WOODWORK | TURNING | TOOL TESTS | FEATURES

November 2021

The Woodworker

& Good woodworking

THE ORIGINAL & BEST SINCE 1901

CHIPPENDALE SCHOOL 2021 GRADUATE SHOWCASE

23 international students set the pace for the **future of furniture making**

PLUS...

- LES THORNE TURNS HIS OWN HOBO REEL & FISHING FLOAT
- WOODEN SKI ARTISAN JAMIE KUNKA OF LONELY MOUNTAIN SKIS
- JOHN GREEVES LOOKS AT THE CONSTRUCTION OF A FALCONET CANNON

www.getwoodworking.com

mytimemedia WOODWORKING GROUP

9 772632 337014 11

£4.99

FAMILY MEMBER OF

Manutan

Affordable Quality
Door and Cabinet Furniture

FREE NEXT DAY DELIVERY over £45 + VAT

The top rated touchpoint® collection, exclusive to **IronmongeryDirect** is rated 4.8 / 5 by customers.

Door Furniture

Cabinet Furniture & Hardware

Bolts, Stops, Hooks & Accessories

Locks, Latches & Security

Shelving & Storage

Window & Joinery Hardware

For quality door and cabinet furniture that'll get the job done, ***Touchpoint*** is a reliable choice for carpenters and joiners at an affordable price.

High-quality and built to last, ***Touchpoint*** products come with a 5-year guarantee as standard. Browse the entire collection **IronmongeryDirect.co.uk/brands/touchpoint**

Call or go online

0808 168 28 28

IronmongeryDirect.co.uk

Ironmongery Direct

Trusted to deliver

Welcome

It's not often I find myself lost for words, but having recently returned from a week-long trip to the Isles of Scilly – an archipelago some 28 miles off the Cornish coast – I can truly say I was blown away by the sheer natural beauty. It really is a magical place and I feel very honoured to have been given the opportunity to visit.

Comprising five inhabited islands plus countless others yet to be fully explored, the Isles of Scilly is famed for its azure waters and sandy beaches, stunning flora and fauna, and owing to its significant location and rocky coasts, thousands of shipwrecks, the earliest dating back to 1305. Over the years, much has been washed ashore and salvaged, including a selection of wonderful figureheads, name boards and other decorative ships' carvings from the days of sail, all of which are housed and displayed in Tresco Abbey Garden's Valhalla Museum.

Archipelago adventures

Owing to a connection with the island of Bryher, six of us booked a beautiful holiday home on the 'place of hills', and despite our flight from Lands End being cancelled at the last minute and with no option but to board the ageing *Scillonian III* ferry, the journey was fairly smooth. Sadly, our first glimpse of Scilly wasn't from the air as promised, but it was certainly an exciting moment when the first of the islands came in to view. Once we'd navigated St. Mary's Quay and were safely moored, a tripper boat took us across to Bryher, also passing the uninhabited Samson, as well as Castle Bryher and Hangman Island. I won't forget disembarking the boat and carrying my luggage across the beautiful sandy beach, but above all, my enduring memory is one of sheer tranquility and an overwhelming sense of calm. As there aren't any street lights on Bryher and as such, no light pollution, you can enjoy pristine night skies as well as seeing the Milky Way in all its glory. Due to prevailing winds, the rugged island has few trees, but pittosporum – an evergreen shrub native to New Zealand – grows rampantly. Also famed for its diverse and beautiful wildlife, autumn sees an annual influx of birders keen to spot rare species, and we were lucky enough to observe – albeit unintentionally – a pectoral sandpiper, which had been blown off course on its journey to South America. Although somewhat common in contrast, however, and owing to them having no natural predators on the various islands, I absolutely loved how incredibly tame the little hedge sparrows were. Walking around Bryher, I was stunned by the plethora of succulents growing wild, the white sands of Rushy Bay, and on the other side of the island, the dramatically beautiful Hell Bay and Popplestones beaches.

Tropical Tresco & 'Scilly stories'

Regarded as 'Scilly's Subtropical Gem' and a 'perennial Kew', Tresco Abbey Gardens was by far the highlight of the trip. Home to 20,000 exotic plants with species from 80 countries, ranging from Brazil to New Zealand and Burma to South Africa , it was established by Augustus Smith in the 19th century around the ruins of a Benedictine Abbey. Tree species in residence include towering Canary Island date palms, a Pohutukawa – the New Zealand Christmas bush – not to mention impressive Chilean myrtles and Norfolk Island pines. Home to much wildlife including glorious golden pheasants and recently introduced red squirrels, the garden changes throughout the year and even at the winter solstice, there are usually more than 300 species of plants in flower.

Even though we endured several storms and more than our fair share of rain, the sun did make an appearance every day, if only briefly. Stopping to watch a group of playful Atlantic grey seals off the coast of St. Martin's was a great way to round off the trip, and despite a noisy take off in the small 19-seater plane, seeing the islands' sandy coves and turquoise seas from the air, including a sighting of the Seven Stones lightship, was simply breathtaking.

Finally, we do hope you enjoy our November issue, and if you have your own 'Scilly story' you'd like to share, please get in touch – we'd love to hear from you.

Tegan

Email tegan.foley@mytimemedia.com

Tegan Foley
Group Editor

Rhona Bolger
Group Advertising Manager

Phil Davy
Technical & Consultant Editor

46 A PASSION FOR THE MOUNTAINS
Making bespoke wooden skis

Jamie Kunka is making a name for himself as one of the most exciting hand-crafted wooden ski-makers around. Operating from his Perthshire workshop, he describes the processes behind making a typical ski – involving half hand and half machine work – all the while using as many sustainable and natural materials as possible

WIN!

We've teamed up with Wood Workers Workshop to give five lucky readers the chance to win a fantastic workshop set from AUKTools

Set contents: AUKTools contour sanding grips (set of 8) & an AUKTools router bit foam tray

See **page 45** for entry details – good luck!

AXMINSTER TOOLS

SEND IN YOUR TOP WORKSHOP HINT/TIP/POINTER OR PIECE OF ADVICE & YOU COULD BE IN WITH A CHANCE OF WINNING AN **AXMINSTER RIDER NO.5½IN JACK PLANE** – see page 65 for details

RIDER

The Woodworker & Good Woodworking
NOVEMBER 2021

PROJECTS & TURNING

TECHNICAL

REGULARS

FEATURES

ON TEST

FOLLOW US! www.facebook.com/GetWoodworking @woodworker_mag

www.getwoodworking.com
Published by MyTimeMedia Ltd.
Suite 25, Eden House Enterprise Way,
Edenbridge, Kent TN8 6HF
UK and Overseas Tel: +44 (0) 203 855 6105

SUBSCRIPTIONS
UK – New, Renewals & Enquiries
Tel: 0344 243 9023
Email: mytimemedia@subscription.co.uk
USA & Canada - New, Renewals & Enquiries
Tel: (001) 866 647 9191
Rest of World – New, Renewals & Enquiries
Tel: +44 (0) 1604 828 748
Email: help@tww.secureorder.co.uk

BACK ISSUES & BINDERS
Contact: 01795 662 976
Website: www.mags-uk.com

EDITORIAL
Group Editor: Tegan Foley
Technical & Consultant Editor: Phil Davy

CONTRIBUTORS
Geoff Ryan, Simon Frost, Andrew Brough, John Bullar, Robin Gates, Colin Simpson, Peter Bishop, Leon Osman, John Greeves, Phil Davy, Les Thorne, Andy Standing

PRODUCTION
Designer: Nik Harber
Retouching Manager: Brian Vickers

ADVERTISING
Group Advertising Manager: Rhona Bolger
Email: rhona.bolger@mytimemedia.com
Tel: 0204 522 8221

SUBSCRIPTIONS
Subscriptions Manager: Beth Ashby

MANAGEMENT
Group Advertising Manager: Rhona Bolger
Email: rhona.bolger@mytimemedia.com
Chief Executive: Owen Davies

mytimemedia
print & digital media publishers

D&M TOOLS

THE TOOL SUPERSTORE

HAND, POWER TOOLS & MACHINERY SPECIALIST

DM-TOOLS.CO.UK

Quality Tools, Trusted Service & Expert Advice

D&M Tools has been family owned and managed since 1978. During that time we have earned a reputation with our customers as a trusted partner. Whether you are a trade professional or a DIY enthusiast, our mission is a simple one - **to supply top quality tools at the best value for money, backed up by a service you can trust.**

LOW TRADE PRICES!

Whether you're buying online, by phone, email, post or visiting us in-store, D&M provides you with the widest range of quality hand, power tools and woodworking machinery all at the keenest prices.

OVER 10,000 LINES IN STOCK!

We hold massive stocks, meaning that most items are available for despatch the day you order it. Our website shows up to date stock availability, so you can order with confidence.

SHOP ON-LINE 24HRS A DAY

Visit our easy-to-use website to see what we mean about range and value. Browse and buy with confidence 24hrs a day from the biggest brands in the business, all at prices you'll find hard to beat, you will also find all our **latest offers and deals.**

Subscribe to our regular emails to keep up with our latest deals and offers or join our **D&M Loyalty Scheme** and earn valuable loyalty points every time you shop on-line.

More details on our website

DM-TOOLS.CO.UK

Scan this QR code

73-81 HEATH ROAD • TWICKENHAM • TW1 4AW

020 8892 3813 • SALES@DM-TOOLS.CO.UK

FREE DELIVERY

Delivery to UK mainland addresses is **FREE for most orders over £99,** and for orders under £99 is only £5.95.
See the carriage rates on our website for full details.

020 8892 3813
MON-SAT 8.30am-5.30pm
(CLOSED BANK HOLIDAYS)

D&M TOOLS

VISIT OUR EXTENSIVE TWICKENHAM SUPERSTORE

OUR CUSTOMERS LOVE US!

We are regularly receiving 5 star reviews on the independent review site Trustpilot, as well as testimonials direct from our customers, here are just a few:

★★★★★
"You can choose to buy products anywhere. What you can't buy is service. On the odd occasion tools fail. D&M Tools Staff have a great knowledge of the products they sell. offer unbiased advice and above all else exemplary service, especially when there is an issue. A well run business which will keep me coming back for all my tool needs."

★★★★★
"Super helpful team, phoned in late in the afternoon and said he'd get my order dispatched the same afternoon and like a flash my product turned up super fast! Will be using again very soon!"

★★★★★
"Brilliant service friendly staff lots of knowledge of the tool trade. Like the loyalty points. My number 1 tool supplier."

★★★★★
"**D&M tools have gone the extra mile** with there outstanding support, Nothing is to small for there team, sorted out my order, Really quick, will happily buy more gear from them."

★★★★★
"**Service support was excellent** with a prompt and helpful response to my query. Item was as described and keenly priced."

★★★★★
"**Quality products, great price and quick delivery** well done again."

★★★★★
"**Excellent deal best price around.** Dispatch and delivery quicker than expected and exactly as promised. Will absolutely use again."

Trustpilot

SOME OF OUR LEADING BRANDS

BAHCO
BESSEY
BOSCH
DEWALT
FEIN
FESTOOL
IRWIN
Kreg
mafell creating excellence
makita
metabo PROFESSIONAL POWER TOOL SOLUTIONS
RECORD POWER ESTABLISHED 1909
Snickers WORKWEAR
STANLEY
trend tool technology

@DM_Tools DandMTools dm_tools DMTools1

Bespoke trophy cabinet hand-crafted for **ABOYNE HIGHLAND GAMES**

Furniture maker Lewis Lilburn recently created a bespoke cabinet to house historic trophies that are competed for annually at Aboyne Highland Games. It was constructed using traditional cabinetmaking techniques and made possible thanks to funding received from the Marr Area Partnership.

Organisers of the 154-year-old event hope the piece, which is on public display in the Aberdeenshire village, will be cherished by future generations. Made of Scottish oak, the trophy cabinet measures 1.3m wide and stands 2.4m tall. It took Lewis over 300 man-hours to design and craft; sawing, chiselling, planing sanding, gluing and finally finishing the wood.

Using traditional mortise & tenon joints throughout its frame affords the trophy cabinet great strength, and it also features a cornice topping.

From left to right: Lewis Lilburn and Alistair Grant with the new trophy cabinet

Photographs courtesy of Sally Stevens, **Capture This Photography**

The completed trophy cabinet, in Scottish oak

Locally sourced

Materials for the cabinet were purchased from Scottish businesses. The wood was supplied by Logie Timber and Gilmore & Aitken, while the glazing was provided by the Cairngorm Group. Upholstery and tartan to line the interior were sourced from McEwan of Inverness and Wm Blackhall in Tarland respectively.

Aboyne Highland Games commissioned Lewis – an experienced furniture designer-maker – to design and build the cabinet owing to his, and his family's, connection to the event. Lewis is currently working as a self-employed carpenter and cabinetmaker in Inverness-shire, supporting the restoration of old buildings on Belladrum Estate near Beauly into a creative hub. Alongside this, he works on private commissions during evenings and weekends.

Alistair Grant, chairman of Aboyne Highland Games, said: "Our new trophy cabinet is an impressive item of furniture, which has been beautifully crafted by Lewis using traditional techniques and Scottish suppliers. The effort and attention to detail that's gone into its creation is strongly evident. Using the Gordon tartan for the interior is a lovely touch and recognises the role of our chieftain and his family. It's a splendid home for some of our historic trophies and will be an heirloom piece of furniture that future generations can enjoy."

Wood runs through the grain of the Lilburn family: Lewis' great-grandfather, Lieutenant Colonel William Lilburn of Coull, planted a large woodland near Aboyne containing in excess of six million trees. The woodland was managed by his son, Alistair, who along with his son James – Lewis' late father – went on to establish a sawmill to harvest the timber.

A fitting contribution

An interest in nature, wood and design took root in Lewis as he grew up, and upon leaving school, he completed an HND in furniture making at Buckinghamshire New University, High Wycombe. He then went on to complete a BA in contemporary furniture and related product design, before working as part of the design and technical team at a company manufacturing bespoke kitchen and furniture items. Most recently, he's furthered his studies by undertaking an MA in material practice at The university of Edinburgh.

Commenting on the cabinet, Lewis said: "It was a privilege to be asked to create the trophy cabinet for Aboyne Highland Games, cementing my family's connection with the event, which stretches back decades. I hope that my ancestors would find it a fitting contribution to the story of the games.

"Creating the glazed doors for the cabinet was a bit of a challenge due to their size and the fact that timber tends to move slightly if its moisture content isn't quite right. This meant that a good degree of thought was required before the glass went in.

"In Scotland, we're very fortunate to have fantastic materials to work with and it was a pleasure to incorporate some of them into the cabinet."

Following its cancellation for the second successive year, Aboyne Highland Games hosted a virtual celebration of the traditional event, which included online piping and fiddle competitions. The virtual programme can be viewed on the event's Facebook page: **www.facebook.com/AboyneHighlandGames.**

Lewis Lilburn working on the trophy cabinet

The Woodworker Timber Suppliers Directory – November 2021

Adhectic Ltd (Berkshire)
Tel: 01235 5
Web: www.adhectic.co.uk

A Harrison (Northants)
Tel: 01536 725 192
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)
Tel: 01993 881 391
Web: www.eynshamparksawmill.co.uk

FH Ives (Essex)
Tel: 01268 732 373
Web: www.fhives.com

Fulham Timber (London)
Tel: 0208 685 5340
Web: www.fulhamtimber.co.uk

G&S Specialist Timber (Cumbria)
Tel: 01768 891 445
Web: www.toolsandtimber.co.uk

Good Timber (Northamptonshire)
Tel: 01327 344 550
Web: www.goodtimber.com

The Hardwood off cut shop (Essex)
The Wood Yard, Canterbury Tye Farm, Doddinghurst road, Brentwood, Essex, CM15 0SD
Tel: 01277 205990
Web: www.hardwoodoffcuts.co.uk
sales@hardwoodoffcuts.co.uk

Horndon Timber Products
Unit 8-9 Orsett Industrial Park
Stanford Road, Orsett, Grays
Essex. RM16 3BX
Tel: 01375 679 999
Web: sales@horndontimber.co.uk

Interesting Timbers (Somerset)
Tel: 01761 241 333
Web: www.interestingtimbers.co.uk

ISCA Woodcrafts (South Wales)
Tel: 01633 810 148/07854 349 045
Web: www.iscawoodcrafts.co.uk

Joyce Timber (London)
Tel: 0208 883 1610
Web: www.joycetimber.co.uk

Lincolnshire Woodcraft (Lincolnshire)
Tel: 01780 757 825
Web: www.lincolnshirewoodcraft.co.uk

Nottage Timber (South Wales)
Tel: 01656 745 959
Web: www.nottagetimber.co.uk

Ockenden Timber (Powys)
Tel: 01588 620 884
Web: www.ockenden-timber.co.uk

Olivers Woodturning (Kent)
Tel: 01622 370 280
Web: www.oliverswoodturning.co.uk

Oxford Wood Recycling (Oxfordshire)
Tel: 01235 861 228
Web: www.owr.org.uk

Stiles & Bates (Kent)
Tel: 01304 366 360
Web: www.stilesandbates.co.uk

Scadding Timber (Avon)
Tel: 01179 556 032
Web: www.scadding-son-ltd.co.uk

Scawton Sawmill (North Yorkshire)
Tel: 01845 597 733
Web: www.scawtonsawmill.co.uk

S.L. Hardwoods (Croydon)
Tel: 020 3051 4794
Web: www.slhardwoods.co.uk

St. Andrews Timber (Scotland)
Tel: 01316 611 333
Web: www.standrewstimbersupplies.co.uk

Surrey Timbers Ltd (Guildford)
Tel: 01483 457 826
Web: www.surreytimbers.co.uk

Sykes Timber (Warwickshire)
Tel: 01827 718 951
Web: www.sykestimber.co.uk

The Timber Mill (Cornwall)
Tel: 07966 396 419
Web: www.thetimbermill.com

The Wood Recycling Store (East Sussex)
Tel: 01273 570 500
Web: www.woodrecycling.org.uk

Thorogood Timber Ltd (Essex)
Tel: 01206 233 100
Web: www.thorogood.co.uk

Timberman (Carmarthenshire)
Tel: 01267 232 621
Web: www.timberman.co.uk

Tree Station (Lancashire)
Tel: 01612 313 333
Web: www.treestation.co.uk

UK Timber Ltd (Northamptonshire)
Tel: 01536 267 107
Web: www.uk-timber.co.uk

Waterloo Timber Ltd (Lancashire)
Tel: 01200 423 263
Web: No website

Wenban Smith (West Sussex)
Tel: 01903 230 311
Web: www.wenbans.com

Wentwood Timber Centre (South Wales)
Tel: 01633 400 720
Web: www.wentwoodtimbercentre.co.uk

W L West & Sons Ltd (Surrey)
Tel: 01798 861 611
Web: www.wlwest.co.uk

Yandle & Sons Ltd (Somerset)
Tel: 01935 822 207
Web: www.yandles.co.uk

Get the **modern farmhouse look** for your kitchen

Neutrals in farmhouse kitchen schemes work really well, and grey shades are ideal – instead of painting all cupboards and cabinets in the same shade, try using different greys for two or three surfaces. Consider painting wall tiles in white to create a light and airy look to the room, forming a backdrop for utensils and accessories.

V33 Renovation Cupboard & Cabinet paint is a satin finish paint that's specifically formulated for cupboards and cabinets. It requires no undercoat, is extremely durable and also resistant to culinary and domestic stains. It allows for regular and easy cleaning, which won't alter the colour and finish of the paint. Easy to apply, it requires no more than three tools: a paint stirrer or wide stick, 4-5mm short pile roller, and a round-edged paintbrush for tackling angles, corners and finishing.

Available from B&Q, V33 Renovation Cupboard & Cabinet paint is available in a range of neutral shades, formulated for use by the experienced or novice DIY-er. It's priced at £25 for a 750ml tub, which provides 10m² of coverage.

Preparation

Preparation of surfaces is essential in order to achieve a good quality finish. V33 recommend washing the surfaces in question with a soda-based or sugar soap – alkaline – cleaner. Varnished wood, painted wood and melamine should be washed, rinsed thoroughly with water, left to dry, then lightly sanded with 240 grit abrasive, before removing any residual dust. Laminate, wall tiles and glass should also be washed and rinsed thoroughly with water and left to dry. Raw/porous surfaces such as wood and MDF should be lightly sanded before removing residual dust. On raw oak and chestnut, an appropriate undercoat should first be applied to block tannins.

Application

The paint should be applied at room temperature between 12 and 25°C, avoiding draughts. First, stir the paint with a stirrer or wide stick, working around the bottom of the tin to mix it well. Projects should be started by painting the angles, mouldings and joints of the surfaces involved. Work should be carried out on small surfaces at this stage.

Next, follow with successive cross strokes. A second coat shouldn't be started while the first is still drying. Leave to dry for six hours, not exceeding 12 hours, before applying a second coat in the same way. A third coat may be required, depending on surfaces and colour.

Once completed, a gentle detergent and non-abrasive sponge should be used to keep painted surfaces clean. Optimum product performance and adhesion are achieved after 20 days of application. Finished surfaces should therefore be treated gently, avoiding direct impact, abrasion, staining or cleaning for the first 20 days after application.

For more information, see **www.v33.co.uk**.

More choice with **IRONMONGERYDIRECT**

Leading specialist ironmongery supplier, IronmongeryDirect, has introduced further lines to its diverse range of over 18,000 products. The new additions include stylish new door furniture as well as kitchen splashbacks and balcony kits.

Create a buzz with attractive door furniture

Adding to its core range of ironmongery and door furniture is a new range of unique bumblebee door knockers. Offering customers an eye-catching centrepiece, the new bumblebee door knockers are manufactured with superior quality, solid brass casting and are available in a range of modern finishes such as matt black and polished copper.

Continuing with trend-driven finishes, an attractive range of knurled hardware from UK-based designer and architectural ironmongery manufacturer, Carlisle Brass, is now in stock. A complete range of knurled T-Bar cabinet knobs, cabinet pull handles, door handles, escutcheons and turn and releases are available in six different finishes including contemporary matt black and satin nickel.

More choice

The core ironmongery collection has been extended to include complementary products suitable for a variety of projects. The kitchen splashback series now offers customers a wider choice in a range of sizes and colours, and for convenience, self-adhesive options are available to save time while on site.

For outdoor projects, a new collection of glass Juliet balcony sets are available for quick and simple mounting on stone, concrete and steel.

Commenting on the new additions, Scott Copeland, Category Manager at IronmongeryDirect, said: "We pride ourselves on being 'trusted to deliver' and this includes ensuring our product range meets the needs of our professional and trade customers. With our extended ranges, we hope to further support tradespeople in a variety of projects by providing more choice, as well as flexible delivery options and competitive prices, so that customers can get the products they want, when they want them."

IronmongeryDirect's sister site, ElectricalDirect, has also expanded its portfolio with air conditioning units, patio heaters and an extended range of lighting solutions for both commercial and household projects.

To find all the products mentioned and more, visit **www.IronmongeryDirect.co.uk**.

NORTHUMBRIAN WOODTURNERS' ASSOCIATION'S annual tools & woodworking equipment auction

Northumbrian Woodturners' Association will be holding their annual auction of tools and woodworking equipment – over 100 lots in total – which will be offered at 7pm in the Clubhouse, Briardale Community Centre, Blyth NE24 5AN on 10 December 2021. There's ample free parking and a catalogue of lots will be available to view on the club's website from 1 October – see **www.northumbrianwoodturners.com**.

Hammer®

UNLIMITED CREATIVITY & PROFESSIONAL CNC RESULTS

Hammer HNC 47.82
The new Hammer CNC-moulder makes the world of CNC machining affordable for everyone.

A powerful moulder spindle, precise linear guides and powerful stepper motors guarantee maximum precision and repeatability, even with delicate work. The workpieces and numerous accessories can be fastened to the T-slot table in no time at all.

4 VARIATIONS TO SUIT YOUR NEEDS
PRICES FROM £3,495

BOOK YOUR INDIVIDUAL DEMONSTRATION APPOINTMENT TODAY

FELDER GROUP UK Ltd.
Unit 2 Sovereign Business Park, Joplin Court, Crownhill, Milton Keynes, MK8 0JP
Tel. 01908 635000, www.felder-group.com

MACHINE MART Northampton store – now open

Britain's biggest specialist supplier of tools and machinery, Machine Mart, is proud to announce the launch of its new Northampton superstore, which is now open.

Established in 1981 and with a growing network of 65 superstores nationwide, Machine Mart has thousands of tools and machinery on display. The company prides itself on providing quality brand products at competitive prices, as well as unrivalled customer service, technical know-how and after-sales support.

With everything for trade, DIY, garages, workshops and gardens at low prices, customers can choose from air compressors, water pumps, welders, generators, metalworking, woodworking, power tools, building, gardening, tool chests, a massive choice of hand tools and much, much more. Top brands are also on offer including Clarke, DeWalt, Makita, Bosch and many others.

Same day call & collect and local delivery is also on offer from this store. For friendly expert advice and a great deal, head to the new Machine Mart in Beckett Retail Park, St James' Road, Northampton, NN5 5JW. For further information, call **01604 267 840** or visit **www.northampton@machinemart.co.uk**.

MAKITA adds more tools to its LXT CORDLESS RANGE

Leading power tool manufacturer Makita UK has expanded its leading LXT range of cordless machines with the launch of several new products including a new 18V LXT Brushless disc cutter, an 18V LXT Brushless angle drill, and the much-anticipated 18V LXT Brushless multi-tool.

DTM52 18V LXT Brushless multi-tool

With the DTM52 multi-tool, operators can get the job done quickly and efficiently as this incredibly versatile machine delivers up to 20,000opm and offers 12 angle settings through 360°, providing perfect blade positioning at any working direction. The tool has been designed for user comfort and improved handling with a small diameter body that's easy to grip. It includes variable speed control, so users can easily adjust the output depending on the task, and constant speed control ensures optimum operation at all times.

For improved comfort, the DTM52 features Anti-Vibration Technology (AVT), which works to reduce the user's exposure to vibration. This is achieved by means of a double housing structure, which utilises an anti-vibration damper and cushions.

The DTM52 can be used across a wide range of applications and is compatible with all Starlock, Starlock Plus and Starlock Max accessories, meaning it can suit any job. The newly designed tool-less accessory auto-ejection allows these to be safely and easily removed in just seconds.

DCC500 18V LXT Brushless (125mm) disc cutter

The DCC500 (125mm) disc cutter is ideal for cutting masonry products with a diamond blade. To maximise user productivity, this machine has a no load speed of 8,800rpm and cutting capacity of 27-40mm depending on bevel angle. The DCC500 also features Makita's Automatic Torque Drive Technology (ADT), which works to automatically alter the cutting speed according to load conditions, which ensures optimum operation.

With user safety in mind, the DCC500 can be fitted with a dust collection bag so that particles are captured during dry cutting operations; however, it's recommended that M-Class dust extraction is used where possible. For wet cutting applications, an optional water supply guard (191M48-2) with feed hose and integral water bottle is available, offering an alternative dust suppression solution. Additional accessories include a guide rail and guide rail adaptor, which are essential for ensuring accurate, straight cuts.

What's more, the DCC500 also features Makita's Auto-Start Wireless System (AWS), allowing the tool to be connected to compatible dust extractors via Bluetooth, so that when in use, the extractor starts automatically.

DDA450 18V LXT Brushless angle drill

The DDA540 angle drill can be used across a wide range of projects and is ideal for drilling in tight, awkward spaces. The DDA540 also allows forward or reverse rotation so the bit can be easily removed from the work material. It delivers a maximum 70Nm of torque and a no-load speed of up to 1,400rpm, with two speed options allowing users to easily match the output to the task at hand. For ease of use and visibility, the DDA540 also features an LED job light.

Kevin Brannigan, Marketing Manager at Makita, said: "Thanks to Makita's innovative LXT battery technology, the DCC500, DDA450 and DTM52 deliver outstanding performance for increased user efficiency and productivity. What's more, the inclusion of Makita's Brushless 'BL' motor means that these new additions offer increased power and run-time. With fewer moving parts within the motor to cause friction, efficiency is therefore improved and the amount of heat produced is reduced, resulting in less wear and tear on the tool. As a result, users can continue to work disruption-free for longer.

"With our LXT range of products, professionals can use the same LXT Lithium-ion batteries to power over 270 machines, making it incredibly easy to switch between tools and tasks and maximise on-site productivity."

For more information on Makita products, see **www.makitauk.com**.

ISOTUNES AWARE – stay protected, connected & aware

ISOtunes, a global industry leader in Bluetooth hearing protection, has announced the launch of a new product line featuring level-dependent Aware Technology. The technology gives users complete situational awareness and protection at the same time. Available in an in-ear model (PRO Aware) and over-ear model (LINK Aware), users will no longer have to block out sounds they want to hear in order to protect themselves from harmful noises.

ISOtunes PRO and LINK Aware combine level-dependent Aware Technology with product features including high durability, battery life and sound quality. Aware products use Omni-directional microphones that allow users to safely listen to the world around them – such as colleagues, warning signals and more – while also blocking out harmful levels of sound.

Each model features high-fidelity speakers that enhance the natural sounds around you and custom-engineered digital signal processing for precise impulse filtration that reduces harmful sounds in less than 2ms. In short, Aware Technology is perfect for workers who need to hear their colleagues or equipment, but still need protection from loud impulse noises, such as nail guns, hammers and more.

ISOtunes LINK Aware

ISOtunes LINK Aware is an ear defender style that's perfect for the worker who prefers over-ear hearing protection but refuses to compromise on listening experience. Lightweight and comfortable with up to 14 hours' battery life, LINK Aware safely reduces damaging noise by 25dB. Water- and sweat-resistant, LINK Aware features a noise-isolating microphone that also blocks out steady-state noise for clearer calls in loud environments.

ISOtunes PRO Aware

ISOtunes PRO Aware is an in-ear option that allows for continuous connection to Bluetooth-enabled devices and all-day protection with up to 10 hours' battery life. With an NRR of 26dB, PRO Aware is water-, dust- and sweat-resistant and supplied with four pairs of ISOtunes' trademarked TRILOGY™ foam ear tips. PRO Aware also features new magnets that help the band stay around the neck, posing no hazard and still able to break away.

ISOtunes LINK Aware and PRO Aware are both priced at £129.99 and can be purchased via **www.isotunes.co.uk**.

What's new from

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

D&M TOOLS

HIKOKI M3612DAJPZ 36V MULTI VOLT ½IN CORDLESS ROUTER

MANUFACTURER: Hikoki
D&M GUIDE PRICE: £415 (inc VAT)

HiKOKI

A world first, HiKOKI's M3612DA Multi Volt cordless router features a compact, lightweight design, brushless motor for incredible power output, and a speed control dial for various applications. Capable of handling heavy workloads, it cuts even faster than a corded model and is fitted with a locking lever for easier and more precise depth adjustment. A spindle lock allows for easy bit change and dual LED lights provide excellent visibility. Designed for smooth groove cutting, window cutting, shaping and more, the new M3612DA is supplied with both ½in and ¼in collets, parallel guide, 18V/36V 5.0Ah/2.5Ah Multi Volt battery, charger and carry case.

NEW RANGE OF GEO-FENNEL LASER PRODUCTS

MANUFACTURER: Geo-Fennel
D&M GUIDE PRICE: See our website

geo FENNEL

New to D&M Tools is a range of recently-launched laser products from Geo-Fennel, the specialists in measuring technology, which are suitable for the professional user in all facets of the construction trade and industry.

These include rotary and automatic lasers for the professional construction site as well as the **Geo Tape 2 in 1 Laser Distance Meter** – shown right – featuring a built-in 5m tape with an easy-to-read black on white backlit digital display, plus built-in rechargeable battery.

There's also the **Geo6X Cross Line Green Laser Kit** – shown left – a versatile multi-functional laser for levelling jobs in indoor construction sites. The kit includes a multi-functional magnetic mount with tripod connection, Li-ion battery with mains and USB charger, magnetic target, plus a battery case for alkaline batteries.

triton
MASTERS OF WOOD

DON'T ADJUST ADAPT

AUTO-ADJUSTS TO MATERIAL THICKNESS WHEN CLAMPING

- Fully adjustable constant-clamping force
- Quick-release, single-handed clamping
- Saves set-up time
- Drill Press / Bench Clamps for use on drill presses, in T-slots & clamping tables

TRAA FC3
AUTOJAWS™ FACE CLAMP

TRAA DPBC3
AUTOJAWS™ DRILL PRESS / BENCH CLAMP

75mm (3") Clamping Capacity / 10 - 180kg (25 - 400lb) Clamping Force

TRAA FC6
AUTOJAWS™ FACE CLAMP

TRAA DPBC6
AUTOJAWS™ DRILL PRESS / BENCH CLAMP

150mm (6") Clamping Capacity / 10 - 110kg (25 - 250lb) Clamping Force

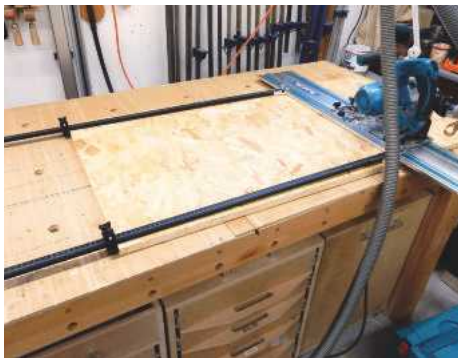
Find your nearest stockist at tritontools.com

3YR GUARANTEE

BENCHDOGS PARALLEL GUIDE SYSTEM

While taking a thorough look at the **Benchdogs** Parallel Guide System, **Geoff Ryan** also broadly assesses plunge cut saws with guide rails and some available accessories

My Makita plunge cut saw, with two 1.4m guide rails, was one of the best purchases I ever made. This set-up has allowed me to accurately and safely cut up large amounts of sheet materials including plywood, OSB, MDF, chipboard, worktops, etc. with comparative ease. A number of accessories are now available, from several manufacturers, to help keep cuts square and parallel as well as aiding repetitive cuts. Before we get into any more detail, however, we need to consider an issue with guide rails.



Parallel Guide System for plunge cut saw guide rails, available from Benchdogs

The problem with guide rails

Guide rails aren't all created equal. The two 1.4m rails that came with my saw could be linked together to create one long rail, but when I eventually needed to do this, I found that the two didn't quite align properly and sometimes the saw wouldn't slide easily at the junction, thus resulting in a slight kink in the cut. At the time, however, this didn't cause any real problems for the type of work I was doing.

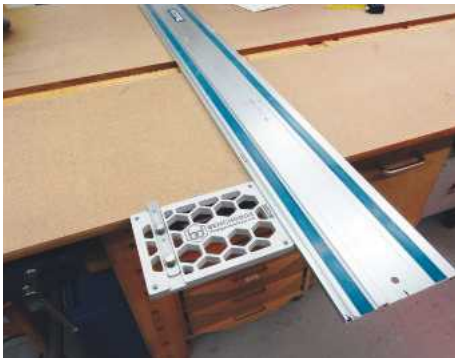
When I started using accessories with the rails, I also found that the 'T' slots underneath and on top were slightly different sizes and in slightly different positions, so I had to be careful to only choose the rail they would fit. The rails were also slightly different widths – in my case by as much as 0.5mm. Searching online and on YouTube revealed I wasn't the only one who'd encountered these problems. When I needed to cut up some large, expensive hardwood panels, I decided to look into longer guide rails. The first one I came across was a 3m Festool, but at £320 it seemed expensive. I couldn't find any information on a Makita version, so emailed their customer support and received a very quick response with a part number and list of dealers who could supply one. The cost was £161 with collection from the dealer, which was only 13 miles away, although home delivery was available at an extra cost. When I collected the rail, I was amazed to find it came supplied in a substantial 3.1m long wooden box.

Its 3m length means the rail is perfect for long cuts on sheet material, but you first need to consider where you're going to store it. Taking something this long out on site would also be awkward.

My workshop ceiling isn't very high, and I was able to use part of the wooden

I was able to use part of the wooden case supplied with the Makita rail to create a storage box, which I screwed to the ceiling

At 3m long, the Makita rail is perfect for long cuts on sheet materials, but you first need to consider where you're going to store it



On the Benchdogs Rail Square, I encountered a problem with the brass insert that slides into the guide rail's underside – it didn't fit

If you need to make multiple identical cuts, a relatively simple method is to use a large adjustable square to set the distance from the edge of the board to the back edge of your rail, taking into account the rail's width

case that housed the rail to create a storage box by screwing it to the ceiling – the rail slides in and is then pulled out slightly, so the end rests on an aluminium extrusion screwed to the ceiling. Painting the case white to match the ceiling means you hardly notice it's there. As I'll now never need to join my two 1.4m rails together, I've cut one of them down to 94cm, which is easier to handle on narrower boards.

Rail squares

My next purchase was a Rail Square from Benchdogs, a relatively new UK company. A number of manufacturers seem to be producing devices like this and it took me a while to decide which I should buy – reviews on YouTube were helpful and even provided a 5% discount code. When the Rail Square arrived, I was impressed by the well-finished and solid

Faced with a number of repeat cuts, I made my own parallel guide system using a length of aluminium angle, some shelf brackets, and lengths of 'T' slot

design, but encountered a problem with the brass insert that slides into the underside of the guide rail – it didn't fit. An email to Benchdogs yielded a very quick response and the owner of the company, Ralph, phoned me to discuss the problem. It seems they'd encountered a small number of issues with variance in rail dimensions, but this wasn't causing any great concern. After providing some measurements, a new insert was dispatched and the problem resolved. The Rail Square is now available in an improved MK2 version, which uses a different clamping arrangement with no brass insert. Both the MK1 and MK2 are compatible with Multi Function Tables – tables with lots of dog holes in a consistent pattern – and a wide range of accessories is also available.

The Parallel Guide System rails from Benchdogs are available in several formats – 3 × 330mm, 2 × 445mm, or 1 × 1,000mm – with either metric or imperial graduations

Having several different lengths of 'T' slot made the system more versatile, and this one served me well for some time

Benchdogs also offer a 25% discount on the MK2 if you return a MK1 version in exchange. I plan to do this soon and a review of the new version will follow once I've had some experience using it.

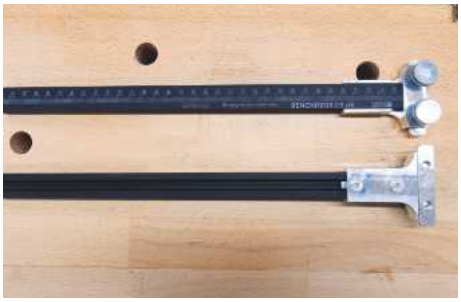
Typical approach for a large sheet of material

Most of us will need to cut up standard 8×4 – 2.44m × 1.22m – boards. Unless you're sure one of the long edges is flat and undamaged, you start by trimming it true using a 3m rail or two 1.4m rails joined together. Next, one end is cut square to the true edge and this is where the Rail Square is invaluable. With two adjacent edges square and true, the board can be reduced further to the required dimensions and this is where a parallel guide system comes in.

Parallel guide system

If you need to make multiple identical cuts, then a relatively simple way is to use a large adjustable square to set the distance from the edge of the board to the back edge of your rail, taking into account its width. This is the method I've used for several years.

Faced with a number of repeat cuts, I made my own parallel guide system using a length of aluminium angle, some shelf brackets, and lengths of 'T' slot. Having several different



While assembly is straightforward, I was concerned to find the knurled thumbscrews only engaged into the track adaptor thread by about 3mm

Extending the 330mm rails is straightforward and a robust connector is provided

lengths made the system more versatile and this one served me well for some time. The downside was that every time I set it up, I had to measure and mark out for the first cut, then check that the results were accurate. What I wanted was a system with marked graduations that could be reliably used to produce accurate cut widths straight off. Again, a number of manufacturers produce these systems and after considering the merits of several, I decided to order a newly released version from Benchdogs.

Several formats

The Parallel Guide System rails from Benchdogs are available in several formats – 3 × 330mm, 2 × 445mm, or 1 × 1,000mm – with either metric or imperial graduations. I chose the 3 × 300mm version in metric, and it all came well packaged in a cardboard tube. No instructions were included but these are available to view, or download and print, online. Assembly is straightforward, but I was concerned to find the knurled thumbscrews only engaged into the track adaptor thread by about 3mm.

There was also an issue with the track adaptor inserts as only one of them would fit into my 1.4m rail, but both would fit my 3m rail. After sending another email to Benchdogs, I happily received a replacement insert a few

There was also an issue with the track adaptor inserts as only one of these would fit into my 1.4m rail, although both fitted my 3m rail

days later. I was informed that the 3mm thread engagement would be fine, but they planned to lengthen it by 2mm, and this is now the case with all current versions. Extending the 330mm rails is straightforward and a robust connector is provided. The rail graduations are laser-etched and a check using rulers I know to be reliable confirmed they're accurate and consistent across all joints.

The stop blocks are 3D printed in a tough plastic. While one face was relatively smooth, the other was a little rougher, so it makes sense to use the smoother one as the reference side.

Accuracy in use

I was a little unsure just how accurate the blocks could be set to the graduations on the rails, and while it takes a little care, it hasn't caused a significant problem. Extruded aluminium might be better and give a crisper edge to work from, but would very likely add to the cost and could also scrape the finish off the rails.

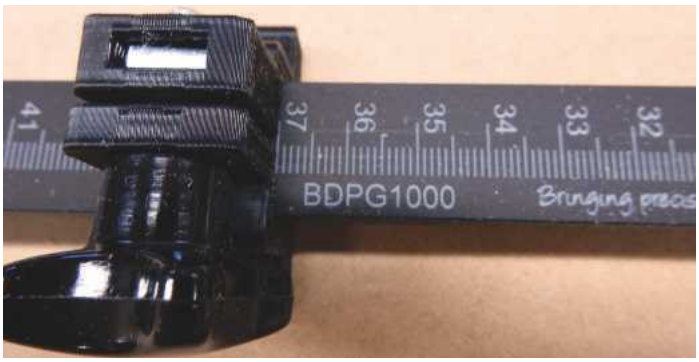
Due to the issues with variation in dimensions, it's necessary to calibrate the rails to your system to ensure the graduation marks can be relied on. To do this, I marked a line at 25cm on a board and set the stop blocks to 25cm. With the rail set screws slightly loose on the track adaptors, the rail was gently tapped up to the line. The set screws were carefully tightened, a cut made and the board measured to check the set-up's accuracy, which proved to be right first time. Note that the two rails should be set as far apart as possible, so that if there's any discrepancy in their settings, the error's effect is minimised. It's also

The stop blocks are 3D printed in a tough plastic. While one face was relatively smooth, the other was a little rougher, so it makes sense to use the smoother one as the reference side

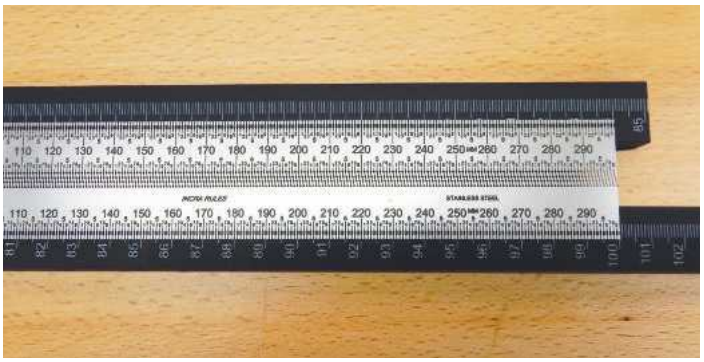
important that the plastic strip along the outer edge of the rail is in good condition and not ragged, otherwise it's impossible to accurately set it to the marked line.

Using feeler gauges, I measured the gap between rails and track adaptors, finding both to be 1.4mm. I marked this measurement on the underside using an indelible ink pen in case I ever need to reset them.

The narrowest cut width possible using these guide rails is approximately 23.7cm, as this is the closest point the stop blocks can be positioned. To overcome the width limitation, the last sections of guide rail have additional markings on the underside to allow them to be used as 'Narrow Cut Guides'. To do so, the track adaptors have to be removed from the first sections of rail and fixed using some additional bolts – provided for this purpose – although you'll need to supply your own Allen key. When the Narrow Cut Guides are clamped in place, the rail extends under the track and the scale graduations can be used to give an approximate cut width – there are three issues with this approach: **1)** There's no way to 'calibrate' the Narrow Cut Guides, hence they'll not be entirely accurate; **2)** When you replace the track adaptors onto the original



I was a little unsure just how accurately the blocks could be set to the rail graduations, and while it takes a little care, it hasn't caused a significant problem



The rail graduations are laser-etched and a check using rulers I know to be reliable confirmed they're accurate and consistent across all joints

Due to issues with variations in dimensions, it's necessary to calibrate the rails to your system; this ensures the graduation marks are reliable

rail sections, you'll need to recalibrate them. This isn't too difficult, however, if, like me, you make a note of the original gap or buy additional adaptors; **3)** Lastly, as the cut gets narrower, it becomes more difficult to keep the track rail steady and might even be dangerous.

There's another solution, however, which I discovered on YouTube. You'll need a piece of material the same thickness as the board you're cutting and of a known width – e.g. 300mm wide. If cutting a strip of board 150mm wide, you set the stop blocks to 450mm and with the 300mm strip butted up to the board, you can make a safe and stable cut. This method has limitations as, if the soft rubber strips under the track rail aren't in contact with the board being cut, there's a risk the rail will move. I'd be inclined to cut narrow strips on the 'outside' of the track rail by taking into account the width of the blade kerf and marking a line accordingly. Or, using a table saw, cut a strip slightly overwidth then rip to size.

Conclusion

Overall, I'm very pleased with the rails. They've already helped me achieve consistent accuracy on a number of projects requiring identical components as well as allowing me to make cuts without having to measure

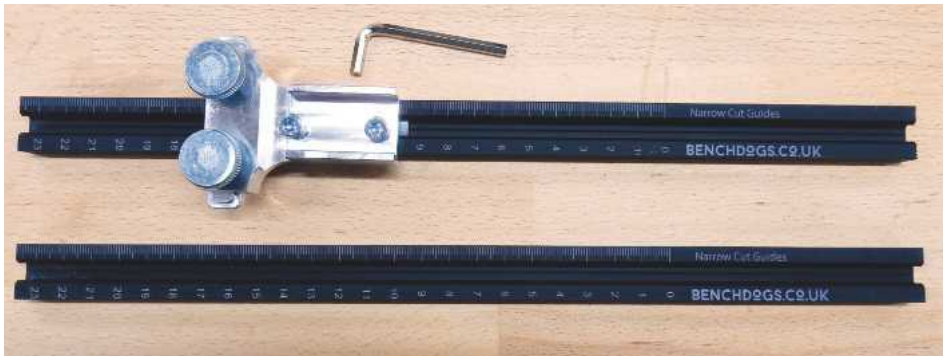
Using feeler gauges, I measured the gap between rails and track adaptors, finding both to be 1.4mm. I then marked this measurement on the underside

and mark the material. To store my rails, I made a simple MDF and plywood tray; this should prevent damage and ensures they're kept neatly at hand under my workbench.

Alternatives

A number of companies are now selling parallel guide rails, but all the others I've seen are more expensive. Ensure that any you're considering are compatible with your rails as only a few manufacturers make similar versions which feature the appropriate dimensions – e.g. Festool, Makita and Triton.

The rails have already helped me achieve consistent accuracy on a number of projects requiring identical components



To overcome the width limitation, the last sections of guide rail have additional markings on the underside, allowing them to be used as 'Narrow Cut Guides'

SPECIFICATION

Typical prices:

Makita 3m rail: **Part number 194367-7** – approximately £161 depending on supplier and delivery. Email **customer service@makitauk.com** for a 'dealer locator'

Rail Square: The **Benchdogs MK2 Rail Square** for Festool/Makita/Triton/Evolution/Erbauer currently costs £99 plus VAT and postage (£4.95 under 2kg). Versions for other rails are also available. If you return a MK1 rail square, a 25% discount is available on the MK2. There's also a range of storage and accessory options available at an additional cost. For £10, you can even have your logo or name laser-etched onto the square – **www.benchdogs.co.uk**

Parallel Guide Rails: The Benchdogs system for Makita, Festool and Triton costs £110 plus VAT and postage (£4.95 under 2kg). At the time of writing, the price was reduced from the usual £120. You can also choose to buy individual components to create your own system. A range of storage options is also available. Note: the track adaptors on the current version are now black anodised, compared to the bare aluminium of mine, and the thumbscrew threads are also longer

Web: www.benchdogs.co.uk

THE VERDICT

PROS

- Well made and easy to use; once calibrated, accurate cuts are easily repeatable; an ideal method for producing multiple components of the same dimension; wide range of purchasing options include metric/imperial graduations, a variety of rail lengths, and storage solutions; individual components are readily available; good customer support; good value; all user manuals freely accessible online

CONS

- The narrow cut feature is of limited use; 3D printed stop blocks are adequate but some care is required in setting them to graduation marks and they should be used with their 'best' face towards the workpiece; there's a very slight possibility the 'T' slots on your track rails might be too small for the inserts, but Benchdogs will provide alternatives if needed

RATING: 4.5 out of **5**

READER DISCOUNT

All Benchdogs products can be purchased with a 5% discount using code '**woodmag5**', which has been provided specially for *WW* magazine readers

NEW STORE NORTHAMPTON NOW OPEN

Machine Mart

65 SUPERSTORES NATIONWIDE

Britain's Tools & Machinery Specialist!

Clarke 10" TABLE SAW WITH STAND

CTS16

- 1600W motor
- 250mm blade size
- 0-45° tilting blade
- Cutting depth: 73mm at 90° / 53mm at 45°

£109.98 EXC.VAT
£131.98 inc.VAT

INCLUDES LEFT & RIGHT TABLE EXTENSION

Clarke 4" BELT/ 6" DISC SANDER

CS4-6E

- Dust extraction facility
- 4" x 36" belt tilts & locks 0-90°
- 225mm x 160mm table, tilts 0-90°
- 370W, 230V motor

£109.98 EXC.VAT
£131.98 INC.VAT

BEST SELLER

"Excellent machine, very solid and exactly as described. Very happy with the purchase"
See www.machinemart.co.uk

Clarke 10" TABLE SAW WITH EXTENSION TABLES (250mm)

CTS14

- Ideal for cross cutting, ripping, angle and mitre cutting
- Easy release/locking mechanism for table extensions
- 0-45° tilting blade
- Cutting depth: 72mm at 90° / 65mm at 45°

£149.98 EXC.VAT
£179.98 inc.VAT

SHOWN WITH OPTIONAL LEG KIT CLK5 £21.99 EXC.VAT £26.39 INC.VAT

Clarke TURBO FAN GAS HEATERS

Offering low cost, efficient heating

DUAL VOLTAGE 230v 110 VOLT IN STOCK FROM £214.80

FROM ONLY £89.98 EXC.VAT
£107.98 inc.VAT

PROPANE GAS FIRED

MODEL	MAX OUTPUT KW	EXC. VAT	INC. VAT
Little Devil II	10.3	£89.98	£107.98
Devil 700	15	£109.98	£131.98
Devil 900	24.9	£149.98	£179.98
Devil 1600	36.6	£179.98	£215.98
Devil 2100	49.8	£259.00	£310.80
Devil 4000	131	£449.00	£538.80

Clarke ELECTRIC HEATERS

BEST SELLER

DEVIL 7003

DEVIL 6003

FROM ONLY £58.99 EXC.VAT
£70.79 inc.VAT

MODEL	VOLTAGE	HEAT OUTPUT KW	EXC.VAT	INC.VAT
DEVIL 6003	230V	1.5-3	£58.99	£70.79
DEVIL 7003	230V	3	£67.99	£81.59
DEVIL 6005	400V	2.5-5	£69.98	£83.98
DEVIL 7005	400V	5	£89.98	£107.98
DEVIL 6009	400V	4.5-9	£109.00	£130.80
DEVIL 7009	400V	9	£139.98	£167.98
DEVIL 6015	400V	5-10-15	£169.00	£202.80
DEVIL 7015	400V	15	£199.98	£239.98

Clarke GARAGES/WORKSHOPS

FROM ONLY £239.00 EXC.VAT
£286.80 inc.VAT

IDEAL FOR RAIN & SUN PROTECTION

LENGTH UP TO 24'

BRIGHT WHITE INTERIOR

ZIP CLOSE DOOR

- Ideal for use as a garage/ workshop
- Extra tough triple layer cover
- Heavy duty powder coated steel tubing
- Ratchet tight tensioning

MODEL	SIZE (LxWxH)	EXC.VAT	INC.VAT
CIG81212	3.6 x 3.6 x 2.5M	£239.00	£286.80
CIG81015	4.5 x 3 x 2.4M	£279.00	£334.80
CIG81216	4.9 x 3.7 x 2.5M	£319.00	£382.80
CIG81020	6.1 x 3 x 2.4M	£349.00	£418.80
CIG81220	6.1 x 3.7 x 2.5M	£399.00	£478.80
CIG81224	7.3 x 3.7 x 2.5M	£489.00	£586.80

Clarke 1" BELT/ 5" DISC SANDER

- Includes 2 tables that tilt & lock
- Quality Induction 250W motor

£86.99 EXC.VAT
£104.39 inc.VAT

CBS1-5B

Clarke 4" BELT/ 8" DISC SANDER

- Includes two tables
- 550W 230V motor

£179.00 EXC.VAT
£214.80 inc.VAT

Clarke DUST EXTRACTOR/ CHIP COLLECTORS

CWVE1

FROM ONLY £119.00 EXC.VAT
£142.80 inc.VAT

- Powerful 1100W motor
- 50 litre bag capacity
- Flow rate of 850M3/h

MODEL	MOTOR	FLOW RATE	BAG CAP.	EXC.VAT	INC.VAT
CWVE1	1100W	183 M3/h	50Ltrs	£119.00	£142.00
CDE35B	750W	450 M3/h	56Ltrs	£179.98	£215.98
CDE7B	750W	850 M3/h	114Ltrs	£189.98	£227.98

Clarke PLUNGE SAWS

CPS160

FROM ONLY £67.99 EXC.VAT
£81.59 inc.VAT

INC. 2X 700mm GUIDE RAILS

MODEL	MOTOR	EXC.VAT	INC.VAT
CPS85	550W	£67.99	£81.59
CPS160	1200W	£109.00	£130.80

Clarke MULTI FUNCTION TOOL WITH ACCESSORY KIT

- Great for sawing, cutting, sanding, polishing, chiselling & much more
- Variable speed

£37.99 EX.VAT
£45.59 INC.VAT

CMFT250

Clarke BELT SANDERS

CBS2

ABRASIVE SANDING BELTS IN STOCK

- Ideal for surface removal, sanding and finishing

FROM ONLY £39.98 EXC.VAT
£47.98 inc.VAT

MODEL	MOTOR	M/MIN	EXC.VAT	INC.VAT
Clarke BS1	900W	380	£39.98	£47.98
Clarke CBS2	1200W	480	£89.98	£107.98
Makita 9911	650W	75-270	£99.98	£119.98

Clarke 6" BELT / 9" DISC SANDER

CS6-9D

- 1100W motor
- Use vertically or horizontally

DUST PORT

£299.00 EXC.VAT
£358.80 inc.VAT

BELT/DISC TABLE ADJUSTS 0-45°

INCLUDES STAND

Clarke CIRCULAR SAWS

- Great range of DIY and professional saws
- Ideal for bevel cutting (0-45°)

FROM ONLY £44.99 EXC.VAT
£53.99 inc.VAT

NEW

AVAILABLE IN 230 & 110 VOLT

*Includes laser guide

CON185B

MODEL	MOTOR	MAX CUT 90/45 (mm)	EXC. VAT	INC. VAT
CCS185B	1200W	65/44	£44.99	£53.99
CON185B* NEW	1600W	63/43	£59.98	£71.98

Clarke CPF13 ELECTRIC POWER FILE

- Variable belt speed
- Tilting head

FROM ONLY £49.98 EXC.VAT
£59.98 inc.VAT

ARM ADJUSTS

*Black & Decker

MODEL	MOTOR	BELT SIZE (mm)	EXC.VAT	INC.VAT
CPF13	400W/230V	13x457	£49.98	£59.98
KA900E*	350W/230V	13x455	£59.98	£71.98

Clarke PALM SANDERS

- Ideal for detail sanding of corners & hard to reach areas

CPS125

INC DUST EXTRACTION

ONLY £22.99 EXC.VAT
£27.59 inc.VAT

Clarke DISC SANDER (305MM)

- Powerful, bench mounted
- 900W
- Dust extraction port

£154.99 EXC.VAT
£185.99 inc.VAT

Clarke 18V CORDLESS LI-ION STAPLE / NAIL GUN

- Includes 300 nails and 400 staples
- 1x 2Ah 18V Li-Ion battery

SPARE NAILS / STAPLES IN STOCK

1x2Ah

CONSN18LIC

ONLY £119.98 EXC.VAT
£143.98 inc.VAT

ELECTRIC AND CORDLESS MODELS IN STOCK

Clarke CONTRACTOR 18V BRUSHLESS COMBI DRILLS

- 2 forward and reverse gears

FROM ONLY £99.98 EXC.VAT
£119.98 inc.VAT

CON180LI

MODEL	VOLTS	BATTERIES	EXC. VAT	INC. VAT
CON18LIC	18V	2x 2.0Ah Li-Ion	£99.98	£119.98
CON180LI	18V	2x 4.0Ah Li-Ion	£129.00	£154.80

Clarke SHEET SANDERS

CON320

- Ergonomic design for optimum comfort

FROM ONLY £24.99 EXC.VAT
£47.98 inc.VAT

VARIABLE SPEED

MODEL	SHEET SIZE	MOTOR	EXC.VAT	INC.VAT
COS210	190X90mm	200W	£24.99	£29.99
CON320	230X115mm	320W	£35.99	£43.19

Clarke 3-IN-1 MULTI SANDER

CMS200

ONLY £48.99 EXC.VAT
£58.79 inc.VAT

1/3 SHEET SANDER

DISC SANDER

Clarke DETAIL SANDERS

- Perfect for smooth and fine finishing along with hard to reach areas or curved surfaces

CDS-1V

ONLY £27.99 EXC.VAT
£33.59 inc.VAT

280W

ALL MODELS INC. SANDING SHEETS

VAC KING WET & DRY VACUUM CLEANERS

- Compact, high performance wet & dry vacuum cleaners for use around the home, workshop, garage etc.

FROM ONLY £54.99 EXC.VAT
£65.99 inc.VAT

* SS = Stainless Steel

MODEL	MOTOR	DRY/WET CAPACITY	EXC. VAT	INC. VAT
CVAC20P	1250W	16 / 12ltr	£54.99	£65.99
CVAC20SS*	1400W	16 / 12ltr	£68.99	£82.79
CVAC20PR2	1400W	16 / 12ltr	£69.98	£83.98
CVAC25SS*	1400W	19 / 17ltr	£74.99	£89.99
CVAC30SSR*	1400W	24 / 21ltr	£99.98	£119.98

Clarke DRILL PRESSES

- Range of precision bench & floor presses for enthusiast, engineering & industrial applications

B = Bench mounted
F = Floor standing

FROM ONLY £79.98 EXC.VAT
£95.98 inc.VAT

CDP102B

MODEL	MOTOR (W) SPEEDS	EXC. VAT	INC. VAT
CDP5EB	350 / 5	£79.98	£95.98
CDP102B	350 / 5	£99.98	£119.98
CDP202B	450 / 16	£235.00	£282.00
CDP352F	550 / 16	£289.00	£346.80
CDP452B	550 / 16	£299.00	£358.80

Clarke POWER PLANERS

FROM ONLY £36.99 EXC.VAT
£44.39 inc.VAT

CON950

MODEL	WIDTH OF CUT	MOTOR	EXC.VAT	INC.VAT
CEP450	60mm	450W	£36.99	£44.39
CEP720B NEW	82mm	720W	£44.99	£53.59
CON950	110mm	950W	£69.98	£83.98

Clarke RANDOM ORBITAL SANDER

- Adjustable front handle improves control
- 7000-14000rpm

CROS3

INC DUST BAG AND SELECTION OF 125MM DIAMETER SANDING DISCS

£36.99 EXC.VAT
£44.39 inc.VAT

Clarke OSCILLATING BOBBIN SANDER

COBS1

- Dust collection port
- Inc. 6 sanding sleeves/bobbins

£149.98 EXC.VAT
£179.98 inc.VAT

Clarke BOLTLESS SHELVING/ BENCHES

- Simple fast assembly in minutes using only a hammer

FROM ONLY £35.99 EXC.VAT
£43.19 inc.VAT

150 KG PER SHELF (evenly distributed) Strong 9mm fibreboard shelves

350 KG PER SHELF (evenly distributed) Strong 12 mm fibreboard shelves

CHOICE OF 5 COLOURS
RED, BLUE, GREY, SILVER & GALVANISED STEEL

MODEL	DIMS WxDxH(mm)	EXC.VAT	INC.VAT
150kg	800x300x1500	£35.99	£43.19
350kg	900x400x1800	£54.99	£65.99

Clarke WHETSTONE SHARPENER (200MM)

- Produces razor sharp cutting edges on chisels, planes, etc.
- Inc. 3 tool holding jigs, workpiece clamp & support frame, polishing paste & water trough

CWS200B

ONLY £126.99 EXC.VAT
£152.39 inc.VAT

Clarke PLANERS & THICKNESSERS

CPT800

- Ideal for DIY & Hobby use
- Dual purpose, for both finishing & sizing of timber

FROM ONLY £219.00 EXC.VAT
£262.80 inc.VAT

MODEL	PLANING WIDTH	MAX THICK. CAPACITY	EXC. VAT	INC. VAT
CPT600	6" (152mm)	120mm	£219.00	£262.80
CPT800	8" (204mm)	120mm	£269.00	£322.80
CPT1000	10" (254mm)	120mm	£369.00	£442.80

Clarke OSCILLATING BELT & BOBBIN SANDER

- Sand concave, convex, straight or multi-curved pieces
- Dust collection port
- Inc. sleeves, drum & belt

£195.00 EXC.VAT
£234.00 inc.VAT

COEBS1

PAY Monthly

- Spread the cost over 12, 18, 24, 36 or 48 months
- Any mix of products over £300
- 18.9% APR, 10% Deposit*

5 MIN APPLICATION!

EASY TO USE WEBSITE

NOW OVER 21,000 PRODUCTS ONLINE!

For hard-to-find, specialist items visit the Xtra section on machinemart.co.uk

NEW 500 PAGE CATALOGUE

Over 400 PRICE CUTS & NEW PRODUCTS

GET YOUR FREE COPY NOW!

- IN-STORE
- ONLY
- PHONE

0844 880 1265

Clarke 40" WOODTURNING LATHE

Ideal for woodturning in the workshop

• 1016mm distance between centres allows for turning longer spindles • Inc. tool rest, tail stock, drive centre, face plate & 3 chisel • Large turning capacity of 350mm • 4 turning speeds

BENCH MOUNTED

CWL1000B

ONLY £159.98 EXC.VAT £191.98 inc.VAT

BEST SELLER

LOCKABLE TAILSTOCK

Clarke 40" WOODTURNING LATHE WITH COPY FOLLOWER

Ideal for DIY, furniture or joinery workshops where repeat quantities are required

• Large 980mm distance between centres • Variable speeds 600-2200rpm • Inc. copy follower assembly, tool rest, drive centre tail stock assembly, face plate, eye shield, 2 chisels & stand

INCLUDES COPY FUNCTION

ONLY £439.00 EXC.VAT £526.80 inc.VAT

INCLUDES STAND

CWL1000CF

Clarke BENCH BANDSAWS

• Produces fast, precise mitre & longitudinal cuts • 250W motor • 8" throat size • Cuts in all types of woods

£109.98 EXC.VAT £131.98 inc.VAT

CBS205

NEW

• Great for both home & professional use • Induction 300W motor • Table tilts up to 45° • 9" throat size

£219.98 EXC.VAT £263.98 inc.VAT

REMOVABLE DUST TRAY

CBS225

Clarke PROFESSIONAL BANDSAWS

Top Quality Bandsaws - ideal for professional workshop use. Strong steel body with solid cast iron table

• Table tilts 45° • Adjustable blade guide • Supplied with stand, 4TPI wood cutting blade, rip fence, mitre guide, mitre gauge and push stick • Induction motors • Includes stand

MAGNIFIED MITRE GUIDE

QUICK RELEASE FENCE

DRIVE-BELT TENSIONING

SOLID GROUND CAST IRON TABLE

CBS300

FROM ONLY £219.00 EXC.VAT £262.80 inc.VAT

MODELS ALSO FEATURE:

MULTI-STEP DUST EXTRACTION OUTLET

FLEXIBLE LED WORKLIGHT

REMOVABLE DUST TRAY

BLADE TENSIONING CONTROL

MODEL	THROAT DEPTH	MAX CUT 90°	MAX CUT 45°	EXC. VAT	INC. VAT
CBS250C	245mm/10"	115mm	65mm	£219.00	£262.80
CBS300	305mm/12"	165mm	115mm	£498.00	£597.60
CBS350	340mm/14"	225mm	160mm	£629.00	£754.80

TURBO AIR COMPRESSORS

airmaster

• Superb range ideal for hobby & semi-professional use

FROM ONLY £109.98 EXC.VAT £131.98 inc.VAT

TIGER 16/550

MODEL	MOTOR	CFM	TANK	EXC.VAT	INC.VAT
Tiger 8/260	2HP	7.5	24ltr	£109.98	£131.98
Tiger 11/550	2.5HP	9.3	50ltr	£149.98	£179.98
Tiger 16/550	3HP	14.5	50ltr	£219.98	£263.98
Tiger 16/1050	3HP	14.5	100ltr	£269.98	£323.98

Clarke 13" MINI WOOD LATHE

£187.99 EXC.VAT £225.59 inc.VAT

CWL325V

• Ideal for enthusiasts/ hobbyists with small workshops • 325mm distance between centres • 200mm max. turning capacity (dia) • 0.2HP motor

Clarke STATIC PHASE CONVERTERS

• Run big 3 phase woodworking machines from 1 phase supply • Variable output power to match HP of motor to be run

PC60

CONVERT 230V 1PH TO 400V 3PH

FROM ONLY £259.00 EXC.VAT £310.80 inc.VAT

MODEL	MAX. MOTOR HP	FUSE	EXC.VAT	INC.VAT
PC20	2HP	10Amps	£259.00	£310.80
PC40	3.5HP	20Amps	£299.00	£358.80
PC60	5.5HP	32Amps	£359.00	£430.80

Clarke ROUTERS

CONTRACTOR

• Powerful heavy duty machines ideal for trade and DIY use

FROM ONLY £47.99 EXC.VAT £57.59 inc.VAT

CR4

MODEL	MOTOR (W)	PLUNGE (mm)	EXC.VAT	INC.VAT
CR1200	1200	0-55	£47.99	£57.59
CR4	2000	0-66	£99.98	£119.98

Clarke GRINDERS & STANDS

• Stands come complete with bolt mountings and feet anchor holes

6" & 8" AVAILABLE WITH LIGHT

FROM ONLY £42.99 EXC.VAT £51.59 inc.VAT

STANDS FROM ONLY £47.98 INC.VAT

MODEL	DUTY	WHEEL DIA.	EXC.VAT	INC.VAT
CBG6RP	DIY	150mm	£42.99	£51.59
CBG6RZ	PRO	150mm	£51.99	£62.39
CBG6250LW	HD	150mm	£59.98	£71.98
CBG6250L	HD	150mm	£68.99	£82.79
CBG6SB	PRO	150mm	£74.99	£89.99

RECIPROCATING SAWS

CON850B

FROM ONLY £37.99 EXC.VAT £45.59 inc.VAT

AVAILABLE IN 230 & 110 VOLT

NEW

• 850W motor • 24mm stroke length • Includes 3 wood & 3 metal blades

MODEL	MOTOR	EXC.VAT	INC.VAT
CRS710V	710W	£37.99	£45.59
CON850B NEW	850W	£49.98	£59.98

Clarke JIGSAWS

CONTRACTOR

CON750

BEST SELLER

FROM ONLY £15.99 EXC.VAT £19.19 inc.VAT

MODEL	POWER (W)	DEPTH OF CUT (WOOD/STEEL)	EXC. VAT	INC VAT
CJS400	400W	55/ - mm	£15.99	£19.19
CON750	750W	80/10mm	£26.99	£32.39
Bosch PST700E	500W	70/4mm	£44.99	£53.99

Clarke SCROLL SAWS

• 50mm max cut thickness • Air-blower removes dust from cutting area • Table tilts 0-45°

FROM ONLY £99.98 EXC.VAT £119.98 inc.VAT

CSS400C

BEST SELLER

MODEL	MOTOR	SPEED RPM	EXC. VAT	INC. VAT
CSS400D	120W	400-1600	£99.98	£119.98
CSS16VB	90W	550-1600	£114.99	£137.99
CSS400C	90W	550-1600	£144.99	£173.99

Clarke 12" DOVETAIL JIG

£59.98 EXC.VAT £71.98 inc.VAT

• Simple, easy to set up & use for producing a variety of joints • Cuts work pieces with a thickness of 8-32mm • Includes a 1/2" comb template guide & holes for bench mounting

Clarke 10" SLIDING MITRE SAW

• For fast, accurate cross, bevel & mitre cutting in most hard & soft woods • 2000W motor

NEW

CMS10S2B

ONLY £179.00 EXC.VAT £214.80 inc.VAT

LASER GUIDE

MODEL	BLADE DIA/BORE (mm)	MAX CUT DEPTH/ CROSS	EXC.VAT	INC.VAT
CMS10S2B	255/30	90/340	£179.00	£214.80

Clarke WOODWORKING VICES

Record

WV7

FROM ONLY £14.99 EXC.VAT £17.99 inc.VAT

MODEL	MOUNTING	JAW (WIDTH/OPENING /DEPTH)mm	EXC.VAT	INC.VAT
Clarke CHT152	Bolted	150/152/61	£14.99	£17.99
Record TV75B Clamped		75/50/32	£23.99	£28.79
Clarke WV7	Bolted	180/205/78	£36.99	£44.39

1000's Xtra SPECIALIST WOODWORKING TOOLS ONLINE – MACHINEMART.CO.UK

VISIT YOUR LOCAL SUPERSTORE

OPEN MON-FRI 8.30-6.00, SAT 8.30-5.30, SUN 10.00-4.00

BARNSLEY Pontefract Rd, Barnsley, S71 1EZ	01226 732297	**EXETER** 16 Trusham Rd. EX2 8QG	01392 256 744
B'HAM GREAT BARR 4 Birmingham Rd.	0121 358 7977	**GATESHEAD** 50 Lobley Hill Rd. NE8 4YJ	0191 493 2520
B'HAM HAY MILLS 1152 Coventry Rd, Hay Mills	0121 7713433	**GLASGOW** 280 Gt Western Rd. G4 9EJ	0141 332 9231
BOLTON 1 Thynne St. BL3 6BD	01204 365799	**GLOUCESTER** 221A Barton St. GL1 4HY	01452 417 948
BRADFORD 105-107 Manningham Lane. BD1 3BN	01274 390962	**GRIMSBY ELLIS WAY,** DN32 9BD	01472 354435
BRIGHTON 123 Lewes Rd, BN2 3QB	01273 915999	**HULL** 8-10 Holderness Rd. HU9 1EG	01482 223161
BRISTOL 1-3 Church Rd, Lawrence Hill. BS5 9JJ	0117 935 1060	**ILFORD** 746-748 Eastern Ave. IG2 7HU	0208 518 4286
BURTON UPON TRENT 12a Lichfield St. DE14 3QZ	01283 564 708	**IPSWICH** Unit 1 Ipswich Trade Centre, Commercial Road	01473 221253
CAMBRIDGE 181-183 Histon Road, Cambridge. CB4 3HL	01223 322675	**LEEDS** 227-229 Kirkstall Rd. LS4 2AS	0113 231 0400
CARDIFF 44-46 City Rd. CF24 3DN	029 2046 5424	**LEICESTER** 69 Melton Rd. LE4 6PN	0116 261 0688
CARLISLE 85 London Rd. CA1 2LG	01228 591666	**LINCOLN** Unit 5. The Pelham Centre. LN5 8HG	01522 543 036
CHELTENHAM 84 Fairview Road. GL52 2EH	01242 514 402	**LIVERPOOL** 80-88 London Rd. L3 5NF	0151 709 4484
CHESTER 43-45 St. James Street. CH1 3EY	01244 311258	**LONDON CATFORD** 289/291 Southend Lane SE6 3RS	0208 695 5684
COLCHESTER 4 North Station Rd. CO1 1RE	01206 762831	**LONDON** 6 Kendal Parade, Edmonton N18	020 8803 0861
COVENTRY Bishop St. CV1 1HT	024 7622 4227	**LONDON** 503-507 Lea Bridge Rd. Leyton, E10	020 8558 8284
CROYDON 423-427 Brighton Rd, Sth Croydon	020 8763 0640	**LUTON** Unit 1, 326 Dunstable Rd, Luton LU4 8JS	01582 728 063
DARLINGTON 214 Northgate. DL1 1RB	01325 380 841	**MAIDSTONE** 57 Upper Stone St. ME15 6HE	01622 769 572
DEAL (KENT) 182-186 High St. CT14 6BQ	01304 373 434	**MANCHESTER ALTRINCHAM** 71 Manchester Rd. Altrincham	0161 9412 666
DERBY Derwent St. DE1 2ED	01332 290 931	**MANCHESTER CENTRAL** 209 Bury New Road M8 8DU	0161 241 1851
DONCASTER Wheatley Hall Road	01302 245 999	**MANCHESTER OPENSHAW** Unit 5, Tower Mill, Ashton Old Rd	0161 223 8376
DUNDEE 24-26 Trades Lane. DD1 3ET	01382 225 140	**MANSFIELD** 169 Chesterfield Rd. South	01623 622160
EDINBURGH 163-171 Piersfield Terrace	0131 659 5919	**MIDDLESBROUGH** Mandale Triangle, Thornaby	01642 677881
		NORWICH 282a Heigham St. NR2 4LZ	01603 766402
		NORTHAMPTON NOW OPEN	01604 267840
		NOTTINGHAM 211 Lower Parliament St.	0115 956 1811
		PETERBOROUGH 417 Lincoln Rd. Millfield	01733 311770
		PLYMOUTH 58-64 Embankment Rd. PL4 9HY	01752 254050
		POOLE 137-139 Bournemouth Rd. Parkstone	01202 717913
		PORTSMOUTH 277-283 Copnor Rd. Copnor	023 9265 4777
		PRESTON 53 Blackpool Rd. PR2 6BU	01772 703263
		SHEFFIELD 453 London Rd. Heeley. S2 4HJ	0114 258 0831
		SIDCUP 13 Blackfen Parade, Blackfen Rd	0208 3042069
		SOUTHAMPTON 516-518 Portswood Rd.	023 8055 7788
		SOUTHEND 1139-1141 London Rd. Leigh on Sea	01702 483 742
		STOKE-ON-TRENT 382-396 Waterloo Rd. Hanley	01782 287321
		SUNDERLAND 13-15 Ryhope Rd. Grangetown	0191 510 8773
		SWANSEA 7 Samlet Rd. Llansamlet. SA7 9AG	01792 792969
		SWINDON 21 Victoria Rd. SN1 3AW	01793 491717
		TWICKENHAM 83-85 Heath Rd.TW1 4AW	020 8892 9117
		WARRINGTON Unit 3, Hawley's Trade Pk.	01925 630 937
		WIGAN 2 Harrison Street, WN5 9AU	01942 323 785
		WOLVERHAMPTON Parkfield Rd. Bilston	01902 494186
		WORCESTER 48a Upper Tything. WR1 1JZ	01905 723451

5 EASY WAYS TO BUY...

- SUPERSTORES NATIONWIDE
- ONLINE www.machinemart.co.uk
- TELESALES 0115 956 5555
- CLICK & COLLECT OVER 10,500 LOCATIONS
- CALL & COLLECT AT STORES TODAY

Morakniv 106 and 120
Sloyd woodcarving knives

Morakniv spoon carving hook knives

MORAKNIV CARVING KNIVES & SPOON CARVING HOOK KNIVES

Simon Frost is impressed with these Morakniv tools, which are ideal for spoon and bowl carving

My first port of call upon receiving these tools for review was Morakniv's 'Swedish Knifegrip Sessions' series of YouTube tutorials – see **www.youtube.com** and search for **'Morakniv'** – where renowned craftsman Jögge Sundqvist – who, along with Beth Moen, provided input into the design of Morakniv's hook knives – gives in-depth lessons on the many ways to use these versatile carving tools effectively and safely. I'd highly advise consulting these videos before putting the knives to use, whatever your level of experience.

Sharp & ready to use

Before taking a look at each product, there's a few features that apply to them all. The 106 and 120 Sloyd woodcarving knives, and 162, 163 and 164 hook/spoon carving knives are made with full-tang laminated steel blades and barrel-shaped Scandinavian birch handles that fit pleasingly in the hand. The laminated steel is slightly flexible, making the blades easier to manoeuvre as well as taking some of the work out of grinding.

The knives arrive extremely sharp and ready to use straight out of the box. As a result, they require great care in use, and like all edge tools must be kept as sharp as possible during use to reduce the power required to cut cleanly and maintain control.

The blunt shoulders can be used to push the knives through cuts, but this technique takes practice and it's very important to take some time familiarising yourself with the blades and how to use them safely. Again, the videos mentioned do an excellent job of demonstrating a variety of techniques and grips with safety in mind.

I wouldn't quite say I've found my calling, but this set made my first attempt at spoon carving enjoyable

Both knives can be used to pare material away from the backs of spoon bowls

Morakniv 106 & 120 Sloyd woodcarving knives

First up is the 106 carving knife – the longer of the two. As it features an 82mm blade, this one will generally get more use than the shorter 120 model.

The long blade allows you to make cuts that remove larger amounts of material beautifully cleanly from soft and green timber, leaving a smooth finish without the need for sanding. This versatile knife can be held comfortably with various grips to carry out a range of cuts. I found that the shape and pointed end of both blades made for a very smooth slicing action.

At 60mm, the 120 knife is the shorter of the two and perfectly suited to more detailed work. You can manoeuvre it into tighter curves and remove less material with greater ease. The very slight flex and full tang construction of both blades, however, means that both offer a good level of control. If only purchasing one, the larger 106 would be my choice.

I used the knives to remove the bulk of the waste from a scrap block of lime I used for my – first ever – wooden spoon, before gradually refining the shape further. I also found both knives were excellent for shaping the handle and back of the bowl of the spoon.

Conclusion

Both of these knives are supplied with a plastic sheath, which, oddly, is rather poorly designed, as the handle gets easily stuck and so often requires a bit of a wiggle to pull the blade free – a surprising design flaw, as these

are definitely knives you want to have total control over. If I bought these, I'd make a simple slotted knife block to store them and/or a leather sheath. Hopefully, the manufacturer will address this problem in future.

Spoon carving hook knives

These come in three different blade profiles – the 162 and 163 are both double-edged, meaning they can be used in either hand for both push and pull cuts. The 162 has the tightest curve, so is excellent for creating smaller radius curves after initial shaping with the more open-curved 163, which can be used for most of the work on bowls and larger radius cuts for spoon bowls.

Finally, there's the 164, which is supplied in right- and left-hand models. The pull cuts are made using the variety corresponding with the user's dominant hand, and push cuts with the other. As only one side is sharp, the 164 is less daunting to use than the similarly tightly curved double-edged 162, although the curve isn't quite as tight. For less experienced spoon carvers, I'd recommend the pair of 164s for tighter work, over the double-edged 162s, until you're more confident with the tools.

I was disappointed by the poorly designed plastic sheaths, which let down the beautifully crafted knives

Conclusion

Sharpening the hooked blades takes a little practice – the outer bevel can be honed with a fine diamond stone, while the inside of the curve can be honed using a round piece of wood with 400 grit abrasive glued to its surface. The burr can then be removed using a small homemade leather strop. This process is clearly described in another of the videos on Morakniv's YouTube channel.

The hook knives are supplied with neat blade covers, made from vegetable tanned leather manufactured locally using cowhides from the region. These are far superior to the plastic sheaths provided with the pointed knives.

SPECIFICATION

Morakniv 120 Sloyd Woodcarving Knife
Blade: 2.8mm thick × 60mm long
Handle: Laminated oiled birch
Overall length: 165mm
Typical price: £17.95

Morakniv 106 Sloyd Woodcarving Knife
Blade: 2.8mm thick × 82mm long
Handle: Laminated oiled birch
Overall length: 190mm
Typical price: £17.95

Morakniv Double Edge Spoon/Hook Knife Tight Curve – 162
- Birch handle
- Stainless steel blade

Typical price: £30

Morakniv Double Edge Spoon/Hook Knife Open Curve – 163
- Birch handle
- Stainless steel blade

Typical price: £30

Morakniv Single Edge Spoon/Hook Knife Left Hand – 164
- Birch handle
- Stainless steel blade

Typical price: £30

THE VERDICT

PROS
- Extremely sharp straight out of the box; full tang and well shaped handle allow for smooth, agile cuts; laminated steel offers flexibility and less work when sharpening

CONS
- Poorly designed knife sheaths

RATING: 4 out of **5**

CHIPPENDALE SCHOOL 2021 GRADUATE SHOWCASE

Featuring a multitude of international talent, join us as we celebrate the exquisite work of **Chippendale International School of Furniture**'s 2021 Professional Course graduates

The annual Chippendale International School of Furniture's graduate exhibition and sale took place this Autumn at the leading furniture school's rural location in Gifford, a leafy village in East Lothian, Scotland.

Now in its 36th year, the 2021 show represented the efforts of some 23 Professional Course students who've come from around the world to master the art of woodworking over an intensive nine-month period.

With novices and hobbyists from the UK, Mexico, The Netherlands, USA, Spain, Israel and Russia among the 2021 graduating class, this year, the diversity of fine furniture creations has been remarkable. Among the traditional and modern making techniques and business skills the students have picked up, high on their agendas has been sustainable practice, which is promoted widely at the School. The majority of fine furniture items have been made from locally-sourced timber, natural and reclaimed materials, to ensure minimal impact on the environment and low carbon emissions.

For those who weren't able to attend the September show in person, you can meet the graduates in this exclusive feature, or online via this link: **https://bit.ly/2XsZZN0**.

LENNERT KOCH **2021 'STUDENT OF THE YEAR'**

Lennert with his award-winning final designs, including the 'Tomarigi' hall table

Lennert Koch – Holland
Koch Furniture Design

Following a long career in energy consulting, Lennert Koch has carved out a new path in furniture design and cabinetmaking. A love of both Scandinavian and Japanese furniture and architecture influences his designs. While some pieces may look simplistic at first, there's an enormous amount of planning, precision and craftsmanship that goes into every piece, from a beautiful hand-turned sable bowl to the more technical 'Tomarigi' hall table inspired by Eastern temple roof joinery and his signature bird logo. Through Koch Furniture Design, Lennert will focus on bespoke commissions, with an emphasis on built-in furniture and home-working set ups

'Ongaku' stereo cabinet

Revolving bookcase

Instagram: @koch_furniture

Sharon Brew – UK
Wud Designs

Hailing from Aberdeen, Scotland, Sharon Brew's final work marks a key milestone in an intensive journey into woodworking, soaking up all the knowledge from skilled tutors on the Professional Course. From building a wood stack to breaking down a board and turning it into a unique design, Sharon has relished every step of her woodworking experience. Her business, Wud Designs, while focused on space and functionality, aims to offer flexibility and configuration for the client. Sharon describes her developing style as "on the quirky side," reflecting the designer's personality and attitude

Email: sharonbrew@hotmail.com

Sharon with her final designs, including 'Fitever' chest and 'The Looking Glass' mirror

Photographs by **Phil Wilkinson**, unless otherwise stated

Iain Stirling – UK
Chapelhill Fine Furniture

Looking at Iain's work, you wouldn't know he embarked on his woodworking journey just 10 months ago. Evolving as a complete novice with "no idea how to design furniture," he's created fine furniture pieces that have allowed him to develop his skills while experimenting with new techniques and construction methods. He enjoys Art Deco design and the Arts and Crafts movement. His first pieces, the 'Tawny' bedside cabinets, are functional and practical, holding aesthetic appeal while serving a purpose. Subsequent veneered pieces reveal a more playful side and an exploration of shapes, techniques and exotic woods

IAIN STIRLING **'PUBLIC'S CHOICE'**

Iain with his three final table designs: 'Hawk' side table; 'Buzzard' console table; and 'Birdcage' coffee table

Instagram: @chapelhillfinefurniture
Website: www.chapelhillfinefurniture.co.uk

'Tawny' bedside cabinets

Simon Akroyd – UK
Simon Akroyd Furniture

Following a fruitful career in finance, Simon Akroyd had been craving a creative outlet and was looking for a career that could take him into retirement. At the Chippendale School, he's utilised his ability to solve complex problems; something which he considers to be at the root of furniture making. His influences range from the elegance of a Sheraton table leg and the simplicity of a Bauhaus chair, to the curve of an Art Deco mirror or motif from 18th century Chinoiserie. Simon's designs are characterised by clean lines, contrasting woods, bold colours and a bit of the unexpected

Simon with his final designs including the 'Crane' cabinet

Email: s.akroyd@me.com

Helena Robson – UK
Heft Studio

While absorbing as many techniques and methods as possible, Helena Robson can't help but be drawn to organic forms. Her work focuses on curves and asymmetry to arouse visual interest while designing around the materials themselves. Helena will allow a grain pattern to dictate shape or create rhythm through figuring and chatoyance. With a respect for the natural beauty of wood, she seeks to highlight the material as much as possible with a subtle tactile element that invites interaction. Her 'Gullane' cabinet was inspired by the dancing ripples on the beach and realised through figured sycamore veneering and marquetry

'Gullane' cabinet

Helena with her completed 'Kanid' table and 'Judd' chair

Instagram: @_heft_studio
Website: www.heftstudio.co.uk

Thomas Hamill – UK
KwerkoFurniture

Putting the "fun" in functional, Thomas Hamill from Northern Ireland draws on inspirations from the vibrant and playful collages of Matisse and the abstract works of 'purist' Kandinsky. His design has evolved through an enjoyment of both exploration and experimentation with an openness that welcomes the unexpected parts of the design process... including the problems! While playfulness is key, for Thomas, each design must relay a strong sense of place and purpose. His hall table/seat and coffee table illustrate how he's managed to fuse the 'fun'ctionality and abstract. Look out for KwerkoFurniture and follow Thomas' adventures in woodworking

Hall table/seat

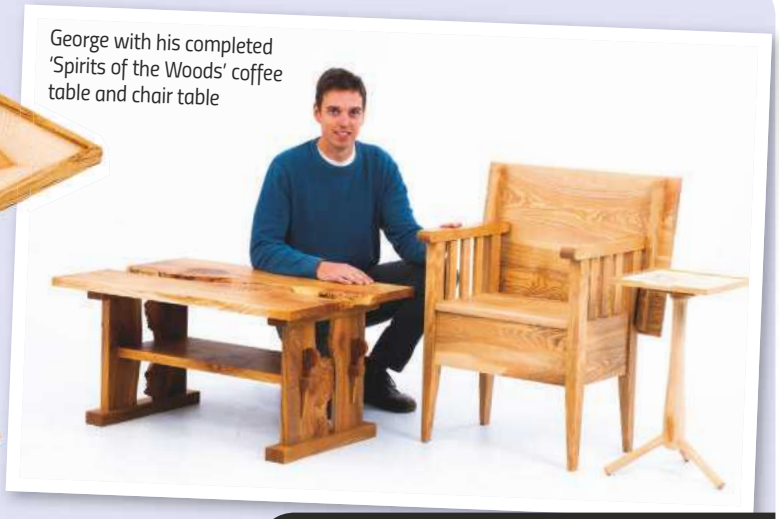
Sycamore coffee table with removable trays, made with bent laminated sides and custom dyed veneer bottoms

Instagram: @kwerkofurniture

George Young – UK
Braw Wood

George Young has always dreamed of designing and making furniture, inspired by Arts and Crafts, Shaker and Japanese furniture. Over the past 10 months, while on the Professional Course he's been able to follow in the footsteps of designers he admires, such as George Nakashima and Tim Stead, to create fine furniture that he hopes will outlive him and several generations. George's work enjoys simplicity and functionality, while celebrating the beauty of wood. Follow his journey as he develops his own furniture design business, Braw Wood, at Myreside Studios

Shaker-style seed sorting stand in ash and chestnut



George with his completed 'Spirits of the Woods' coffee table and chair table

Instagram & Facebook: @brawwood
Website: www.brawwood.co.uk

Chris Taylor – UK
Northcote Furniture

A conscious creator, Chris Taylor designs and makes sustainable vegan furniture inspired by movement and versatility. He believes our furniture, while inherently functional, should move with us as transient beings. His designs prioritise usefulness, mobility and functionality, allowing them to adapt over time to suit different spaces. He enjoys playing with form, texture and colour to bring about an element of surprise, energy, or calm to a home. Expect pops of colour from Northcote Furniture, whether as a mere suggestion or a bold statement, and enjoy the emotional response this invites

Chris with his designs, including 'The Chest', coffee table and sycamore veneered cabinet

Bedside tables

Instagram: @northcote.furniture
Facebook: @chris.northcotefurniture

James Alexander Weir – UK
Alexander Weir Design

Alexander Weir has come home to his first love: working and making with his hands. He's honed his craft and grown his ambitions in woodworking with a developing style that explores the relationship between form, function and aesthetics. Alexander's designs mesh tradition with modernity and celebrate the maker's relationship with craftsmanship and creativity. At the heart of his design process is a childlike playfulness, granting him freedom to explore shapes, textures and structures, without losing sight of the craft. A former Savile Row coat maker, technical precision remains essential to his practice. He believes that "when wood is worked with our hands, it has infinite possibilities"

'Orrery' lamp in steamed beech

'Phyllis' table

Instagram: @alexanderweirdesign
Website: www.alexanderweirdesign.co.uk

Oded Strauss – Israel

"Woodworking for me is a late love," says Oded Strauss, who was looking to add some "spice" to his daily routine as an IT Manager. Hailing from Israel, Oded came to the Chippendale School to nurture his relationship with the craft and gather the knowledge and skills to help him master furniture design and making. On the Professional Course, he's relished being in "dreaming-planning-changing" mode and bringing his ideas to life. While unsure where this romance with wood will take him in a world that prioritises the keyboard over the shooting board, he has no intention of breaking up just yet!

'Desk for Balance Seekers'

Oded with his final pieces, including 'The Morham Chair' and 'Toys Cabinet for Small People in Small Spaces'

Email: odedst@outlook.com

Scott Begg – UK
Oldershaw & Clark

Scott Begg has revelled in delving into disciplines that he'd never have attempted, from gilding to antique restoration. Viewers of Scott's work can enjoy an insight into his thought process, sense of fun and the tactile nature of the resulting pieces. Just like a tree has a 'soul', Scott brings his own soul and personality into the pieces he creates. He's developed a keen interest in woodturning while reaping the rewards of "breathing new life" into pieces through furniture restoration. Scott will develop his business, Oldershaw & Clark, at Myreside Studios

Daffodil mirror

Scott with his completed designs, including the 'Circular Mirror' and 'Tai Interceptor' coffee table

Instagram: @oldershawandclark

Photographs courtesy of **Alexander Weir**

Alison Thacker – UK
The Toadstool Nook

"Ideas and inspiration bounce around the room," says Alison, when talking about the "magical" experience of being surrounded by other creatives and using the "vault's worth" of knowledge passed on from the Chippendale School's tutors. Whether it's a flippable coffee table that emulates a cosy patchwork blanket or a treasure chest to hold evidence of your adventures, Alison tries to incorporate a sensation of welcoming comfort into her designs in order to make furniture that naturally feels like home. Following her time at Myreside Studios, she dreams of moving her business, The Toadstool Nook, back to her homeland on the West Coast of Scotland

Alison with her final designs, including 'Patchwork' coffee table with flippable top

Captain's chest

Instagram: @thetoadstoolnook

Gary Stewart – UK
Skelf

Gary has developed his contemporary style combined with mid-century influences. His graduate collection is born from a study on how life has changed while living through a global pandemic – namely how we now work, explore and gather. After taking some time out to begin married life, Gary will set up his own workshop in Glasgow to run his business, Skelf, with the aim of holding short courses in woodworking and a wider plan of having a social impact by engaging with charities and schools, giving others an opportunity to experience the benefits that making something with your hands can bring

Oak desk with floating drawer and matching stool

LEFT: Gary with another of his final designs – matching hallway storage for coats and shoes in Wych elm

Instagram: @skelffurniture

Alasdair Izat – UK
Alasdair Izat Design

With little previous experience in woodworking, Alasdair Izat's confidence and skill in the discipline has skyrocketed, particularly through crafting his own Windsor Chair. Now with the skills and knowledge under his belt, he's looking forward to developing his "signature style" while he continues to focus on having fun and learning. Alasdair has particularly enjoyed the therapeutic process of woodturning. Upon graduation and after a few days of well-earned rest, he plans to spend time on his business, Alasdair Izat Design, and collaborating with his sister and her architecture practice on pieces for upcoming projects on the Isle of Harris

Alasdair with his 'Vinyl Chair' design

Scottish oak and stained sycamore dining table with a twist

Instagram: @alasdair_izat

John Heuchan – UK
Laurel & Wood

John Heuchan loves to create "simple designs with elegant straight lines" and chooses to employ an experimental approach when it comes to furniture making – for example, he loved using reeded glass in the doors of a display cabinet to give subtle glimpses into its contents, as well as trying different ways of adapting the legs to support the top of a console. After graduation, John plans to start running his own business, Laurel & Wood, where he'll expand on his experience and work on fitted furniture such as bespoke kitchens and wardrobes

John with his final pieces, including the 'Marchmont' cabinet and 'Waverley' bench

'Queensferry' console table in oak

Instagram & Facebook: @laurelandwood

Ben Barbour – UK
Benedict Barbour Design

Inspired by working as an artist and curator for museums in the Gulf, Ben developed a display case in American black walnut for people to "curate a museum in their own home." Ben's marquetry cabinet design was developed from an observational drawing he produced during lockdown. The cabinet itself is fabricated from locally sourced sycamore and Wych elm, adding to the site-specific nature of the piece. After graduation, Ben will rent a workbench at Myreside Studios to develop his business, Benedict Barbour Design, alongside continuing his own practice as an artist

'Beech Leaf' marquetry cabinet

Ben with his final designs, including display shelves

Instagram: @benedictbarbourdesign
Website: www.benedictbarbourdesign.com

Bernardo Rosique Perez – Mexico
Rosique Wood Design

Bernardo's goal is to change the perception of woodworking in his home country, using the most sophisticated techniques for innovating traditional Mexican design. At the Chippendale School, he's honed his personal style, focused on symmetry, geometric shapes, continuous and tangent curves, as well as Mayan textures. Bernardo's business, Rosique, will "honour the past by making heirlooms of the future." Plan A is for him to return to his hometown and set up shop with the help of his family, mainly his father, who shares Bernardo's passion for the business. He may also do some travelling beforehand, however – the world's his oyster!

Bernardo with his table and wardrobe, featuring Penrose tiles

Instagram: @rosique_wood_design

Allan Robert Ferguson – UK
ARF Woodwork & Design

In just 10 short months, Allan has seen himself transform from a DIY-enthusiast into a fully-fledged woodworker and furniture designer/maker. Coming from an arts and music background, he's placed special focus on creating unique aesthetic qualities for his pieces, while taking advantage of the timber's natural beauty. Not only has Allan worked on pieces that can be considered art in their own right, but those that also find their place as functional objects in the home or workplace. Incorporating traditional aspects of design into contemporary woodwork has been a focus, and after graduating, he'll take a space at Myreside Studios to further develop his business, ARF Woodwork & Design

Allan with his final three pieces, including drinks cabinet and chess table

Instagram: @arf_woodwork_and_design
Facebook: @ARFergusonWoodwork
Website: www.arfwoodworkanddesign.co.uk

Josh Cadman – UK
John Cadman Furniture Design

Josh describes his experience of the Professional Course as "fundamentally transformative," enabling him to develop his burgeoning small business selling furniture and homeware online into a professional furniture making practice. He's now developed a clear style and streamlined his approach to the design process, drawing heavily on the influence of both Japanese and mid-century Scandinavian furniture. For Josh, form must follow function, and he uses clean lines and simple forms to elevate the natural beauty of the timber. Following graduation, Josh will move back to Newcastle, where he'll join a highly regarded local furniture making company while continuing work on his own business, Josh Cadman Furniture Design

Coffee table in ash and walnut

Josh and his final designs, which include a media cabinet and side table

Instagram: @joshcadmanfurnituredesign
Website: www.joshcadman.com

Ivan Zakharov – Russia

Hailing from Moscow in Russia, Ivan was inspired to travel across the world to study at the Chippendale School. Having gathered a great deal of skills and knowledge over the last 10 months and an understanding of his working style, he's excited to start tackling all of his new ideas. The course has opened up "new horizons" for his work, with one of Ivan's final pieces being a guitar. Upon graduation, he plans to move on to another furniture school to further increase his woodworking skills, as well as travelling the world to experience different techniques, eventually opening his own furniture making business

Ivan with his final designs, including the 'Pink Floyd' coffee table

Instagram: @zakh.98

Sally Prowitt – USA

Moving across the world during a pandemic to begin a career was a risky choice, but Sally's relieved that she followed her instincts and took the plunge to study on the Professional Course. Having developed a foundational knowledge across all aspects of woodworking, perhaps more importantly, Sally has grown the confidence to expand on her learning and solve problems on her own. Influenced by the coast, trees and colours that surrounded her growing up in San Francisco, Sally says her style could be best described as "California meets Shaker." Sustainability is key for Sally, with longevity a focus for her furniture pieces, with a bit of flair added in. She'll be staying on at Myreside Studios, with the goal of getting her own business up and running by summer 2022

Sally and her final pieces, which include a stunning hall table

Instagram: @sallyprowitt

Anna Patxot Bertran – Switzerland
a n n a

Learning at the Chippendale School has been an "enriching, intense, challenging and fun experience" for Anna, which has prepared her for the start of a career in professional furniture making. She begins her design process by searching for a connection between an object and its surroundings. Rather than focusing on one style, Anna allows the aesthetics to form around simple lines to create elegant and functional pieces. The collection from a n n a will be the first of many creations and bespoke furniture pieces

Anna with her final pieces

End tables in steam-bent elm

Instagram: @annafurnituredesign

Ian Swann – UK
Abbotsbury Woodwork

Following an "exceptional" experience on the Professional Course, Ian has enjoyed honing his woodworking skills, aiming to create "functional furniture that brings joy in its everyday use." Working with locally-sourced oak has been a highlight, as has mastering traditional carpentry skills – something which he aims to build and expand on when establishing Abbotsbury Woodwork at Myreside Studios after graduating

Ian with his final mirror design

FURTHER INFORMATION

To find out more about the Chippendale School's intensive 30-week Professional Course, see **www.chippendaleschool.com/cabinet-making-courses/professional-course**

MEMORIES MANAGED

Using only hand and power tools, **Andy Brough** had to think creatively when it came to the design and making of this keepsake box, which utilises a stunning piece of quilted sycamore in its main construction

MATERIALS & TOOLS NEEDED

Materials

- A plank of quilted sycamore, saved from a previous project
- A small amount of mahogany left over from an old wardrobe door
- Cedar of Lebanon – a block measuring 200mm square × 610mm long, which I'd originally intended to turn

Tools

- Homemade circular saw
- Proxxon saw bench
- Orbital sander
- Pillar drill
- Numerous chisels and planes

A friend told me about the method she uses for managing memories – mentally placing them in boxes, with the really bad ones having their lids nailed on, never to be opened again. I thought I could go one better than that and make her a 'real' box, which would allow her to keep her happy memories close to hand. Hopefully one of those will include the great friendship we've shared over the years...

About 15 years ago, I gave up woodworking as a hobby and sold all my machinery, so now, anything I make requires a great deal of thought as to how it can be made using only hand and power tools. Since then, I realised I couldn't very well manage without a small, accurate circular saw, so ended up making my own, the details of which were published in the September 2016 edition of *Good Woodworking*. I did keep a small plank of quilted sycamore and had leftover offcuts of mahogany from an old wardrobe door, so this was the timber I used to make the box. I love the contrast between the almost white sycamore and brown mahogany.

Design philosophy

Having little timber available meant there was little room for error when it came to making this box, and projects in general. I was reminded of another I made some time ago, which was also published, but this time in the Autumn 2004 issue. It was made using the same timbers, but designed to hold steak

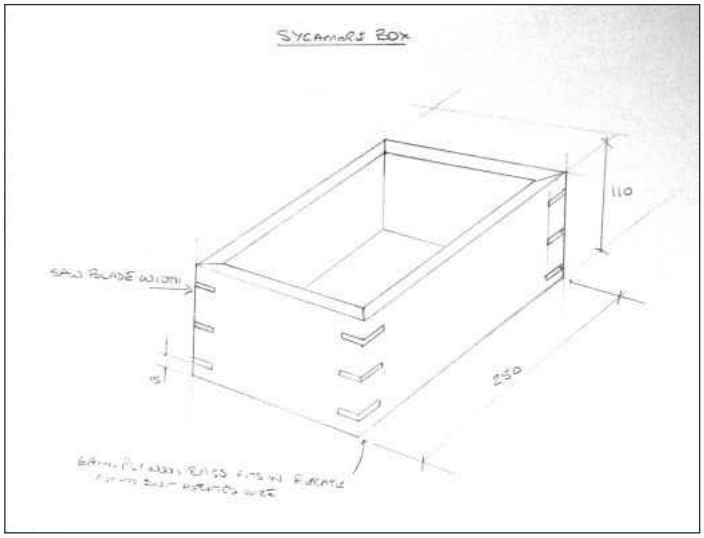


Fig.1 General box construction

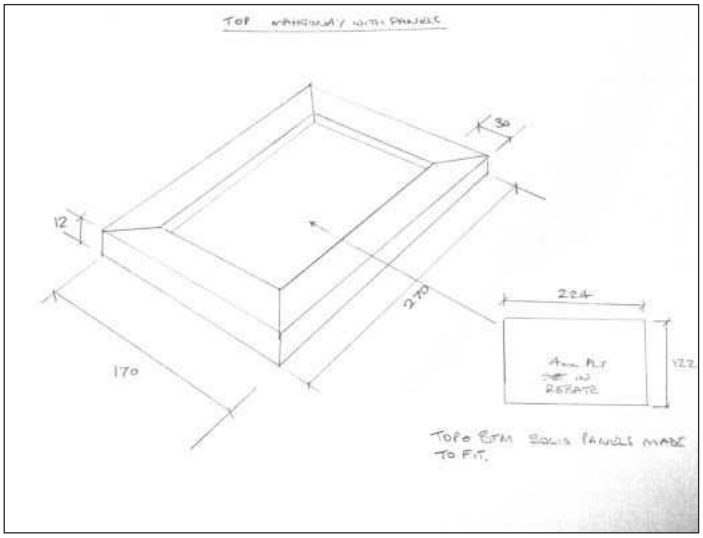


Fig.2 Construction of box top

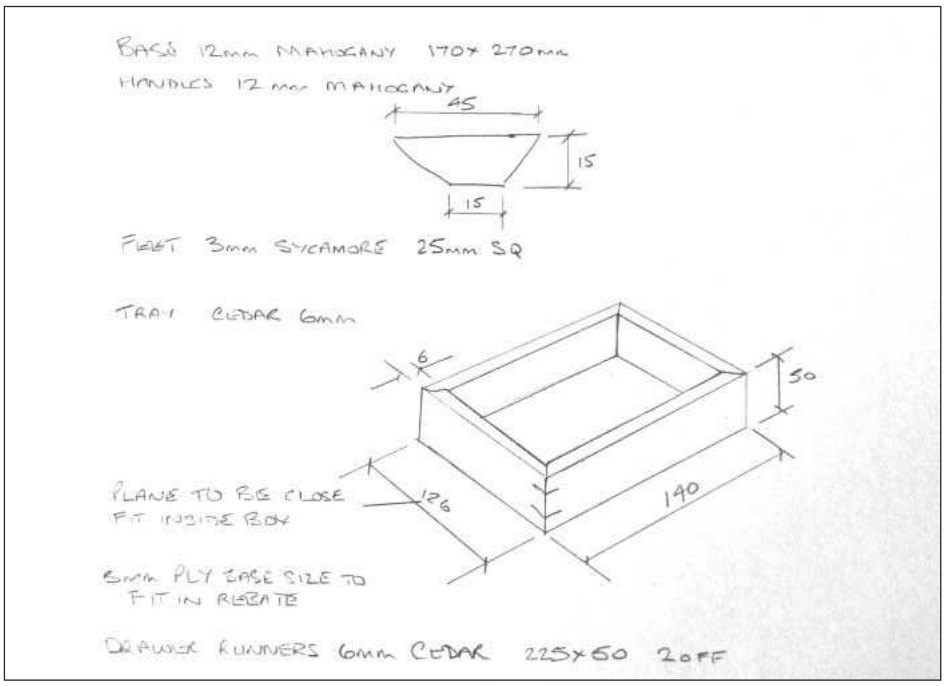


Fig.3 Construction of base, handles, feet and tray

knives, meaning it was very flat. However, using the same construction methods, I was able to make the various box components separately, so that any mistakes encountered along the way could hopefully be remedied.

Using this method also allows for any changes to be made during construction of a project. How so? Well, the box itself is mitred and only consists of four sides. The lid can be viewed as a separate project: it could be solid or, as in this case, made as you would a picture frame with a ply core and face timbers added for decoration. The same goes for the base, but here I used a solid piece of timber. The sliding tray is of course optional, but I think it adds a certain degree of attractiveness.

Sizes

I suppose most boxes are made using offcuts or small pieces of timber left over from various builds. This will often dictate the size of box, which is usually based on the material available.

2 Lovely quilted grain of the sycamore after planing, scraping and sanding

This was very much the case here as the plank of sycamore needed to be used up and I ensured to use the maximum material available. It was wider than required, meaning I had to cut it down a little otherwise it would have ended up out of proportion.

CONSTRUCTION

Main carcass

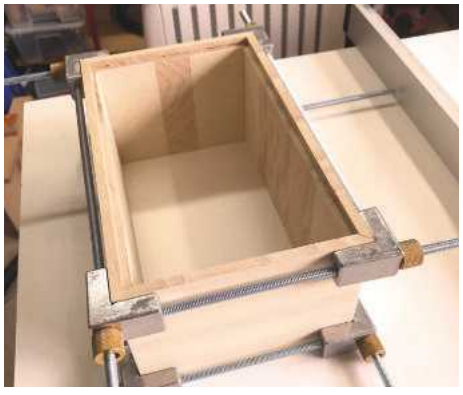
My starting point for this project was the box carcass. The timber I used was so highly figured that mitred joints would allow the grain to run around the front and two sides, which would really show off its character. The piece of quilted sycamore I used was 20mm thick, so this had to be reduced down to a finished thickness of 10mm. The first job was to select the best face, then clean it up. Unfortunately, the timber's quilted surface was torn from the original machining. I tried scraping it, but ended up using a 150mm random orbital sander fitted with an 80 grit disc, followed by a 240 grit disc. This allowed the face to be inspected and best layout of the sides and faces positioned. As the plank was some 200mm wide, I decided the sides would be 110mm. Also, to ensure

3 Box sides complete with rebate and mitre, ready for assembly

1 Preparation of the sycamore using a finely-set bench plane

the best grain, I had to remove some material off both sides. One edge was planed (**photo 1**) and the waste ripped off. I say waste as both offcuts were kept for future projects (**photo 2**).

Next, both edges were planed to the final width of 110mm. Now, without a thicknesser, this meant that the 20mm had to be reduced down to a little over 10mm. Hand planing was out of the question – sycamore is very hard! In the end, I decided to saw along both edges to the maximum depth possible, which, on my saw, happened to be just over 50mm. Normally, this procedure isn't deemed safe due to the guard and riving knife needing to be removed; however, on my saw, the riving knife happens to be set just below the blade tips. The guard is on a cantilever – a steel tube that's also used for extraction, so with utmost safety in mind, the guard can safely be removed for various operations. What's needed is a high fence along which the face of the wood can be run; this ensures hands are kept well away from the blade. Using this method, I was able to remove most of the depth of waste required. I attempted to saw through the remaining 10mm with a hand saw, but found the teeth were catching the face of the wood. I then tried prising the excess off with a chisel, acting as a wedge; this worked well, and also left me with some thin pieces of figured sycamore, which could be used on this or future projects. The remaining mound along the length was easily planed off, then thicknessed by hand to the required 10mm. I'm guessing most readers will own a thicknesser and won't



4 Sides assembled and clamped in Axminster frame clamps. Masking tape stops the glue from damaging the sides' inside faces

have to resort to such dubious techniques!

The positions of the sides, front and back were very carefully marked on the face. My homemade saw doesn't have blade tilt function although I could have made a 45° angled slide for cutting mitres. Instead, I opted to use my Proxxon table saw as I'd already made a mitre slide for it, allowing mitred saw cuts and featuring a built-in guard. With care, it'll just about cut 18mm hardwood, so the 10mm mitre cut was therefore within its capabilities. Just remember that the mitres should really be cut with the outside face uppermost in order to minimise break-out. This means that the next cut will have the opposite face against the fence. As long as the edges are perfectly parallel, this won't cause a problem. You only really have one shot at this as another cut will compromise the lining up of the grain as it runs round the face to the side.

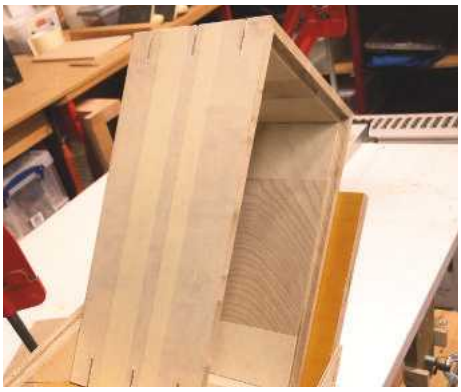
Once I'd mitred all the edges, I cut a rebate for the bottom using 6.4mm birch ply (**photo 3**). The reason I used a rebate rather than a housing was so the bottom, complete with baize, could be added later once the box was finished. I then carried out a trial fit of the box sides and marked the location of each. The inside faces then had to be sanded to the point where they wouldn't need touching again. I also set about sanding the outside edges, but not up to finishing standards as the key slots would require cutting after assembly. I used masking tape on the inside edges up to the mitres, thus eliminating any glue clean up after assembly.

Glue-up

It's quite possible to glue the box up using masking tape around the outside edges, so that when it's folded, the tape pulls everything tight. I used this method but employed my Axminster box clamps (**photo 4**), which are superb for this task. Generally, once tightened, the clamp pulls the box square. I checked the diagonals for square and adjusted as required. Adjust, in my book, usually means a clamp is required across the longest corner length.

Once complete, I left the assembly to dry overnight. The next day, I set about removing the tape from inside the box (**photo 5**). I then marked and cut the 6mm to fit neatly into the rebate. This is screwed in place rather than glued, which allows the baize to be stuck on the underside and the case screwed in place once complete. The key slots can be cut by hand and even at angles, using very thin keys. The method I used, however, was to cut them on a jig simply made from scrap (**photo 6**). Alternatively, you can use a circular saw or router table to cut these. Previously, I'd used a router to cut thicker key slots, along with an HSS dovetail cutter, to great effect. Without a router table, the saw bench still does a great job. I left the masking tape in place to reduce break-out and any scuffs that would result from handling (**photo 7**). You can set the number of keys and spacing as you wish, and make multiple passes to give wider keys – the choice is yours. I chose three, which were the width of the blade. Ensure to set the blade height so that it doesn't break out of the box's inside corner. Here, the guard has to be removed, but it's within the jig and box as it passes over the blade. It's important to ensure that the jig is firmly pressed to the rip fence, then away you go. Don't go back through the blade but continue past it; you can then turn the box end over end, then face to face in order to cut the eight slots required. I moved the rip fence to ensure that the next cut was in the centre of the box, then repeated. Once complete, I removed the masking tape.

5 It's worth protecting the finished insides as any glue will be difficult to clean up later



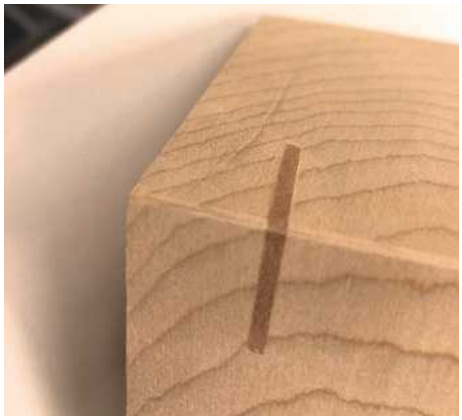
6 With the masking tape still in place, slots for the keys are cut into the corners using a homemade jig

Lid & base

In terms of material for the lid and base, it's important to use the same piece of timber – in my case mahogany (**photo 8**). Using my Proxxon saw, I ripped off the narrow sliver of mahogany so it was very slightly oversize and sanded both edges until I achieved a sliding fit in the slots. Don't make these tight or you'll run into all sorts of problems I thought that the white glue I used to stick these in place would add some lubrication, but it actually seemed to make them stick more. Perhaps the water in the glue expands the thin material? Once dry, I carefully cut the key slot using a fine blade and combination of chisel and plane until it was almost touching the face of the box. A final sand and it was finished. For the handles, I used some of the mahogany and screwed these on from inside. The box was now starting to take shape.

The person for whom I was making the box loves the smell of cedar, so I decided to use this material for the thin panel on the inside of the lid, along with matching sycamore on the outside (**photo 9**). The lid was therefore designed as you would a picture frame, using the mahogany, with a 3.2mm core of birch ply onto which the two faces would later be glued. To retain the smell, I didn't apply any finish to the cedar, which is fine for the inside, but perhaps too soft for the outside, hence the sycamore. If you recall, I saved the thin strips of wood prised off from earlier thicknessing. Using these, I selected the best grain match possible and glued them up as you would a panel (**photo 10**).

7 The tape protects the faces of the box while the slots are machined

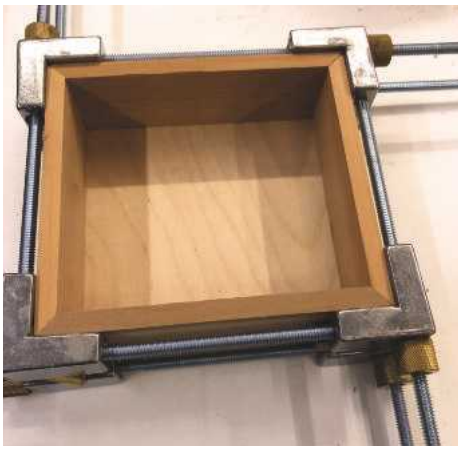


8 Mahogany keys inserted, cut and sanded smooth. Take your time with this step

9 Cedar drawer runner added to the bottom of the long side

10 Offcuts from the thicknessing process are used to make up the lid's top panel

11 The cleaned up panel looks pretty good with a near grain match



12 Drawer glued up in a similar way to the box, but only two keys used here

The cedar for the inside panel was a huge 200mm square block, 610mm long. The inner tray and runners required a thickness of 6mm, and 3mm for the lid veneer. Basically, I repeated the same process as used for the sycamore, but as the thickness required here was just over 6mm, and cedar is much softer, I used a hand saw to remove it. Using a sharp plane, working down to the 6mm thickness required was an absolute joy. Curly shavings of aromatic cedar came off easily and were saved and bagged for later use. Next, I planed the lid panel down to 3mm. The lid is a mitred frame with a central housing all the way round, which takes the 3.2mm birch ply. Fortunately, the mahogany piece was around 12mm thick to start with, meaning it could simply be planed smooth. For the glue up, I once again used the frame clamp, although plenty of strength comes from the ply core, which is glued into the frame. As before, it's important to check that the diagonals are equal. I left this to dry overnight, and the next day, once dry, I sanded everything and lightly bevelled the edges on both sides.

Next, I sanded the two panels to a good finish and put these aside for later use. I then inset a couple of butt hinges into the back of the box and fitted these flush to the lid. When opened, the overhang of the lid affords just the right angle. The base is simply a rectangular piece of mahogany, cleaned up and lightly bevelled all round the top. I fastened the base to the 3.2mm ply box base using four screws. Although movement is unlikely to occur, I ensured that two of the holes were slotted to allow for this. Next, I added four little feet to each corner, also making use of the sycamore offcuts.

Tray & runners

I used the previously thicknessed cedar to make the short inner sides, which form the runners for the tray. I then glued these onto the long insides of the box. For the tray, I used the same method as for the main box, but this time inserting a 3.2mm birch ply base into a housing, cut into the sides using my Proxxon saw. Of course, a router could be used here, and I do have a tiny Proxxon router for a drill/grinder, which would be ideal, but it's much quicker using the saw bench. I used two keys of the mahogany, with the same jig mounted in my Proxxon saw to produce a finer kerf.

For the handles, I used pieces of ribbon secured in cedar blocks with CA adhesive (**photo 15**), chiselled out so they were twice the thickness of the ribbon. The tray was made fractionally wider – 0.5mm. Using a small block plane, I was able to achieve a smooth running fit between the sides.

Finishing off

While the tray was still to hand, I added baize to the bottom (**photo 13**), although you can use whichever material you like. I didn't use any finish here as I wanted to preserve the cedar's aroma. For the main box, I covered the cedar runners with masking tape before applying a wax finish, inside and outside. To maintain the colour of the sycamore, I used a soft pure beeswax, which nourishes the wood and adds a light sheen. Next, I removed the masking tape, covered the ply bottom in the same material as the tray, then screwed it in place.

I glued the sanded sycamore panel for the lid's top in place, and once dry, applied the same wax finish. I placed and glued the inner cedar panel, ensuring none of the wax contaminated the cedar. The next step was to apply wax to the entire base, then screw this to the ply bottom. Note that two of the holes are slots, which allow for any movement.

Covering the corner feet in felt (**photo 15**) – or cork – will prevent the box from scratching the surface onto which it's placed. Finally, I screwed the lid in place, gave the box a final buff, then stood back and admired my creation.

13 Baize applied to the tray and bottom adds a touch of class

14 Neat little cedar blocks hold the ribbon handle loops in place

15 25mm square sycamore feet were added later; these improve the look of the box and the felt placed underneath these prevents scratching

Makita®

DUST EXTRACTION SOLUTIONS

M CLASS

M Class dust extraction is now the minimum legal requirement when working with hazardous materials per HSE guidance.

M Class extractors can be used with Brick, Masonry, Tile, Gravel, All woods, Plastic composites, Flint, Quartz and Liquid materials containing sand.

Don't use your lungs as the filter. Use your M Class dust extraction unit to protect yourself from these hazardous materials.

WUT02U

VC4210M

Link AWS Bluetooth Tools to Your Dust Extractor

Use the WUT02U AWS Bluetooth adaptor with any dust extractor equipped with power take off and auto start. Wirelessly connect your cordless Makita AWS tool to activate your dust extractor each time you pull the trigger.

WUT02U available for 110v and 240v:
199804-6 - 240v
191A40-6 - 110v

AWS

makitauk.com/products/dust-management

CHOOSING & USING BENCH PLANES

1 Kiln-dried wood from a wood yard has a slightly cupped, rough-sawn surface

Looking at the vast subject of bench planes, **John Bullar** concentrates on the Bailey plane while looking at block variants, smaller ones for special jobs and the most useful and versatile of them all – the shoulder plane

Taking a rough-sawn or machine-planed board and transforming it into an accurately sectioned component with silky smooth surfaces is the first stage when it comes to making a piece of fine furniture (**photo 1**). The hand-powered tool designed for this job is called a bench plane.

Before you hand plane, machine planing is a good way to cut the donkey work out of wood preparation. However, the rotating knives on machine planers and thicknessers produce a series of ripples rather than a truly flat surface. They can also tear grain out of the wood, especially when blunted by heavy use. If the wood is machined after storing in anything less than complete dryness, the surfaces will no longer be flat once it's settled.

A well-tuned bench plane is capable of producing truly flat surfaces and straight edges, so we generally use this tool for preparing wood down to its final dimensions after, if not instead of, machining.

Bailey planes

The most commonly used type of bench plane is known as a 'Bailey'. Named after its Victorian inventor Leonard Bailey, this is not a make but a generic design. Although complex compared to its wooden predecessors with wedged blades, the cast-iron bodied Bailey was ideally suited to industrial production methods of the time. It became very much the standard bench plane and remains so today.

There are many different makes and sizes of Bailey and I find the most useful all-rounders are the No.4 smoothing plane and the No.5 jack plane. The longer a plane is, the flatter the surfaces and straighter the edges it will produce. You can expect to pay a few hundred

pounds for a top quality new bench plane. Old planes – so long as they aren't special makes like Norris, which collectors buy for a fortune – can be had for a few pounds. Check it's not rusty or cracked and an old plane from a big maker will be good value once restored.

Parts of a plane

The plane I used for some of these photos has one side cut away, making it easier to see, but otherwise it's a basic Bailey plane (**photos 2** & **3**). The cast body has a flat sole underneath with an opening – or 'mouth' – for the cutter to poke through. The cutter is mounted on a thick cast-iron wedge known as the 'frog', bolted to the plane's body just behind the mouth.

2 An ordinary bench plane, or 'Bailey plane', with one side cut away

3 Dismantled – left to right: rear handle, body and front knob. Behind these are the frog, cutting iron, cap iron and lever cap

4 Sharpening the plane's cutting iron using a honing guide and diamond bench stone

6 Testing the sharpness of the edge by slicing though oak end-grain

7 The lever cap clamps the cutting assembly in place against the frog

5 The tip of the cutting iron has a fine bevelled edge, which is typically ground at 30°

8 The cap iron, or 'chipbreaker', sits tightly against the cutting iron

A central bolt in the frog holds the lever cap; this bolt acts as a variable height pivot and, once set, rarely need re-adjusting. The lever cap is locked in place by another smaller lever at its top, which operates an over-centre cam. The Bailey depth adjuster thumbwheel sits in the gap between the rear handle and frog. By turning the thumbwheel you move the cap iron, together with the cutter bolted to it, up and down the sloping front of the frog, thus varying the depth of cut. A lever at the top of the assembly just beneath the top of the cutter moves sideways, allowing it to be levelled from side to side, ensuring an even depth of cut.

Sharpening up

The sharpness of a plane's cutting iron makes a huge difference to its performance; this will need sharpening before you first use the plane and again after an hour or so planing. The angle isn't important so long as it's less than the slope of the frog and not so fine as to make the edge fragile.

Water-cooled wheels are good for grinding a bevelled edge at the required angle. I suggest you don't use dry high-speed grinding wheels as they will ruin a cutter. To produce the best edge, this needs to be finely ground by hand on a flat stone using a honing guide. This controls the angle at which the edge is ground and avoids rounding it over. Furniture makers prefer water-lubricated stones to oil-based ones because oil contaminates the wood. Diamond stones are increasingly popular because they work quickly, leaving a clean bevel. Their solid base, usually steel, stays completely flat (**photo 4**).

The grindstone surface must be flat so the cutter's edge will be ground straight across its full width. A very slight rounding of the cutter at each side is sometimes applied at the end of the sharpening process as this stops the plane leaving lines on the wood (**photo 5**). Finally, test the sharpness of the edge by slicing across the end of a piece of hardwood. This will also tell you if the sharpness is even or if there are any blunt patches (**photo 6**).

Putting it together

The Bailey frog is screwed direct to the plane body through elongated holes, allowing backwards and forwards adjustment, which varies the opening of the mouth. The cutting iron is clamped on the sloping front of the frog by two more irons above it. The top one is a

9 With the plane held upside down it's possible to see the cutting edge protruding through the mouth, level across most of its width, sloping down slightly at each side

10 If the cutter is set too shallow, the fine wispy shavings drop to pieces – as shown left – and if it's too deep, the shavings will tear out and leave a rough surface – as shown right

11 The lateral adjuster moves from side to side in order to level the depth of cut

lever cap (**photo 7**), which is normally thick and heavy to reduce chatter. Sandwiched between this and the cutter is the cap iron, which is supposed to curl the shavings neatly away from the cutting edge (**photo 8**), although it can be troublesome. The cap iron must press tightly against the cutting iron otherwise it will trap shavings and jam up the mouth.

With the plane assembled, the depth adjuster moves the cutting assembly up and down the slope of the frog. If it won't move, this may be because the lever cap is too tight. The tip of the cutting iron pokes through the mouth of the sole just far enough to slice a tissue-thin layer of wood.

Fine adjustments

With the plane held upside down, it's just possible to see the cutting edge protruding through the mouth, highest in the middle and sloping down slightly at each side (**photo 9**). If the cutter is set too shallow, the fine wispy shavings drop to pieces, while if it's too deep,

14 Using a try square to check that the edges are at right angles to the flat face

12 The first step is establishing one flat face. This will be a reference surface for the edges and other face

the shavings will tear-out and leave a rough surface (**photo 10**).

In use the adjuster needs to be backed off then advanced to its final setting position to take up backlash in the mechanism. With the lateral adjuster correctly set and cutting edge well honed, the shavings will be thin, silky-smooth and even (**photo 11**).

Face & edge

Wood preparation is simplified by tackling it in the logical sequence outlined here. The wood must be firmly secured to the bench for planing so that clamps don't get in the way of the plane. First, decide on one of the wide faces to plane. When completely flat this will become a reference surface for the edges and other face. Next, plane the edges at right angles to the first face. Finally, mark a line for the thickness all around the edges and plane the second face down to this.

Start each stroke with the cutter off the edge of the board, pressing down firmly on the front knob and holding the weight with the rear handle. Once the plane is fully supported on the board, light pressure is sufficient. At the end of each

15 With one face and edges true, a marking gauge draws thickness lines around the edges

13 The board is clamped with one edge up and the plane run along it with the grain. Fingers, under the plane's sole, guide and keep it centred on the edge

stroke, press down firmly on the rear handle and hold on the weight with the front knob. The shavings tell you when the wood is flat because they come out fine and unbroken over the full length of cut.

Flat top face

First, establish one flat face. If the board is cupped – curved sideways from edge to edge – start by flattening the hollowed side as the plane will sit more steadily on this without rocking. Otherwise choose the face that's closest to being flat. Plane the face in a series of full-length strokes working from one side to the other. Check it's flat by feeling the surface and examining the quality of shavings produced (**photo 12**).

Straight edges

Next, clamp the board with one edge uppermost and run the plane along it with the grain. Place your fingers under the sole in order to guide the plane and keep it centred

16 The second face is planed down to the line leaving the board a uniform thickness all over

17 Edges to be joined together are planed as a pair. Any slight inaccuracies in the angles will cancel out when pressed together

18 Boards are pressed edge-to-edge as a trial fit with a lamp placed behind to highlight any gaps between them

19 A block plane with its cutting iron mounted bevel-up has a simpler design than the normal bench plane

on the edge (**photo 13**). The edge of a board is normally narrower than the cutter, so it can be planed in a single pass and repeated until the shaving comes out unbroken. The plane must be centred on the edge and pressure applied evenly to keep it level. Before and after planing an edge, check it's at right angles to the flat face, using a try square (**photo 14**).

Thicknessing

The last stage is to make the board a uniform thickness all over. Now we have one face and both edges true, you need to make a thickness line around the edges and ends using a marking gauge (**photo 15**). Plane the second face down to the line in the same way as before, leaving the board a uniform thickness all over (**photo 16**).

Planing edge joints

Solid wood boards are limited in size by the diameter of the tree trunks from which they are sawn. Quite often we need wider boards for making panels, cabinet tops, tables, etc. so it's necessary to join two or more boards together side-by-side. This is known as 'edge-jointing' and only requires glue to make a strong joint. The edges to be jointed together must meet accurately without gaps, which can be achieved by planing them as a pair (**photo 17**).

Any slight inaccuracies in the angles of the plane will cancel out once the two edges are pressed together. A trial fit of the boards, edge-to-edge with a lamp placed behind, will allow you to spot any slight gap between them, which must be removed by further careful planing (**photo 18**).

Block planes

An alternative to the Bailey is the block plane and for many purposes, this is a simpler and often cheaper design. Block planes eliminate the need for a frog by clamping the cutting iron straight onto the body (**photo 19**). Block planes have the cutter laid down at a low angle on the body with the bevel edge-up, giving them a low centre of gravity and a balanced feel. The cutting angle simply depends on the angle you grind the cutter's bevel edge to, giving the user control for different types of wood.

Long block planes are particularly suitable for trimming and straightening the edges of cabinetwork (**photo 20**) and, as the bulk of planing is usually done by machine nowadays, many people find that block planes are ideal for small amounts of handwork.

Conclusions

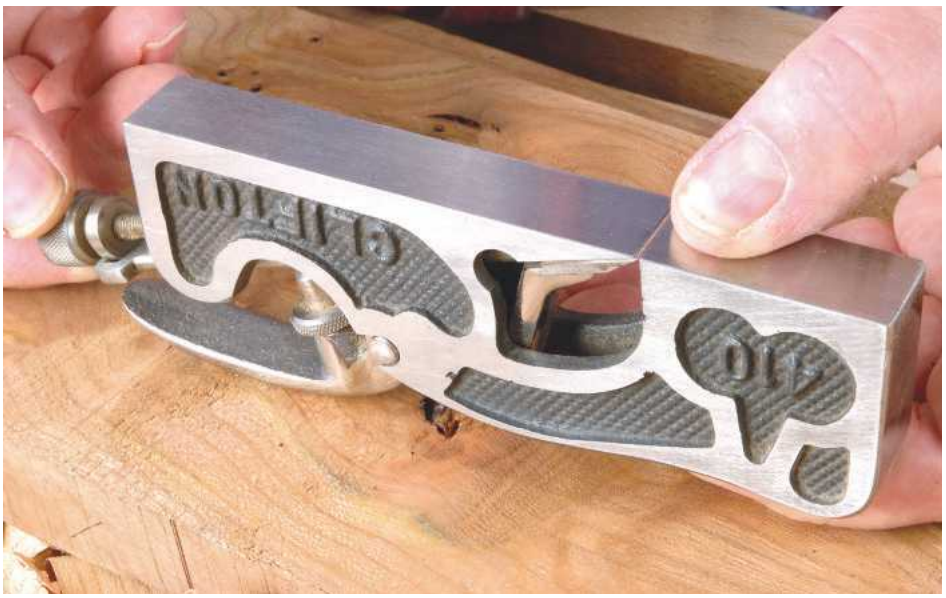
In this article we've concentrated on the Bailey as the most commonly used bench plane and as a follow-up, looked at the block plane.

Furniture makers also have many other types of small planes for special jobs, and one of the most useful and versatile is the shoulder plane (**photo 21**). This precision tool is ideal for making fine adjustments to fitted woodwork.

NEXT TIME

In the January 2022 issue, John looks at the wide ranging subject of choosing and using saws

20 The low-angle jack plane is ideal for straightening edges of frames, such as when fitting cabinet doors



21 There are many small planes for specialised jobs and one of the most useful and versatile is the shoulder plane

ROCKING HORSE SHOP
FANGFOSS, YORK, ENGLAND.

Designers, Makers &
Restorers of Beautiful
Rocking Horses
Since 1976

Why Not Make Your Own Rocking Horse?

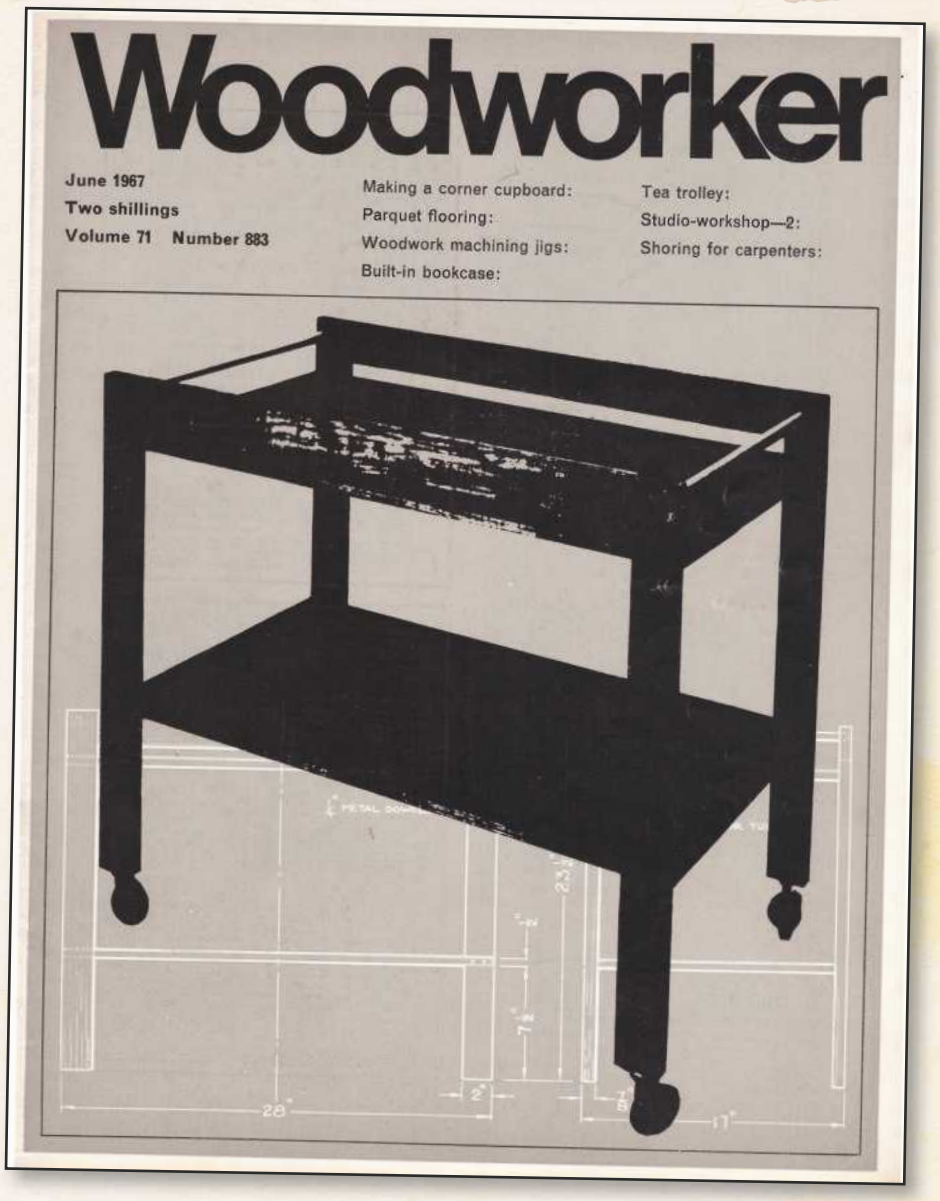
- Woodworkers Plans
- Instructional Books & DVD's
- Timber Kits
- Accessories & Tack
- Carving Courses
- Tools

All Plans include: actual size drawings, colour pictures, step by step instructions & cutting lists. All plans supported by DVD's, books and quality timber & accessory kits (everything you need to complete your project!) All available in store or online.

www.rockinghorse.co.uk

The artful trolley

Fascinated by its low-key posterised cover, **Robin Gates** takes tea with the June 1967 issue of *The Woodworker*



The tea trolley has been a recurring project throughout the history of *The Woodworker,* but June 1967 may be the only month when this highly versatile piece of domestic furniture dominated the cover – and with what unusual style! Contrasting dramatically with its Victorian ancestors, this trolley could hardly be simpler – a design so four-square and free of ornament it makes even the Utility furniture of wartime timber rationing appear fussily detailed. But as for presentation, this low-key posterised image is surely an eye-catching classic, and very much of its time. The silhouetted trolley suggests a woodcut or silk-screen print, making subtle use of lighter 'rubbed' patches on the top rail and edge of the lower tray to convey its three-dimensional form.

Helping project the image off the page, you'll notice the trolley overlays a technical drawing for its own construction, showing side and end elevations complete with notes and measurements. The drawing is reproduced in negative like a blueprint, albeit in white on grey instead of blue. In fact, putting aside its arrestingly artful quality, the cover gives almost sufficient information to build the trolley.

21st century artisan

The first project in this month's 48 pages is a contemporary lectern with tapered supports echoing space-age rocket fins of the day, and highly appropriate it is following a leader from editor PM Scaife who begins, in somewhat sermonising tone, by asking readers: "Have you noticed a decline in your moral standards lately?" Scaife remarks critically on a "decline in standards of workmanship" and says that "the principle of a fair day's work for a fair day's pay seems... to have been abandoned." Blame is apportioned equally to "the fact that it is increasingly difficult for any man to be shown to have responsibility for his work" and modern design, which is "often such that it is either so simple to construct that the semi-skilled stand an equal chance with the skilled, or that new materials are employed which call for the use of unfamiliar techniques." Scaife may well have been right, but the very first sentence of our tea trolley article highlights "use of modern materials and techniques" – namely plastic-laminated blockboard and metal dowels glued with Araldite epoxy resin. A case of 'having your cake and eating it', perhaps, but what better for that than a tea trolley wheeling in the customary Victoria sponge with fragrant and calming pot of Earl Grey.

There follows a well-illustrated technical piece for carpenters on how to properly shore up a building undergoing repairs, for which many might turn to Wikipedia today, but how much more enjoyable it is to read from the printed page than the screen. We're instructed in the use of single-, double- and treble-raking shores for two-, three- or four-storey buildings, respectively, taking into account the disposition of floor joists.

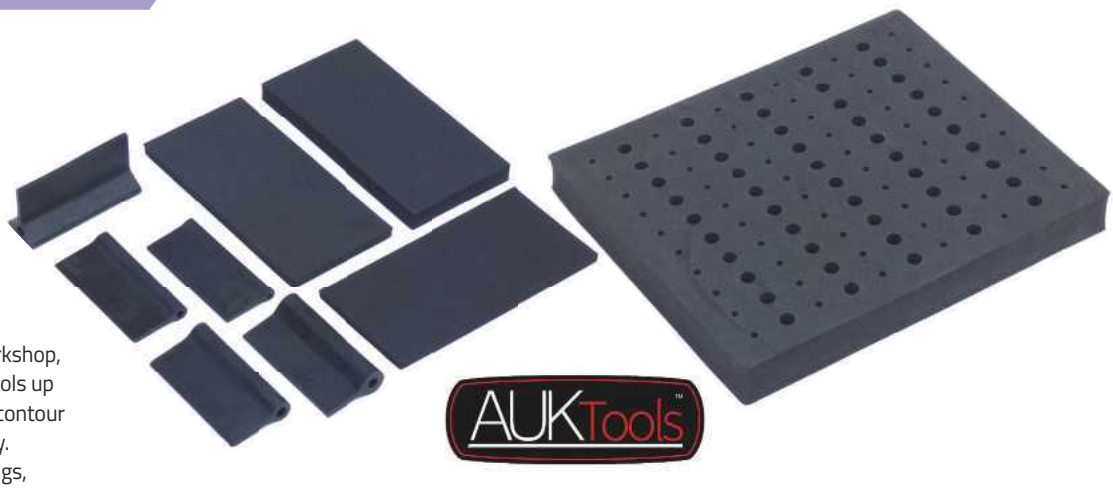
The ever-inventive, practical and wise Charles Hayward returns with jigs for machining operations using the woodturning lathe, which he regards "as a form of rotary power to which various cutters can be fixed." Thinking beyond the capabilities of the various attachments then offered by manufacturers, Hayward sets about machining mouldings using a router cutter in the lathe while work is supported on a wooden table bridging the lathe bed.

Elsewhere we're shown how to lay a parquet floor in basket-weave or herringbone pattern; designs for built-in bookcases to fill the alcoves beside a fireplace; a glazed corner cupboard in 18th century style; and there's a second article on building a studio-workshop – just the thing for a 21st century artisan. The centre-spread showcases the impressive work of students of Shoreditch Training College – writing desks, easy chairs, and a Celtic harp – which returns us full circle to our tea trolley since its designer, handicrafts teacher Basil L. Bettison, had studied there.

WIN!

1 of 5 **AUKTools** contour sanding grips (set of 8) & 1 of 5 **AUKTools** router bit foam trays

We've teamed up with **Wood Workers Workshop** to give five lucky readers the chance to win a workshop set from **AUKTools**



In conjunction with Wood Workers Workshop, there's five workshop sets from AUKTools up for grabs, each including a set of eight contour sanding grips and a router bit foam tray.

Ideal for working on complex mouldings, simply wrap the abrasive around your chosen sanding grip and sand away, while the router bit foam tray delivers a simple storage solution, helping you to get organised and protecting your cutters when not in use.

AUKTools contour sanding grips

These flexible rubber grips allow you to easily sand contours, curves, profiles and other hard-to-reach areas. Simply cut your abrasive to size and instead of folding it to get that tough spot, wrap it around one of the contoured grips. This package includes three contour pads – approximately 140 × 70 × 12mm; 140 × 70 × 6mm; and 140 × 70 × 5mm thick. The five grips include one with a wide, flat side and four with radius contours.

The handles of the contoured grips also feature micro profiles for tighter areas such as flat, tight radiuses, knife edges, wedges and more.

Features

- Quick and simple sanding every time
- 3 × large sanding pads in three thicknesses (12mm, 6mm & 5mm)
- 4 × radius contour grips (approximately 6mm, 8.3mm, 11.6mm 14.5mm and 1 flat-sided – 25mm)

AUKTools router bit foam tray

This foam tray is designed for the storage and organisation of ¼in and ½in shank router bits. The high-density foam has a series of 100 holes, evenly spaced to prevent damage to the edges of your router bits.

Features

- Protect your router bits
- Faster router bit selection
- For ¼in and ½in shank router bits
- ¼in holes also accept 8mm shanks
- High-density foam construction
- Dimensions: 311 × 311 × 38mm

For more information on these and other products from Wood Workers Workshop, including further tools in the AUKTools range, visit **www.woodworkersworkshop.co.uk**.

WOOD WORKERS WORKSHOP

HOW TO ENTER

To be in with a chance of winning **1** of **5 AUKTools workshop sets** – each including a set of **8 contour sanding grips** & a **router bit foam tray** – visit **www.getwoodworking.com/competitions** and answer this simple question:

QUESTION: What material are the contour sanding grips made from?

The winners will be randomly drawn from all correct entries. The closing date for the competition is **19 November 2021**. Only one entry per person; multiple entries will be discarded. Employees of MyTimeMedia Ltd and Wood Workers Workshop are not eligible to enter this competition

WW PROFILE

A passion for the mountains

MAKING BESPOKE WOODEN SKIS

Jamie prepares to hit the slopes with a pair of his favourite handmade skis

Jamie and his dog with a selection of completed wooden skis

Photographs courtesy of **Alun Callender**, unless otherwise stated

Jamie Kunka of **Lonely Mountain Skis** is making a name for himself as one of the most exciting hand-crafted wooden ski-makers around. Operating from his Perthshire workshop, he describes the processes behind making a typical ski – involving half hand and half machine work – all the while using as many sustainable and natural materials as possible

Cross-country skiing is not a subject I can claim to know a great deal about, but some impromptu online research reveals an incredibly fascinating and rich history. I learnt that wooden skis are highly sought after by those serious about the sport, favouring these over fibreglass versions due to their ability to hold ski wax better, which is "applied to the bottom of skis to improve their coefficient of friction performance under varying snow conditions." For those interested in learning about the history of wooden skis, Greg Fangel's website – **www.woodenskis.com** – is a great place to start, and jam-packed full of wonderful resource material. I also discovered that these intriguing items date back to 1880, with descriptive black and white photos showing leather thong bindings found on Nordic skis all the way through to the Gresshoppa cable bindings, which were popular in the 1960s. If I sound like an authority on the subject, don't be fooled, but before I set about profiling a woodworker, I like to immerse myself as much as I can in their specific craft.

Fast forward to the present day of wooden ski-making and it was by chance that I heard about a Scottish micro ski company based in Perthshire, Scotland, making handmade custom skis that blend traditional with modern materials and techniques. Jamie Kunka, Head Ski-maker, is the man behind Lonely Mountain Skis and the wonderful custom work he produces is certainly a far cry from the crude Nordic examples I saw online. The wooden skis are also hand-pyrographed by an artist called Eben Rautenbach (LeRoc) – **www.thepyroartist.com** – whose designs add a contemporary edge to the beautifully crafted skis, which Jamie's friend Philip Ebert then goes on to test.

Background

I asked Jamie how he came to discover woodworking, and the subsequent side step he took into starting a company making bespoke wooden skis. Jamie begins by telling me about his first foray into woodworking, which came at the age of 14, and saw him becoming fascinated by making bows: "I threw myself into trying to make a functioning bow and learned all I needed to about the suitable springy woods and how to shape them as well as using the correct traditional tools," he says. Taking this knowledge and running with it, Jamie explains that he had his first go at ski-making after watching a Ray Mears episode where a Swedish craftsman fashioned a pair from dead standing pine: "I was studying product design at Dundee University at the

Ripping beech to make the laminated cores

Flattening the base and sharpening steel edges

Sharpening the edge of a Sneachda ski by hand

time," he recalls, "and had the perfect workshop environment to prototype these simple wooden skis. They were very basic solid pieces of redwood pine, steam-bent at the tips and coated in pine tar. It was incredibly satisfying to try these traditional versions, even if they were a little out of control on the Scottish ice."

This didn't dissuade Jamie, however, and today, if his overflowing order book is anything to go by, he's pretty much perfected the process of making a hand-crafted wooden ski from start to finish. It was back in the summer of 2015 when he set about designing and making his first production ski – the 'Sneachda' – which, to Jamie's surprise, went on to win the prestigious Gold award in the Ski Touring category at the famous ISPO trade show in Munich. Buoyed by this success, he's been refining – and perfecting – the process ever since.

Design & manufacture

So, what makes a good ski and what does the manufacturing process entail? Jamie already mentioned the steam-bending element, but it turns out that making a ski that stands up to the rigours of the Scottish Highlands' rugged terrain is no mean feat.

Reminiscing about his first handmade ski and the nerve-wracking test run that ensued, Jamie explains that this happened to be a simple steam-bent Norwegian design from the late 1800s, which was long and covered with pine tar: "I was nervous as I was using traditional leather boots; however, the skis were fantastically light and manoeuvrable – a real revelation. Yes, they were slower but it was a more authentic experience in terms of being able to feel the solid pine gliding along the snow." Things have certainly moved on a pace since then, and the range of skis Jamie now makes are designed to suit all conditions and tastes – from a thinner ski for harder snow and longer adventures to big, wide skis for deep snow. All the ski cores start life in FSC-certified woodland where they're felled and arrive as boards at the workshop. These are then ripped into strips before being glued together into cores – as Jamie explains: "This way we can ensure consistent, defect-free ski cores. I mainly use four different timbers for making skis – maple, poplar, beech and cherry – all of which are great elastic woods. These are wrapped and reinforced with flax – an amazing natural fibre that's stronger than fibreglass and offers improved damping – as well as carbon fibre, which enables the skis to be stiff where they need to while keeping the weight low and affording great power transmission. Next, they're glued together using Entropy Resins' Super Sap epoxy resin – a specially developed, amazingly elastic and durable ski resin, which is derived from sustainable sources."

Jamie also uses the best quality base and edge material available to ensure a "fast, hassle-free ski that's going to last for years" – as he talks us through: "The base is a sintered racing PTex 7000, which is capped with a special NV4-coated steel edge. This special NV4 substrate coating ensures the best bond between edge and ski to prevent pesky blown-out edges if you decide to ski sideways over rocks, for example."

All of the skis, cores and tooling are manufactured in-house at the Perthshire workshop, and Jamie takes a great deal of pride in overseeing every stage of the making process to ensure each product that goes out to the customer is of the highest possible quality and accuracy.

When asked about the level of demand for such a bespoke and unusual product, Jamie happily reports that he's been pretty much flat out in the workshop, designing and testing new shapes to feature in the range of skis the following year, as well as the day-to-day production work that's

Assembling the beech and poplar core

Clamping the core together

Planing the laminated core to size

A finished Sneachda ski with leather strap

Examining a finished ski before it leaves the workshop

also involved. In terms of commissions, he explains that he works on these from autumn to spring, before moving on to the design and testing phases as the year progresses.

Interested to hear more about the machines used in the production of Jamie's wooden skis, he says that he tends to use a lot of these to make the larger components, but comments that he loves the final stages of finishing when he's given the opportunity to use various hand planes and spokeshaves, which allow him to really get a feel for the wood and bring character to the skis. As well as general hand tools, some of the main ones Jamie uses are of his own design, which is certainly a proud achievement, and these include clever handmade adjustable jigs and templates, all of which help to refine the level of accuracy required.

Describing how he makes a typical ski, which as Jamie confirms is typically half hand and half machine work, he says that the first step is smoothing down the rough timber before ripping, then gluing together in a series of vertical laminations. This is then profiled and tapered on a planer, and thus the spine of the ski is born. It's then glued together with another six layers of material in a vacuum press; this pulls the ski together and ensures that each one has an even flex pattern as well as being free of air bubbles. The whole ski is then cooked to help it set into shape. Jamie is also proud to reveal that, where possible, the company tries to keep a low carbon footprint, which is why they use as many sustainable and natural materials as possible. "From the wood and bio-resin that holds the ski together, to the flax fibres that give the ski spring and smoothness, 80% of our materials are from grown sources; this way we know we're not negatively impacting the environment that gives us snow." In fact, for every ski Jamie sells, he aims to plant two trees to offset the CO produced during the making process.

Ski range

The Lonely Mountain Skis portfolio currently consists of three permanent ski designs, starting with the award-winning 'Sneachda', which is designed to be pushed hard on steep descents or when doing laps of the piste. With its rocker-camber-rocker design, it's both playful and stable. It uses a carbon/flax construction to reduce weight while giving fantastic performance on and off the piste.

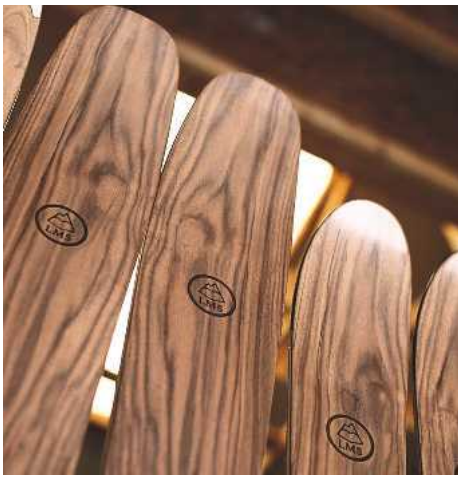
Next there's the 'Crua', which excels in all conditions on and off piste. It utilises the same technology as the Sneachda to bring all the performance and stability on a narrower, lighter chassis. "This ski is a very capable all-mountain tourer with a playful camber profile and great power transmission from edge to edge," Jamie confirms.

Finally, the 'Ord' is inspired by deep snow days in the back- and sidecountry. "Due to its triaxial carbon and flax construction, it not only performs in the deep but remains fun even on the hardpack. Its chassis is built from an extremely light balsa-flax core, which makes turning, jumping and general mucking about a whole lot of fun."

Applying final coats of varnish

Dimensioning pieces of beech and poplar for a batch of ski cores

Photograph by **James Glossop**



First ever LMS ski in a walnut finish

Most recently, Jamie also introduced the 'Turas' – his new Nordic Backcountry ski – which is "perfect for forest tracks, breaking trail and snowy adventures." His aim is to bring out a new shape every year, and potential customers are also encouraged to get in touch if there's a design they've always dreamed of. Jamie is happy to discuss a completely bespoke project if someone has a specific idea, although at the time of writing, the order book is full and won't reopen again until August 2021, so watch this space in terms of new introductions.

Making skis for National Museums Scotland

Outside of the workshop, I learnt about a special ski commission Jamie was recently involved in, which saw him "shocked and honoured" when Dr Sarah Laurenson, Curator of Modern and Contemporary history at National Museums Scotland, got in touch with him. Seeking out objects that represent social, political and cultural change in Scotland, Jamie's award-winning Sneachda skis were selected as an example of how the Scottish landscape continues to shape craft skill and design. The Sneachda was chosen based on the fact it's Jamie's award-winning flagship Scottish ski, representing the ethos of backcountry exploration and ruggedness behind the company. Various other items were also collected, including Jamie's

LeRoc's design on a Sneachda 178

Special Sneachda ski for National Museums Scotland – Collecting the Present films and project – made in collaboration with Eben Rautenbach; inspired by a scene Jamie witnessed in the Perthshire Highlands when he first moved there

ISPO award, a book on the history of skiing – *Two Planks and a Passion* by Roland Huntford – and the first ski Jamie ever made. "Along with the skis there are four other incredibly interesting and thought provoking objects that tell very deep stories about the fabric of modern Scotland," says Jamie, and his film, produced by the Edinburgh Film Company, can be viewed here: **www.nms.ac.uk/explore-our-collections/films/collecting-the-present**.

"Whether it was luck, good timing, hard work or otherwise, I feel very honoured to have been asked to be part of the contemporary collection programme," he comments.

Business ethos

Commenting that if he wasn't building skis he'd probably be working in another design discipline trying to work out how to break away and do what he already does now for a living, Jamie's passion for making wooden skis is evidently strong. He explains that his ethos is very simple: to make the most high performance and beautiful skis in the most sustainable way. Picking up on the fact that he's clearly a man in touch with nature, I asked whether or not

Pyrography wizard Eben Rautenbach – LeRoc – with the special-edition rutting stag 'Pudar' skis

Swallow-tailed Ord skis

natural figuring in the timber he uses can be exploited, or used to advantage, or whether such additions are merely seen as redundant, perhaps even causing extra work. Jamie replies that while the internals of the ski have to be as straight-grained as possible, the final layer of constructional wood veneer can be very interesting in terms of grain and figuring; this becomes important when LeRoc uses the grain to inspire his art work, which includes the addition of Scottish wildlife, as depicted on Jamie's special-edition rutting stag 'Pudar' skis.

The future

Looking ahead and contemplating Lonely Mountain Skis' future, it's fair to say that things look incredibly bright, as Jamie's full order book attests to. Appearing in the mainstream press, including a feature in *The Guardian* on artisan craftspeople, has helped Jamie to gain exposure while giving him the opportunity to tell his personal story to the masses, all the while flying the flag for wooden ski-making in Scotland.

As well as running ski-making workshops and diversifying into other areas, such as making a batch of wooden skateboards, Jamie is working at full capacity, and most importantly, doing what he loves. His ingenuity, innovativeness and desire to team up with other like-minded creative folk, such as artists including LeRoc, helps to ensure that the business structure is not only mutually beneficial, but also allows collaboration among craftspeople, ultimately working to promote and showcase individual skills.

Despite being branded a micro ski company, Jamie's sights are set high and staying with the skiing analogy, the sky really is the limit. As expected, Jamie has a few interesting projects up his sleeve and on the workbench, so ensure to follow the company on social media for announcements and regular updates. We wish Jamie and LMS all the best for the future.

FURTHER INFORMATION

To find out more about Jamie and Lonely Mountain Skis, visit the website: **www.lonelymountain.ski**

nova™

Smart Tools, Powerful Solutions

Available now!

NEW! VIKING DVR DRILL PRESS

NOVA's latest machine is a 16" DVR Floor Standing Drill Press.

The Viking's DVR Motor has superior power and a highly responsive variable speed range, making it the most versatile drill press on the market today.

- Self starting function
- Electronic braking
- Digital speed readout
- No belts, quiet and smooth operation
- Sensors for superior safety, use and maintenance

RRP: £1,229.00 inc. VAT

For UK & Ireland, find your nearest stockist online

www.craft-supplies.co.uk

@craftsuppliesservice

service@craft-supplies.co.uk

Craft Supplies
BE INSPIRED, BE CREATIVE

LET'S TWIST AGAIN!

While the actual turning of these little tealights is very simple, it's the marking out that can cause some confusion, as **Colin Simpson** goes on to show here

I decided to make a set of three tealights, each with a different height. The ratio between the heights is 1:1.6 – a proportion that always looks good and conforms to the Golden Ratio. The finished pieces ended up being 40, 64 and 103mm high.

Preparing the blanks

You need to cut the blanks a little oversize. I started with a block of ash just over 70mm square, cut into the three blanks. I wanted to colour and lime wax my tealights, and if you want to do the same then open-grained wood like ash, oak or sweet chestnut is best. If colouring is not for you, then almost any wood will be fine.

Marking with indexing

Mark the centres on both ends of the blank and mount on the lathe between centres. Turn the piece to a 70mm diameter cylinder using a spindle roughing gouge. Next, square off the ends and draw two concentric circles on each of these: one 25mm and the second about 64mm in diameter (**photo 1**). If you have an indexing system on your lathe or chuck, use it to draw three lines along the side of the blank, 120° apart. Use the toolrest as a guide (**photo 2**). Continue these lines down both ends of the blank and through the centre points.

Making a marking jig

If you don't have indexing or are going to make a lot of these three-sided pieces, the marking out is quicker if you make a simple jig. Mount a scrap block in your four-jaw chuck and screw a 150mm diameter disc of ply or MDF to the very centre of it. True the plywood up and cut a number of concentric rings in its face using the point of a skew chisel (**photo 3**).

Remove the ply from the lathe and set a pair of dividers or compasses to the largest circle's radius. Now step round the circumference of the circle six times (**photo 4**) – you should end up back where you started. Mark every other

1 Turn each blank to a cylinder and draw two concentric circles on each end

2 Use the lathe's indexing system to draw three parallel lines, 120° apart

3 Turn a plywood or MDF disc and cut a number of concentric circles into its face

step and draw a line from these three points to the exact centre of the circle (**photo 5**).

Using the jig

Centre your cylinder blank on one of the concentric circles and mark on it the three points where the radial lines meet the blank (**photo 6**). Now draw a straight line from each of these marks along the surface of the cylinder. You could do this by eye, but it's more accurate to remount the blank on the lathe and use the toolrest as a straightedge (**photo 7**).

Remove the piece from the lathe again and draw a straight line from each of the three marks through the exact centre of the blank at each end (**photo 8**). Centre-punch the three locations where these radial lines cross the 25mm diameter circle and number each point. You must do this on both ends of the blank, and make certain that the numbers are in the same plane at each end. Your marking out should end up looking like this (**photo 9**).

If this sounds a bit complicated, don't worry – it's probably harder to describe than it is to do. Just follow the photos!

The first twist

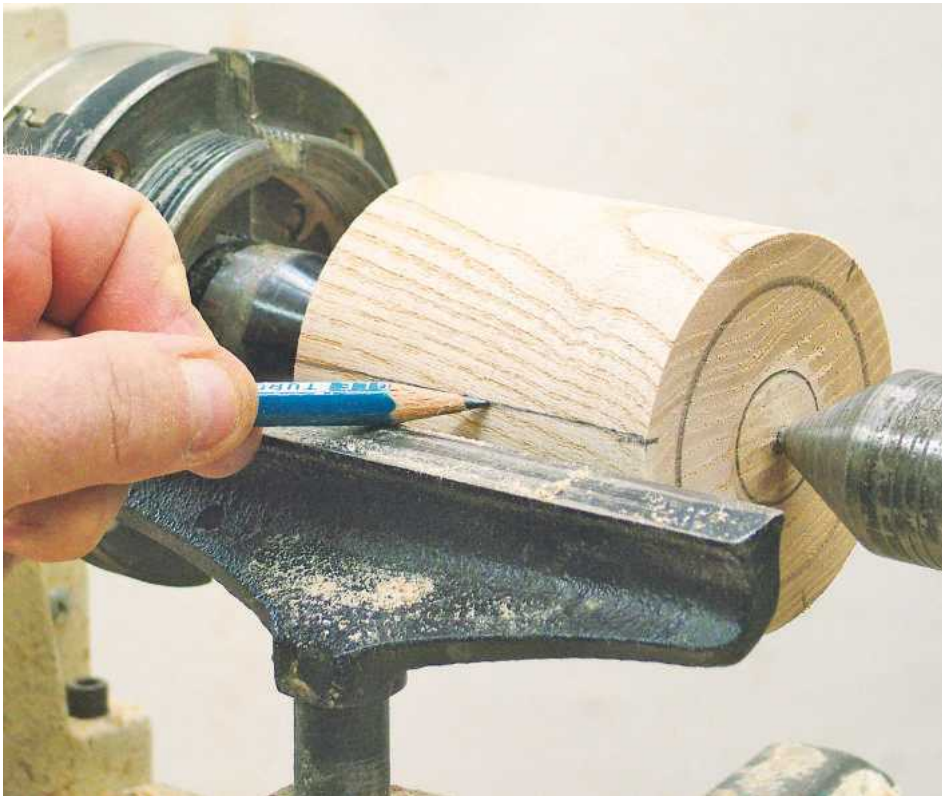
To turn the twist on the piece, mount between centres but use the centre marked '1' at the headstock and the centre marked '2' at the tailstock end. The piece will run eccentrically, so lower the lathe speed to about 700rpm. Rotate the piece by hand to ensure it doesn't foul the toolrest, then switch on the lathe.

Use a spindle roughing gouge and, with the handle held well down, gently move the cutting edge into the ghosting (**photo 10**). Stop the lathe frequently to check progress, and continue to cut this side until it just touches the outer circle on each end of the piece (**photo 11**). Now sand this side.

4 Set the compasses to the outer circle's radius and step round the circumference six times

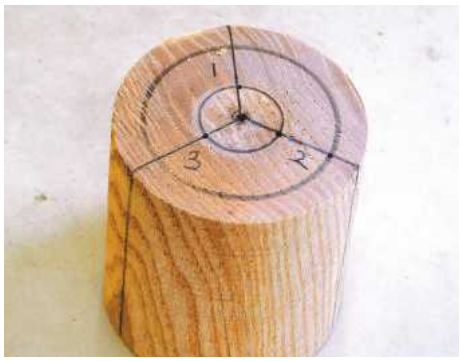
5 Draw radial lines from compass marks 1, 3 and 5 to the centre of the circle

6 Centre your turned blank on the jig and transfer the radial lines to it



7 Use the toolrest to transfer these marks to the other end of the blank

8 Draw radial lines from these marks to the centre point at each end of each blank



9 If all's gone to plan, each end should now look like this

I use abrasive wrapped round a scrap of plywood (**photo 12**). I also like to stop the lathe and sand with the grain (**photo 13**) – this way the edges of the side stay crisp.

Twisting again

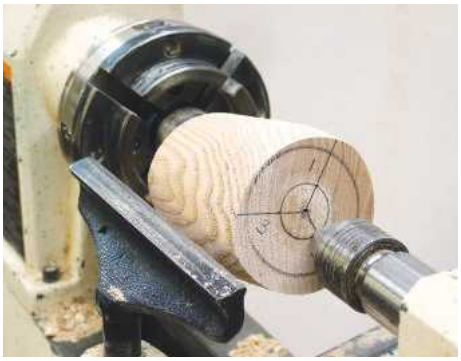
Repeat this process with the blank centred on point number '2' at the headstock and '3' at the tailstock to cut the second side, then repeat again with the piece mounted on centre '3' at the headstock and '1' at the tailstock. If all's gone to plan, you should end up with a blank looking something like **photo 14**.

Penny plain

Next, mount your blank using the true centres and cut a spigot on one end to fit your chuck (**photo 15**). Mount the blank in the chuck and replace the revolving centre in the tailstock with a Jacobs chuck. Fit a Forstner or sawtooth bit of the same diameter as your tealights – or a fraction larger. Drill out the top to the depth of the tealight (**photo 16**).

If you want to omit the colouring –

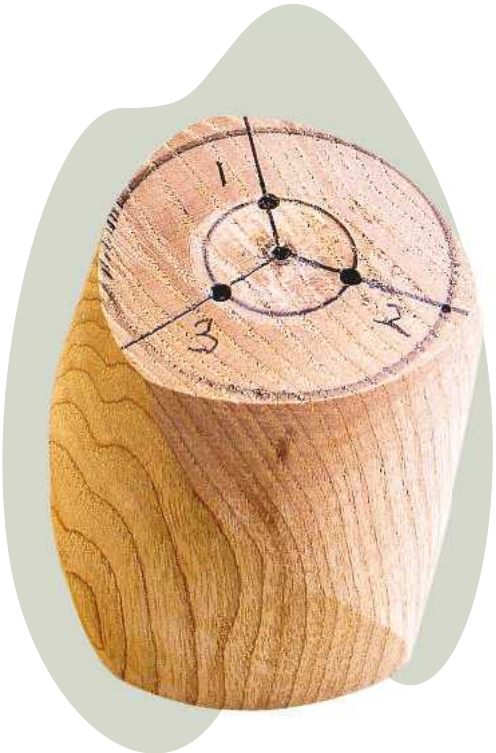
10 Mount the blank using centre '1' at the headstock and '2' at the tailstock end, then turn the first side



11 Stop turning when the side surface just touches the outer circle at both ends

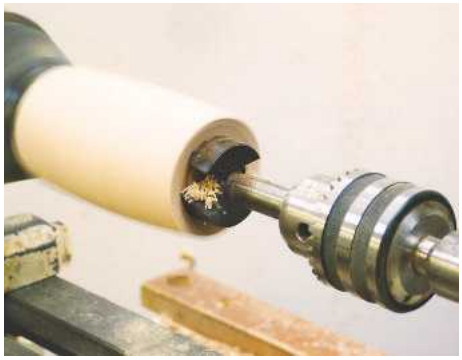
12 Wrap the abrasive round a wooden block and sand each side with the lathe rotating

13 Next, stop the lathe and sand the surface with the grain, keeping the edges crisp



14 This is what you should end up with after turning all three sides

15 Mount the blank on its true centres and turn a chucking spigot on the base



16 Use a sawtooth bit in the tailstock to drill the recess for the tealight

17 Start by picking out some of the soft grain with a bronze brush

18 I used a spirit-based stain, then sealed the surface with sanding sealer

see opposite – all that's left is to apply the finish of your choice and reverse chuck the piece to turn away the spigot.

Tuppence coloured

Liming wax fills the grain, and I think it looks better if you first brush out some of the softer growth with a bronze brush

19 The shape is refined using a spindle gouge

20 Make sure you've filled all the grain, then remove any excess with Danish oil

(**photo 17**), working the wood with the grain. Next, apply the stain. I used Chestnut spirit-based stain applied with a brush (**photo 18**) and wore disposable vinyl gloves to keep my hands clean.

Once this had dried, I applied a liberal coat of sanding sealer and gently flattened this back with wire wool. I used a cellulose-based sanding sealer that also removed a little of the stain, giving it a more even appearance.

I rubbed the liming wax into the grain using a paper towel (**photo 19**). Make sure you fill all the grain, then remove excess wax with Danish oil (**photo 20**).

Finishing off

I made the other two tealights in exactly the same way, then finished the bottoms of all three. To remove the spigot, I mounted another scrap block in my chuck and turned a spigot on it, which was the same diameter as the sawtooth bit (**photo 21**).

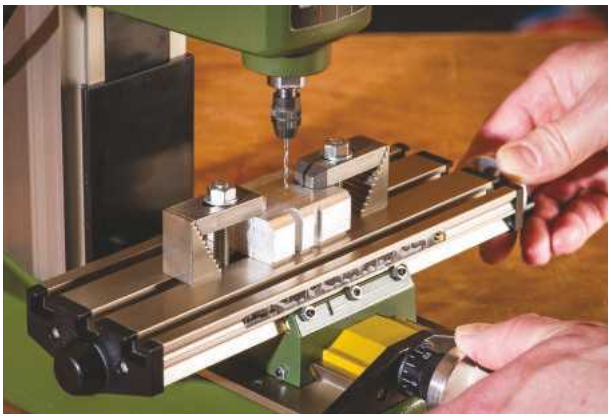
Mount the tealight on this spigot, bring the tailstock up for support, then take gentle cuts with a spindle gouge to turn away the remaining spigot (**photo 22**). Finally, check and adjust the height of each of the tealights to keep the 1:1.6 ratio.

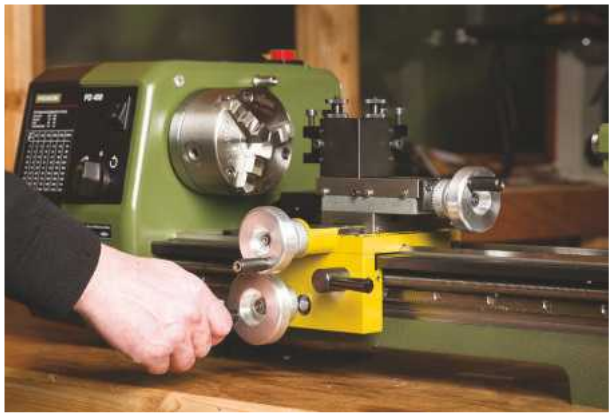
I think these three look best as a group, but you may choose to turn a pair of the same height – the choice is yours. Either way, this is a simple, fun project!

21 Mount some scrap wood in the chuck and turn a spigot to fit the tealight recess

22 Turn away the spigot and adjust the heights of each tealight to keep the 1:1.6 ratio

PROXXON





THE FINE TOOL COMPANY

Known for quality and cutting edge precision, PROXXON will always be the top choice for all things model making. When you require a machine that offers a delicate touch, look no further than PROXXON - precision power tools and accessories for model engineers, model makers and more.

Explore what PROXXON has to offer at your PROXXON dealers:

CHRONOS LTD
www.chronos.ltd.uk

THE CARPENTRY STORE
www.thecarpentrystore.com/

AXMINSTER TOOLS
www.axminstertools.com

TOOLITE
www.toolite.org.uk

WESTCOUNTRY MACHINERY 4 WOOD
www.machinery4wood.co.uk

COOKSONGOLD
www.cooksongold.com

G & S SPECIALIST TIMBER
www.toolsandtimber.co.uk

C W TYZACK
www.tyzacktools.com

SNAINTON WOODWORKING SUPPLIES
snaintonwoodworking.com

H S WALSH
www.hswalsh.com

YANDLES OF MARTOCK
www.yandles.co.uk

HOBBIES LTD.
www.hobbies.co.uk

D J EVANS (BURY) LTD
www.djevans.co.uk

BARNITS LTD
www.barnitts.co.uk

SQUIRES
www.squirestools.com

RDG TOOLS
www.rdgtools.co.uk

BEESLEYS
www.tool-shop.co.uk

R W MORTENS LTD
01943 609131

A-Z

WOODWORKER'S ENCYCLOPAEDIA PART 32

This section of the directory is all about the Rs – there's lots of rings and rips – ending with the router, which is one of **Peter Bishop**'s favourites

Rim speed

We talk about the rim speed in relation to circular saws. There are formulae to make the calculations that will establish the rim, or peripheral speed – the speed at which the perimeter of the saw blade travels.

Manufacturers of saw blades might stipulate a maximum rim speed linked to its efficient performance and/or safe running speeds. A small circular saw blade fitted to the same arbor as a larger one will have a faster peripheral speed.

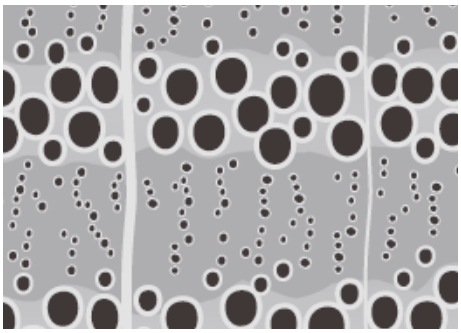
Ring fence

Ring fences are used on spindle moulders to guide the workpiece past the point at which the cut is made. They're specifically designed for use with curved sections. If set up correctly, the ring fence enables the workpiece to rub against it at the outer face of the arc and this is the point at which the cut is made. As long as the component is held firmly against the fence, the cutters should make an even and matched cut along the face presented to it. For the faint-hearted, a spindle moulder isn't always the best machine to use, but more on this later. Today, using a router fitted with bearing-guided cutters and jigs, we can sometimes achieve the same results.

Makita D-03919 circular saw blade for wood – 185 × 30 × 40mm

Bosch Optiline circular saw blade for wood – 85mm × 20tpi × 15mm

Ring fence for Axminster AT200SM spindle moulder



In some species – e.g. oak and ash – the largest pores are in the earlywood while those in the latewood are more evenly distributed and uniform

Ring porous

We've already discussed 'early' and 'late' wood, and these two combined display all the features we expect to find on ring porous timbers. Cut across the end-grain, we can see the large vessels/pores associated with earlywood growth as well as how they reduce as this growth decelerates during the latewood period. This variation highlights the growth ring in ring porous trees.

Ring shake visible in some hickory logs

Ring shake

Mainly found in ring porous trees, this is a defect – crack – that follows the curve of cells along an annual growth ring. The gap doesn't have to complete the circle and, in short versions, is often called 'cup' shake.

Ripping wood using a circular saw

Rip, rip down, ripper & ripping

When cutting planks along their length and width, we call this 'rip' sawing. We might do this on a single or multi-blade powered circular saw bench, or on a bandsaw. If we cut through the widest part, thus creating two or more thinner pieces, this is called 'deep' cutting. A 'ripper' is a slang term given to a rip saw and 'ripping' is using that saw.

Japanese 250mm Hassunme rip saw

Pax 26in rip saw – 4.5tpi

Rip saw

A hand-held rip saw has larger cutting teeth, which means it removes the waste more efficiently when cutting down the grain. In most cases, a rip saw will only have four or five teeth per inch (tpi) compared with a 'cross' cut saw, which may have up to double that amount.

Solid oak stair tread and riser cladding kit from Oak Store Direct – 22 × 270 × 1,000mm

Rise, the rise & risers

When working out how many treads are needed in a staircase, you need to know what the 'rise' is – the distance between one level and another – vertically. The height of a step, once you've worked out how many you need, is a 'riser'. The distance to be covered by the staircase – horizontally – is called the 'going'. The height of each riser needs to be carefully considered. They must be set so that it's comfortable to step up. If space is limited in one direction, then you might need to put a landing into the staircase and 'wind' it – i.e. turn it – to one side.

Rising butt hinge

A rising butt hinge is designed to lift the door as it's opened, hence the name. They're very useful if, for some reason, there's not enough clearance for the door to open. This is a much tidier option than cutting a chunk off the bottom of a door! The alternative is to 'cock' a straight, butt hinge. This is to set the hinges at a slight angle so that when shut it fits, but when open, it also lifts clear of any obstructions. A bit of practice will be required to get this right.

Steel rising butt hinge from Beesley & Fildes

A riving knife to the left of the blade on a table saw

Riving knife

The first thing I should point out is that all circular saw benches should have a riving knife. If it hasn't, you're heading for trouble! The riving knife is set immediately behind the circular saw. It should have a thin leading edge and the main body should be the same or slightly thicker than the 'set' of the saw blade. As the object piece of wood is cut, the narrow, leading edge of the riving knife enters the cut and then, as it reaches the main part of the body, stops the two pieces 'pinching' on the saw blade. If the riving knife is absent, then you might experience 'throwback', which can be fatal. When this occurs, you'll be amazed by the speed at which the wood travels back towards you. If you do get hit, your internal organs may well be ruptured. With this in mind, let me give you three pieces of advice: **1)** However tempted you are, DO NOT remove the riving knife; **2)** ALWAYS make sure it's the correct size and fitted correctly; **3)** NEVER stand in direct line with the saw blade – always stand to one side.

ProPlus 92mm roller bed for workshop use

Roller feeds

These are sets of bearing-mounted rollers, that may or may not be powered, which provide help when feeding wood into a saw or machine. There's a range of sizes available but a couple of adjustable, single-head rollers are useful.

A flat roof light

Roof lights

As the name suggests, these are windows in a roof. They may be opening or fixed and an alternative to building a 'dormer' window into the roof.

A selection of roof trusses

Roof truss

When rafters, chords – the horizontal piece at the bottom – webs and posts are all combined, this becomes a roof truss. Traditionally roofs were built on site but for many years now, 'roof trusses' have been designed and built in factories. The manufacturers of these trusses are able to work out exactly what you need to build a roof and then supply all the component parts.

Art Deco floral plaster ceiling rose

Rose

A 'rose' is a word used in two contexts. The first is a decorative disc that acts as a plate between a door and door handle; the second is also decorative, but a larger disc that's fixed onto a ceiling from which a light fitting sprouts.

Renovated brass rose for Edwardian door knob

Roughing out

You might 'rough out' the basic shape of an edge moulding before finishing the final shape. It's any task that might take away the bulk of the waste before the eventual shape is determined.

Rounded

A semi-circular or oval moulding on an edge of a piece that we also call 'nosing'.

Complex round corner joint

Rounded corner joint

A cabinetmaker's joint to produce a rounded corner with more than one piece.

Round knot

A circular or oval knot, which is classified by having a length to width ratio of 3:1 or less.

A pile of sawn logs

Round timber & round wood

Round timber is a name applied to trunks that have been harvested and are awaiting conversion. Round wood is similar but is the smaller stuff that's produced from the tops and large branches.

Vintage Stanley No.71 wood plane router

Antique woodworking router plane in use

Router

What would we do without these wonderfully versatile machines? You can already tell that I'm a fan! Woodworkers of my age – born in the middle of the last century – will, like me, have seen the introduction and development of the hand-held router. Fixed-head machines, overhead or under the bed, had been around for a while. These larger, probably high production machines, rivalled the spindle moulder. Whoever decided that the router head could be taken off the machine and mounted on its own body with a faceplate was a genius. But let's take a step back for a moment. Earlier on in this directory, I mentioned an 'old woman's tooth' – a hand-held, single cutter tool used to cut trenches, which is also known as a 'router'. So, we can assume that our powered routers – of whatever shape and form – can be linked back to this very tool. But why? Because our modern day routers can only be fitted with one cutter, albeit in a vast variety of shapes and sizes. OK, let's move on. People have written books on the router and how to use it, so I won't go there; all I will say is that the router allows us woodworkers to create a huge range of joints, shapes and mouldings that we'd otherwise be hard pressed to do. I know that most of what they do can be carried out by hand, but that really is laborious. The only advice I'd pass on here is that you should always buy the best you can afford and, if starting out, go for a larger chuck size as there's a greater choice of cutters available for these.

Running feet

This is a lineal measurement that can be applied to one or more pieces. It's a total, in imperial measure, of the length or lengths added together.

NEXT MONTH

In part 33, Peter gets stuck into the Ss, including a discussion on saws

Splitting ash branches while leaving bark on show – Leon's furniture is refreshingly unusual

MAKING A STAND
Leon made this hat and coat stand for a hair salon using the same 'found timber' style, but then liked it too much to sell it. "It's not to everyone's taste," he admits, "but I think it looks fantastic"

BARK & ALL

Leon Osman's ash table demonstrates a spontaneous and organic approach to furniture making using green wood and salvaged timber

I'm often asked where I get the ideas for the furniture I make, and I always have to admit that I'm quite not sure. The truth is that my designs don't involve a lot of planning, and I don't work to drawings – not, that is, unless you'd call what goes on in my head planning and drawing. My inspiration, I daresay, springs from a variety of influences that come together as ideas, and from there I simply trust that, given time and the benefit of experience, I'll be able to successfully transfer the resulting designs from thought to timber.

A change of pace

I haven't always approached my woodworking in this way, mind: I served an apprenticeship many moons ago, and spent 10 years as a site carpenter where, as a youngster, I worked with some very gifted carpenters. None of the skills I learnt on building sites, however, helped to prepare me for the task of teaching myself to make furniture. Indeed, one of the new skills that I found hardest to learn was patience: on site, I was used to working at 100mph for 10 hours at a stretch, and delivering results at the end of every day; whereas with furniture making, it can take me weeks to produce something worthwhile.

The legacy of all those years of being harried by sub-contractors is that I still struggle with the take-your-time factor required when designing and making furniture, and part of me still thinks that I can make an oak kitchen table in one day! I am getting better, though, at striking a balance between taking long enough over a job to think it through, but not so long that attention wanders and mistakes creep in.

In the early days, I also found that my designs would look fantastic when visualised in my head, but proved only nearly as good when realised in wood – and nearly isn't good enough for anyone, especially yourself. Even today, my designs don't always work, but I'm finding it easier to trust my judgement, and I'm no longer scared of making design mistakes.

1 In the green: a freshly lopped limb provides the makings of Leon's rustic table

2 The branch was halved using a circular saw to cut around the log, then a hand saw to produce...

IN MEMORY OF LEON OSMAN

This article, which originally appeared in the March 2010 issue of *Good Woodworking*, is reprinted here in memory of Leon Osman, who sadly passed away in August this year (2021). Featuring his work again seemed like a fitting tribute and our thoughts are with his family and friends. Thanks to an old friend of Leon's who got in touch, we were able to make this tribute possible

3 ... two handsome pieces of ash. The halves were too heavy in appearance, however...

4 ... when compared to the top, so Leon decided to rip them down...

5 ... with a hand saw to more suitable proportions

If I see one coming – and, with experience, you learn to see the signs – I don't panic; if the worst happens, I know that I can always use the timber in another project.

The organic approach

This ash table is a perfect example of my flexible and organic approach to furniture design, not least because I'd originally set out to make a chair! I'd already made one using green ash, you see, and had found that I like working with some of the bark still intact, then letting the furniture's design evolve so that it connects the wood's natural and finished states. Having sold this first chair, I decided to make another, but unfortunately I was unable to find a similar freshly lopped ash branch of a suitable size. I reckoned, however, that the piece I did manage to find would give me enough green timber with the bark still in place to make a column for a rustic table.

The first job was to split the branch, which I did using a circular saw, starting on one side, and continuing the cut right around the log; what the circular saw couldn't reach, I finished off with a hand saw. The whole process took about an hour, but left me with two halves that were both too heavy, and too unbalanced in appearance when compared to the top I'd planned to use. So, I ripped one of the halves down to size using a hand saw, making sure that I left some of the bark at the bottom for all to see. The sawn faces were then planed using an electric planer, smoothing plane and a spokeshave, before giving them a final sanding.

6 The interlocking feet are housed in the base of the ash column

The legs – or feet, depending on how you look at them – were made from two pieces of salvaged ash, one of which was left-over from cutting a round table top and offered, I thought, an interesting shape. Though the two legs are quite different shapes, I think this contrast adds to the overall piece.

The two legs were joined using a halving joint, and a housing for this assembly was roughed out in the column using a hand saw, then tidied up with an 18mm chisel. The leg assembly was fitted into the housing using plenty of white glue, and pinned into place so that it sat flush with the bottom of the column.

The top itself was, well, already a table-top, one that I'd rescued from a pub refurb' some years before. It took me a while to raise an acceptable finish on the wood – thanks, in part, to the chewing gum still stuck to the underside – but 60 grit abrasive and a palm sander followed by 120 grit and elbow grease won the day.

The top was simply screwed to the column, having first drilled a pair of pilot holes, then I used a 12mm spade bit to countersink the screws in the top. Once everything was in place, the screw holes were filled with plugs made from dowels that were glued into place, trimmed, planed, and finally sanded flush. The whole table was finished with several generous coats of linseed oil, which not only raised the grain of the ash, but also emphasised the contrast between smooth wood and textured bark.

7 After sanding, the whole table was finished with linseed oil, which raised the grain of the ash...

8 ... and emphasised the contrast between smooth wood and textured bark

Leon likes the idea of leaving some bark on show, connecting the wood's natural and finished states

Robert Sorby

MADE IN SHEFFIELD, ENGLAND - SINCE 1828

WOBBLE CHUCK

Code: RSWC Wobble Chuck

MADE IN SHEFFIELD

MADE IN BRITAIN

CREATE INTERESTING PIECES... SIMPLY

The wobble chuck gives the turner the opportunity to experiment with a multitude of off-set turning techniques.

This fun chuck is designed to fit neatly into any standard 2" (50mm) jaws and is great for creating quirky trinket boxes, off-set goblets and ornamental spoons.

Robert Sorby

PROUDLY MADE IN SHEFFIELD, ENGLAND

Visit our website to find your nearest stockist

www.robert-sorby.co.uk

Robert Sorby, Athol Road, Sheffield S8 0PA ENGLAND
Tel: +44 (0) 114 225 0700 E-mail: sales@robert-sorby.co.uk

FOLLOW US ON SOCIAL @ROBERTSORBY

LETTERS

LETTER OF THE MONTH

A LIFELONG LOVE OF WOODWORKING

Dear Tegan,
In the September 1976 issue of *WW*, my father, Frank Wiggett, had a letter published. As well as dowel joints in chairmaking, he talked about skills he'd learnt as an apprentice chairmaker in the 1950s furniture trade. Full of technical detail and timely social interest, such was his ability to tell a good story with humour. Frank was proud to see his letter in print and has been keen to have another appear in the magazine ever since. He thought you may like to print the same one again, but that might be cheating! Instead, I'd like to continue where he left off.

X frame chairs for the Queen's 1977 Silver Jubilee celebrations

Since 1976, Frank progressed with his life in woodwork, making pieces, restoring antique furniture and ending up as a school CDT technician. Here, he also had the chance to teach woodwork, finally achieving one of his early life ambitions.

One project he undertook with sixth formers was to recreate the X frame chairs he first worked on for Queen Elizabeth II's Silver Jubilee, discussed in his original 1976 correspondence. We believe the original pieces are on display at Windsor Castle, and were reminded of them when the Queen sat on a similar chair for this year's Trooping the Colour. The students' chairs were exhibited at the time and won prizes at the Young Craftsman of the Year Awards, held at Ardingly showground.

We discovered that frank's ancestors were also skilled woodworkers – one an instrument case maker. As for me, although I didn't follow in his footsteps to become a master craftsperson, the creative gene lives on. As an artist, mine is a looser approach, enjoying the process and materials. I did, however, make some sculptural pieces based on chairs when I left art school. One was challenging for me to make – a very high chair – and I sought Dad's technical help with, yes, dowel joints.

By the time he was in his 80s, Frank was making small-scale Windsor chairs, beautifully crafted, employing all the technical skill of the full-scale model. Now nearly 90, Frank's memory and mobility aren't so good, and my mum, Norma, who he met at that same furniture company in the 1950s, keeps a caring and loving eye on him. Although he's sadly no longer able to make furniture, his interest continues. We're all very proud of the skills and achievements he's made during his life in woodwork.
Yours sincerely, **Catherine Wigget**t

Hi Catherine, thanks so much for writing in and allowing us to continue the story of your father's work, some 45 years later. It's fantastic that Frank's love of furniture making and woodworking has endured over the years, and even better that the interest lives on through yourself, albeit in a slightly different form. I'm so glad he was able to inform your projects and pass on his knowledge, which no doubt ensured the sculptural pieces you made were robustly constructed and built to last. Please pass on our warm wishes to Frank and I hope he's still enjoying the magazine. Thank you again for allowing us to make this connection and feature his work again.
Best wishes, **Tegan**

Frank refined and honed his chairmaking skills over the years

One of Frank's later Windsor chairs

TURNED OIL LAMPS

Hi Tegan,
I've always loved oil lamps with the brass and glass in various shapes and colours, so I had the idea to make two out of wood, just for decoration, and as a surprise for my wife.

I've been a carpenter, joiner and woodturner for 66 years, although still a novice bowl turner. I had some garden sleeper offcuts measuring 20 × 8 × 4, given to me by a friend, so decided to use these for the lamps. I sawed through to produce 5.05in, then glued two cheeks of 6×1 PSE onto the blocks to yield 20 × 5.05 × 5.05 blocks, before approaching the lathe.

My lathe, an old Multico, is 39in between centres with a revolving tailstock, which is permanently fixed in place. The pulley system is lifted up and turning speed adjusted by placing the belt in the appropriate groove. Unfortunately, I misread the speed diagram and instead placed the pulley belt on the back groove, giving 2,500rpm instead of 500rpm on the front. I stood well back as I always do when centring large pieces, and switched on the lathe. The block of wood was thrown off the lathe, and with an almighty crash, hit the opposite wall of my workshop. It was a little scary to say the least! My wife heard the noise and came out to see what had happened. Of course, I pretended all was well, making out this was an everyday occurrence as I'd misread the pulley scale for fast or slow turning. She eyed me speculatively, told me to be careful and instructed me to put on my dust mask while working.

Completed lamps, awaiting application of a finish

John's completed turned oil lamps, once stained and waxed

I remounted the block of wood, this time ensuring I'd selected the correct pulley, and with spindle roughing gouge in hand, approached the work with caution. It took a while to turn as I had to continually adjust the tailstock centre, but I ended up producing a 4.05in diameter cylinder. For the second block, I was a little wiser and started by removing the block's corners, so that it almost resembled a cylinder. This made turning quicker and easier and I went on to produce the lamps as illustrated.

I kept the whole project a secret and sent off for two reasonably priced globes. When I finally assembled the lamps and – very proudly – showed them to my wife, first in the white then stained and waxed, she burst into tears and was very taken aback by the lovely, unexpected gifts.

A few days later, I gave the project some thought and had the idea of producing four sections with 1.25in tenons, pre-drilled to accommodate an electric cable if desired. The turning aspect was certainly far safer.

I really enjoyed turning the lamps – even the large sections – but the best part was seeing my wife's reaction when I presented her with the lamps.
Yours sincerely, **John Gainey**

Hi John, what lovely lamps! It sounds like you learned a valuable lesson with the pulleys, and I'm sure that going forward, you'll be much more careful! It sounds like your wife was incredibly touched by your kind gesture – handmade gifts are always so wonderful to receive and especially so when they've been made by a loved one. Keep up the turning and do send a photo of the illuminated lamps if you're able.
Best wishes, **Tegan**

In addition to petroleum jelly, lip salve, and in Ken's case, goose fat, soap can also be used to lubricate wood screws prior to driving in

SCREWING INTO HARDWOOD & EXTRACTING BROKEN SCREWS

Hi Tegan,
In Mike McCory's article on extracting broken screws – October 2021 issue – and accompanying tips for driving in new screws, he failed to mention one of the oldest tricks – putting a similar size steel screw in place before driving in a brass one.
Regards, **John Bullock**

Hello Tegan,
I read Mike McCory's article on removing broken screws. My father qualified as a wheelwright and coach builder 100 years ago and it reminded me that his toolbag included a box he'd carved with a swing lid. We always had goose for Christmas and he ensured that the resulting fat was poured off and saved so that the box was kept full throughout the year. Every screw was dipped in that very box. Last week, I unscrewed a large door hinge that he'd fitted to an outside door some 70 years ago, and each one of the screws came out bright and easy. I still have the box and goose fat to this very day.
Kind regards, **Ken Poulton**

Hi John and Ken, thank you both for taking the time to write in and share your tips on removing screws. It seems that every woodworker has their own method when it comes to approaching various workshop tasks, and we often find that these have in fact been passed on through the years, either via teachers, mentors, or perhaps more recently, those seen on YouTube videos or online. It's great that we're able to bring everyone's tips together on these pages, so that other woodworkers are able to pick them up, try them, adapt or modify as necessary, and ultimately enhance and develop their own projects. Ken's father's goose fat lubrication trick – which can also be substituted for petroleum jelly, lip salve, soap, etc. – has clearly stood the test of time, but if anyone has anything to add to this particular thread, please do write in and share.
Best wishes, **Tegan**

READERS' HINTS & TIPS

AXMINSTER TOOLS

Due to major stock issues with the Veritas range, a decision has been made, in conjunction with Axminster Tools, to substitute the original prize for a similar one within Axminster's Rider range. Rider planes represent traditional, quality plane manufacture and feature a ductile iron alloy body, accurately ground sole and carbon steel blade. The new prize – the **Rider No.5½in Jack Plane** – is not only versatile, but also perfect for flattening, jointing and general preparation.

To be in with a chance of winning this great piece of kit, just send your top workshop hints, tips or pointers – indeed anything that other readers may find useful in their woodworking journeys – to **tegan.foley@mytimemedia.com**, along with a photo(s) illustrating your tip in action. For more information on Axminster Tools, see **www.axminstertools.com**

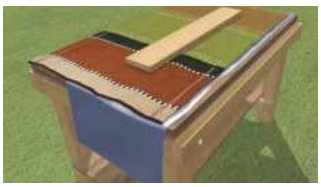
TIMBER WARPING

Dear Tegan,
I recently made a dining table and two benches for my daughter's new flat. The legs were welded for me by an ex-pupil, so my task was simply to make the top and seats. I used nicely figured Welsh oak from a tree planked around six years ago, which was then planed, matched and glued in my garage workshop, where the wood had previously been stored for four years. I was disappointed, to say the least, when I discovered that the table top had warped; however, during my school days, I recall my cabinetmaking class teacher suggesting that I wrap the top in damp bed sheets and leave for 6-12 hours.

1 Wrap warped timber in several moistened large towels or sheets, ensuring they completely envelop the warped wood

The first step was to clamp the table top up and leave for 24 hours. On releasing the clamps, the slab seemed flat as expected, but soon cupped leaving 25-30mm above the surface at each end. Going back to the tip given to me all those years ago, I decided to put this into practice and proceeded to wrap the table top in damp – not wet – bed sheets/towels and left the project on its end. When I checked the next day, I was very pleased to discover that it'd recovered its flat, even shape, thus curing the problem. I hope this tip gives the same sense of relief to others.
David Davies

2 Place wrapped warped timber in bright, direct sunlight. The concave side should face downwards and the convex side, upwards. Depending on extent of the warping, keep the wood in a bright environment for 2-4 days, spraying towels with additional water as needed so timber remains moist



3 Dry until warping vanishes. The entire process can take several days depending on extent of the warping. Check regularly and once the timber has recovered its flat, even appearance, remove the towel wrappings and leave until thoroughly dry throughout

WRITE & WIN!

We always love hearing about your projects, ideas, hints and tips, and/or like to receive feedback about the magazine's features, so do drop us a line – you never know, you might win our great 'Letter of the Month' prize, currently the new Trend ¼in 30-piece Router Cutter Set, worth over £100. Simply email **tegan.foley@mytimemedia.com** for a chance to get your hands on this fantastic prize – good luck!

The fire-eyed maiden of smoky war

John Greeves talks to **Jonathan Davies** and **Greg Rowland** about the construction of a Falconet Cannon

The Falconet was a light cannon developed in the late 15th century. During the Middle Ages, guns were often decorated with engravings of reptiles, birds or beasts, depending on their size. Fitting between the slightly bigger Falcon and the even smaller Robinet, the Falconet had a small but lethal shot, similar in size to a falcon, hence its namesake to both the Falcon and Falconet cannons. Jonathan Davies – historian, author, reenactor and former teacher – together with Greg Rowland – Master Wheelwright and skilled gun carriage specialist – recently joined forces to produce a Falconet. As Jonathan says: "What we're trying to recreate is the first generation, or as close as we can, to the first generation of bronze artillery." Jonathan, with his son Thomas and other members of the reenactment group Linstock & Pledget, have invested a huge amount of time and research into the planning and execution of this project. Careful measurements were made of the two Falcons – one found in the Royal Armoury in the Tower of London and the other at Fort Nelson, the Royal Armouries artillery collection in Fareham – to give an insight into the proportions and scale of these cannons. Although slightly larger, they were helpful in the initial quest.

Making the hub

Mortises, once cut and angled

Measurements of those two guns were also compared with an analysis of octagonal barrelled variants, many of which were manufactured in Venice, Genoa and France, between the beginning of the 16th century and up to about 1530.

Falconet design

The design of the new Falconet Cannon also incorporated the exact proportions recommended by Biringuccio (1480–1539), an eminent Italian metallurgist. For example, the calibre of the weapon, thickness of breach, position of trunnions two-fifths of the way down the barrel, etc., all conform to this earlier pattern.

Jonathan describes the Falconet's long barrel as being 1.76m in length with the greatest width – 122mm – across the breech. The design of the octagonal barrel is based on research dated between 1510–1530 when early innovation in cannon casting was centred around the two cities of Venice and Genoa.

The Falconet is made of a gunmetal with a ratio of copper, tin and zinc as recommended by the Royal Armoury. The original guns would have had a higher proportion of copper, but gunmetal was stronger, which was important as it was intended to shoot 'live' in the future. With a 46mm bore, it's capable of firing a 40mm ball. Jonathan compared the casting of his replica Falconet as follows: "It's a bit like casting an ornate street lamppost with

a hole down the middle." The barrel underwent vigorous testing on an outdoor range conducted by the Birmingham Proof House before the barrel was finally proved by being fired with a double charge of gunpowder, then proof marked.

The Gun Carriage – an early revolutionary design

By comparison to fixed cannons of a previous era, the Falconet's design was revolutionary when it first came about in the early 16th century. Mounting a cannon on a two-wheeled carriage allows it to become both mobile and easy to aim, qualities its predecessors lacked. Jonathan's drawings of the gun carriage, which Greg referred to, provided measurements based on a specific cannon found in the museum at La Neuville-les-Bray. This cannon can be specifically dated to 1476 when it was captured by the Swiss in the Battle of Morat, fought against the Burgundians. Jonathan also used evidence drawn from the Styrian Armoury in the Austrian city of Graz – which had two Falconets dated around 1500 – to inform the design.

Brief overview of the gun carriage

The gun carriage has two wheels; these are 'dished', meaning the spokes don't emerge from the hub at right angles to its axis, but rather at an angle slanting outwards from the centre to give greater strength. The cannon would originally have been horse-drawn with two horses in tandem and was sufficiently quick to keep up with the cavalry. A gun crew of 4-6 would have manned the gun with only one qualified gunner – the gun captain – and the others 'matrosses' – gunner's mates – engaged in the loading, watching the vent, plus the cleaning and bringing up of ammunition.

The wheels have solid metal tyres, which Greg has manufactured to give the appearance of having strakes. Strakes were single strips of metal, which, in bygone days, were once used to hold the outer rim together. Unlike earlier cannons, there was no longer a solid trail – the wooden assembly running from axle to rear. This was replaced by two long cheeks in designs such as the Falconet. Cross-pieces or transoms secure the two parallel cheeks together, with the axle tree cut and fitted into the cheeks below. The barrel rests on its trunnions, held in two recesses by bands called 'capsquares'. The capsquare had to be removable and was held in position at one end by an iron rod. This was forged and shrunk into place, held in position at the other end by an eye/wedge system;

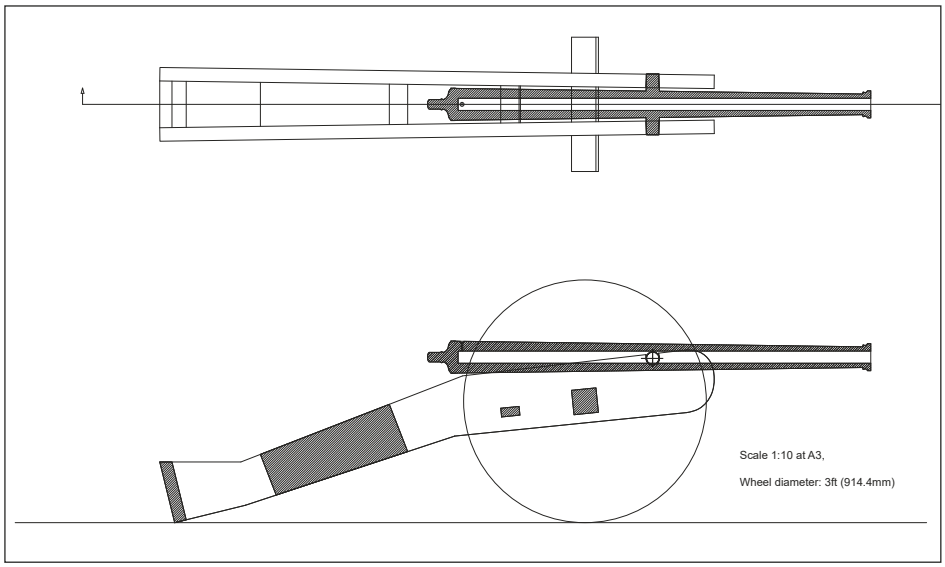
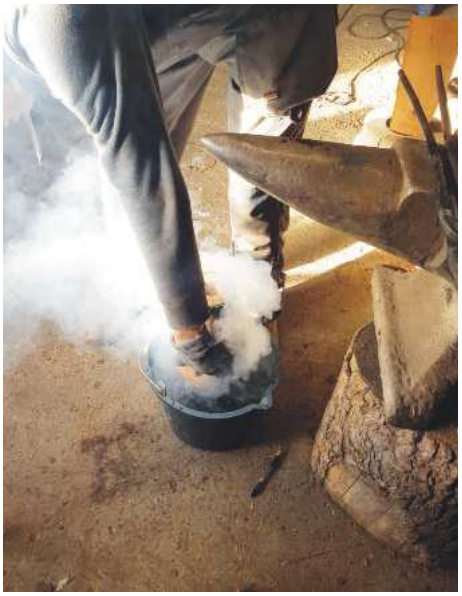


Fig.1 Plan for construction of the gun carriage

Applying the hub rings



Dousing the hub and hub ring anvil

The spokes are driven into the hub using a hammer

All 10 spokes are driven in with tenons, ready to go into the felloes

Tenons with tongues visible at the end of the spoke


Five felloes have jointed wooden dowels


Wheel fixed to bonding-plate

this, in turn, held the capsquare tight and reinforced the cheek by clenching it together. The use of trunnions is vital in ensuring the cannon can be elevated correctly using quoins – wedges – with allowances even made for 'windage' – wind resistance of an object. The weight of the carriage is approximately 200kg with the bronze barrel adding an additional 95kg.

Carriage construction

Greg Rowland used the design provided by Jonathan Davies, combining this with his own knowledge and specialist skills in building the gun carriage for the Falconet. The gun carriage is made from sapele, a durable timber and part of the teak family. I'd presumed this would be oak, but Greg informs me that "oak was actually considered a poor man's material, with the rich man's choice being Douglas fir."


Bonding the wheel


Tyre ready to be butt welded

Strapwork is used to hold the timbers together and reinforces the point at which the trunnions are positioned.

Wheels

The main parts forming the wheel are the hub, spokes and felloes – curved wooden segments that form the rim. The iron parts consist of the outer tyre, hub rings and box, an iron lining in the centre, which forms a bearing to take the axle arm of the gun carriage, plus axle end and cap.

While their design is based on historical evidence, one significant difference from today's wheel, however, is in the hub design: "The hubs are very long and very different from what they are now," Greg tells me. The long hub may have supplied greater stability at the time, but today, it's turned on a lathe. Square mortises are machine cut into the hub at angles, meaning the wheel will be dished – slightly saucer shaped – thus strengthening the wheel and allowing greater downward pressure and lateral thrust of the axle. As Greg reminds me: "If it's flat you could move the hub; if you dish it backwards, you can't."

Hub rings & spokes

In total, four hub rings are used on each hub. These are heated red hot, then positioned on the hub, before being plunged into water. The hub rings add reinforcement and prevent the timber from splitting. Each of the ends has a 'hub ring' shrunk onto it. Two others are then positioned either side of the spokes on the hub, affording further support and reinforcement.

The spokes are all completed by hand using a drawknife and spokeshave. The spokes are carved on a spokehorse although today, all mortises & tenons are machined. Using a hammer, the square spoke foot is driven into the hub, ensuring a tight fit. No glue is used here. The tongues of the spokes are then shaped with square tenons, ready to go into the felloes.


Hub rings will be positioned either side of the spokes

The felloes

The rim is made up of a series of felloes. Using a felloe pattern, five are cut using a bandsaw. Two holes are cut into the concave side to take two spokes for each felloe and another hole at each end of the separate felloes to take a wooden dowel; this makes the joints, which will form the felloes into a circle. The felloe is laid on top, over the tongue, then marked. Holes are then drilled in the correct positions, with two felloes attached first. A tool called a spoke-dog draws the spokes together and helps to manoeuvre the spokes into the felloe before knocking on with a hammer. The remaining felloes are then laid on top of those already attached, so that they can be trimmed, marked and drilled before spoke ends are fitted into place.

Fitting the tyre

The finished wooden wheel now needs an iron tyre, which goes around the wooden rim. Historically, this would have been completed by nailing strips of iron – strakes – around the rim, thus forming a tyre. Today, Greg uses a continuous hoop to build a much stronger wheel, simulating the apparent use of strakes on the wheel. "It's much better to have a continuous bonded wheel, although we strive to make this as historically accurate as possible," he tells me.

To make the metal tyre, Greg carefully measures the wheel's wooden rim using a 'traveller' – a measuring device similar to that of a large tracing wheel. Greg then makes allowances for shrinkage. This measurement is transferred to a long strip of iron and an iron hoop made by passing it through the rollers of a bending machine before the ends are butt welded together. Next, the wooden


Notice the top of the tyre, which gives the appearance of strakes

wheel is clamped to a bonding-plate, sometimes called a tyring-plate. The tyre is heated on an open fire until white hot. Greg watches as the black carbon around the rim turns grey and is burned away, then the tyre is quickly fitted over the wheel and levered into place with tyre-dogs, tamper and sledge hammer. The entire wheel is cooled with water, then Greg goes round and hits the tyre at the end of every spoke on the steel side. Little cuts are made in the tyre and replica nails are added to give the outward appearance of strakes.

Cheeks, axle tree and wheels visible

Front view of the gun carriage...

... and a side view

Gun carriage body

Two cheeks are cut to form the main part of the trail using drawings and Greg's experience. The gun carriage is approximately 1.98m long. The transoms – cross-pieces – are next marked out. If you include the toolbox, three transoms are recessed into the cheeks. While the cheeks are separate, the axle holes are cut, then the tool box is added. "It all has to go together at the same time," Greg explains. Clamps are used for setting it up to ensure all joints are correct, as well as everything else, before the actual fixing takes place. Originally, the transoms would have been riveted in using a hot rivet, but nowadays, Greg uses bolts, which are filed down to replicate the rivets. The tool box door is then hinged and a board nailed underneath to form the bottom.

While the design may appear straightforward, Greg informs me that it's not actually as easy as it looks. The gun carriage is tapered from forward to aft – it's wider at the front than it is at the back – and if you get that wrong, you'll have a problem.

It's interesting to hear about the decoration used, and it's quite possible that the gun carriage could have been painted. In times of war, one can speculate that the timber may have been quite green and strapped up with iron to hold the carriage together. Ironwork is evident today on the Falconet gun carriage and runs all the way around the cheeks. After much discussion with historians and museums, an oil-based red ochre paint was chosen – one also employed for external timberwork in the Tudor period.

Fitting the barrel

The barrel and gun carriage have undertaken different journeys. The barrel was cast in a Midlands factory and the bore then 'reamed' out by another company in Berkshire, specialising in MOD and Aerospace work, so that "the bores are mirror finished and perfect," as Jonathan explains.

Finally, these two endeavours have come together in Greg's workshop when the two are united with the barrel being attached to the gun carriage. Semicircular holes are cut in the cheeks to accommodate the trunnions, which aren't cylindrical but rather truncated cones. These self-centre the piece although creating potential problems for the patternmaker and foundry. These holes are located on top of the trail and over the forepart of the axletree. The trunnions are then held in place with a trunnion cap. Greg describes this simply as a flat piece of steel with a half circle pressed into it. It's hinged at one end – fore – and at the other – aft – with a square hole that goes over the trunnion square, like a square top bolt, which takes a pin. In addition to the carriage, there were also several other wooden accoutrements, including the ash-handled loading tools based on existing examples from the *Mary Rose* excavation. One essential addition is the 'shot' box, which would have contained powder and shot. The design and materials, including lock and key, were based on examples in the Weimar Ingenieurskunst-und Wunderbuch and chests in the Saint Annen Museum in Lübeck.

The future

Jonathan hopes to use the Falconet Cannon in future reenactments as COVID-19 restrictions are relaxed. Hopefully Linstock & Pledget, together with their Falconet, christened Elinor, will be appearing at a multitude of Tudor venues across the UK in 2022.

FURTHER INFORMATION

For more information on Mike Rowland & Son Wheelwrights & Coachbuilders, see **www.wheelwright.org.uk**

Cheeks, transoms and tool box clearly visible

Greg and Mike Rowland

HOLZMANN MASCHINEN

YOUR JOB. OUR TOOLS.

NTS250PRO
250mm wet & dry sharpener

- Variable Speed
- LCD Speed Display
- 2000w Motor

~~RRP 227.99~~ **£189.99** Inc VAT

TAS165PRO Package 1
165mm dia plunge saw with 1.5m rail

- Scoring Function
- 54mm Depth of Cut
- 1400w Motor

~~RRP 323.19~~ **£269.99** Inc VAT

TK305
305mm table & mitre saw combo

- Table Saw Max cut depth: 50mm
- Mitre Saw Max cut dimensions: 85mm x 180mm
- 2000w Motor

~~RRP 359.99~~ **£269.99** Inc VAT

DKS21PRO
406mm Scroll Saw

- Accepts pinned and pinless blades
- Variable Speed
- 120w Motor

~~RRP 168.99~~ **£133.32** Inc VAT

HBS230ECO
230mm bandsaw

- 90mm Depth of cut
- 230mm Throat
- 350w Motor

~~RRP 219.99~~ **£199.99** Inc VAT

HBS245HQ
245mm Bandsaw

- Cast Iron Table
- 152mm Depth / 245mm Throat
- 375w Motor

~~RRP 479.99~~ **£399.99** Inc VAT

BT1220TOP
10" Belt & Disc Sander

- 150mm Wide Belt
- Tilting Table with Mitre
- 750w Motor

~~RRP 374.99~~ **£312.49** Inc VAT

OFT102
¼" & ½" Universal Router Table

- 36mm solid MDF Table
- Solid Twin Fence with dust extraction port
- Router not Included

~~RRP 199.99~~ **£166.66** Inc VAT

TFM610V
Router Table

- Includes 6mm, 8mm, 12mm Collets (¼" + ½" Available extra)
- Variable Speed
- 1500w Motor

~~RRP 329.99~~ **£274.99** Inc VAT

SB4115N
16mm Bench Pillar Drill

- 360mm between spindle and table
- 200 – 2500 min-1 Speed
- 400w Motor

~~RRP 299.99~~ **£249.99** Inc VAT

BT63
Universal Pillar Drill Table

- 605mm x 300mm Table
- Fits most drill tables, Clamps from underneath
- Max load 30kg

~~RRP 79.99~~ **£66.66** Inc VAT

BT46ECO
6" Belt and Disc Sander

- 100mm Wide sanding belt
- Sanding table with mitre guide
- 350w Motor

~~RRP 129.99~~ **£108.32** Inc VAT

NMA AGENCIES LTD
01484 400 488 sales@nmauk.com www.nmatools.co.uk
Unit 1, Brookfoot Business Park. Brighouse, West Yorks, HD6 2SD

THE VAT IS ON ME!
Order no later than midnight on 31at December 2021 and I will pay the VAT.
All prices are carriage paid UK mainland.
POA offshore.

"HAVE A GOOD ONE FOLKS"

D300F
Bench Lathe
- 305mm x 105mm Max length x radius
- Variable Speed • 250w Motor

~~RRP 259.99~~ **£216.66** Inc VAT

TSM250
10" Disc Sander
- Cast Alloy table with mitre guide
- 35mm dia extractor port
- 550w Motor

~~RRP 159.99~~ **£133.32** Inc VAT

D460FXL
Bench Lathe
- 460mm x 153mm Max Length x Radius
- Variable speed with LCD display • 500w Motor

~~RRP 449.99~~ **£374.99** Inc VAT

HBS300J
315mm Bandsaw
- Large Cast Iron Table
- 165mm x 305mm Depth of Cut x Throat
- 750w Motor

~~RRP 599.99~~ **£499.99** Inc VAT

ZFS600
600mm Dovetail Jig
- Comes with ½" template and router bit
- 6mm min – 32mm max work piece thickness
- Worktop mounting option.

~~RRP 155.99~~ **£129.99** Inc VAT

KAM50M
Edge Bander
- Suitable for Curved or Straight Work
- 330 - 540 °C Working Temperature
- 2000w Motor

~~RRP 319.99~~ **£266.66** Inc VAT

TS200
8" Table Saw

- 60mm Depth of Cut
- Sliding Carriage + Table Width Extension
- 1100w Motor

~~RRP 999.99~~ **£833.32** Inc VAT

TS250
10" Table Saw
- Sliding Carriage + Table Width Extension
- 80mm Depth of Cut • 2200w Motor

~~RRP 1199.99~~ **£999.99** Inc VAT

ABS850
Dust Extractor
- 40ltr Collection Bag
- Metal Impellor
- 750w Motor

~~RRP 199.99~~ **£166.66** Inc VAT

HOB260ABS
10" Planer Thicknesser
- 254mm x 160mm Thicknessing
- Built in Chip Collector
- 1800w Motor

~~RRP £1079.99~~ **£899.99** inc VAT

HOB260ECO
10" Planer Thicknesser
- 254mm x 160mm Thicknessing
- Built in Chip Collector
- 1800w Motor

~~RRP 1199.99~~ **£999.99** Inc VAT

HOB305PRO
12" Planer Thicknesser
- 305mm x 220mm Thicknessing
- 4 knife cutter block *alternative model available with Spiral Cutter Head
- 2200w Motor

~~RRP 2009.99~~ **£1749.99** Inc VAT

Carriage paid UK mainland

AROUND THE HOUSE WITH PHIL DAVY

It's probably an age thing, but I seem to be increasingly less tolerant of noise produced by power tools and machinery. Other people's noise, that is. From neighbours cutting up logs with petrol chainsaws to the sound of a vacuum cleaner around the house. A neighbour building a summerhouse using an impact driver has been really irritating, while the racket from a stump grinder a few doors away sounded like Armageddon had begun!

But when I'm using a thicknesser, router or hammer drill myself, it's no problem. What's that all about, then? Perhaps it's because we anticipate the sound before we fire up the offending tool and have some control over it wearing PPE. There's a lot to be said for electric tools replacing outdoor petrol versions, though we'll still have to live with workshop machinery. And don't move to the countryside if you long for peace and quiet!

USEFUL KIT/PRODUCT
NET ABRASIVE FROM CHESTNUT PRODUCTS

Abrasives have come a long way over the past couple of decades. Anyone who remembers using glasspaper will know how quickly this clogs up, especially on paintwork. These days you can still buy the more traditional sanding sheets, though for efficiency it's hard to beat aluminium oxide mesh abrasives. Once they start to clog you simply tap the sanding block to remove the dust.

Each sheet measures 125 × 70mm and is designed for hand sanding blocks such as those from Hermes or Mirka

If you've never tried them before, Chestnut Products is offering a small sampler pack of six hook-and-loop-backed (Velcro) sheets. This consists of 80, 120, 180, 240, 320 and 400 grit abrasives from Swiss manufacturer Sia. Each sheet measures 125 × 70mm and is designed for hand sanding blocks such as those from Hermes or Mirka. Alternatively, for sanding curved surfaces you could use a foam Flexipad. If you then decide you want to concentrate on one or two specific grits, you can buy similar packs of each grade for £2.76 – five sheets – or £24.60 for 50. Be warned, though – sanding could even become enjoyable!

SPECIFICATION

Typical prices: £2.76-£24.60 – available in packs of 5 sheets of 80, 120, 180, 240, 320 and 400 grit, or boxes of 50 sheets (single grit)
Web: www.chestnutproducts.co.uk

Q&A
SPIT & POLISH

Cleaning the bronze lever cap on a bench plane using Autosol Metal Polish yields great results

Q: I have a couple of bench planes with bronze lever caps and these have become rather dull over several years of use. Can you tell me the best way to restore the finish on these, please?
J Everest, via email

A: Of course, many woodworkers would argue that tools are meant to be used and not kept wrapped in cotton wool! But when you've paid a small fortune for what are premium products, it's understandable to want to keep them looking good. And anyone who spends time restoring old tools will probably want them to look their best with minimal effort.

Applying a suitable metal cleaner product normally does the trick, though you may need to first remove light rusting from ferrous metals with steel wool. I've had great results cleaning up tools with Autosol Metal Polish. At around £6 a tube it's not cheap, but a little goes a long way. It apparently leaves an invisible wax coating on surfaces to inhibit corrosion, though paste wax or camellia oil on cast-iron surfaces will also prevent tools rusting. Don't forget to keep threads on screw adjusters lightly oiled, too

WINTER PROJECT: DISPLAY RACK

Takes:
Two weekends

Tools you'll need:
Marking tools, block and bench planes, drill and bits, jigsaw, router and bits, sanders, pocket-hole jig

COLLECTIBLES COLLATED

Phil Davy shows you how to make a display rack for showing off all your treasured possessions

This wall rack can be adapted to display a wide variety of objects, and can be built as large or as small as you like. Construction is fairly easy and you only need a few hand tools: a jigsaw and router for cutting the housings; you could make it even still by using biscuits or pocket-hole screws. Housings are neater and more satisfying to make, but whatever jointing method you choose, shelf ends must be cut dead square, and a powered mitre or table saw is the most efficient method for this. Although cutting housings with a router isn't a problem in most materials, it's more difficult to tweak tight joints in MDF than in softwood, so biscuits might be a better choice if you go for the former.

That said, you can use any material: softwood, hardwood, MDF or ply. If using a hardwood such as oak, however, I suggest reducing board thickness to about 15mm. Not only will this reduce actual weight, but the completed rack will also look slightly less bulky. As I decided to paint mine, I used 25mm PAR softwood, which finishes at about 20mm.

If you plan to display plates, it's a good idea to add extra rails across the back above each shelf. These are a traditional feature and mean that the china won't touch the wall. Although I didn't include rails on my rack, it would be easy enough to add them in the future. However, the groove routed along the back of each shelf to provide a recess for the plates to sit in can't be added later, so I did include this detail. I also added a small decorative beading along the lower front edges of the stretchers, though a chamfer or radius would look fine, too.

At 120mm deep, the overall depth of the rack is quite shallow, which means that when mounted on the wall, it's less likely to get in the way when, say, you're carrying large items through the house. The flipside of this, of course, is that it's too shallow for books, but these would obviously add greatly to the weight on the wall.

Wall-mounting options

Speaking of which, there are several ways of fixing the project to the wall. In my case, I simply drilled holes through the rear valance, though an offset screwdriver or 90° driver attachment is necessary to drive in the screws. Alternatively, you could rout concealed dovetail slots for the screw heads at the back of the unit. However, if the rack is likely to carry a considerable amount of weight, you'd be well advised to use French cleats.

The sides are shaped at their lower ends, and this decoration can be as simple or elaborate as you wish. If you wanted to hang small decorative items, you could even add a row of Shaker pegs along the lower stretcher. As I said earlier, this design is open to nearly endless variations.

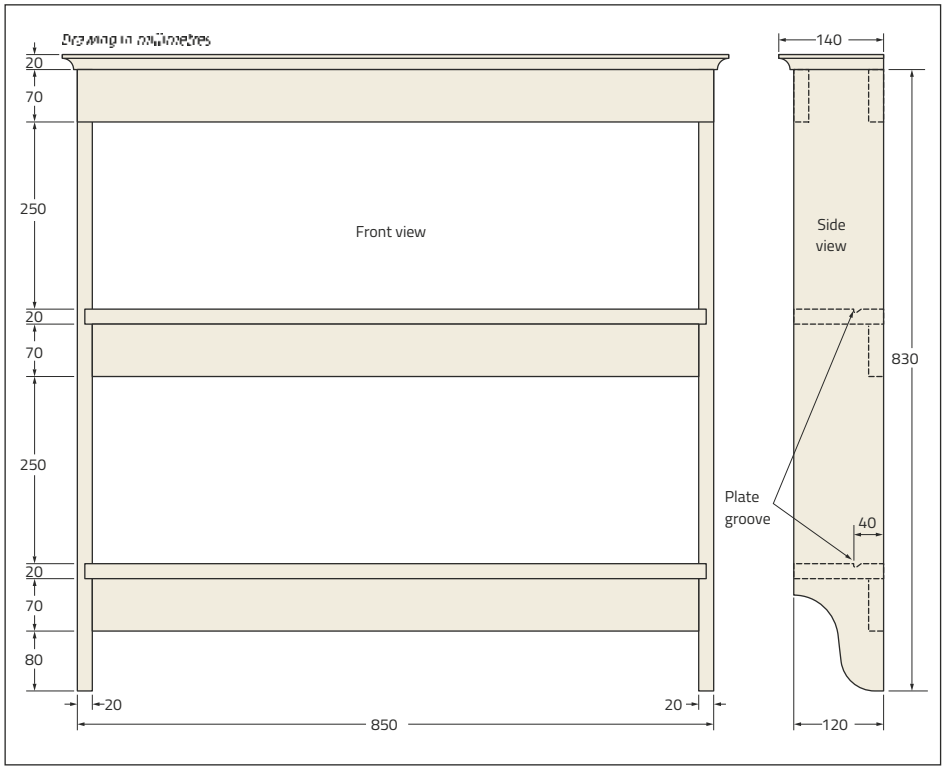
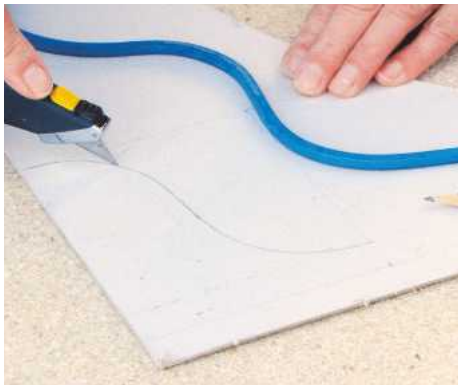


Fig.1 General arrangement and wall rack dimensions

1 Saw timber to length and mark positions of housings on side pieces; mark both together as a pair

2 Housing depth should be about one-third that of timber thickness; use a guide fence/jig for the router

3 Check that the shelf ends fit snugly into their housings, and adjust the width of the routed trenches if necessary



4 Experiment with a flexi-curve until you've found a pleasing shape for the lower ends of the sides

5 Carefully mark and cut out a card template, then draw around its outline on to the side components

6 Fit your jigsaw with a suitable narrow blade and cut the profile, just outside the pencil line

7 Clean up the sawn curves; if you have a drillstand, a sanding drum makes light work of this job

8 Saw notches at the upper end of each side for front and rear valances

9 Rout a 6mm groove along each shelf so that plates can be displayed safely

10 Dry-assemble the carcass before gluing the shelves and side pieces together

11 Cramp the frame together and check for square; measuring across diagonals is the most reliable way – a square frame will give equal diagonal distances

12 Nail the sides and shelves together, punching the heads below the surface

13 Cut the front valance overlength and nail to the sides; pre-drill the holes to stop splitting

14 Saw off the horns so they are slightly proud of the sides; this will allow you to trim them flush

15 Plane the end-grain flush, working in towards the carcass to prevent timber splitting

16 Drill and countersink holes in the rear valance for screw fixing to the wall

17 Rout a beading along the lower edges of stretchers with a bearing-guided bit

18 Fix stretchers with pocket-hole screws, using a suitable jig to drill the holes. Next, glue and cramp stretchers to the shelves while inserting screws

19 Carefully true up the front edges of the carcass, checking with a straightedge

20 Fill nail holes and any knots before sanding all surfaces with 150 grit abrasive

21 Rout a profile around the overhanging top. A 10mm core bit creates an elegant coving

22 Cramp the top to the carcass and nail down into the front and rear valances

23 Sand the arrises and you're then ready for finishing; if painting, I find a foam pad works best when using acrylic paints

24 The rack can be used to display plates, old tools, travel souvenirs – anything you like, really

CREATE YOUR OWN

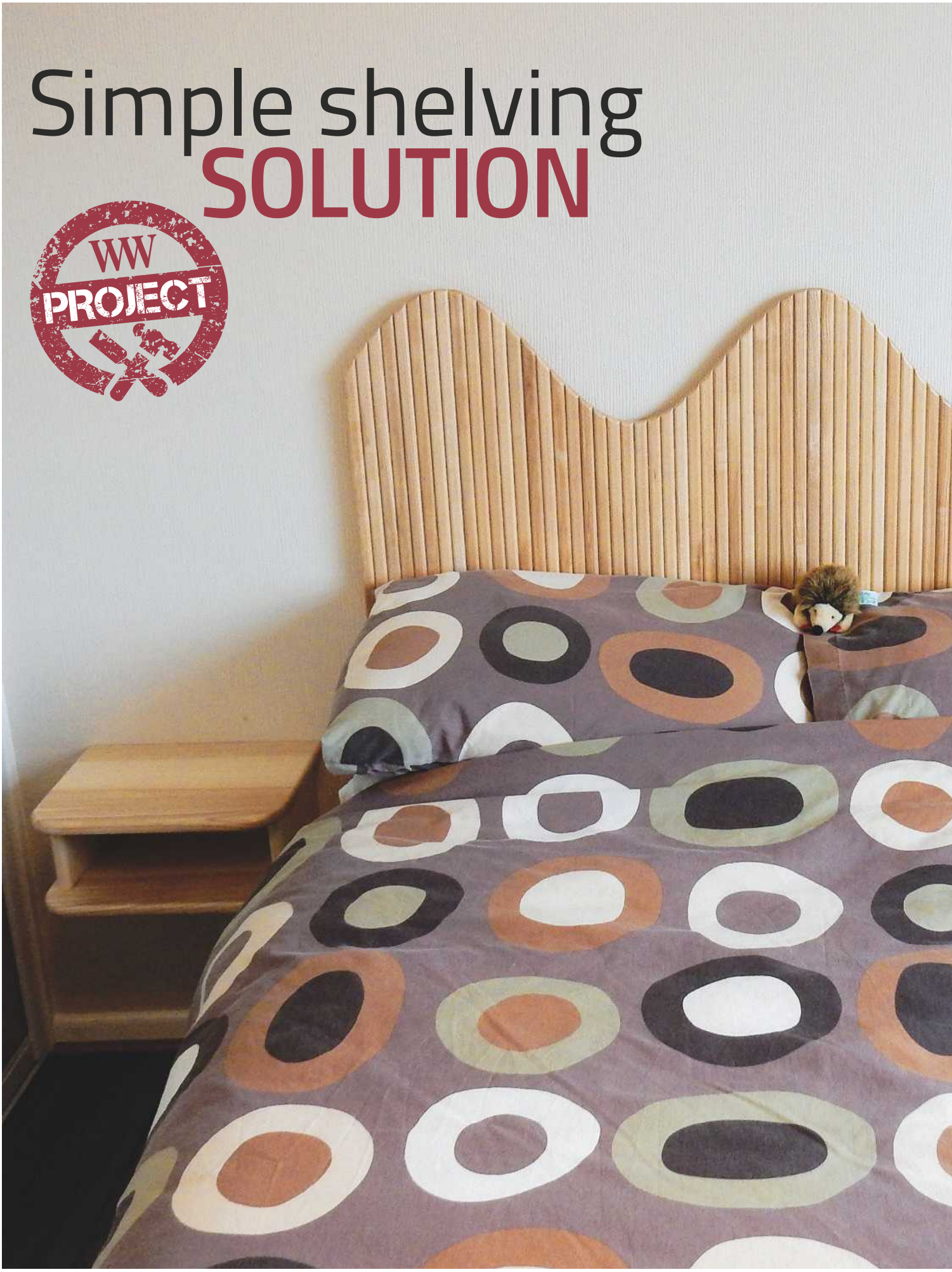
Tormek T-8 Custom

Every craftmanship is unique. Every tool is unique. We believe your sharpening system should be the same. With Tormek T-8 Custom you can now choose your grinding wheel, honing wheel and add the right jigs and accessories for your unique craft or tool. Create your own Tormek T-8 Custom and explore the possibilities.

MADE IN SWEDEN

TORMEK®
Sharpening Innovation

Simple shelving SOLUTION



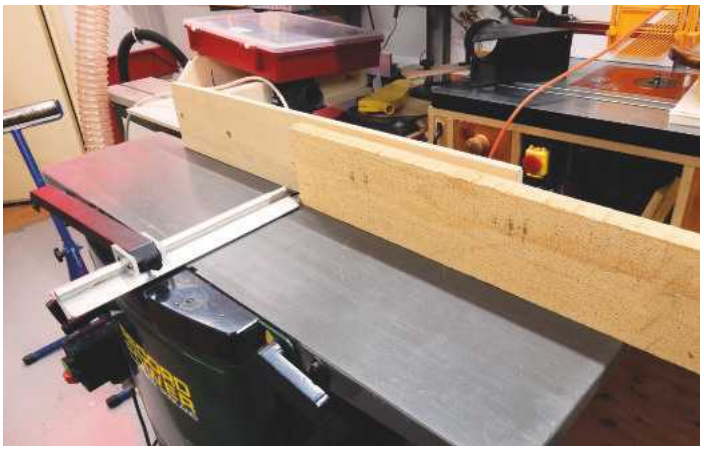
Made using ash, MDF and comprising a simple wall-hung shelving unit with French cleat, allowing for fixing to a wall, **Geoff Ryan**'s bedside storage solution ticks all the boxes

After recently redecorating the spare room in our house, I wanted to make some bedside units. The design I chose, and the one outlined in this article, is a simple wall-hung shelving unit with French cleat, which allows for fixing to a wall.

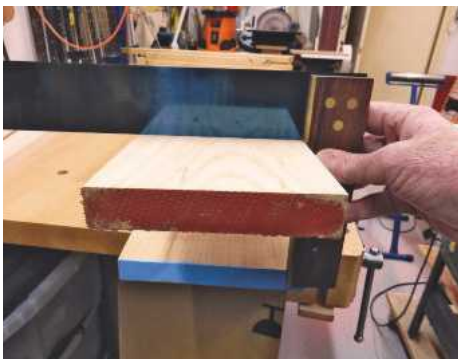
This project also called for the use of a few jigs, one of which came in very handy for producing the rounded edges on the bedside units. I also made a set of these same units for my daughter, but this time using moisture-resistant MDF. She requested a white finish on hers, so it seemed a waste to use the same material as before seeing as the timber would be hidden under several layers of paint.

1 I decided to use ash to match the headboard and wardrobe trim I'd already made, so pulled some suitable 25mm thick boards from my timber pile. As none of these were wide enough, some strips would have to be glued on in order to bring them up to the required width

2 These rough-sawn boards were quite flat with no bowing or cupping, so I set about planing one face. When a board is badly bowed or cupped, I'll try and cut it into shorter lengths before planing to reduce waste and maximise final board thickness. In this case, I only just had enough board length for the project, taking into account the fact I'd lose up to 50mm at each end due to snipe. I bought this Record Power planer/thicknesser – and the roller stands – second-hand and it's been a reliable machine. The only issue I have is that, when thicknessing, the spiked infeed roller often leaves spike marks when you try and take a final shallow cut. I'm happy to use it to take big cuts, but need another solution for fine passes



3 When planing the edge, the plywood attached to the fence helps to keep larger boards square to the table. If I move the fence, I always check it's square again, having being caught out before when I couldn't get a joint to close up. Note the blade guard in use here



4 Before moving on, I carried out a quick check using a decent square

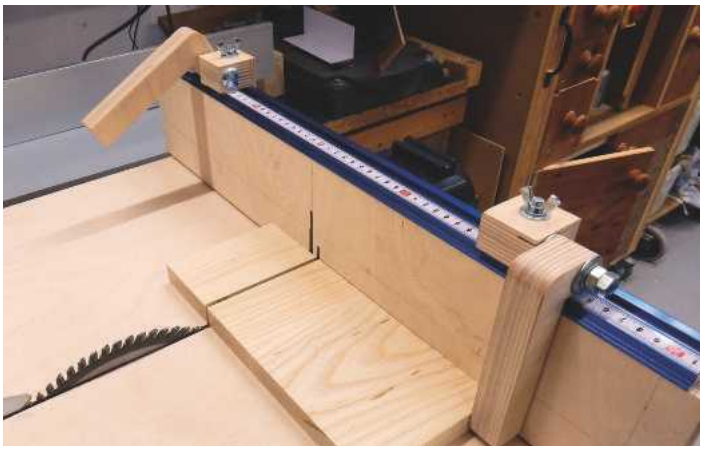
5 Final thicknessing is carried out using my newer Jet machine. This features rubber infeed and outfeed rollers so therefore doesn't mark the surface like the old Record Power machine

6 I added this digital scale to the thicknesser and it's proven to be a very worthwhile investment. It allows me to take accurate cuts while achieving a consistent thickness

7 Another bin full of chippings. I put these into heavy-duty bags and store them in my trailer until I've collected enough for a trip to the tip

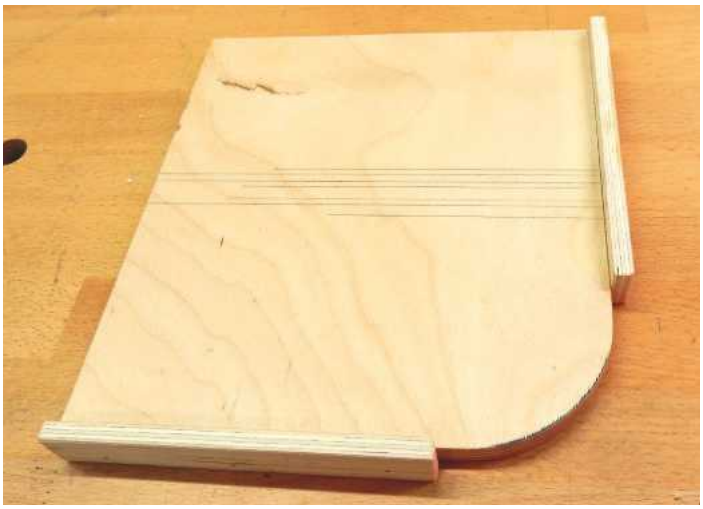
8 To widen the board, I needed to glue on a strip. Unfortunately, I didn't have one as long as the main board, so used two shorter lengths – the gap between them is in the middle, which will be a cut position. Note the G clamps at each end, which help to keep the edges aligned. All my long clamps are second-hand and were bought at the same time as the planer/thicknesser and a whole load of other items that were being sold off. Between us, my friend and I bought most of the seller's workshop contents

9 After leaving the glue to dry overnight, I scraped off any excess using an old chisel. The joint was good and square and no further planing was required – just a couple of passes through a thickness sander to finish the job



10 A good table saw sled ensures all cuts are square and provides zero-clearance to keep the edges clean

11 All components ready for the next step – rounding over the edges. Final dimensions will be 370mm wide × 255mm deep × 160mm high



12 To create rounded front edges, I made a quick jig using some offcuts. To achieve the curve, I drew around the bottom of a paint tin, then bandsawed roughly to size before sanding down to the line

13 I used the jig to draw the curve on the front edges of the boards, and, after bandsawing off most of the waste, I clamped this to the board and, using a router table, run over a bearing-guided cutter

14 I decided to use biscuits to join the sides to the top and bottom. The sides are inset from the ends and, after marking up, I clamped an offcut on top to provide a reference for the biscuit jointer. Note that the front and side edges of the top and bottom have been rounded over – I should have left this until after cutting the biscuit slots as it made measuring and marking more awkward

15 This old Freud biscuit jointer was another second-hand purchase. Note the offcut under the jointer, which helps to keep it square

16 I managed to slip with the jointer and cut a shallow groove on the underside edge of the top board. Some suitable filler and careful sanding and no-one will ever see it. The filler knife – a free gift with a magazine purchased back in 1983 – is always my first choice for any small plaster repairs or wood-filling duties

17 I clamped the sides to the bench and cut slots in the top and bottom edges using the bench surface as a reference. As long as the same face is placed face down, the joints will line up

18 The French cleat will also be attached to the underside of the top using biscuits. A simple right-angle jig holds the board square and secure

19 When sanding in the workshop, I try hard to control any dust generated. The large extractor hose takes most of it away and the shop vac is used to clean dust from the abrasive, so it works more efficiently and lasts longer. My shop vac has a small dust cyclone attached to a tub. This arrangement has been in operation for over three years, and I've never had to change the bag on the vac as the cyclone is so efficient. I also have an air filter running whenever I create any dust and it's amazing just how much it removes. Another problem I find when sanding is that the skin on my fingers dries out and cracks, so I wear gloves whenever possible

20 To avoid squeeze-out, I applied the glue sparingly. Provided the biscuits and slots are well covered, the joint is never going to fail for a lightweight structure like this. Plenty of clamps keep the joints closed up tight while the glue sets

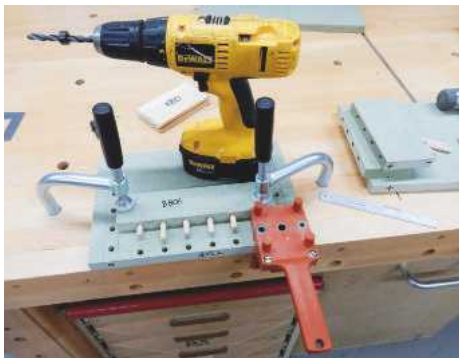
21 The finish is three coats of water-based satin polyurethane applied with a light sanding between coats. I didn't glue the French cleat in place until after finishing was completed so as to make application inside the unit easier. I accidentally engraved 2020 on the cleats instead of 2021 – yet another senior moment!

22 The bottom half of the French cleat is screwed to the wall. The benefit of using three screws is that, after making the centre fixing, the cleat can be levelled before drilling the other two holes. Using a masonry drill small enough to go through the outer holes in the cleat allows for accurate positioning. The cleat can then be removed and holes drilled full-size for the wall plug. Note proximity to the wall socket – as I'd installed the socket myself, I knew the cables went down, not up, near the hole position. Always consider the possibility of hidden pipes or cables behind plaster when drilling into any walls

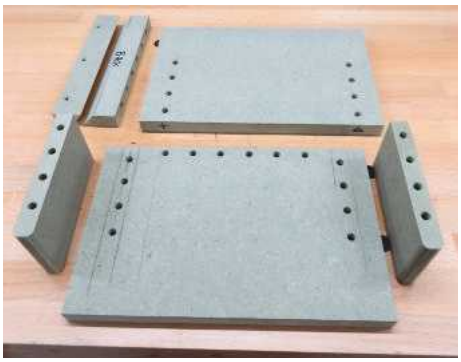
23 The two units in place. These are ideal for a spare room as they keep the floor area clear of obstruction, are easy to clean yet perform the essential tasks of carrying a bedside light, book and other odds and ends

24 Just when I thought I'd finished, along came my daughter and said: "Oh, they're nice – can I have one but in white?" There's no point in using good hardwood if a painted finish is to be applied, so I used some moisture-resistant MDF I had left-over from another project. This type of MDF is considered slightly denser than standard and doesn't go quite as fibrous on the edges. The overall dimensions are 300 × 200 × 110mm

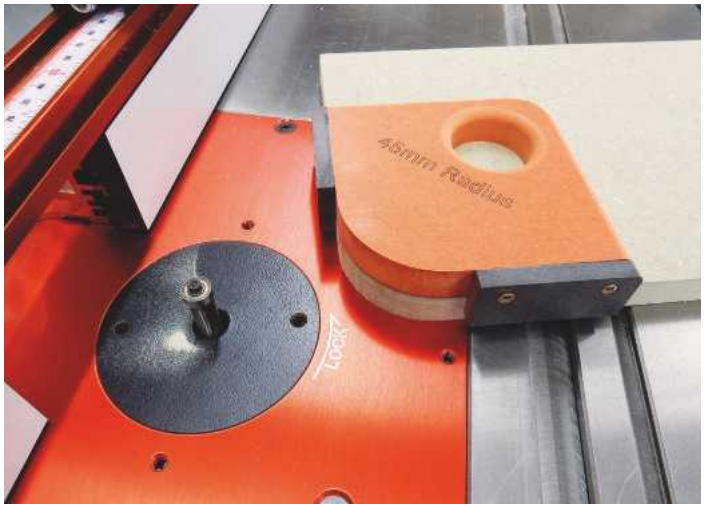
25 This time, instead of biscuit jointing, I tried out my new dowel jig. This jig is only designed to work on the edge of a board – it's self-centring and comes supplied with sets of 6, 8 and 10mm bushes. It's supposed to be hand-held but I prefer to clamp it in place. I've only ever seen these jigs online and I bought mine via Amazon, which at the time, was cheaper than anywhere else I could find. If I had to score it out of five, I'd give it a four – it's good but not perfect and is limited in application



26 In order to dowel away from the edge of a board, you need another solution. In this case, I dug out my rather old Wolfcraft dowel jig – this hasn't seen the light of day for many years as I was never very impressed with it. In fact, I nearly binned it during a recent clear-out, but to be fair, it did a good job in this case



27 All components ready to have their edges rounded over



28 I went to a bit more trouble making this corner-rounding jig as I thought 45mm would be a useful radius for other projects. Some offcuts of Valchromat were ideal – the large finger hole allows the jig to be held safely and securely against the corner of the material while it's run past a bearing-guided cutter. All edges were then rounded over using a bearing-guided roundover bit mounted in a router table

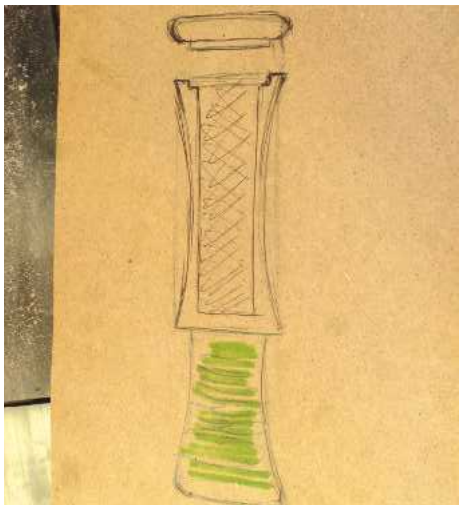
29 After sanding, using a foam roller, I applied a coat of clear MDF sealer followed by two coats of water-based undercoat and two coats of satin top coat. This gives a slightly stippled finish, which helps to hide any small defects in the surface

What a CATCH!

Inspired by a fishing trip to Mexico, **Les Thorne** sets about turning his own hobo reel and fishing float

Back in 2016, I was lucky enough to go on a fishing trip to Mexico – I'm sure I've bored many of you over the years with various photos and stories! One of the things that really sticks in my memory is how the locals go out and catch their dinner from the beach. You see very few people using a rod and line – probably due to the cost of buying the equipment – and the method most commonly employed is hand lining – using some line, weight, and a hook baited up with a piece of fish, which is thrown out into the surf. The line can be wrapped around all manner of different items with a cola bottle being the favourite. Reminiscing about that trip again made me realise what a great little project this would be – made using timber – so I did some online research and came up with many designs of what are commonly known as 'hobo fishing reels'.

I decided to take the project one stage further and make a fishing float to go with it. If you added some thick line to the reel, it'd certainly be a fun little project to make for children to go crabbing with on holiday; much classier than the typical plastic versions. When it came to finishing the reel, I was unsure which product to use. In the end, however, I decided to leave it as natural timber, although you could use a finishing oil if you wish.



1 It's always sensible to draw out your design before you get started; this will give you an idea as to the size of timber required and proportions of the piece. To establish handle size, you'll need to measure this against your own hand

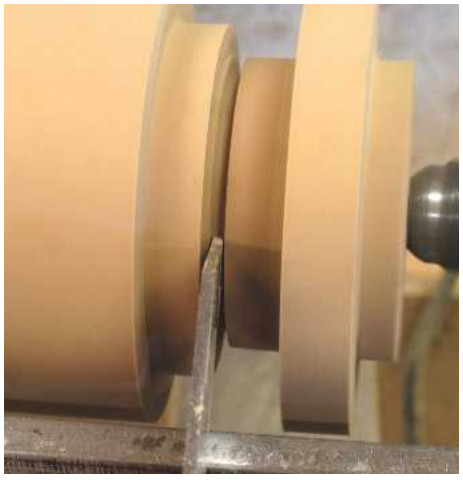
2 A piece of European oak measuring around 175 × 65mm square is about right for this project. To make the whole turning process much quicker, remove the corners; this is best done using a bandsaw

3 Once you've marked the centre, use a bradawl to make a hole. I like to use a Steb centre-type drive as the extra teeth will 'bite' into the timber more effectively

4 Next, mount the work between centres and make round using a spindle roughing gouge. Using a 10mm round skew, form a chucking point on one end of the piece

5 The spigot is held in the chuck: use the tailstock to make sure it goes into the chuck accurately. You can then mark the transition points onto the blank. At this stage, a long toolrest will prevent you having to keep moving it

6 I thought it'd be fun to make the handle into a box. The following steps will explain how to form the box's lid. I decided to use an 'O' ring instead of just a push fit, which will make it more secure



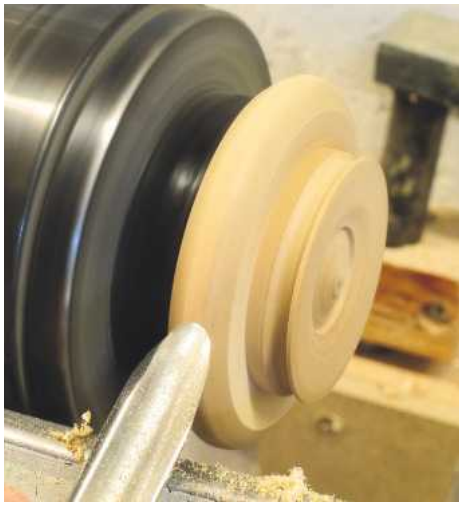
7 Part the lid section off using a 2mm parting tool. As the tool is so thin, material wastage is therefore kept to a minimum. For safety, remove the tailstock prior to taking the final cut

8 The body now needs to be hollowed out. Before I do any drilling on the lathe, I like to make a centre mark so the drill can easily pick up the cut. I do this using the point of a skew chisel

9 Mount a sawtooth machine bit in the tailstock and slowly advance into the timber, keeping lathe speed below 600rpm and ensuring to clear the shavings; this will prevent the drill bit from binding in the hole

10 Mount the lid in the chuck and clean up using a spindle gouge. Adding some detail to the bottom will give your work a little flair

11 The 'O' ring fits into a groove cut in the spigot. In order for it to work properly, ensure it doesn't protrude too much. If it does, you'll find it won't compress enough and will keep pushing itself off the base



12 The inside part of the bead now needs to be turned as you won't have access to this when mounted on the base. Begin to turn the shape using the spindle gouge

13 The lid now needs to be fitted to the base. Use the 10mm skew chisel in scraping mode by pushing it down into the end-grain. Take care not to force the tool into the wood and make sure you achieve a tight fit

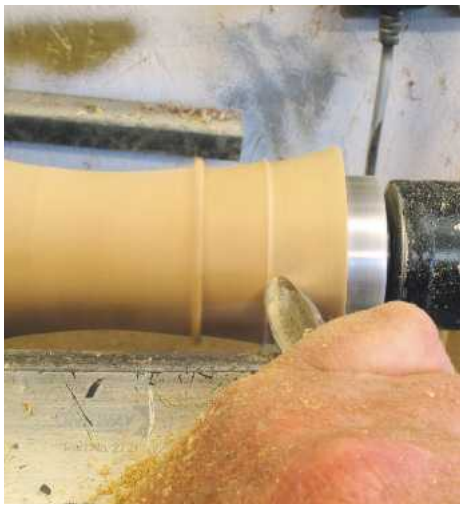
14 Glue the ring onto the lid and when dry, jam it onto the base. The base will be used to hold the lid while the top is turned, using the tailstock for added support

15 It's really important to take light cuts at this stage as all that's holding it in place is a rubber ring. It's a good idea to add some masking tape just in case. Use a small tool such as the 10mm spindle gouge for this step

16 I like to add some grooves to my work as it proves it's been turned rather than just sanding the end flat. A point tool or, as in this case, the point of a skew, is perfect for this

17 It's a real bonus to have high-end equipment such as this Oneway live centre. The removable aluminium cone is just the right size for supporting the handle while the shaping takes place

18 If I have a shallow curve to turn, I'll generally remove the bulk of the material using a spindle roughing gouge. For the best finish, ensure to work downhill from either side



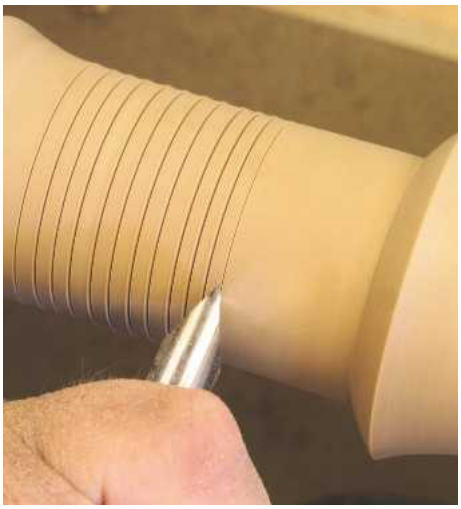
19 The spindle roughing gouge will afford you an acceptable finish but the spindle gouge will leave a much cleaner cut, requiring little sanding. For best results, keep the build-up of wood in front of the cut to a minimum

20 Once you're happy with the handle – test it with your own hand – it's time to bulk away the area to hold the fishing line. The 10mm skew will cut the timber away very effectively

21 You don't want any edges that can potentially catch on the line, so ensure to chamfer off the top of the handle. The skew is used with the point leading through the cut

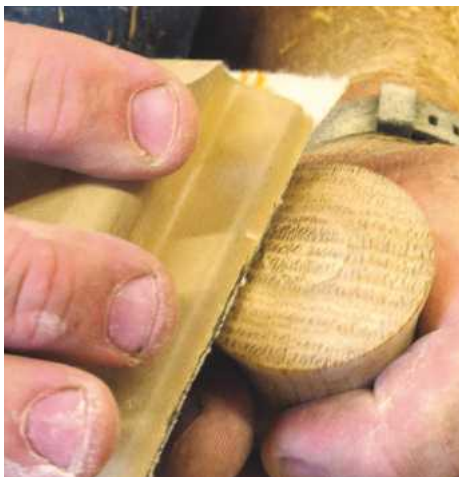
22 Use a spindle gouge to plane the surface of the timber, keeping the handle to one side and with the bevel rubbing on the timber, move the tool along the cut

23 Doming over the end near the chuck requires some precision tooling. A thin oval skew will fit into the narrow groove; I'm using the tool with the long point held down, and if I let any part other than the point touch the wood, I'm in trouble

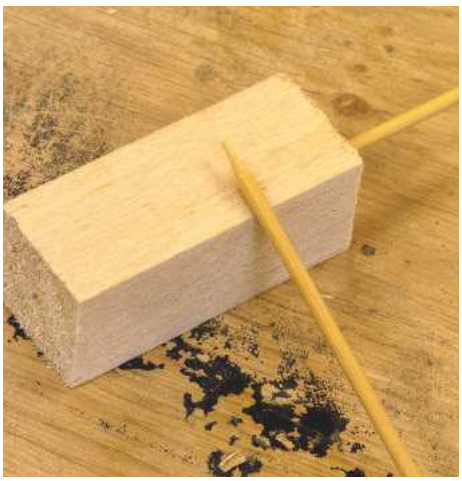


24 To stop the line sliding along, which could cause tangles, cut some shallow grooves along the spool area. The line holder is now ready to sand. Work through the grits as you would normally, finishing up around 400 grit

25 You don't want to part the work off with the lathe running as you're very close to the chuck, so ensure to stop the lathe and use a fine saw to remove the project



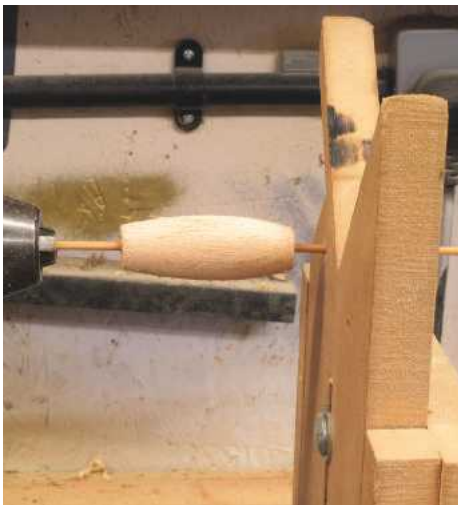
26 The end will require a small amount of hand sanding to finish. Never do this holding the abrasive in your hand – always use a cork block or stiff rubber version; this will keep the sanding even across the top



27 I decided it'd be great fun to make the float from timber as well. I purchased some balsa wood for the body and some cane for the stem – both of which are readily available online

28 As the balsa is so soft it can't be worked like normal timber. Use a craft knife to rough shape the piece before gluing the stem in place

29 Sharpen up the end of the cane – you want two pieces: one about 120mm and one about 45mm long. Push these into the balsa body and glue in place using CA adhesive



30 You'll need a form of steady, which will allow you to mount both pieces on the lathe. I'm holding the top in a drill chuck with the stem supported through a hole in a piece of wood that's fixed to the bed of the lathe

31 Balsa isn't very easy to turn, so I suggest sanding the body to shape, ensuring to keep the speed down so you don't end up twisting the cane. This is so different to how I normally work and I'm finding it great fun

32 Due to the nature of the material, you really have to seal up the wood before applying a finish. I have spray sanding sealer to hand, but it could also be dipped into a cellulose version if you prefer

33 The body of the float will be painted black, so you need to mask up the tip to keep any paint off the top. Drill a hole in a piece of wood that the tip can sit in while you wait for it to dry

34 Hand painting this project would have worked better than spraying, but I didn't have any paint to hand. I ended up applying about four coats of ebonising lacquer before I was happy with the finish

35 Last but not least, use an orange fluorescent paint to give the float a visible top. To seal the wood against water ingress, you need to apply another few coats of clear lacquer, then it's ready for action

36 The completed hobo reel and fishing float should look something like this

THOMAS FLINN
& Co Ltd

SHEFFIELD • ENGLAND

The UK's last remaining traditional saw and hand plane manufacturer

Garlick MADE IN SHEFFIELD ESTABLISHED 1858 · E.T. ROBERTS & LEE · PAX ESTABLISHED 1776 · CLIFTON

www.flinn-garlick-saws.co.uk

orderonline@flinn-garlick-saws.co.uk

Tel: 0114 2725387

HOUSING BENEFITS

The finished through housing is clearly visible at both ends of the joint

Structural in application, the housing joint – sometimes also called a dado joint – is widely used in cabinets and shelving units. It's made by cutting a trench across the width of one component, into which the end of the other is then inserted, as **Andy Standing** shows

The difference between a groove and a housing is that a groove always runs along the grain, whereas a housing runs across it. A well-made housing is a strong, reliable joint that's simple to make. It can be cut by hand, but using a router is far quicker and also more accurate.

Like all woodworking joints, there are several variations that have evolved to suit different situations. The simplest is the through housing, where the housing runs the full width of the workpiece and is clearly visible at both ends. A more refined version is the stopped housing, where the front edge of the joint is concealed, resulting in a neater appearance. Where maximum mechanical strength is required, the dovetail housing is employed. This is the most demanding housing to make, as accuracy is critical to its strength.

The steps here describe how to make a stopped housing joint. For a through housing joint, as shown in the photo opposite, simply cut right across the first component and don't notch the second one.

Before you begin, make sure you have a router cutter to match the timber thickness. The easiest way to do this is to make a trial cut in a piece of scrap wood, then thickness your workpiece until it's a snug fit in the housing. Alternatively, you may have to take several passes with your cutter to achieve the desired width, but you must ensure that your housings line up.

1 Use a try square to mark out the position of the housing on your workpiece. You only need to mark one side of the joint

2 Mark the position of the housing's stopped end. It should be set about 8-12mm in from the front edge

3 The marked-out housing couldn't be simpler, consisting of just two intersecting pencil lines

4 Cramp a batten at right angles across the workpiece to guide the router. Cramp both ends on a wide board. If cutting joints on two identical uprights, cramp these side by side so the joints mirror each other

5 Set the depth of cut on the router and cut the housing with several shallow passes. The depth should never be more than a third of the workpiece's thickness

6 The routed housing has a rounded end. Take care to ensure you don't overshoot the end pencil mark

7 Square off the rounded end of the housing using a sharp chisel

8 The completed housing is a crisply-cut trench, ready to receive the other joint component

9 Hold the end of the other component alongside the housing and mark off the width of the notch to be removed

10 Fit the component into the housing so you can mark off its depth

11 If you have a bandsaw, simply cut out the notch, or if you don't, a hand saw can be used instead

12 Assemble the joint, which resembles a butt joint with the housing completely concealed

NEXT MONTH

Coming up in the next issue...

TURNED FESTIVE FUN FOR ALL

The perfect festive centrepiece or home decoration, Ken Moore's LED-lit snowman design is a fun and customisable project for woodworkers and woodturners

FULL STEAM AHEAD
This time-honoured popular toy project, recreated by Peter Dunsmore using wood and basic materials, is known as a pop-pop boat owing to the sound it makes once fired up

WHEN MUSIC MEETS WOOD
Influenced by his love of wood, music and nature, Norman Mackay has carved himself a niche by creating truly bespoke pieces of furniture

AXMINSTER TOOLS

SEND IN YOUR TOP WORKSHOP HINT/TIP/POINTER OR PIECE OF ADVICE & YOU COULD BE IN WITH A CHANCE OF WINNING AN **AXMINSTER RIDER NO.5½IN JACK PLANE**

...*The Woodworker & Good Woodworking* December issue – on sale 19 November

WIN!

1 of 2 Clarke CTS16 250mm (230V) table saws with stand

Ideal for bench-top use, the Clarke CTS16 is ideal for making cross cuts, rip cuts, mitres and bevel cuts in both hard- and softwoods

Machine Mart®

PLUS ▪ Wooden toys through the ages ▪ Rocking horse rebuild ▪ Twin wedged tenons
Model 'Red Baron' Fokker triplane ▪ Brown burr oak bowl ▪ Archive: 10 useful boxes for Christmas

HURRY! EARLY BIRD SAVINGS - UP TO 41%

CHRISTMAS GIFT SUBSCRIPTIONS!

ONLY £39.99!

- Huge Savings!
- Perfect Christmas Gifts!
- Greeting card supplied with gift subscriptions
- Annual subscriptions starting with the first issue of 2022
- Delivered to your door

PATCHWORK & QUILTING 10 issues	**HI-FI NEWS** 13 issues	**MODEL ENGINEER** 26 issues
STAMP 12 issues	**HI-FI CHOICE** 13 issues	**MODEL ENGINEERS' WORKSHOP** 12 issues
TOTAL CARP 13 issues	**HOME CINEMA CHOICE** 10 issues	**MODEL BOATS** 12 issues
THE WOODWORKER 12 issues	**MATCH FISHING** 12 issues	**RCM&E** 12 issues

Digital & Bundle Subscriptions also available online at www.mytimemedia.com/xmas21 P1

SUBSCRIBE SECURELY ONLINE WWW.MYTIMEMEDIA.COM/XMAS21 P1

CALL 0344 243 9023** AND QUOTE XMAS21 P1

LINES OPEN MON - FRI - 9.00AM - 5.00PM GMT & SAT - 9.30AM - 3.30PM GMT.

Calls are charged at the same rate as standard UK landlines and are included as part of any inclusive or free minutes allowances. There are no additional charges with this number. Overseas calls will cost more.

TERMS & CONDITIONS: Offer ends 26th December 2021. *UK print subscriptions offer only. Subscriptiond will begin with the first available issue in 2021. MyTime Media collects your data so that we can fulfil your subscription. We may also, from time to time, send you details of MyTime Media offers, events and competitions but you always have a choice and can opt out by emailing us at unsubscribe@pandqmagazine.com. Please select here if you are happy to receive such offers by email ☐ by post ☐, by phone ☐. We do not share or sell your data with/to third parties. Details you share with us will be managed as outlined in our Privacy Policy here www.mytimemedia.co.uk/privacy-policy. Issue frequency is subject to change. Current yearly term is 10 issues. Please visit www.mytimemedia.co.uk/terms for full terms & conditions.

WEB GUIDE

MUSICAL INSTRUMENT MAKERS

FOR SALE

Wivamac KPB6090 copying reproduction machine fitted with 1,050W router; 11,000-25,000rpm; 220V 50-60Hz Mono ph; frame 1,500mm wide × 1,450mm dia. × 1,320mm high; weight – 183kg; £2,000 – buyer collects **07855 330 124** (Doncaster)

Huge collection of woodworking hand & power tools, machinery, clamps, nuts, bolts, screws & nails. Some vintage; open to offers **07792 695 481** (Wales)

6 × gouges – ¼ to 1.5in, plus parting tool; £80. Also, 8 × scrapers; £120 & 3 × triangular gouges; £40 – all plus postage & packaging **07376 013 437** (Yorkshire)

Festool Precisio table saw – includes side/rear extensions, sliding table, 2 × blades, fence, mitre fence, manuals & push stick; £1,250 – buyer collects **07817 308 106** (Cheshire/Shropshire border)

Copies of *The Woodworker* – most issues from Jan 2008–Dec 2015; free to collector **07985 936 293** (Devon)

Emmert patternmaker's vice – brand-new & in box; heavy-duty – weighs 25kg; £300 – buyer collects **07780 607 196** (Hartlepool)

Electra Beckum planer/thicknesser – supplied with spare blades; in good condition; £250 – buyer collects **07818 410 591** (Durham)

Heavy-duty SIP mortiser – supplied with chisels – in reasonable condition for age; can be seen working on collection; £175 **07818 410 591** (Durham)

Holzman ABS 850 dust extractor – single-phase and in excellent condition; comes complete with three-way distribution box; £80 – buyer collects **020 8650 7758** (Kent)

Robert Sorby Deluxe ProEdge sharpening system – used twice; in new condition; £200 – buyer collects **01604 644 197** (Northants)

Porter Cable 7539 variable-speed production plunge router with laser base; 3.25hp; £125 – collection only **0121 382 6095** (Sutton Coldfield)

Record BM16 mortiser with chisel bits – ¼in, ⅜in and ½in – with instruction manual, hardly used; £175 – buyer collects **01626 369 914** (Devon)

Trend MINIMACH portable vacuum clamping bed – totally unused; includes hanging bracket; £30 – buyer collects **01158 406 764** (Nottingham)

Leigh D4R Pro jig – little used. All items shown and in very good condition; £450 – cash only transaction; buyer collects **07890 645 721** (Hertfordshire)

Wadkin Bursgreen bandsaw – single-phase; 250V; £120 – buyer to collect **07754 368 628** (Cheshire)

Hardwood, veneer, mouldings & decorative laminate; £250 – buyer collects **01509 554 311** (Loughborough)

WANTED

Record No WR102F mitring attachment for Record DMS drill stand **01873 854 193/07980 968 307** (South Wales)

Tenoning table/sledge for Axminster/Jet spindle shaper **07974 853 172** (Bristol)

Tyre for Tormek 2000/T8 drive wheel, or complete drive wheel **01793 771 898** (Wiltshire)

Kity combi (or similar) – must feature saw, planer, mortiser, spindle moulder, etc. Carriage paid **+087 2275266** (Ireland)

Australian made Symtec woodturning lathe – in sound condition; must be complete with toolrest; excellent price paid **01454 260 395** (Berkeley)

Three-jaw chuck for mortiser attachment Kit K5. Attaches to planer cutterblock with left-hand thread – both 12mm **01302 817 889** (Doncaster)

Stanley No.1 plane & Stanley No.2 plane – one of each wanted by novice collector **01572 723 976** (Rutland)

Dust extraction spout for DeWalt 1150 planer/thicknesser **023 8089 8123** (Southampton)

Woodworking tools: planes by Norris, Spiers, Mathieson, Preston, Slater, etc. brass braces, interesting rules and spirit levels; top prices paid, auction prices beaten **01647 432 841** (Devon)

Woodworking hand tools, especially old wood and metal planes, wanted by collector. Write to Mr B Jackson, 10 Ayr Close, Stamford PE9 2TS or call **01780 751 768** (Lincs)

BOOK YOUR FREE AD

Please publish this advertisement in the next available edition of *The Woodworker*. I am a private advertiser and have no trade connections

PLEASE TICK: FOR SALE ❑ WANTED ❑

- This space is available only to private individuals wishing to buy or sell woodworking machinery and tools.
- The maximum value of any item for sale must not exceed £500. A small fee is payable for items offered at over £500; please ring 07402 735 093 for details.
- Each coupon is valid for one free insertion in the next available issue.
- The publisher accepts no responsibility for errors or omissions in this section.

Name_____

Address _____

_____

Postcode_____

Daytime tel no._____

Signature _____

My advertisement (max 20 words please) reads as follows:

_____

_____

_____

_____

Please write your advertisement in **BLOCK CAPITALS** and send it to:
The Woodworker Marketplace, MyTime Media Ltd, Suite 25, Eden House, Enterprise Way, Edenbridge, Kent TN8 6HF. You can also email your free ad to: **tegan.foley@mytimemedia.com**. Send/email a photograph of your item and we'll include it with your ad for **FREE**

TAKE 5

This month, we've searched high and low to bring you some truly exceptional examples of the finest woodworking across a multitude of disciplines – from a stunning handmade veneer and inlay saw to a jewellery box with the most wonderful rippled sycamore figuring

1 'Blue Lace' – maple platter with ornamental work, colour and wax, by Jeff Hornung – **@thewalnutlogstudio** – 254mm diameter

2 Jewellery box in rippled maple, walnut and suede – made by former **@robinsonhousestudio** student Josh Milton – **@joshwmilton**

3 'The Arc' veneer and inlaying saw from Skelton Saws – **@skelton_saws** – with an English plum handle, from Shane's family home. The saw cuts in a rolling motion, on either the pull or push stroke, producing some exceptionally fine cuts

4 'The Madison' sideboard in walnut and maple, finished with **@walrusoil** Furniture Butter, by **@kirby_furniture**

5 Netsuke-style hand-carved orangutan sheltering under a palm leaf, carved in acacia and birch, by **@snvod**

Follow us on Instagram – **@woodworker_mag** for regular magazine updates and posts

BEVEL EDGE AND BUTT CHISELS

Rider Bevel Edge Chisels have a superior grind, allowing greater access into tighter spots, such as the corners of dovetails. The blades are forged of fine-grained, chrome manganese steel and tempered to 59 HRC, for strength and a long lasting edge.

The shorter length and palm grip handles make butt chisels the perfect choice for fine trimming and final fitting tasks.

AXMINSTER RIDER 6 PIECE BEVEL EDGE CHISEL SET
Code: 103293
£99.78

AXMINSTER RIDER 5 PIECE BEVEL EDGE CHISEL SET WITH ROLL
Code: 719487
£71.08

AXMINSTER RIDER 4 PIECE BUTT CHISEL SET
Code: 103294
£72.98

AXMINSTER TOOLS
We share your passion.

For the full range of Rider products, **visit one of our stores**, search **axminstertools.com** or call **03332 406406.**

For the complete Axminster experience and to keep up with projects, how to's, news and much more, browse knowledge.axminstertools.com and follow us on social media.

Prices may be subject to change without notice.

AXMINSTER • BASINGSTOKE • CARDIFF • HIGH WYCOMBE • NEWCASTLE • NUNEATON • SITTINGBOURNE • WARRINGTON

Rated **'Excellent'** on Trustpilot

RECORD POWER
ESTABLISHED 1909®

THE NEW STANDARD FOR WOODTURNING

We are proud to introduce our new range of turning tools, made in the UK at our in-house production facility. Designed in consultation with and tested rigorously by professional woodturners, they represent a new standard in quality and value.

When you buy a Record Power turning tool you are investing in many years of manufacturing expertise and knowledge from a brand with a rich heritage of woodturning specialisation.

"The new Record gouges have fantastic edge longevity and strong ergonomic handles. All you need in a quality woodturning gouge: stay sharp, feel good and turn well."
Andrew Hall RPT, Professional Woodturner and Tutor

ONLY
£109.99

3-Piece HSS Bowl Turning Tool Set

This set contains the three essential tools for bowl turning - 3/8" bowl gouge, 1/2" domed scraper and 3/16" parting tool.

103720 - **£109.99**

3-Piece HSS Spindle Turning Tool Set

This set contains the three essential tools for spindle turning - 1" spindle roughing gouge, 3/8" spindle gouge and 1/8" parting tool.

103710 - **£109.99**

Free online educational videos available at **recordpower.co.uk/turningtools**

5 YEAR GUARANTEE

View our full range at recordpower.co.uk Bowl Gouges | Spindle Gouges | Spindle Roughing Gouges | Skew Chisels | Scrapers | Parting Tools

All prices include VAT. E&OE.

MADE IN BRITAIN®

MADE IN SHEFFIELD®

Over 100 years
Experience • Knowledge
Support • Expertise

Incorporating some of the most famous brands in woodworking, Record Power's roots stretch back over 100 years.

RECORD POWER ESTABLISHED 1909
CORONET STARTRITE
CamVac BURGESS

For more details visit recordpower.co.uk or contact your local stockist

RECORD POWER ESTABLISHED 1909