). It was then left like this overnight.

2 Split billet of green oak

3 I used a bill-hook as a crude froe...

4 ... and a trimming axe to prepare a blank

5 Shaping was done with a Swedish drawknife, specifically designed for green wood...

6 ... as well as a conventional drawknife for the final shaping

7 A wooden Chinese plane prevented discolouration of the oak

8 With a little ingenuity, I was able to turn a drum sander into a thicknesser...

IAIN'S KIT

Frost Swedish drawknife
Frost laminated Slöjd knife
Flexcut 125mm drawknife
150mm woodworker's vice

1 Final repaired chair

BODGER'S VICE

While I play at joinery, furniture restoration, and a bit of woodcarving (plus a little turning in support of these), I only occasionally dabble in green woodworking, so the time and energy to invest in a proper shaving horse has not occurred. However, I have found that the ability to rotate a bit of wood at right-angles can be useful, so when I came upon an old article on bodging a bodger's vice from an old 6in metal one, I thought it might be useful, especially as I had an old 6in vice lying around. As the resulting contraption has been of use to me on several occasions, including on this chair restoration, I thought I might resurrect the basics for others to adopt as they see fit.

The general idea is to mount the vice on an appropriate stout board or ply, with cut-outs to suit the required clearance for your vice's screw and guide bars when inserting it in your bench vice. If you size it correctly, the waste cut from the board can be used to make the required spacer that will stop your bench vice's jaws from wracking if the bodger's vice has to be inserted offcentre. A bit of trial and error will show you where the side rebates should be positioned, so they will allow the board to be skewed without fouling your bench vice's guide rails. You'll also need to make some wooden jaw facings; these are desirable on any metal vice, but essential on a vice that will hold green wood, as iron will stain most green timber on contact.

If you don't have the required 6in vice going spare, they can be had for less than £10 at flea markets or around £15 for a new import. The timber would probably come from any woodworker's scrap bin

9 ... and a bit of old drainpipe into a former to bend the slat overnight

10 Adjusting the slat for a perfect fit was then a matter of trial and error

11 Bending and fitting...

12 ... and adjusting the curvature

Trial & error

Next morning I was delighted to find that the green oak slat was still flexible and set about trimming the ends with a Swedish Slöjd knife (**photo 10**) that has a laminated steel blade that retains an immensely sharp edge, and which was originally designed for woodcarving and green-woodworking. After a bit of trial-and-error and reference to the shape of the ends of the broken slat, I quickly achieved a snug fit in both mortises in the side stiles (**photo 11**). With one end securely placed in the appropriate mortise, brute force and cunning was applied to bend the slat and locate the free end safely in the other mortise. To be honest, that all had to be done a couple of times, as I had been over cautious and had left the slat slightly too long, so it had to be removed, trimmed, and re-fitted for it to adopt the right curvature to suit the rest of the chair back (**photo 12**).

Aga saga

The new slat was clamped to the old slats to set it in the correct curvature and sat in front of the Aga to simmer overnight, being rotated periodically to encourage even drying (**photo 13**). With the slat pretty well dry, stain was applied to try to match it up with the rest of the chair. I prefer to use spirit-based stains as I find that they penetrate better compared to the water-based stains, which tend to sit on the surface. The names on the tin only serve as a rough reference to colour, so a trial sample is always advisable. For example, I started this with Antique Pine (**photo 14**) as it has a slight red hue to it similar to that in the old colouring of the chair. Having rubbed this down gently with plastic 'wire wool' (the real stuff would have stained wet oak), I then applied a couple of doses of Dark Oak to add in the deeper black hue.

The art of colour matching is, of course, subjective and comes from a build-up of the colours of wood stain plus the hue of the overlaid French polish, with the final tweak being added by the colour of the wax polish used to finish it all. As I needed a dark oak finish, I used the darkest garnet polish (button polish gives a brighter red/brown finish while garnet is richer and darker, and more suited to old oak) applying several coats over a number of days until an acceptable colour match was achieved (**photo 15**) and the chair was ready to be returned to its owners and go back into service. **WW**

13 We all like a nice rest in front of the Aga

14 First dyed colour using Antique Pine

15 The final polished colour

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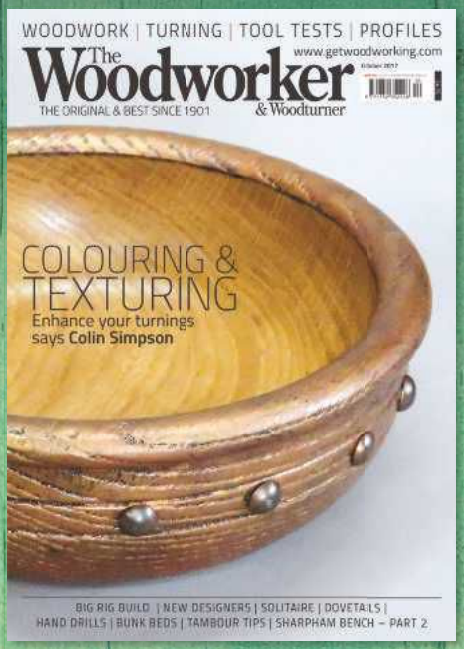

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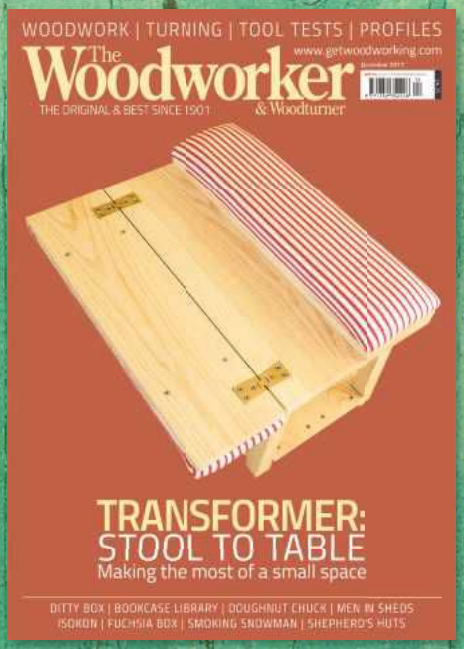

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Mat finish

Phil Edwards uses walnut veneer over MDF to make some handsome table mats

This project is a great way to display a figured veneer. I had three leaves of curly walnut that I'd been hoarding and some new table mats seemed a great way of using them. The first task is to cut the 6mm MDF mats to size on the table saw. I made mine 295 × 210mm. Next, rip some strips of walnut on the bandsaw to approximately 3mm thick, then, plane off the saw marks from both sides with a block plane. Glue the walnut strips to the edges as a hardwood lip. You could veneer the edges but I decided to use thicker timber as it would be stronger and more chip resistant – handy with my accident-prone family. Apply plenty of glue and clamp a pair of lippings to the MDF. It's easier to work with one pair at a time to ensure proper alignment.

Once dry, plane the edges down flush with the MDF and trim the ends to size. Now you can glue on the remaining pair of lippings.

Cut the veneer

With all the boards lipped and trimmed flush, it's time to cut the veneer to size. I used figured walnut for the tops and some offcuts of maple and cherry for the bottom (unseen) surface. I cut them around 10mm oversize using a straight edge and a knife. With the veneer ready to go, prepare for gluing-up – see tip.

Roll on an even coat of glue (I use a PVA). I was careful not to apply too much as I didn't want it to bleed through the thin veneer, spoiling the look. I put the backing veneer on and turned it over.

Next, I applied another coat of glue and put the top veneer on, then I popped it into the vacuum press. 20 minutes later and it was done! I then stood the mat on its edge to allow it to cure overnight.

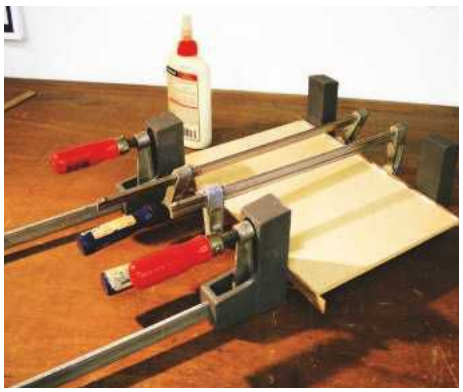
The next job is to remove the excess veneer. This is a tricky job, as you can easily remove too much, ruining the piece. I use a very sharp chisel and knife to slice off the excess and then use a plane to smooth the edges, including the walnut lipping.

Finishing

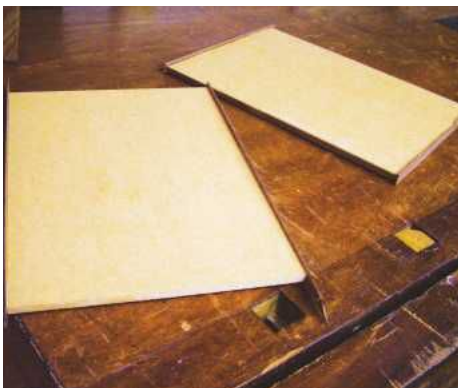
I gently rounded over the sharp edges with some 240 grit abrasive. When all the mats are, at long last, veneered, it's finishing time. I was eager to see the wonderful figure of the walnut spring to life. Apply a coat of sanding sealer with a brush and sand it smooth when dry. I applied three coats of chestnut melamine lacquer, using a budget HVLP spray gun kit that cost £50 from B&Q. Leave the mats overnight to dry, then spray the undersides in the same way. The next day, after gently sanding the top with 320 grit abrasives, apply one more coat of lacquer. Then set them aside to cure for another three days.

Stick some self-adhesive felt sheet squares to the underside of the mats, in all four corners, to stop them from sliding when in use. That's about it. The figure of the walnut is just amazing... and my wife's pretty happy with them. Roll on meal-times. **ww**

1 Trim up some solid lipping for each mat



2 Clamp these to the MDF substrate



3 Ready for trimming

4 Decorator's rollers are great for glue-ups

5 A vacuum press is the easiest way for success

6 Trim the waste veneer away

7 Smooth the edges with 240 grit abrasive

TIP

It's difficult to get an even coverage using a brush or a squeegee to apply the glue, so I've started to use a mini-roller and tray. They cost around £2 but as long as you wash them out each time, they will last for ages

8 My mats really show off the walnut

ME AND MY WORKSHOP

Sarah Watson & Andrew Axworthy

Here we step inside the workshop of Plymouth-based duo **Sarah Watson** and **Andrew Axworthy**, from which they run their online business, The Little Grey Hen

Sarah and Andrew run a business from their small home workshop

1. What is it – and where is it?
A concrete block shed we built in our garden.

2. What's the best thing about it?
It's right next to the house, so we can go to work without leaving home!

3. And what's the worst?
The size of it – nothing like big enough.

4. How important is it to you?
Very important, we run our business (The Little Grey Hen) from it.

5. What do you make in it?
Home accessories and gifts, musical instruments, plus small items of furniture.

6. What is your favourite workshop tip?
When you've finished for the evening, leave your tools where they are on the bench; that way you can go right to them when you start again the next morning.

7. What's your best piece of kit?
Probably our Bosch chop saw. Once it's set up you can 100% rely on its accuracy.

8. If your workshop caught fire, what one thing would you rescue?
Andrew says he'd like to rescue the big red spider that lives above the chop saw, but realistically it'd be the lovely guitar he's half way through making.

9. What's your biggest workshop mistake?
Right from the get-go, we should have made it bigger!

10. What's the nicest thing you've ever made?
That's easy! A walnut coffee table, inset with semi-precious stones.

11. And what's the worst?
A whole bunch of woodturned flowers. We spent hours on the project, and they looked great until the wood dried out and all the petals fell off...

12. What's the best lesson you've learned?
Andrew was doing some repetitive work on the table saw at the end of the day and was a bit bored. He lost his concentration and very nearly cut off his right thumb. So our tip would be – if you feel tired, take a break.

12. If you won the lottery, what would you buy for your workshop?
A really super lathe. The Canadian Oneway would do nicely. **ww**

NEXT MONTH
In the next issue, we step inside the workshop of Steve Pyne, a father of five from Norwich. We'd love to hear about your workshops too, so do feel free to send in a photo of your beloved workspace, and please answer the same questions as shown here. We look forward to hearing from you

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GAME ON

Mark Griffiths' media cabinet solves the problem of where to house all the X Boxes and so on, and provides the width for a home-cinema sized TV

The cabinet complements a solid oak dining table with which it shares the living room

It is the nature of technological advances that while some gadgets get smaller and smaller, others just seem to increase in size and number. Nowhere is this more apparent than in the amount of stuff that comes with the family TV. Whereas once it was just an innocuous teak-veneered box that sat unobtrusively in the corner of the living room, now you have a plasma screen the size of a wall connected to a satellite box, DVD player, games consoles and a collection of speakers that could be hired out to Motörhead. And so in recent years, I have been commissioned to make a new breed of furniture – the increasingly popular media cabinet.

I incorporated a 3mm groove into the cabinet's top, bordered by a mitred frame

Contrary to what you might think, a media cabinet can prove to be a tricky piece to design. For a start, it has to house a variety of kit with different requirements. You have to think about cable management issues, heat build-up, and storage of linked items like remote controls, games control pads and DVDs. It is equally imperative that the internal space is versatile enough to house the next gadget which will inevitably come along. In addition to these considerations the cabinet must either blend into its surroundings or make a design statement. What it mustn't be is a big, unsightly box.

For this particular cabinet, the client wanted a simple design that would complement a large oak dining table in the same room that the cabinet was to live in. The table was thick-set with 120mm square legs and a 40mm top set upon these which had the piece's only decorative feature – a 3mm groove bordered by a 80mm mitred frame. I decided to incorporate the rebate feature into my cabinet's top, and to keep the overall solid feel of the table. Constructed in European oak, my cabinet would also help the two pieces to complement each other.

Design flexibility

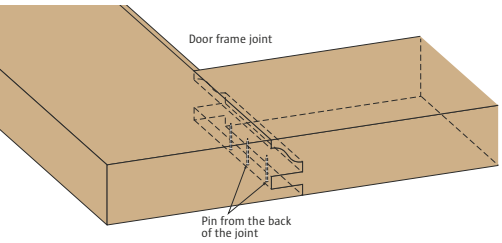
The clients had a preferred height, dictated by the position at which the TV screen was set onto the wall – my cabinet would have to sit just below this. The wall that it was going to be set against also had two plug sockets for light fittings, to which the clients wanted easy access, so my cabinet would have to sit in between these, which gave me my width. Finally, at the right-hand side of the cabinet the wall jutted out 550mm, so it seemed best that the depth of the cabinet did not exceed this measurement.

With the parameters for the piece set, I needed to investigate what exactly the cabinet was going to store, and work out how that would affect the design. From a rough sketch I could see that if it

The breakfront prevented the cabinet from looking too 'boxy'

JOINT PINNING

Air-fired pin guns are reasonably priced these days and can prove invaluable on complicated gluing-up operations. With the quality of today's adhesives and many quick-drying varieties on the market, using a pin gun lets you leave the clamps in the rack. Whether fixing small sections of moulding or getting a really tight mitre joint, the more you use a pin gun the more uses you will see for it. The main gun I use fires 24-gauge headless pins up to 20mm long



was separated into three sections, all of the TV equipment could be housed in the centre section with the large base speaker taking up most of the right-hand section, leaving the left-hand side free for storage of miscellaneous items and DVDs. Aesthetically, this gave me three decent and evenly sized doors, which would look and work better than, say, four smaller doors – these could also cause problems for the remote controls that need clear access through the door glass.

After drawing out a few sketches, though, I felt that the cabinet looked too box-like, so I decided to introduce a breakfront into the design. The added benefit of this would be that the 3mm groove detail, which would now follow the path of the breakfront, would create more interest in the cabinet's top. Also, the extra 50mm of depth to the centre section would be useful for housing gadgets. Indeed, one of the issues that is always worth keeping in mind when designing for either audio, TV or computer equipment is the stiff, thick cables and large Scart plugs that add considerable depth to each item.

Making rods & choosing woods

My first workshop task is usually to produce a full-size rod. This is essential for any complicated project and very useful when working on a break-front like in this piece, as it can be all too easy to miscalculate details such as the overhang of the top, the plinth and door sizes. Time spent on a rod is always worthwhile as the real construction issues can be worked out to scale and easily referenced during the making process. And let's face it, a board of 6mm MDF is far cheaper than 8sq.ft. of American oak if there ends up being an unseen flaw in your design drawings.

Out of my three carcasses the centre one would be the only one with a two-side box construction. Once assembled the two left- and right-side carcasses would be attached to this, and would only have one side, as the centre carcass would make up the other.

I tend to keep a healthy amount of American oak in the workshop; it's a timber that I always find useful, if not as the prime material for a job then for drawers and the like. Having a reasonable stock provides the option of pulling out a lot more planks than I need so that I can select the best timber for the different aspects of the project. For me, this is one of the highlights of the making process, as there is no other material that you can sort for its unique characters. There can be a multitude of colour variations from one end of a board to another, so care must be taken not to end up with two sections coming together in, let's say, a door where this contrast could be too strong. Also, the timber can be 'read' for signs of potential movement, such as interlocking grain and tight swirls, both of which may create tension in the timber which will in turn make it vulnerable to movement and grain pattern. As with colour, a very strong grain pattern located next to a bland piece of timber can draw the eye too much and act as a distraction. Over the years I have found clients don't like patches of loud grain pattern and strong colours, but prefer a more harmonious blending of wood.

It's working through this process that really connects you with the project. Here you will dictate the piece's visual impact and its strength and stability. If done correctly, this will do justice to your skills and your piece will be appreciated for years to come.

Prepping, marking & jointing

With the timber selected and rough-cut to size, I marked each component on the end-grain with a number that would correspond with my cutting list. By marking it here the code will remain in place even when thicknessing, and with a multi-component project it is essential to have a good clear reference system. These timber components

The joint used for the door frame

These router cutters could have been used to cut the joints for the doors...

were then over-handed, edged and thicknessed down to 2mm above their final size.

I carefully stacked all the components onto an even surface and left them while I concentrated on the oak-veneered board for the internal carcass and shelves. This gave the timber time to settle into its new size, so if any movement was going to happen it would hopefully happen then.

With the veneered board cut to size, the base and two top rails were marked up – the base for biscuit joints and the two top rails for Dominoes. Again, referencing against the rod will help ensure the joints are correctly placed. The front rail and base were both fixed flush with the sides and after all the timber components had been checked and thicknessed down to their finished sizes, the two side uprights were biscuited and glued into place. Then the oak capping for the top rail and base could be fitted.

Next, I cut to size the components for the two panelled outer sides. These were to be constructed using a Domino joint, although a 30mm stopped tenon would do just as well. I prefer to get any glued-up frame out of the clamps as soon as possible as I am convinced it is at this stage that future movement problems can occur. I also prefer to glue and cramp the frame so the joint is tight and the frame is square, not forgetting to place pieces of newspaper between the clamp and wet glue to avoid 'iron stain'. After that I fire a couple of panel pins through the connecting part of the joint at the back. The frame can then be de-cramped and stacked on an even surface to dry flat and square.

After belt sanding with 120 grit abrasive the frame was rebated on its inside inner edge to take a 6mm veneered panel, with 8mm fitting strips to hold the panels. The joints were also cut with a biscuit and Domino combination on the two outside carcasses to fit them to the centre carcass, with the exception of construction dovetails on the two rails fitting to the solid frame sides. With the joints cut and dry-assembled to check all was as it should be, I sanded the inside face of each component and, importantly, the outside faces of the centre carcass sides – it would be nearly impossible to achieve a well-sanded finish on this section of the breakfront post-assembly.

… although I actually used a tenon and moulding combination spindle cutter, shown here

The 40mm oak side uprights and top and bottom oak cappings were biscuited to their corresponding sections. Rebates were cut into the two oak frame sides at 8mm in depth to house the back. With everything double-checked and ready the two side assemblies could be glued to the centre carcass. As soon as the clamps were tight in place, I fitted in the 6mm back that spanned the whole length of the unit to ensure it was square.

Door making

I could now focus on the three doors, which were constructed with a tenon and moulding combination spindle cutter; a similar sort of thing is available for a router table. They produce an incredibly strong joint – if you look at the joint's end when assembled you will see that, for a 10mm deep joint with all the connecting points, it actually has a very large glue face area, and if you ever try to break one apart, you will find it's quite a challenge. This kind of jointing system is ideal for small doors less than 600mm wide.

The two external doors were fitted with 6mm MDF panels that I had veneered in oak and the centre one was rebated much the same as the frame sides to take a piece of 4mm toughened glass. After assembly the doors were set aside to fit after the cabinet's top and plinth had been fitted, as adding these can cause changes to the carcass, which can affect door alignment.

Bringing it together

The plinth was fitted onto a 30 × 30mm tulip-wood batten, which ran around the base of the cabinet flush to the front and fitted with screws before the final sanding of the carcass body with 120, 240 and 360 grit orbital discs. The plinth was then glued and screwed from behind with two pins on either side of the corner mitres; invisible when filled and sanded, these gave the joint a little more strength and ensured a good pre-dry line-up.

The four planks for the top had been selected to give an interesting grain pattern and after shooting the jointing edges with a nice sharp No.7 bench plane they were biscuit-jointed, making sure the end-grain rings on each plank ran in the opposing direction to its neighbour to help prevent the finished top cupping. After gluing and rough-sanding, I cut the top to size and ran the 3mm rebate around the two sides and the front edge. I then mitred and biscuited the capping timber into place, making sure to remove any stray glue from the rebate. When dry the top was sanded through the grits and then a good coat of finishing oil was applied to the underside. The top was fitted to the cabinet with screws located in expansion slotted holes in the carcass' top rails.

Retaining strips held both the side panels and centre glass panel into their frames

Now I could turn my attention back to the doors. I rough-sanded these and planed them to fit into their locations, leaving a 2mm surrounding

The completed media unit

gap to give an even shut line. 50mm brass butt hinges were fitted, lining the end of the butts up with the door panel for symmetry. When I was happy with the hang of the doors they were removed and the inside of the carcass and shelves, which had been lipped with 15mm oak, were given three coats of water-based lacquer. I coated the solid timber outside with a good-quality finishing oil, brushing on the first coat generously and wiping off any excess with a lint-free cloth, remembering to lay these flat outside to dry to avoid the danger of combustion; I leave them for 24 hours to dry and harden, then cut back the surface with a finishing scrubber pad and apply a lighter coat just using a cloth working with the grain. Do not wipe away excess, just repeat with the scrubber and cloth again in eight hours' time.

With the carcass finished inside and out, the last tasks were to fit the toughened glass panel into the centre door. Pinning the retaining timber strips in place, I fitted the two side panels using the same method. The right-hand panel had symmetrical 12mm holes drilled into it to allow sound from the base speaker to escape. I then drilled out 7mm holes on the inside of each carcass section to take the brass studs for the adjustable shelving and re-hung the doors.

When delivered on site the client's electrician and I worked out the holes required in the back of the cabinet to manage the routing wires. Having nipped these out with a jigsaw, I gladly walked away, leaving the electrician to reconnect it all together, safe in the knowledge that I had chosen the 'better' profession... **WW**

TIP

Produce two or three extra lengths for important areas such as door frames in case one springs or a mistake is made in the making process. Going back and resetting all the machines to produce just one door rail is more than a nuisance

NEXT MONTH

Coming up in the next issue...

WW April on sale 9 March

ROCKER & ROLLER

Using his eye for restoration, Peter Bishop takes a beaten up old roll top desk and sets about giving it a new lease of life

BUILDING AN AMBO

Reclaimed oak from the old church doors and a promise made to a priest some time ago led Jonathan Salisbury to embark on one of his trickiest projects yet

IF YOU GO DOWN TO THE WOOD...

Spend a little time with woodcarvers and, says Dave Roberts, you'll soon find yourself tempted from the straight and narrow

PLUS ▪ Blues bowl – part 2 ▪ Robin Gates' furniture playground ▪ Me and my workshop – Steve Pyne ▪ A saw to build a saw bench: part 2 – the bench

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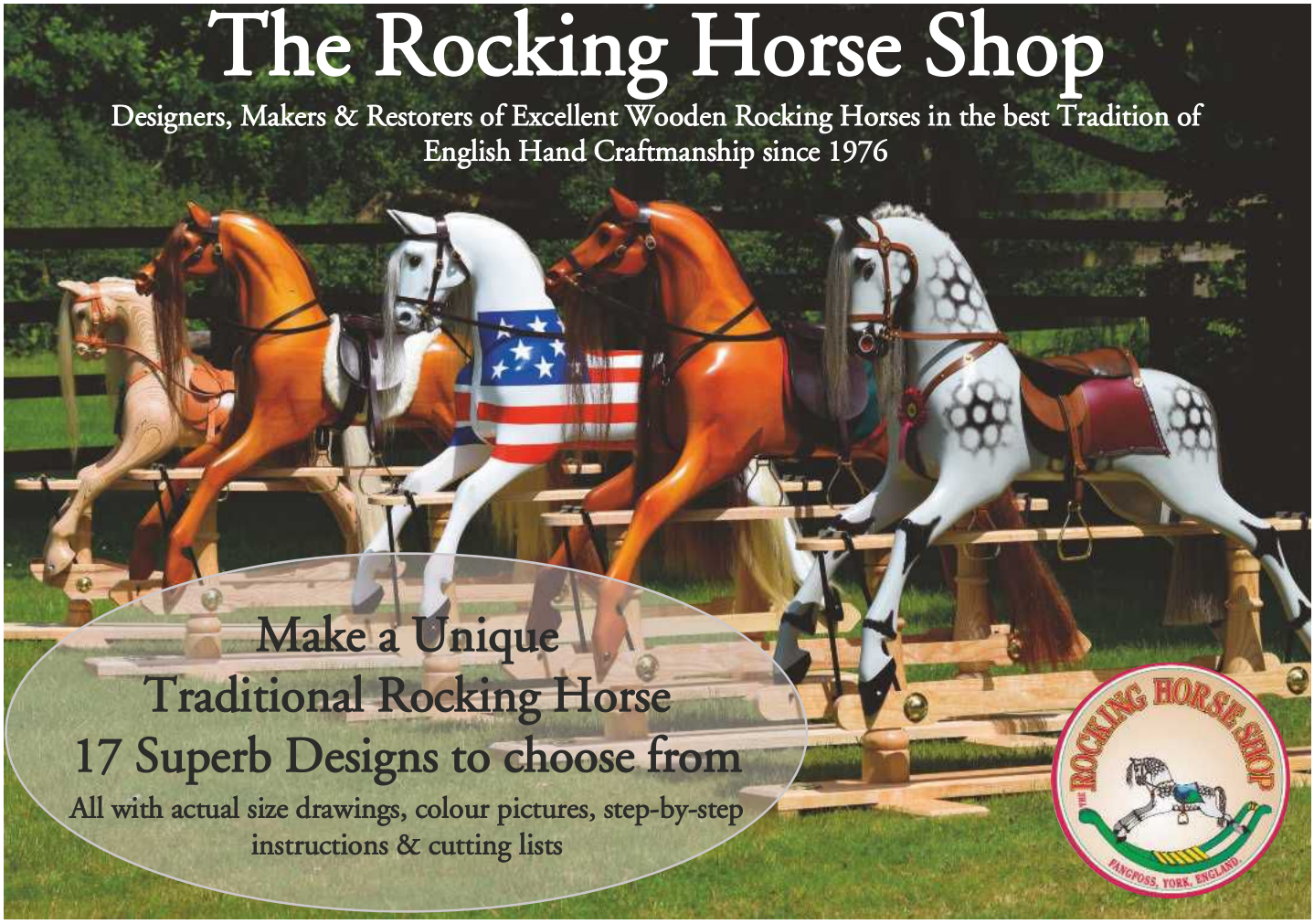

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Fangfoss, YORK YO41 5JH

Makita PT354D 10.8V pin nailer

This nice little nailer from Makita benefits from being cordless, compact in its design, and features a positive and efficient action

Specification

Battery type: Lithium-ion
Voltage: 10.8V
Nail gauge: 23 Ga
Nail length: 15, 18, 25, 30 & 35mm
Magazine capacity: 100
Noise sound pressure: 76 dB(A)
Weight: 2.0kg

Price: £348
Web: www.makitauk.com

PROS

- Positive and efficient action
- Adjustable depth

CONS

- None that I could notice

RATING: 4.5 out of 5

Most nailers tend to be fairly hefty, and even the 18-gauge models (which deliver a brad or nail a bit lighter than a panel pin) can be quite cumbersome. This little beauty, from Japanese manufacturing giants Makita, is about as small as you can go, and as useful as you would want. The big difference with this diminutive 23-gauge is that the pins it fires are entirely headless, and this makes it perfect for the (almost) invisible fixing of light mouldings, trim and countless other applications. Many years ago, when I first came across this type of nailer, I had to try it for myself to see that it really worked, and of course it did then and is still doing so now, albeit in a more convenient form – and cordless, too.

Nice & compact

The whole unit presents itself in a nice little compact handful, and is comfortable to hold and nicely non-heavy to use. Battery powered nailers generally employ a very powerful spring, which is pulled into tension by a motor, and released to drive the pin down with phenomenal pressure. This one is no exception and, although I'm uncertain of the exact engineering devices employed inside it, it clearly works exactly as intended.

Magazine open, and showing red indicator

Controls & extras

There is little in the way of controls and extras, just a simple trigger with a locking safety catch, and a magazine which slides open to refill. This features a clearly visible red coloured marker to alert the user to the amount of pins remaining, and is one of the few guns I know of which actually refuses to fire on an empty magazine (something that can be detrimental to a nailer if it happens too much). Another very useful attribute is the pin depth control. This is via a knurled thumb-wheel and is great for adjusting how far the pins will be punched down, something that's particularly useful when working with a variety of timbers.

There's the customary LED worklamp which comes on when the trigger is pulled and stays lit for 10 seconds afterwards, and a useful tool belt hook which can be fixed either side, depending on preference. Finally, it comes with a spare soft plastic tip affixed to the magazine end, and an onboard hex key to assist with dismantling in case of blockage.

In summary

All in all, a very nice little nailer, and one which many woodies these days are using to discreetly hold tenons in place while the glue dries. **MC**

The spare nailer tip, standing by

This knurled thumb-wheel controls the depth of pin set

The trigger locking button or safety catch

Draper hand tools

We look at a range of hand tools from the Draper Expert range that represent the best of no frills woodworking

Despite the best of planning and foresight, the need for additional or duplicate equipment may still arise, leaving the resentful woodworker with no option but to spend the money and buy what's necessary. For this sort of purchase, and for anyone just getting their first kit together, mid-range gear like that from long-established supplier Draper is just the job. All the items pictured above represent good value and are tools which will do their job admirably.

230mm adjustable carpenter's bevel

When it comes to a sliding bevel, as well as a certain degree of accurate machining (check!), some kind of hand-operated tightening device is a must. No one should be messing about with screwdrivers trying to tighten-in a set; as long as there is no obstruction when it's fixed, a simple wing nut is more than adequate. Hardwood and brass enhance this example.

Bradawl

One of my favourite and most useful tools is the square section bradawl. Unlike a simple round spike, this one has four cutting edges to ensure that you can quickly form a substantial hole ready for a drill bit or small screw. Part of the draper 'Expert' range, this one is sharpen-able too.

Carpenter's marking gauge

A marking gauge surely has to be up there on the list of 'must haves' and a couple of extra ones will always be welcome. This one, in beech, comes with only a short piece of pin exposed; plenty enough in my opinion and easier to use as a result. The extra length of beam above the pin could be drilled and used to site a pencil or simply cut off if it gets in the way.

13mm hand-held countersink bit

The hand-powered countersink is a much under-rated tool; not only is it quicker to use than setting up a power drill, but you're never going to go too deep with one. If you've not used one before, it's worth a try.

In summary

These items represent the best of no frills woodworking: it's worthwhile kit and you know what you're going to get. **MC**

Safety glasses

These safety glasses and goggles represent great value for money and will keep you protected while in the workshop

Safety glasses are easily the most important item of PPE (Personal Protective Equipment) you'll be issued with on site, and the first thing you should be reaching for after you've set yourself up for some power tool work or any kind of machining in the workshop. Many technical colleges these days insist on the compulsory use of eye protection at all times when students are in the workshop; all of these messages mean one thing – let's look after our eyes.

Samova specs

We were recently sent a few pairs of safety specs, courtesy of Nothing But Safety Glasses – an online supplier of vision protection. First up is the Samova, a budget pair of snug-fitting wraparounds. The cost is kept down by the use of moulded hinges (no metal parts) and the simple and light design, all of which combine to provide a comfortable and safe experience.

Budget cover specs

For those of us of a certain age, the wearing of prescription glasses (or off the shelf 'readers') sometimes obviates the perceived need for eye protection and, while they are certainly better than nothing, some dedicated protection is always to be recommended. These are sparkling clear acrylic, all-encompassing and will allow the user to wear their regular glasses underneath. I found them unobtrusive, and they passed my most important test – they didn't fall off when I was looking down.

Tracker safety glasses

Almost a hybrid, these top class cushioned glasses can, when worn with the detachable head strap, perform the same function as a pair of dedicated goggles. Somehow reassuringly heavy, I found them both comfortable and comforting. Different lenses are available, but, unless you're working outdoors a lot and need the tint, the default clear will always be my most popular choice.

In summary

The glasses and goggles we looked at are all at least EN 166 approved, have optical 1 quality, so can be worn all day long, and feature UV protection as standard. All are well priced and ideal for workshop use. **MC**

Tracker safety glasses


Samova specs


Budget cover specs

Specification DRAPER HAND TOOLS

Prices: Draper Expert 230mm adjustable carpenter's bevel – **£17.83**; Draper Expert bradawl – **£7.46**; Draper carpenter's marking gauge – **£10.44**; Draper 13mm hand-held countersink bit – **£7.37**

Web: www.drapertools.com

RATING: 4.5 out of 5

Specification SAFETY GLASSES

Price per pair: Samova (product code – S902 clear) – **£2.88**; Budget cover specs (product code – BL11PI) – **£2.04**; Tracker safety glasses/goggles (product code – TRACPSI) – **£10.03**

Web: www.nothingbutsafetyglasses.com

RATING: 4.5 out of 5

Bosch Professional GSS 160-1 A Multi Sander

Specification

Motor: 180W
Speed: 12,000rpm
Orbit diameter: 1.6mm

Price: £126
Web: www.bosch-professional.com

PROS

- Multiple bases
- Excellent dust control
- Easy to control

CONS

- No variable-speed
- Not as nippy or as efficient as a random orbit sander, but then it isn't being sold as one!

RATING: 4.5 out of 5

While not as nippy or efficient as a random orbit sander, this Professional model from Bosch has plenty going for it and is ideal if you're looking to achieve excellent results while not laying out a fortune

As much as I don't like sanding, I do like a good palm-sized sander, and even if I'd reach for a random orbit type over a standard orbital, the standard orbit does stack up well for general use.

Bosch have increased that value with the GSS 160-1 A Multi Kit (these names just roll off the tongue!) by including a set of bases to cover a wider range of work.

It comes fitted with a rectangular 128 × 78mm base that takes pre-punched hook-and-loop-backed abrasives, but if you want to use standard sheet abrasives, then there's also a smaller 110 × 100mm base that will take both hook-and-loop and paper-backed types, with the latter held by a pair of traditional spring wire clips.

If you opt for a paper-backed type, then there's also a paper punch included to align with the dust extraction holes in the base.

The rubber-shrouded front-mounted rocker is well positioned for easy control

Both of these bases work well for general flat sanding or convex curves and with the square bases, allow you to get into corners, with the rectangular base better suited for areas where you work a flat surface with vertical ones in front, as the pad projects just forward of the sander body.

The fun doesn't end there, though – also included is a further hook-and-loop abrasive Delta 'ironing board' style plate, which is ideal for cleaning into tighter or recessed areas, such as Shaker-style door panels, for example.

Easy plate swaps

Each plate swaps over easily: just four retaining screws through the pad need to be removed to make any changes, and each pad has a felt washer to seal the fit to help keep any dust from escaping as you work.

With the overmoulded rubber grip and front positioned rocker switch, it's a comfortable drive and easy to work on any surface, whether vertical or horizontal – I put it to good use sanding back a few doors around the house to receive a new coat of paint while they were still hung. The 3.9m long cable doesn't restrict you as you work and the sander is light enough to do such work without fatigue while still putting in a great performance.

Dust management

I found the dust management on this Bosch sander to be very efficient. The supplied MicroFilter dust collector is a push fit to the outlet on the sander with a rubber 'O' ring seal to keep it snug. I found the collector is a decent enough size to capture plenty of dust without being obtrusive or getting in the way as you work, and being made of a durable plastic, there's no dust

A simple push fit over a rubber 'O' ring firmly secures the dust collector

There's a pleated filter fitted to the screw lid, which helps to capture finer dust

Hook-and-loop bases are common across all three for more efficient sanding

Bases are removed with the supplied screwdriver, which is very quick and easy to do

The internals are solidly constructed for a smooth ride as you work

The small square base has simple wire clips for standard abrasives

A supplied punch pad is used to allow the dust to be captured

Align to the upstands and press down hard…

… and the holes are punched through. A little rough, but they work

leakage once it's in there. A small baffle filter at the back of the collector is fitted within the screw on lid, making disposal of the dust very easy and the filter can be tapped to clean it. There are also replacement filters available once it becomes inefficient or damaged.

Basic but good

The sander itself is basic – no variable-speed – and with a small orbit it is best suited for final sanding or prep work prior to applying a new finish. It will remove stock well enough, which I tested among other things by sanding back to bare timber a few crusty old pieces of sapele that had been badly weathered. I must say that it performed very well but it's not as efficient or quick as a random orbit; it would certainly complement one really well as part of a sanding kit to cover different sanding regimes, however, especially as it will address internal corner situations very well.

In summary

As usual, Bosch have come up with the goods here, and with the sander, extra bases and an 'L-Boxx' storage case, this piece of kit represents excellent value that is backed up with equally excellent performance. **AK**

All this dust was removed from one small piece of wood – pretty efficient!

A few badly weathered pieces of sapele were in need of TLC…

… and it didn't take long to get them back to their original orangey colour

Charnwood W316 bench mortiser

This bench-top mortiser from Charnwood is a great hobby-rated machine that is solidly built using heavy cast-iron, doesn't take up much space, and performs well

Specification

From chisel bush to table: 220mm
Maximum timber height with a 12mm chisel fitted: 110mm
Timber clamping width: 25-125mm
Chisel capacity: 6-16mm
Vertical chisel stroke: 105mm
Accepts chisel shank size: 19mm
Table travel (left to right): 170mm
Table travel (front to back): 75mm
Motor: 375W (½hp), 240V
Motor speed: 1,400rpm
Weight: 42kg

Price: £299
Web: www.charnwood.net

PROS

- Solidly built
- Decent capacities
- Small footprint

CONS

- Small wheel to adjust backset
- Cheap stop adjusters

RATING: 4 out of 5

Once you get further involved in woodworking and start to dabble in the joinery and furniture making side of things, then the need for solid constructional joints becomes an essential part of the game and mortise & tenons especially so. The odd project here or there can be achieved with basic tools but on a more complex project or on a regular basis, a dedicated mortiser is a game changer for speed and ease of use, and they don't have to break the bank, nor take up masses of workshop space.

Fits the bill

The Charnwood W316 fits the bill in all of these criteria and with decent enough capacity to cover furniture through to standard joinery-sized projects. It's a design that has been around for a while now: the 'I beam' girder-style head support with big holes through it to reduce weight while still retaining strength and rigidity is common to other models out there and it has similar built-in stops for restricting the left/right travel and plunge for fast repeat work. While these stops work, they aren't the beefiest or highest quality of components, but this is a hobby-rated machine, not a heavy-duty trade machine and therefore built to a budget. You have to be aware that with the long plunge arm you can exert a fair bit of pressure on the down stroke of the mortising action and move the stops if you are a bit too enthusiastic.

Even so, it still has good capacities as well as having an 'X-Y' traversing table with a lateral bed movement of 170mm, which allows it to do a sterling job on decent-sized, well supported joinery. You could use it to make a standard house door quite comfortably but it would have been nice to have had a tad more travel here to work mortises for wider mid and bottom rails found on some doors, but again, this is a budget machine so that has to be taken into account.

In use

But having an easily adjustable table to move the work both forwards and backwards to position the chisel as well as being able to move the work across easily are features that make a mortiser all the more desirable and back it up with a decent heavy-duty clamping shoe, such as the one fitted to this machine, and the basics of fast, easy mortising are cracked. With the clamp shoe angled down, the work is held back to the fence and down to the bed at the same time, acting in a dovetail effect to keep the work secure as the chisel is withdrawn.

The clamp can be repositioned for wider stock – up to

The large front wheel drives a rack and pinion gear to move the timber left and right

This smaller wheel is designed to alter the backset of the mortise to the fence

The angled clamp holds the work very firmly to the fence and table

Clamps are used to restrict plunge for stopped mortises or haunches

Similar stops can set the mortise width for fast repeat work

Chisels are secured into the collar with the aid of a hex screw

The auger is held in a standard three-jaw chuck

125mm – which is useful for wider stock where twin tenons are employed and with the small adjuster wheel at the front of the machine, repositioning the backset is easy to do although the wheel is perhaps a tad small for achieving this, especially if you have issues with finger gripping, for example.

Swapping chisels is standard fare on many a mortiser and it's no different here: a three-jaw chuck to retain the auger while the bit is held in the collar with a simple hex bolt. The capacity here is 16mm with a collar size of 19mm, which is pretty standard for a small mortiser and plenty for some decent-sized work, plus, of course, you can cut bigger mortises by repositioning the backset if needed.

At 42kg it is solid enough to stay put under its own weight, but any longer stock can still unbalance it, and if it's not bolted down then it may be liable to toppling over – you certainly wouldn't want it dropping on your toes!

It is compact enough to fit to a baseboard and then clamp the board to a bench if workshop space is too tight to allow it to remain ready for action, giving you the option to store it away when not in use.

The long handle allowed me to gain plenty of purchase power on the mortises I cut and I found the crank in the handle made it easy to rotate the wrist as it descends.

Performance here is more down to the chisel than the machine as any mortiser will come up short if the chisel isn't sharp and of decent quality. I had access to a fairly good set and fitted a 15mm one to try in softwood and oak. The softwood, as expected, was easier and quicker but both were cut efficiently and cleanly, and it runs at a low enough speed to keep the chisel flutes clear while still working at a pacy feed rate.

In summary

The big bonus, of course, is being able to quickly move through the work with the lateral wheel, which is worth its weight in gold: it knocks spots off the old top fork clamp and hand-moved style mortisers, which were common a decade or so back. For the money, this is a nicely made little machine that would fit well in a small hobby workshop, and the best thing is that it won't break the bank. **AK**

The cranked handle works well for longer plunges

This oak was easy to mortise at its full 16mm chisel width

The resulting mortises are clean for a snug fitting joint

General Finishes Pearl Effects & Enduro Extender

Add a metallic touch to your furniture projects with this great range of Pearl Effects paints from General Finishes

Specification

Pearl Effects colours: Argentine, Bronze, Burnished, Champagne, Copper & Tawny
Quantity sizes: 473 & 946ml

Typical prices: Pearl Effects – **£43.20** (473ml); Enduro Extender – **£13.15** (473ml)
Web: www.eurofinishes.com

PROS

- Nice metallic effects
- Easy to apply

CONS

- Requires practice to get the best effects
- Quite expensive

RATING: 3.5 out of **5**

The Pearl Effects range from General Finishes gives you the option to impart a burnished look on any finish – a worn gilded effect on a moulded piece such as a mirror or picture frame, for example.

You can experiment to achieve different effects and the General Finishes website has a video that shows plenty of different techniques – give it a watch to pick up some tips before you start.

Garden planter

I decided to apply the Pearl Effects to a garden planter I recently made. First, I applied a base coat of milk paint, choosing to use Patina Green, but the Pearl Effects can be used over any of the General Finishes milk paints, stains and water-based topcoats in the range.

One coat of the Patina Green was enough to gain a solid base colour. I gave it a quick de-nib once dry and a coat of Exterior Top Coat to seal it, followed by a de-nib, then I was ready to go. The instructions advise not to go back over previously applied Pearl Effects as you work, but the Argentine Pearl is a bold silver and I found that it does block out the base colour if brushed on too thickly, even though it is meant to be a translucent finish, so I went for a dry brush effect.

The Enduro Extender stops the Pearl Effects from drying too quickly so that you can work it in easier, but you still need a bit of practice to achieve the look you want. It's not a cheap finish but a little goes a very long way. I used a small amount of the Pearl with a squirt of Extender, which was enough to coat the entire planter.

Dab the brush on a rag first to soak off any excess, then dab, drag and brush the finish over the work. The silvering begins to build up while still allowing the blue to break through.

If you over-apply, you can wipe it off with a cloth, but if you are applying it outside in warm weather, it does begin to dry quite rapidly, even with the Extender, so you need to decide if you are happy with what you have quite quickly.

I'm quite pleased with the result although the finished photo doesn't do it justice as the camera picks up the silver and misses a lot of the underlying blue, but it is fairly uniform and the effect I achieved is quite impressive in sunlight. A bit more practice on some better timber should yield more consistent and controllable results.

In summary

Although the directions state that the range is only suitable for indoor use, I gave it a couple of coats of external finish to seal it in so it should hopefully stand up to our British climate, but for indoor use on mouldings and furniture you can achieve some nice effects, especially if you mix the Pearls available and alter the base coats. **AK**


A suitable base coat is applied first – I used a milk paint from General Finishes


The base coat is de-nibbed with a fine abrasive and dusted off


An external top coat is applied to seal the surface, ready for the Pearl Effects


A sparse amount is needed; a small squirt of Extender allows for a longer working time


Wipe any excess off onto a rag to allow a fine, dry build-up of the Pearl Effects


As you brush it in the silvering becomes apparent while the blue still shows through


Although the photo looks blotchy, the finish is uniform and quite pleasing

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Elektra Beckum HC260 planer/thicknesser – includes extractor, hood & wheels; £120
01934 732 451 (Somerset)

Kress routers mounted on Powermate workstation, plus user guides; £65
01628 628 147 (Maidenhead)

Record 405 Multiplane in original box with extra cutters, hollow and round bases, plus instruction booklet and screwdriver – excellent condition; £150 OVNO – postage extra or collect
020 8524 9173 (Chingford)

Stanley toolbox – 670 × 330 × 100mm – includes Stanley No.3 plane, ratchet brace, tri-square, auger bits, surform & marking gauge – as new; £65 OVNO – postage extra or collect
020 8524 9173 (Chingford)

Ward & Payne drawknife with 9in blade & beech handles – a beautiful old tool; £30 – postage extra or collect
020 8524 9173 (Chingford)

O'Donnell sharpening jig – enables repeat, accurate sharpening of all woodturning & general woodworking tools. Bevel or fingernail instantly repeated the same. Includes instruction manual, 60 & 90° slides, plus spare & handbook. Diamond tip dresser included, plus spacer height block, which fits any size grinder wheel; £30 – collection preferred, but can post at cost if required
07816 371 694 (Newcastle)

Union Jubilee woodturning lathe – 42in bed; three-jaw chuck, plus turning tools; £400
020 833 0813 (Surrey)

Triton bevel riding guide – model BRA200 – hardly used; £50 – buyer collects
01202 248 684 (Dorset)

Jet table saw; £40; Trend router table plus DeWalt 625 router with various bits; £200
01444 24692 (Sussex)

Record 080 scraper plane – as new, in box, never used. Includes 2¾in cutter plus instructions; £35 plus postage, or collect
020 8524 9173 (Chingford)

Selection of wood for turning & a shelving unit; £100 – buyer collects. Phone for details
01539 442 478 (Cumbria)

Record side rabbet plane No.25-65 – in original box & in superb condition, circa 1970s with depth stop. Also includes left- & right-hand cutters; £45 plus postage, or collect
020 8524 9173 (Chingford)

Hegner Polycut 3 universal saw - with blades & in good condition; £250 – buyer collects
01635 48402 (Berks)

CoMatic AF32 power feeder – complete with base & manual. Bought from Axminster Tools & Machinery 5 years ago but not used; £300 ONO
01584 841 331 (Shropshire)

WoodRat 5 complete with manual & CD – in excellent condition, little used and now gathers dust in workshop. A few spare items as supplied by WoodRat included; £180 or £250 with a set of WoodRat router bits
01793 812 182 (Swindon)

Ryobi Pro RBS 5518 bandsaw – with cast-iron table, fence and mitre gauge. It can be bench-mounted but is on a floor stand with two lockable castor wheels. In excellent condition – looks almost brand-new; £150
01793 812 182 (Swindon)

Record multi-purpose machine – circular saw, router, planer/thicknesser; £450 – buyer collects
01903 243 526 (West Sussex)

Axminster APTC lathe – used once and in pristine condition; set of woodturning tools included; £250
01344 486 214 (Berkshire)

Proxxon DH40 precision thicknesser – 80 × 40mm capacity; micro adjustable; will plane planking down to 1mm thick with superb finish; replacable HSS blades; power feed; in very good condition & little used; £275 plus £19.95 shipping **07876 021 620**

Fine selection of veneers including ash, beech, mahogany, oak, maple, tulip, plus various others – buyer collects; £50
01356 624 513 (Brechin)

Shopmate 10in radial arm saw – 240V saw in good working order complete with Dexion angle section; stand on lockable castors and instruction manual; will cross-cut, rip, & mitre in two planes. Power outputs on opposite side to saw at 3,450rpm and 20,000rpm; £130 ONO
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01780 751 768 (Lincs)

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Illustration by Omi

Mr Challis

Robin Gates remembers a retired shipwright who never stopped working

In all the years we lived in the same road, I don't think I uttered more than a 'Hello' to Mr Challis, although our paths crossed countless times in the village and beyond. Some mornings he'd come sailing by on his bicycle as I was on my way to school, he'd tip me half a smile, and be gone before I'd plucked up the courage to open my tongue-tied mouth. I was shy as a hermit crab in those days, although getting out and about on a bicycle of my own, exploring country lanes and tracks leading down to the sea.

A different generation

Mr Challis was a shipwright, long retired by the time he came to my notice, but still cycling off to work each morning. In those days, the shore was littered with dilapidated wooden boats. People were turning their backs on wood in favour of new fibreglass which, it was said, didn't require maintenance. It's down to the likes of Mr Challis, continuing to exercise his time-served skills, steaming timbers, shaping planks and riveting, that more wooden boats didn't end their days as firewood.

I suspect if you'd asked him how he spent his evenings he would have talked of sharpening tools, preparing timber for his next day's work, and digging the vegetable garden. He didn't seem to have relatives nearby. He certainly lived alone. Falling into conversation with a neighbour many years later, I discovered he'd been apprenticed to a top flight firm of joiners in his youth, somewhere around London. Like many of his generation, he had lived through the upheavals of two world wars, and no doubt suffered hardships I can't imagine. But he wasn't one to sit around and brood, that's for sure.

A life measured in boats

As often as not, I'd be out on my bike after school, and pull up at some quay or slipway where I'd spot Mr Challis working on a boat. I'd hear sawing or the scratching of sandpaper, wondering if it was him, then recognise his bike with its wooden carrier mounted above the rear wheel.

The bike was a heavy black machine with sit-up-and-beg handlebars, coil-sprung leather saddle, and brakes operated by metal rods. I'm pretty sure it was an ex-policeman's bike; everything in those days was ex-somewhere – army, navy, air force, you name it – and built to last a lifetime. Government surplus stores in the back streets of Portsmouth were packed to the rafters with top-quality adzes, axes and heavy-duty woodworking tools, all made in Britain and brand-new.

When I'm feeling dissatisfied with my old tools or criticising my bench, even finding fault with the timber, I wonder what Mr Challis would have to say, and I'm pretty sure he'd sum up my predicament in one raised eyebrow. He was a man who simply got on with the job using what he had to hand, and worked on any surface that was available. Among his most used tools were the stubs of worn-down chisels, odd little scrapers and bevels made of broken hacksaw blades. He carried what he needed in his jacket pockets and his bike box, sometimes a shopping bag suspended from the handlebars, with timber being lashed to the cross-bar.

Closing my eyes, I see Mr Challis now, scooting a few yards to gain momentum, hoisting his leg across the saddle and sailing majestically down the road, with flat cap defying the laws of physics by staying put in even the most uplifting head wind, and pipe puffing like an ocean liner. On a rainy morning he'd set off to work beneath an all-enclosing yellow cape with just his head and feet poking out, returning in the dusk with his dynamo front light flickering to the rhythm of the pedals.

No doubt Mr Challis suffered life's set-backs and disappointments as much as any, perhaps more so for having no one to unburden his mind to when he came home, but outwardly, at least, he seemed a contented man, with a constant sparkle in his eye. More than most, his work was timed to the natural rhythms of the tides and seasons, filling summer's long daylight hours and eking out the slanting rays of winter, with a job beginning when he started it and being finished when he was done, probably for a sum agreed beforehand, regardless of complications yet to show.

For Mr Challis, life was measured in boats built and pipes smoked, not years. **ww**

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