

Woodworking

CRAFTS

HAND, POWER & GREEN WOODWORKING • TURNING • RESTORATION • DIY

Easy steps to build this painted dresser

- MAKE A SHAVE HORSE
- CHOPSAW TECHNIQUE
- SEQUENCED ROUTING



FEATURE:
*Building the
Nutshell dinghy*



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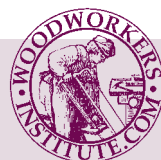
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Woodwork on the web

To find more great projects, tests and techniques like these, visit our fantastic website at: www.woodworkersinstitute.com





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Welcome

to the June issue
of *Woodworking Crafts*



Technique is everything

Hello Everyone and welcome to the June issue of *Woodworking Crafts*. It's my responsibility as Editor to commission, check progress and correct the articles that are published in the magazine. I've done this so often it just becomes second nature but one of the things I'm very keen on is technique. For instance, every time you read one of our project articles, you are actually imbibing the techniques set out by its author. This issue of the magazine is a case in point: a large, bespoke dresser unit; a feature on building a dinghy; shelves held up by copper pipework; and making carving knives. I'm not sure where else you could expect to discover such diversity of topics.

I hope that you can always find something of interest in our magazine that makes you want to have a go at a technique or process you haven't tried before. Even after all these years doing woodwork and DIY, I find I'm still learning and trying new things, especially now with green woodworking, which is relatively new to me. So go on, have a go and if you're not confident about the correct way to do something, get in touch with me. I can usually give you an answer and if I don't have it, I probably know a craftsman or craftswoman who does!

Anthony Bailey

Anthony Bailey, Editor

Email: anthonyb@thegmcgroup.com

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Lots of drawers means a lot of storage

The devil can be in the detail



The right choice of handle can transform furniture



Clean, crisp lines in a modern setting

Design Inspiration

Dressers still capture the imagination as a grand, stand-alone piece of furniture in both functional and a feature setting



The cut-down look is different



Painted dresser with mirror top and contrasting panels



There is a wide variety of knobs available

ALL IMAGES COURTESY OF SHUTTERSTOCK



PHOTOGRAPHS BY LOUISE BIGGS

Painted dresser

Louise Biggs makes a beautiful bespoke dresser

I was approached by clients some years ago who wanted a freestanding dresser to fit a recess in their home. They required it to have plenty of shelf, drawer and cupboard space and had already developed the basis of an idea of how they wanted it to look. After a few changes for construction purposes and to ensure the proportions were right, the final design was agreed and the dresser was completed and installed.

1 Firstly, draw up a full-size workshop rod. The next stage is to form the oak top. You need a lot of sash cramps, 'G' cramps and battens to glue the top correctly and keep it flat (the illustrated top is only half the length). Commonsense also says you need more than one pair of hands.

Main construction

The front frames, top and bottom, being tulipwood are mortise and

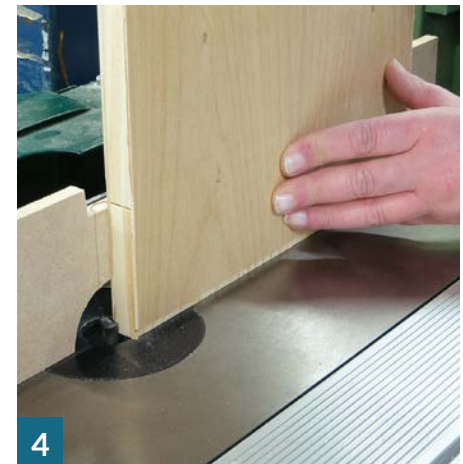
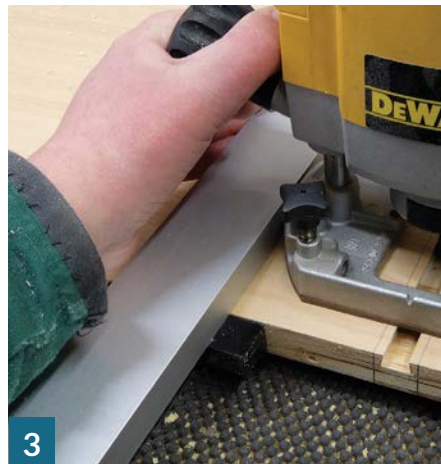
tenoned together and then tongue and grooved onto the main carcass. With the sides and partitions cut to size, the back panel is rebated into the side and top panels for the top section and sides, bottom and back top rail for the bottom section. On the bottom section the top rails are jointed to the sides with large lapped dovetails. The drawer rail, partitions and bottom panel and partitions are jointed using sliding dovetails.

Tools used

- Table saw and/or panel saw
- Planer/thicknesser
- Rule
- Pencil
- Squares – various sizes
- Chisels – various sizes
- Mallet
- Utility knife
- Router with router table
- Router cutters – straight – various sizes
- Dovetail cutter
- Step-rebate cutter
- Guide clamps
- Screwdrivers
- Mortiser or mortise chisel
- Dovetail saw
- Dovetail jig, if preferred
- Mitre cutter – machine or hand
- Good-quality paint brushes
- Personal protection equipment – eyes, breathing and fumes

Wood

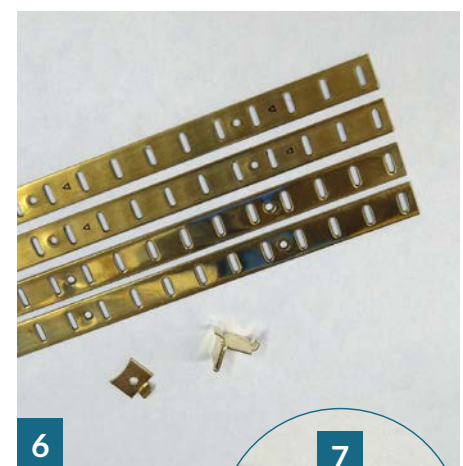
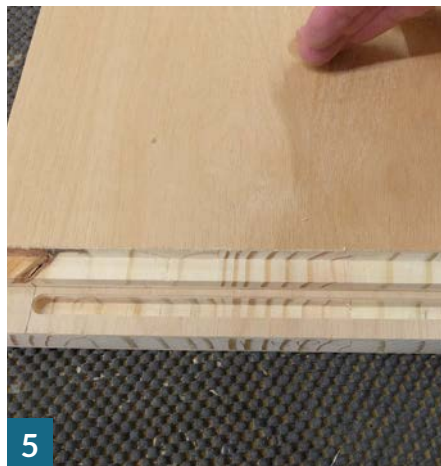
- Blockboard
- European oak (*Quercus robur*)
- Tulipwood (*liriodendron tulipifera*)



2 Next, mark the position of the partitions and bottom panel. Using a straight cutter with the router against a guide clamp, cut a groove across the panels to match the narrow point of the dovetail.

3 Then, follow this through with the dovetail cutter to form the 'tail'. By cutting the groove through first it takes a lot of pressure off the dovetail cutter as they do tend, especially with dense hardwoods, to snap at their narrowest point. When cutting the sliding dovetails cut all of the grooves first, followed by the dovetail, to form the 'tails', but this does involve careful resetting of the guide clamp.

4 Transferring the dovetail cutter to the router on the table, cut the corresponding 'pin'. When using blockboard score a line across for the depth of the pin to prevent breakout of the surface veneer when cutting across the grain. The first cut on either side is just the tip of the cutter, then adjust the fence a little at a time until a good fit is achieved without being overtight so as to allow for the glue.



5 For the top sections join the partitions to the top panel and fix the shelf to the centre partition and outer partitions with sliding dovetails, with the side and top joined with a stopped tongue and groove.

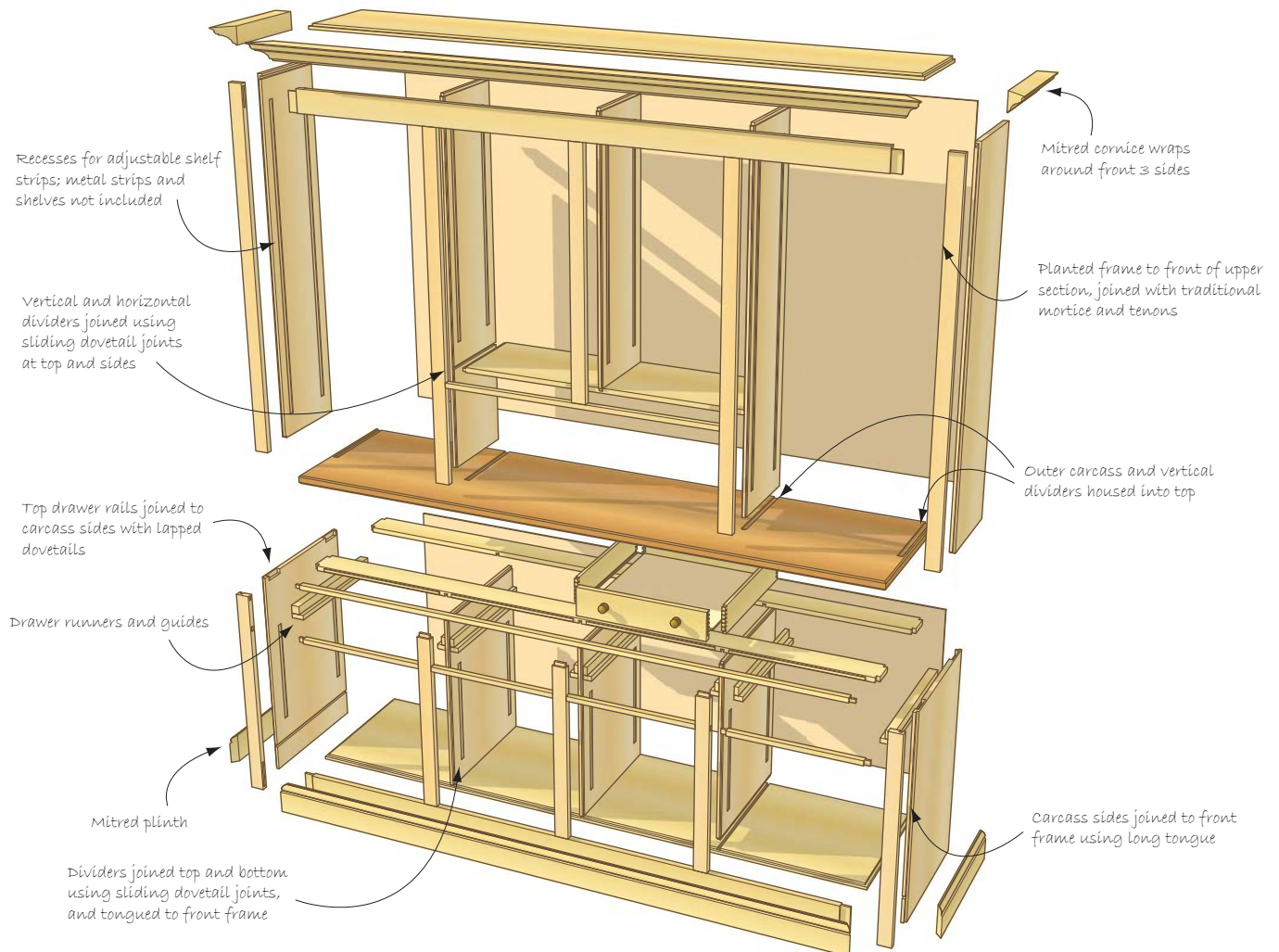
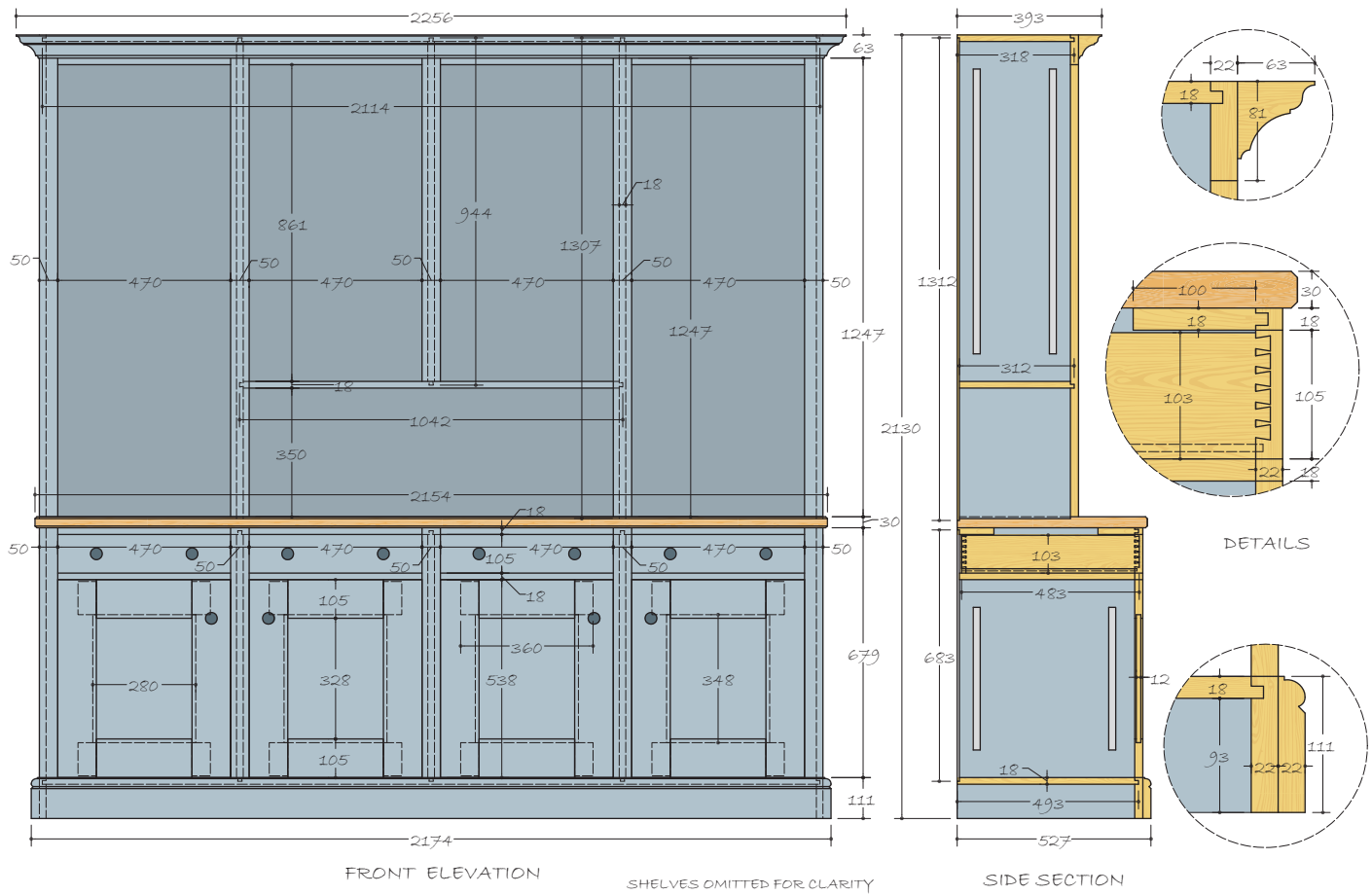
Recessing the bookcase strips

6 With the top and bottom's sides and partitions cut to size and rebated, the next stage is to recess the bookcase strips. Accurate marking out is critical to keep the shelves level with no rocking. Unlike some shelf supports, this type leaves no room for error.

The strips are marked on the reverse side in order that they are kept the same way around when fixing. At 1829mm long they can be cut to form two pieces; one for the top and one for the bottom if length allows.

7 The recesses can be cut using two different size router cutters, but cutters are available that cut both recesses simultaneously for bookcase strips. ➤





8 Next, the length of the strips need to be worked out for the top and bottom sections. One section of each is marked, the remaining sides and partitions can be marked from those two. How far in from the front and back edges the strips are placed is the next concern. If the strips are to be recessed in either side of the partitions they need to be offset so as not to break through the board. I tend to decide this on how the piece is to be viewed. In this case, the dresser is viewed mainly from one direction, so I placed all the left-hand strips in the same position and offset all those on the right.



9 You can also offset the strips in sections. For example, working from left to right of this dresser, sections one and three would match and sections two and four would be offset.

10 In this case the shelves are placed behind the front frame so tipping will be difficult. Were the shelves between the frame I would tend to move the strips further towards the front of the shelf or recess the rests into the underside

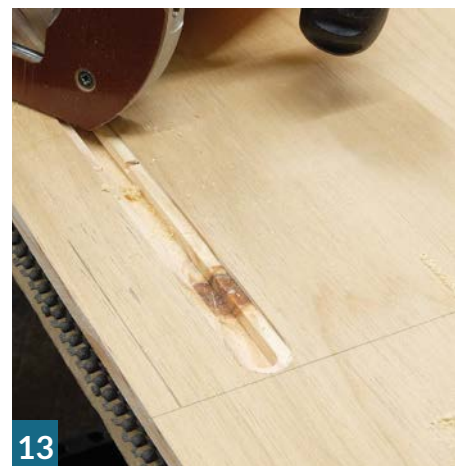


11 Set the depth of the cutter from a test section kept for this purpose.

12 For a cleaner cut make two passes with the router, the first to the depth of the back rebate.

13 Then, for each pass of the router, cut all the strip recesses in that position before altering the router for the final depth required.

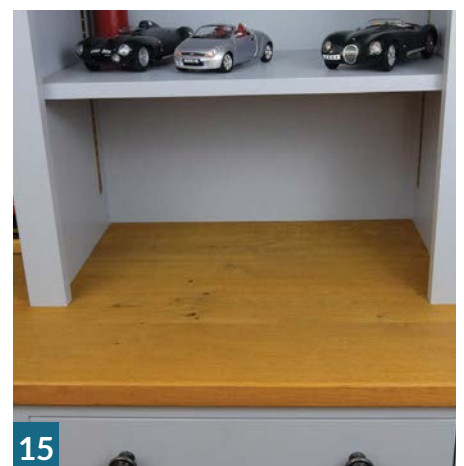
Follow the same procedure for moving the fence for the different offsets from the edges. Once all the recesses are cut, cut out the ends square, keeping the bottoms level with each other. Use a square to score across the bottom ends and up the sides.



14 Remove the remaining waste with a chisel before inserting the bookcase strips and screwing them into place. I always use slotted screws for fixing the strips as it looks far neater with the slots parallel to the adjustment holes for the rests.

Cutting into the oak top

15 With the design of the dresser, the two middle sections have a fixed bottom shelf, but this left little



to position the sides and partitions and keep them in place. With the top 30mm thick I decided to extend the top sides and partitions by 5mm and cut these into the oak top. The back was also extended and fixed into a rebate which made the top section solid with no chance of it moving out of line or square.

16 Firstly, cut the rebate for the back panel; this has a depth of 10mm to allow the back to be screwed into place and stops in from either end. With a straight cutter take the rebate out over three passes to obtain a cleaner cut with less chance of breakout on the oak. Then, lift the top section onto the top and position the back in the rebate. Now bring the sides into position, parallel with the end of the top and check with a square, then mark their position. Follow the same procedure for the two partitions.

17 Using a guide clamp as the fence for the router, cut a groove for each side and partition, stopping at the front edge and running through at the back.

18 Once the sides and partitions fit tightly in the grooves, mark the front frame and cut out the areas in the same way as the grooves. Use a straight edge to rout out the front edges of the cut-outs and then move the straight edge back to cut the back edge of the frame.

19 The corners can now be cleaned out using a mallet and chisel.

20 The end result should be the upper section locked into place within the top. Drill through the grooves in order to countersink under the top and then pull both sections together with screws so that the two can be separated for painting and finishing.

Main construction continued

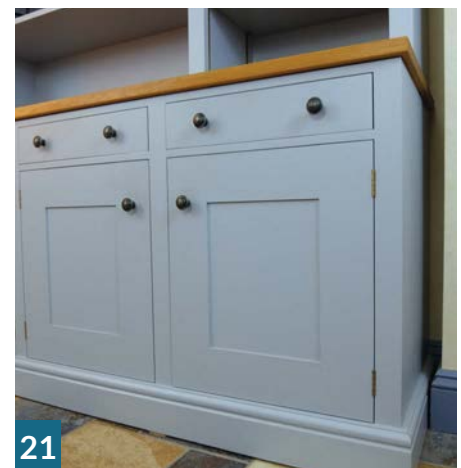
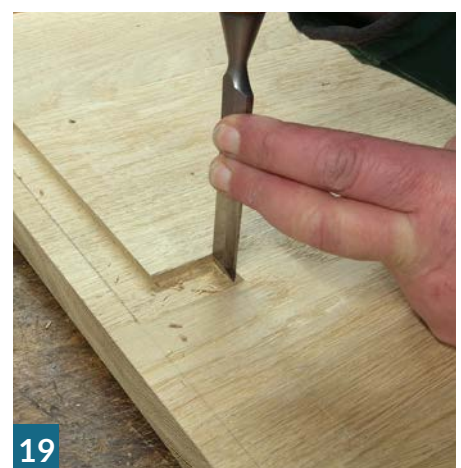
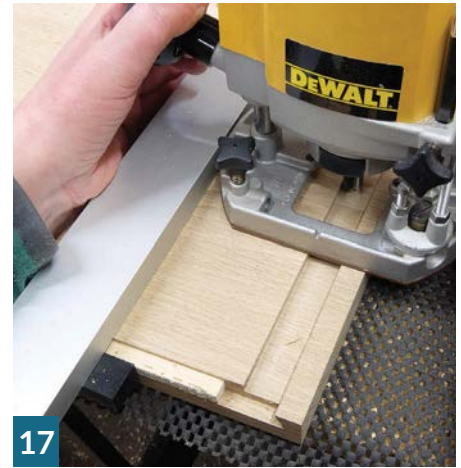
21 With the carcass together, form the doors using mortise and tenon joints with the centre panel rebated into the frame. Fit with solid drawn bass butt hinges, recessed into the door frame and carcass, then fasten using magnetic catches. Lap dovetail the drawers at the front and through dovetail at the back, all cuts done with a dovetail



jig and the bottom panel fitted into a rebate. They run on wooden drawer runners attached to the partitions behind the drawer rail. On top of these runners are the drawer guides that will steer the drawer into the carcass properly.

Add the cornice and skirting mouldings before the top and bottom carcass are separated and mask as required for painting the piece.

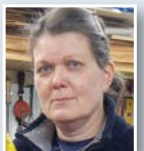
Next, remove the oak top and finish it with Danish oil. Once the top and top carcass are re-joined the dresser is ready. ■



Louise Biggs

Having completed her City and Guilds, Louise trained for a further four years at the London College of Furniture. She went on to join a firm working for the top antique dealers and interior designers in the capital before starting her own business designing and making bespoke furniture as well as restoring furniture.

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"Forbidden Fruit"
Miniature Carolina Parakeets
by Cam Merkle
Oil on Holly and Brass
Photo ©2014 Cam Merkle

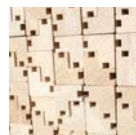
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Insight

Drawer handles

Peter Sefton reveals a sleek solution to opening and closing drawers

Find one of the most fundamental elements of furniture design is making the handle on a piece of work. It can be a make-or-break detail: it either enhances the item or has the opposite effect and detracts from the beauty of the piece of furniture.

Student projects

My students have recently completed a small table with a handmade drawer and, as part of the exercise, they have all had to design and make their own handle. Minimalist furniture is very much in vogue. Many pieces are without any visible handles, relying on

push-to-open drawer runners or fronts that protrude either over the face of a drawer rail, or over the upright edge of the cabinet allowing for a carved or routed cove giving a finger pull. That was not allowed within our design brief, so the students had to be a little more adventurous.

One of my mature students, Andrew Strickland, had a brown oak inlay line running around his table's apron rail and replicated this within his drawer front, incorporating a bowed inlaid drawer pull. This involved laminating two pieces of 2.2mm ash with a 0.6mm brown oak veneer sandwiched in-between. This added both strength and colour to the handle while making it look even more delicate than the 5mm section actually was. The lamination was then bandsawn and spokeshaved to form the inside of the curve, before sanding and pre-finishing the internal edge.

The drawer front was routed with a 5mm wide, 4mm deep, stopped groove with curved ends allowing for the bowed handle to flow and gain a solid fixing within the drawer front. The lapped dovetails were 'hounds tooth' style to accommodate the routed inlay, which enhanced his design.

Once the drawer making was completed and assembled, the drawer front was pre-finished and the pull was



Top: The drawer front routed, awaiting assembly



Above: Flushing down the drawer pull with a cabinet scraper

glued into position. After the G-clamps were removed, the curved handle was cabinet scraped, sanded into shape and flushed to the drawer front giving it a flowing flawless curve.

The final process was to hand-fit the drawer to a piston fit within the table carcass and final finishing. Andrew produced a very clean flowing handle – mission accomplished! ■

Wood

Brown oak (*Quercus robur*)
Ash (*Fraxinus excelsior*)



Hounds tooth dovetails to accommodate the central groove for the drawer pull

Peter Sefton

Peter Sefton is a well-known furniture maker who runs courses in fine woodworking, teaching and mentoring students at the Peter Sefton Furniture School. He also owns Wood Workers Workshop and he is a Liveryman of the Worshipful Company of Furniture Makers.
Web: www.peterseftonfurniture.com



NEWS & EVENTS

All the latest events and news from the world of woodworking...

Woodland Trust pushes for new volunteer groups with start-up grants

The Woodland Trust is offering start-up grants of £500 to new community groups in the North of England as it strives to encourage volunteers to own and manage their local woods.

It is hoped the pilot scheme will help to increase the level of woodland currently in community ownership. Research suggests that a mere 0.2%2 (4,711 hectares) of woodland in the UK is owned by community groups, a figure that falls far short of the proportion of woodland in community ownership in continental Europe.

At the same time, the Trust is also inviting established community groups to apply for grants of up to £10,000. The Trust, supported by lead project partner Nationwide Building Society, has an overall 'pot' of £170,000 to distribute and a target of working with 50 communities before the end of the pilot as it endeavours to get more people involved with their local environment.

Woodland Trust chief executive Beccy Speight



PHOTOGRAPH BY MATT ROBERTS, COURTESY OF WTM

The Friends of Common Wood in Bucks, who have been active for 13 years, are among those looking after our woodland

explained why the charity thought it was so important: "Trees and woods have so many benefits for society but we're becoming increasingly disconnected from the natural world. By providing resources and funding we can try to halt this worrying trend, helping people who are passionate about their local woods take an active role in the care and management of them."

As well as the grants, the Trust will hold training events to help communities build effective management and engagement skills. It has also launched the Community Woodland Network whose website provides information and resources about how to set up a group and the best ways to manage or acquire an area of woodland.

Contact: Woodland Trust

Web: www.communitywoodland.org

Satellite aids fight against illegal logging

A new satellite mapping system has been launched in the fight against illegal logging. The Global Land Analysis and Discovery (Glad) alert system will identify, almost in real-time, areas where illegal logging is active and should enable a speedier crackdown on the criminals responsible.

The system, which hails from scholars at the University of Maryland, will be a valuable tool in the arsenal of environmentalists and government departments keen to improve the monitoring of tropical deforestation.

Scientists have warned that an area of tropical forest nearly the size of India is set to be destroyed by 2050 if current trends continue. This would result in species loss, displacement and a major increase in greenhouse gas emissions.



PHOTOGRAPH COURTESY OF WIKIPEDIA

The Glad alert system will help to monitor areas of deforestation

It is hoped the Glad alert system will aid the efforts of researchers currently forced to manually track images of illegal logging.

The Green Scythe Fair

The Green Scythe Fair in the Somerset Levels promises visitors more than 70 stalls displaying traditional skills, crafts and produce, organic local food and the best ales and ciders. There will also be live music, environmental debates and a large children's area with activities planned throughout the day.

When: 12 June, 2016

Where: Thorney Lakes, Muchelney, Somerset TA10 0DW

Web: www.greenfair.org.uk

Number 10 honours former Chichester College student

The Prime Minister's Office demonstrated its support for young, home-grown talent earlier this year as it showcased the work of ex-Chichester College student Edward Harringman.

The 22-year-old, from Battle in East Sussex, named best young cabinetmaker at the 2015 WorldSkills competition in São Paulo, was invited to present his gold medal-winning cabinet at the PM's residence in February. "It took four years of training and a lot of sacrifices to win," said Edward. "I hope [this] sends out a message that technical careers really can deliver great employment opportunities."

Skills Minister Nick Boles received the cabinet, built in fewer than 22 hours, on behalf of PM David Cameron.

Contact: Chichester College

Web: chichester.ac.uk



Edward (right) presented his gold medal-winning cabinet to Nick Boles (centre) at 10 Downing Street. They are joined by Christian Notley (left), a lecturer at Chichester College and a WorldSkills UK Expert for Cabinet Making, who prepared Edward for the 2015 competition

Reader email

Stylish storage on a budget



The large, handsome cupboard helps keep things neat...

I thought *Woodworking Crafts* readers might be interested in a cheap and easy way of making plain cupboard doors look more pleasing to the eye without spending a lot of money.

My wife asked me to make a set of utilitarian base cupboards with shelving above to store her sewing bits and pieces, however the design committee changed the game plan and the shelves became two more considerably larger cupboards!

The upper cupboard doors would have been very plain and heavy if they had been made from the 18mm



... with plenty of storage space!

ply that constituted the carcass, however, so I decided to find a method of lightening them to make them more aesthetically pleasing.

My solution was to make a frame with biscuit and mitred corners, with the inside aperture rebated to take a piece of material used to make radiator covers, this held in place with 9mm quadrant.

Regards
Alan Coates

West's Wood Fair

West's Wood Fair is hoping this year's event will be better than ever with a number of trade stands and a string of demonstrations such as hurdle-making and chainsaw carving. The workshops and showroom will also be open to visitors who will be able to see the fine furniture and joinery and view West's of East Dean's woodworking machines in use.

When: 18–19 June, 2016

Where: East Dean, Nr Chichester, West Sussex

Web: westswoodfair.co.uk

Lumberjack display Adam's Axe Men will join the entertainment at Wood's West Fair



BOOK REVIEWS

This month we review *Dream Treehouses*, *Building Doors & Drawers* and *Upcycle: 24 Sustainable DIY Projects*

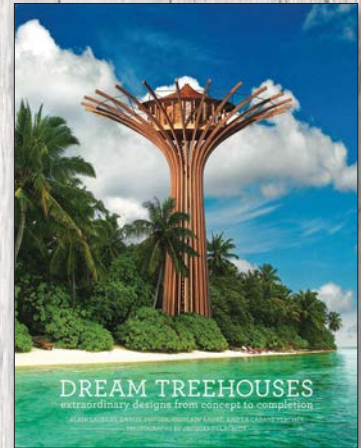
Dream Treehouses

by Alain Laurens, Daniel Dufour, Ghislain André and La Cabane Perchée

They say don't judge a book by its cover, but this bright, intriguing and beautiful cover can't help but scream 'pick me up!'. Among lush tropical greenery stands a towering treehouse and one can only imagine how dreamy the outlook would be from the top. And this is only the beginning.

The large coffee-table book presents 40 extraordinary tree houses designed and built by the acclaimed team La Cabane Perchée. They have worked across the world in countries including France, Switzerland, Belgium, Denmark, Russia, Italy, Spain and the United States and this book shows the interiors and exteriors of many of their tree houses. It also features watercolour and sketch designs, allowing the reader to see how the tree houses developed, from idea to finish, with a collection of brilliant high-quality, colour photographs for each tree house.

Dream Treehouses is a fun, bright and informative coffee-table book, perfect for those interested in design.



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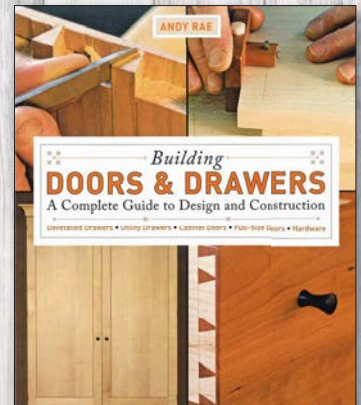
Building Doors & Drawers

by Andy Rae

Andy Rae's book opens with the assertion that 'Drawers hold secrets, and doors open to reveal wonders worth seeking'. However, as well as adding functionality and interest, they have the potential to elevate or spoil a piece of furniture depending on the success of their design and execution. In *Building Doors & Drawers* the author focuses on both design ideas and effective methods of making these key components. The beauty of a technique- rather than a project-led book is the incredible amount of detailed information that can be included, which other books tend to take for granted or simply do not have the space to mention.

There is equal focus on form and function throughout, with clear explanations on how to achieve well-fitting drawers and doors as well as effective ways to ensure the overall proportion and design is appropriate.

It is the small details that add up to a big difference in the quality of a finished piece and this book enables the reader really to consider and refine their furniture. If you question why your doors and drawers are letting your work down, or if you are curious about exploring new ideas, then *Building Doors & Drawers* is a great place to find the answers or provide a spark for the creative process.



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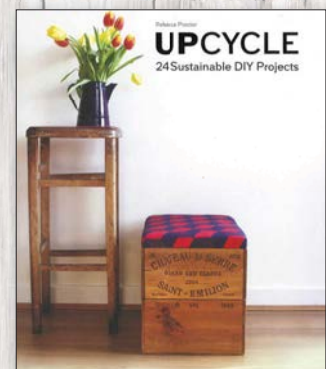
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Upcycle: 24 Sustainable DIY Projects

by Rebecca Proctor

As the title notes, Rebecca Proctor presents 24 high-end upcycled designs for the home. They come from a number of international product designers and all the projects are eco-friendly. These include a crate stool by Segev Moisa, marine light by Nir Meiri, reading lamp by HILLSIDEOUT, rag rug by Angela Weissenfels, bottle vase by Stella Melgrati and more.

An unusual element to this book, in all 24 projects, is that apart from the opening photograph and the odd image within the projects, the short and simple steps are accompanied only by illustrations. Although one might believe step-by-step photographs may be the better option, these simple illustrations make the steps a lot clearer, allowing the reader to see how parts fit together completely. A great book, with plenty of useful and eco-friendly projects.



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CHOPSAW *technique*

Chris Grace cuts to the chase with some safe and useful advice on using a chopsaw

The chopsaw or compound mitre saw is probably more useful than many other machines but dealing with dust and working safely present a variety of problems which are not easy to solve. Having worked with this machine for some time, I have come up with a variety of ways to improve working with these saws which can be adapted to suit your own particular machine.

1 The octopus coming out of my extractor means that I can capture sawdust from both the dust port on the saw and either side of the blade. The blastgates enable me to provide suction to the saw or elsewhere in the workshop as required.

2 **WARNING:** Do not put an unrestrained extractor or vacuum

hose near your blade like someone I know did. Apparently it takes ages to untangle the mess after you have checked you haven't lost any fingers and changed your trousers! I have used elastic shock cord securely fastened to my clamps to keep my hoses where I put them, though they are easy to adjust when required.

3 One problem with all chopsaws is that the fence must accommodate the full range of movement of the saw, meaning that it can't support the workpiece being cut near to the blade where it's needed. Hence a sacrificial fence is required. The first jig for my chopsaw was hastily made when I initially needed it, from materials I had available, but in hindsight proved a bit small – I also cut it in half recently – whoops!

4 Here I am measuring out a larger board from which I will make a new sacrificial table/fence to cut smaller pieces of wood. It's bigger than the capacity of the saw, however the Festool is accurate enough for me to be able to cut once, then turn the wood over and intercept that cut from the other direction.

5 Because I made the new jig larger I decided to cut the front corners off at 45°. This meant I could manoeuvre around the jig more easily without catching on sharp edges and inadvertently moving the jig when setting up or in use.

6 The rear fence needs a small chamfer along the bottom edge so that any sawdust has somewhere to go, rather than protruding and affecting the accuracy of your cut when trapped between your wood and the jig.

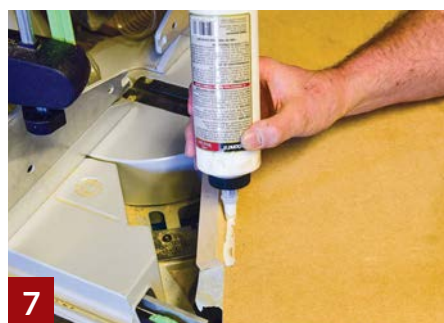
7 In order to align everything accurately I created a hinge with masking tape for gluing the fence on. I don't like to use any fastenings here as I am bound to do an off-centre cut at some point and forget about screws until I have ruined a blade! The tape also means I don't get glue all over my saw.

8 I hinged the fence to its intended position to check everything aligned, then down again to ensure that the glue had spread evenly (you can see a little more is needed in the middle). I then left it open for a while to see how much would soak into the 'end grain' and topped it up before clamping it in its final position. I wiped away the excess glue, ensuring that the chamfer was clear as well, before the glue finally set.

9 My second 'must have' jig is a stop block for repeat cuts. Note two chamfered edges on one end to minimise the chance of sawdust getting trapped and affecting accuracy. When I used this I initially had to move the work holding clamp from its typical position on the left, to the right to secure this block. So, I bought an additional clamp. Not cheap, but this type of clamp is so quick and easy to use that it's worth the expense.

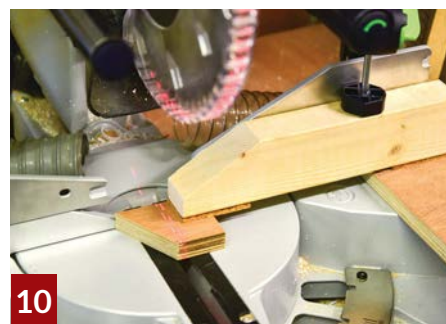
10 Sometimes I find the need to trim or cut small pieces for projects, so to keep my fingers safely away from the blade I use a bridging block, with cork pads. This enables me to hold the smallest of pieces safely and securely for cutting or trimming. You just need a piece of material the same thickness the other end to keep the block parallel to the machine bed.

11 Here all three jigs are in use together, illustrating their



value in creating safe, accurate, repeatable cuts on smaller workpieces. The additional benefit is that as the wood is supported underneath and at the rear, you get a much cleaner cut, with no ragged edges.

12 Recently, I needed to make a tapered cut on a long thin piece of wood for another project, which would have been impossible to hold safely. I might have been able to do it with the jigs shown above, however I felt it would be better to create another jig. I used M8 bolts and star knobs with a through hole to secure the top clamp. It is shown here cutting an angled sliver from a handle. ■



Chris Grace

Chris has been turning wood for about six years. He has enjoyed making things with wood and metal on and off all his life alongside his work commitments, but the discovery of the lathe rekindled his enthusiasm for working in wood. Chris sells his work by commission, demonstrates and provides instruction. chris.grace@notjustround.com www.notjustround.com



Hints, Tips & Jigs

Your chance to pass on all your crafty hints, tips and jigs to the readers and maybe even win a prize!

LOOSE JOINTS

I must admit that despite many years of amateur woodworking the thing I still find most difficult is getting consistently tight joints, but I suspect I'm not alone at struggling to make good firm joints first time. It may be because I use hand methods rather than machines and my dodgy eye can't help. I quite often resort to the trick of using pieces of veneer to pack tenons, which I happen to have left over from some marquetry work, small veneer offcuts are well worth keeping just in case.

Bill Sidley

It's not just you Bill, we all have joint problems from time to time, whether made by hand or machine – Ed



You need to clamp the glued packers to stop them curling up



Using beads to disguise a join



DISGUIISING JOINS

I recently saw a demonstration by a turner who showed using V cuts, beads and carved detail to disguise joints in hollow forms and other tall work. This got me thinking further about the joints used and the type of decoration one uses. If the joint is not perfect, one will see a slight gap when removing any wood. The demonstrator recommended a well-mated taper joint to minimise the risk of a gap forming on the joint and I think this is right because a parallel joint on a neck piece would see the joining piece unable to locate and instead slide though into the base section. One tip is not to use cyanoacrylate adhesive to bond the pieces together due to the fact that it can bleed into the fibres of the wood and colour stain the timber – again highlighting the joint. Use PVA or aliphatic resin glue. Another tip is to seal the wood first with sanding sealer to minimise any bleed effect from the adhesive.

Once the joint was cured, I tried cutting grooves, beads and carvings to disguise the joint and found that beads gave a perfect level of enhancement and disguise. The trick is to get the inner or outer edge of the beads to line up exactly with the join itself; if you get the join in the middle of the gap between beads it will be immediately obvious. I hope this helps.

David Smith

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It is possible to cut out awkward shapes in awkward places

THE SHARP END

I have found a use for reciprocating sawblades – they make handy handsaws for awkward access cuts. Take a blade and use epoxy resin to glue it into a shaped wooden handle! I cut the blade slot in the handle on the bandsaw by standing the unshaped block on end and pushing onto the bandsaw blade deep enough to hold the recip blade. Then the handle is bandsawn to shape, the blade glued in place and a slim 'keeper' piece can be glued into the remaining slot for a solid job. I always have one saw in my site toolkit and one in the workshop.

Bob Newman



This mini vice makes workholding safe and easy

GRIPPING STUFF

I was trying to hold some quite small pieces to sand on my disc sander, but it was impossible. Either my fingers got sanded or the workpiece got sanded out of shape, or even trapped in the gap between the sanding disc and the table. I decided to put two pieces of wood together to make a clamp. Because it is made of flat pieces it can sit on the sanding table and be moved around to sand curves. A countersunk bolt, plus a washer and a wingnut on top, hold it all together and a slim wedge pushed in the back end supplies the pressure to close the jaws at the front. I found it held workpieces really well but you could also stick some abrasive paper to the jaws to help the grip. This gadget works a treat. In fact, several of my mates at the club have asked me to make them one!

Roger Linfold



EASY FIX FOR POOR WOODWORK

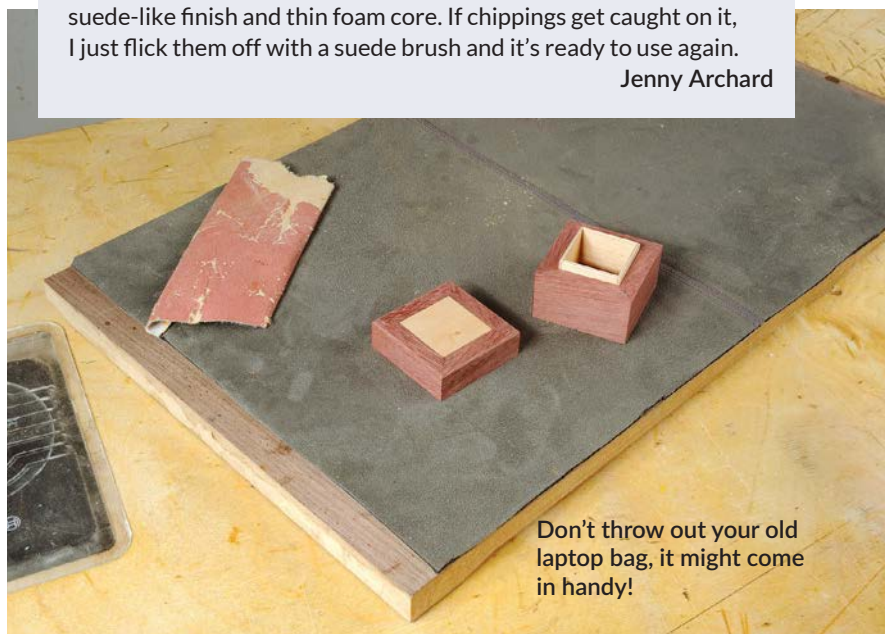
If you have woodwork in poor condition round a window or door lining then the quick, easy answer is to plant neat strips of, say, 9mm MDF onto those surfaces cut to fit around any obstacles. Just screw in place with twinfast screws and fill over the heads and suddenly the whole thing looks a lot neater. It certainly saves on paint stripping, heavy sanding or deep filling!

Barry Radford

SOFT SKIN

I needed a protective surface for working on things that might get scratched on the workbench. I had a bright idea and kept an old 'second skin' type laptop bag with a wrecked zip. I cut it and flattened it out – minus zip and lumpy bits – and glued it to a board with contact adhesive. It makes a perfect soft surface with its suede-like finish and thin foam core. If chippings get caught on it, I just flick them off with a suede brush and it's ready to use again.

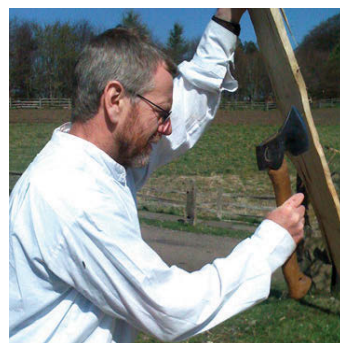
Jenny Archard



Don't throw out your old laptop bag, it might come in handy!



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GREEN WOODWORKING



PHOTOGRAPHS BY PETER WOOD

Building a shave horse

Peter Wood draws on his experience to create the perfect sit-down job

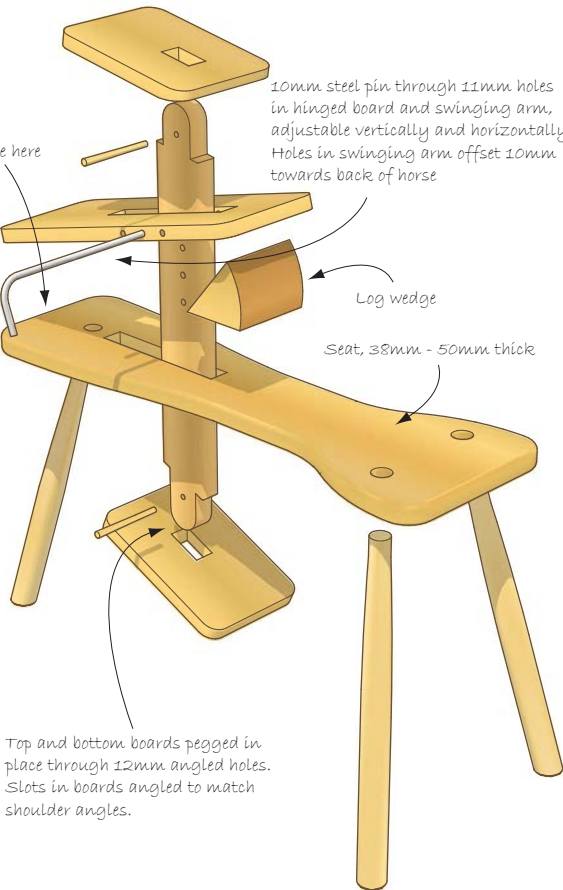
In this article I'm going to show you how to make a continental/American 'dumbhead' shave horse. It's a really good 'quick release' vice that leaves both hands free and allows you to sit while working. There are other designs such as the bodger's horse but I like this style. The shave horse is equally at home in the woodland and the indoor workshop. Designed correctly the horse works efficiently and is easily adjusted, allowing you to work precisely and in relative comfort. ►

Tools used

- Bandsaw/chainsaw
- Large auger
- Sliding bevel
- Chisel
- 10mm mild steel bar
- Drawknife
- Axe
- Drill with assorted drill bits
- Spokeshave
- Cramps
- Hacksaw
- Router (if available)

Wood

Ash (*Fraxinus* spp.)



3 Set your sliding bevel to 15° and drill through. You can change the splay of the legs by moving this sight line forward or back. Use a large auger with a 1¼in diameter (this matches one of my rounding planes). Now drill the front leg hole from the top at an angle of 20° sighting along the centreline.



4 Cleave the legs from a log of ash, axe them roughly cylindrical and drawknife them round.

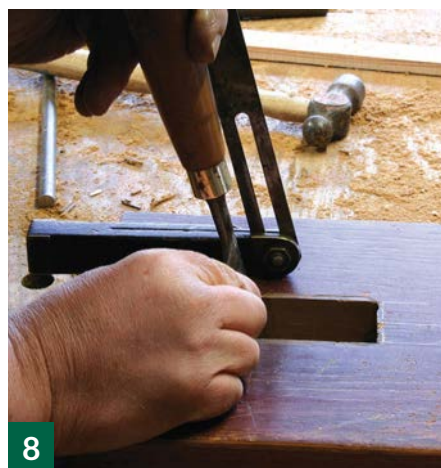
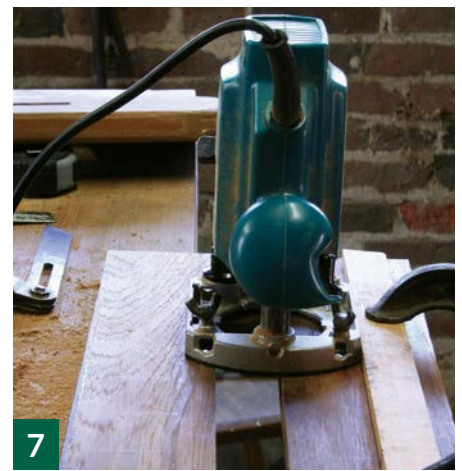
5 Using the centreline as a guide, mark out the slot for the swinging arm. This needs to be a snug fit, such that the arm can swing easily but not twist. I've used a chainsaw to cut this slot out, but you can drill a series of holes and clean out with a chisel, use a jigsaw or a router. The slot should match the thickness of your swinging arm.

6 For the swinging arm I had a length of leftover ash from a pole lathe. Using the diagram as a guide, cut to length, mark out the angles for the top and bottom tenons and then cut out the tenons. Having the tenons angled brings the footrest and top section to the correct angles for gripping and for your foot to rest on. You could also drill the holes for the pin, but it is advisable to wait until you've finished the rest of the shave horse, you can then change the position of the holes to suit your work. One thing to remember is that when you drill these holes use a drill bit that is slightly oversize to the pin and bring the hole forward of the centreline so the swinging arm automatically opens when you release the pressure from your foot.

7 I used a scrap workbench top for the next three parts. Cut the three parts to size and then cut the slot out of the middle plank and the mortises for the top and bottom section. This time use a router, setting up a fence as a guide. You want a snug fit but not too tight as you may want to dismantle your horse for easy transport. Alternatively, cut the slots using a drill and chisel or cut with a jigsaw.

8 Use a guide to cut the ends of the top and bottom mortises to the correct angle: 10° for the top part and 25° for the footrest.

9 The central work board now needs drilling for the pin that the swinging arm pivots from. You could opt for a wooden pin for the pivot if the board is thicker, but as we've only 25mm to play with, I've opted to use some leftover 10mm mild steel bar. Drill a series of holes as this will allow you to move the head of the vice forward ➤



or back so you can grip the work in different places. Note: I'm using an 11mm drill bit to give a loose fit making it easy to change the position of the arm. Use a straight scrap piece of wood as a guide to aid in drilling, an extra pair of eyes will also help when drilling these holes.

10 The pin is made from a scrap section of 10mm bar. Cold bend one end 90° to form a simple handle then cut it to length.

11 Fix the central work board to the body of the horse using a 100mm hinge. This will keep the board stable.

12 Peg the top and bottom boards in place. Drill a 12mm hole at a slight angle of 6°. Make a corresponding size peg and shave it to a taper. You can then knock the peg in. This fixes the head and foot rest quite securely but makes it easy to take apart.

13 Chamfer the underside of the top board as this will reduce bruising of your work. A further refinement would be to glue some leather here and on the central board which will also protect your work.

14 Finally, cleave a wedge from the log used for the legs. The sides are different lengths. This means that by turning it over you can change the height of the centre board (invaluable on my courses when you have different sized people who will be using the same shaving horse).



15 To finish the horse, take it to pieces and round off all edges and contour the body. Don't be afraid to change the measurements to suit your requirements. You can make the body narrower or shorten the legs (you'll need to shorten the swinging arm as well). A cushion helps with comfort or I'm tempted to use one of my scrap, Windsor-seat bottoms on the board! ■



Peter Wood

Peter has been a skilled green wood craftsperson making Windsor chairs and other creations for over 25 years. He demonstrates these skills around the country, gives lectures and runs hands-on workshops for all ages. He set up Greenwood Days in the National Forest as a centre to teach a range of traditional and contemporary crafts. He is also the current world champion pole lathe turner!

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Hide that clutter

There'll be no more shoes to trip over with James Hatter's hall tidy unit

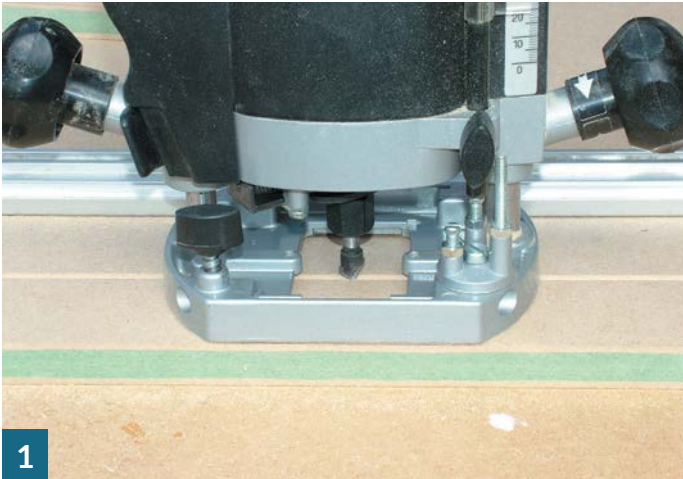
Keeping the hallway free of clutter not only makes it look more attractive and welcoming, but also reduces the associated hazards. Many homes have narrow halls that restrict the size of any storage facility, but this project describes a hall tidy only 668mm wide, 718mm high and 238mm deep. These small dimensions do lead to some compromises, so larger shoe size users would benefit from increasing the size of the unit if possible. It has three small drawers, and shoes can be stored on shelves that slope down by 45°.

Water-resistant MDF is used for the carcass, shelves and drawer fronts. The sides and drawer fronts have a tongue-and-grooved (T&G) effect for interest. The visible MDF is finished with a water-based white satin topcoat, and oak trim is added to give contrast. The shelves and back panel have an added coat of satin floor varnish to give a more resilient surface that can be wiped clean. All inside surfaces have the finish applied prior to assembly and the components are joined together using a mixture of biscuits, screws and adhesive.

Carcass

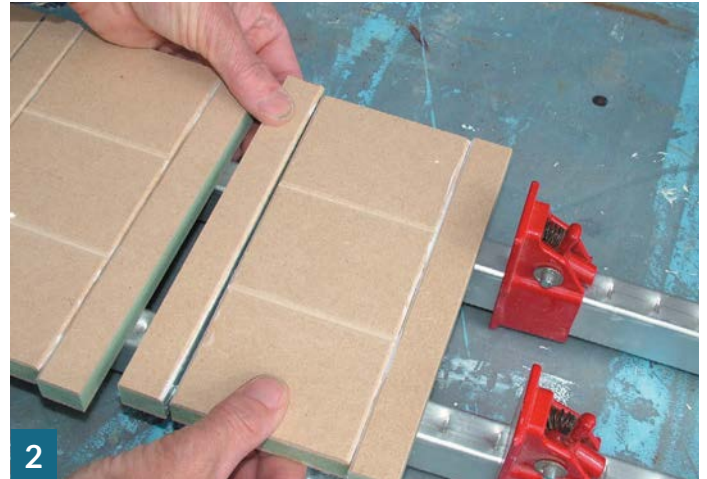
The side panels are each 225 x 652mm, the top panel is 230 x 650mm, and the intermediate and bottom panels are 199 x 614mm, all from 18mm MDF. To accommodate the back panel and allow for the skirting cutout, a 10 x 26mm rebate is required along the back inside edge of the side and top panels. This can be achieved using a 12mm straight cutter in a table-mounted router, with the height of the cutter adjusted to 26mm and the fence adjusted to progressively cut the 10mm depth. Some standard grades of

DRAWER FRONT, SHELVES & CARCASS CONSTRUCTION



1

A T&G effect is achieved by use of a 'V' bit in the router



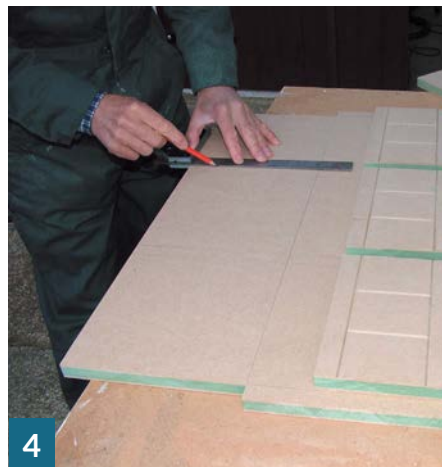
2

Drawer-front construction



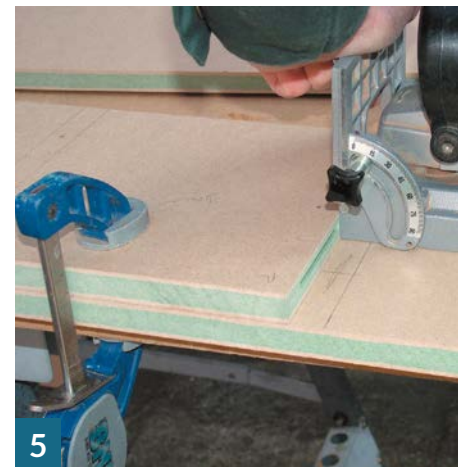
3

The shelves are biscuited together



4

Carcass sides are set out with care...



5

... and slotted for biscuit jointing

MDF can be counterbored to fill later. The back panel is 662 x 632mm using 6mm MDF. Test fit the joints. The side panels are given a T&G effect by using a V-bit in a router, and running the router along a straight guide at regular intervals.

Shelves

Two shelves are included, each being made by joining two strips together via spacers. For each shelf cut two 110 x 614mm strips of 18mm MDF, and four 90 x 40mm spacers. The spacers use size 20 biscuits to join to the two long strips and thus create the shelves. Cut the components to size and mark the positions for the spacers and for the biscuits, then cut matching size 20 biscuit slots, and dry fit to check alignment. Put a slight chamfer on the joining edges and assemble each shelf using the biscuits and adhesive. Check that the assembly is square, then cramp until set. The front edge of each shelf will require two 45° bevels forming a point; these can be cut by tilting the saw blade on a table ➤



6

A dry assembly enables the drawer-fronts to be fitted

saw to 45°, then running the shelf edge along. The back edges are chamfered.

The shelves are joined to the side panels using size 20 biscuits. Mark the shelf positions on the inside of the side panels and, using the shelf edge as a guide, cut matching biscuit slots.

Assembly

Join the two drawer partitions to the intermediate panel using 4 x 35mm screws and adhesive, and cover the screwheads with filler. Before further assembly, smooth over any sharp edges then seal and paint all the inside surfaces. I used all water-based products and, because MDF is best sealed first, I applied Rustins quick-drying MDF sealer. Mask the joint areas with tape, and then apply two coats of white primer and undercoat, followed by two top coats of brilliant white satin paint. A small roller will assist application. The shelves, back panel and top surface of the bottom panel have an added coat of clear acrylic floor varnish. Remove the masking tape from the joint areas, then join one end of the intermediate and bottom panels to a side panel using size 20 biscuits and adhesive. Close the joint with a 4 x 35mm screw at each joint. Join one end of each shelf to the same side panel with size 20 biscuits and adhesive.

Next, join the other side panel, then attach the top panel to the sides and drawer partitions using size 20 biscuits and adhesive, making sure that the shelf front edges are flush with the front of the side panels.

Apply cramps to close the joints. Fix the back panel using 3 x 16mm screws, or panel pins if preferred, ensuring that the unit is square. Fill the screw counterbores and apply the same finish to the outside surfaces.

Drawers

Three equal-sized drawers are included, and the fronts are made more decorative by selectively applying a T&G effect. Check the dimensions of your drawer openings, and if necessary adjust the sizes of the drawers to fit.

Each drawer front is 124mm high and 191mm wide. First, cut a piece of 18mm MDF 191mm wide and 260mm for the drawer front centre parts. The T&G effect is applied to this piece using a V-bit in a router, with the grooves running along the length of the blank. Cut three 80mm pieces from the blank, then cut 22mm wide

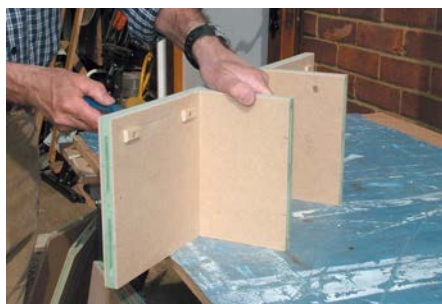
DRAWERS



The drawers are a simple box construction with the fronts biscuited on



The drawer bottom slides into grooves and is pinned in place to add further rigidity to the drawer box



The vertical drawer partitions are simply glued and screwed in place



With the top of the unit not present, the drawers can be positioned carefully



The drawer stops are fixed at this point while good access is available

GETTING THERE



All components are painted before the final assembly, and masking tape used to ensure the mating surfaces will take the glue efficiently



Don't try this in a high wind



The carcass back fits into a rebate, and helps keep the unit square



The oak feet of the unit are mitred and biscuited into place



Positioning the oak retaining rail

CUTTING LIST

From 18mm MDF:

Side panels, 2 off – 652 x 225mm

Top panel, 1 off – 650 x 230mm

Intermediate & bottom panel,
2 off – 614 x 199mm

Drawer partition, 2 off –
126 x 199mm

Shelf strips, 4 off – 614 x 110mm

Shelf spacers, 8 off – 90 x 40mm

Drawer front parts, 3 off –
191 x 80mm

Drawer front parts, 6 off –
191 x 22mm

From 9mm MDF:

Drawer sides, 6 off – 172 x 122mm

Drawer backs, 3 off – 173 x 100mm

From 6mm MDF:

Back panel, 1 off – 662 x 632mm

From 3mm MDF or hardboard:

Drawer bottoms, 3 off –
185 x 180mm

From 18mm oak:

Bottom retaining rail, 1 off –
575 x 18mm

Feet, 6 off – 60 x 30mm

From 15mm oak:

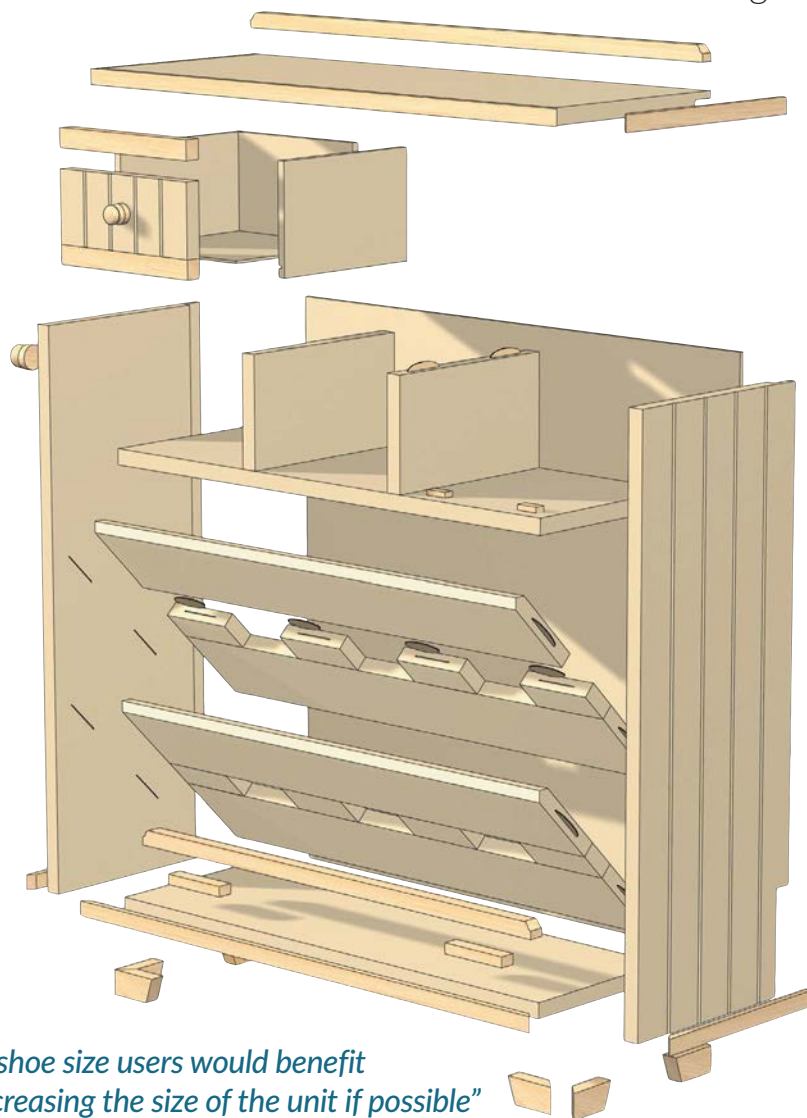
Top decorative rail, 1 off –
615 x 18mm

From 12mm oak:

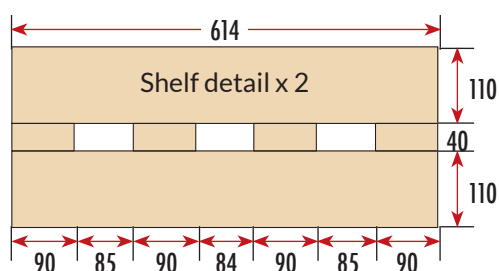
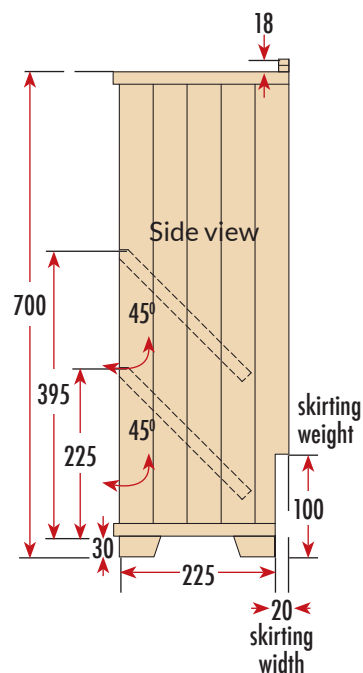
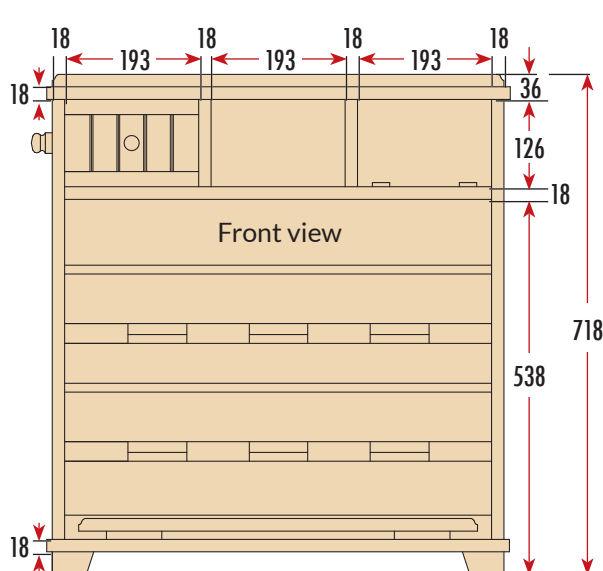
Rail spacers, 2 off – 80 x 18mm

From 8mm oak:

Front edge strips, 2 off –
668 x 18mm



"Larger shoe size users would benefit from increasing the size of the unit if possible"



All 18mm MDF

x 191mm strips of 18mm MDF two are required for each drawer. Use a strip to the top and bottom of each drawer centre. For emphasis and to achieve the T&G effect, slightly chamfer the edges where the strips and the drawer piece join. The drawer sides are each 172 x 122mm, and the backs are 173 x 100mm using 9mm MDF. The drawer bottoms are 185 x 180mm using 3mm MDF or hardboard. Cut the components to size and cut a 3 x 4mm groove in the sides and the rear of the drawer fronts to take the edges of the drawer bottom. Have the bottom edge of the groove 10mm from the bottom of the drawer side and 1mm less in the drawer front to give a 1mm gap at the drawer bottom when the drawer is closed. The drawer front is joined ➤

to the front of the sides using size 10 biscuits; cut matching slots. To assemble each drawer, slot the drawer bottom into the sides, and join the sides to the back using 20mm pins and adhesive. Stand the drawer on its back, and join the front using size 10 biscuits and adhesive. Check that the drawer is square, and then pin the drawer bottom to the back. The drawer fronts are finished in the same way as the carcass. Each drawer is held flush with the front by two 25 x 18 x 6mm drawer stops screwed 18mm from the front. Use a scrap of 18mm MDF to act as a temporary spacer.

Feet

The unit is mounted on four oak feet made from 18 x 30 x 60mm blanks tapered down to 50mm. The front ones are made from two of these with a 45° mitre, whereas the rear ones use one.



Nearly there now, and the oak trim is affixed top...



... and bottom

James Hatter

James is interested in the design and construction of a wide range of wood-based projects, and DIY, for home use. Ash (*Fraxinus excelsior*) and oak (*Quercus robur*) are his favourite timbers. He enjoys teaching, and working with his seven-year-old grandson, who he reveals makes really good suggestions in design.



For safety it is best to cut the required angles for the components individually, from a length of 18 x 30mm oak. The feet are attached to the bottom of the unit using size 0 biscuits and adhesive. Cut matching biscuit slots to the front and the rear. The front and side slots slightly interfere with each other so you will need to cut the biscuits to fit.

Trim

Oak trim surrounds the top and bottom panels. Prepare 9 x 18mm oak strips, and cut to size with mitres at the corner joins. Attach to the panel edges using 20mm brass pins and adhesive.

An oak rail is attached to the rear of the top panel with screws from below, and a retaining rail is attached towards the front of the bottom panel. The retaining rail has two oak spacers and is attached via screws through the bottom panel.

Varnish both rails before attaching, and varnish the oak edges and feet

Suppliers

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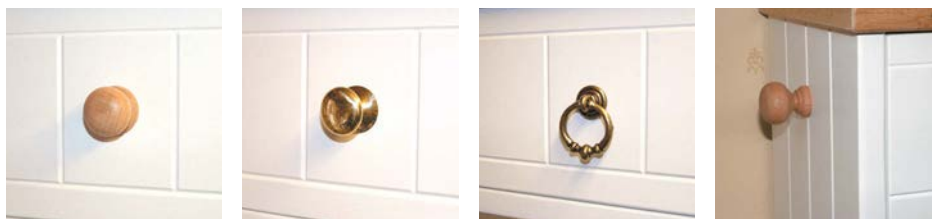
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with acrylic matt varnish. Attach a knob to each drawer front, and a larger one on the side if you want somewhere to hang a bag or umbrella. With new storage your hall will once again be a place of calm. ■

FINISHING TOUCHES



Decisions, decisions ... knobs...or handles? An additional knob will provide hanging space for bags and brollies



The finished unit, bringing order to the hall

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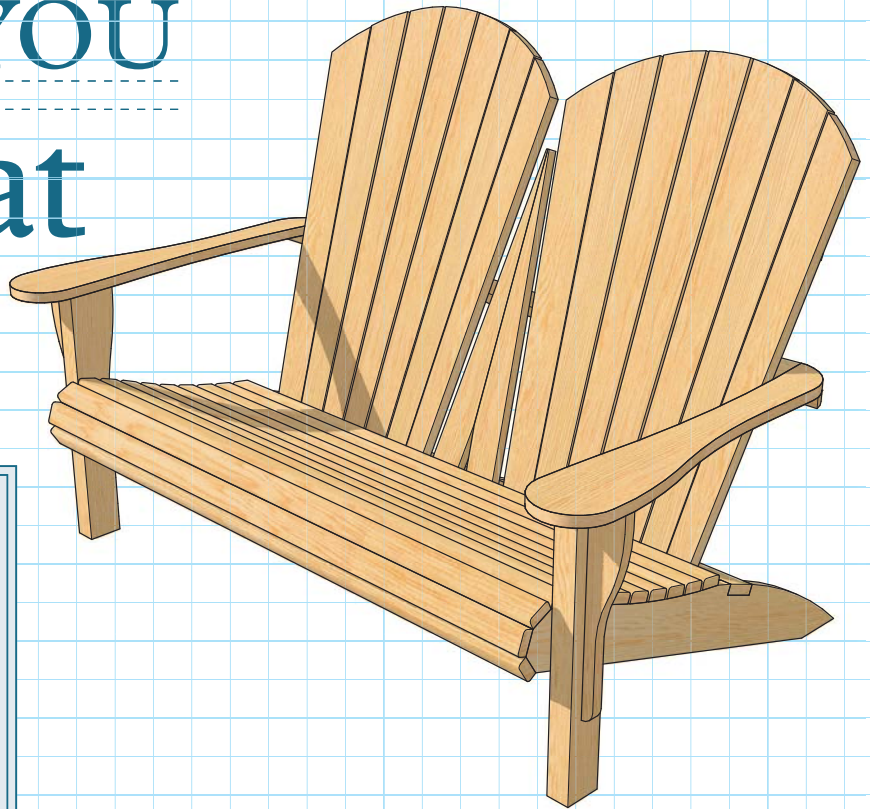
PLANS ⁴ YOU

Loveseat

Simon Rodway shows you to how to make your very own loveseat

CUTTING LIST

• Back legs	3 @ Ex 950 x 119 x 20
• Back slats	14 @ 900 x 96 x 20
• Back infill	2 @ 720 x 69 x 20
• Seat/bottom rails	2 @ 1260 x 69 x 20
• Arms	2 @ Ex 750 x 144 x 20
• Back rail	1 @ Ex 1400 x 69 x 44
• Seat slats	12 @ 1260 x 44 x 20
• Front legs	2 @ 530 x 96 x 44
• Arm braces	2 @ 380 x 69 x 20
• Back slat braces	2 @ Ex 650 x 69 x 20



The loveseat was not, as its name implies, originally for amorous purposes at all, but was a wider chair designed in the early 18th Century to accommodate the dresses worn by ladies of fashion. However, a century later the wide chair had become a small two-seater sofa and acquired its name of loveseat or courting chair. For this month's project, I've chosen an outdoor version, based on a classic American design, the Adirondack chair.

The overall shape and geometry of the Adirondack chair is determined principally by the back leg, which also provides support for the seat slats, and the back is a fan shape of vertical slats, usually between four and seven to a chair. There are almost no joints, unless you count the odd notch and, in this case, a half-lap so the tool requirement here is pretty minimal. I have also stuck to standard joinery section sizes and 20mm timber is used throughout, with the exception of the front legs and the back support rail, which are both 44mm thick.

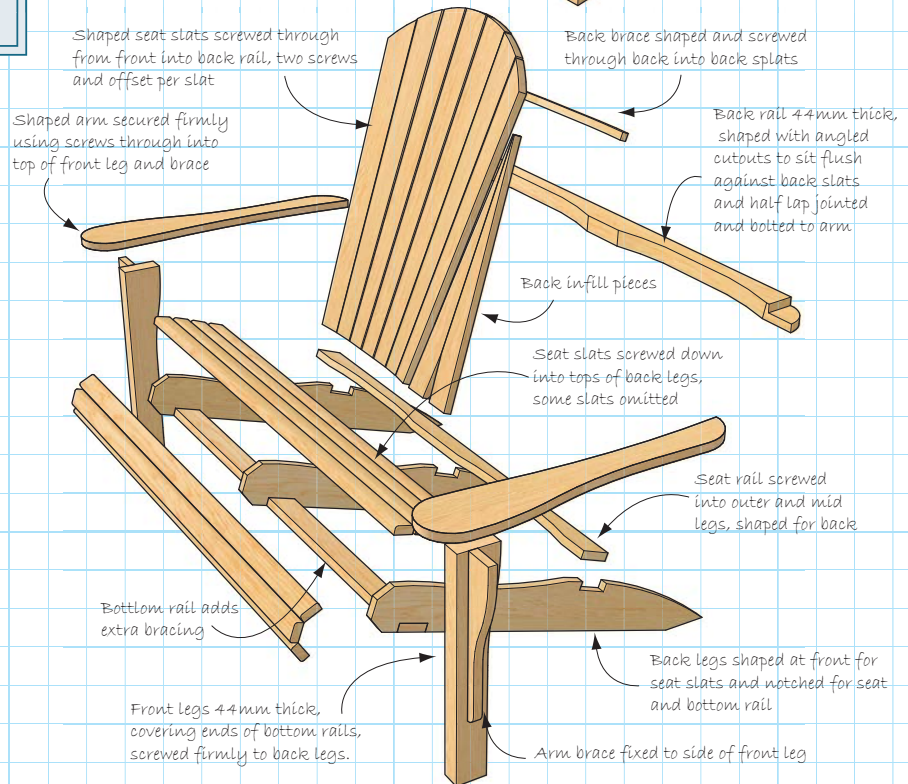
Assembly

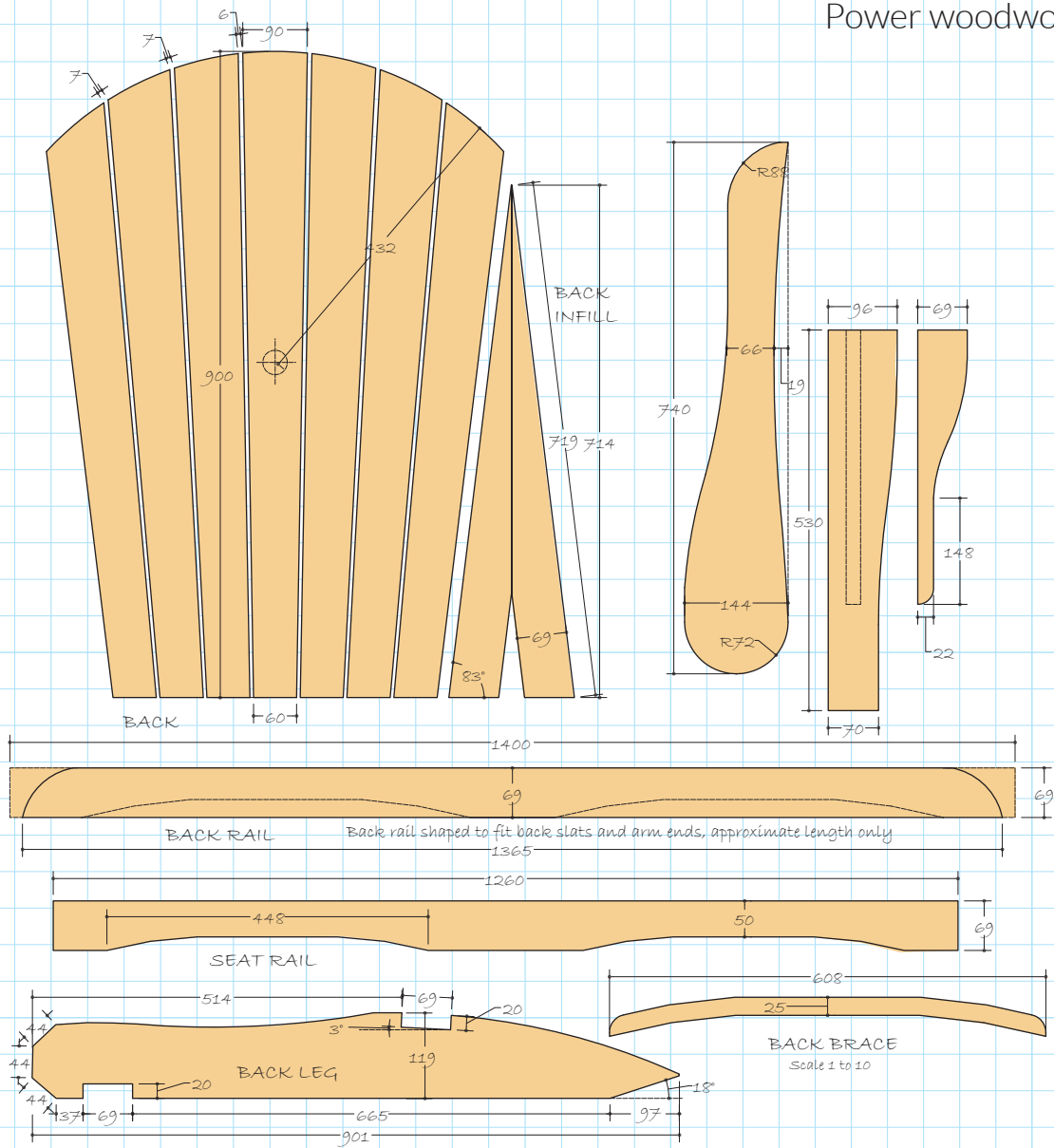
The first thing to do is establish the shape of the back legs, of which there are three, one at each end and one in the middle. Cut an angled section

from the back at 18°; this is effectively the back foot as it's the part that sits on the ground. Add the notch for the back seat rail; this will be cut out from what is the top of the leg, and is angled at 3° to the top edge. The remaining shaping of the leg isn't critical in terms of the geometry, but for comfort and appearance. The dished curve for the seat is about 20mm at its deepest and then thickens slightly at the end, where

a series of 44mm-long angled cuts are shown to allow snug fixing of the slats here so that they wrap nicely around the front of the seat. The position of the bottom rail is located so that the front leg will hide the end grain when it's fixed in place.

Once you're happy with the back legs, you can fix the bottom rail and slats to them. Both rail and slats are all the same length as the seat rail at





Cut and shape the front legs, arm braces and arms next, and fix the front legs in place so that they cover the ends of the bottom rails and the back feet sit flush with the ground. Secure the front legs firmly to the back legs with screws, and then cut and taper the vertical back slats, from 90mm wide at the top to 60mm at the bottom.

Turning to the seat rail next, cut to length and add the dishing or cutout on each side which will give the seat backs a slight curve. Some Adirondack chair designs leave the back flat and this is an easier option to build, but I think it adds to the comfort and appearance of your loveseat to add a small curve here. I have suggested a cutout of about 19mm deep and just under 450mm wide for each side, with only the four outer slats each side angled, leaving the middle

With the slats in place, locate a centre point about 430mm down the centre line of the middle slat on each side, and draw a curve across the top of your slats using a trammel. Remove the slats and cut them out to form curves on each back, and re-fix to the seat rail. Next, fix the arms in place, provisionally with single screws, and offer up the back support, cut long, to the back and the arms. You can mark and cut the shoulders for the half lap on the ends of the back rail at this point, and then scribe the positions of the back slats on the top of the back rail, so that you can make angled cuts and end up with the rail flush against all slats. You will need to adjust the positions of the arms and back rail until you achieve a proper fit, and then

finish the joint between them with screws and a bolt each side, shaping the ends of the back rail to match the curve of the arms at the same time. Secure the arms firmly with multiple screws into the top of the front legs and the braces and put two screws through each back slat into the back rail. Optionally, fit small shaped braces across the back and above the back rail to stiffen the back slats, and finally, add the two infill pieces between the back slats to finish your loveseat off. ■

Simon Rodway

Simon Rodway also runs LineMine, a website with articles and online courses on drawing software. A new course, 'SketchUp for Woodworkers', is proving really popular. For more information and to get discount coupons, visit his website.

Email: sjr@linemine.com
Web: www.linemine.com/courses

A portrait of Simon Rodway, a man with grey hair and glasses, smiling. He is wearing a dark blue collared shirt. The background is a light, neutral color.

KITTED OUT

Take a look at the tools, gadgets and gizmos that we think you will enjoy using in your workshop

PS315 panel saw

The Axminster Trade PS315 Panel Saw has been designed for the small trade workshop or keen home furniture maker.

The saw features a deep section cast iron table, fully welded heavy gauge steel chassis and a cast iron rip fence holder. The cast iron main table is fitted with a cast iron extension table making a combined surface of 820 x 800mm, plus a steel plate extension, giving a total working surface of 1,260 x 800mm. It has a heavy gauge cast iron rip fence holder and deep section alloy fence rail. The 1,600mm sliding table is smooth running and fully adjustable to be true to the table and blade giving a cut travel of 1,300mm.

A powerful 2.8kw input 1ph high torque motor drives both the cutting blade and a scoring blade. The blade can be either 254 or 315mm without removing the scoring blade. The split scoring blade is easy to adjust through the table top and can be retracted below the surface when not required. The saw is supplied with a 315mm Axcaliber TCT fine cut main blade, split scoring blade, a rear feed-off table, small mitre fence, an edge shoe and table support legs. A 16A power supply is required.



£1699.96

Contact: Axminster Tools & Machinery
Tel: 0800 371822 **Web:** www.axminster.co.uk

MINI TEST



£152.40

Price: £152.40
Visit: www.makita.co.uk

Makita reciprocating saw JR3050T

A reciprocating saw isn't a precision tool, it's a demolition tool for vertical work removing studwork, timber framing, piping, etc. To this end Makita make three corded models, this being the smallest – relative term, capable of cutting through 90mm wood or between 90 and 130mm pipe when fitted with the correct blade. We tried out the 250 volt model but most work sites would require the 110 volt version. It features an adjustable swivelling shoe to even out blade wear and a sprung collar to locate the blade. Plenty of rubber overmould to grip and reduce vibration.

Verdict

Makita claim that it cuts more efficiently than its predecessor model or the competition. I cannot vouch for that but some experiments on studwork and sections of pipe certainly showed it to be a 'mean machine'. They make a range of blades to deal with wood or metal, but they are particularly with their TC/HM range that can tackle wood with metal in it, i.e., nails, etc.

Solid Gear hydra GTX safety shoe

It's a highly technical, trainer-style safety shoe that integrates modern design with best-in-class materials for water protection, durability and a sporty look. Waterproof and breathable GORE-TEX® lining keeps your feet dry and comfortable, while the Vibram outsole and Cordura ripstop fabric offer great protection and ruggedness. The unique BOA Closure System, used on many top-brand sports shoes, distributes the pressure of the fastened shoe evenly across your feet to ensure a glove-like fit and all-day maximum comfortable protection.



£191.04

Contact: Solid Gear
Email: info@solidgearfootwear.com
Web: www.solidgearfootwear.com

MINI TEST

IBC chisels

Here is another entrant into the fine-quality tools market, a set of imperial sized, Canadian-made chisels with a twist – literally. The A-2 hardened steel blades have steep bevelled sides and are stamped IBC with the etched maple leaf symbol of Canada. Unlike all other chisels, these have a unique screwed-in tang that engages with a steel rod inside the handle and thus to an aluminium striking cap. The steel is clearly a superior cryogenically treated type with the curious ability to allow handle swapping as a result of this design. It does mean a definite cost saving if you buy a couple with handles and the rest without. Skew, butt and fishtail variants are promised too. Handles are a choice of maple or walnut.



Verdict

The blade backs are slightly hollowed, some flattening on a 1000 mesh diamond plate got a good polished area behind the blade edge. It was easy to achieve a good cutting edge which stood up to joint chopping very well, as I would have expected. The idea of changing handles seems perverse but it does save cost, although if a handle comes loose when working it is disconcerting. The aluminium caps won't accept the beating that an industrial-strength chisel like Irwin's construction range for example. These are more refined chisels and deserve respect. The side bevel is suitable for cleaning out dovetails apart from the last tiny perpendicular part of the blade cross section. A benefit of separate blades might be more compact storage of course. If you will forgive the pun, IBC chisels 'handle' very nicely.

Prices: From £55.95, or blade and ferrule only start from £37.95

Visit: www.johnsonstools.co.uk



From
£37.95

BESSEY clamping elements

As a specialist for manual clamping tools, BESSEY now also offers solutions for securing work pieces on woodworking benches. BESSEY clamping elements from the TW and TWV ranges can now be used on carpenters' benches in conjunction with the new workbench adapter. In just a few moments the TW16AW workbench adapter can be used to adapt BESSEY clamping elements from the TWV and TW range for 16mm matrix hole systems. The TWV and TW are available in three handle variants: a high-quality 2-component plastic handle, tommy bar or lever handle. Particularly practical for rapid clamping is the model with the lever handle, which utilises the lever's natural force. The unit's latching mechanism enables quick and precise clamping. The clamp is quickly and safely secured with a single action. The model designation TW applies to the clamping tools with a fixed throat depth of 100 mm, while the models in the TWV range have a variable throat length of between 30 and 150mm.



From
\$11

Contact: Bessey
Tel: +49 7142 4010
Web: www.bessey.de



£81

ALLROUND Work Trousers

The Snickers' next generation workwear range has modern working clothes that combine amazing fit with hardwearing comfort and advanced functionality. The WorkTrousers are in a new, contemporary designs packed with innovative features that focus on fit, comfort and freedom of movement using hardwearing fabrics for long lasting protection.

The new ALLROUND WorkTrousers the most modern products of their kind with superior knee protection, built-in leg ventilation and a stretch gusset for extra freedom of movement.

Made from a hardwearing nylon 'Dobby Pro' fabric with Cordura reinforcements, they have a host of handy pockets as well as extra features like an advanced side panel design that gives superior weight distribution when carrying tools and fixings. They really are the ultimate choice for professional craftsmen and women, perfectly suited to all kinds of work in all kinds of everyday working environments.

Contact: Snickers Workwear

Tel: 01484 854488

Web: www.snickersworkwear.co.uk



£196.80

LOGOSOL Big Mill Timberjig

Saws quickly and accurately for a small investment to upgrade your chainsaw. An expandable system for turning logs into joinery timber on the spot. Perfect if you have a small number of logs or if you want to try sawing your own timber. Can also be supplemented for sawing large logs. Build your own stationary sawing area with the Big Mill Basic and a few planks, drawing can be found in the manual. Includes two-year warranty and two months' money-back guarantee.

Contact: Logosol

Tel: 07468 511524

Web: www.logosol.co.uk

MINI TEST

Triton router track adaptor

If you are a Triton fan then you will want to be properly equipped for all the range of tasks their tools can undertake. Powertool manufacturers have been adding various useful accessories and Triton Router Track Adaptor is one of these. Whether or not you already have a guide rail, it is worth buying for the accuracy and control it gives. The adaptor comes in two parts, a pressed bright chromed steel base plate that slides on to the sprung bolts normally used to locate the router in a table. The other part is the hard plastic adjustable fitting that locates on the guide rail and has the rods that connect to the base. This allows you to do precise straight line machining either stopped or continuous.

Verdict

You need to fit this on the controls side of the router so the extraction port doesn't get fouled. You need to check the guide fitting is a wobble-free sliding fit. The factory setting for this was too loose so I had to find a small Allen key to make the necessary adjustment. The large knob locks the



fine width movement adjuster and is essential before you start machining. The fine adjustment range is limited and, of course, you need to check the positioning of the router end-to-end at start of each cut. A good gadget for straight machining runs on panel work.

Prices: £41.98

Visit: www.tritontools.com

MINI TEST

Record Power 16 bit Forstner set

This is more of a 'user report' as I bought a set of these a couple of years ago at the now defunct South East woodworking show. I haven't looked back – every time I need an accurate hole I reach for this handily cased set. The sawtooth design cuts well and there is pretty much a size for every job. The hex shanks on the larger sizes eliminate chuck slippage. You can also buy a pair of socket extenders where you

need more reach such as deep drilling on the lathe.

Verdict

Inevitably several will get a lot more punishment than the rest because you need those specific sizes more, so a bit of resharpening will be needed. When I'm working on site I can just pick up the case and go. Say goodbye to spade bits! For the price, what's not to like?



£59.99

Prices:

16 piece Forstner set – imperial sizes in 1/4, 3/8, 1/2, 5/8, 3/4, 7/8, 1, 1 1/8, 1 1/4, 1 3/8, 1 1/2, 1 5/8, 1 3/4, 1 7/8, 2 and 2 1/8 in at £59.99

2-piece Forstner bit extension set £8.99

Visit: www.recordpower.co.uk **Tel:** 01246 571020

TBJ001 biscuit jointer

This 760W biscuit jointer comes with a cast aluminium base, fence and drive housing and a no-load speed of 11,600rpm. A portable tool to produce fast, strong joints. With all-metal gearing for long life the TBJ001 has an accurate adjustable and removable fence with height range between 0–40mm and angle adjustment of 0–90°.

A simple six-position turret stop simplifies the depth setting for easy biscuit size selection adjustable for 0, 10, 20 and S6 sized biscuits. A hinged base makes for easy blade change and cleaning while an integral dust port and insulated handles means it is both safe and comfortable to use. The kit includes a fitted blade, blade pin spanner, hex key, spare carbon brushes and a dust bag.

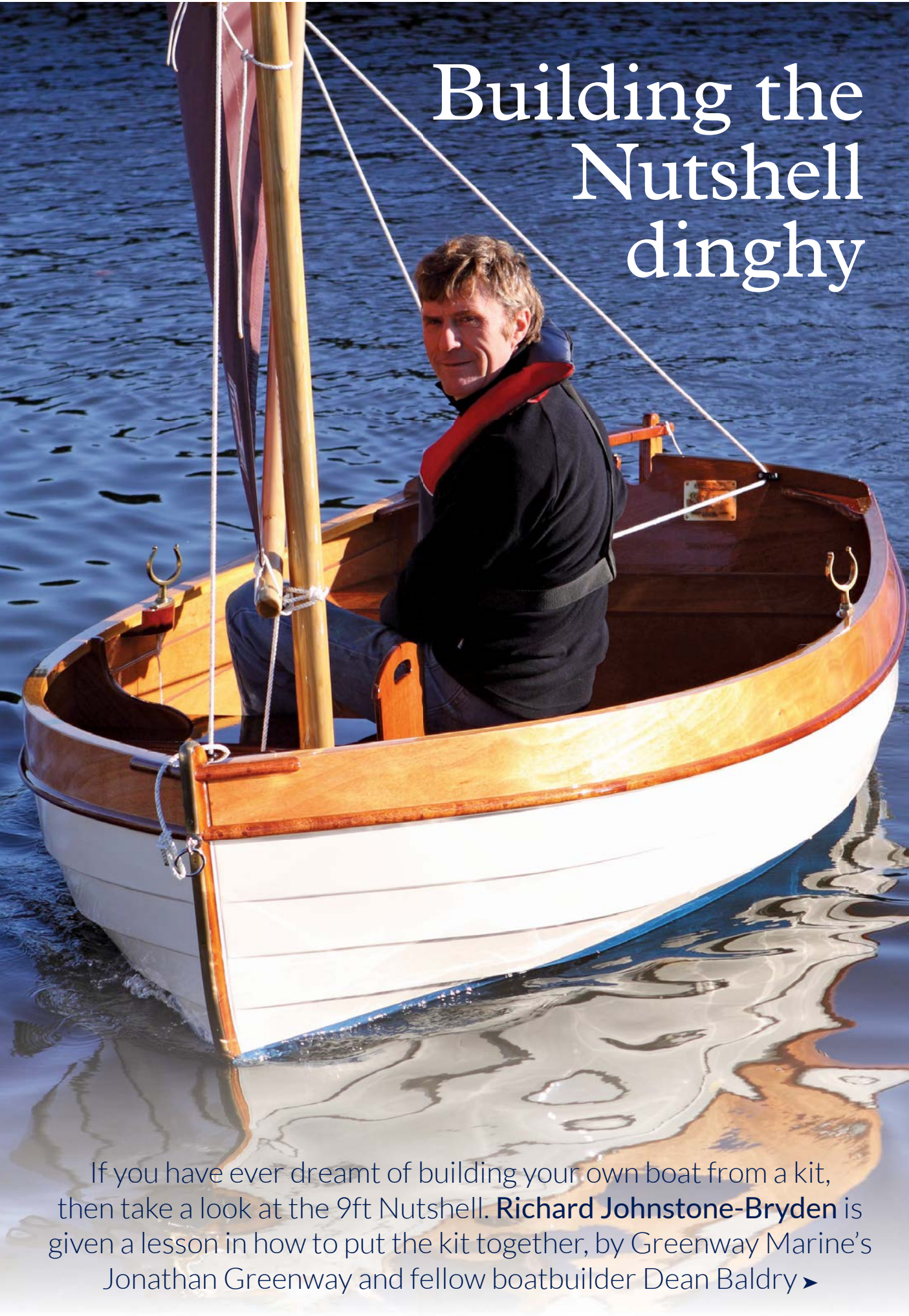
Contact: Triton

Web: www.tritontools.com

£119.56



Building the Nutshell dinghy



If you have ever dreamt of building your own boat from a kit, then take a look at the 9ft Nutshell. **Richard Johnstone-Bryden** is given a lesson in how to put the kit together, by Greenway Marine's Jonathan Greenway and fellow boatbuilder Dean Baldry ►



Delightful riverside properties at the head of navigation of the River Chet, South Norfolk, near Greenway Marine's boatyard



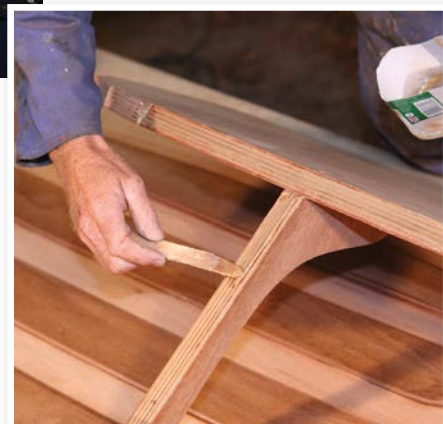
The Nutshell kit may look complicated, but is much easier to build than you might imagine



Robbins Elite marine plywood is used for all of plywood components



The lower stem and forefoot cross knee once the bottom panel has been joined



Applying epoxy to the transom knee (bracket) before it's fitted in position

The delightful 9ft Nutshell dinghy was designed in 1983 by the Wivenhoe-based boatbuilder, Malcolm Goodwin and has been built under license by Greenway Marine Ltd since March 2003. The Nutshell's clinker planking, varnished wood and tan lug sail may look traditional, yet she relies on modern techniques for her timeless lines. Unlike conventional wooden clinker dinghies she does not rely on either timbers or stringers as part of her structure, thus simplifying the building process and producing a lightweight, yet very strong hull. The strength usually provided by these components is achieved by using epoxy between the planking. Epoxy is also used to glue all of the other wooden components together, so all references to glue or gluing refer to the use of epoxy rather than conventional wood glue. This style of construction has the added long term benefit of making the sanding and varnishing of the inboard side of the hull's planking much easier because the timbers and stringer will not be there to get in the way.

The Nutshell dinghy is available

either in kit form, half built or ready to use. The kit version is an interesting project that can be tackled by anyone with basic DIY skills. Depending on an individual's ability and the level of assistance from a second person at key stages, it should be possible to assemble a Nutshell dinghy in about 30-40 hours. The kits consist of virtually everything required to complete the boat, including pre-cut wooden components, screws, nails, epoxy, detailed instructions and fittings. This just leaves the owners to source the woodworking tools, paint and varnish.

Assembling the bottom panel

As will be seen, the hull takes shape quickly, thereby providing the all important encouragement to finish the boat. Building the kit version of the Nutshell dinghy essentially consists of 10 distinct phases, beginning with the assembly of the bottom panel. Robbins Elite marine plywood is used for all of plywood components, including the bottom panel. To prepare the plywood floorboards for fitting, each one is 'pre-loaded' with 20mm brass panel pins by hammering them into the wood

until they are about to pierce the lower surface of the floorboard. Once epoxy has been applied to the lower face of a floorboard it is carefully lowered into position by placing one end on the bottom panel. Having ensured it is correctly lined up, the floorboard is completely lowered and nailed firmly in place. A cloth dipped in acetone is then used to remove the inevitable surplus epoxy around the edges of each floorboard before it has a chance to cure off. Afterwards, the bottom panel is turned over to enable the protruding panel pins to be knocked flush along the grain of the plywood.

Assembling the mahogany keel, inner stem and deadwood

The keel and deadwood are glued and screwed together. Having marked up the position for this hardwood assembly on the bottom panel, the two components are glued and screwed together. Once the inner stem has been glued and screwed to the keel, epoxy is applied to the upper face of the inner stem/keel/deadwood assembly, before one end of the bottom panel is gently lowered into position. Once both components have been carefully

lined up, the rest of the panel is lowered and screwed to the hardwood assembly. The forward end of the bottom panel effectively acts as the garboard plank, so epoxy is applied to the forefoot cross knee before the bottom panel is screwed to it. A fillet of epoxy is applied to provide additional strength and avoid the prospect of water collecting along the edge of the joint between the keel and bottom panel. The dinghy starts to take shape following the installation of the hardwood plywood centre board case, the transom and the two bulkheads.

Fitting the planks

The embryonic dinghy is turned over so that the remaining screws can be added to complete the fixing of the bottom panel to the aft bulkhead and transom. A piece of 5mm plywood is used as a gauge to work out the correct height and angle of the 'step' on the transom for the first plank in relation to outboard edges of the bottom panel. The process will be repeated prior to fitting the subsequent pairs of planks. A pull saw is used to cut the outboard

edge of the new 'step' for the first plank on the transom. A chisel is then used to fine tune the revised 'step' on the transom and forward bulkhead. The fitting process for the first plank begins by bolting it to the bottom panel using the pre-drilled central datum holes on both the panel and the plank. The process is repeated for the subsequent planks, which have also been pre-drilled with central datum holes, by lining up the datum hole on the outer edge of the previously fitted plank under the datum hole on the inner edge of the new plank. The temporary locating nuts and bolts are removed after filleting. Each plank is nailed to the forward bulkhead, aft bulkhead and transom with brass panel pins while the forward end is screwed to the inner stem. The full shape of the dinghy's hull can be seen for the first time once the last pair of planks is in place. ➤

Right: Dry fitting the top of the forward buoyancy tank, which also doubles as the forward seat



The dinghy starts to take shape with the addition of the transom and aft (rear) bulkhead



Each step has to be trimmed slightly so the next plank fits snugly in place



The planks are held in place by a mixture of temporary and permanent fixings, ready for creation of the epoxy fillet joints



The part-built Nutshell dinghy above and free range 'eggshell' chickens below....



A scribe line to show the limit of the epoxy filler



Masking along the pencil lines to keep a clean epoxy line



Applying coloured epoxy filler using a broad knife

Epoxy fillet joints

To ensure the planks are held firmly together to create a fair and sweet shape, intermediate screws are added as required. The screws also prevented the hull shape becoming distorted during the application of the epoxy by preserving the required size of the V shaped joint between the planks. All of the screws are subsequently removed after the epoxy has cured and the holes are filled with epoxy. The width of each fillet joint between the planks is marked out using a 5mm wide dummy stick prior to putting on the masking tape either side. The creation of the fillet began with the application of resin along the V-shaped joint between the planks.

A lump of epoxy is then pressed into the joint and left smooth by

a 75mm broad knife. Having removed the excess epoxy, a lollypop stick is run along the external edge of the entire joint to leave a smooth finish. Afterwards, the masking tape is removed before the epoxy is cured off to avoid the tape leaving any marks on the plywood.

Fitting out the hull

The hull is subsequently turned over to enable the fitting out work to begin. This phase includes making the two buoyancy tanks and installing the thwart. Assistance is required when the time comes to add the inwales.

Fortunately, the curve of the Nutshell dinghy's hull is shallow enough to enable the Columbian pine inwales to be fitted without the need for steaming the wood beforehand.

The instructions for the kit provide owners with two options. Firstly, they can glue and screw the inwales in position and avoid the requirement for a large number of cramps by using an additional 48 screws from the stern onwards to bend each inwale into shape. Alternatively, owners can follow Jonathan Greenway's example by using approximately 20 cramps to hold each inwale in position while the epoxy cures off. However, before the laminated inwales can be fitted they have to be trimmed to size so they are clamped in position and trimmed to length with a saw. The two Columbian pine battens that form the inwales are put on at the same time.

Having applied epoxy to the inner face of each wooden batten, both halves of the inwale are secured at the stern before further cramps are applied at appropriate points towards the stem – speed not haste is essential at this stage. Once an initial set of cramps are in position from the stern to the stem, more are added to increase the pressure.



The essential thwart (seat) being fitted in place



Resin has been applied to the inside of the aft buoyancy tank to prevent future problems with rot



The dinghy has to be turned over to fit the bilge rails



A drilled rowlock chock prior to installation



Offering up the breast hook to check the fit

Adding the bilge rails

The woodwork continues with the fitting of the rowlock chocks and rub rails before the dinghy is turned over again for the fitting of the mahogany (*Khaya* spp.) bilge rails which are glued and screwed in place.

Sacrificial keel strips are also added at this stage to provide further protection fore and aft of the keel opening for the centre plate. Small mahogany plugs are used to fill the screw holes in the bilge rails. Each one is dipped in epoxy before it is placed in the hole and knocked firmly in place with a hammer. Afterwards a chisel is used to trim them flush with the bilge rail.

Completing the remaining woodwork

The final phase of interior woodwork includes trimming the stem, fitting the breast hook, quarter knees, thwart knees, the mast step and the pad for the outboard engine. On completion of this work, the Nutshell dinghy is ready to be painted and varnished.

Once the paint had been given the chance to harden off for a few days,

I was given the chance to see how the featured Nutshell Dinghy handled under sail within the tight confines of the upper River Chet opposite Greenway Marine's boatyard. Trying out a new dinghy on a very gusty winter's afternoon on a low spring tide may not be the fairest test, yet she acquitted herself very well. As the wind filled in, Nutshell swiftly picked up momentum while her lifting centre plate and rudder proved very useful along the shallow edges of the navigable channel. Although Nutshell could not show off her full potential at Loddon she did underline her suitability for exploring small creeks. Her lightweight made launching and recovery a very straightforward process. ■

Further information

Contact: Jonathan Greenway

Where: Greenway Marine Ltd, Riverside, Loddon, Norwich NR14 6HA

Tel: 01508 520 397

Email: jagreenway30@gmail.com

Web: www.barrowboats.co.uk

Nutshell dinghy specification

LOA	9ft (2.74m)
Beam	4ft 7in (1.4m)
Weight	95lb (43kg)
Sail area	39 sq ft (3.62 sq m)

Prices: £1825 in kit form, plus sailing packs from £695, galvanised road/combi launch trailer POA, built and ready to sail £4198





Shaker-style hanging cabinet

Michael T Collins makes a small hanging cabinet with a pegboard

Many years ago I became fascinated with Shaker furniture for its simple, no-frills utilitarian design. Books about the Shakers are always littered with photographs of rooms prominently displaying one or two pieces of furniture standing on the signature wide-boarded wood floors of the time. But, looking beyond the 'starring' piece, there are always other furnishings kept out of the way by hanging them on those characteristic shaker pegs.

WHAT YOU WILL NEED:

Tools

- Rip and crosscut saw
- 9mm bevel edged chisel
- 19mm bevel edged chisel
- 6mm mortise chisel
- Marking and cutting gauge
- Combination or rebate plane with 12mm and 19mm irons
- Router plane
- Spokeshave
- Brace and 25mm bit
- Rounding plane 12mm
- Egg beater drill and 3.2mm and 1.5mm brad point bits

Wood

- Pine (*Pinus* spp.)
 - White oak (*Quercus alba*)
- For this project the cabinet will be made from pine for two reasons; it is readily available and should you wish to paint the finished cabinet, two coats of milk paint will work perfectly, making secondary wood perfect for this project. The pegboard and pegs, on the other hand are made of white oak.

Supplies needed

Pair of no-mortise hinges and Shaker knobs and Pegs available from www.rockler.com.

1 First, cut all pieces to final dimensions with the exception of the stiles and rails, which will be left long and custom fitted later. Mark all parts with cabinetmaker's marks. The first step is to cut the rebates on the sides. Each side has three rebates, one for the top and bottom and one for the back panel. Start by making sure that all ends are at 90° – this is critical if the cabinet is to be square. Using one of the 12mm-thick pieces and a try square or combination square, mark the location of the top and bottom rebates. Do the same for the shelf, marking the location in the centre of each of the sides.

2 From the face side, use a cutting gauge to mark the 6mm depth of the housing.

Different ways to cut the housing

3 **Method one:** Deeply score the sides of the housing.

4 Then, with a wide chisel create a V notch on both sides, chop down along the score line and pare from the centre towards the chop line (creating a triangle in the centre). Repeat this process until you have chiselled down to the floor of the housing. Now, with a narrow chisel, pare away the waste. Use a combination square to check the depth (slight concavity in the centre will ensure the ends are a perfect fit).

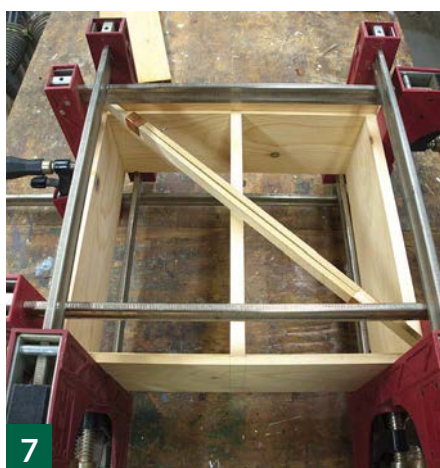
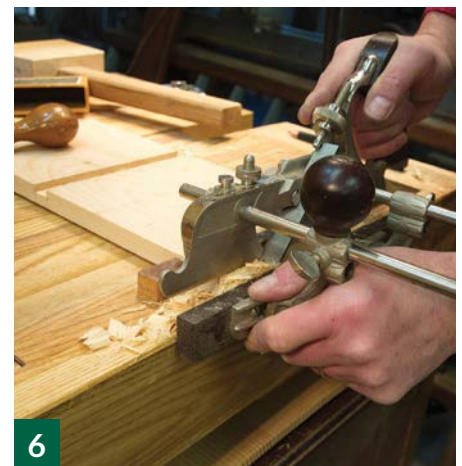
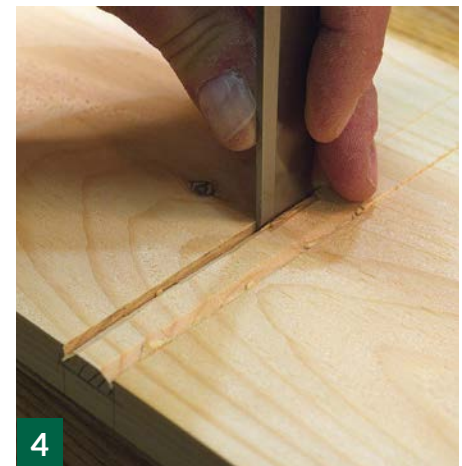
5 Method two: Deeply score the sides and create the V notch as before, then on the waste side saw down to the 6mm mark. Now remove the waste with a router plane. I like to remove the waste by coming at it from both ends, thus eliminating tearout when exiting. The rebate for the top and bottom can be done using method one or two. If using a router plane the router will need to be supported on the free end with a piece of wood of equal thickness.

6 My preferred method is to remove the waste using the combination plane with the knicker set so that the fibres are sliced. Remember to pull back across the wood before making the first cut and always plane from the point farthest away from you, working back towards your body. Cut the long rebate at the back using the combination plane – there is no need to set the knicker here. Once all the joints are cut, finish the inside surfaces with a smoothing plane or 180 and 320 grit.

7 Dry fit the carcass and check that all the sides are parallel – if the housings and rebates are not the same depth, the sides will either be hourglass or barrel shaped and the shelf and tops will need to be adjusted. Because the top and bottom joints are mostly end grain to end grain, the glue can be supplemented with nails. Toenailing them in (angles like dovetails) will create a much stronger joint. Clamp the carcass and make sure that it is square (I use a shopmade pinch rod to determine squareness). Don't over clamp and remove after roughly 30 minutes.

The face frame

8 The face frame on this cabinet is about as easy as it gets. It consists of just two stiles glued to the front edge of the sides. It is important that the stiles are parallel to each other and



flush to the side pieces. Clamp and set aside. Once dry, plane all faces flush.

The back boards

While most Shaker cabinets of this size would have a single solid backboard, here I have opted for three separate pieces that will be ship-lapped. The advantage of this construction method is that any seasonal movement can take place and yet the back of the cupboard will not show gaps. Tongue and groove would also work here. Position the three boards so that they span and overlap the back of the cabinet.

9 Mark on the end grain the overlap then, using the combination plane, create matching rebates. The centre board will slide under the two outside boards and will be held in place with three screws in slots.

The top and bottom

10 Give both the top and bottom pieces a nice curved profile with a rounding plane. Start by marking 6 x 6mm outline on the lower and upper edges of the top and bottom boards respectively. Plane a 45° bevel between these two marks.

11 With a rounding plane and your fingers acting as a fence plane a cove that spans the bevel you just created. Always plane end grain first, working from front to back, this way any tearout will be towards the back and if there is any on the front edges it will be cleared up when the front edge is planed.

12 Simply glue the bottom into place, making sure it is centred and flush with the backboards. The top is centred and rested against the back board. Mark the left and right extent on the board.

13 We need to remove the section in the middle of the back so that the top board wraps around the back boards. To do this, employ a simple trick that was used when making the drawer in *Woodworking Crafts*, issue 11 (making a jewellery box). Rip the top so that the 12mm section you just marked is removed. Plane the surfaces and then cut off the two ends. Re-attach the two 'nubs' by applying a small amount of glue and creating a rubbed joint. Once dry, clean up, glue and clamp the top in place.

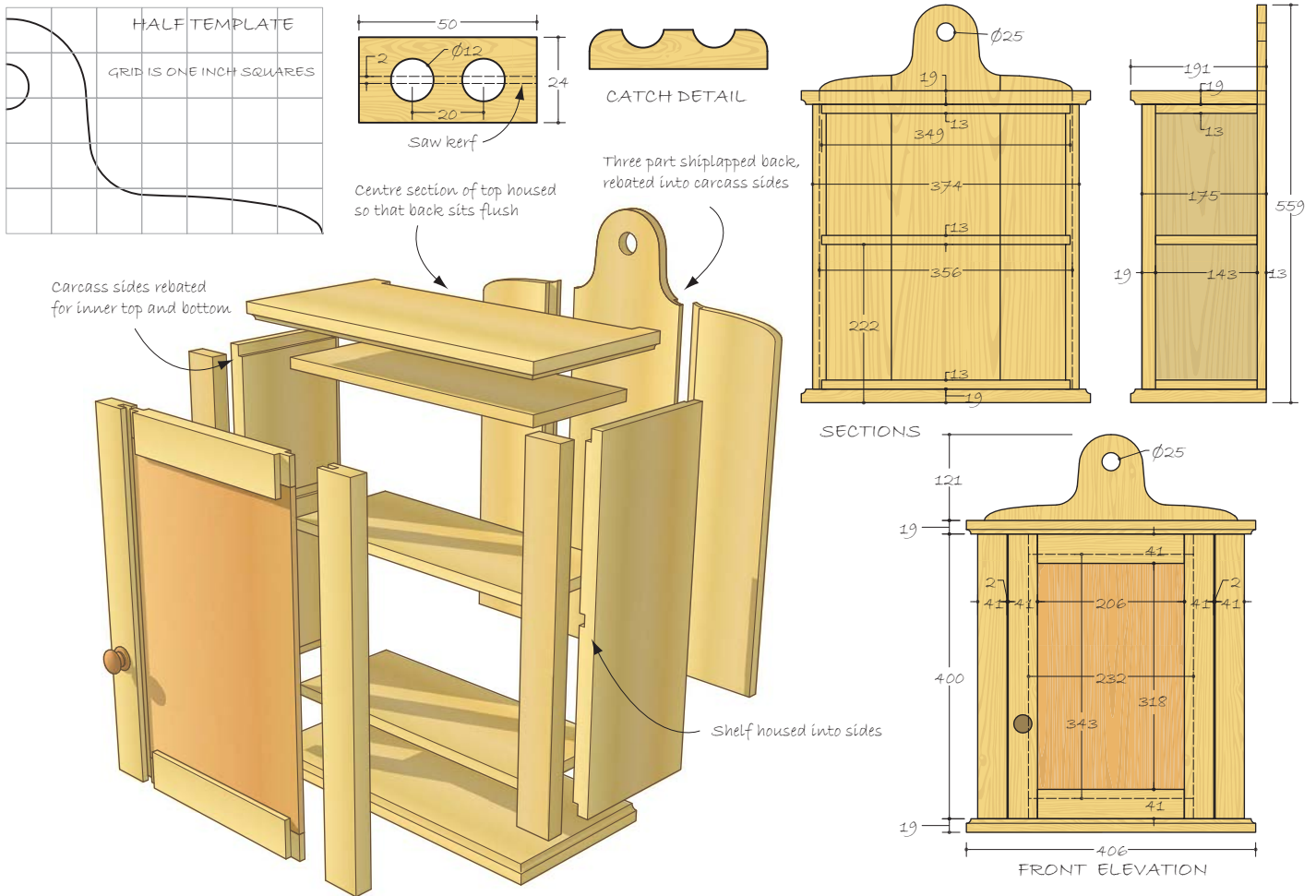


Shaping the back

14 Use the profile given in the diagram, lay out the shape and then with a bow saw or coping saw cut it out. Refine the profile with a spokeshave, remembering to work with the grain rising away from you.

15 Drill a 25mm diameter hanging hole. The back can now be fastened into place. Nail the two sides in place against the carcass sides. Next, position the centre board between the outside boards. Drill three countersunk holes, then elongate the





hole with a sideways rocking motion. Secure the centre board in place with a steel screw.

16 The resulting corner joint helps characterise Shaker style

The panel door

17 Give the stiles and rails the same treatment – centre a 6 x 12mm groove on the edge running the entire length. On the rails we are going to create what is called a ‘stub tenon’. The beauty of a stub tenon is that a standard mortise does not need to be chopped. From the face side, mark the location of the groove with a mortise gauge set to 6mm in the centre. Using the combination plane with a 6mm cutter set to a depth of 12mm plane a groove in each of the doors’ stiles only.

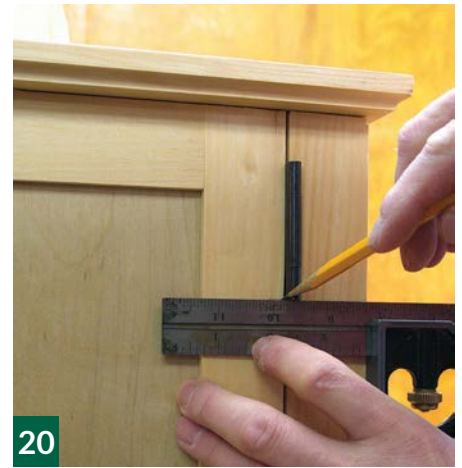
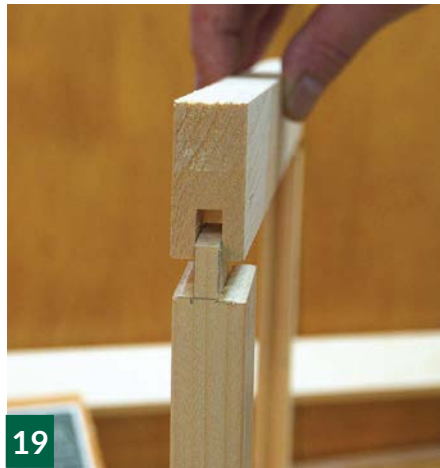
18 When making doors I generally use a story stick (see making a panel door, issue 5) but this frame is simple and just requires the length of the rails to be the distance between the stiles plus 25mm for the two 12mm stub tenons. It’s a good idea to place the hinges in the frame so that the true length of the rails can be found. ➤



Cut the rails to size, allowing for the stub tenon. Then with a marking knife and try square, mark the shoulders. Without changing the setting on the mortise gauge from the face side mark the stub tenon on the end grain.

19 Normally I would cut the shoulder first and then saw the cheek, but this would make planing the groove difficult, so instead cut the cheeks first but leave attached. Now you can plane the groove as you did the stiles. Once the groove is planed cut the shoulders. Clean up any wood left from planing. Repeat this for the other ends of the rails. Test fit the frame.

20 The panel is made from a piece 6mm oak ply to contrast with the pine frame. Cut the panel to size so that it is the width of the rail plus the depth of the two grooves in the stiles less about 3.2mm for movement. Disassemble and clean up all the internal edges – ease all the sharp corners with a couple of passes of a fine set block plane or 320 grit paper. Clean up the faces with a smoothing plane or sand. If you are going to apply a finish now is the time to do it. Be particularly careful not to apply finish where the joints are. Apply glue to only the stub tenons and assemble the frame applying some clamping pressure – check for squareness. Once dry, position the hinges and test fit. It's a good idea to chamfer the inside long edge opposite the hinges so that it clears the face frame when closing.



Making the door catch

21 Take a scrap of pine about 50 x 12mm and drill two 12mm holes as per the diagram.

22 Now cut the piece in two, slightly off centre.

23 Cut to length and pare away the sharp edges. Drill a 3.2mm hole in the centre and secure to the face frame with a steel screw.



Finishing

I used a simple Shaker knob. The Shakers painted some of their furniture in muted colours. However, the outside of this cabinet is finished with a couple of coats of furniture wax.

The peg board

24 The pegboard is a piece of 19 x 125 x 600mm oak with a decorative profile. Cut a 19 x 3.2mm rebate all the way round and then round the profile with planes or a 19mm hollow plane. Three shaker pegs are glued into 9mm holes. ■



24

In the next issue... Michael make a Moravian chair

Michael T Collins

British-born Michael has been working with wood off and on for 40 years. He moved to New York in 1996 and over the years has made bespoke furniture including clocks, inlay work, Adams fireplaces, book cases and reproduction furniture.

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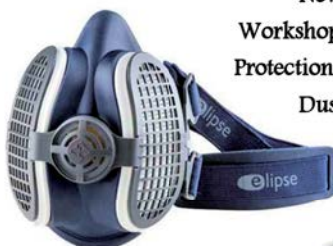
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Sequenced routing

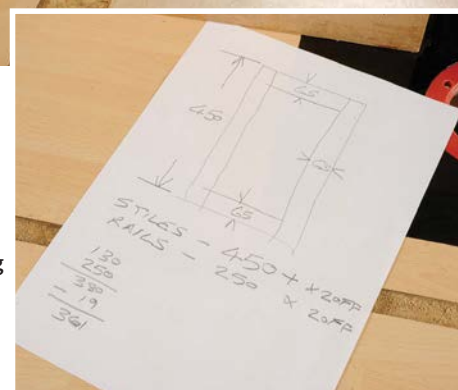
'AB' explains how to get from 'A to B' when you are routing components that must fit together

PHOTOGRAPHS BY GIMC/ANTHONY BAILEY

Assuming you have mastered the basics of static table routing, inevitably you will want to make up components that fit together. A good example, which you can apply to other tasks, is to make a frame and panel door.

I learned early on the importance of getting the sequence right so that I could avoid mistakes.

Do an accurate drawing, or at least a set of measurements, from which you can derive an accurate cutting list. It needs to take into account the sizes of joints, etc. the length of tenon, for example. Use a calculator to check that everything adds up correctly. In the example, the frame and panel cutter needs $2 \times 9.5\text{mm} = 19\text{mm}$ added to the rail length to account for the joint connection.



Whatever the job, you need to choose the correct cutters. Clockwise top (L-R) and bottom (R-L) a large profile and scribe; smaller profile and scribe; horizontal panel raiser; vertical panel raiser. Don't attempt to proceed unless you know whether the cutters will produce the result you want.



Use properly prepared stock, for example the whole job can fall down badly if material thickness is variable. Buy prepared timber which is the same thickness or use a planer/thicknesser to get consistent results. Where components have set lengths, such as rails, cut them accurately square and to length, a chapsaw is good for this. Some components can be left overlength to trim later if you don't need to do so at this stage.



Make sure your router table is properly equipped to do repeat machining. Scribing of ends should be done first as a rule because the stock is still square in section and it is easier therefore to have a backing piece to prevent breakout. Put a pencil cross and joint marks on each component after laying out all the pieces so you know where each piece belongs and whether some need to be machined upside down as in the case of profile and scribe frame joints.



Always have some spare pieces for test cuts. Often, the waste offcuts can be long enough to experiment with. You do not want to be changing router depth and height settings during machining proper as the job won't go together properly.



Once the scribing cuts are done, then you can change cutter and fence settings as required in case for making long-grain profile cuts. All the time you need to keep components in the correct orientation, which is where pencil markings are essential. The cutter height is adjusted to bring the profile cut in line with the scribe cut.



Here a profile cut is being made, note the 'X' marked on the top face which is actually the back side of the frame. It is on one edge where the machining must be made, if the other needed machining there would be a second 'X'.



Two test pieces fitted together show the joint is good, the faces are level and the joint connects tightly. Now the actual profile cuts can be made.



One of the final cut joints, the extra length of the stiles known as 'horns', can be cut off once the frame has been glued and has dried. The panel in the middle can be flat veneered MDF or ply or a machined raised and fielded panel in the same timber.



In the next issue...
Avoiding common routing errors

Have the confidence to do all components in sequence. If you have a set of doors to make, do all scribing cuts, then all profile cuts. If you keep swapping back and forth between the two you risk mistakes and changed settings. Sequencing your routing is the most efficient, accurate and safest way of working! ■

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READER GROUP TEST

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Three of the Draper Venom handsaws



PHOTOGRAPH COURTESY OF JOHN EMMETT

Draper Venom handsaws

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Testers

John Emmett
 Andrew Mills
 Glenn Perry



Below: John Emmett had some concerns about quality

We asked the testers a range of questions, some of which were graded, others needed more articulated answers rather than just scoring. We asked what was their experience using the product and if they had any problems using it.

John Emmett: Common ground is the handle which is ergonomic and

comfortable. VST 550 is better with rip cuts. The VST 500 is the best all rounder, but I found the VTS 300 tenon saw the least useful due to over flexing of the blade and I had to 'drive' the saw. I would recommend them to other people at the right price point

Andrew Mills: The handles are well shaped with a soft grip to give a brilliant feel. The handsaw cuts softwoods with ease, but I used the tenon saw to cut a oak tenon. No problems at all. I would definitely recommend these saws.

Glenn Perry: The teeth on the VST550 are too widely set. The VST300 looked very cheaply made, I initially



PHOTOGRAPH COURTESY OF JOHN EMMETT

thought the spine was made of black sticky tape. The VST500 at 12 teeth per inch cuts cleanly and accurately with a medium cutting rate and was my favourite of the three. I would give the VST500 a cautious recommendation if the saw had a budget price, as there are quicker cutting hardpoint saws from other brands on the market. ■

Andrew Mills cutting softwood to length



PHOTOGRAPH COURTESY OF ANDREW MILLS

How our testers rated the product

How would you rate the product performance? **6.1/10**

How would you rate the product ease of use? **6.4/10**

How would you rate the product overall? **6.3/10**

Editor's comment:

Three very different user opinions of these new saws. I had a go too, and found the tenon saw was indeed very flimsy compared to other hardpoint tenon saws, but cut quicker than the bigger VST saws. The VST 500 is the best of the lot, the large 'rigger glove' ergonomically shaped handles are the best feature of these saws.

If you would like to be part of our panel of product testers, please go to our website www.woodworkersinsitute.com – and **SIGN UP NOW!**

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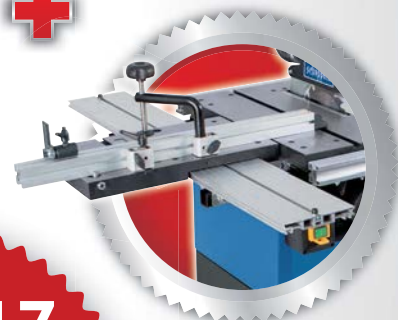


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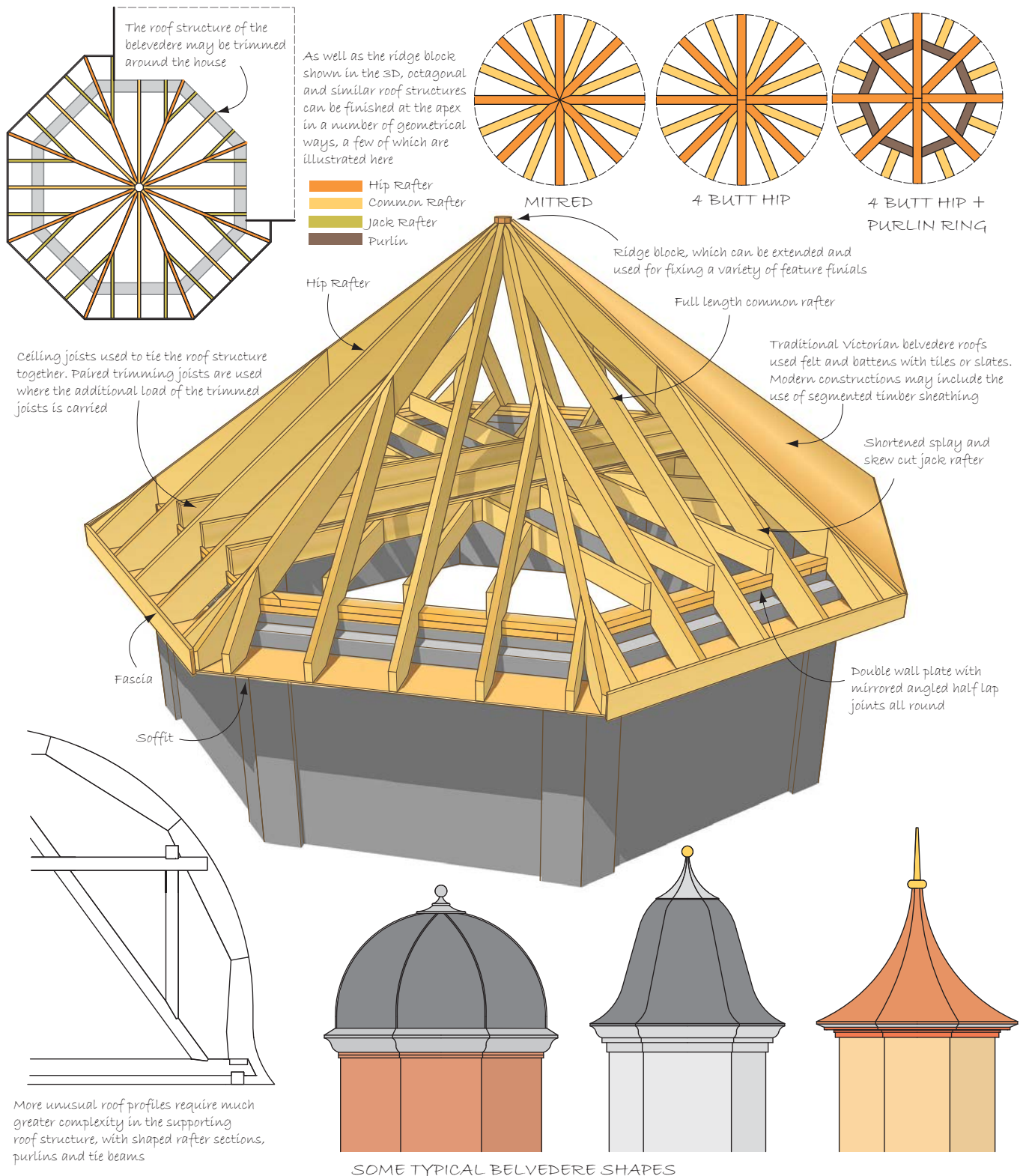


WOODWORKING GEOMETRY

Simon Rodway takes a look at building a belvedere roof

Accurately, a belvedere is any structure sited to take advantage of a view, but in the context of housing, and more typically larger Victorian houses, the belvedere is a corner or turret-type structure with a distinctive roof and windows on two or more sides. Stylistically, belvederes helped Victorian

builders summon up a romantic image, with echoes from history of Italianate towers. In plan the belvedere is usually octagonal or hexagonal in shape, occasionally circular and the more ornately shaped roof outlines required great ingenuity on the part of the carpenters building them. ■





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Wall-mounted workbench

Walter Hall makes the best use of space in a workshop reorganisation

Lately, I have been reorganising my workshop and for a number of reasons, I needed to move my lathe away from the wall so that I could have better access all around it. I also needed to find a better storage place for my scaffolding tower. Because of the location of brick piers, boilers, pipework, etc. there was only one stretch of wall where all parts of the tower could be stored together. Fortunately, this was the same wall

Right: The slightly awkward space into which Walter wanted to fit the bench



The chopsaw proved invaluable for fast and accurate repeat cutting to length

from which the lathe was going to be removed. However, I cannot afford to waste this much wall space on storage alone, so I decided to build a workbench over the storage area. The only other design criterion was that this project must be completed quickly so that I could get on with other work. As it turned out it was completed in an afternoon (including a trip to the builders' merchant for the timber and shield anchors).

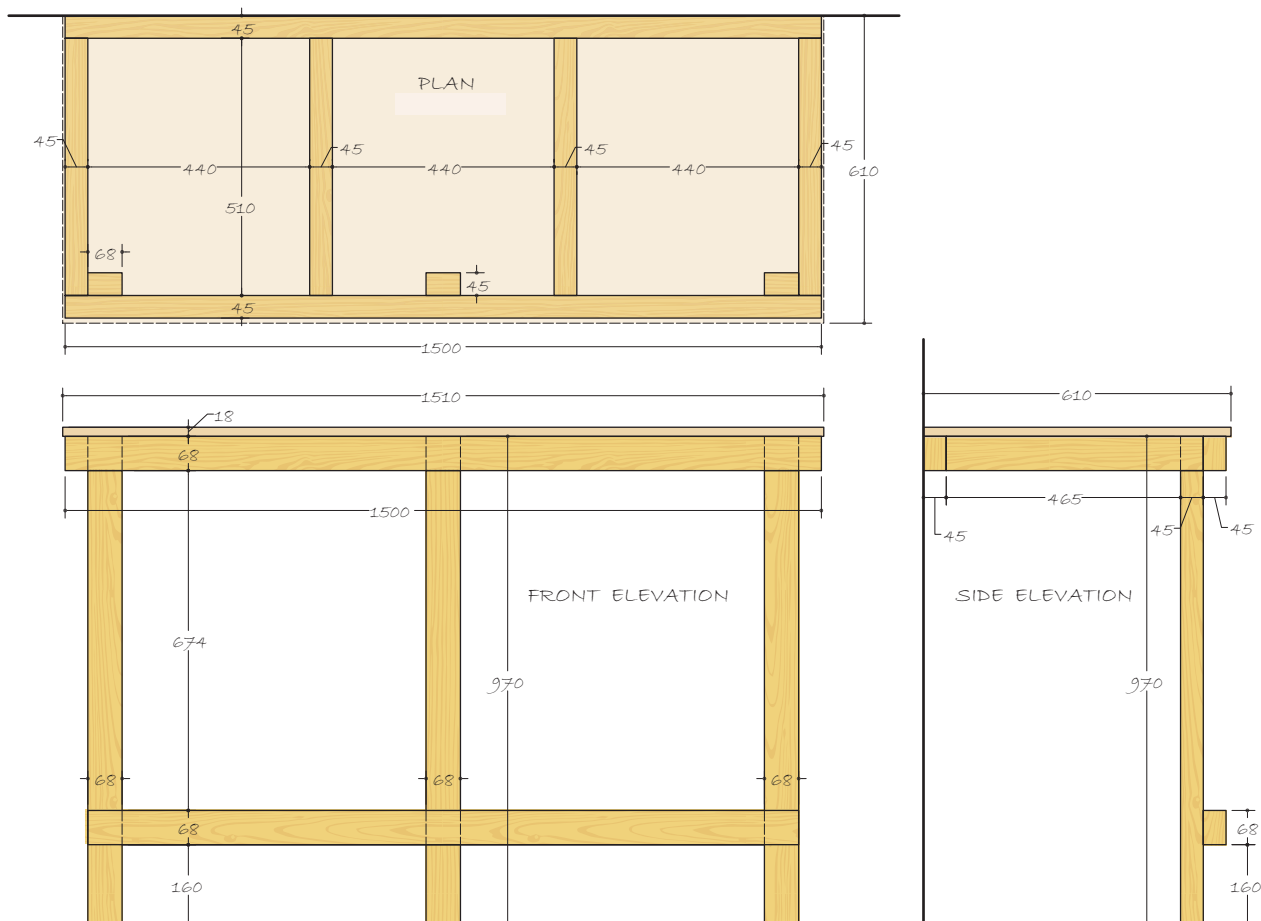
Defining the problem

As you can see from the photograph (above), the bench needed to be supported between the wall and the frame or legs that supported the

front, as the tower stored underneath precluded the installation of any cross bracing or rear legs. It also needed to be high enough to allow clearance for the tower components to be accessed by lifting them over the step to the left of the photograph.

Choosing materials

The need to be self-supporting called for a robust wooden frame, so I decided to use 45 x 68mm Canadian Lumber Standard (CLS) timber of the kind generally used by builders for roofing members, joists and other load bearing structures. The first job was to cut the sections to length on the mitre saw. ➤



Measuring, cutting and joint making



I used the roller stand as a convenient length stop each time

The mitre saw end stop was used to ensure that all of the cross members were exactly the same length.

This is not fine cabinet work, nonetheless square joints and a true frame are essential if problems are not to be encountered on assembly or installation. The positions of the joints on the front frame member were carefully measured and marked out with a tape and engineers square to enable correct positioning of the cross members.

Once the front was marked out the measurements were transferred to the rear frame member using the square. This is a much more accurate way of ensuring the positions are identical



All same-length measurements were transferred across to the other rail

on both work pieces than measuring and marking separately. The prepared components were laid out on the floor to check for fit and square before moving on to the next stage of the work. It is better to correct any errors at this point than try to adjust after assembly.

For a combination of speed and strength I used pocket hole joinery, with two screws from one side and one from the other forming a 'dovetail' arrangement that is almost impossible to pull apart once assembled. My pocket-hole jig was clamped to the bench and connected to the dust extractor and all of the joints prepared in one session.



Then the frame was laid on the floor to make sure it would go together neatly



The set-up needed proper extraction to keep the job clear of chippings

Wall fixing

The next stage was to prepare and drill the wall for the 10 x 140mm shield anchors that were to be used to attach the frame. This is much easier to do from the single rear frame member than trying to measure from an assembled frame. The first step was to mark a level baseline on the wall in line with the proposed position of the bottom of the framework. Don't rely on the accuracy of the brickwork or blockwork for this.

I screwed temporary plywood support blocks below the line to support the frame while marking out. This makes it easier to support the timber frame member with one hand while drilling a pilot hole with the other.

The positions of the 10mm holes for the bolts were marked out and drilled on the pillar drill for accuracy thus helping to ensure a level structure. Position the holes carefully to avoid them coinciding with the cross members. I used five shield anchors. Frame fixings or fewer anchors might have been adequate here, but I wanted this to be a robust structure capable of withstanding some light hammering and metalwork.

Holding the frame member against the wall, supported by the temporary plywood blocks, I used a 10mm masonry drill to drill a pilot hole marking the position for each anchor.



Marking up the wall, avoiding the mortar line so the bolts would anchor properly



Temporary support blocks were used to rest the frame on for pilot hole drilling



For accuracy and neatness I drilled the holes using my pillar drill



Then I used a masonry bit to drill and mark the blockwork through the wood

I didn't really need an SDS Hammer drill to drill these soft blocks but the only 16mm masonry drill I had was an SDS fitting so I just turned off the hammer facility and drilled the holes in rotary only mode. I took care to ensure I was drilling square to the wall and level.

I blew out the holes in accordance with the instructions for installing the shield anchors. I used an airline and blowgun (I always use a dust mask for jobs like this because a lot of dust is created during this process and I really don't want my lungs full of brick or concrete dust).

Frame assembly



The frame was clamped up square and the pocket screws driven in

Now that the wall was prepared the frame could be assembled. I clamped it up square and true before screwing together with the pocket-hole screws. I think the best way to install shield anchors is to assemble them through the frame, lightly entering the threaded section of the anchor onto the bolt, then once all the anchors



All the anchors were pre-installed in a line ready to push home in the blockwork

are in position assembling the whole structure to the wall. I find this much easier than inserting the anchors into the holes first then trying to thread the bolts in through the wooden framework.

I used a pair of roller stands to support the front of the frame while inserting the anchors into the pre-



Two roller stands kept the frame level during wall fixing

drilled holes. Before tightening the anchors I checked carefully for level across the frame, adjusting the roller stands as necessary. I made sure everything was level laterally and at right angles to the wall.

Once everything was in position the shield anchors were tightened. I used a socket and ratchet driver for ➤

Frame assembly continued

this they take quite a lot of winding in and it can be laborious work with a flat or ring spanner. Tighten until the frame is solidly attached to the wall but do not overtighten the bolts to the extent that the timber is crushed.

Once the bolts were tightened the installation was actually strong enough to support itself but in order to ensure everything remained level I left the roller stands in place while measuring for the front legs against the frame. Each leg was measured individually as my concrete workshop floor is not very level.

Once cut to length the legs were pre-drilled for four 75mm woodscrews and attached to the rear of the front frame member. The frame structure was completed by screwing a bracing member across the lower part of the legs to prevent any sideways movement. I considered using brackets to bolt the legs to the floor but by this stage the structure was so robust as to render this idea completely unnecessary.

To avoid wasting the space above the stored tower and below the bench I installed a single shelf using twin slot shelving supports and u-brackets. Note that this only extends part way so that the tower components stored underneath can be slid forward of the shelf then lifted over the step for access.

Offcuts of the framing timber were used to make screw blocks to attach the top. These were pre drilled in both directions and attached to the frame. Much though I would have like a solid beech or oak worktop this would be have been expensive overkill for a utility bench so I used 18mm MDF. The project was completed by mounting a No2 engineer's vice using 8mm setscrews. A couple of coats of hard wax oil will protect the MDF surface from excessive staining. ■

Walter Hall

Walter Hall is a woodturner who has specialised in making pens and pencils for more than 20 years. Based on the beautiful Northumberland coast in the UK, Walter sells his bespoke pens and pencils through local craft centres and via his website. www.walterhall.co.uk



Checking for level before tightening the anchor bolts



Using a ratchet wrench and a socket of the correct size to tighten the anchors



Marking the legs for each position taking account of floor variation



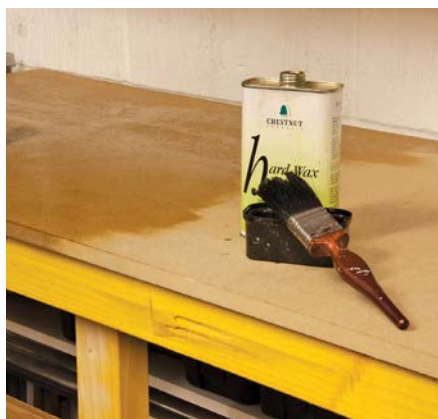
A leg clamped in position and drilling to take standard twinfast screws



The frame nicely secured and ready for the MDF top



Blocks were screwed on for fixing the top down with vertical screw going up through each one



The MDF top was sealed using several coats of hard wax oil to make it impervious to dirt and fluids



With my engineer's vice mounted the bench was almost ready for use

In the next issue...

Walter Hall looks at finger jointing

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Woodland ways

Gary (centre) and the Newick Rootz group use a series of poles to build a 'deerproof' screen to protect young saplings



Stakes, poles & pointed sticks

Gary Marshall stakes his reputation on good pole work

Some of the most basic rustic woodwork, fencing and other 'fixes' used in the woods and rural settings rely on readily available materials, efficient working, a few well chosen tools and learned or invented tips and 'wrinkles'. Some sticks and stakes from the woods and hedgerows need pointing, so they can be driven into the ground. The following tips may help with such rustic uprights.

Pointing up

During pointing up, no matter what size material is being used, avoid making a 'pencil' sharp point. Such points are weak and liable to split or break. A truncated and steadily graded point is stronger.

Small diameter stick

1 Try starting with a small hazel stick gleaned from a hedge.

2 With a well sharpened billhook, sned it – the process of removing side shoots, etc.



Quick fix chopping block

Find or make something stable to point your material on. Here, a tough chestnut (*Castanea* spp.) post has been chosen to use as a 'quick-fix' chopping block. This was cut straight across, top and bottom. The top cut was made across a complex knot to avoid splits when chopping. A hole in the ground was made using an old crown auger. This makes a nice, neat, flat bottomed hole. The hole is deep enough for the post to be inserted so that it is at a good working height. Removed earth was rammed (little and often) back around the post until stable. This method can be used for taller posts (but ensure they are vertical with a spirit level) – and with uprights for strainers for stock fencing.

Tip: Do not point your posts for strainers or pole barn uprights (unless they're going to be power driven in by a tractor) as flat bottomed posts are more stable. Instead of setting a sawn-down post into the ground as a chopping block, a stump of a felled tree, left purposely high for convenient working, can sometimes be used.



Gary Marshall

Gary has had a life-long interest in woodlands and the countryside. He trained in countryside management and subsequently ran a company working with the local County Councils and Unitary Authority and their Countryside and Rights of Way Teams, as well as a wide range of conservation organisations.

3 Then, using the block and choosing a suitable angle, chop firmly to achieve a bevel on one side. Then give a quarter turn and do the same again. Two more quarter turns and the stick is pointed – ideal for bean poles and stakes, for hedgelaying.

4 In soft ground try using a 'bludger' (the one here was gleaned from a hornbeam branch) to drive your stick in. In harder ground make a pilot hole with a bar as below.

Larger stake

5 Next, try pointing up a much thicker, longer post, fencing stake sized. This could be peeled using a draw knife or similar, if desired.

6 First hold securely on the block at an angle. Then make a series of 'feathering' cuts down one side with a billhook (a good working axe could also be used).

7 Using more force, chop downwards several times, carefully, until the billhook reaches the block. If necessary repeat the procedure on this side until a satisfactory bevel is produced.

8 Next quarter-turn the pole – and repeat, as above. Do twice more and there's your stake ready for driving.

9 As the stake is much thicker, make a vertical pilot hole with

a metal bar first, widening the hole slightly with a rotational wiggle.

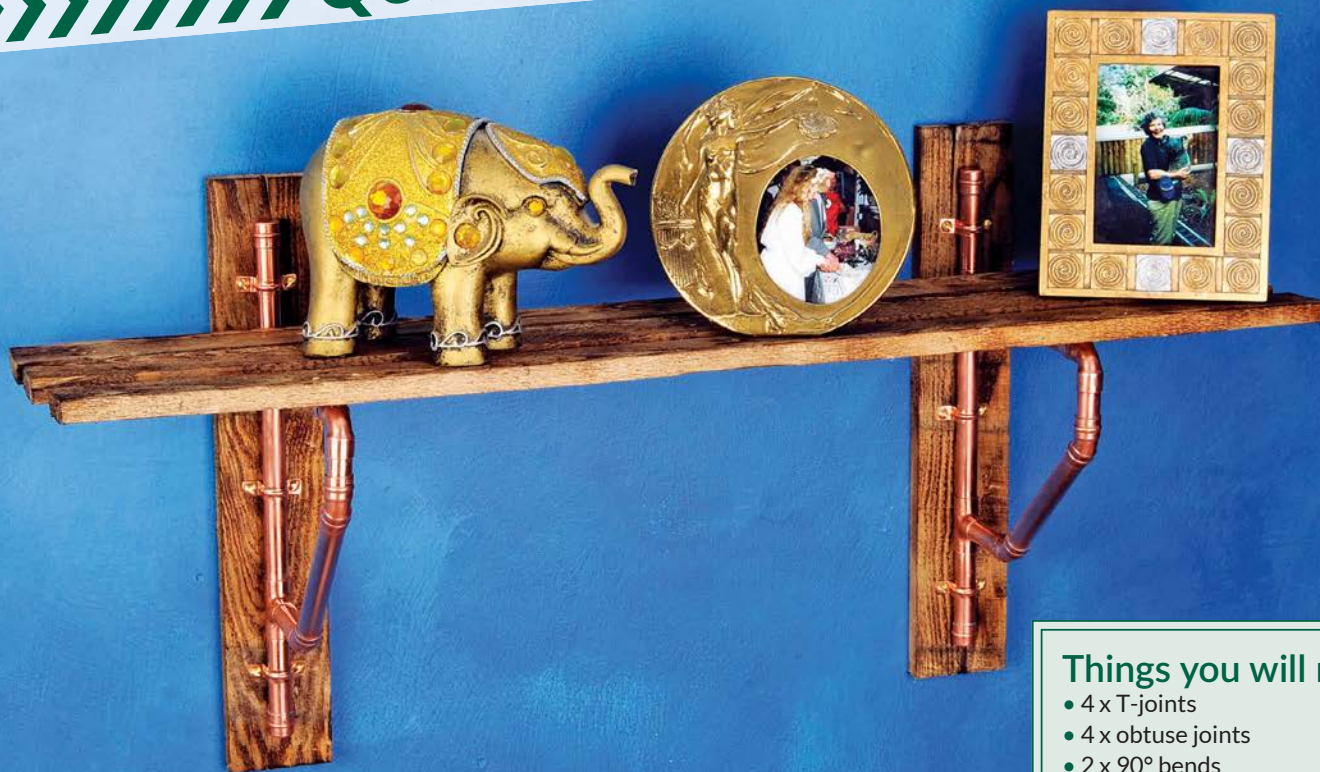
10 Then a 'mell' (some people call it a 'maul') can be used. If you're not tall, these can be awkward to use – especially for long posts.

11 So, although very heavy, try a 'driveall' or fence driving tool as shown. They can be used by a single person or two persons and are an effective and accurate way to drive in stakes. ■

In the next issue...

Gary makes a 'woodsmans shelter' – no doubt some stakes and poles will be involved

QUICK MAKE



Copper pipe shelf

Here's a project you are bound to take a shine to

You don't need to be a plumber to make shelf brackets out of copper pipe. The result is bright, shiny eye-catching metalwork combined with scorched, recycled pallet wood shelves.

Cutting the parts

1 You can buy 15mm copper plumbing pipe and fittings from any DIY or builders' merchants. If you are already confident with solder plumbing use a blowtorch and flux, otherwise use epoxy resin adhesive instead.

2 Use a pipe slice to cut each section to length. You can decide what dimensions you want the brackets and shelf to be.

3 The first dry-assembled bracket. The overall dimensions for this bracket are; uprights at 340mm; projection at 200mm; and bracket height at 175mm.

4 To make an identical matching bracket mark the next lot of pipe sections off but keep the first bracket together, so you know which bits go where!

Things you will need

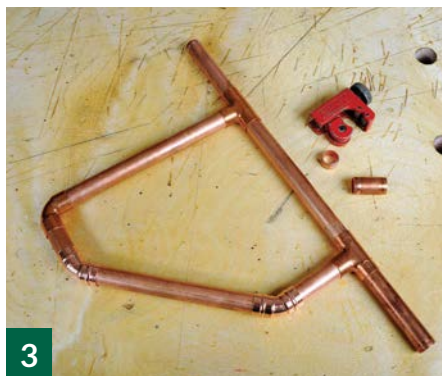
- 4 x T-joints
- 4 x obtuse joints
- 2 x 90° bends
- 4 x stop ends
- 1 x half-length of 15mm copper pipe
- 1 x pipe slice
- If soldering, choose self-solder fittings
- Blowtorch
- Flux
- 0000 wirewool
- Or two-part epoxy resin



1



2



3



4



Soldering method

5 Use 0000 wirewool to clean up all of the meeting joint areas, as oxidation or dirt will prevent the solder from flowing.

6 Apply flux to both meeting faces of each joint. Flux allows the solder to flow over these surfaces. Observe the instructions for safe use.

7 Mount each fluxed bracket in a metal jaw vice in turn, ensuring the components are sitting in line and not twisted. Self-solder joints already have a bead of solder in place. Heat with the blowtorch evenly until you see the shine of a solder line where joint meets pipe. Leave to harden off.

Epoxy resin method

8 This is a safer procedure for beginners, but be aware that epoxy resin can cause a skin reaction, so wear disposable plastic (not rubber) gloves. Mix the two-part adhesive and hardener and apply to the pipe ends and push the joints together.

9 Leave the assembled brackets to cure. After a while scrape away



any exuded adhesive with the side of a chisel or a penknife, then start polishing the pipes thoroughly with 0000 fine wirewool so you get a nice soft sheen.

10 The wood for the shelves and wall plates can be made from anything suitable. You can paint the wood or, as in this case, pallet wood has been taken outdoors and scorched with a blowtorch to show up the grain. The overall shelf length in this case is 800mm, but make to suit your own needs.

11 Copper pipe straps have been used with brass screws to hold



Health and safety

Working with an open flame can be dangerous. Always wear safety glasses and keep the flame away from flammable materials. Metal pipework will get extremely hot. Leave to cool down before handling. The epoxy resin method of jointing is a much safer option for beginners.

everything together. Each bracket upright needs three straps and each strip of shelf wood will need a strap at each end to fix down on to each bracket. Now mount your shelf on the wall and impress everyone with your plumbing skills. ■





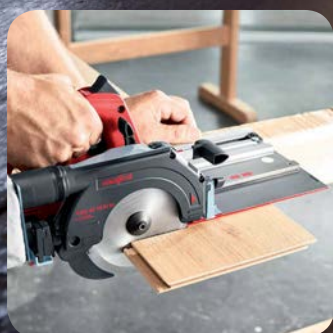
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Model	Crosscut at 90°	Cutting depth at 90°	Cutting depth at 45°	Angle cuts	Available in Cordless
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KSS60	408mm	61mm	47mm	-60° to $+60^{\circ}$	Yes (36v)
KSS80	370mm	82mm	55.5mm	-60° to $+50^{\circ}$	No

Making your own carving knives



‘Man of steel’ **John Swinkels** makes some carving knives that are a cut above the rest!

The knife I use regularly looks very much like the Flexcut knife handles. I like the shape and it will serve as a template for this project. The power hacksaw blades I use were given to me when the metalwork department at the school where I used to teach no longer needed them. Each blade provides parts for three knives; the thick and strong high-speed steel makes an excellent knife blade.

1 To make the handles, first cut two boards, measuring 300 x 45 x 30mm, from a block of banksia. Leave one blank whole, but cut the other down the middle on the bandsaw. This gives you two thinner boards, almost 15mm thick. You can see the four knife blade blanks, cut from one and a third hacksaw blades. It should take only 10 minutes to roughly shape them. The blades will need more refining but that will be done later.

2 Using one half of the pair, hold them together and cut them on

the bandsaw to the profile shown (however, at this point I remembered that a better way to proceed is to cut the desired profile later when the pair has been joined with adhesive). Trace the position of the blade stem on both parts, on the lower one where a recess is to be created and on the upper one so that you know the position of the metal when shaping the handle. Leave some extra wood at the end so you can clamp it in the vice and shape the handle with abrading tools. ➤

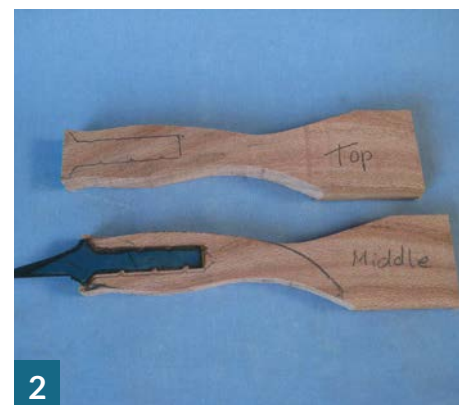


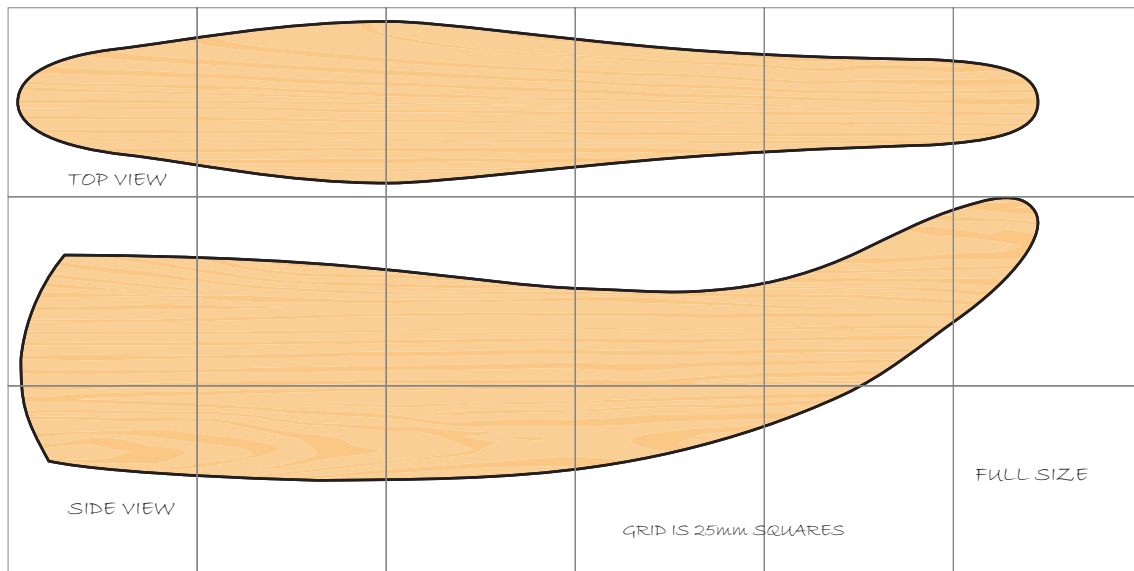
What you will need

- Metal cutting wheel, fitted to a grinding wheel – an angle grinder can be used
- Source of heating the knife tangs
- Bandsaw
- Clamps
- Small chisel
- Wood rasp – coarse and second cut files
- Grinding wheel
- Sharpening disc on a lathe
- Stopping board

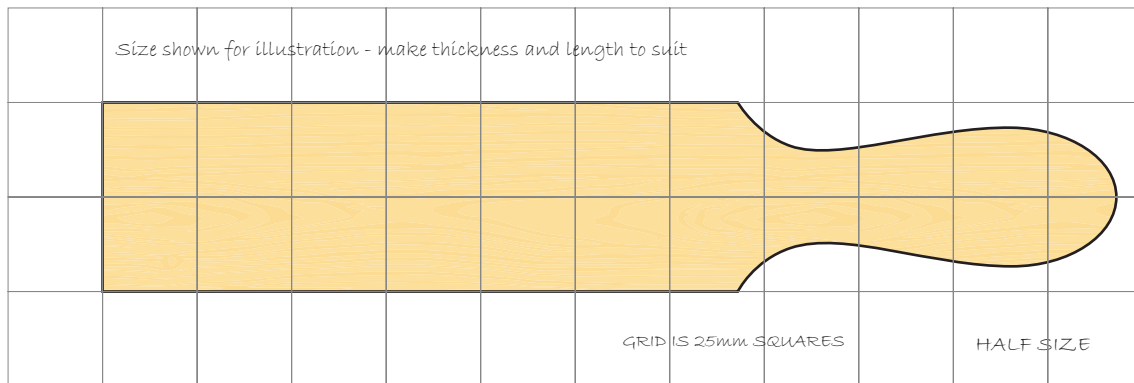
Wood

- Banksia (*banksia marginata*)
- Banksia has a lovely grain that will show up to its best when the wood is brightened by the addition of a durable finish





KNIFE HANDLE PROFILES



SHARPENING/HONING BOARD

3 With a small torch heat the handle section of the blade, holding it with vice-grips, and then push the hot metal on the wood where the drawn outline shows. Next, scrape any charred wood away and repeat that procedure twice more, until the blade's upper surface is level with the surface of the wood.

4 Everything is now ready for gluing (the wooden handle parts with the blade between them). Do this using 15-minute epoxy adhesive. Use a small chisel to scrape out any charred wood. Mix the two parts of the epoxy with an icelolly stick and use it to get some adhesive under the metal, some on it and some all over the wooden surface.

5 Then, use the superjaws as a clamp and two G-clamps until the glue has set. The job can be taken out after 20 minutes, but it takes a few hours for the epoxy to attain full strength.



3



4



5

Shaping tools

In this project I used a number of tools, such as a handled wood rasp, a coarse file and a second cut file. Both of those have had the tang removed. That is not essential but I feel that the handles can get in the way and they take up less room in the pouch where I keep a collection of files of various shapes. The tools shown are quite old but still useful, made in Australia many years ago.

I have a file card that is badly worn but found that a barbecue brush with brass bristles is equally effective at unclogging the files.

RIGHT: Just some of the tools John used to make his carving knives



6 At the bandsaw, guided by the pencil lines, cut waste wood from the handle but leave the extra wood attached so the job can be held in the vice. Please note that the knife shown in step 5 was cut out with the knife handle profile before I glued the parts together – as I mentioned then, it is a better idea to cut out to the profile afterwards as was done with the knife shown in this and the next step. It is, of course, important to cut very carefully because if the sawblade were to touch the hacksaw, blade damage to the sawblade would be the outcome. It is also hazardous as well.



7 The four knife handles are to be shaped next with hand tools. You can use drum sanders, but I prefer the use of hand tools such as wood rasp and files as they give me more control. Use a handled wood rasp, a coarse file and a second cut file to do this.

8 Brush varnish the handle lightly and hang up to dry using small rare earth magnets. The blades I have made are about 35–45mm long and their shapes determine what they are most useful for (carving or whittling small objects). Longer blades – up to 50mm – have their uses as well. Big carvings

demand the use of gouges and chisels, whereas knives are generally for working with small carvings and have short blades. Sand the handles before applying a second coat, but leave that coat as it dries. You do not want them very smooth as they should fit the hand comfortably, but not be slippery. ➤





9

Final honing

9 To do the final honing of the blade handles I fit a homemade sharpening drum to my lathe. The lathe has variable speed and can be operated in both directions. It is important that the dressing of the blade is always done while the drum is turning and cutting off the edge, never into it. I usually use a speed of about 500 or so revs. Work on one side of the blade until you are happy with the shape of the blade, then stop the lathe, reverse the direction and work on the other side. Do this until a slight burr can be felt. Then use a leather belt glued to the outside edge of the drum, again always with the turning off the edge, never into it. Rub some polishing compound into the leather and that then blackens as it removes tiny particles of metal. It takes only a few seconds to remove the burr and to get a keen edge that can slice cleanly through paper.

10 Short knife blades can only be sharpened close to the outer edge of the hook-and-loop tape-backed abrasive cloth. Chisels and plane blades can be sharpened on other areas, well away from the edge.

11 Use a stropping board to keep the cutting edges razor sharp. Cover a plywood paddle on both sides with double-sided tape. On one side



10

apply 400 grade garnet paper and an old leather belt on the other side.

12 Use the paddle in the same way as the barber uses his strop to keep his razor very sharp, off the edge in one direction and then off the edge in the opposite direction, to the right and to the left, first on the abrasive and then on the leather. It is important not to roll the blade but to keep the polished edge in contact with the abrasive or the leather. This sharpening is only useful if the cutting edge has the right shape and then only to restore that slight extra degree of keenness. The polishing compound, rubbed into the leather assists in the honing procedure.

13 So, there you have it. The total outlay for the four useful whittling/carving knives. The metal was free, the wood was free and so was the plywood. I used only a small amount of the double-sided tape, a little polishing compound, a little adhesive and abrasive material as well as a part of a recycled belt. ■



11

John Swinkels

After 11 years of turning, John still considers himself an advanced beginner, as he continues to learn and experiment with various techniques. He has combined turning with leather and incorporated pewter as a decorative element. John says that the possibilities are unlimited and the enjoyment of the practice is still there, especially as much of it is done in the company of other, more talented, turners.

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12



13

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Jigsaw puzzle

Amber Bailey
goes more or less
round in circles to
produce a simple
fun jigsaw

WHAT YOU WILL NEED:

- 6mm thick plywood – approximately 291 x 204mm
- Treadle fretsaw – or other saw type
- 1 x full-size paper template
- Carbon paper
- Abrasive paper
- Spirit dye
- Gouache – or other type of paints
- Range of brushes
- Transparent white polish
- Mop

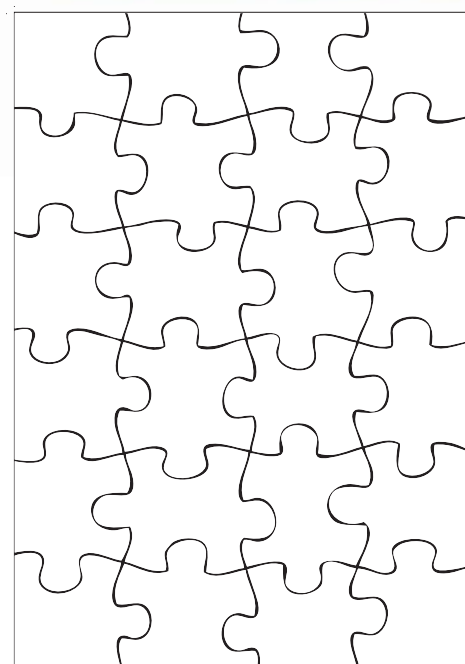
Rather than having a go at a jigsaw puzzle I decided to make one instead. It was also a good excuse to dust off my treadle fretsaw for a quick but satisfying little project, that is perfect for beginners or those who fancy trying something a little different.

Preparing the materials

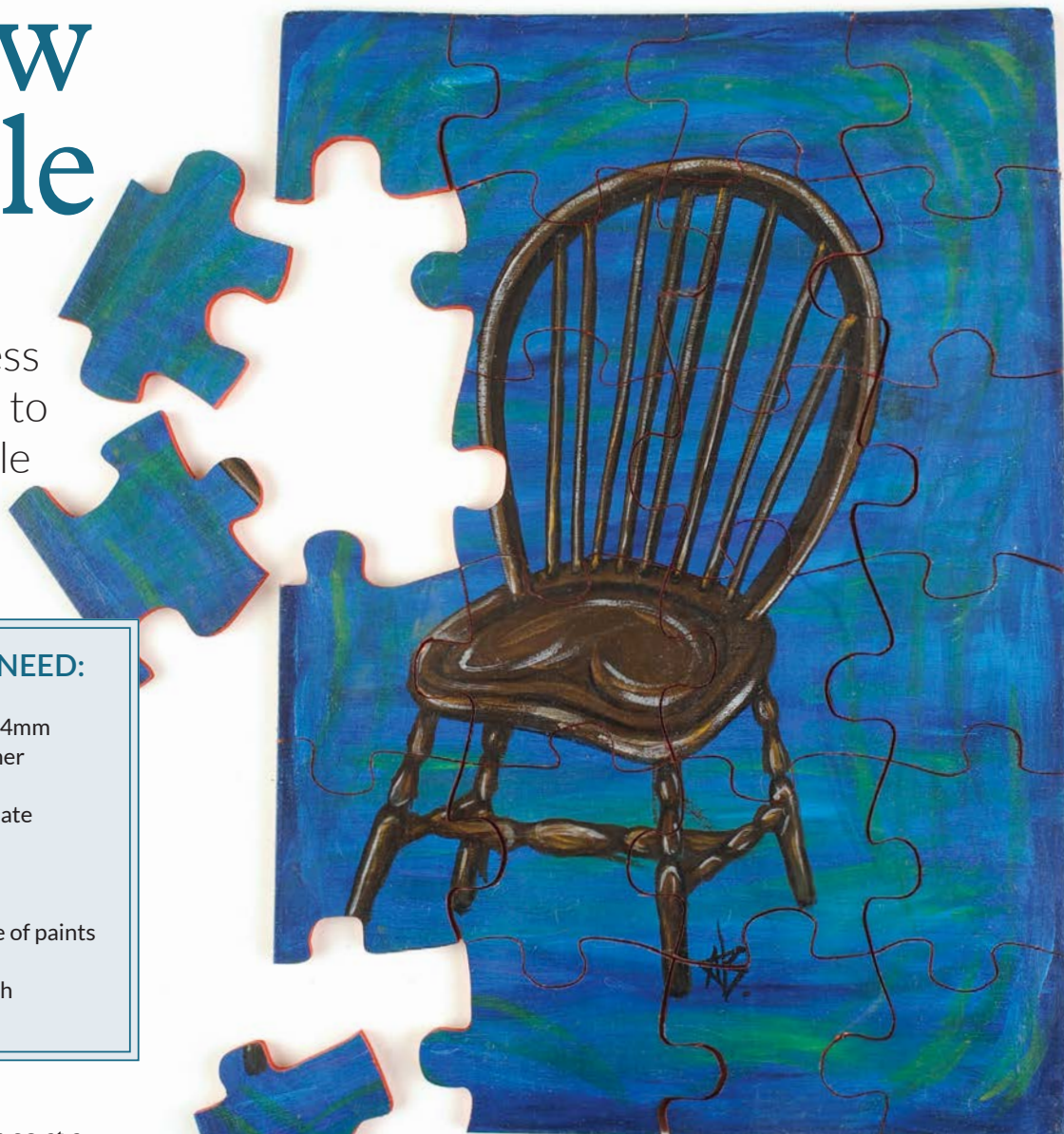
1 Before any work can begin on the image for your jigsaw puzzle, the surface of the groundwork needs to be prepared by smoothing down with abrasive paper. Smooth over the outer edges and it is advisable to round off the corners, as these will be naturally quite sharp. Prior to producing the front design, cover the back and edges with several coats of red spirit dye. On a project like this, all round presentation is very important as all of the sides will be made visible at one point or another.

Painting your design

2 The image used on the jigsaw puzzle is all down to personal preference. I have decided to paint a copy of a Windsor chair, but this is your chance to get creative with a subject of your choice. To find a suitable image to copy, print a picture from the internet for reference. If you intend to paint the picture yourself then you could also look at other artists for inspiration and to find your perfect style. Remember that the more complicated and confusing the image, the harder it will be to put the puzzle back together.



Enlarge pattern to desired size



PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Health & safety

When cutting with a fretsaw you are required to hold your fingers very close to the blade, be wary of slipping. Wear hand protection if necessary.

3 Should you be following my design, keep the Windsor chair to a selection of natural colours, but with a bright and fairly impressionistic background. To produce the background give the wooden surface a solid coat of blue paint before working over it with varying shades of blue and yellow, edged with navy gouache. Consider your brush thickness – for the background there is no need to use anything too delicate. If you are unfamiliar with gouache paint, apply it in the same manner as watercolours, diluting where appropriate. You may wish to seal the background with a layer of shellac so that the colours do not run when applying the foreground detail.

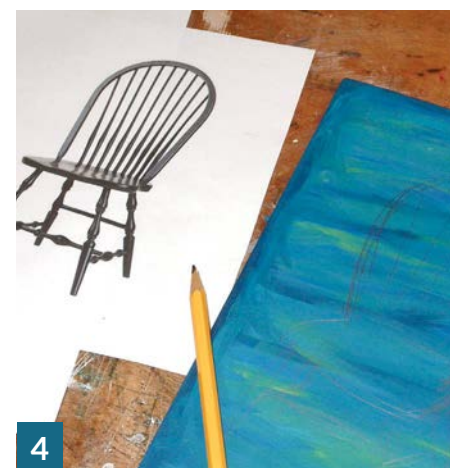
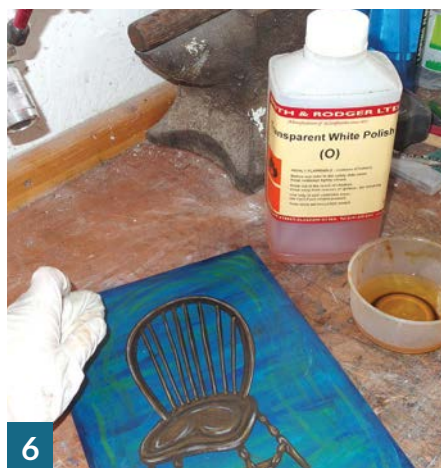
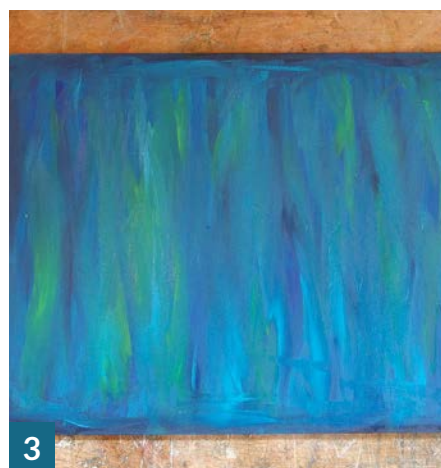
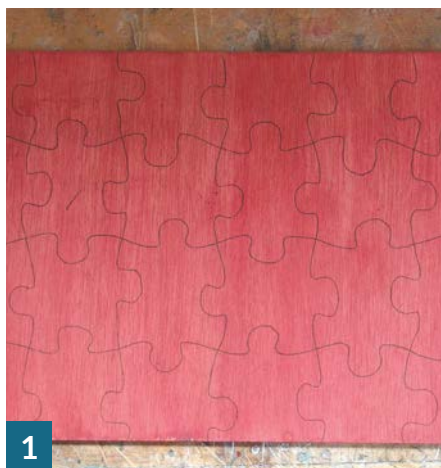
4 Now to light sketching. Never use anything harder than a HB grade pencil as it will be hard to rub out and may show through on your design.

5 Work through the design by blocking out the entire shape in mid-brown, then layering various shades of brown before imitating light and shade. My palette for the Windsor chair consisted of white, black, Vandyke brown, raw sienna, burnt sienna and yellow ochre.

6 Having left the image to completely dry, seal and build up a finish of transparent white polish cut to a 50:50 ratio with isopropyl alcohol, applied using a polishing rubber. This should bring up the colours, while making sure that the image does not suffer any wear. Be careful not to smudge the design while coating with shellac.

7 Now leave the puzzle for at least 24 hours while the surface hardens. After it's dry, turn it over, ready to transfer the jigsaw template. I have chosen to create a 24-piece jigsaw puzzle, however the number of pieces is entirely up to you.

8 Cover the spirit-dyed surface of the puzzle with a piece of facedown carbon paper and the paper template – securing with tape is necessary. Using a ballpoint pen, trace over the design ➤



Alternative inspiration

If you don't feel confident in your artistic abilities then you could use a photograph instead. Be sure to secure the entire page down with spray mount or contact adhesive. Using a photograph is a great way for turning the project into a gift for loved ones.



with enough pressure to leave a copy. Try to keep to a thin single line that can be discreetly covered over with the saw line.

Cutting the design

9 Cut your way down one side of the puzzle pieces so that you have a series of rows. Temporarily tape these back into position before cutting down the other sides to separate all the individual pieces. The wooden board will need to be held in place to avoid it from lifting when the blade goes up.

10 Ensure you have a coarse enough blade to handle the thickness of the wood.

11 Tape the rows together to allow for smooth continuity in the cutting and fitting of the other lines.

Finishing touches

12 The very last step is to clean up the sawn edges; any burrs or splinters of torn wood fibre need to be smoothed down with abrasive paper. This is to remove possibility of injury while handling the jigsaw. These edges can now be stained up to match the back of the puzzle.

13 Use a small brush to apply the spirit dye to avoid it splashing onto the front of the puzzle and ruining the image.

14 All the pieces are now ready to be put back together. ■

Suppliers

Treadle fretsaws are no longer being produced, however they can be picked up second hand online or at second-hand tool merchants. For plywood, visit your local timber merchant and your local tool retailer and DIY store for all other equipment.

Amber Bailey

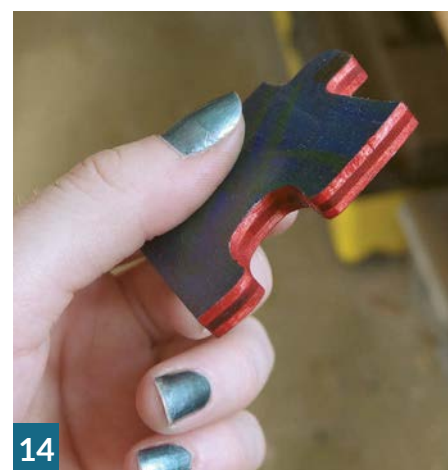
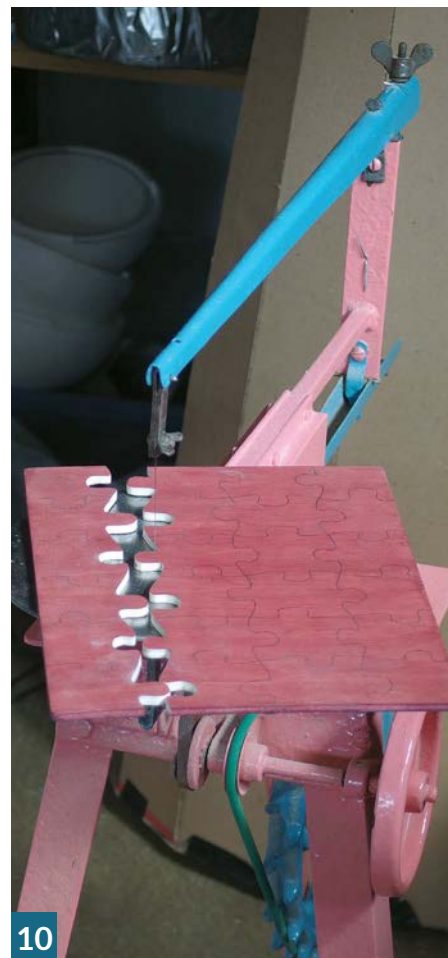
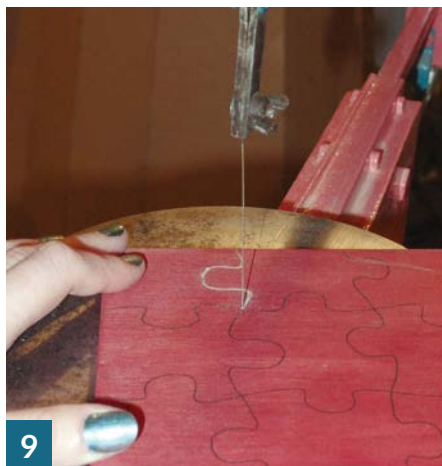
Amber is a skilled marquetarian and surface design artist who graduated from Bucks New Uni in 2014. She is now based in Paris at the École Boulle where she will complete her studies in the art of marquetry and Boulle metalwork, continuing with this traditional decorative skill.

Web: www.abmarquetry.com



Alternative cutting

For cutting the jigsaw puzzle, I have recommended a treadle fretsaw, however, other examples of hand and electric saw would be just as suitable. The advantage of using a treadle fretsaw is that it will cut quickly and its long saw arm allows for a generous turning circle. The solid frame work also means you do not have to worry about trying to keep the saw blade straight, this will matter when fitting the puzzle together again.



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SAFE VOLTAGE?

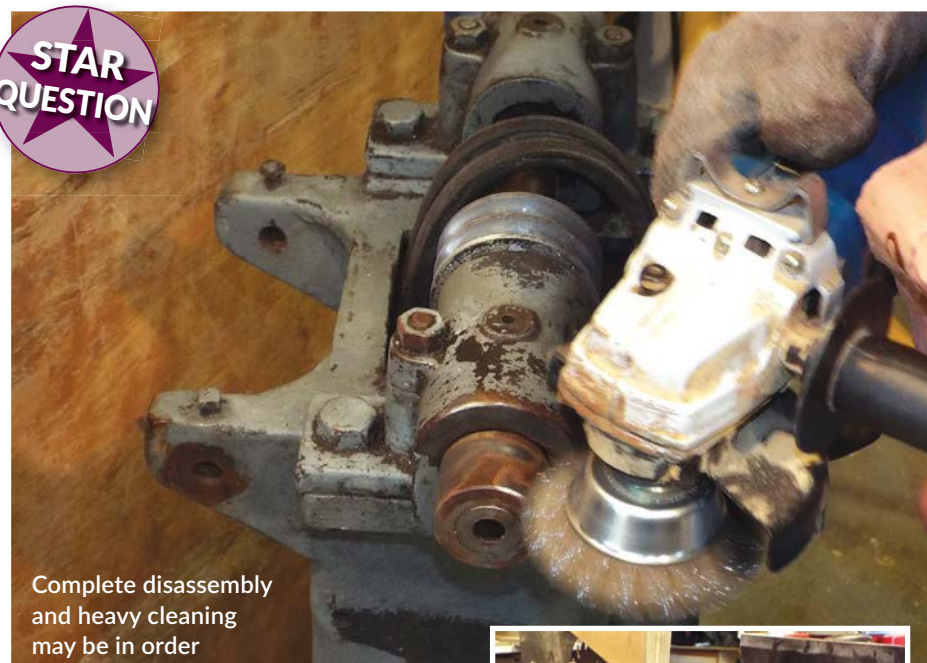
“ I have several vintage powertools and small machines which I acquired when my grandfather, a keen woodworker, died. They all seem to be plated as 240 volts, but I think UK voltage is now 220 volts. Is it a problem running these tools once I change over to modern plugs? I don't have any electrical knowledge, so any help would be useful. ”

Gerry Caswell

Anthony replies: In fact, you have posed much more serious concerns by asking one question. Firstly, the modern supply standard is nominally 230 volts so there isn't much drop in supply for older appliances. The area of most concern is whether these tools are electrically safe. Some may not have double insulation protection or worst of all, current leaking to earth, e.g. through metal casings or other metal parts. Frayed fabric cable coverings that pre-date modern plastic flex cable should be dealt with too.

Static machines may have inadequate blade guarding and a lack of no-volt release switches.

In issue 10, Bob Adsett showed us



Complete disassembly and heavy cleaning may be in order

how to rebuild a vintage sawtable to modern standards – but then he is an expert. You need to get both a machine expert and a qualified electrician to check it all out for you. My final comment is how many of them do you realistically want to use? There are plenty of modern well-made powertools and machines available, maybe some of the old kit should be in a museum instead?



A new motor and modern no volt release switch fitted to this sawtable

IT'S A SNAP!

“ I want to take decent photographs of my work but they are often quite disappointing when I look at them on my PC. They can seem a bit blurry and there are sometimes shadows or burnt out areas without grain showing or the colour looks a bit nasty. ”

Harrington Hughes

Anthony replies: The science and art of photography is a very big subject, which I'm not about to cover here in detail. However, I've looked at several of the images you supplied and it appears to be quite an elderly digital camera model. There are plenty of new and much more capable cameras on the market.

You need to avoid camera shake by pressing the shutter slowly. Often

people press very firmly causing shake. You need reasonable lighting, workshops usually have an unpleasant mixture of fluorescent and light bulbs plus a bit of daylight, all giving off different colours of light. Thankfully, digital can manage this problem to a degree, but the pop-up flash will help 'clean up' the foreground subject. You need to aim the focus point on the most important part of the subject,

The Editor always carries a small capable camera wherever he goes...



part depress the shutter to lock focus and then recompose the image so it is centred on the screen before shooting.

Lastly, shoot against a tidy background or, preferably, a roll of white or grey photographic paper for finished shots.

REMOVING CHUCK MARKS

“ I am having trouble when it comes to knowing the best and cheapest method to remove the chuck marks or decorate the bottoms of turned work. I have looked at vacuum chucks and Longworth-style chucks, but some of the shapes I turn do not make these viable options and neither of these options is low cost. What would you recommend or what do you use for your turnings? ”

Philip Jones

Mark replies: Philip, Thank you for your question. This is a one that I, too, have pondered and I have also spent a lot of money on buying potential solutions to solve the turning of the underside of work once the main turning has been done. All I bought worked in certain situations and not others, but the simplest and cheapest solution is to mount the work between

centres. Typically this involves holding a waste piece of wood in your chuck and turning it to a shape that will properly sit against or into your work. Cover this with paper kitchen towel or non-slip router map and then bring up the work to sit against the shaped wooden block. This is called a wooden friction drive. I always mark the centre of the underside of work when turning



Bring up the tailstock revolving centre to support the work



Place the work against the covered friction drive

a piece, but if you have not, locate the centre of the spigot or recess and bring up the tailstock revolving centre. I typically use a revolving ring centre to spread the load, but gentle pressure from a pointed revolving centre will work too. Don't drive the point too far into the work or you will always have a mark, or worse still, punch through thin walled items. Once secure, you can turn away the waste wood leaving a small nub around and under the revolving centre. Once done, decorate this lower area and sand and apply your finish as required, remove the piece from the lathe and carve off the small remaining nub and sand and finish the small areas that is left. Hope this works for you.



Turning away the majority of the waste wood and cleaning up the base

TOOTH FORM

“ I bought a reasonably priced sawtable 18 months ago, which came with a 24-tooth blade that seems worn now. The teeth are covered in burnt deposits and it has never cut smoothly. What should I be choosing as replacement or can I get it sharpened? ”

Lucy Morris

Anthony replies: Machine manufacturers often supply a basic rip blade like yours. Blades, as I expect you are aware, come in various types. It would help to know what you generally expect to cut but here is a rough guide to choice assuming a 254mm blade diameter. A rip blade has about 24 teeth and deep gullets between the teeth to cope with the sawdust. A crosscut or general duty blade will have 48 teeth and smaller gullets, it will give you a cleaner finish off the blade. The more teeth there are, the costlier a blade but an 80-tooth ultra fine cut blade will give a nice finish and minimal breakout on manmade board. It is unsuitable for deep ripping, though. I generally recommend two blades, one for ripping and one for crosscutting, the ultra fine tooth type being a more specialist requirement.

A last point is don't buy a cheap blade, a reputable brand will perform much better and justify the cost of sending to a saw doctor when it does get blunt.



A rip blade is fine for fast cutting in deeper stock



A finer tooth general purpose blade gives a better finish



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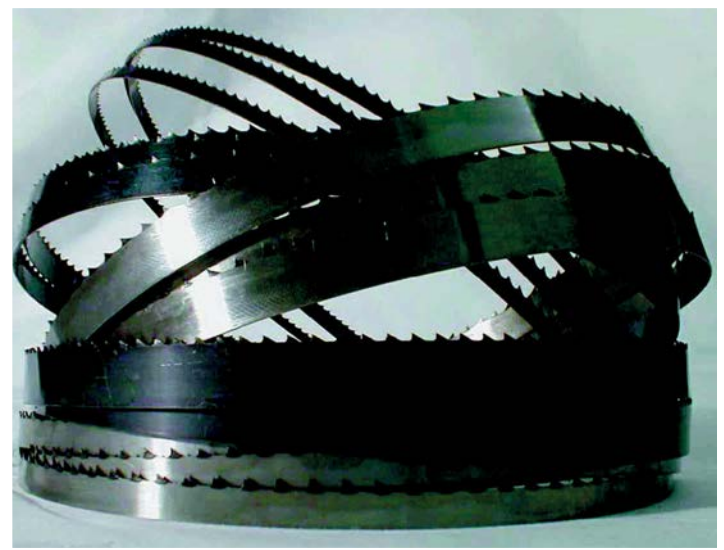
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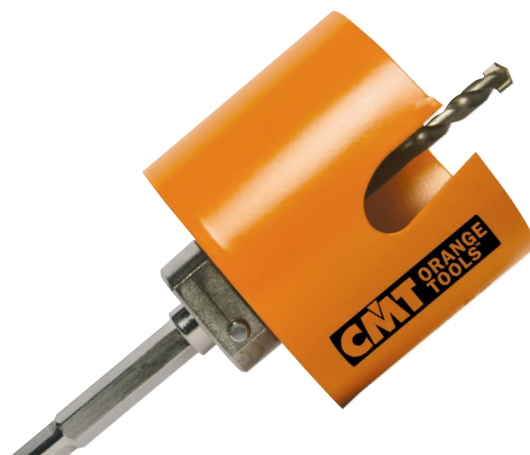




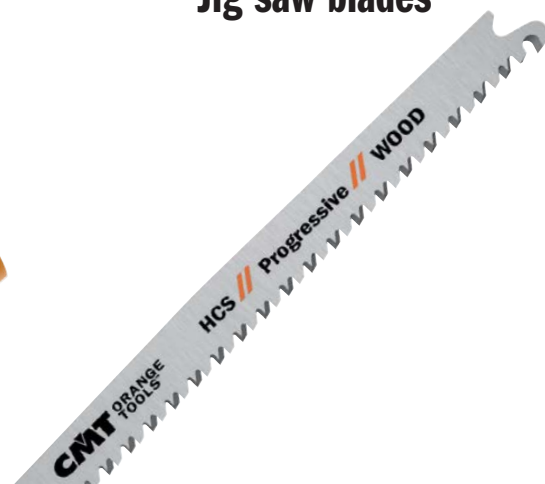
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