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Summer 2013

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welcome

I'm sure I'm not the only woodworker to be called upon to perform an impromptu piece of domestic repair, often in what could be described as a less than perfect situation. It often seems to involve doors, chairs or windows; I'm frequently presented with a not entirely suitable item of ironmongery, or else an ill-fitting decorative element that has been recklessly sourced by the well-intentioned householder, and expected to fix it.

Such is the lot of the stand-in handyman, and all we can do is make the best of the job with what's available on the day. My most recent experience of helping out was replacing a barrel catch, spindle and handles for a front door that had become jammed closed. With only a screwdriver to be found *en maison*, I was very glad – as always in these situations – to have my trusty Gerber multi-tool about my person. As nothing on the job quite lined up, I found myself 'chopping in' the catch with the penknife blade and moving the spindle hole with the saw attachment. Everything was fine in the end, but things would have been a whole lot easier with the right tools.

Doing our very best...

I guess that, like practical woodworking tasks, much in life is about matching up the right tools or skills to the job in hand, and doing the best you can in challenging conditions. Here at *The Woodworker* we're rarely called upon to put together a fascinating article in a muddy field with only a ten-year-old mobile phone to compose it on, but I've no doubt we could manage it if we had to! In fact, I'd say we were fairly well equipped to craft a new issue of your favourite woodworking magazine every four weeks, both here at our palatial suite of offices, and out in the reality of my commercial workshop. Long may it continue!

...with your invaluable help

Unlike a sticking door that can be readily fixed, our magazine – and I'm including you, the reader, in that – is a work in progress, and one about which we welcome your opinions. Hopefully we're ticking the right boxes for the vast majority of woodworkers out there, but if you feel that there's something you'd like to see or read about in the future, just drop me a line and I'll see what we can do. You can reach me anytime at mark.cass@mytimemedia.com

mark

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THE JULY 2013 ISSUE IS OUT ON JUNE 28TH

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ON TEST

The Woodworker & Woodturner

Summer 2013

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On the desk

ULTIMATE TOOL KIT

Dremel's new Platinum kit includes a cordless 8200 multi-tool, a full range of Dremel accessories, five attachments (the detailer's grip, shaping platform, cutting guide, line and circle cutter and comfort guard) and two batteries, all packed into a high quality aluminium carry case.

The Dremel 8200 is fitted with the innovative EZ Twist Nose Cap for quick accessory changes, and has a 10.8V Li-ion battery and a quick 1-hour charger. The 65 accessories include carving and engraving cutters, grinding, cleaning and polishing wheels, cutting wheels for wood and metal, plus a selection of sanding drums, discs and finishing abrasive buffs.

The Platinum kit will retail for only £179.99 from DIY shops, as well as online at www.dremel-direct.com and www.tool-shop.co.uk

RECORD DISPLAY

D&M tools of Twickenham have been extremely busy over the last few months, fully refurbishing their machinery showroom. At the heart of this is the expanded and improved Record Power display. This area now includes a huge range of Record Power's machinery, including lathes, bandsaws, planer thicknessers, table saws and mortisers, making this the most impressive display around in the south-east of the UK.

In addition, a wide range of accessories and consumables are in stock, from woodturning accessories and bandsaw blades to planer knives, scroll saw blades and much more.

Of course, all this has to be backed up by first-class technical knowledge and support – areas in which D&M tools excel. Their long relationship with Record Power ensures that they're able to offer excellent advice, helping customers make the right choice of tools for their needs.

DIARY

JUNE

Axminster Skill Centre courses
3-4 & **6-7** Kitchen routing
4 Spindle moulding*
5 Woodturning refresher
10-14 Windsor chairs
14 Pyrography*
20 & **21** Woodcarving*
26-27 Woodturning*
* Course held in Sittingbourne, Kent
Unit 10 Weycroft Avenue,
Axminster EX13 5PH
0800 975 1905
www.axminsterskillcentre.co.uk

John Boddy's courses
6-7 Woodcarving: Peter Berry
20-21 French polishing: Ted Vickerman
01423 322370 ext 257
www.john-boddys-fwts.co.uk

John Boddy's demonstrations
8 Woodcarving: Peter Berry
22 French polishing: Ted Vickerman
29 Woodturning: Marsden Howitt
Details as above

John Lloyd courses
10-14 Finishing techniques
Bankside Farm, Ditchling Common
RH15 0SJ
01444 480388
www.johnlloydfinefurniture.co.uk

Shropshire Association of Woodturners
26 Mike Abbots
Bicton Village Hall, Bicton SY3 8EL
01743 240661

Southern Tool Fair
28-29 The Ageas Bowl
Southampton SO30 3XH
www.toolfair.uk.com

West Dean College courses
11 Woodturning taster
11-14 Woodturning: starting out
15 Woodcarving taster
15 Make a country-style stool
28-July 1 Making simple furniture
30-July 3 Picture framing
West Dean College, Chichester
PO18 0QZ
01243 811301
www.westdean.org.uk

LIGHTWEIGHT SANDER

Mirka's new DEROS sander features a brushless motor and is designed to deliver performance comparable to a conventional 500W electric machine, even under heavy load. It is economical to use, reducing energy costs, and promises to be virtually maintenance-free.

The DEROS has a low profile so the hand is close to the work surface, delivering good control over the sanding process. Its long body has a two-hand, ergonomic grip, effective for heavy sanding applications. It comes in a carry case with 125 and 150mm sanding pads for maximum versatility, and is priced at £474 (and from £333 on the web). For more details visit www.mirka.com

IRONS IN ACTION

Turners will be interested to learn that Phil Irons will be demonstrating the range of Woodcut Tools at venues in the Midlands and the North West over the next few months. Phil became a full-time turner in 1994. He also enjoys teaching, and offers a number of courses at his workshop in Wellford-on-Avon. For more information, visit www.philirons.com

Phil and New Zealand-based Woodcut Tools have a long association spanning over 20 years. Woodcut manufactures a unique range of woodturning products that offer innovation, quality and value. Phil can be seen demonstrating them at the Axminster Tool Centres in Nuneaton (22nd June) and Warrington (20th July). Entry to both venues is free.

Also on the subject of turning, Axminster have extended the deadline for entry forms for their New Forest Trust woodturning competition until June 14th. Visit www.axminster.co.uk/woodturningcomp for full details about entry conditions and the prizes.

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MANUFACTURER: Metabo
D&M PRICE: see website

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BOLLÉ SAFETY SPECTACLES & GOGGLES

MANUFACTURER: Bollé
D&M PRICE: from £8.90

Bollé safety spectacles and goggles are available in a variety of styles and specifications, and provide effective, innovative and stylish eye protection whatever your requirements. Check our website for the range available.

NEW DEWALT TSTAK STORAGE SOLUTION

MANUFACTURER: DeWalt
D&M PRICE: from £31.95 to £64.95

TSTAK is the new interlocking stackable storage system from DeWalt. Now you can build the system that suits your needs with a quick interconnecting system that lets you reconfigure your toolbox as you want it. The flexible platform allows different combinations, and all units can be connected with durable side latches. TSTAK units are available in a range of different configurations and styles to allow you to store anything from power tools (using the pre-cut foam inserts) to individual accessories and fixings in the removable cups. Manufactured from 3mm polypropylene with solid metal hinges and heavy-duty metal latches, the units are robust and rugged. See our website for details of the full range.

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There are only a couple of months to go until our annual exhibition, **'THE' TOOL SHOW '13**, which takes place at Kempton Park Racecourse in Sunbury on Thames. Don't miss this annual opportunity to meet the manufacturers and see the latest tools and equipment, demonstrated by all the leading suppliers. You can also pick up exclusive show deals and special offers, including our popular 'Top 30 Down 'n' Dirty Deals'. Both parking and admission are **FREE** for visitors. Visit www.thetoolshow.com for more details.

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

BY ALAN HOLTHAM

The family silver

I was asked recently to make a glass-topped table to show off a small collection of silver. I must admit to a bit of a mental block as regards design, but in these situations the internet is always your friend!

A quick search came up with a selection of designs, and I particularly liked one I found in an American publication, *Wood* magazine. This also had a downloadable plan to go with it. Working to a plan always makes a job so much easier; designing on the hoof sometimes works, but you nearly always get caught out later in the project and end up with some sort of compromise…or worse!

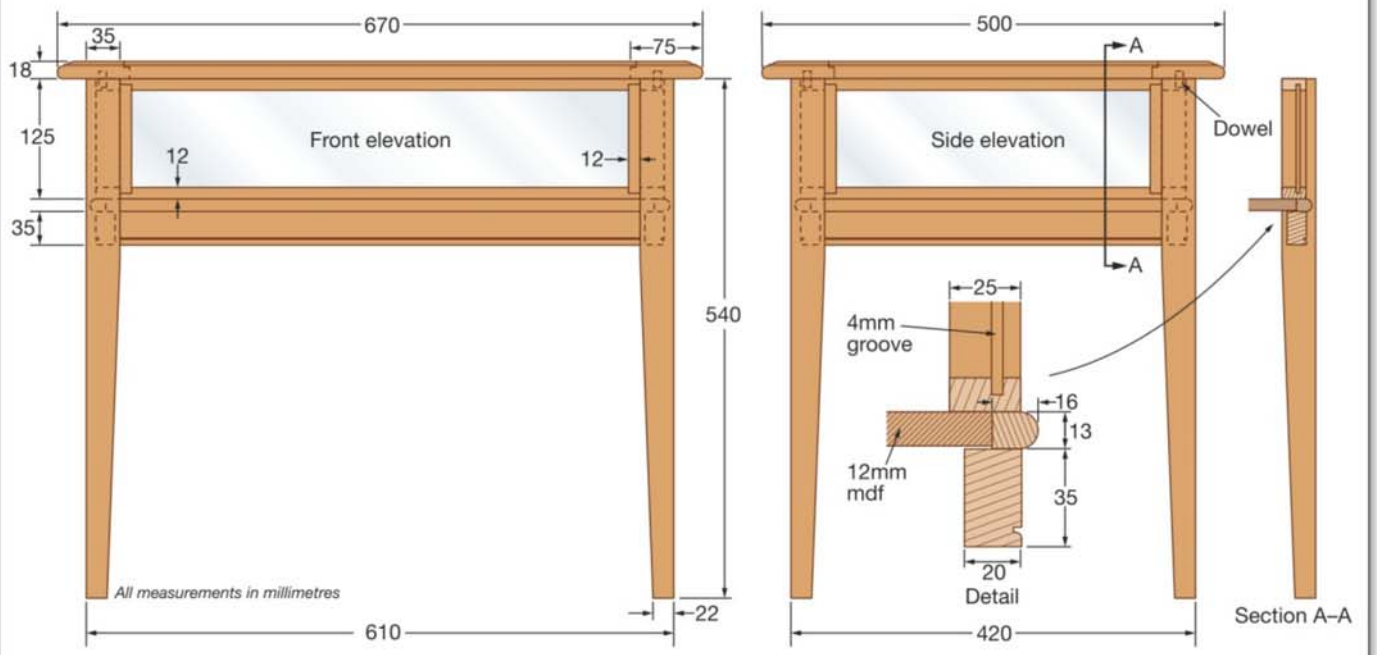
All my own work… almost

I don't normally like copying an existing design, but when it's a good one and there's a plan you can pay for I can't see any problem. I was more than happy to pay $3 for the download. I then modified the design and detail to create my own version, but it's still based around the very simple construction techniques shown in the original plan.

Start by preparing all your stock to size on the planer thicknesser

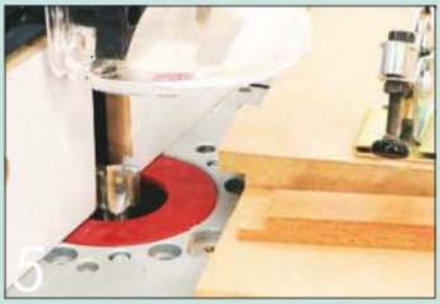
Cut matching components to length in batches; note my bench stop!

Fig 1



Make up a simple sliding jig with a toggle cramp to cut the rebates

Adjust the projection of the straight cutter to form the rebate you want



The cut goes through into the jig's sacrificial strip to minimise the risk of breakout

Run a groove down one face of each of the frame members to take the glass

Glue and cramp up one side of each frame and check that it's square

Drill and countersink a hole in each top corner so you can fit the rail later

Be aware that there's normally no problem copying existing designs provided they're for your own non-commercial use; there may be repercussions if you start selling them.

Top features

The top is designed to lift off for access to the display compartment below, but you could hinge it, or replace all the glass with solid panels for storage rather than display if you wish. The glass side panels are 4mm thick and the top 6mm. The top needs to be toughened for safety, and it's also better if its edges are polished. I sourced the glass at a local glass merchant, and the whole lot cost me just £30.

The project relies heavily on the use of the router table for much of the shaping and for producing the joints, but this ensures the consistency and accuracy that a design like this requires. Apart from this you won't need much more in the way of tools; just the usual basics and a few cramps. It really is that simple!

Preparing components

I used a timber called *gonçalo alves*, **photo 1**, otherwise known as zebrawood, to make the table. I prepared all the cross-sections on the planer thicknesser, but your timber merchant will do this for you if you don't have your own kit.

In any construction of this sort, it's essential that matching components are all exactly the same length. I use a heavy weight on the bench to act as a stop and then cut all the pieces together, **photo 2**; then they have to be identical!

Cutting rebates and grooves

To cut the rebated joints on the ends of the longer frame components, I made up a simple sliding jig that will run against the router table fences, **photo 3**. Fit a straight two-flute bit in the router and then adjust its projection to form the rebate you want, **photo 4**. The resulting cut should be neat and clean, **photo 5**. Note how the cut goes through into the sacrificial strip on the jig to minimise breakout on the back of the cut.

Lastly, run a groove down one face of each frame member to take the 4mm glass, **photo 6**. I used a 4.7mm cutter here to allow a bit of clearance.

Assembling the side frames

Now you can glue and cramp up one side of each frame only, **photo 7**. Don't put any glue on the other side so you can remove it to fit the glass later; it's in the cramps at this stage solely to keep the assembly square.

Once the glue has set, drill and countersink a screw hole in each top corner, **photo 8**, so you can attach the top edge of each frame later when you've fitted the glass.

Adding the beading

Prepare the lower beading next. For ease of machining I formed the rounded edges on a wider piece of stock, and then cut it down the middle on the bandsaw to the required width, **photo 9**. This is much safer than trying to rout very narrow sections.

This beading is then simply glued in place along the bottom of each side frame. Use a temporary spacer beneath it to get the right amount of projection. This has the effect of creating a rebate which you can see in the foreground of **photo 10.** When the rails that support the frames are added to the assembly, they will turn this rebate into a housing to accept the mdf base of the cabinet, as you can see in **photo 15**.

Tapering the legs

Forming the tapers on the two inside faces of each leg is another job for the router, using a template cut from a thin piece of timber or board. Use the template to mark out each leg and then cut away the bulk of the waste on the bandsaw, **photo 11**.

Use double-sided tape to stick the taper template to each leg in turn. Then position a trimming cutter in the router table with a top bearing so it can run against the template, **photo 12**.

Now just trim back the waste down the length of each leg to leave a neat taper. Then turn the template over through 90° and repeat the process for the adjacent face on each leg, **photo 13**.

Round over both edges of some wide stock, then cut it down the middle on the bandsaw

Glue a length of beading in place to the bottom edge of each frame

Use a template to mark the taper on each leg and cut it on the bandsaw

Stick the template to the leg and use a trimming cutter to clean it up

Move the template to the adjacent face of the leg and cut the second taper

Cut the lower rails to length and add a decorative bead along one face

Glue and cramp a rail to the underside of the beading on each frame to create a housing for the table's mdf base

Form a 6mm deep rebate and an edge profile on the top frame members

Mitre the ends of the top frame members and biscuit-joint them together

Build up the table by gluing and cramping the frames and legs in place

Drill a 10mm hole in the top of each leg and drop in a dowel marker pin

Centre the top frame on the table and tap each corner with a soft mallet to mark the underside

Drill matching holes for the dowels in the underside of the top frame and test its fit

Unscrew the top rail of each side frame and drop in the glass pane

Fitting the main rails

Next, prepare the lower rails that form the housing for the mdf base panel. These can be moulded or decorated as you wish; I simply routed a small bead along the outer bottom edge of each one, **photo 14**.

The four rails can now be glued and cramped in place to the underside of the beading, **photo 15**; again a spacer will help with the alignment.

Tackling the top

Preparing the material for the table top is the next machining job. You'll need a 6mm deep internal rebate for the glass top, and a profile of some sort on the outer edge of each length. I used a classic profile cutter to create mine, **photo 16**, and then cut mitres on the ends of each piece with the sliding mitre saw.

The mitred corners are best biscuit-jointed together, **photo 17**. You can either use a dedicated biscuit jointer or, as I did, a biscuit cutter in the router table. Glue and cramp up the top frame, check that it's square and set it aside for the glue to dry.

Building up the table

You can now start building up the table, gluing and cramping the various frames into position around the mdf base panel, **photo 18**. You'll need to cut a small notch in each corner of the base panel first to accommodate the legs.

When the assembly is complete, drill a 10mm diameter hole in the centre of the top of each leg and drop in a dowel marker pin, **photo 19**.

Centre the top frame on the table assembly and give each corner a sharp tap with a soft mallet to mark the dowel positions on the underside of the frame, **photo 20**. Drill matching 10mm holes in the underside of the top frame and glue the dowels into the legs only. Don't fit the top frame again until the glue has dried, or you might get it stuck. Then you can test its fit, **photo 21**.

Finishing touches

Before you fit the glass into the side and top frames, apply whatever finish you want to the table. I brushed on three coats of pre-catalysed lacquer and finished off with a wax polish. Then unscrew the top rail of each side frame and drop in the glass, **photo 22**. Replace the rails, polish the glass and fit the top frame and its glass pane.

All that remains is to line the mdf base. I chose black velvet to show off the silver collection to good effect, but other materials may suit what you want to display better.

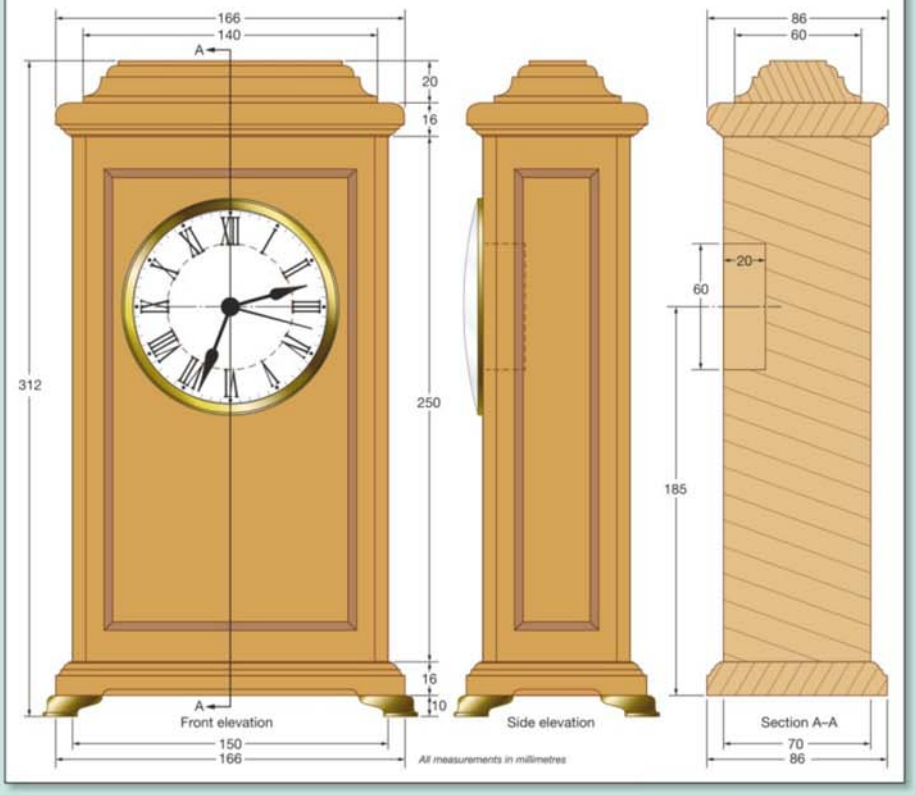
BY ROGER BERWICK

Time on your hands

Most of my work is commissioned, but every now and then I get asked to do a demonstration and this project is always a favourite. All it takes is three hours of your time...

Many years ago I used to demonstrate at woodworking shows for a well-known firm of power tool manufacturers, and the brief entailed taking a piece of 3 x 2in PAR softwood and slowly cutting it into ever smaller pieces to show the versatility of their saws. Unfortunately the end result of the demonstration was a pile of off-cuts good only for the woodburner!

Fig 1



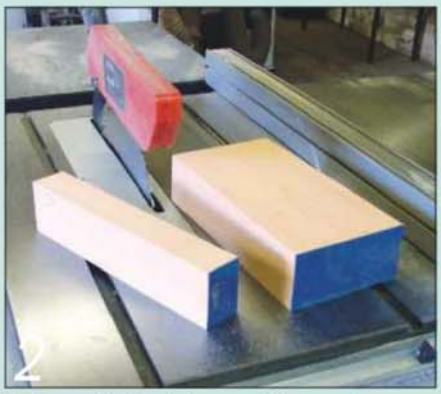
CLOCK CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
Body	1	250	150	70
Base	1	166	86	16
Top	1	166	86	16
Top moulding	1	140	60	20
Inlay beading	1	2m	4	

You will also need the following clock parts:
Roman quartz insertion movement (QI 103): £9.30
94 x 42mm brass loop handle (A 2080): £13.92
10mm brass ogee foot (A 2157): £13.20 for 4
See Further information for supplier details.

Check that the block for the body of the clock is free from obvious defects



Thickness the block down to 70mm and cut it to just over 150mm wide

I decided to alter this routine, and instead developed a 'block' mantel clock that could be made very quickly with just a basic set of tools. Having made several of these over the years, I now commonly call it my 'Three-hour Clock', as I can make one from start to finish in roughly that time, allowing for the odd cup of coffee or two in between! Let me take you through the construction process step by step.

Starting blocks

I've used a block of beech for this clock, but it will lend itself to any hardwood species you have to hand. With the clock components costing around £36 all in, it's quite an affordable little project.

Take the block of timber which will form the body of the clock, **photo 1**, check that it's free from defects and thickness it down to 70mm. Then cut it to just over 150mm wide using a table saw, **photo 2**, and plane it down on each side to a finished width of 150mm. You can do this by hand or machine, as you prefer.

Next, cut the ends of the clock block square to a finished length of 250mm, **photo 3**. I chose to do this on my radial arm saw, but it could be done just as easily using a mitre saw.

Room for movement

The quartz insertion movement needs a hole 60mm in diameter to be bored into the clock body. Depending on what tools you have, you can use a large saw-tooth Forstner bit or an expanding bit, **photo 4**. The movement actually requires 18mm of space behind the dial, so if you cut it 20-25mm deep this will allow more than adequate clearance.

Grooves for decoration

To add detail to the clock body, I use a 4mm router cutter to form grooves for a decorative band of inlaid veneer around the front and sides of the block, **photo 5**. I usually position this about 15mm in from the edges. Do a trial cut first in some scrap timber to ensure that the inlay fits snugly. If it's too loose, use a 3mm cutter and take a second, finer cut to provide a groove in which the inlay will fit tightly. The depth of the groove should be just less than the thickness of the inlay, allowing it to stand slightly proud ready for finishing once it's been glued in place.

After cutting the grooves with the router, square up the corners where they meet using a sharp chisel. A corner chisel is the ideal tool to use for this job, **photo 6**, but it's not essential.

Fitting the inlay

With the grooves all routed and the corners squared, cut your chosen inlay veneer into individual lengths for letting into each face. Cut crisp mitres at each end with a sharp chisel to form tight corner joints, **photo 7**.

Glue in the inlay section by section. Titebond Original adhesive is fine for this, but keep the quantity to a minimum to prevent it oozing out as you apply the inlay. Rubbing the inlay with the side of your thumb to generate a little warmth from friction soon speeds up the initial curing. Don't rub too hard, or you'll end up with blisters for your hard work!

PVA glue can be used equally well here, but will need a little longer before the glue cures enough to continue with the project. Then you can use a freshly sharpened cabinet scraper to level the inlay flush with the surface of the block, **photo 8**.

Fancy corners

I always like the appearance of columns on the corners of my clocks, and this one is no exception. I use a ¼in edge beading cutter, **photo 9**, and set it up to cut in evenly from each face. By taking a double cut, a neat rounded corner can be formed, **photo 10**. Whether you choose to do this freehand or in the router table is up to you. By the way, you can buy the perfect cutter for this job (catalogue no 666175) from the Axminster Tool Centre.

Topped and tailed

With the main body of the clock now completed, **photo 11**, you can turn your attention to the top and bottom sections. Start by machining two pieces of wood to a finished dimension of 166 x 86 x 16mm. This allows an 8mm overhang on each face of the clock body.

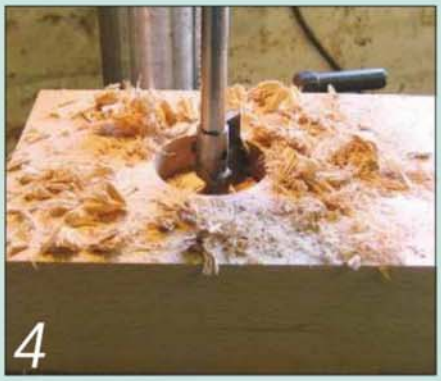
A moulding is required round one face of each of these two pieces. The moulded faces will meet the clock body when they're brought together.

I chose to use a classic ogee cutter for this, **photo 12**, but you could obviously use any cutter you like if you want to change the appearance of the clock.

Fitting the feet

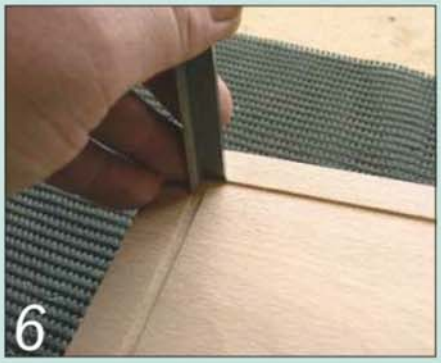
Take the piece which will form the base and mark the position on the underside where the brass feet will be fixed. Then cut a stopped chamfer between each pair of marks using your router. This cut will then effectively marry the curve of the brass feet to the wooden base, **photo 13**. You can now glue or screw the base to the bottom of the clock body, **photo 14**.

Cut the ends of the block square to a finished length of 250mm on the radial arm saw

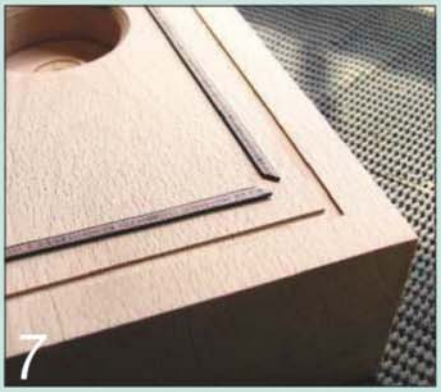


Use an expanding drill bit in a drill press to form the aperture for the movement

Rout grooves on the face and sides of the clock body to accept inlay stringing



Square the rounded corners of the inlay grooves with a sharp corner chisel



Cut a mitre on each end of the inlay strips, ready for gluing into the grooves

Glue the strips in place and flush them off with a sharp cabinet scraper

Fit an edge beading cutter in your router and set it to cut in from each face

By taking this double cut, neat corner beads are formed on the clock body

The clock body is now finished, and you can start work on the top and base

The top and base sections are the same size, and have an ogee edge moulding

Mark the positions of the feet on the base and cut a stopped chamfer between them

Screw the four feet in position and glue or screw the base to the clock body

Apply an ovolo moulding and then an ogee to the edges of the top block

Fit the handle to the top blocks and attach the completed assembly to the clock body

Apply the finish, fit the battery, set the clock and push the insert into its recess

Finishing the top

To complete the top, take the second piece of wood you moulded earlier and apply an ovolo moulding (or something similar) to its upper surface. This will form the first level of decorative moulding on the top of the clock.

Now dimension the top moulding to 140 x 60 x 20mm and rout a classic ogee moulding round it to form the second level of moulding on the clock head. Place it in position on the top to check its fit, **photo 15**.

Adding the handle

Cramp the top and the top moulding together and mark the positions of the two threaded handle rods. Drill clearance holes for the rods, apply a little adhesive to the mating surfaces and assemble them, passing the handle rods through the holes. Check their alignment once more, then tighten the nuts onto the threaded rods.

Drill two holes into the top of the main clock body to accept the ends of the threaded handle rods. These will make it easier to align the top assembly, which can then be glued onto the top of the clock body, **photo 16**. Knowing that the clock is likely to be picked up by the handle, I use quick-setting epoxy adhesive for this. Due to its short open time it doesn't need ages in cramps. Obviously if time is not an issue, then Titebond or PVA will work fine so long as it's left to cure for longer.

Finishing touches

All that is left to do is to apply a finish to the clock. Having rubbed down where necessary, I usually apply a couple of coats of cellulose-based sanding sealer, before a final coat of Mylands Light Brown Wax to bring out the shine and colour of the wood. You can choose an oil finish or French polish if you prefer. Then fit the battery, set the clock hands to the correct time, push the insert into its recess with the 12 at the top, **photo 17**, and you're done! And that's as long as it takes...

FURTHER INFORMATION

Clock components

- Martin H Dunn Ltd
- 01469 540-901
- www.martinhdunn.co.uk

Router cutters

- Axminster Tool Centre
- 03332 406406
- www.axminster.co.uk

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Precisa 6.0 PACKAGE 1	Professional	Inc 2m STC & TLE	3.0 / 4.0 / 240v 4.8 / 6.5 / 415v	110mm - 1400mm	£2330.00	£2796.00
Precisa 6.0 PACKAGE 2	Professional	Inc 2m STC - TWE & TLE (as illustrated)	3.0 / 4.0 / 240v 4.8 / 6.5 / 415v	110mm - 1400mm & 1100mm	£2495.83	£2995.00
Precisa 6.0 VR PACKAGE	Professional	As above and as illustrated plus integral motorised pre scoring unit. Cannot be retro-fitted	3.0 / 4.0 / 240v 4.8 / 6.5 / 415v Scorer 0.8 kW	110mm - 1400mm & 1100mm	£2830.00	£3396.00

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Clarke CON1020	1020w	3mm	£36.99	£44.39
Bosch PH020-82	680w	2mm	£64.99	£77.99
Bosch GH026-82	710w	2.6mm	£109.98	£131.98

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Ryobi ERT1400RV#	1400	0-55	£87.99	£105.59
Trend T5# ‡	1000	0-50	£159.98	£191.98
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BY MARK CASS

Round the block

The wheel of time turns full circle on a wood-block road. Mark Cass follows its path into South Wales and travels on to the grain's end

I spotted this old wood filled drain cover in Brighton a few years back. It was tarmacked over soon afterwards

As the pace of city life increased in the mid-19th century western world, so too did the amount of horse-drawn traffic on the roads… so much so, that at times the noise from countless metal-shod hooves and numberless iron-rimmed wheels rumbling over cobblestones, granite setts and newly-metalled road surfaces was close to unendurable.

On the road

Imagine, then, the relief for those who lived in the vicinity of the few roads that came to be resurfaced with wood-block paving. Admittedly not the cheapest of solutions, it was immensely popular, especially in noisy areas of high traffic such as railway station forecourts. The celebrated writer Edgar Allan Poe noted in his New York Broadway journal of 1845 that little had changed in road construction in 2000 years – since Roman times, in other words – and went on to praise the advent of endgrain wood-block paving, bemoaning the fact it hadn't yet been laid throughout the entire country. As a distractable creative, I think that he more than anyone especially enjoyed the relative peace and quiet that 'wooden' roads brought to a busy city.

Courses for horses

As well as bringing aural relief to much of the human population, wood-block roadways brought some badly-needed physical comfort for the mainstay motive power of the age, the horse. In late Victorian times, one Mr Hayward, a City of London surveyor, concluded after some lengthy observations that a horse could travel 132 miles on granite sett paving, 192 miles on

This endgrain staircase is still in everyday use at City College Brighton. Blocks are set in steel grid

Felled timbers are hoisted into the frame of the Lucas mobile saw mill

The logs are ripped down using the coarsest saw blade I've ever seen; it has only five teeth!

Preliminary sorting picks out rough blanks that won't make it to the next stage

Finished blocks are manoeuvred out of the way so the last load of rough blanks can be removed from the kiln

These blocks – now firewood – had to be trimmed off to allow the kiln doors to close

This Metabo chopsaw has cut its way through thousands of rough blanks, and is still going strong

asphalt and 446 miles on wood before dropping with exhaustion. I'm not sure if it was an entirely scientific experiment, but you get the idea. Apart from the cost, the only real drawback to wood-block surfaces is their tendency to become slippery when wet, something that used to be addressed by the application of sand or grit.

Block news

Although wood-block flooring has also been used in public buildings for well over a hundred years (and probably longer), it's only lately that it's enjoying a bit of a renaissance as designers and architects discover it all over again. Unbeknownst to many, since the 1920s this type of flooring has been employed extensively in engineering factories because it's not only extremely hard wearing; it's also a very forgiving surface when expensive metal components and the effects of gravity unexpectedly combine.

I've long been a fan of endgrain timber in the public flooring arena (see how many traces you can find in everyday life: you may be surprised). So when I recently received an email from a reader who mentioned he was involved in its production, I was very interested indeed.

Into the woods

Gavin Hyatt runs Wentwood Timber from his mill set in the depths of the 3000-acre Wentwood Forest, the last remaining part of former royal hunting grounds also known as The Great Forest of Gwent. When *The Woodworker* came to visit, he was nearing the end of a 65,000 block contract for larch flooring at the Hexham works of Egger UK, one of the leading manufacturers of wood-based panels in Europe.

As well as supplying timber products to public and trade alike, Gavin shares his rambling woodland premises with a variety of other woodwork-related small businesses – encouraging to see, and the sort of thing that reaffirms one's faith in the economic future of the UK.

Block and tackle

Although I've been in the trade myself for nearly thirty years, I never tire of watching yet another variant of the age-old process of converting timber into useful and/or decorative items. Manufacturing the endgrain blocks is quite a straightforward process really, but one which must be carried out with discipline, accuracy and constancy, not to mention regular and careful monitoring of machines, blades and length stops to ensure that the end product is consistently uniform.

For this job, all of the timber – over 100 tons of it – was sourced locally from Andrew Bronnen & Co in Llandrindod Wells. Just over a quarter of it was machined on the Australian Lucas mobile mill at Gavin's own yard, and the rest a few miles north at the Cilfiegan Sawmill near Usk. It looks like quite a wasteful process on the face of it, but in reality it utilises the smaller diameter trunks which are of less commercial interest to the average large timber company.

Oven temperature

The first step of the process is rip-sawing the logs into rough rectangular sections. These are then coarsely cut into suitable lengths, neatly stacked up onto pallets, and then trundled into the kiln, a job that foreman Andy Beese admits to being 'good fun'. How could it not be, what with the forklift and all?

For each batch, the kiln has to be kept permanently heated to 60°C for at least four weeks. This ensures that the moisture content will be reduced from 60 per cent down to the target of 12 to 14 per cent, a process that burns up to £1250 worth of oil a month, especially during an extremely cold winter! Economically, it's essential that not a cubic centimetre of space is wasted, even if it means trimming off a few protruding ends with a chainsaw to get the doors closed!

When the stacks are finally wheeled out of the kiln, they're in need of a secondary lengthening before the process can continue. Over in the machine shop, a simple end stop on a mid-range Metabo chopsaw ensures that everything finishes up an identical length, and a new stack steadily grows, ready for the next stage.

Best face forward

All woodworkers know the importance of Face and Edge; nowhere is it more important than in a production run like this one. Consistency is all, and at Wentwood Timber this is achieved by the use of two venerable planer thicknessers. First, a side-by-side Wadkin prepares the face on the first pass, then the edge on the next – at exactly 90° – before a massive 30in White thicknesser ensures that the exact dimensions of what will be the length and breadth of the blocks are reached in two successive operations.

The final stage, and one which had me holding my breath as I watched, involves loading three prepared lengths onto the Dominion cross-cut table and cleanly cutting multiple sets of blocks to their exact thickness, courtesy of an accurately placed stop. One man loads and cuts, the other collects and stacks, but it's the sort of thing that requires perfect timing and your co-worker's understanding – not to mention trust!

All facing and edging takes place on this rock-solid Wadkin planer...

...before each length takes its final pass through the massive White thicknesser

High standards

Quality control, in the shape of Gavin wielding a digital vernier gauge, ensured that the each batch was identical to the previous one – in this case, 110 x 70mm and 75mm thick. Any reader who has laid even a small amount of block or parquet flooring will know just how important it is for every piece to be exactly the same size. A discrepancy of as little as a millimetre can make your pattern run out of true, often with disastrous consequences.

Needless to say, no such problems befell Gavin's job, and I've every confidence that the installation at Egger's Hexham works came out just fine.

The Dominion cross-cut table is the blocks' last machining stage

Tread softly...

While it's unlikely that we'll be seeing endgrain blocks laid as new road surfaces in the next few years, there's every likelihood that we'll find them under our feet from time to time, especially if our paths take us into up-market shop and office developments, not to mention places of industry. So, watch your step in the future: you may be walking on the past.

Thanks to all at Wentwood Timber, Dylan Jones at Coed Cymru, and Tregynon Shire Oak in Powys.

The finished product – one of 65,000 – is destined for Egger's factory floor

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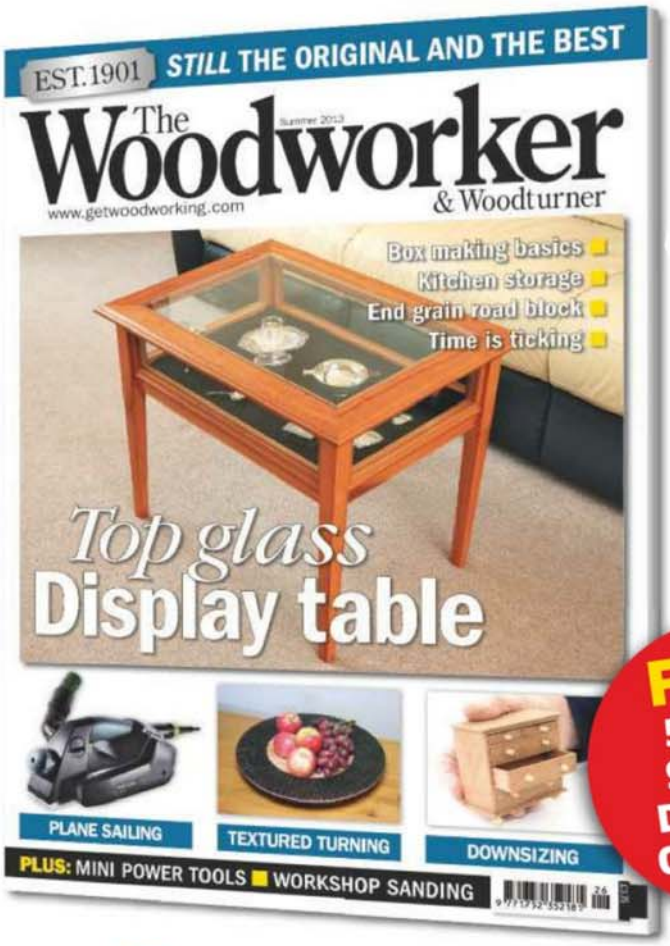

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BY IAN WILKIE

Five-drawer mini

A MINIATURE WORKSHOP

On pages 72-74 of this issue, I've grouped together five pieces of equipment made by the precision German toolmaker Proxxon which I think will be of interest to modellers working wood in miniature. These tools all tested well, and in this article I'm going to put them to work and show how I used them to make a piece of 1:12 scale doll's house furniture. I'll also explain various useful tips and jigs along the way.

Furniture and fittings for doll's houses are made to a universally adopted scale of 1:12, so a real-life foot becomes a doll-house inch. This little piece is a faithful copy of a classic Victorian five-drawer chest

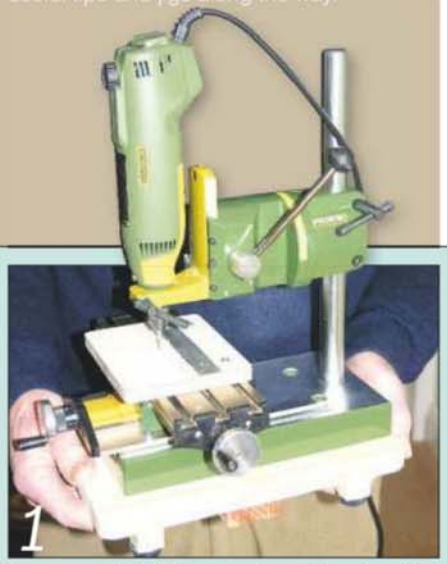
Making furniture and fittings in this scale is great fun. Anyone who has visited the Miniatura Dolls House Show at the NEC in Birmingham (see the panel on page 36 for more details) or other similar exhibitions will be aware that lots of people are producing some very impressive work in this field nowadays.

The woodworking skills needed are precise, as for any project, but as large machines, roomy workshops and expensive materials aren't required, this suits many people very well.

Setting up shop

I started the job by setting up the Proxxon drill, the drill stand and the KT 70 compound table ready for use. The whole assembly can be lifted up with ease to move or store it, **photo 1**, and the drill can also be released easily for freehand use.

I mounted my drill stand on a pine base with four rubber feet on the underside so it stands securely on a bench, **photo 2**. You'll need two M6 bolts to attach it; although the stand is drilled for mounting, the bolts aren't supplied with it.

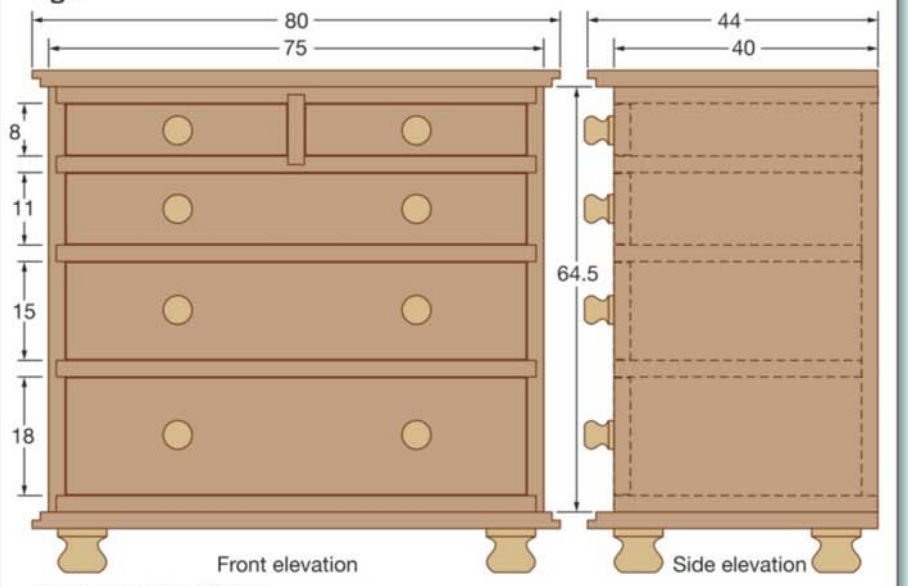


I've mounted the kit on a softwood baseboard for ease of movement and storage

The four rubber feet on the underside ensure that is sits squarely on the bench

The batten across the underside allows me to mount it in a vice if required

Fig 1



All measurements in millimetres

MINI-CHEST CUTTING LIST

All dimensions are in millimetres

Part	Qty	L	W	T
Decorative top/bottom	2	80	44	2.5
Carcase top/bottom	2	73	40	2.5
Carcase 'shelf'	3	73	37.5	2.5
Side panel	2	64.5	40	2.5
Drawer divider	1	37.5	11	2.5
Back panel	1	73	59.5	2.5
Top drawer front/back	4	33	8	2.5
Top drawer side	4	35.5	8	2.5
Top drawer base	2	30	32.5	1.5
Second drawer front/back	1	69.5	11	2.5
Second drawer side	2	35.5	11	2.5
Third drawer front/back	1	69.5	15	2.5
Third drawer side	2	35.5	15	2.5
Fourth drawer front/back	1	69.5	18	2.5
Fourth drawer side	2	35.5	18	2.5
Lower drawer base	3	66.5	32.5	1.5

You will also need some fine-grained hardwood off-cuts to make the drawer knobs and the bun feet.

My routing table has a notch 8mm wide in its aluminium angle fence

Two T-bolts supplied with the KT 70 table hold the router table in place

My base has a batten fixed across the underside which can be gripped in a vice, **photo 3**. This raises the equipment to a more comfortable working height.

Making a routing table

For this project the equipment is used mainly for routing, so the first task is to make a small routing table complete with a fence to fit on the compound table. My table is 120mm long and 100mm wide. It's cut from a 12mm thick plywood offcut with a smooth melamine surface.

The fence is made from a length of aluminium angle with an 8mm wide slot in the centre, **photo 4**. This arrangement gives a continuous line along the aluminium face so the wood can slide along unimpeded. A pushstick can be used to guide the wood and press it against the fence.

The routing table is secured to the KT 70 table using the two T-bolts which are supplied with the latter, **photo 5**. The routing table can then be moved in either direction to position the cutter exactly where it's needed by means of the two calibrated control knobs on the KT 70 table, **photo 6**.

Raw materials

For this project you'll need small quantities of fine-grained wood. Unless you have equipment able to cut, plane and thickness suitable hardwood down to 2.5mm, you'll probably opt to buy what you need.

I purchased the wood I used from my local model shop, and was pleasantly surprised at the range and quality on offer. I decided to use mahogany for the chest carcass and thinner sycamore for the drawer bottoms, **photo 7**. Each sheet measured 1 metre x 100mm. You'll need one sheet of mahogany 2.5mm thick and half a sheet of sycamore 1.5mm thick. If you have any difficulty in sourcing your material, similar wood is available by mail order. See Further information on page 36 for details.

Starting work

Next, use some offcuts to make a simple bench hook. Then cut one piece from the 2.5mm thick sheet to make the sides of the carcass, **photo 8**. This will be cut in half after the rebates and grooves have been routed in it. Use a fine-toothed saw, such as the Veritas Gent's shown here.

True up the cut edges. A Permagrit block or a small block or edge plane is good for this, **photo 9**. I tested the Veritas miniature edge plane shown here in the July 2012 issue of *The Woodworker*. It slides along a straight edge with ease, **photo 10**, and stays tight against the wood.

You'll need to measure and cut each piece accurately if the carcass is going to go together neatly, so a small engineer's square comes in very useful, **photo 11**.

Feeling groovy

Fit the drill with a parallel router cutter and slide the workpiece against your table fence to rout grooves and rebates 2.5mm wide and 1.5mm deep at the spacings shown in **fig 1**. The drill rotates at 20,000rpm, which is more than adequate for a small routing job such as this, **photo 12**.

Saw the piece for the sides in half after the grooves and rebates have been cut, **photo 13**. Doing it this way ensures that the sides will match perfectly.

Going horizontal

Cut five pieces for the full depth rails, the top and the bottom and true them up. Measure the halfway position on two of the pieces, rout a central groove for the divider between the two top drawers and cut a piece to slide between the grooves.

Cut and true up a back panel to fit snugly into the rebates. After a dry run to make sure everything goes together well, glue up the carcass using a fine paintbrush to spread a little PVA adhesive into the rebates and grooves. Take great care to prevent the glue from squeezing out and staining the wood. Cramp up the assembly, **photo 14**, check that it's square and set it aside to dry.

Making the drawers

Each drawer is a simple box with its sides set into a rebate at each end of the drawer front and back. Cut strips for the drawer sides (note that the drawers are all different depths) and rout a 1.5mm square rebate along their bottom edges to receive the sycamore base panels, **photo 15**. It's easier to do this working on a longer strip of wood; however, you'll have to cut the drawer corner rebates individually.

Assemble each drawer and check it for squareness. Then cut a bottom panel from 1.5mm thick sycamore to fit each one and glue it into its rebate, **photo 16**.

The Proxxon alternative

Turning the knobs was quite a challenge! If you have a woodturning lathe, you can hold a suitable length of wood in Sorby Zero chuck jaws or in a collet chuck. However, the aim of this article is to show that with a little ingenuity all work for the project can be carried out using the Proxxon set-up. The most difficult question is how to hold the wood when the maximum diameter the drill chuck will take is 2.3mm. The following

The router table can be moved precisely in either direction to position the cutter

Mail order suppliers sell small sheets of wood in a range of thicknesses

Cut a piece of 2.5mm thick wood to make the sides of the carcass

True up the edges using a sanding block or a small block or edge plane

The Veritas miniature edge plane shown here slides along a straight edge with ease

A small engineer's square is useful for checking that right angles are true

Slide the side panel against the fence to cut the grooves and rebates

Then saw the piece in half to produce two perfectly-matched sides

Cut the five horizontal pieces and the short divider to size and assemble the carcass

Cut a strip for each set of drawer sides and rout a rebate along the bottom edge

16

Assemble each drawer box, check it for squareness and glue in its base panel

17

Mount the drill horizontally and fit a home-made wooden tool rest in the machine vice

18

Use a cut-down wood screw to make a small screwchuck for holding the knob and foot blanks

19

Turn each blank to the shape you want and add a short spigot

20

Glue and cramp the decorative top and bottom panels to the carcass and fit the feet

21

Drill holes in the drawer fronts and glue the knob spigots in place

FURTHER INFORMATION

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- 0208 761 4244
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steps describe the method I came up with.

First swing the drill stand so it's holding the drill in the horizontal position. Place the machine vice to the right-hand end of the compound table and bolt it down with the fittings provided. Make a temporary toolrest from a piece of wood or scrap metal and cramp it in the vice so that the top edge is just below the centre line of the drill chuck, **photo 17**.

Making screwchucks

Find some steel woodscrews in your collection with an unscrewed parallel shank section 2.3mm diameter and about 14mm in length. Cut off the head with a hacksaw and file off any remaining burr; this is the end to go into the drill chuck. Cut off the other end to leave a 6mm length of screwed thread; this is the end to hold the wood blank. **Photo 18** shows these three stages.

Carefully and accurately prepare eight blanks 18mm long and 8mm square in a fine-grained hardwood such as boxwood, lemonwood or pear. Drill a hole 2mm in diameter and 6mm deep in each blank to take the screwchuck; see **photo 18** again.

I made eight of these DIY screwchucks so the blanks could stay on the chucks in case they needed alteration, but you could manage with fewer.

Turning time

Start with the eight drawer knobs. Turn each blank to form a knob with a maximum diameter of 4.5mm and with a short spigot 2mm in diameter, **photo 19**. Pay particular attention to the flange because it needs to fit flush with the face of the drawer front.

Ideally the turning should be carried out with miniature turning tools, but if you don't have any of these it is feasible to produce adequate little knobs using Swiss files. This method worked surprisingly well; the stand and drill were very rigid. Use the lowest speed on the drill – 5000rpm – to avoid burning the wood.

Use the same technique with larger blanks to turn the four bun feet about 8mm in diameter, again with a short 2mm spigot.

Finishing off

Cut the decorative top and bottom pieces of the chest to size, rout a decorative moulding on their front and side edges and glue and cramp them to the carcass. Then drill 2mm diameter holes for the bun feet spigots in the underside of the bottom piece and glue them in place, **photo 20**.

Finally, drill 2mm diameter holes in the drawer fronts and glue in the knob spigots to finish the project, **photo 21**.

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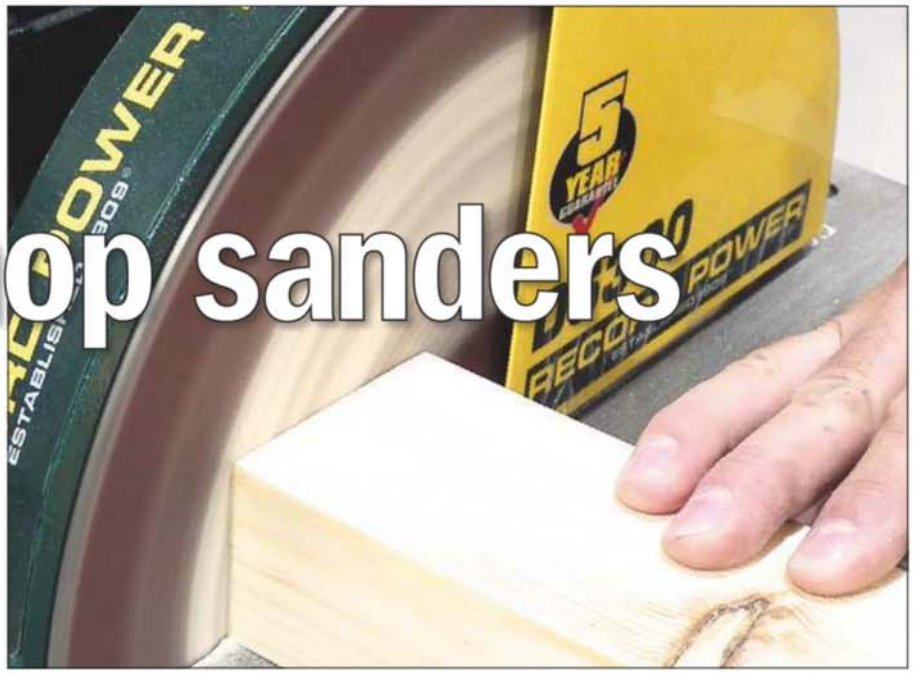

We've moved through the workshop with lightning pace looking at the machines for cutting, preparing and jointing stock, so as this series nears its conclusion, the machines that do the fiddly bits come next

While sanding is not my favourite chore in woodworking, it's essential that it's done to a standard; poor finishing will stand out no matter how good the actual woodworking is.

While hand-held sanders have their uses, predominantly as tools for initial preparation or final finishing, the more specialist models designed for workshop use are often overlooked.

You may be thinking that you don't need a static machine of any description, but once you've had one you'll wonder how you ever managed without it. So let's have a look at some of the main contenders.

STAND-ALONE DISC SANDERS

Compared with disc-and-belt sanders (see overleaf), stand-alone disc sanders tend to be of a good entry-level build quality. That's evident from the bodywork of these models; they usually have a heavy cast construction, and more importantly a much more robust table and a superior mitre fence.

The right-hand side of the disc sometimes comes with a plate shrouding the right side of the disc to prevent work being addressed to the upstroke side, **photo 1**. These plates can be removed to get a wider cut if you're confident enough to work without it, but with the diameter of these normally 300mm, the safer side of the disc still gives a decent working surface area, **photo 2**.

The weak point on many disc sander tables is the scales to read against. It's often the case that the very basic models have equally basic protractor scales. If you alter the table position frequently, it's worth looking out for tables that have a stop for the 90 and 45° settings (at least) so you don't have to constantly check with squares each time, **photo 3**.

Quality sanding

A recent innovation, available from the Axminster Tool Centre, has the table fixed to a sturdy cast iron bracket. Bevel work is achieved by swinging the motor through a fabricated cradle. This is about the best 300mm stand-alone disc sander I've seen, with indents for common angles, and a superb table and mitre fence, **photo 4**. Although aimed at the trade market and priced to match its build quality, it's a flawless performer in every way.

1 The right-hand side of the disc is often shrouded for safe practice

2 Even so, the disc is still capable of sanding good-sized workpieces

3 A good quality table should have decent adjustments and solid locking

4 This Axminster sander has a unique pivoting motor and static fence

1 Entry-level belt and disc sanders can be basic, but are still remarkable useful

2 External curved work on the disc is easy to do, even on a small wheel

BELT AND DISC SANDERS

If your budget is limited, this type is likely to be your first port of call. The machine usually combines a 150mm disc sander and a 100mm belt sander, **photo 1**, and offers a good range of functions. External curves can be sanded and shaped on the disc, **photo 2**, or on the belt, and internal curves over the end of the belt, **photo 3**, as long as they aren't tighter than the drive roller diameter.

Fences and tables

The disc sander is the best choice for finer work as you have a table and mitre fence that gives you the opportunity to set things up accurately. However, these entry-level machines often have an inferior plastic mitre fence that can be a poor fit within the table slot, **photo 4**, so repeatable accuracy isn't its strong point.

Some tables are better than others in the way they hold the work. They will tilt so you can sand compound work, **photo 5**, but the table is often held on just one side, which can lead to some flex within it. A better option is the double clamp point table, held at either side to give a solid work surface.

3 Internal curves can be shaped over the rounded end of the belt

4 Accessories such as mitre fences on budget models are often of inferior quality

5 You need a solid table and fence for consistently accurate work

6 Safe practice means the work is normally held to the left (downward-moving) side of the disc

Sanding on the downside

Although the 150mm disc diameter sounds reasonable, you normally only work on one side of the disc where it drops through the downside of the table. Working on the opposing side will lift the work up, and on some models you will find a simple plate to prevent you working on the wrong side. You can, with care, work the full width of the disc, but the best results are achieved in the half-disc manner, **photo 6**.

Switching to the belt

Working on the belt side of things can be pretty rudimentary, with just an angled steel backstop against which to hold stock, **photo 7**. It helps keep things safe and prevents the work from being grabbed by the belt and pulled from your hands.

The backstop can come off for longer work to pass over, and on some models you can lift the belt to the vertical position and relocate the table to give a bigger work area and take advantage of better support and the use of the mitre fence, **photo 8**.

7 The belt sander normally has a simple metal backstop to restrain work safely

8 Some models allow the disc fence to fit to the belt for extra diversity

1 If you own a pillar drill, you can use these small drum sanders as bobbins

2 Allowing the use of any abrasive makes these Carroll drums a decent investment

3 A pillar drill needs a table that allows the drum to pass up and down through it

4 Alternatively the table can be moved to the side for freehand sanding

5 An oscillating sander has interchangeable bobbins and is very fast and efficient

6 Cramp a back fence on a pillar drill table to carry out uniform thicknessing

BOBBIN SANDERS

Disc and belt machines will sort external work easily, and some internal curves as well, but the bobbin sander (sometime known as an oscillating spindle sander) with its interchangeable sanding sleeves will do both internal and external work.

There are sleeves and drums available for spindle moulders as well as pillar drills to give you the bobbin sander function, with small budget sets from as little as a tenner, **photo 1**, or more expensive types that take standard abrasives from the likes of Carroll Sanders, **photo 2**.

Sanding with a static drum works well initially, but the drum will soon clog up as you use the same spot. In the case of a pillar drill set-up, you need a table for the drum to drop through, **photo 3**, to allow work to be sanded without leaving a ridge. The alternative is to swing the table aside, **photo 4**, and to work freehand.

Oscillation is better

However, the dedicated bobbin, with its oscillating up-and-down movement working almost like a random orbit sander, is the most efficient choice if you work curves a lot. With the grit on the sleeves rotating as well as moving up and down, sometimes engaging the work and sometimes moving above or below it, the cutting speed is increased and clogging is lessened.

Entry-level bobbin sanders are all pretty much of a muchness, with an almost identical style of a cast iron table, **photo 5**. They're supplied with a set of sleeves ranging from around 19 to 75mm diameter, allowing a decent range of internal curves to be worked.

Sanding to thickness

The bobbin sander, or a drum in a pillar drill, can be set up with a suitable back fence such as a batten clamped to the table, **photo 6**, to allow a thicknessing function. This is ideal for sanding a quantity of stock to a uniform dimension, or for sanding and thicknessing veneers.

1 A drum sander works like a thicknesser on flat frames and panels

DRUM SANDERS

Moving to the more specialist end of the spectrum, these are industry-standard machines that have eventually filtered down to more affordable levels for use in smaller workshops. Whereas other static machines offer some flexibility in what they can do, the drum sander is designed simply to clean up flat work, **photo 1**, and is especially suited to large flat panels, doors, table tops and the like.

It works almost like a thicknessing machine, with an overhead sanding drum rotating against the work as it passes through. You can indeed finish a piece to a set thickness on this machine, but it's better suited to getting faces uniform as well as finishing work.

2 Abrasives are economical – a strip simply wound onto the drum

The drums are normally wound with a strip of abrasive cut from a roll which is quite economical, **photo 2**, with no extra cost for specialised sleeves or abrasives.

ALTERNATIVE SANDERS

While most of the drum sander options for pillar drills are hard-backed, there are pneumatic types that you inflate or deflate with a pump. By varying the pressure within them you can alter the way they sand, making them soft and flexible for contoured work, or harder for a flatter finish.

Kirjes offer a range of different profile inflatable drums designed for such contour work, **photo 1**, and these are well suited for woodturners and carvers especially. They can be used with a flexible shaft for sanding awkward-to-reach areas, **photo 2**.

1 Small pneumatic drums can be inflated to different pressures to suit the work

2 A flexible shaft and shaped sanding pad are useful for fine detail work

ABRASIVES

Abrasives for all the machines here, whether disc, belt or bobbin are available in many grits for fast stock removal or fine finishing. However, where the belt and bobbin abrasives can be swapped easily enough when moving through the grits, some of the disc sanders have a flat aluminium platter that takes self-adhesive abrasives. Swapping discs can prove expensive as they can be tricky to get off without damaging them.

A few sanders are now available with a Velcro-type hook backer stuck to the platter, allowing loop-style abrasive discs to be used, **photo 1**. Although these discs are more expensive than their sticky-backed counterparts, they're both fast and economical; you can swap a disc in seconds, but there can be a downside.

Pushing hard into the disc can lead to slight 'give' as it compresses against the platter, resulting in minor rounding over of edges of the workpiece, although this is more prevalent towards the outer edge of the platter. As with hand-held sanders, letting any sanding machine do the work rather than leaning on it hard will give the best results.

Velcro-backed disc abrasives are easy to swap as well as being long-lasting

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BY MICHAEL FORSTER

Lifting the lid

You might think that a box is just that: four sides, a top and a bottom. But it's what goes inside that turns it into something special. Here's a look at what can happen when you lift the lid...

Over the last couple of months, I've tried to give you a flavour of the scope offered by the craft of box-making, and the simplicity of a basic box in terms of the materials, kit and skills needed. Now, I'm going to play around with the interior to make that same box a little more special, and also introduce a slightly different approach to design that gives a classier appearance to the whole box.

Inside out

Firstly, I'll dress up the interior of my little box – and at the same time make provision for the simple drop-in lid. If you prefer to leave the inside of your box plain, then the lid can still be fitted by running a rebate all round the underside to locate it on the top of the box carcase, **photo 1**.

Fitting out a box interior is of course a functional consideration, but it also has a huge psychological element as people begin by admiring the outside – the natural beauty of the timber, the quality of joints and finish – and then become curious to see what's within. It's not unknown for someone to gasp out loud on opening a box to reveal an opulent interior that was actually remarkably simple to achieve. The reward-to-work ratio is excellent!

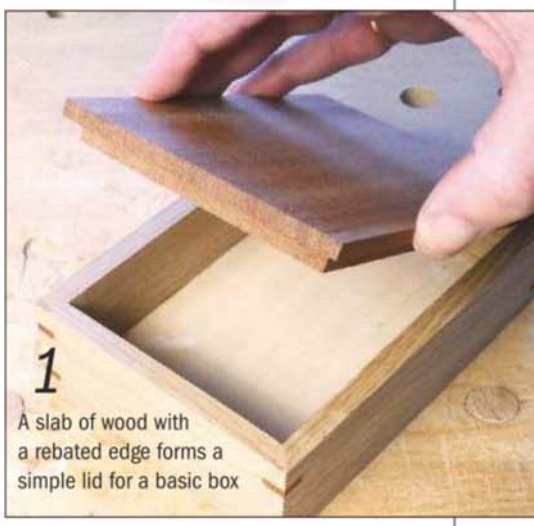
Double decker

This particular example houses a couple of packs of playing cards, so it needs a perfectly-centralised divider across the middle. This is remarkably simple to do with the minimum of measuring and calculating. A similarly configured box could also be used for jewellery or other small items.

Of course, the divider could be housed directly into the sides of the carcase at the construction stage. However, as I planned on fitting contrasting wooden linings anyway, I might as well use those to hold the divider in place – see **photo 2**. It simplifies the whole process, especially the centralising of the divider.

Minimum thickness

Begin by preparing some timber about 6mm narrower than the internal depth of the box, and 3mm thick. If you're using a powered thicknesser to do this, you'll need the supplementary thicknessing table I mentioned last month. Using a timber that contrasts with the main carcase will give a very pleasing effect. The linings will need to be hand-finished on one face and one edge, and the divider on both faces and one edge, in order to remove planer ripples.



1 A slab of wood with a rebated edge forms a simple lid for a basic box

Perfect mitres

Now, cut the pieces just a fraction too long and use the bird-house jig on the shooting board to mitre the ends to a push fit, **photo 3**. Try each one in position on its own, but don't insert them all together yet.

Tackle the divider next. Cut that piece just over length and shoot the ends square on the shooting board, continuing to plane until it's a tight push fit across the box. Now take the two long liners, and cut them in half. Taking one pair at a time, place the halves together on the shooting board – aligning the mitred ends carefully – and shoot back the cut ends, **photo 4**, repeatedly trying them with the divider until a close push fit is obtained. The divider will now be perfectly centralized.

Another way is to fit dividers and form a recess for the lid at the same time

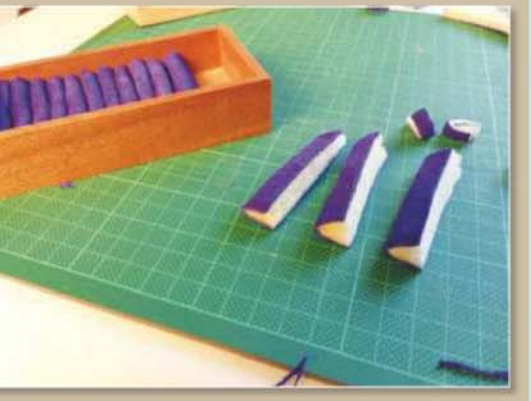
Mitre the linings and shoot them to length using the bird-house jig

Cut the longer linings in half and shoot them together until the divider is a snug fit

Stick a piece of pig suede onto stiff card to form the bottom lining

RINGING THE CHANGES

A box just like this but a little deeper could be a ring box, and a very professional looking ring rack is much easier to make than its impressive appearance would suggest. I've found it best to make the half-round cushions individually and then, like the other components they can be trimmed to a push-fit to hold themselves and each other in place. All this push-fitting of course means that nothing is set in glue and the box can be easily adapted later in its life to a different use.



6 Loosely arrange the lengthwise linings and the divider in the box

7 Gently but firmly push each pair back until they snap into place

Safety in numbers

Assuming that the box probably isn't clinically precise in its squareness, it's safest to number the liners, with corresponding numbers low down on the internal sides, to ensure that they go back in the right order after finishing. This is best done before they are installed.

Apply the finish to the show surfaces of the internal pieces and, if you haven't already done so, to the inside of the carcase which will show above the linings. With all this done we can move on to the final stages.

Coming together

Now's the time to line the bottom of the box, **photo 5**. Cut a piece of card to just a shade smaller than the box interior and apply two parallel strips of double-sided sticky tape. Carefully apply a piece of felt, suede or velvet to the card. Cut it slightly too big, and trim it back with a scalpel or craft knife to the edges of the card. This can now be placed into the box and the linings and divider fitted on top, **photo 6**.

There should be no need for glue here; friction should hold the whole thing together nicely, **photo 7**. However, if the cut linings on either side of the divider are a little loose and threaten to move, then simply apply a dab of varnish to their backs before assembly, **photo 8**. Take care to keep it away from the bottom edge to avoid marking the fabric. However, it's better if this can be avoided in case you want to refit the interior for a different purpose later.

This lining arrangement will provide support for the lid, **photo 9**, so there's no need to rout a rebate for it. In a deeper box, the lining can also support a lift-out tray which really makes it look classy.

Adding dividers

For a larger or more elaborate box, you can make a grid of multiple dividers using simple half-lap joints. Begin by shooting the ends until each divider is an easy sliding fit between the linings, and then cut the half-laps to form the grid which can be simply pushed into place. I always align the pieces in the vice and cut out the joints together. It's not only quicker this way; it's actually easier as the saw can be accurately sighted to a longer knife-line.

Integral lids

Using these general methods in different permutations, you can fit out a whole variety of box interiors. Now let's look at the matter of lids. Here's another lift-off lid, but with a very different look about it.

A very neat way of making a lid is to include it in the box carcase itself and to separate it later. If this is a completely new idea to you, you could make a slip-over tissue box cover to start with, **photo 10**. This employs all the same techniques except for separating the lid, as the bottomless box simply slips over the tissue box, so it's a good intermediate stage to tackle. However, before launching into that it's worth thinking about the matter of timber movement, which is particularly relevant here.

How timber moves

By far the greatest movement in timber is across the grain, with negligible change occurring lengthways. So in any frame-and-panel construction there is potential for conflict between the wide panel which wants to flex laterally and the rail or box side across the end which will resist it.

The answer is to set the panel in grooves cut slightly deeper than necessary to allow for some movement, and to leave it unglued. To avoid the panel slipping sideways if it's a little loose, you can use a tiny dab of glue in the centre of each end. This will secure it while allowing expansion to either side of the centre line.

In the groove

Begin by preparing the lid panel to the internal dimensions of the box plus the thickness of one side/end. This should mean that the panel sits centrally with an even margin all round.

I use a router table for cutting the grooves, and begin by experimenting on scrap to get the grooves to line up nicely. Essentially the edge of each piece forms a tongue which goes into the opposing groove, so clearly the groove needs to be set in from the edge by its own width. Play around with scrap until the two pieces slot nicely together, and then rout the grooves in the sides and the lid panel edges, **photo 11**.

When you're cutting them, position the lid panel with its underside against the router table fence, and each side with the inside against the table and the top edge against the fence. Run each edge through in turn, progressively deepening the cut until the grooves are just a fraction more than half the thickness of the box sides. This will ensure a bit of room for movement.

With a plane, clean up the internal surfaces and top edges of the carcase and the edges of the panel, and run a chamfer around the top edge of the latter to soften it. Consider whether you want to apply the internal finish at this stage, and then glue up exactly like the previous box but

8 The box is now ready for the widthwise linings to be inserted

9 For this two-pack playing card box I laminated the lid to mimic the interior

10 A tissue-box cover needs no separate lid. The hole is made with a Forstner bit and router

11 For an integral lid, the panel floats in interlocking grooves

12 Before assembly, run a small chamfer round the top edge of the lid panel

13 Carefully feed the complete box at a decreasing angle into the bandsaw

14 A jack plane is good for cleaning the sawn edge as it can bridge the box sides

Another approach is a simple sanding board. You'll need several with different grits

Mitred linings project to form a rebate that will lock the lid in position

incorporating the lid panel. If making a box with a bottom, you'll now have a completely sealed unit with no way in, **photo 12**.

Off with his head

Separating the lid can be done in various ways. A fine saw can be used – a rip-cut dovetail saw held at a low angle is ideal – or a very narrow router cutter, taking progressive cuts with the work running against the fence. Use a piece of scrap to ensure that no breakout happens at the ends to spoil the edge of the box or lid.

Perhaps the easiest way to separate the lid is at the bandsaw (as long as the machine is well set up), and here's a tip I picked up from Andrew Crawford at his Church Stretton workshop. The blade is under most strain at the beginning and end of the cut, as it has to saw through the entire depth of the box – effectively like resawing a 100 or 150mm board. Then, as the saw breaks through the inside of the box end, the load suddenly becomes much lighter. This can cause the blade to deflect slightly at the start and then straighten up, leaving you with an uneven line around the box lid.

Instead, use a deep fence on the bandsaw and feed the box in at an angle to start with, **photo 13**, gradually reducing the angle to lay the box flat after it's passed the crucial stage. Then, before the blade reaches the other end, begin to raise the box again. This way, the blade never has to cut through much more than twice the thickness of the sides and is under relatively even strain throughout the process.

A clean break

Having separated the lid, it's time to clean up the cut edges and ensure that there is a close, even line all round the break. Traditionally this is done with a long plane such as a jack or try plane, **photo 14**, which can bridge across the sides of the box on the skew and ensure flatness. This is quite a skilled process but is easily learnt.

Andrew Crawford (once again) has circumvented the whole issue of traditional skills with edge tools by developing the use of abrasives as precision tools. A simple sanding board – a piece of 18mm thick mdf with different grades of paper stuck on either side – will reliably flatten the edges of both lid and box. It might be good to make up several such boards with progressively finer grades of paper so you can work down progressively through the grades to remove the scratches, rubbing the box and lid over each surface in turn in a circular motion, **photo 15**. Then finish off with a good rub along the grain on all sides using a hand-held sanding block.

If I'm honest, unless I'm under a lot of time pressure I still prefer to go for the planing approach. There's nothing quite like the in-line slicing of a fine, sharp plane to smooth timber, but maybe I'm just a purist at heart!

Retaining the lid

What we now have is a beautiful box with the grain running continuously across the lid break to give a co-ordinated look. We've also guaranteed that the lid will fit perfectly. The question now arises of how to retain the lid in its place, and the simplest answer is to fit mitred linings about 5mm deeper than the inside of the box, **photo 16**. Made in contrasting material, they will add a real touch of class and at the same time form a rebate to hold the lid in place.

Endless potential

'That' (as Churchill once said) 'might perhaps be the end of the beginning'. These few basic techniques can be played around with, adapted and combined in different ways to produce a whole variety of beautiful boxes. And it can all be done with a tiny toolkit, the most basic skills and a few carefully-made workshop jigs. Then of course there's the additional potential for moving beyond this basic construction to play with other ideas, some of which I illustrated in the first article of this series. So the scope for developing the apparently simple craft of box-making really is amazing.

Value for money

A final point of interest: when I quote for a bespoke box, it's often the case that the raw materials cost just a couple of pounds (often less than a tenner), and the rest of the not inconsiderable price quoted is for my labour. So here's a way in these cash-strapped times of giving a present that will have value far beyond its cost. People love knowing that you've spent hours crafting something just for them, and I'm often deeply moved by the way quite simple home-made gifts are received with huge appreciation that bears no relation at all to their modest cost. Everyone loves a beautiful box, especially if it's home-made just for them!

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BY KEITH SMITH

China dresser

This storage and display unit was made to complement an oak kitchen we fitted recently, but rather than add yet more oak we suggested a painted cupboard made from mdf as a bit of a contrast. The clients agreed, so we set to work...

Mdf is the ideal material for a cupboard like this as it's stable, inexpensive and easy to machine. The cupboard was to house the family's most regularly used crockery, so the top section was left open without doors and divided into eight equal compartments for strength (to stop the shelves from sagging). Two doors were fitted to the bottom section to keep the low-level contents away from family pets.

Designed and modified

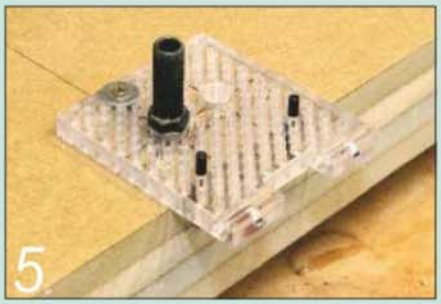
This is a relatively simple design which I first drew out using Turbocad on the computer. I originally thought I'd be able to use 18mm thick sides, but on the drawing they looked far too thin against the 18mm shelves. So I tried 25mm sides, but they still looked too thin – a pity, as it's easy to get 25mm mdf. The next step up was to 30mm which looked just right, but that left me with the problem of somehow making up the sides.

I used a long batten to apply even pressure when gluing the lipping strips onto the mdf panels

It's always best to machine a small moulding from larger stock and then cut it down to the size you need

This Magswitch featherboard kept an even pressure on the moulding as I fed it across the planer

I made these mouldings overlong so they could be trimmed to length once they were glued in place



The Lamello Rasto drilling jig costs a lot for a bit of plastic and metal, but it does work well

The dowels are long enough to connect both of the dividers through the shelf

We'd already decided to have fixed shelves, as they look a lot neater and add strength to the cabinet. Splitting the shelves by adding a centre panel allowed the use of 18mm mdf without the risk of them sagging. The doors were to fit flush with the frame, and there'd be a flush plinth for a contemporary look.

Raw materials

As I needed to laminate the sides to achieve a final thickness of 30mm, I decided to use this as an opportunity to hide all the fixings within the sides. This meant making the sides up on the cabinet itself rather than laminating the sides and then assembling the cupboard. This was a bit of an experiment, but it worked out really well in the end. I used:

- one full (2440 x 1220mm) sheet of 18mm mdf for the shelves, door rails and stiles;
- two full sheets of 12mm mdf for the four side pieces and the back;
- offcuts of 6mm mdf for the door panels;
- tulipwood (also called American poplar) approximately 80 x 30mm in section and 2.1m long for the T-shaped edge mouldings. Once this had been cut I used the rest of the length to run off the other lippings;
- beech 100 x 18mm in section and 740mm long for the plinth;
- beech or tulipwood 30 x 18mm in section and 740mm long for the frame above the doors;
- scrap mdf to make up the cornice and the spacers for the side panels.

The best lipping

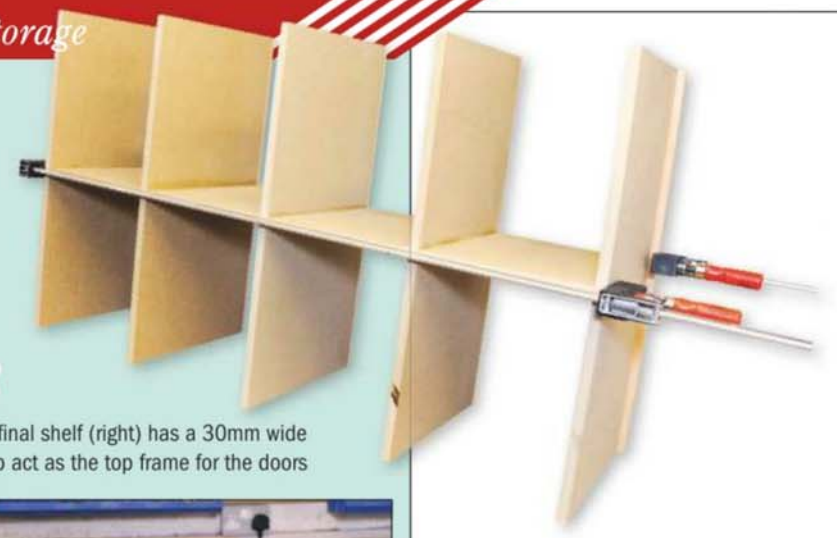
I lipped the mdf panels where necessary with either beech or tulipwood. I used to use tulipwood exclusively for this as it's relatively inexpensive, easy to machine and takes paint very well, but it's rather soft and will easily dent if knocked. Beech is a little more variable in quality and it appears to be more prone to warping than tulipwood. However, it's much more difficult to dent and also takes paint well, which makes it ideal for lipping board edges.

The first cuts

I started out by cutting all the pieces from the three sheets of mdf using a circular saw and guide rail. I laid each sheet on a 50mm thick sheet of polystyrene which I rested on the workbench. This kept the board completely flat as it was sawn, which is vital to achieve a good straight cut.

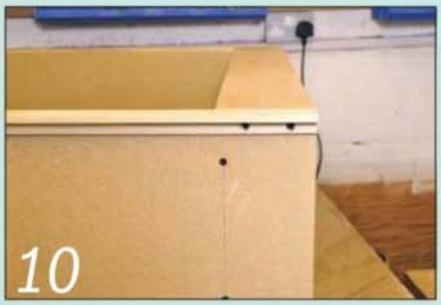
I glued a piece of 30mm wide beech to the shelf above the doors to form the frame, and a piece of 100mm wide beech to the bottom shelf to form the plinth,

Every other joint can be screwed, which speeds up the assembly process dramatically



The final shelf (right) has a 30mm wide lip to act as the top frame for the doors

The two long lipped side panels can now be attached to the shelf assembly



The T-section moulding needed drilling and countersinking so I could attach the plinth

To reinforce the plinth I glued a couple of beech blocks to the inside corners

I applied glue to the rebate of the front T-section moulding and all the spacers

I needed nearly all my cramps to fix the outer skin in place to the side panels

This strip of beech sits flush with the back edge of the frame and acts as a door stop

This Veritas jig makes it easy to drill accurate holes for the shelf support pegs

The cornice was made up from rub-jointed offcuts weighted down while the glue dried

before gluing the 6mm thick lipping to the remaining shelves, **photo 1**. Once dry, this was then trimmed flush before sanding it smooth with 180 grit abrasive in a random orbit sander.

Planning the laminations

The two sides were to be laminated, each from two layers of 12mm mdf with a 6mm spacer in between. To hold the two boards apart at the front I made two T-section mouldings from tulipwood. I used a rebate cutter for the first cut and then a slot cutter to create the T in a larger piece of wood, **photo 2**, before cutting off the tail with the table saw. This was then passed over the planer, **photo 3**, to remove the saw marks, **photo 4**. Finally, each moulding was glued to a side panel.

Aligning the shelves

The big challenge when making a cupboard like this is keeping all the shelves perfectly aligned where they cross, as even a tiny discrepancy will stand out like the proverbial sore thumb. I decided to dowel the joints, and to ensure perfect alignment I selected long dowels which would connect the corresponding dividers through the shelf.

The challenge was to drill perfectly centred holes in the dividers for the dowels. For this I used a Lamello Rasto drilling jig, **photo 5**; this is a small multi-holed plastic plate fitted with a metal guide bush. It costs silly money for what it is, but it does allow perfectly repeatable centred holes to be drilled quickly and easily. If I hadn't had the Rasto I'd have made a custom drilling jig for this job alone.

With the dowel holes drilled I started assembling all the shelves and dividers stage by stage, as you can see in **photos 6** and **7**. Everything went together perfectly and on went the cramps, **photo 8**.

On with the sides

Once the glue had set I could then attach the sides to the shelf assembly. The screws would be completely hidden once the outer

skins of the sides were added, so I could simply drill a small countersink and use glue and Powerdrive screws for a firm fixing, **photo 9**. It's important to keep the screws a good 50mm from the corners to ensure that the mdf doesn't split.

If this happens, remove the screw, force the crack apart slightly, add PVA adhesive to the split and the screw hole, and put a cramp across the split to pull it together. Then whilst the glue is still wet, and with the cramp still in place, re-screw the joint. Leave the cramp on until the glue has completely cured.

Finishing the carcass

The bottom shelf was then screwed to the sides. The T-section moulding needed drilling and countersinking so I could attach the plinth, **photo 10**, and I glued in a couple of small beech corner blocks for additional support, **photo 11**.

To make up the cabinet sides, I cut strips of 6mm mdf to act as spacers and glued them in place using plenty of PVA adhesive. I applied glue to the rebate of the front T-section moulding and to all the spacers, **photo 12**, and then cramped the outer skin in place, **photo 13**. Once this had thoroughly dried I repeated the process for the other side, and then glued and pinned the back in position.

Fixtures and fittings

After fitting the standard concealed hinges, I realised that the doors had nothing to close against. I therefore glued a batten across the width of the cabinet, **photo 14**, set behind the frame on the middle shelf. I then used my Veritas System 32 drilling jig to drill holes for adjustable shelf supports in the cabinet sides, **photo 15**.

Fabricating the cornice

To make the cornice I glued together strips of mdf to attain the required thickness, **photo 16**. I then cut a diagonal strip off one edge to remove the bulk of the waste before I started machining it.

I used a multi-profile bit in the router table. With this bit it's possible to take several passes to build up the required profile, **photo 17**. I then cut the pieces to length, mitred their ends and added a couple of Dominos to the mitre joint before gluing and cramping up the assembly.

Once the glue had dried I sanded it down, taking care not to soften the detail too much, before priming it. I planned to fix the cornice in place from above after the cupboard was delivered, and then to paint it. It would have been all too easy to damage the edges in transit if it had been attached at this stage.

It took several passes with a multi-profile router bit to build up the cornice profile

Keep the rail perpendicular to the fence when cutting the short rail joints for the doors

The doors need to be assembled and cramped up on a completely flat surface

Spraying into open boxes is always a bit of a challenge. I reduce the spray to a fine point

Doors and hinges

For the doors I used a rail-and-stile bit set in the router table, **photo 18**, to joint the frame. To give the doors additional strength I glued the panels in place, applying glue to the rear edge of the slots before cramping each door together, **photo 19**. To drill the 35mm holes for the hinges I find it's best to use a pillar drill, or in my case a small mortiser fitted with a drill chuck.

Finishing touches

I finished the unit using an HVLP spray gun to apply the paint, giving it two coats of undercoat on top of the mdf primer, **photo 20**, and then two coats of finish, **photo 21**. I used Farrow & Ball's water-based Estate Eggshell to which I added Floetrol paint conditioner (from Owatrol) and about 20 per cent water. See the panel below for details.

FURTHER INFORMATION

- Farrow & Ball
- 01202 876141
- www.farrow-ball.com

Floetrol paint conditioner

- Owatrol UK
- 01923 219122
- www.owatrol.com

Lamello Rasto drilling jig
Veritas System 32 drilling jig

- Axminster Tool Cenbtre
- 03332 406406
- www.axminster.co.uk

The two-tone paint job is finished. Now it's time to hang the doors and fit the adjustable shelves

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BY ANDY STANDING

G & H are for...

The aim of this series is to provide you with snippets of interesting and, I hope, useful information concerning all aspects of woodworking. It will explain some of the mysteries for those new to the craft, and will I hope inspire and entertain everyone else

The idea of pottering through the alphabet and looking at woodworking topics that begin with each letter in turn generates some unusual entries. But it's an interesting exercise in lateral thinking, because in a curious way one topic seems to lead on to another, even if there's no obvious link between them as you first consider them. Here's my latest batch; please read on, and see what useful nuggets you can pick up from my trawl through subjects beginning with the letters G and H.

GRAIN

This is the arrangement of the fibres in timber. Its appearance depends on the species, and its figuring on the way in which the timber has been cut. The grain and its orientation are very important to the woodworker. When machining or planing timber, it's vital to work sympathetically 'with the grain' in order to produce the best finish. If you work 'against the grain' you'll find that the cutters will drag and possibly tear out parts of the timber, leaving a rough finish. On straight-grained timber it's relatively easy to find the correct direction. However, on wood with wavy or interlocked grain, each part of the board may need to be planed in a different direction.

G-CRAMP

These are perhaps the most familiar – and traditional – woodworking cramps. Shaped like a letter G, they're inexpensive, simple and reliable to use (although winding them up can be a chore when compared to using modern quick-release cramps), and they're capable of exerting considerable pressure. They come in a wide range of sizes.

GROOVE

A groove is always cut along the grain, while a housing (see later) is cut across it. Grooves are used to hold such components as door panels and drawer bottoms, and are generally square or rectangular in cross-section. Traditionally grooves would be cut using specialised hand planes, though today they are normally machined using a special cutter in a router or spindle moulder.

Grooves can also be simple decorative features, often cut in parallel lines on the surface of a component where they're more commonly referred to as fluting (see the May issue, page 37).

GROUNDWORK

Happily, in the world of wood the term 'groundwork' has nothing to do with digging or any other such hard labour. Groundwork refers to the backing board onto which a veneer is laid. Today this is almost always a man-made board such as mdf or plywood, because they're smooth and totally stable, so there is no risk of distortion or splitting. In the past solid timber had to be used as groundwork and pine, oak and even mahogany were common choices.

It's especially important that the groundwork is well-prepared, smooth and free from any defects, because any imperfections will show through the thin veneer. In a modern workshop, a vacuum press is often used to ensure a good bond between the veneer and its groundwork.

GRINDER

Keeping your tools razor-sharp is vital for successful woodwork. You can't hope to cut an accurate joint with a blunt chisel, and you also risk injuring yourself. One of the most effective solutions is to use a grinder to keep your tools in shape. You have a choice of a high-speed dry grinder or a slower wetstone grinder. The former will sharpen the blade very quickly, but care is needed to avoid overheating and blade damage. The latter sharpens more slowly but is water-cooled, so cannot damage the metal. It is possible to buy combination grinders with both a high speed wheel for coarse grinding and a wetstone wheel for fine work.

GRIT

When woodworkers refer to grit, they aren't generally referring to their strength of character, but to a number that represents the cutting performance of their abrasives. This grading system describes the density and diameter of the abrasive particles on the carrier, which may be paper, cloth or a solid block or wheel.

The most commonly used abrasive papers have grit numbers ranging from 12 to 50 (designated as coarse), 60 to 80 (medium) and 100 to 220 (fine). Papers with finer and denser particles (known as microgrits) are numbered from 240 to 1200, and are used for very fine finishing work. A workshop doesn't need the full range of grits, just a selection. A good range would be 80, 120, 180, 240 and 360.

HARDWOOD

Timber is split into two distinct categories: hardwoods and softwoods. These categories actually have nothing to do with the density of the timber, but refer to their botanical classification. Softwoods come from coniferous (cone-bearing) trees, while hardwoods are produced by broad-leaved trees that usually shed their leaves in winter (although some tropical species are evergreen). The majority of hardwoods are actually harder than softwoods, though there are exceptions. For example, balsa wood is the softest of timbers, but is classed as a hardwood, while yew is a very dense and hard softwood.

HEARTWOOD

A log is made up of several layers, from the bark on the outside through to the pith in the centre. However, the only layer that woodworkers are really interested in is the heartwood. This is the mature timber in the centre of the log which is normally a darker colour. It is surrounded by the lighter sapwood, which is the younger growth and transmits the nutrients around the tree. It is softer and more prone to disease and extreme shrinkage than heartwood, so its generally discarded from quality work.

HINGE

Any folding or opening component on a piece of furniture needs some kind of hinge, and there is an enormous range to choose from to suit every application from the smallest decorative box to the largest door or window. Typically a hinge consists of two flat components, the leaves, each with one shaped edge called a knuckle. The two knuckles interlock and are connected by a hinge pin around which the two leaves rotate. The hinge can, of course, be fashioned from the wood itself, as in some traditional and decorative furniture.

HOLDFAST

A holdfast is a special type of cramp that's used to hold a workpiece down on the workbench. It's traditionally shaped rather like a shepherd's crook, and its shaft fits loosely into a hole bored in the bench top. Its top is rested on the work and is tapped down with a mallet to wedge the shaft against the side of the hole, locking the workpiece in place.

HONING GUIDE

When sharpening edge tools such as chisels and planes by hand on an oilstone, it can be difficult to hold the blade at the correct sharpening angle, especially if you are inexperienced. A honing guide is a small cramp which you attach to the blade, and has a roller underneath that travels along the surface of the stone. It will hold the blade at the correct angle and all you have to do is move it up and down the stone until the edge is sharp.

HACKSAW

The hacksaw is a fine-toothed saw used for cutting metal, and is useful to the woodworker for odd jobs such as cutting through rusty fixings. It will also cut small wooden mouldings. It's available in several sizes, the most popular taking blades 300mm long. Modern hacksaws use a fine-toothed bi-metallic blade which is considerably more durable than carbon-steel blades. When sawing metal it is always wise to use a little lubrication on the blade, such as a spray lubricant.

HOUSING

A housing is a wide, shallow groove cut across the grain of a component. It's used mainly to hold dividers or shelves in cabinetwork, and particularly when making bookcases. In lighter constructions it can be replaced by a biscuit joint. Housings are easy to cut either by hand or using a router. There are several variations of the joint, such as the dovetail housing and the stopped housing, which conceals the joint construction at the front face of the work.

'HEALTH & SAFETY'

Children playing conkers in safety goggles, and packets of nuts carrying the message 'Warning: may contain nuts', are two everyday examples of some of the sillier situations conjured up by the phrase 'Health & Safety'. However, workshops can be dangerous places, and any power tool or machine that can slice a piece of timber in half will make short work of your fingers, arms or any other bodily part it can make contact with. Therefore always make sure all the safety guards are always fitted to your machines. When machining anything, never take your eyes off the blade or cutter; then you'll see if you're about to cut yourself. As for hand cutting tools, keep them sharp; it's the blunt tools that slip and cut you. Above all, use your common sense and enjoy your woodwork.

BY GORDON WARR

Belt & braces

Braces are used in door construction, both framed and boarded, and their main purpose is to prevent any sagging. It's therefore essential if they are to fulfil their purpose that they slope the right way

In traditional door construction, the braces run upwards from the hanging edge, so they transfer the weight of the door down to the hinges. What this means is that the doors become 'handed', and even if the design allows them to be inverted this doesn't change the direction of the braces.

Standard design

With framed doors, the usual arrangement is to position the braces on the diagonal line above and below the middle rail. While the normal practice is to have the face of the braces flush with the face of the frame, they are sometimes made a little thinner. This allows for the inner corners of the frame to be moulded or chamfered without affecting the braces. The ends of the braces are not jointed into the inner corners of the framing; they are simply made a close fit. With softwood doors which are intended to be painted, the braces are usually secured with skew nails at their ends.

Opposite slopes

With commercially made doors, the upper and lower braces often slope in opposite directions. This still provides a lot of extra strength, especially on doors of average width, and allows for hanging on either edge. On wider doors, an alternative to the above is to have two braces within half of the door so that they each slope upwards and abut at the centre of the top, and such a door is seen in one of the photos.

On the ledge

With ledged, braced and boarded doors the braces are normally cut to fit between the ledges, as seen in one of the photos. A better arrangement is where the ends of the braces are recessed into the edges of the ledges. Note that for maximum effectiveness the extreme ends of the braces are cut square, so as to better resist the load imposed on them. This method of fitting braces is preferred on wide, heavy doors, and such a method of adding braces is best used where they both slope the same way. Note that a pair of doors, such as might be employed for a garage, must be prepared so that they are 'handed' – that is, one door will hang on the left of the frame and one on the right.

This old door has elaborate double braces and thus can be hung on either edge

This crudely adapted two-part stable door has the lower brace running the wrong way

This basic commercially-made garden shed door can be hung on either edge

The T-bar hinges on this shed door align with and are screwed into the ledges

Standard fixings

With softwood doors which are likely to have a painted finish on completion, all the components are secured by nailing… although screws can be used with advantage at the ends of the ledges. The traditional method was to use oval nails which are long enough to penetrate the ledges by around 12mm when they are punched in. The protruding ends of the nails are then bent over and partly punched in, a technique known as 'clench nailing'. With doors which are to be given a clear finish, whether made of hardwood or softwood, assembly is usually by screwing.

With ledged, braced and boarded doors which are often hung on T-bar hinges, these should be positioned to align with the ledges. Screws long eneough to penetrate the boards and enter the ledges should be used; this adds to the strength of the doors.

Inside out

It hardly needs saying that braces go on the inside of the door. I recently spotted a new hardwood front door fitted to a renovated building with the braces on the outside. A closer examination revealed that the door had indeed been hung inside-out. The lower part was neatly boarded on the 'inside', and the top edge of the lower rail and the glazing bars were neatly bevelled to throw off any rainwater… again on the inside! Oh dear…

This standard garden door has a pair of correctly sloping braces between the ledges

The left-hand one of a pair of traditional garage doors also shows the correct bracing

This ledged, braced and boarded door is suitable for hanging on the right-hand edge only

6 OF THE BEST

BY DENNIS KNIGHT

I'm always interested in jigs or tips recommended by other turners. A quick look round my workshop recently gave me the idea that six of my recent efforts might be of interest to others, so here they are

SANDING RACK

Pen turning is my passion. However, since I retired I've found it more and more difficult to use my Micro-Mesh pad abrasives in the correct order, often having to backtrack to ensure I hadn't missed a grit.

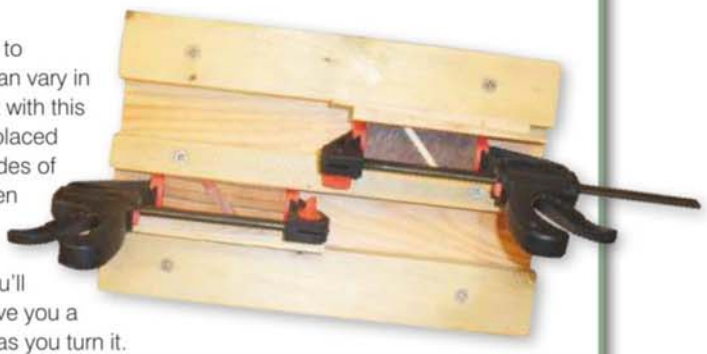
I made this rack from 6mm ply off-cuts and attached the labels that came with the product to the front of each pad position to illustrate its colour and grit rating. Now I simply work along the rack and can see at a glance where I've got to in the sanding process; it's highlighted by the gap left by the pad I'm currently using.

It's also a great way to store the pads. The top row contains Micro-Mesh pads for wood pens, and the bottom row the equivalent aluminium oxide pads for acrylic and Corian pens. My rack simply stands on the bench, but you could easily make a wall-mounted version.

PEN BLANK CRAMP

I often incorporate contrasting wood in the top half of my pens, in the form of a cross or a single or double 45° band. It's important that these component parts are glued together firmly before turning starts. I've tried many different techniques, but this little device – made from a few softwood off-cuts – has proved to be the best. It holds the individual parts tightly and prevents them from sliding apart while the glue sets.

The other problem I needed to overcome is that pen blanks can vary in width from 12 to 19mm. I dealt with this by the use of folding wedges placed between the blanks and the sides of the channels. The parts are then pulled tightly together by a small cramp. Allow 24 hours for the PVA glue to dry, and you'll have a pen blank that won't give you a nasty surprise by falling apart as you turn it.

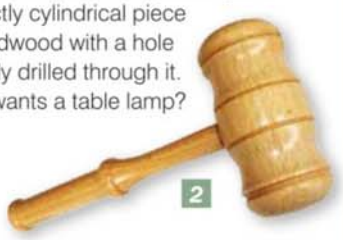


TURNING BLANKS

I was idly looking at household wares in my local supermarket when I saw them – pieces of solid beech in the form of a perfect cylinder, ready for turning. They were called rolling pins, **photo 1**.

What a waste to use them for flattening pastry! Where can you buy a beech blank of that size that has already been trued up for you? I snapped several up for the absurdly silly price of £2.50 each and headed back to my lathe with the loot. A couple of hours later I emerged from the workshop with a finished gavel, **photo 2**.

I've recently noticed some rolling pins with larger diameters and small handles connected by a rod running through the middle. Do you see what I'm getting at? Take them apart, and you've got a perfectly cylindrical piece of hardwood with a hole already drilled through it. Who wants a table lamp?



TOOL RACK

Before I made this rack my turning tools were hung on the tool board behind my lathe, **photo 1**. Leaning over it to reach a tool posed an obvious potential danger, but I had no other empty wall space in my small workshop on which to fix a purpose-made rack. I didn't want to remove the shelving unit to the left of the lathe, so I decided to build a removable open rack that could be mounted on the front of it but which would still allow access to the shelves behind, **photo 2**.

I achieved this by cutting slots in the sides of the rack to fit snugly over the second shelf. Similarly, I cut out a section from the bottom of each side and shaped it to fit over the lower shelf, **photo 3**. The geometry means that, even if the joints are a bit loose, it can't fall away from the shelves. When it's in position, I can reach items on the two bottom shelves behind it simply by removing one or more of the turning tools from their slots.

CHUCK STORE

I didn't make this rack! I spotted it in a junk shop, advertised as a spice rack for £5, and immediately saw its potential for storing my chucks and other lathe accessories.

I used some 15 and 22mm plastic pipe clips (left over from a plumbing job) to hold the various drives and hole boring centres in position. These work particularly well, holding the various items securely. I then screwed in a series of straight brass hooks to hold the chuck jaws and my pen mandrel.

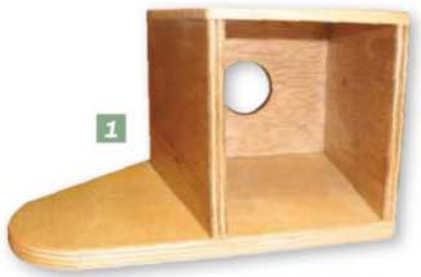
I added a narrow piece of beading along the front edge of both shelves so I can also store other small associated items without fear of them rolling off and being damaged or lost in the shavings.

DUST COLLECTOR

I use sanding drums in my drill press only occasionally, but when I do I create a mini dust storm. Because of this sporadic use I decided to try finding an alternative to the hassle of extending my main dust extraction system over the ceiling to the drill station.

Using my shop vac was the only other option. I made this small box from off-cuts of 6mm ply and other scrap wood, simply pinned and glued together, and bored a hole in the back with a 38mm sawtooth bit to accept the end of the vacuum hose as a tight push-fit. The optimum height of the box is dictated by the overall length of the sanding drum, which in my case is 125mm as I use long 'Carroll' sanders (available from the Axminster Tool Centre).

The sides of the box narrow towards the front to maximise airflow, **photo 1**, and its projecting base is easily cramped to the drill press table in a position that collects the maximum amount of dust. In my case this is to the left and slightly to the rear of the sanding drum, **photo 2**.



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BY COLIN SIMPSON

The rough and the smooth

Textured platters are one of my favourite items to make. They can be made from any wood and be of any size. There are so many different ways to apply texture, yet the turning is quite simple. Here's how I do it

I love the look and feel of a textured area juxtaposed against a beautifully smooth finished one, and those are the elements I've combined in this elegant platter.

Start by mounting your blank – I'm using ash – on the lathe using a faceplate or screw chuck. Then flatten off the bottom face using a swept-back or fingernail profile bowl gouge, **photo 1**. Shape the outside of

Start the job by using a fingernail bowl gouge to flatten off the base

Then cut the chucking spigot in the centre of the base with a small skew

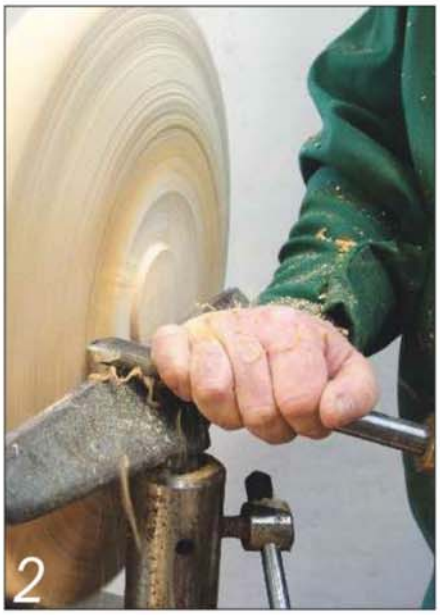
Pop-mark the centre of the spigot with the point of the skew

True up the edge of the blank using just the tip of the bowl gouge

Shear-cut the outside of the platter to get a good surface finish

Alternatively you can smooth the surface with a square-ended scraper

Sand the back of the platter down to 600 grit using a power sander



Shape the outside of the platter using a bevel-supported push cut

the platter with the same gouge, **photo 2**. Here I'm using a bevel-supported push cut, but you could shape the whole of the outside using the pull cut shown in **photo 1**.

Cut your chucking spigot next, **photo 3**, and remember to make a pop mark right in the very centre of the spigot with the point of a skew, **photo 4**, to assist in re-centring the piece when you reverse-chuck it to turn the spigot away later.

Finishing the exterior

Photo 5 shows the cut I use to clean up the edge of the blank. I'm using the very tip of the tool here. When you're happy with the outside shape, use the bowl gouge to make fine finishing cuts, **photo 6**. Try to keep the handle of the gouge down low and use the bottom wing to cut fine spiral shavings. This cut needs a little practice, but you can get a really good surface finish with it.

Alternatively, you can use a square-ended scraper, **photo 7**, to make your finishing cuts. Remember to keep the handle slightly higher than the cutting edge and aim to get fine shavings from the tool. If you're just getting dust, try sharpening the scraper.

Now you can sand the back of the platter. On large areas like this I like to use a 125mm diameter pad in an angle grinder to remove all the tool marks, **photo 8**, before power or hand sanding down to 600 grit. Then turn the platter round on the lathe and flatten the rim, again using the fingernail bowl gouge, **photo 9**.

Into the groove

My plan is to carve a pattern of irregular grooves into the rim of the platter, but I want

them to point roughly towards the centre of the piece so I've drawn a few radial lines to act as a guide, **photo 10**. I want my carving to be somewhat random, but if you prefer a more regimented approach, mark these layout lines more accurately.

I'm using a mini Arbortech blade in my Proxxon angle grinder to do the carving, **photo 11**, but you could use conventional carving chisels if you don't have an Arbortech. I do the carving with the lathe stationary, and it's a good idea to unplug it befeore you start to avoid any risk of turning it on accidentally.

The first cuts

Start at the inner part of the rim and move the angle grinder towards the edge, using the radial lines as a guide, **photo 12**. Continue to make these radial cuts all the way round the rim. **Photo 13** shows a close-up of the cut. The Arbortech is an aggressive tool, so let it 'glide' lightly across the surface of the wood and try to move it at a constant rate throughout the cut.

When you've completed the carving you'll find there are small wisps of wood left in the grooves. I use a hand-held blow torch to burn these off, **photo 14**, before cleaning up the whole surface with a nylon rotary abrasive brush, **photo 15**.

Into the black

Next I ebonised the carved rim using Chestnut's ebonising lacquer. Reduce the speed of the lathe to around 50rpm and spray the rim with an even coat, **photo 16**. If your lathe doesn't go down to 50rpm, it's better to spray with the piece stationary as I've found that centrifugal force above 50rpm can cause problems with the surface finish… and will decorate your workshop and lathe at the same time!

When the lacquer is dry, sand the surface lightly to remove the colour from the high points of the carving, **photo 17**. When they've been cut back to natural wood, spray a selection of coloured spirit-based stains over the ebonised area.

You can buy small pump-action spray bottles quite cheaply from good craft shops, and I use a different bottle for each colour. Here I used blue, red, purple and yellow and sprayed each one randomly over the area, **photo 18**, allowing them to mix together in places.

Photo 19 shows a close-up of the effect of this colouring. Because the background surface is black, any overspray into this area doesn't show up.

Turn the platter round and flatten the rim with the fingernail bowl gouge

Make radial reference marks around the rim to act as a guide for the carving

I tackled the carving with my mini Arbortech cutter in a Proxxon angle grinder

Make light cuts with the lathe stationary, working out towards the edge

Continue making further radial cuts all the way round the rim of the platter

Use a blowtorch to burn away any stray wisps of wood left in the grooves

Then use a nylon rotary abrasive brush to clean up the whole surface

Set the lathe speed to 50rpm and spray the rim with ebonising lacquer

When this is dry, lightly sand away the high spots of the carving

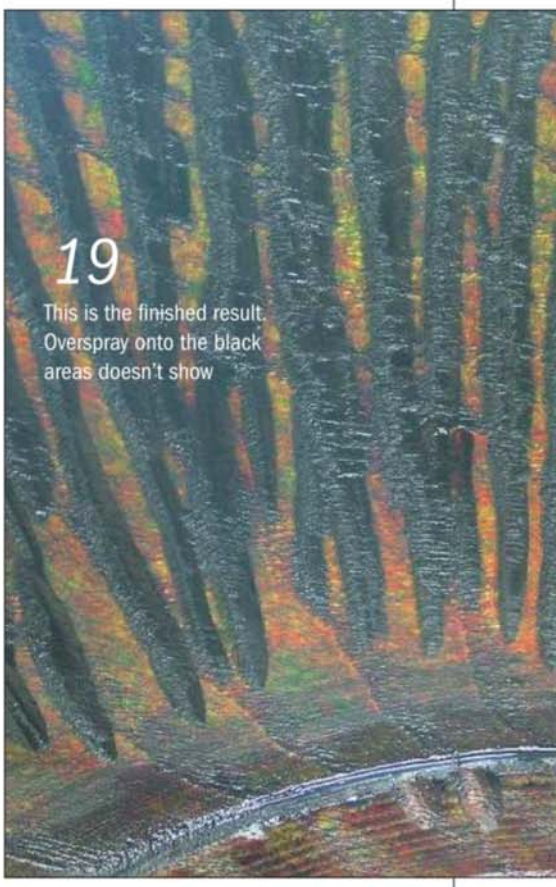
Spray the rim with coloured spirit-based stains in a random pattern

Turn away the hollow centre part of the platter in the normal way

Remove the sanding dust with a blast of compressed air or a soft-bristled brush

I finished the piece by spraying it with Chestnut acrylic gloss lacquer

Finish the job by reverse-chucking the piece and turning away the spigot



19 This is the finished result. Overspray onto the black areas doesn't show

A hollow centre

Allow the colour stains to dry before hollowing out the bowl part of the platter, **photo 20**. Then sand the hollow to a smooth finish and remove the sanding dust from the textured area. I used compressed air, **photo 21**, but if you don't have a compressor, a soft-bristled brush will do.

I didn't want to disturb the coloured rim of the platter by applying an oil finish, so I decided to spray the whole piece with lacquer, **photo 22**.

Spigot to go

The last thing to do is to turn away the chucking spigot. Mount a scrap wooden dolly in your chuck. This has a small dome shape cut on it. Use a scrap of thin leather or a few sheets of kitchen paper towel as a sandwich between this wooden dolly and the interior surface of the bowl. Then bring the tailstock up and locate the revolving centre in the small indentation you made earlier (see **photo 4** again).

Lock the revolving centre in place. It should be tight enough to hold the bowl against the dolly, but don't overtighten it. Then use a ⅜in spindle gouge to gently turn away most of the spigot, **photo 23**, leaving just a small centre stub which you can remove by hand off the lathe. And that's it…

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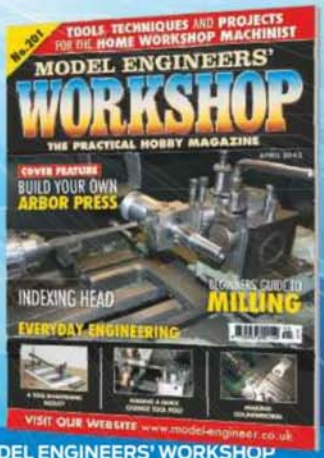

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These five Proxxon products go together to form a versatile system of interest to those who model in wood, *metal and plastics and are looking for precision and accuracy*

Proxxon drill ensemble

£253.65

THE ENSEMBLE

FBS 240/E multi-tool (catalogue code 410475)	£59.50
Micromot MB 200 drill stand (code 502021)	£67.00
MS4 machine vice (code 486352)	£14.95
110/BF flexible drive shaft (code 211035)	£28.66
KT 70 Micro compound table (code 702050)	£83.50

VERDICT

These five products complement each other perfectly and make up a very capable small-scale work system.

PROS
- High-quality engineering
- Precision performance
- Product compatibility

CONS
- Quite an expensive kit to collect

VALUE FOR MONEY ■■■■■
PERFORMANCE
Vice ■■■■■
Drill stand ■■■■■
Others ■■■■■

FURTHER INFORMATION

- BriMarc
- 03332 406967
- www.brimarc.com

THE DRILL/GRINDER MULTI-TOOL

This small precision drill is powered by a 100W motor. The reinforced polyamide body has rubber grips at the front end, a hanging loop at the rear and 2m of relatively stiff flex. The 20mm collar allows the drill to be mounted in a number of Proxxon holders and drill stands.

The speed is controlled by a calibrated dial on the top of the body and runs from 5,000 to 20,000 rpm. The drill has a keyless chuck which will take accessories with shanks up to 3.2mm. A small button is pressed to lock the spindle so that the chuck can be tightened and released. The chuck is easy to tighten and gives accurate rotation with no play or vibration.

Some 43 assorted accessories for cutting, grinding, drilling and sanding are included with the drill. The ten HSS twist drills range from 0.3mm to 3.2mm in diameter.

The FBS 240E is very well made and finished and runs very quietly, even at high speed. If used for the small work it has been designed for, it should perform very well, and if the other pieces of equipment we've grouped together for this test are added alongside it, you'll end up with a very useful system for tackling a wide range of small-scale projects.

A bit of a grumble

This multi-tool and several other Proxxon products come with a UK converter fitted to a European plug, and the result is a bulky mains connection. Their plastic storage boxes aren't designed with this in mind, making it awkward to fit the tool neatly back into the box, and many users find this irritating. It's time Proxxon fitted a standard 13amp plug at the factory for the UK market… and made the flex more flexible at the same time.

The tool is light, well balanced, easy to grip and comfortable to hold

The variable speed is controlled by a calibrated dial on top of the body

Pressing this button locks the spindle so the chuck can be tightened and released

A range of drilling, grinding, cutting and sanding accessories are included with the drill

THE DRILL STAND

This is a new version of the smallest Proxxon drill stand. The table is made of die-cast aluminium and measures 220 x 120mm. It has an accurately machined surface and is drilled to take two M6 bolts so it can be mounted on a bench if desired. Two tapped holes are also machined to accept the KT 70 compound table (see overleaf).

The slot on the right-hand side takes a small plated fence which is secured by means of a flat, knurled knob. The MS4 machine vice (see overleaf again) is designed with a slot on the underside to locate over this fence.

Vital statistics

The solid steel column is 280mm long and 20mm in diameter. The head can be moved up and down the column, rotated round it and locked in position by means of a quick-acting T-bar. The rise-and-fall mechanism consists of a dovetail slide activated by a steel machined rack and pinion.

The clamp holds drills with a neck diameter of 20mm. The clearly calibrated depth stop is set by means of a small knob. The head can be rotated up to 90° to one side so that a flexible drive or a polishing mop can be used, and it has a clear calibrated scale.

Better than ever

This drill stand is a great improvement on previous models and is sturdy, workmanlike and well made (although unfortunately the paintwork gets chipped very easily). The up-and-down movement, rotating and tilting mechanism all worked very well and the drills were held securely in the clamp. This is useful stand to use with the Proxxon FBS 240E drill. Together they make a good system for small scale work at a reasonable price.

The stand has a throat capacity of 140mm and quill travel is 45mm

The head can be rotated or moved up and down, locked by a T-bar

The depth stop and drill clamp are both meticulously engineered and easy to adjust

The drill can be set up horizontally so a flexible drive shaft can be used (see overleaf)

THE MACHINE VICE

This small machine vice has been designed specifically for use with Proxxon's smaller drill stands and the KT 70 compound table. It's cast in zinc alloy with a steel-plated screw and parallel bars. Three of the outside surfaces have been machined so the vice can be used vertically or on its side.

A plastic knurled knob activates the jaws. The jaw width is 50mm and the maximum clamping capacity is 34mm. The jaws have vertical and horizontal V slots to hold round work. There are four drilled holes for attaching the vice to the drill stand table, but bolts are not included. The groove machined on the underside fits over the parallel fence. Bolts are however included for attaching it to the compound table (see right).

This is a relatively low-priced vice which is quite adequate for most work, but isn't in the high-precision bracket. However, at just under £15 it does represent good value for money.

The vice jaws have vertical and horizontal V slots to hold round work

The groove on the underside fits over the drill stand's parallel fence

THE FLEXIBLE DRIVE SHAFT

There are two versions of this flexible shaft. One (the 110/P) has a collet chuck with six collets which take shanks from 1mm to 3.2mm diameter. The other (the 110/BF) has a keyless chuck which takes shanks 0.3mm to 3.2mm in diameter. It's possible to interchange the chucks, or to use the keyless chuck from the FBS drill.

The shaft is 1m long, with a very flexible core which makes it easy to use even when working tight radii. The maximum speed is 25,000rpm. The precision aluminium handpiece has a milled steel shaft and dual ball-bearings. The shaft can be fitted to the FBS multi-tool and held in the drill stand to make a useful addition to the system, and the chuck will hold accessories from Proxxon and other manufacturers. The shaft is well made and its flexibility makes it easy to get into awkward areas to drill, polish, shape or sand your work.

The 110/P version comes with a collet chuck and a set of six collets

The handpiece is comfortable to hold and the chuck is very accurate

THE COMPOUND TABLE

This is a small work table designed to be screwed to the base of a Proxxon drill stand, and most users would set it up permanently in this mode. It's a solid, well-engineered piece of equipment. The compound table and the base are permanently fitted together, with two accurately machined dovetail slides with gib strips which can be adjusted to take up any wear that may occur.

The extruded aluminium table measures 200 x 70mm in size and has three 12.5 x 5mm T-grooves machined in it along the X axis. It has a maximum movement of 124mm along the X axis and 46mm on the Y axis. This position is adjusted by means of two calibrated handwheels which give 1mm of movement of the table per complete revolution. There is an adjustable scale in millimetres on the front of the table, and you should have no trouble in milling, drilling and grooving very precisely.

The hand wheel on the front of the table controls movement along the Y axis. As mentioned earlier, the gib strip can be adjusted to take up any wear. The screw which activates the X/Y movement has a cover to protect it from dust or damage. The side hand wheel controls movement along the X axis.

Alternative grip

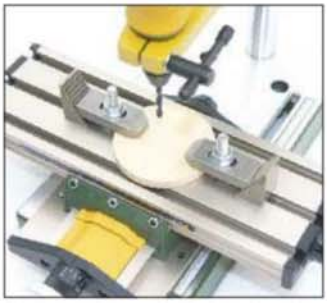
The MS4 machine vice can be clamped to the table with the screws provided, ready to hold work. Alternatively the workpiece can be held directly on the table by means of the two holding straps and stepped blocks supplied.

Although it's expensive, once you pick it up and examine it closely you can see why this is. All screws, nuts, washers and holding straps are provided with the table. This final piece of equipment completes the system described in these tests. ***IW***

The X/Y table is the most expensive component in this tool set-up

One division on the calibration scale is equal to a table travel of 0.05mm

The machine vice can be fixed to the compound table to hold work



Work can also be held directly using the straps and blocks supplied

Compared with the sheer physical size and weight of some 18V drills, *this new model from Bosch isn't as robust to look at, weighing in at just 1.9kg with its 3-amp battery fitted*

Bosch GSB 18V-2-Li combi drill driver

£280

Stubby is certainly the operative word with this drill; if you want lightness along with the ability to get into tight spots, at a mere 195mm from tip of chuck to back of casing, it will certainly serve well in that area.

LED worklights are common on most power tools now. Here a trigger-activated single LED provides plenty of light around the chuck area. Also on the LED theme, a bank of them is built into the battery pack to show power levels at the touch of a button.

Using the drill

It may be compact, but this drill still packs a decent punch. Drilling capacity is good, and the two-speed gearbox provides up to 67Nm of torque power – again, a pretty impressive stat for such a compact drill. Dropping it into its low gear for higher torque, it made short work of drilling out the waste to fit a couple of locks as well as some general assembly work in the workshop, and the light weight is certainly in its favour for finer control.

Only one collar

The downside is the single collar to swap between drill, hammer and driver and the 18 torque settings in between. It means that if you use the torque settings on the drill when driving screws, you have to run the collar around and back each time you swap functions. Once you get used to a dual-collar drill, this seems a step backwards.

However, the trigger is excellent and very responsive, so the torque selector could be dispensed with in favour of trigger control when screwdriving. If you need to rely on the torque collar you have to live with the lack of over-ride mentioned above.

Summing up

This drill may not be as robust in build as some models, but it's one that has a good set of capacities for general work. It could prove ideal if you do a lot of drilling work, especially arms-length type stuff throughout the day where a heavier model could soon cause fatigue. ***AK***

The single sleeve chuck will take bits up to 13mm in diameter

This large slider on the top controls the gearbox for speed changes

The torque collar also controls the drill function. The rear collar is for hammer work

Out and about, the drill is ideal for general site tasks such as fitting locks

SPECIFICATION

BATTERY		18V 3.0Ah Li-ion
NO-LOAD SPEEDS		0-500 and 0-1700rpm
IMPACT RATE		0-25,500/min
CHUCK CAPACITY		13mm
MAX DRILLING CAPACITY		
	wood	35mm
	steel	13mm
	masonry	13mm
TORQUE SETTINGS		18+1
MAX SCREWDRIVING TORQUE		
	soft	28Nm
	hard	67Nm
WEIGHT		1.9kg

ACCESSORIES 2 batteries, charger, L-BOXX storage case

VERDICT

For everyday work involving screwdriving and drilling, this lightweight compact model is well worth a look.

PROS
- Very compact
- Lightweight
- Comfortable for long periods

CONS
- Single collar for drilling and driving functions
- Pricey for the complete kit

VALUE FOR MONEY ■■■■■□

PERFORMANCE ■■■■■□

FURTHER INFORMATION

- Bosch
- 0844 892 0115
- www.bosch.co.uk

Setting and marking out accurately is vital, so doing it with tools that 'feel right' certainly helps, *and for smaller stuff such as shoulder lines for dovetails and the like, a cutting gauge is the ideal choice*

David Barron cutting gauge

£69

This cutting gauge forms part of a range of hand-made tools from David Barron that includes planes, mallets and dovetail templates, and is a really fine tool to use. It's made from hard, heavy macassar ebony that has been soaked in linseed oil, giving it a subtle satin sheen, and has the arrises very lightly broken.

Despite being quite a small tool, the gauge has a maximum backset of 74mm so it can cope with some quite big work if needed. Adjustment is with the large knurled brass knob on the top. A brass bushing in the stock ensures that the setting locks solidly, with a fibre washer allowing the gauge to be fine-tuned before being locked off tightly.

Quality counts

You can sometimes get away with a screw thread made directly into certain timbers, but over time the threads can strip under constant adjustment. The bushing on this tool is certainly a sign of attention to detail that is evident on the gauge in general. An identical bushing is fitted to the end of the stem to retain the cutting blade within its small housing, and this can be adjusted for depth of cut as required.

The stem and stock are linked with another housing to keep them square to each other. Once the gauge is set it's very comfortable to hold and use, with small indents in the back of the stock for the middle finger while you're gripping the stem with the index finger and thumb. Since this version was reviewed, the new model now has additional sculpting indents to the stem for increased user comfort.

Using the gauge

After making a few marks with the tool, one thing that immediately leaps out is how easy it is to control as it glides across the work. A wheel gauge feels almost sticky by comparison because of the way it operates. That said, if you are a 'wrist roller' gauge user, the flat profile needs to be held pretty flat as you drive it, but it's surprisingly easy to get to grips with this somewhat different technique. ***AK***

SPECIFICATION

SIZE	82 x 76mm
BLADE	12mm
MAXIMUM BACKSET	74mm

VERDICT

This beautifully hand-made tool is classy and tactile to use, and very accurate into the bargain.

PROS ■ Light and easy to control
■ Cut line visible at all times

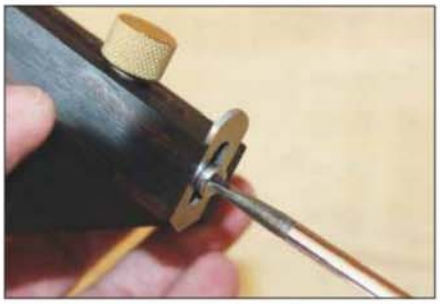
CONS ■ Costly, but it's a hand-made work of art!

VALUE FOR MONEY ■■■■□
PERFORMANCE ■■■■■

FURTHER INFORMATION

■ David Barron Furniture
■ 02380 76944
■ www.davidbarronfurniture.co.uk

Brass inserts ensure secure connections between the parts and a long life



The blade can be adjusted for depth of cut using a screwdriver

Small scallops behind the stock provide natural resting points for the fingers

It's a very controllable gauge, running freely across the work surface

These countersink and counterbore drills combine several functions in one cutter, and can save a lot of time.
They consistently give speedy, accurate and repeatable results, and are designed to be used in a router too

Wealden countersink/counterbore drills

These cutters from Wealden offer some distinct advantages when compared to conventional countersink and counterbore bits. There are two types available, both producing clearance and counterbore holes, while the DB1014/16/18 versions also cut countersinks for woodscrews. Both types come in a range of three diameters, all with a ¼in shank.

Standard features

The big difference with these cutters is the combination of a clearance drill with the countersink and counterbore functions. They are also designed for use in the router. By combining the three functions, these tasks can be completed in a single operation, and the resulting holes will be perfectly centred with each other.

The 20mm long drill portion of each cutter has a lip-and-spur head that gives tear-free cuts and helps keep the cutter on line. All the cutting edges including the drill head are made using tungsten carbide rather than high-speed steel, making them very hardwearing.

The cutter bodies have a black Teflon coating, to reduce resin and chip build-up, which helps keep the cutter cool. Both types of cutter are ideal for making counterbored holes that can be hidden using glued wooden plugs.

Using the cutters

The DB1016 countersink cutter in particular is ideal for project work, mainly to make clearance and countersink holes so screw heads finish flush with the work. This size cutter matches 5mm diameter metric screws. Although the cutters are based on imperial screw sizes, they work fine with their metric equivalents.

After being used over a thousand times, the cutters all still made very clean holes with sharp edges in both softwood and hardwood. When using them with hardwood, keep the router speed at near minimum to avoid any scorching.

When fitted in a handheld router, use the plunge mechanism and depth stop to make the very best use of the cutters. The plunge gives hand control while ensuring the cuts are always vertical, and the depth stop gives repeatability. Cutting multiple holes is amazingly quick. The cutters also work very well when fitted in a bench drill press. ***DR***

from **£22.50**

THE RANGE

COUNTERSINK/COUNTERBORE DRILLS	
9.5mm (DB1014)	£22.55
12mm (DB1016)	£23.20
16mm (DB1018)	£24.35

COUNTERBORE DRILLS	
9.5mm (DB1034)	£22.50
12mm (DB1036)	£23.20
16mm (DB1038)	£24.35

VERDICT

These drills offer stunning performance, are easy to use, and keep on working well over time.

PROS
- TCT cutting surfaces
- Clean tear-free cuts
- Designed for router use

CONS
- None

VALUE FOR MONEY ■■■■■
PERFORMANCE ■■■■■

FURTHER INFORMATION

- Wealden Tool Company
- 0800 328 4183
- www.wealdentool.com

The DB1016 cutter makes a countersink and counterbore for a 5mm (No 10) screw

The drill tip has a lip-and-spur head that helps to keep the cutter aligned

The cutter bodies have a black Teflon coating to reduce resin and chip build-up

The cutter produces perfect holes with a tear-free countersink and counterbore

An electric planer is essentially a site tool for shooting and fitting rather than a finishing machine – for example, *tackling edge work, scribing in a skirting or knocking a door into shape if the frame or lining is miles out. Here's a new model...*

Festool EHL 65 EQ bench planer

£250
(web price)

Up to 4mm of depth adjustment can be achieved with the front knob

The first thing to note about the Festool EHL 65 EQ planer is its light weight, but this may be partly down to its capacity, with a planing width of only 65mm in comparison to the standard 82mm of most machines.

The narrower cutting width isn't detrimental for the most common jobs a planer gets put to use on, and in general, its light weight makes it easy to control with one hand. Additionally, the good rebate depth and the shear cutting action for a cleaner finish outweighs the higher cost of the special blade needed.

Cutting capacity

On the subject of doors, Festool have hit the spot with the rebating depth. 23mm is more than adequate to drop an external door over a weatherbar, for example. It also allows the machine to make deep rebates for other on-site work. This is certainly an area where mains models score over battery ones in most instances.

The 4mm depth of cut makes short work of hogging off stock where needed, but the recommendation of not taking more than 2.5mm per pass when working over 40mm wide is sensible, and still gets the waste removed quickly.

Adjustments for depth are standard. The front knob lifts the front shoe to increase the cutting depth, with index positions at 0.1mm increments for very fine fitting and finishing as well as for deep, fast cutting. A single central groove in the shoe allows for simple and quick chamfering.

A spring loaded shoe keeps the cutter clear of the bench when idle

The single blade has a unique cross-sectional profile...

...as well as a curved cutting edge. The blades aren't reversible

A single blade

Taking a leaf from the Bosch single-knifed Woodrazor electric planers, the Festool model also has a single cutter. With the block running at similar speeds to other rival offerings, it's easy to believe that the overall finish is compromised, but when running the planer over hard and softwood test pieces, the resulting finish is excellent without the machine struggling.

There is a unique difference with the Festool, however, and that's its skewed cutter. This comes at a higher price (£14.34, to be precise) than normal straight ones as it has a curved profile and a unique cross-section.

That could prove expensive if you get a nick in the blade as it's not reversible, but the plus side is the finish the skewed blade achieves; tear-out is minimised, and if you need to work across the grain at any stage the finish is excellent.

Dust control

Festool is renowned a as premium brand, and with its high initial price it's surprising that a dust bag isn't included with the kit. It's an optional extra, so you either have to let the shavings fly everywhere or hook it up to an extractor. There's a neat angled port for the shavings to eject which slides out to re-position the outlet to the opposite side; this is useful if you're left-handed or you're working in a restricted area.

Using the planer

A fence is included for rebate work, and gives good support. It works best in unison with a depth stop for consistent rebating, but that part is omitted from the kit, again available as an option.

However, the fence is a valuable aid for supporting the tool on thinner edges, and the planer's compact size helps in controlling the tool for this, although a second hand to keep it true helps.

On wider work it sits well and performance is excellent. There can be a tendency to get a little snipe at the end of a deeper cut, but it passed with flying colours, which in the case of shooting doors can be crucial.

An inversion bracket is also available, turning the planer into a small jointer – something worth buying to get that bit more from the tool than some others offer. ***AK***

SPECIFICATION

MOTOR	720W
NO-LOAD SPEED	15,600rpm
CUTTER WIDTH	65mm
MAX DEPTH OF CUT	4mm
MAX DEPTH OF REBATE	23mm
WEIGHT	2.4kg

VERDICT

This is an excellent planer that's ideal for one-handed use, but it's relatively expensive and the blade needs looking after.

PROS
- Spiral blade for cleaner cut
- Good rebating depth
- Quick blade changes)
- Left or right dust extraction

CONS
- No dust bag as standard
- Special blades needed

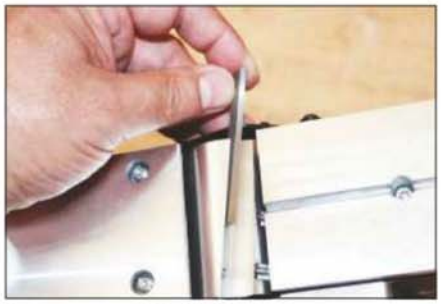
VALUE FOR MONEY

PERFORMANCE

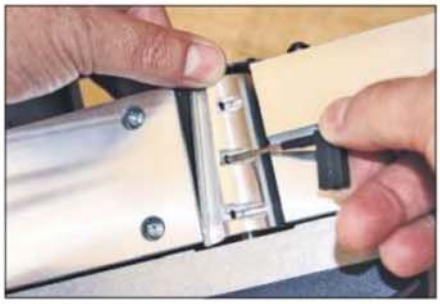
FURTHER INFORMATION

- Festool UK
- TTS Tooltechnic Systems
- 01284 760791
- www.festool.co.uk

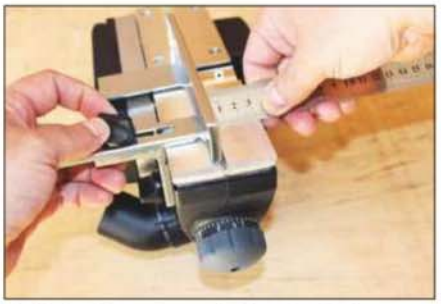
The fence plays its part as a support when working on narrow widths



The curvature of the blade allows for the skewed fit to the block



An on-board wrench is used when you need to replace the blade



A rebating fence is supplied as standard but there's no depth stop

Kreg is the big name in pocket-hole joinery, *and this latest addition to its range of jigs and accessories promises to offer even more flexibility and accuracy than ever*

Kreg Jig K4MS Master System

Face-frame construction is a perfect application for pocket-hole screws, allowing a simple butted frame to be assembled in minutes and then secured to an equally quickly made pocket-hole-constructed cabinet. However, you can use the method in a whole range of other joinery applications where an intersection occurs.

Stepping up

This particular kit is designed for those who want to embrace the technique at a more advanced level. Although the technique remains identical in its application, this is designed for fast repetition at the bench, allowing work to be quickly set, drilled and assembled.

The fast-action cramp is adjustable to hold work from 13mm (½in) to 38mm (1½in) thick, pushing it up against the vertical post ready for drilling when it's engaged.

This post has three hardened bushed holes to receive the drill bit and set the pockets in the correct position. There's a series of holes in the post to maintain the selected position, secured by running in the brass indexing pin.

The drill comes with an adjustable collar and this needs to be set to the correct depth to drill the pocket as well as the small pilot hole.

A couple of neat recesses in the main jig have indexing marks that correspond in 3mm (⅛in) increments to the timber thickness you're using, so set-up is very quick. That's the beauty of this system; it really is a very fast way of working, both to set up and then to achieve a solid joint.

The right screw

The position is important to allow the screw to hit the mating part in the correct position so that it doesn't drive out through the face or

The tool post is set to suit the timber thickness read against the scale

The neat drill setting guide makes it very quick to alter the screw depth

You can hold the jig by hand, or screw it to the bench or a backing board

Angled joints need planing or sanding back flush once they've been screwed together

split out, but of course, you need to have the correct length screw to match that work thickness. The kit comes with a few screws to get you on your way, and full instructions are included to show what lengths are needed to secure each thickness correctly.

It's worth using the correct screws to gain the best from the joint as well; pocket-hole screws have a collar almost like a roundhead screw profile to gain maximum purchase against the pocket without pulling in like a countersunk screw would.

Using the jig

If you've ever driven a screw in at an angle, you'll know that the pieces can creep and become misaligned, and that's the downside of pocket-hole joinery. However, this kit comes with a face-frame cramp that has large pivoting jaws. Placing the jaws directly over the joint once it's positioned keeps everything flush while you drive in the screws, giving a professional finish to the joint.

Flat work is where it scores highly, but angled joints such as coopered work can be done, although this a little more involved. A 45° joint would normally have two 22.5° angles at the joint, but pocket-hole work requires one square edge, so the mating surface is cut to 45°. When the joint is screwed it leaves a projection that is then planed and sanded back to form the finished joint.

Useful accessories

While the kit is intended for benchtop use, it includes a couple of neat additions to allow you to use it elsewhere. An adapter is used with the main drilling post so you can make joints in situ – useful if you're doing built-in work away from the workshop, for example – and for repair work, a simple single pocket jig is included. This relies on measurements to ensure the correct position in relation to the timber thickness, but it works well once held.

Summing up

The purist woodworker may see pocket-hole joinery as an inferior technique, but it's such a fast and adaptable method. With the aid of this kit it can – and should – be adopted to work alongside more traditional methods. ***AK***

SPECIFICATION

DRILL GUIDE SPACING	9/16, 7/8 and 1 7/16in
MATERIAL THICKNESS	½ to 1½in in ⅛in increments
DRIVER BITS	3 and 6in

ACCESSORIES face cramp, portable base, drill guide spacer, support stop, dust collection attachment, screws, plugs, DVD, carry case

VERDICT

This kit serves well if you want to turn out really fast work that looks good from the face side.

PROS
- Very fast way of jointing
- Loads of applications

CONS
- Joints can creep if not clamped
- Angled work is more involved
- Purists may not see the value

VALUE FOR MONEY ■■■■■
PERFORMANCE ■■■■■

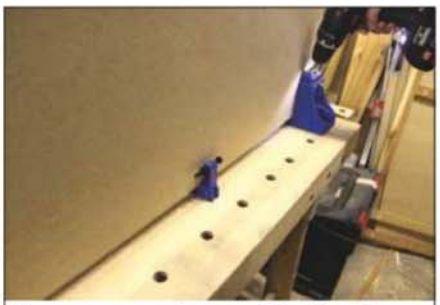
FURTHER INFORMATION

- www.kregtool.eu

The inclusion of this single pocket jig is useful for repair work

Drilling is a very quick affair, taking only a few seconds to prepare components

You have to clamp the joint securely to ensure that it remains flush



This component works as a raising block for longer pieces as well as a repeat stop

How small can a plane get? *We've recently tested four other Veritas miniature planes of various designs, but this latest addition to the range is the smallest yet, as the photographs show*

Veritas inset plane

£37.96

This tiny plane is cast in stainless steel with a 45° bed angle and a fixed mouth. The A2 steel blade is 12mm wide and 1.5mm thick, has a 30° bevel and is secured by means of a brass retention screw. It works a treat.

Although this product can be used on its own as a small thumb plane, it has been designed to fit into a wooden plane body with a mortise slot 43mm long and 19mm wide. Plans for this are included with the plane, and there's a video to watch on www.leevalley.com which describes how to make various designs.

The manufacturer suggests gluing the plane into the block, and the metal sides are grooved for this purpose. However, our home-made version offers greater flexibility because you can make any number of bodies to suit various tasks, and move the plane from one to the other.

Summing up

This inset plane could be a considered an unnecessary luxury, and some might think it looks a bit of a gimmick! However, it works very well and if you know a woodworker who likes excellent miniature tools this would make a great present to add to their collection. It would be of particular interest to those who make musical instruments, boxes, models, jewellery and other similar items.

Making a wooden plane body

The drawing gives the basic dimensions and the shape of the slot required to hold the plane. Prepare a piece of hardwood 100mm long, 30mm wide and 12mm thick. Mark out two centres 24mm apart and use a 19mm diameter saw-tooth Forstner bit to drill through the wood at each mark. Cut out the area between the two holes and sand it so the plane fits snugly into the slot.

Next, cut a 1.5mm wide slot at the rear of the block and drill a hole in from the side, across the slot, to take a bolt and nut. Countersink one end to take a machine screw head, and counterbore the other to take the hexagonal nut. Glue this into its hole with epoxy-resin adhesive. When the screw is tightened into the nut, the wood on either side of the slot is compressed slightly, holding the plane firmly. Finish the job by turning a little finger knob with a spigot, and glue it into a hole at the front. ***IW***

SPECIFICATION

BLADE DIMENSIONS	12mm wide, 1.5mm thick
BLADE BEVEL	30°
BED ANGLE	45°

VERDICT

As with all Veritas items reviewed recently, the quality is up to the usual high standard.

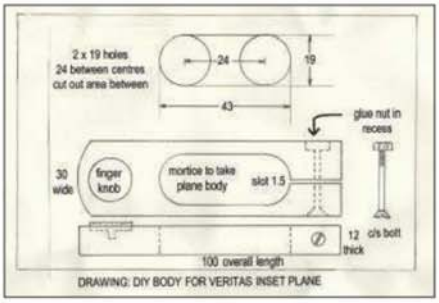
PROS ■ Superb engineering
■ Excellent performance

CONS ■ Having to make your own body

VALUE FOR MONEY ■■■■■
PERFORMANCE ■■■■■

FURTHER INFORMATION

■ Brimarc
■ 03332 406967
■ www.brimarc.com



DRAWING: DIY BODY FOR VERITAS INSET PLANE

Plans included with the plane explain how to make a wooden body

This simple flat-bed body includes a finger knob and a homemade locking mechanism

The underside view reveals how the plane sits flush with the base

The block with a V-guide enables the plane to produce chamfers

Dremel are known primarily for their diminutive rotary tools, *much favoured by model makers and handymen alike. Here is a rather more heavyweight multi-tool from the same company.*

Dremel Multi-Max MM40 multi-tool

Until around 2008 there was only one multi-tool on the market and that was the Fein Multimaster. Fein invented the oscillating tool, but when their patent protection ran out, other manufacturers were free to make their own versions, and now there is quite a variety to choose from. The Dremel MM40 is a powerful tool with some innovative features and a wide range of accessories to choose from.

The MM40 is a good-looking tool with a grey body and soft rubber inserts around the grip. On the rear is the variable speed wheel and the sliding power switch is located on the top. The body has ventilation slots on all sides to keep the motor cool. On the front is the large lever used for changing the blades.

Blade changing

The majority of manufacturers have adopted a common blade fitting known as the Oscillating Interface System (OIS). Dremel have decided to go their own way and use a similar, though unique, system. The blades are held in position with a circle of pegs around the shaft, and in the centre of the shaft is a plunger which extends out when the lever on top of the machine is turned. The blades have a cutout at the rear and this slips under the flange of the plunger. When the lever is returned, the plunger pulls the blade onto the pegs and holds it tightly in position. Although you can use only Dremel blades and accessories, there's a wide selection to choose from.

Dust extraction

When sanding with a multi-tool, it is wise to use dust extraction. Most manufacturers use perforated sanding heads and matching abrasive sheets. Dremel use a rather clever circular cowl that fits around the nose of the tool and sits just above the sanding head. This works really well and has the advantage that it can be left in place when using blades.

Using the machine

This is an impressive machine to use. It runs smoothly, and it's powerful, comfortable to use and highly effective. The blade changing is quick and efficient and the dust extraction system works well. It's supplied with everything you need to get started, and is backed with a large range of blades and accessories. ***AS***

£150

SPECIFICATION

MOTOR	270W
OSCILLATION RATE	10,000-21,000/min
OSCILLATION ANGLE	± 1.5°
WEIGHT	1.46kg

ACCESSORIES storage case, dust extraction adapter, two blades, sanding head and abrasives, Allen key

VERDICT

This is a tough and capable tool with an impressively simple and effective dust extraction system.

PROS
- Rugged construction
- Good performance

CONS
- Unusual quick release system
- Incompatible with other makes of blade

VALUE FOR MONEY ■■■■■□

PERFORMANCE ■■■■■□

FURTHER INFORMATION

- Dremel
- 08447 360107
- www.dremeleurope.com

The MM40 is supplied with a selection of accessories and a clever dust extraction cowl

Turning the lever on top of the machine operates a blade-locking plunger

The dust extraction cowl is fitted in position using a supplied Allen key

The MM40 is supplied with one blade for wood and one for metal

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Stanley No.5 'before & after' photo courtesy Peter Hemsley – The ToolPost

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Delta 16in scrollsaw, two-speed model no 40-560C type II, in good working order; offers please. Buyer collects.
01247 861645 (West Yorkshire)

Dremel drill press; £15. Dewalt DW753 150mm grinder/linisher plus spare belts; £95. Buyer collects.
01434 682419 (Northumberland)

Record Power lathe, model No 3, plus case of tools; £400 ono.
01609 760551 (North Yorkshire)

NuTool lathe, similar to Clarke CWL1000, 240V bench-mounted model, 37in centres and 12in diameter over bed, five speeds from 575-3580rpm, in good condition; £60
07502 184291 (Essex)

Marples carving chisels, 14 assorted patterns with hardwood handles, unused; £95 plus postage and packing at cost.
01246 279348 (Derbyshire)

Tormek drill bit grinder attachment DBS-22, used once so as new; £169 inc carriage.
01495 228371 (South Wales)

Hold-Heet glue pot, electric automatic model with aluminium liner, as new, offers overt £100.
0121 554 0062 (Birmingham)

Axminster 24in dovetail jig, model DTJ24, never used, complete with full instructions and router cutter; £35. Buyer collects or delivery at cost.
01276 473169 (Surrey)

Record Power WRM200 mortiser, chisel capacity 6-25mm, complete with stand, in good condition; £395.
07703 348561 (Leicestershire)

Oak and mahogany, planed ¾in and ⅞in thick, sizes include 8ft x 16in, phone for details.
01745 855570 (North Wales)

Clark site saw, 2hp motor, 12in blade, 3 in cut, 4in extract port, as new condition. Call for more details.
01666 838080 (Wiltshire)

Record combination machine, model Maxi 26, in good working order, will email photos if required; £300. Buyer collects.
07779 483023 (South-west London)

Hardwood sale including mahogany, rosewood and ash, turned pedestals and chair legs; also sheets of veneers. Offers please.
01937 842412 (West Yorkshire)

Bieffe 3 drawing board for furniture design and setting out, full parallel motion with attached overhead lamp, 1500 x 920mm board adjustable to any angle, steel frame construction with foot pedal; £300 ono. Buyer collects.
01344 486214 (Berkshire)

Trend Airshield Pro respirator, unwanted gift, brand new in unopened box; £180.
020 8248 0335 (West London)

Faithfull bandsaw, three-wheeled model, 14in throat, 3in depth of cut, with 6in disc sander attachment, very good condition; £70.
01695 422138 (Lancashire)

Wooden moulding planes by Mathieson, 12 available; offers.
07753 233445 (Highlands)

Kity combination machine comprising circular saw, spindle moulder, mortise, surface planer and thicknesser; £150.
01920 821731 (Hertfordshire)

Coronet No 1 lathe fitted with a GEC motor; £80. Masterchuck system chuck; £40. Nine woodturning chisels; £40 each.
07850 330653 (Worcestershire)

Tyzack bench saw / planer thicknesser, cast iron, choice of single or 3-phase motor; best offer.
01795 830302 (Kent)

Axminster ½in router; £60. Bosch Flexcut carver, new; £120. DeWalt DW733 planer thicknesser; £250. Evolution circular saw; £45. Multico mortiser plus chisels; £60. Nutool mitre saw; £10. Tormek 1200 Supergrind; £130.
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07787 331359 (Cambridgeshire)

Triple beam roller marking gauge
028 3088 8393 (Northern Ireland)

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01530 834581 (Leics)

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 751768 (Lincs)

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01647 432841 (Devon)

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The Woodworker MARKETPLACE

- 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 01689 869852 for details.
- Each coupon is valid for one free insertion in the next available issue.
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Please publish this advertisement in the next available edition of *The Woodworker*. I am a private advertiser and have no trade connections.

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My advertisement (max 20 words please) reads as follows:

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The primer instinct

Andy had a crazy look on his face that didn't match his shop. Antique furniture, fine art and tasteful bric-à-brac generally don't sit well with crazy.

A young couple entered the shop, took one look at Andy and scurried off to inspect a chest of drawers. 'Just scream if you need help!' shouted Andy. The young couple didn't stay long.

Andy had, it seemed, developed a highly effective customer deterrent. I don't think he realised just how crazed he looked. His hair was having a fight with itself and he was wearing pink Marigold gloves. He was also lightly spattered in what we were hoping was white paint. He kept laughing to himself and telling us it wouldn't come off. But he didn't care; Andy was apparently on a Zinsser high.

Does what it says on the tin

'Full name: Zinsser Bin', he declared. 'Sounds like a panto villain,' he cackled. 'You'll have to get some', he continued, grabbing my hands with his Marigolds. 'It'll change your life!'

I had to admit Zinsser Bin did have a magical panto ring to it, and by the look of things it would also transform my face and hair… possibly forever.

'It's the Zinsser effect!' announced Andy, holding up a tin. 'No sanding, no preparation, just one coat and away you go… and it dries in minutes! Once you start using Zinsser you can't stop; it's like some kind of primer instinct. Actually, I haven't done the van yet!'

I smiled, but I think he was serious. His van was sitting outside and he was peering through the window, sizing it up in litres. 'I think you've Zinssered yourself', said my wife, patting Andy on the shoulder.

The banister affair

I had to admit it sounded like the perfect solution to what had now been dubbed the banister affair. After spending days mending, sanding, staining and varnishing the short banister rail in our hallway, I had presented it to my wife with a certain amount of pride.

'Do you know what?' she said. 'It would look even better painted red!'

'Just bang on the Zinsser.' I heard Andy's words ringing in my ears as I meticulously laid newspapers under the banister. We'd bought a tin of bright red paint which I was nervously eyeing up. One drop of it on our lovely new wooden floor or our virginal off-white walls would be tantamount to a murder scene… namely mine. But first it was Zinsser time.

Blown away

Taking a deep breath I started to prise off the lid. I have no clear memory of what happened next, but I can honestly say I was thoroughly Zinssered. I assume the lid flew off with some force because it hit me hard on the forehead before skidding paint-side down across the floor.

It looked as if a blizzard had blown through the hallway… and stuck. Now I knew why Andy looked so demented and why he had painted so much of his stock.

'Amazing stuff eh?' he said on the phone. 'Went down a bomb,' I replied, flatly. 'Oh yes,' he replied, 'I forgot to mention that bit.'

Tools for the job

More *Woodworker* gold from the dusty archives; this month a trove of back-page advertisements has been recently discovered in a forgotten corner…

In an effort to save space, materials and energy – a policy that many of us will have been brought up with as children, so much so that it becomes second nature – the publishers of *The Woodworker* for the first 60 or 70 years of its earthly manifestation removed nearly every advertisement from the bound volumes that went on sale each year. Although our extensive library houses a wide variety of historical paper, a large part of the *Woodworker* archive comprises many of these bound editions. While one can heartily applaud the parsimonious position taken by the proprietors – an attitude that later came to be known as 'make do and mend' and once characterised the entire nation – the absence of some no doubt entertaining and probably informative adverts can only be seen as a significant loss in my eyes.

It was, then, with some surprise and delight that I stumbled across a forgotten cache of classifieds from *The Woodworker* that appeared in July 1925, a couple of which are reproduced here for your delight. Some things in life rarely change, and a woodworker's need for tools is one of them. Presented here was a wide selection of kit to suit the average handyman woodworker, and all good examples of their type.

As I'm sure every reader knows, both these companies are still trading in one form or another, and tools from each firm are to be found in nearly every carpenter's tool bag on site today. Although modern manufacturing methods are sufficiently advanced these days to mass-produce very high spec machines and power tools, a lot of the basic hand tools leave much to be desired in terms of quality. If it weren't for the antique tool collectors encouraging the prices, I expect a lot more of us would have a tool kit that contained a good many tools from a vintage similar to these pictured here. When I first started out I had the good fortune to find a second-hand tool merchant in south London, and pretty much kitted myself out in one visit. Most of those tools are still going strong, and are a working testament to their creators.

I wouldn't be surprised to learn that many readers will have one or two of the items pictured here tucked away somewhere in their shed or workshop. Even better, maybe some of them are still in use today. If that's you, and you're still using any of the tools pictured on our archive page today, send me a photo and there could be a *Woodworker* badge in it for you!

Mark

More from The Woodworker archive next month…

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