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Issue 3 August 2015

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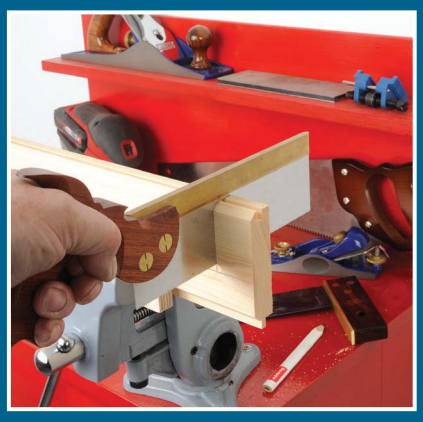

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In the August issue...

COMMUNITY

8 Woodland ways – trees from ancient times

15 News & events

18 Woodworking at Phoenix House Recovery Centre

46 Reader group test – IRWIN

48 Hints, tips & jigs

72 Readers' letters

75 Kit & tools

78 Book reviews

82 Reader subs page

88 Q&A – expert advice

90 Next issue

96 Design inspiration – shelving

POWER WOODWORKING

4 Trio of tealight holders

22 Turned wall clock

26 Bandsaw breakdown – part 1

56 Curtain pelmets

62 Plans for you – modular seating

80 Bosch GLM Professional Laser Rangefinder & R60 Measuring Level

UPCYCLING & RESTORATION

68 The restorer's workshop – a miscellany

HAND WOODWORKING

10 Beginner's guide to butt joints

31 Small Space Woodworking

34 Green woodworking – gypsy flowers on a shavehorse

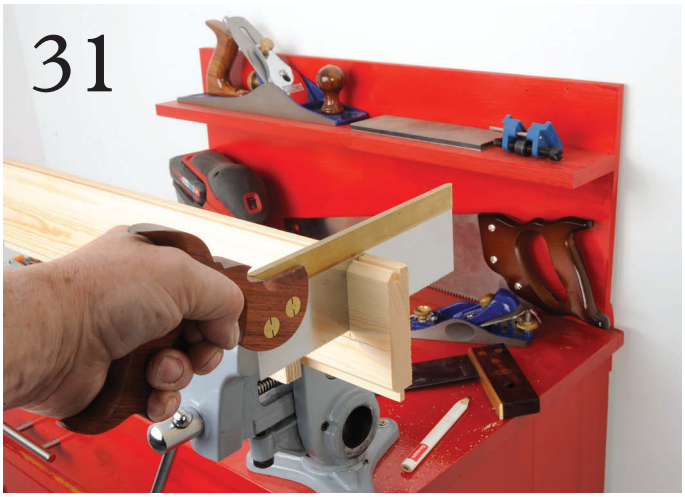
40 Compound-angle joinery

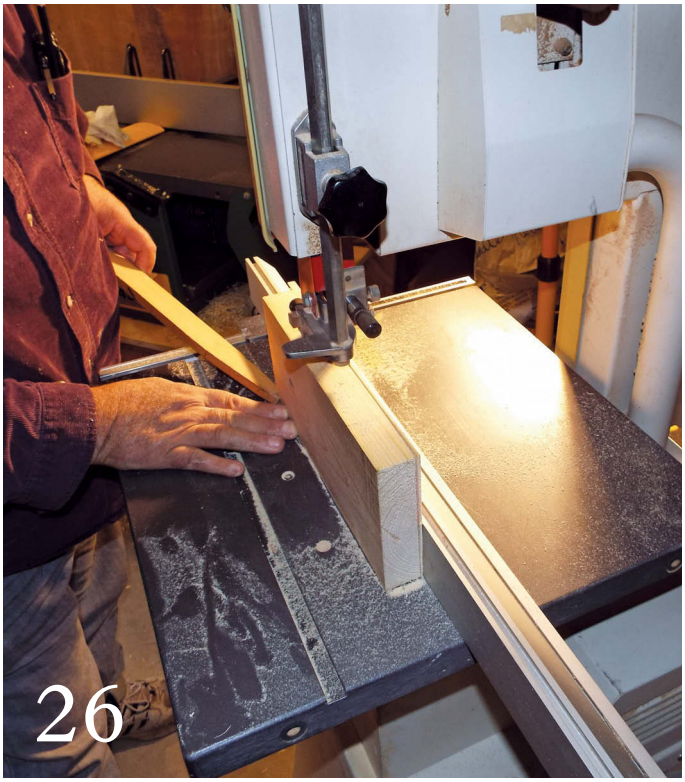
45 Hand woodworking insight

51 Re-handling a Stanley combination plane

76 DIY consumables – part 2

84 Green woodworking – tools of the trade





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Welcome

to the August issue of *Woodworking Crafts*

Hello and welcome to issue 3 of *Woodworking Crafts* magazine. Whether you have followed us from the first issue or only just got on board, you will soon get the idea that my true colours are showing through. Yes, to paraphrase the expression 'dyed in the wool' I am most definitely 'dyed in the wood'. Anything to do with trees, the natural environment, edge tools and recycling, that really defines me and in a sense this magazine also. If you get where I'm coming from, then I hope you are enjoying the magazine and its varied content – sometimes 'woody', sometimes not. To me, everything in our world is joined together in some way or other and that for me is what makes it interesting and fun. Let me know what 'floats your boat' – maybe there is scope for it in the pages of this magazine? In any case, let me know what you think of the show so far – and don't say 'rubbish!' – recycle instead…

Anthony Bailey, Editor
Email: anthonyb@thegmcgroup.com

Erratum

In issue 2, at the end of Louise Biggs' elm chest restoration article, we incorrectly stated that her French polishing article would be appearing in this issue – 3. However, this should have read issue 4. Apologies again for this error and we hope you enjoy Louise's pelmets article instead.

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Trio of Tealight holders

Anthony Bailey and Mark Baker make these elegant tealight holders

Candlesticks and tealight holders are fun to make and, of course, provide a wonderful soft light at dinners and other such events, both indoors and outdoors. It seems that every house has some form of soft ambient lighting, so we set about making some of our own.

We thought about what we could use for timber and wondered if we could repurpose an old weathered, oak *(Quercus robur)* fencepost for our holders, which was just under 100 × 100mm but out of square. The fencepost was free to us, so there was no cost, which gave us options as far as what to do with it. As mentioned, it was out of square, so we could have turned it to create a combination of a smooth turned section for the top and a weathered lower base area. It could be planed square all round and then turned or even left as smooth towers or you could go for a 'raw and rough' rustic look. We decided to make three rustic graduated height towers with a bit of liming, which helped to soften the look a little and make the items a little more elegant.
Of course, the choice is yours, but here is how we set about making our trio.

1 Here is the old fence post and a selection of tealight and candle inserts. We opted to use tealights for this project. They are not as high as a candle, but still give out the same light output – the choice is yours.

What you will need:

- Handsaw – panel or crosscut
- Tealight inserts
- Hand plane
- Hand or pillar drill
- Clamp or vice
- Carpenter's/engineer's square
- Pencil
- Drill bit to suit the tealight inserts
- Abrasives down to 180 grit
- Sanding sealer or diluted varnish
- Liming wax
- Suede or copper/bronze brush
- Stiff paint brush, toothbrush or similar
- Danish oil or similar
- Lint-free cloth or paper towel
- Felt or rubber pads for feet
- Pair of scissors

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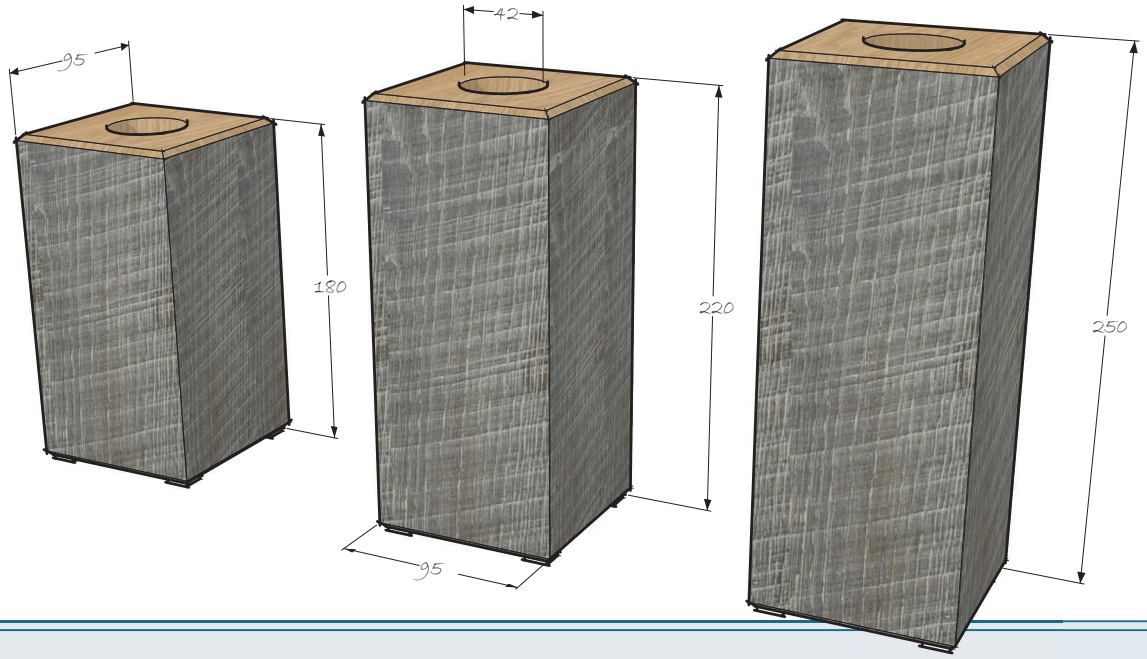


Safety

Candlesticks/tealight holders must be stable in use and not easily toppled if touched, jostled, etc. and the height and base size must work together as a result. Too high on a small base and it is unstable, so, the higher the piece, the heavier and often wider the item needs to be at the base, which will help to create stability.

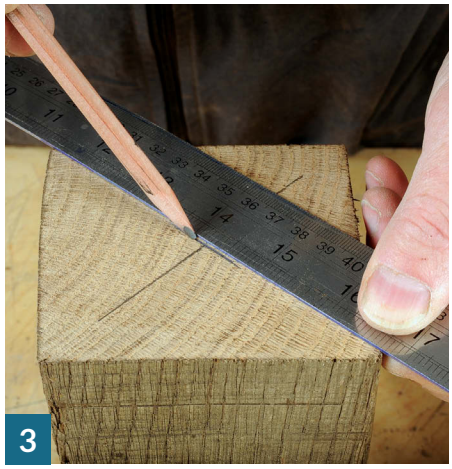
Making a base wider is not always practical. It is possible to make the base heavier by inserting lead or a similar heavy material, which will create the weight and will ensure that things are kept stable.

It is also advisable to use glass or metal candle or tealight inserts to act as a barrier between the wood and the candle or tealight. They are not only effective barriers for flames, but due to the availability of many styles and colours, they are also highly visual.

Never leave lit tealights and candlesticks untended and never place lit tealights or candlesticks near flammable materials.

2 Measure and mark the post to give you the heights of holder you need. The post we had allowed us to get three pieces from it: 250mm, 215mm and 175mm high. A little was allowed on the 250mm one so we could cut the end of the post cleanly and square. You could, of course, cut it square before marking it.

3 Once cut to length, mark the centre at one end on each post.



4 Using a drill – a powered hand-held or pillar drill will work fitted with the right sized drill bit for the inserts you are using – drill a hole to the correct depth. Irrespective of the drilling method used, make sure you hold the work securely while drilling it. For the tealight inserts we chose, we used a sawtooth cutter and a carpenter's square to check the drill was vertical when drilling the hole.

5 Once the holes are drilled, chamfer off the top edges. The bottom edges can also be done if you want to. A hand plane creates a crisp chamfer; using an abrasive will create a softer, rounder-edged chamfer. ➤

6 Now to open up the grain. This will not only remove some of the debris, but on the open grain, the liming paste has somewhere to sit. A metal bristle suede shoe brush is ideal for this, but you could also use a copper or bronze bristle brush. A steel bristle brush can cause scratches on the harder areas of the wood and these will be filled with wax later rather than just filling the grain.


6

7 Once brushed, seal the wood with sanding sealer or thinned varnish. If you do not seal the surface, the excess wax cannot be cleaned off easily so the item will look cloudy and not have the clearly defined grain-filled areas delineated from the plain wood. We used an aerosol sanding sealer for this.


7

8 Using a stiff brush, rub in the liming wax. The one used was a classic white, but you can get them in different colours.


8

9 Once the grain has been filled, let it dry for 10 minutes or so, then remove the excess coating of wax on the top surface. This is easily done using thinned down Danish oil or lemon oil. Don't flood the piece or you start dissolving the wax in the thinned grain. Cotton cloth is ideal for this.

9

10 Soak the cloth with oil, squeeze out the excess and then rub the surface of the wood. The wax will dissolve and you'll need to use a fresh piece of cloth, usually with oil on it, to clean up the surfaces. If you don't, you just smear around the dissolved wax.


10

11 After cleaning off the excess, the wax shows up the grain and also any surface imperfections. Note the horizontal striations left from when the wood was rough sawn to shape – a very rustic look. A planed surface would give a very clean look in comparison.


11

12 Self-adhesive felt – although rubber pads would work too – should be cut into square sections and a square placed in each corner. If you don't do this, the bare wood may scratch any polished surfaces the items sit on. This is the last thing you want to happen on a nice dresser, sideboard or table.


12

13 If all has gone well, you will end up with a trio of nice rustic candle/tealight holders like these. ■


13

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Woodland ways

PHOTOGRAPHS BY GARY MARSHALL UNLESS OTHERWISE STATED

The author standing by the largest known remnant stand of Tilio-Acerion forests dating from c.4,500BC

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

Leaf and flower of a lime *(Tilia vulgaris)* tree

Trees from *ancient times*

Gary Marshall takes a look at the lime tree, whose history lies back in ancient times

Think of a lime *(Tilia vulgaris)* tree and you may picture just one type. However, there are around 30 distinct species in the genus *Tilia* worldwide. They generally have telltale zigzag twigs and heart-shaped leaves. Limes range from the American basswood *(Tilia americana)* to the rare and lovely *Tilia tuan* from China, as well as many hybrids and cultivars.

This article concerns three closely related types; the common lime – a hybrid *(Tilia x vulgaris)* and our British native trees – the small-leaved lime *(Tilia cordata)* and the large-leaved lime *(Tilia platyphyllos)*.

The common lime is a familiar tree in the British Isles; it's a hybrid between the small-leaved and large-leaved limes and is best seen in an open parkland setting. It's valued for its stately, tall form, for its bright, lime green leaves emerging in spring and for browsing livestock. Visionary landscapers like Capability Brown planted limes and other trees in naturalistic clumps; others laid out imposing avenues that still exist today. The fine dome shaped tracery is a good identifying feature, before the leaves fully emerge. The tallest common lime stands at 46.5m in Reelig Glen, Inverness and in Bifrons Park, Kent there is a common lime with a trunk nearly 10m in girth. Limes are often pollarded in town and village streets – to reduce sticky, dripping honeydew from aphids.

Common lime variability

Look out for pruned trees with a mass of epicormic growth from the base, growth from cut branches and bulbous swellings on the trunk. Naturally, 'messy' forms are wonderful wildlife niches for insects, birds and small mammals, including bats. Also look for fluted trunks with large buttresses and 'well-behaved' trees with straight clean trunks and little or no epicormic growth. Common limes have genetic traits from both parents but with varying degrees of dominance, hybridisation may exaggerate such traits and these factors account for differing forms.

The most common lime trees planted from the 17th century onwards were from just a few distinct Dutch clones – cuttings or sprouted stems. Hybrids occur naturally in Europe. This is unlikely in Britain, because of scattered lime populations and fertility issues, so virtually all common limes in the British Isles were planted by man.

Carving blanks of lime are most likely to come from Scotland or abroad. Woodcarvers rate lime wood as it is light, stable and can be cut in any direction. Much of Grinling Gibbons' famous work is in lime wood. It's used by musical instrument makers and for hop poles. The flowers are prized by apiarists and are also gathered for herbal teas.

Open grown common lime at Kew Gardens showing good form

Parkland with classic lime tracery and domed forms

Above: Regrowth from coppiced large-leaved limes

Left: 'Wildwood' small leaved limes near Cheddar, in Somerset

Gary Marshall

Gary has had a lifelong 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, including the Woodland Trust. Although supposedly retired, Gary still keeps his hand in, writing the odd management plan – and article! He also works as a volunteer on rights of way and woodland work, as a trustee of a woodland charity as well as a networker in the local rural scene.

Our native limes

Small leaved and large-leaved limes only occur in ancient woodland – i.e. woodland that has been in existence since at least 1600 in England and Wales. Some 6,000 years ago, small-leaved limes were the dominant woodland canopy species, on a line roughly from the Humber to the Severn and in east Wales. They are not native to Scotland or Ireland.

Limes had declined sharply by Roman times and slowly since. Theories behind this are various, including: reducing seed fertility/viability, which is still a problem and may be due to climate changes; increased browsing; harvesting lime bast – long fibres under the bark – for rope making and man selecting in favour of trees such as oak *(Quercus robur)*, ash *(Fraxinus excelsior)* and hazel *(Corylus avellana)*.

Where native small-leaved limes still reign

Imagine a steep track up a limestone scarp, going deeper into a large wood in the Mendips. Masses of ramsons – wild garlic – and bluebells carpet the ground. Overhead are extraordinarily diverse trees. Some with smooth straight trunks look a bit like ash, others have weird outgrowths and pendulous branches – or are they roots? Some are coppiced, recently or long ago, some pollarded with large crowns. Many have regrown, straight and tall; others gnarled and twisted, ent-like. A few are massive and have tumbled down, with rotting trunks but still have vigorous roots. They're all small-leaved limes growing in one of the largest woods in the country where they still dominate the canopy. Is this similar to the old 'wildwood?'.

Native large-leaved limes in a rare setting

Until the 1990s, stands of native large-leaved limes were believed to grow only in a few locations in the Pennines, the Cotswolds and the Wye Valley. However, more than a dozen sites have since been found near the base of the South Downs. My first visit to the largest of these sites is shown in the opening photo. The next visit was a shock – large-scale felling had taken place – but this was supervised by English Nature, to rejuvenate the wood. After 10 years, I returned again to see excellent regrowth from old roots, while the fast rotting stumps are providing nutrients to aid vigour.

Longevity

Limes are remarkable trees. Unless completely grubbed out they can be 'almost indestructible'. A site of lime coppice stools in Gloucestershire is around 2,000 years old – some believe it may even go back 6,000 years. Nevertheless, ancient woodlands, where small-leaved limes dominate are localised and those where large-leaved limes grow are rarer still. Such woods are a direct link to the past. ■

PHOTOGRAPHS BY MICHAEL T COLLINS

Basic hand-cut joints

Our man in America, **Michael T Collins** explores cutting butt and cross half-lap joints

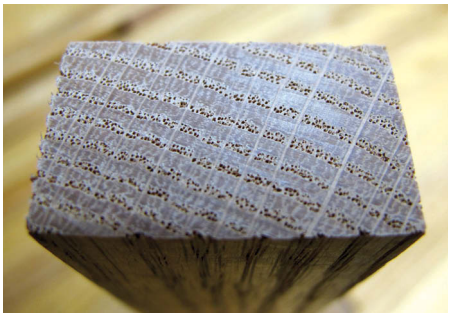
As a boy, attending secondary school in England in the '70s, I was required to take woodworking classes as part of my education. For most of us, this was our first encounter with using traditional hand tools. We learned how to manipulate wood by planing, sawing and chiselling and created all sorts of things, including garden dibbers, boxes, chessboards and coffee tables.

40 years on, I am still using some of my early creations and can still recall the sense of pride at having created something with my own hands. Mr Young, our woodwork teacher, knew everything there was to know about wood, tools and techniques. He instilled in me a passion for woodworking. I realise now that he was probably a disciple of the School of Sloyd, a system of learning that imparts knowledge, order and exactness of skills in ever-increasing levels of difficulty with little or no hands-on assistance from the teacher.

There's an old proverb: "Tell me and I'll forget, show me and I may remember, let me do and I will learn." To really learn woodworking, one has to learn experientially. As a beginner woodworker, you are not going to be perfect and you will make mistakes, but you will learn from them. Working wood is a progression and it takes time and patience for these skills to be developed.

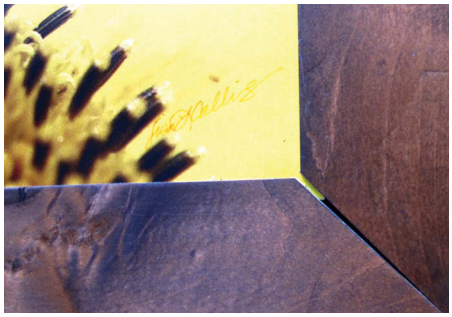
Basic joinery techniques

At the outset, woodworking requires some fundamental skills that over time will become second nature. These skills will develop into good habits and once muscle memory takes over, you will never forget how to hold and use tools. So let's look at some basic joinery and techniques that can be developed into skills that will last a lifetime.



Red oak cut through the cells

Stud joined with nails or screws and a dowel joint, both examples of using mechanical means to joint end grain to long grain



Mitre joint on a picture frame held with only glue

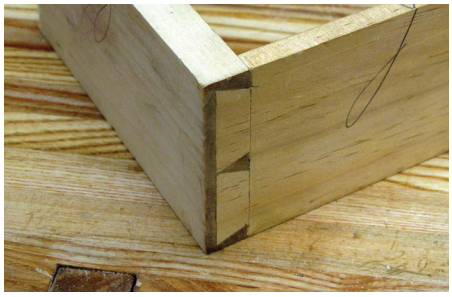
The butt joint

I'm going to start with the most basic joint of all: the butt joint. This joint consists of two pieces of wood that are simply butted against each other, typically forming a 'T' joint or corner joint in a cabinet face frame or mitred corners of a picture frame or box. The strongest butt joint consists of joining straight grain to straight, such as when joining boards for a tabletop – see issue 2, pages 51-54. This is because boards that are cut lengthwise preserve the grain structure, whereas joining end grain to end grain or end grain to straight grain slices through cells that were once strong and the original strength of the board is lost. With joints of this weaker nature, there is no easy way to join the sliced end grain back together with glue alone. Any glue applied to end grain is wicked from the surface and produces a starved joint. A joint of this nature requires mechanical fasteners, such as a biscuit, mortise and tenon, dowels or pocket screws in addition to glue.

Picture frames are a good example of a butt joint – here you can see the result of a butt joint using only glue; the wood has started to pull away due to seasonal change. With joining end grain to long grain, where the wood is moving at different rates, it is clear that a stronger joint is needed.

Half-lap, halving joint or lap joint

Let's look at joining wood with another joint that is suitable for picture frames, face frames: the half-lap or halving joint. This joint has many names, but they are all essentially the same joint. As the name implies, in the half-lap halving joint, the amount of wood cut away is half the thickness of the wood. The terms halved/half-lap joint and lap



Lapped dovetail or half-blind dovetail

are often used interchangeably, but while a halving and half lapped joint is a lapped joint, a lapped joint is not always a halved joint.

Here you can see a half-blind dovetail joint which is a lap joint, but clearly both pieces do not have half the thickness removed. If the timber is of differing dimensions, then the amount cut away will vary, but the resulting joint is generally the thickness of the thickest piece of wood. In this article, I will only be looking at half-lap joints.

Butt joints

What you will need:

- Tenon saw
- Marking knife
- Marking gauge
- Jack and block plane
- Try square
- Bench hook
- Vice
- 19mm bevel-edge chisel

1 First, all the stock must be prepared to the project's final dimensions. Plane the wood square, then check using a try square. I will start by demonstrating a simple half-lap joint that can be used for a picture frame or face frame. Using the try square and marking knife, mark the location of the joint adding 1mm for waste. This waste will be planed off once the joint is finished.

2 Continue the line on the edge sides using a pencil. The inside edge can be marked with the knife as this will not be seen, but because the outside edge will be visible, be sure to use a pencil here.

3 Now take the marking gauge and find the centre of the edge side. This does not need to be measured. Instead, set the gauge to approximately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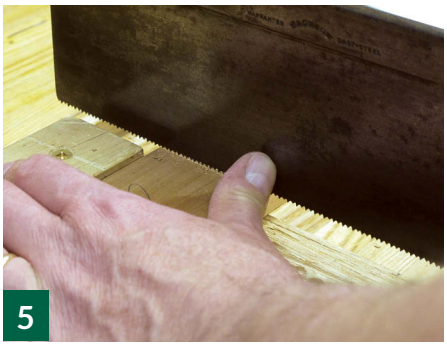
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half the thickness of the stock and mark from both the face and opposite side. Adjust the gauge – using light taps on the marking gauge stalk – until the marks coincide.

4 Then, from the face side, you can mark the depth of the lap joint. Take care not to allow the gauge to follow the grain – steadily increasing the pressure on the gauge will help. Mark the two sides and the end grain. Using the marking knife or chisel on the face side, cut a 'V' notch on the waste side of the knife line.

5 Place your cross cut saw in the notch and using your non-dominant thumb as a guide, make several small cuts to start. I always start on the back stroke on the far side as this severs the fibres and prevents tear-out. Saw down to the centreline, paying particular attention to the backside of the joint as you do not want to cut beyond the line. With practice, you will be able to saw vertically, but initially a good way


7


8

to keep the saw perpendicular to the wood's face is to look at the reflection in the blade – you want the wood to appear as if it continues in a straight run through the saw.

6 Finish off the joint by placing the piece in the vice at 45° and saw as we did for cutting tenons in issue 1 – see pages 68-71. Note how the index finger points in the direction you want the saw to go. Repeat for the other piece. The joint may need some fine-tuning but go easy – it's always easier to take more wood off than to put it back.

7 Once glued, use the block plane to clean up the joint – note the direction I am planing: from the joint end in with a slight angle of attack; this way end fibres are sliced.

8 Variations on this joint include mitred lap joints, particularly for picture frames; this would certainly avoid those unsightly gaps and still show the typical mitre.

Cross half-lap joint


1


2


3

1 Let's look at another half-lap joint, but this time in the middle of two pieces. Using the marking knife and the try square, mark the location of the joint. Then, without moving the try square, place the second piece tight up against the try square. With the marking knife against the second piece, nick the corner of the bottom piece.

2 Remove the top piece and place your marking knife in the mark just made, moving the try square so that it is now resting against the knife. Deepen the line and carry all marking lines around the edges. As the whole joint will be hidden in this instance, you can use the marking knife on the face edges.

3 As before, using the marking gauge, start to find and mark the depth of the joint, then cut a 'V' notch on the waste side of the two knife lines. I am sure you are beginning to realise by now that much of woodworking is the steady repeated application of a few basic skills. Saw down the two marks – be careful to not go beyond them.


4


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4 With the help of the bevel chisel, pare away from one side to produce a slope.

5 It's tempting to try and remove all the waste at once, but you must resist this temptation. Repeat the paring from the other side, creating a 'roof'.

6 And finally, pare away and tidy up the bottom of the joint with a slicing action – as you can see here, the fingers of the left hand act as a pivot point.

7 Now take this piece and place it in position over the mating piece – the joint should be hand tight, but do not force them together. If the fit is too tight, then take a very thin shaving off the edge of the uncut piece – a joint that is too tight may bow the pieces. Now use this finished joint to mark the second piece and repeat the process of marking, sawing and paring.

8 Once pared, the two pieces should now fit perfectly. Apply glue to all mating surfaces. At this point, the faces can be planed if necessary. If there are secrets to woodworking they are: take your time, measure accurately, mark from the face sides and cut on the waste side.

9 Here are a few variations on the theme of lap joints. Try experimenting for yourself! ■

NEXT MONTH...

In the next issue, Michael will move on to looking at bridle joints


8


9

Michael T Collins

Michael has been working with wood off and on for 40 years. Having run out of projects in the UK, he moved to a small village in the heart of the Finger Lakes in Upstate New York with his family in 1996. Over the years, he has made bespoke furniture, including clocks, inlay work, Adams fireplaces, book cases, reproduction furniture, woodcarvings, restorations, bowls, tables and some major construction projects. As a mathematician by training, he is constantly looking to solve puzzles and woodworking for him is a continual process of solving puzzles – or maybe that's just the way he works...

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NEWS & EVENTS

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

150mm pier wood bowl

PHOTOGRAPHS BY JON HAMMOND

Jon Hammond – Serenity Custom Drums

Jon Hammond is the artist behind Serenity Custom Drums, a high-end English drum boutique creating bespoke hand-carved and turned fine percussive instruments from reclaimed, historical woods. With Serenity, Jon gets to combine his love for woodturning and drums.

Last summer, the beloved Eastbourne Pier caught fire and Jon was able to reclaim what little of the 100-year-old decking survived the blaze with help from his local MP, Stephen Lloyd, for bowls only. "Of course, the wood is very weathered ekki *(Lophira alata)*, charred and cracked, full of a million footsteps, salt and sand, but its history is immense. Just knowing Churchill alone stood on it is enough for me," he comments. Thanks to his experience with other reclaimed and ancient wood, Jon already knew how to carve it, so he made one bowl. The Facebook post Jon put online then went viral and he received over 300 messages in two days.

"I set up my woodturner Facebook page to cope with the influx," he tells us. Jon now has very little of the pier wood left and demand is still very high. "Each bowl takes a long time to complete," Jon explains, as he sands to 7,000 grit and finishes with a food-safe wax.

Jon doesn't describe himself as a traditional woodturner as he treats each piece like a sculpture, only ever working with limited, reclaimed sources of wood. He prefers to leave as much evidence of whatever life the wood has had in his work as possible.

Find out more about his work by seeing details below.

Below: Reclaimed teak *(Tectona grandis)*, oak *(Quercus robur)* and Eastbourne groyne greenheart *(Chlorocardium rodiei)* drum kit

Contact: Jon Hammond
Web: www.serenitycustomdrums.co.uk
Facebook: www.facebook.com/jonhammondwoodturner; www.facebook.com/serenitycustomdrums

The Woodlands Country Show

PHOTOGRAPH COURTESY OF WOODLAND CRAFTS EVENTS MANAGEMENT

Mr Mushroom at last year's event

The Woodlands Country Show 2015 is set to be a great weekend with so much to see and do. The show is packed with exhibits, activities and entertainment for all. Families will be able to experience a fun-packed day out with an amazing range of countryside activities – there's everything from falconry displays to ferret racing, from chutneys to chainsaws! There are live demonstrations and 'have-a-go' areas and the Crafts marquee and trade stands will be offering a wealth of treasures as well as a wonderful array of food and drink to tempt you. A family show is not complete without some entertainment, music and refreshments. There really is a huge variety of delightful attractions to appeal to both rural and urban tastes – a show not to be missed!

When: 11–12 July, 2015
Where: Royal Victoria Country Park, Netley Abbey, Southampton SO31 5GA
Contact: Woodland Crafts Events Management
Web: www.woodlandcrafts.co.uk/woodlands-country-show

PHOTOGRAPHS COURTESY OF ONE VOICE MEDIA

Summer CRAFT SHOWS

The Chilterns Craft & Design Show returns to Stonor Park near Henley-on-Thames from 28–31 August followed by the Weald of Kent Craft & Design Show at Penshurst Place, near Tonbridge from 11-13 September, 2015.

Both shows will feature a host of exquisite and fine British crafts. It's a chance to discover beautiful pieces for the home including furniture and glassware as well as jewellery, luxury beauty products and leather goods. As well as browsing the crafts marquees, visitors can take part in demonstrations, workshops and relax in the beautiful grounds of the house and gardens.

There is plenty of fun for all of the family with a wide range of activities for children as well as the Graduate Marquee by Informed Design, which brings a range of stunning work from newly qualified designers. This is a unique opportunity to snap up exquisite pieces at fantastic prices from the next 'big names' in the industry. Visitors are invited to browse work made with the utmost care to the highest quality that is inspired by innovative design.

There will also be a host of specialist food and drink marquees, a café, Eatons Bar, plus much more.

When: **The Chilterns Craft & Design Show:** 28–31 August, 2015; **the Weald of Kent Craft & Design Show:** 11–13 September, 2015
Where: **The Chilterns Craft & Design Show:** Stonor Park, Stonor, Henley-on-Thames RG9 6HF; **the Weald of Kent Craft & Design Show:** Penshurst Place & Gardens, Penshurst Place, Penshurst TN11 8DG
Contact: ICHF Events
Tel: 01425 277 988
Web: www.ichfevents.co.uk

Handmade at Kew

This new international consumer event for contemporary crafts will take place at the prestigious UNESCO world heritage site, Kew Gardens in October.

The show is a chance to buy directly from individual makers and galleries and discover the stories behind the work of talented craftspeople. Over 150 designer-makers will showcase work across a variety of disciplines, including: ceramics, jewellery, fashion and textiles, glass, paper, furniture and metalwork.

When: 8–11 October, 2015
Where: Royal Botanic Gardens, Kew, Richmond, Surrey TW9 3AB
Contact: Handmade in Britain
Tel: 020 7286 5110
Web: www.handmadeinbritain.co.uk

PHOTOGRAPH COURTESY OF NIGEL NORTHEAST

'Etagere' by Nigel Northeast, one of the designer-makers who will be appearing at this event

NATURE FORCE

Join Nature Force, the Wildlife Trust's dedicated team of volunteers carrying out practical conservation on their nature reserves. There isn't a better way to visit Warwickshire Wildlife Trust Nature Reserves. You'll get to visit reserves that you may not have been to before, join a team of friendly volunteers and get active. You don't need to be an expert; they'll provide training and tools. Just take a packed lunch and the leaders will make sure that there's plenty of hot drinks and biscuits. No minimum time commitment is required. Nature Force runs every Tuesday, Wednesday and Thursday, so pop along and join in, get fit and get out into nature.

When: Throughout July and August
Where: Brandon Marsh Nature Reserve, Brandon Marsh Nature Centre, Brandon Lane, Coventry, Warwickshire CV3 3GW
Contact: The Wildlife Trusts
Web: www.wildlifetrusts.org/events/2015/01/06/nature-force

PHOTOGRAPH COURTESY OF WWW.WARWICKSHIREWILDLIFETRUST.ORG.UK

The Wildlife Trust's Nature Force – volunteer today!

PHOTOGRAPH COURTESY OF WWW.CHARLIEWHINNEY.COM

Steam-bending expert Charlie Whinney in his workshop

Upcoming courses at Marc Fish's workshop

One-day steam-bending course

Taking place at Marc Fish's workshop is this one-day course with Charlie Whinney, who is the UK's leading steam-bending expert. His work is sold internationally and can be found in museums, private residences and commercial premises. Prominent commissions include the Eden Project and Harvey Nichols department store in London. Based in Cumbria, Charlie's love of steam-bending is instantly obvious; his passion for the subject makes him an ideal tutor. Charlie is really hands-on and gets students motivated and excited. This course is included in Marc's full-time one- and two-year courses. The cost of the course is £240 and includes all materials.

Make a Krenov-inspired hand plane with Theo Cook

Also taking place at Marc Fish's workshop, this weekend course teaches you how to make a wooden plane. This will involve skills such as bandsawing, routing, drilling, shaping with a spokeshave, sanding and finishing. Students will be provided with a comprehensive booklet at the beginning of the course and leave with a completed plane and the skills and knowledge they need to repeat the exercise on their own. The course is taught by Theo Cook, who trained at the Barnsley Workshop in the UK and under James Krenov at the College of the Redwoods in the US. Materials and blades are supplied; however, if students wish to use their own timber, Marc can advise on sizes required and do the preparation work prior to the course start date if the wood is sent to him.

When: **Steam-bending course:** 18 July, 2015; **Make a Krenov-inspired hand plane course:** 29–30 August, 2015
Where: 'Robinson House studio', Robinson Road, Newhaven, East Sussex BN9 9BL
Contact: Marc Fish
Tel: 01273 513 611
Web: www.marcfish.co.uk

PHOTOGRAPH COURTESY OF MARC FISH

Make a Krenov-inspired hand plane with Theo Cook

Woodworkers Institute competition winner announced

We were inundated with entries for our recent online competition to celebrate the launch of our new magazine, *Woodworking Crafts*. Unsurprisingly, lots of you wanted to be in with the chance of getting your hands on our £280 prize bundle but unfortunately, there could only be one winner. The winner was Martin D and a Hitachi cordless sabre saw, an IRWIN Record smoothing plane and a Skil multi-tool, plus many other woodworking goodies, will be winging their way to him very soon! Keep checking our website – www.woodworkersinstitute.com – for future giveaways and competitions and congratulations again to Martin!

WOODWORKING IN THE NEWS...

Shipping packaging

The Forestry Commission is urging importers to comply with regulations to protect Britain's trees and plants from invasive pests and diseases. Importers using wood packaging in shipments must comply with regulations to protect Britain's trees and plants from invasive pests, which include the Asian longhorn beetle. Ships carrying wood that poses a threat to British plant and tree health, in the form of wood packaging and dunnage, are being stopped at ports of entry to England and having their packaging destroyed as the wood may be carrying invasive insect pests. There are strict international regulations for the standard of wood packaging material and dunnage that is used to ship goods. Materials must be treated and marked according to the International Plant Protection Convention standard as a precaution against the movement of live pests or pathogens that may be present in the wood before it is exported.

The insect pests become more of a risk as the weather warms up, as their larval life stages develop more quickly in the heat. The Asian longhorn beetle appears to be one of the higher risks to our environment's health. The government increased their funding for timber and wooden project inspection in 2014, which meant that 122 interceptions on non-compliant wooden packaging and dunnage were undertaken at five British ports. Some of the interceptions found that wood packaging material was often carrying live insect pests and had to be destroyed, treated or re-exported.

Contact: The Forestry Commission
Tel: 03000 674 321
Web: www.forestry.gov.uk

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

The Asian longhorn beetle

Col Bridgeman and Tony Wilson raise the barrier to open the workshop

Woodworking at Phoenix House Recovery Centre

Walter Hall reports from the opening of Phoenix House Recovery Centre's woodworking workshop

Phoenix House Recovery Centre is located at Catterick Garrison in North Yorkshire. It is run by the charity Help for Heroes and supported by the Royal British Legion. To quote from the Help for Heroes website: "The Centre aims to inspire those who have been wounded, injured or become sick while serving our country and enable them to lead active, independent and fulfilling lives." One way in which this support is provided is through an Arts and Crafts programme, run mainly by volunteers and which includes, among its many facilities and services, a Woodworking Volunteer programme that offers opportunities for beneficiaries to gain first-hand experience of turning, carving and generally working with wood.

New woodworking workshop

The woodworking workshop that has now been provided to support the programme is the brainchild of former Warrant Officer Chris Morgan, who was instrumental in setting up the Woodworking Volunteer programme. What was originally just a 'wouldn't it be nice if we had a proper workshop' idea has, with the support of the woodworking industry and many individual benefactors, made it possible to provide wounded, injured and sick service personnel and veterans with workshops, tutoring and support in a dedicated and properly equipped facility.

Chris, with support from Robert Sorby Ltd, launched the appeal at the 2013 North of England Woodworking and Power Tool Show and has worked

Woodturner Tony Wilson prepares for the official opening

Col Bridgeman CBE TD DL, Master of the Worshipful Company of Turners about to officially open the workshop

Chris is interviewed for BBC Radio Tees

Chris welcomes a visitor to the workshop

tirelessly with fellow volunteers and centre staff to generate funding, sponsorship and support for the facility through fundraising events and by inviting members of the woodworking industry to get involved by donating many of the tools and machinery with which the workshop is now equipped. It is hoped that this workshop will only be the first of many, and that in the future, with the continued generosity and support of its many benefactors, the charity will be able to provide similar facilities at some or all of its other Recovery Centres.

A 'life changing' project

The Woodworking Workshop was officially opened on 22 April, 2015. Chris began the event by giving a short history of how the workshop came ➤

Bob Taylor with some of his work

PHOTOGRAPHS BY WALTER HALL

Visitors view the facilities

The Legacy CNC woodworking machine

A fine chest and set of tools provided by Percy Moss

about and by thanking those present and the many other individuals and organisations who have made the project a reality. Chris said: "When I had my problems some years ago, apart from family, I had my workshop and my army mates, so I understand the benefits of working with wood and having good mates. Working with wood is so therapeutic; it trains the mind to concentrate, and when concentrating on woodwork, you do not think of other things. For some of the recovering veterans, being in the workshop often reminds them of being back with their mates in the barrack room and being in a friendly environment can start a recovery/healing process. Many phrases used today have often lost their meaning but here at the Recovery Centre, I can assure you all that this workshop will be life changing – we have already seen changes in veterans. The battle cry for all of us involved with Help for Heroes is 'Inspire, Enable, Support.' Everyone who has contributed in any way to this project has been inspirational, you have enabled me to get the workshop project started and without doubt you are all supporting our wounded, injured and sick veterans. We still have a long way to go, so keep up the support."

A veteran's view was then provided by ex-serviceman Bob Taylor who, despite suffering from PTSD following his experiences as one of the troops deployed to deal with the aftermath of the Lockerbie disaster, overcame his problems to express the gratitude of those who have benefited from the project to the volunteers and benefactors and to explain how important the project had been in improving the lives of so many.

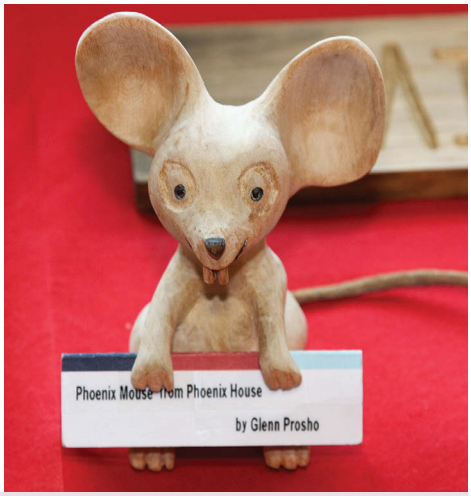
The official opening was then performed by Col John Bridgeman, CBE TD DL, Master of the Worshipful Company of Turners and Tony Wilson, professional woodturner and volunteer tutor, following which guests were given a tour of the workshop where they were able to see for themselves the extensive range of equipment available and refreshments were accompanied by a display of

some of the work produced by the beneficiaries.

The workshop is extensively equipped with a wide range of equipment including a state-of-the-art CNC woodworking machine adapted for people in wheelchairs and donated and commissioned by Utah-based firm, Legacy. Chris and his colleagues are grateful to the following companies who provided not only equipment but also support and encouragement for the project:

Robert Sorby Ltd
Trend Machinery & Cutting Tools
Axminster Tools & Machinery
Fercell Engineering – dust extraction system
Felder UK
Legacy CNC (USA)
Record Power
Peter Sefton
Gedore UK – Bessey Clamps
David Stanley Auctions ■

A pole-lathe turning demonstration



Some of the craft work made by the servicemen

DETAILS:

Where: Phoenix House Recovery Centre, Richmond Road, Catterick Garrison, North Yorkshire DL9 3AW
Contact: Phoenix House Recovery Centre
Tel: 01748 834 148
Web: www.helpforheroes.org.uk

Turned Wall clock

Mark Baker makes a turned wall clock using faceplate techniques

Mark Baker
Mark Baker is Group Editor for all four of our woodworking magazines and directly edits both *Woodturning* and *Woodcarving* magazines.

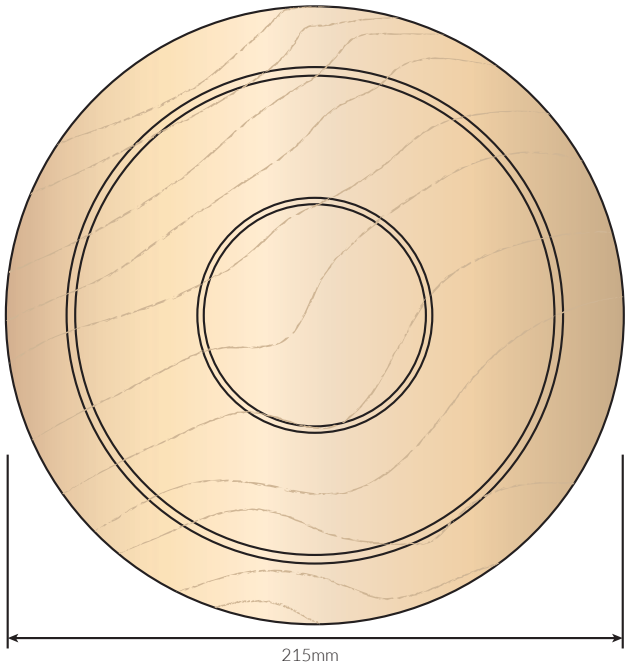
Clocks are always popular – I get requests every year for them. Look online and in the stores for the huge variety of clock mechanisms available. I bought a typical, widely available mechanism, but if you buy one of a different size, simply adjust the project measurements to match it. The mechanisms are usually sold in long- or short-reach versions, meaning the shaft is short or long. Because I wanted to use a thick section of wood, I chose the long-reach version.

This project is a faceplate exercise. It is more about getting the right depth and width so that you can assemble everything rather than about complex turning skills, but accuracy is a must to get it to come together. I chose cherry *(Prunus spp.)*, although there are many alternatives – in fact, I do not know of a wood that could not be used for this project. I love working with fruitwoods. They hold detail well and I love the colour and grain pattern of the wood.

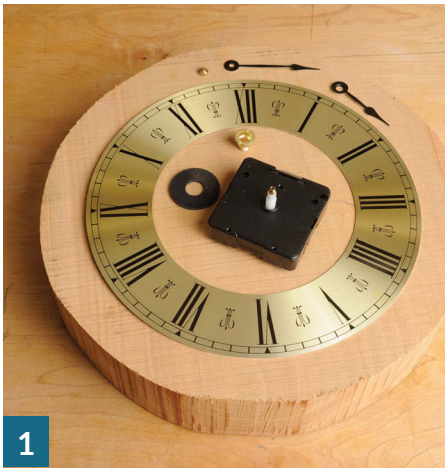
PHOTOGRAPHS BY GMC/ANTHONY BAILEY

You will need:

- Bowl gouge
- Beading & parting tool
- Thin parting tool
- Bead forming tool
- Scraper
- Ruler
- Skew chisel
- Drill
- Sanding arbor
- Abrasives down to 320 grit
- Finish of your choice
- Screw chuck or faceplate
- Screw chuck or screw for chuck
- Chuck
- Revolving centre
- Paper towel
- Long-reach clock mechanism
- 1 x clock face
- 1 set of hands for the mechanism
- Personal protective equipment (PPE): faceshield, dust mask and extraction



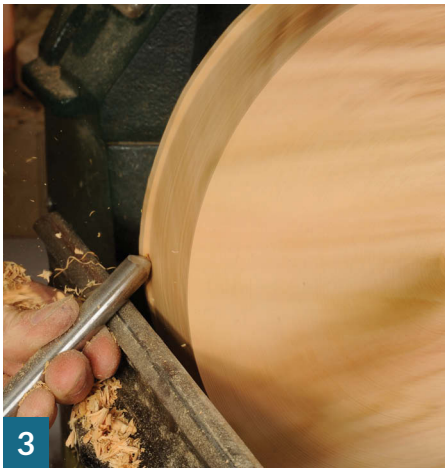
1 Here you can see the components. The battery-operated mechanism comprises the black housing, the washer and the two brass pieces – one is a locking nut to hold the mechanism in place and the other is a spindle cap. The clock face has a self-adhesive back. and the two clock hands fit on the spindle shaft of the mechanism.


1

2 Measure the diameter of the clock face so you know how much width you have to play with in order to add detail to the turned wood. Then drill a hole in the centre of the blank to suit the screw on your screw chuck – you will be able to drill it all the way through the wood provided you can drill square to the face and the screw used is not too thick.


2

3 Mount the wood on the screw chuck and bring up the tailstock for support. Clean up the face and then the outer edge so it is square. Note the gouge is almost to the very top. If you cut through beyond the top, then you run the risk of splintering off the top face. It is best to reverse the gouge and cut from the top into the outer edge.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4 Measure the diagonal width of the mechanism and the depth of the body and the shaft. The recess needs to be deep enough to fully house the mechanism and deep enough for the shaft to come through the front face of the wood by about 10mm.


4

5 Mark this measurement on the face of the wood. This side of the wood will be the back; the marking indicates the size needed for a recess to hold the mechanism.


5

6 The width of the recess is too wide for my chuck so the beading & parting tool can be plunged into the wood to the required depth and width. Mark the shaft with a pen or tape so you know how far you have gone. I also plunged in with a thin parting tool to mark the size of a tenon to hold the piece so the face can be turned later. Remove the waste in between the two plunge cuts.


6

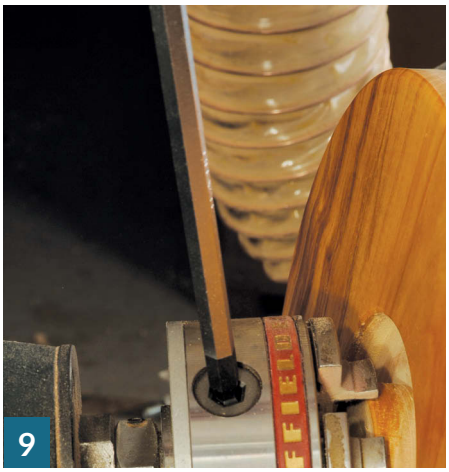
7 I thought the blank looked a little thick so decided to take about 3mm off. I also decided to undercut the face a little so that when it was placed up against the wall, it would touch on the outermost edges.


7

8 Here you can see the undercut. The corner has a 45° cut on it in order to take away the harsh edge. Sand this face and apply your finish.


8

9 Remove the piece from the lathe, reverse it and grip the piece on the tenon spigot cut. Once secure, clean up the top face with a bowl gouge. You can see the hole drilled for the screw chuck. The face needs to be flat, then, measure and mark the outer position of the clock face.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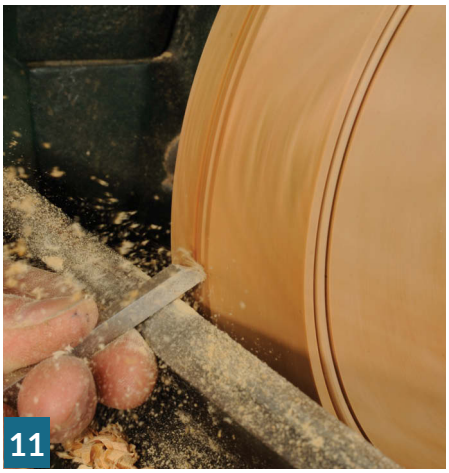
10 Try the face for fit to see that it is contained within the pencil mark. I chose to place a bead at the outermost part and cut it using a bead forming tool. The inner edge of the bead is where the pencil mark was.


10

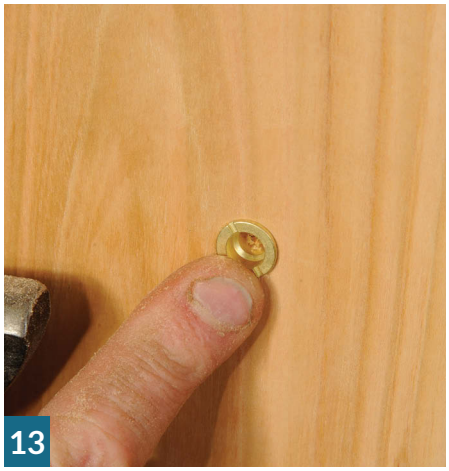
11 Use the bowl gouge to create a cavetto – half a cove – on the outer edge, leaving about 3mm or so from the bead. If you end up with an indistinct shape on the cavetto, you can use a scraper to refine it further. Next, cut another bead at the lower part of the cavetto.


11

12 Now check to see how much you need to cut to recess the locking nut for the mechanism. It needs to sit flush with the surface. The corner of the skew chisel, when used in scraping mode, fitted in here perfectly to cut a recess. Of course, it blunts the cutting edge, but it works well as a scraper at times.


12

13 You can now check for fit – you are looking for it to be nice and snug at this stage. That said, if the shaft of the mechanism doesn't pass through the smaller hole, you may just have to open that up a bit. A slightly larger drill than the one used for the screw chuck might be necessary.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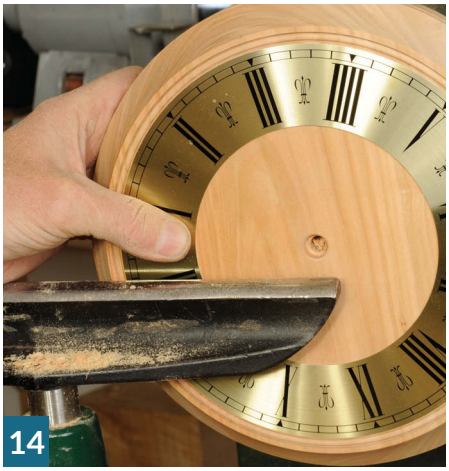
14 The next step is to place the clock face back up to the centre of the timber and mark the inner edge of the clock face. To balance it, I felt it needed a bead there too, which adds a nice detail.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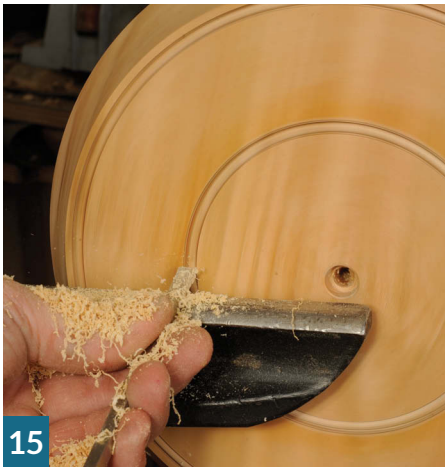
15 Next, using the beading tool, you need to cut another one with the outermost edge of the tool on the marked line. You can then sand and apply a finish to the face and edge as required.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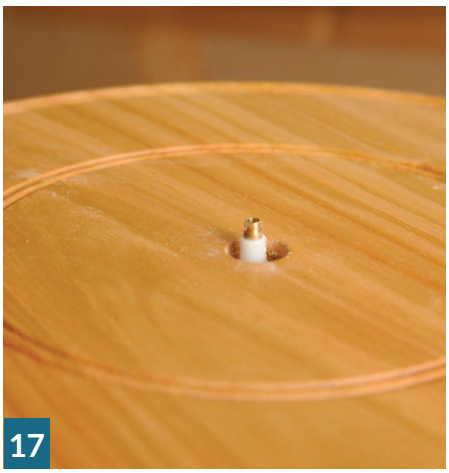
16 Remove the wood from the lathe and mount a piece of waste wood in its place. Cut a flat face on it. Place tissue paper over it and bring up the tailstock to hold the wood in place so that the recess is at the tailstock end. Using the already marked centre and bowl gouge, remove most of the tenon. Then, using the beading & parting tool, clean up the recess, leaving a stub of timber under the revolving centre. Remove the wood from the lathe and carve off the stub of timber and sand the recess.


16

17 Once this is done, place the rubber washer over the shaft of the mechanism and then lay the mechanism in the recess with the shaft in the hole.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18 Now place the gold-coloured locking nut on the shaft and tighten up. This means the mechanism is now held in place. There is no need to be over-aggressive in the tightening up. You can then glue the clock face in place – there is a peel-off film on this one but if yours does not have this, use glue and stick in place instead. Once this is in place, you can slide the clock hands on to the mechanism shaft. Note the smaller hand is placed on first, then screw on the gold cap.


18

19 The completed wall clock should look something like this. It is now ready for hanging on your wall, where it will come in handy and be admired! ■


19

This is an extract from Weekend Woodturning Projects – by Mark Baker

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Price: £16.99 (plus P&P)
Contact: GMC Publications
Tel: 01273 488 005
Web: www.thegmcgroup.com

PHOTOGRAPH BY BOB ADSETT

PHOTOGRAPHS BY GMC/ANTHONY BAILEY, UNLESS OTHERWISE STATED

BANDSAW BREAKDOWN – *part 1*

Bob Adsett explores the essentials of bandsaw construction and design

PHOTOGRAPH COURTESY OF WIKIPEDIA COMMONS

A two-man pitsaw

The principle of a bandsaw goes back to a time before power-driven saws, when logs were converted to boards by the use of a sawpit. Two people would use a large hand-held saw with one person at the top and one underneath in the pit, usually an apprentice sawyer or a lad. This was a dirty job, as whoever was underneath got covered in wood dust and any dirt or muck on the outside of the logs. The log was positioned over the pit and the workers would move along as the cuts were made. Sometimes this was not a pit but a wood frame with the log on top, but the same principle as the pit saw and normally worked the same way. There were numerous types of saw blades used for this work but most were two-handed saws that needed a lot of muscle power to pull either up or down, depending on the stroke of the cut. This changed with the advent of power-driven saws, either water- or steam-powered. Later, electric motors came in and this led to the modern day bandsaw.

The bandsaws that are most commonly seen today are two-wheel machines, with one wheel above the other and a table between, all encased in a suitably sturdy body. The blade then runs around both wheels, through a gap in the table and this is driven by a motor.

There are guide bearings behind the blade and both sides of the blade above the table and below. The guides above


The Kity 613 is a typical two-wheel design

PHOTOGRAPH BY BOB ADSETT

can be moved up or down to increase or decrease the distance between the table and the wood being fed along the table to be cut. Earlier bandsaws had wooden side guide blocks to control the blade and these would be made of lignum vitae *(Guaiacum officinale)* as it was a hardwearing oily wood, but beech *(Fagus sylvatica)* was also used. The beech blocks were cut to the size required and soaked in oil for a while, then taken out and allowed to dry out slightly. When these were then fitted into the bandsaw guide system, the friction of the blade running through the guides cooked the face of the blocks and they took on the characteristics of lignum and helped lubricate the blade as it cut through the wood.

CONSTRUCTION

Let us look at how bandsaws are constructed and what to look for in both new and pre-owned machines.

The body

I look for a good strong frame with rigid construction and as little flex in the body between the top half and bottom half of the machine. There are a number of types on the market: some with solid welded frames and some with bolted frames. The welded frames are the stronger of these constructions. The square body construction machines have two different types of vertical back: one is a square box frame and the other is a triangular box frame. The triangular box is harder to twist than the square box and this can result in a slightly more rigid construction under working load.

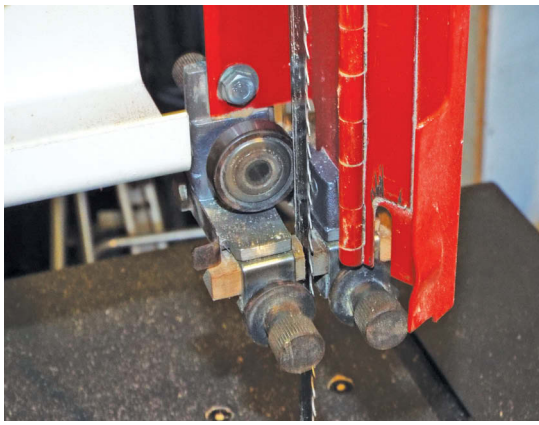
The wheels

There are three types of wheel: pressed steel, cast alloy and cast-iron. Most modern machines have cast alloy or cast-iron and the better ones have curved spokes that absorb stresses under working loads. They are also heavier than pressed steel and have a flywheel effect that helps to maintain the blade cutting speed, especially while cutting thicker wood. The edge of the wheel or tyre that the blade rides on is normally a rubber or some type of hard synthetic compound that is convex; this makes the blade try to run to the centre of the wheel when set correctly.

The top wheels are mounted on either an axle or stub axle with sealed bearings; these can be replaced as they will wear over the years. ➤


A rigid pressed steel casing


Modern bandsaws have roller guides


PHOTOGRAPH BY BOB ADSETT

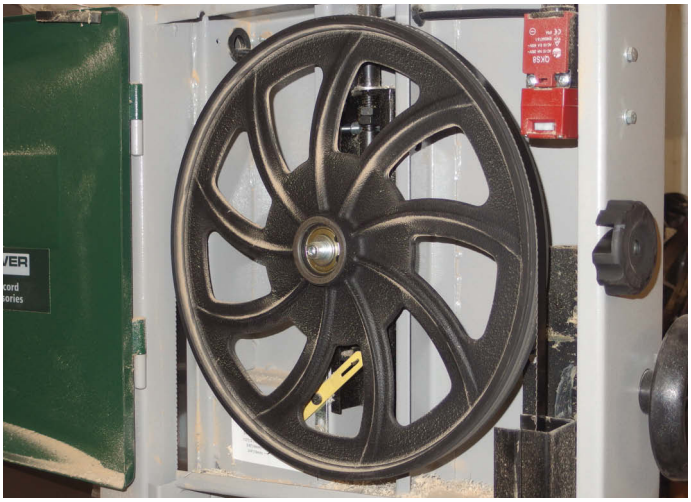
Older machines sometimes had wooden guide blocks

Secondhand buys

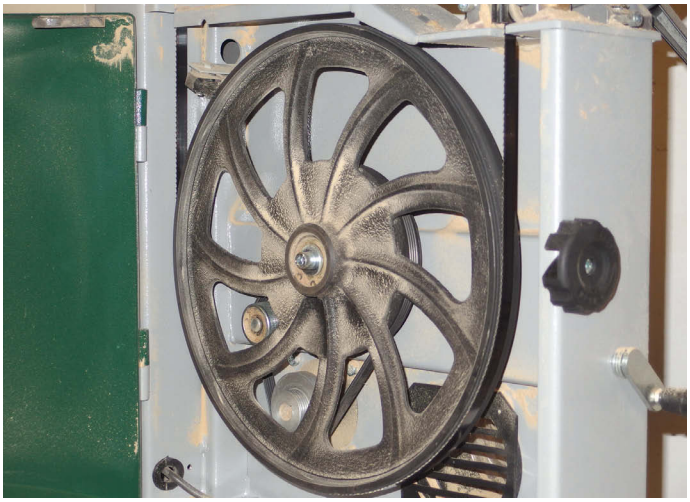
The back spine also needs to be strong – on my old Kity 613 the back spine was a 'C' frame tube onto which the rest of the body is welded. There is no flex in this older machine, so at the right price secondhand, these machines are a good buy, providing they are in reasonable condition.


PHOTOGRAPH BY BOB ADSETT

The rigid tubular steel arm on the back of a Kity 613



A typical upper bandwheel – note the curved spokes



The lower bandwheel is connected to the drive pulley

The tensioning and tracking of the blade is also done with this wheel. The bottom wheel is the one that the motor drives and there are two ways to drive the wheel: one is direct drive the other is indirect drive. Direct drive means the motor is mounted straight onto the wheel and the only way to get the blade to run at the best cutting speed is to have a motor that runs at the appropriate RPM.

Indirect drive has the wheel mounted on an axle and is driven by a belt from a pulley on the motor; this allows the use of a standard motor and the best cutting speed can be set by using different size pulleys. A useful by-product of this is that any shock generated by the blade while cutting is not transmitted directly into the motor bearings, but absorbed by the belt. With this type of drive, two-step pulleys can be used to give the bandsaw two speeds by changing from one pulley ratio to the other. This sometimes helps with very hard wood or light alloys.

The table

Again, we have three different types of table: pressed steel, alloy and cast-iron. Pressed steel works provided they are of a heavy gauge, webbed and welded correctly. The face should also be machined flat to make sure there are no uneven or high spots on the surface. Cast alloy tables that are well ribbed underneath are normally better than extruded box sections as they are stronger and can be made in one section instead of bolting together two or more pieces.

A heavy cast-iron table, well machined and flat, wears better than both other types but will rust if any damp is allowed to get into contact with it. To prevent this with a new machine, I normally rub some 10/30 engine oil into the cast table and leave it overnight and then wipe off the excess oil the next day.

Cast-iron is porous and the oil will soak into it and then dry; this will also prevent any fingerprint marks showing as rusty patches on the table. This is

Oiling the cast-iron – left – avoids rust prints – below

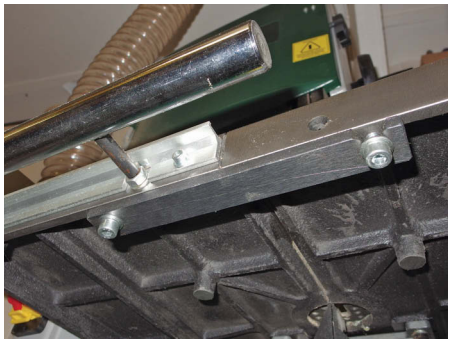
Each bandwheel has a bearing, which is replaceable

an acid reaction between the oils in your skin and the cast-iron. Oiling can be used to help protect any cast-iron machine table.

The table should be mounted to the machine by good heavy quadrants – preferably two – so that when the table is set into a tilted position, it remains stable and square. If not, accuracy 'goes out the window' and trying to cut true, both curved or straight lines, will prove next to impossible. With one quadrant, stability from the back to the front of the machine can suffer –

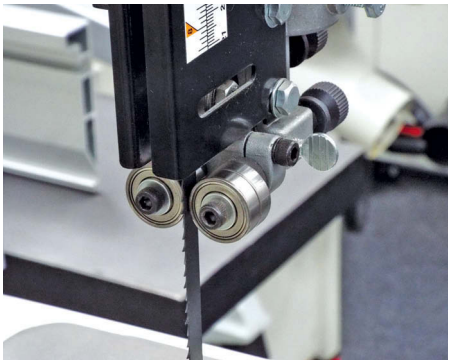
A heavy-duty pair of quadrants, or trunnions

The blade fitting and removal slot

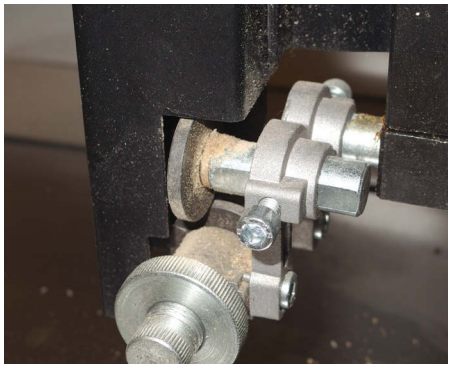


A plate holds the table halves together

There is a wide variety of blades available



Roller guides control sideways movement



A thrust bearing sits behind the blade

even my old Kity machine has two.

There will be a slot in the table, either from the blade forwards to the front of the machine or from the blade to the side of the machine. This slot allows the blade to be inserted into the machine. The blade is slid through the slot and then placed on the wheels. There will be some device to keep the two sides of the slot level when the machine is in use: a bolt, a strap or a tapered pin that taps in.

The blade guides

These should be above and below the table to control the blade while it is cutting – without these, the blade will try to take the line of least resistance and go any way the grain leads it. Blade guides come in all forms: side guides can be bearings, blocks of wood, manmade material or brass and copper. My favourite guides for both are bearings as they should be rotating all the time they are cutting and this will take any heat away. My bandsaw has bearings on the back and wooden blocks on the side and I can still get it to cut 'veneer thick' slices off a block at full depth of cut. I find that any form of solid material behind the blade seems to create friction and therefore heat, unless someone can prove me wrong.

Blades

Bandsaw blades come in all types with a wide range of tooth configurations. Widths go from 3mm, which will cut a 3mm radius curve right up to the large industrial blades for resawing and commercial saw mills, but the main sizes that you need to look at will be in the instruction manual with your machine. Maximum blade width on some of the common mid-range machines can be as wide as 38mm but most people use between 10mm and 25mm, depending on the make of machine. A 13mm blade will allow you to cut a 66mm minimum radius curve so as you go down in width so the cutting radius also reduces. Or if you have bought a secondhand machine, it is sometimes possible to get information online. Failing that or instead of that, go to your local saw doctor or machinery supplier and simply ask – I'm sure they will be happy to help a new customer.

The commonly used blades are regular tooth, hook tooth or skip-tooth with between 3-6tpi – teeth per inch – and try to have no less than three teeth in the work, as this will sometimes snatch at the wood. A coarse blade will cut quicker than a finer blade but leave a rougher face, and a finer blade will leave a smoother cut but be much slower cutting through. Also the tighter a radius you wish to cut, the narrower the blade, and the straighter you wish to cut, the wider the blade. If you try to cut too tight a radius with too wide a blade, you will pinch the blade and if you pinch it too tight, there is a risk that you may break the blade. As a rough guide, regular tooth blades are used to cut very thin material while skip-tooth have wide gullets to cope with wood dust when deep cutting.

Next time, Bob shows us how to set and use a bandsaw. ■

Bob Adsett

Bob started his woodworking career in 1967 in furniture manufacturing before moving into the construction industry. He then worked as a demonstrator and trainer for Kity Machines, which included factory-based training in Soviet-era Latvia. He then joined Axminster where he marketed CMT cutters and helped launch Lamello products. He is now retired and waiting to see what offers may come up!

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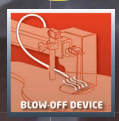

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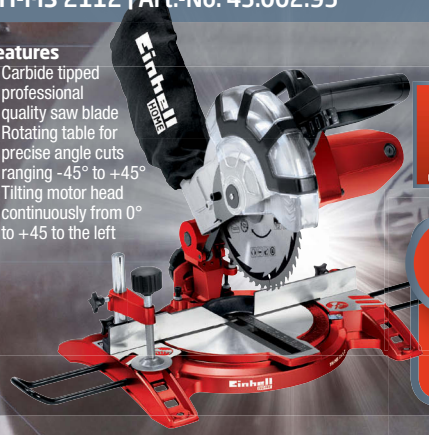

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Small space woodworking

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Tools you *really* need

Anthony Bailey discusses possible projects and the tools you would need to make them

Conventionally, a woodworker has a 'proper' workbench and a place to use it, such as a shed or a garage. What if you don't have those facilities? Well, I've already converted a small cupboard in issue 1 and a shelf unit in issue 2. These both give scope for doing smaller operations that require care, accuracy and a vice to grip workpieces. You can do larger jobs on plastic fold-up trestles outdoors in good weather or using any other convenient surfaces.

Let's start with the red workstation from issue 1. It has a natty parrot vice and a shelf behind, plus drawer and cupboard storage. In fact, it has quite a lot of space available for tidy storage. We must be able to fit quite a lot in.

A toolset for cabinetmaking, model making, fretsaw work, etc. is a bit different to the DIY toolkit featured in issue 1. There is a natural overlap, but part of the difference is in the quality of the tools and the part is 'the purpose'. In other words, for nice work we want nice tools. A claw hammer or a crowbar are great for putting up or taking down studwork that supports plasterboard walls, but finer jobs need a smaller ➤

The Gothic-style workstation

From old cupboard to workstation

We are harking back to the era of 'the gentleman woodworker', a non-professional well-to-do gent with an urge to make practical things in the home, dating back to at least the 18th century, but common enough in the late 19th–early 20th century. Indeed there were some tools made for such purposes, such as the 'gents saw' which is still available today. Crown Hand Tools make these and they are very useful for fine joint cutting, model making, etc. Visit www.crownhandtools.ltd.uk for more information.

A typical toolkit encompasses a range of tool types

Top: rip and whack; bottom: pare and tap

A squirrel tail plane is a tiny version of a normal Jack plane

hammer and a sharp chisel instead – vive la difference!

Woodworking operations group thus: measuring and marking, sawing, shaping, planing, chiselling, drilling, sanding and finishing. We need appropriate tools for each category depending on what we want to do.

There are exceptions, for instance Amber Bailey uses an old-fashioned treadle fretsaw and a modern hand fretsaw to cut out marquetry pieces so she doesn't use most of the items suggested by the groups above.

Model making will need smaller versions of cabinetmaking tools, such as a palm plane, while musical instrument making needs special thumb planes. So, before you embark on a specific interest, make sure you know what special tool requirements there may be.

MEASURING & MARKING

The basis of all good woodworking is being able to accurately measure and mark – see Peter Sefton's article in issue 2. My own choice tends to be the following items: a try square or an engineer's square – the latter is more accurate; a steel rule 300-600mm long; a marking knife; a medium or fine – harder grade – carpenter's pencil and a steel tape rule – using the 100mm mark rather than the inaccurate sliding end. A combined marking and mortise gauge allows you to set out joints. You can always add other things but this will do most operations.

SAWS

Bear in mind that timber yards and good DIY outfits can cut wood to length and it is often available already planed to specific sizes so that part of the work is done for you. You will, however, need to crosscut it and make various smaller cuts and some long panel cuts. A hardpoint panel saw is designed for cutting large or long sections – choose a medium tooth model. A tenon saw, with its rigid back and smaller teeth, will crosscut and make joints. It is better to choose a good traditional saw, not a hardpoint variant, as the latter will have too much 'set' that is, the splay of the teeth

From left to right:
No.4 smoother, No.5
Jack and a block plane

A nice set of chisels,
but just four will do

causing inaccurate cuts or 'kerfs'. For shaping work, a coping saw is useful unless you can afford a decent quality electric jigsaw. A hacksaw for metal, plastics and awkward fine cuts is useful.

PLANES

Much has been written about planes and they come in different types. DIY stores nowadays stock depressingly badly made models. You need to buy a reputable brand and sometimes the internet is the way to find them. A block plane and a No.4 smoother or No.5 Jack are the basic requirements for smoothing and flatting wood. For these and for chisels, you also need a sharpening system.

CHISELS

Chopping and paring wood is the province of the chisel. This very early woodworking tool has developed over the centuries into the modern type we use today. So long as the handles are comfortable – they can be wood or plastic, possibly with rubber infills – the crucial thing is how good the blade steel is. Again, a reputable brand is likely to be a better bet and not necessarily too expensive either. A set of four sizes will do most things.

DRILLING

You can work the old-fashioned way with a 'coffee grinder' hand drill, but let's face it, most of us are already using cordless drills. The advantage of power, less effort and the ability to take a variety of drill bits and screwdriver bits make it a very attractive option. Even the price has come down for the 'volts you buy'; however, even 10.8 or 12V baby drill drivers have plenty of 'welly'. Team it with a brad point drill set intended for wood and a set of screwdriver bits.

Cheap as chips!

If you just want to do screwdriving or drill small diameter holes, you could do worse than this Aldi special – a WorkZone screwdriver with lithium ion battery, work light and charger for the princely sum of £9.99. It takes standard hex bits and, at a push, would accept small diameter hex mounted drill bits. Look out for offers in your local store.

The new cross pattern diamond plates from Trend, plus a honing guide and lapping fluid, will give you wickedly sharp cutting edges for accuracy and safety as less effort to cut is needed. Forget old-fashioned grimy pitted oilstones – they really are 'last century'. For more information, visit www.trend-uk.com.

SANDING

Don't accept the bog standard abrasives in the DIY store. Professionals get to choose from a vast range designed for a variety of applications, not just wood. A small orbital or delta shape orbital sander is 'de rigeur' for a lot of finishing work, plus a cork block or a homemade 'bat' for hook-and-loop backed abrasives. The advantage is that whether by machine or hand, you can change grit grades or clogged sheets quickly. We will look at abrasives in more detail in future issues.

Abrasives come in a
wide variety of types

FINISHING

Having made a piece of work, it needs a proper finish applied. There are plenty of both water-based, oil-based and solvent-based dyes, varnishes, lacquers and paints to choose from. We will go on to discuss this subject in future issues.

So, now we have a good quality toolkit which, at a push, we can use for DIY jobs but is nice enough to look after and keep for finer quality work. Best of all, this lot will fit in either of our compact workstations and live in the flat or house quite happily – just remember to vacuum up after each job! ■

GREEN WOODWORKING

PHOTOGRAPHS BY LEE STOFFER

Gypsy Flowers on a shave horse

Lee Stoffer shows us green woodworking isn't all about axes and mallets – he's got a gentler side too...

Good friend and fellow green woodworker Chris Allen, from Oneday Woodcraft – www.onedaywoodcraft.co.uk – came to visit and show me how to make a bunch of beautiful gypsy flowers. There are many ways to produce gypsy flowers and huge variation in appearance can be achieved dependent on the technique and wood used. I started out just using a carving knife, usually employing a chest lever grip to keep the work close and under control. Some folk make a device which uses a tanged blade from an old spokeshave mounted upside down in a branch crook; this allows the user to pull the stick through the blade to create the petals. Chris has developed his own style of flower using a drawknife and a shave horse to carve seasoned willow sticks, which gives his flowers a unique appearance with lots of nice curly petals. One thing I have found is whatever method is used, the challenge of keeping the petals attached will improve the carver's ability to keep fine control over whatever tool is used for the job, so it's great practice and the bonus is that any that go wrong make excellent kindling for the fire! Having perfected his technique, Chris favours using seasoned willow *(Salix spp.)*, which he harvests a year before use. Two year growth seems to work well with the thumb width rods used for the flower heads and the side shoots saved for creating stems. In this article, we'll have a look at how it's done.


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Romany gypsies

It is believed that Romanies or Gypsies originated from Northern India and migrated westwards over 1,000 years ago and were present in England for half that time. The term 'Romany', however, refers to gypsies who lived in Romania as 'roma' – i.e. roaming. Romania itself gets its name from the pre-Romans known as Dacians. Gypsies living on the margins of our 'conventional society' have found various ways to eke out a living, including making the artificial flower forms that are described here.


7

1 The first step is create a fairly blunt point at around 45° on the end of the stick. Chris favours a full-size drawknife by Ben Orford for this task. The point can be made with anything from 3-7 cuts with the aim being for the growth centre, or pith, to be centred in the point.

2 Next, cut the bark to form the first row of petals. Here Chris has changed to a shorter lighter weight drawknife by Svante Djarv. Using the blade bevel up, aim for 9-12 cuts around the stick at about 120mm long. Stop these cuts 25-30mm from the end of the stick and rock the handles of the knife down at the end of each cut to bend the petals upright. The bark will not curl so these petals will be straight. To even this first row up, clench a fist around the stick and gently push back the petals all at once.

3 Now, start to cut the curly petals. Note that Chris is only using about 25mm of the blade to make the cut and the hand nearest the cut is foremost.

4 To make the petals curl, hold the blade at an angle to each facet created by peeling the bark. This angle is achieved by keeping one hand in front of the other and using the end of the blade nearest the forward hand. This way the petals curl away from the next cut and keep out of harm's way.

5 Chris' technique is to clamp the rod then take a cut from the left, centre, then right facet before rotating and re-clamping. You may find it easier to rotate the rod after each cut. Complete around three laps of the rod, taking consistent cuts and finishing each as close to the last as you dare. Don't worry if you lose the odd petal – it's bound to happen!

6 When the flower is nice and full – but before it starts getting tall – start to shorten the petals and steepen the cut towards the end; this helps to fill out the centre of the finished flower. It may help to cut alternate facets at this stage.

7 As you approach the pith, you should feel some flex. Continue taking cuts gently until the flower head is released or stop and carefully flex the head in opposite directions until it comes away from the stick. ➤


8


9

8 With the first flower completed, keep practising until you have at least five decent flowers to put stems on and arrange into a bunch.

9 Each flower head needs a hole opening up to accept the stem. Chris uses an awl for this, but you could use a small drill if you don't have one available.

10 The stems are the side shoots that were trimmed from the main stem when harvested.

11 Firstly, trim the tips back to get rid of any buds so you have a good 25mm of clean twig to insert onto the hole created in step 9.

12 Carefully insert the trimmed end of the stem into the hole created by the awl; it helps to hold the stem close to the hole to reduce the chance of kinking the stem.

13 When you've got stems on at least five flowers, arrange them into a bunch ready for binding.

14 Use raffia for binding the stems together. Start with a piece measuring around 1m long.


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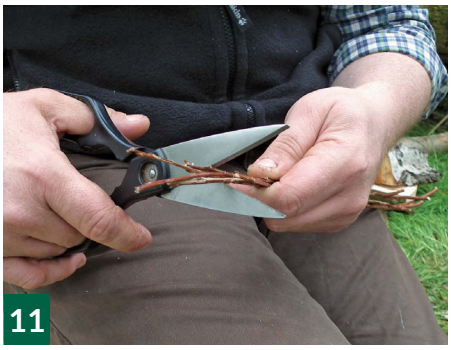
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Resources

Ben and Lois Orford – www.benandloisorford.com – for drawknives, bushcraft knives, leather goods, etc.

Svante Djarv – www.djarv.se – for knives, gouges, chisels, axes, etc.

Raffia – stocked by all good craft and hobby stores


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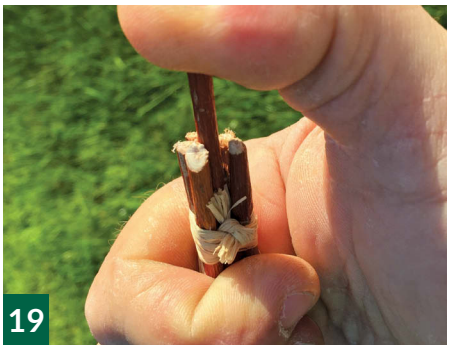
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15 Grip the stems 75-100mm from the heads and start the binding by tying on the raffia with a half hitch, leaving two roughly equal lengths to continue the binding.

16 From here, the aim is to twist and cross the raffia on opposite sides of the stems, working down the length as you go.

17 Chris had a really fluid technique for this – hopefully the photos here give you a reasonable idea of 'the look' you're aiming for.

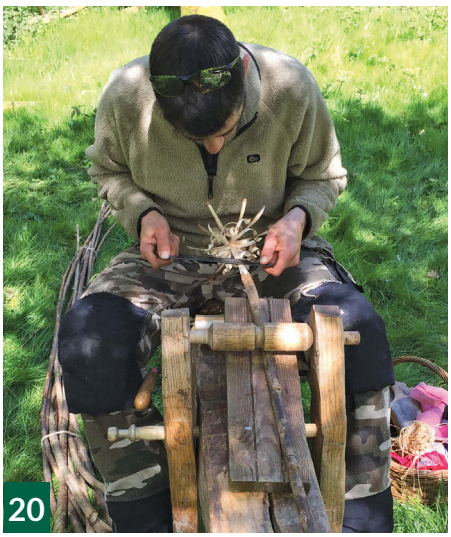
18 When you've bound around 250-300mm of stem, tie off and trim any excess raffia and the stems to an even length.

19 To keep the binding tight, take one of the ends you just trimmed and insert into the middle of the stems. Push in until a firm fit is achieved and trim any excess.

20 Under instruction, I managed a slightly sub-standard flower that just about passed QC and made it into the bunch!

It was great to explore a new way to make something different and a bunch of these beautiful flowers makes for a great gift, so why not have a go? If you don't have the tools and timber to try this style, see what you can come up with using what you have available. I've found that seasoned hazel *(Corylus spp.)* and birch *(Betula pendula)* also give good results.

To see Chris in action, check out the video at: **http://youtu.be/TjdFxbZLnAM.** ■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Lee Stoffer

Lee Stoffer has finally decided to turn his passion for green woodworking into a full-time occupation, making, teaching and demonstrating. Lee can be found showing off his enviable skills at many woodworking shows and events. He is always happy to chat about what is involved and he is keen to encourage other people to try their hand at one or more of these fascinating traditional craft skills. You can visit his Facebook page or his new website to learn more about what he has been up to.
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Compound-angle JOINERY

In this extract from *The New Best of Fine Woodworking – Designing and Building Chairs*, **Will Neptune** discusses the benefits of using compound-angle joinery in your chairmaking

PHOTOGRAPHS COURTESY OF THE TAUNTON PRESS

For me, chairs are easily the most satisfying projects to build, but students often are puzzled by the compound-angle joinery between the legs and seat rails. I learned how to draft, lay out and cut these joints when I was a furniture-making student years ago and now I teach it at North Bennet Street School. Once you answer two critical questions: 'Where do the layout lines come from?' and 'how do I get the layout lines on the wood?' you'll see that cutting these joints isn't all that hard. What's more, once you understand how to cut compound-angle joinery, cutting joinery with a single angle becomes simple.

Recently, I built a set of Chippendale chairs. Most Chippendale chairs – and a lot of other styles of chairs – have rear legs that cant inward as they go towards the floor but front legs that are perpendicular to the floor line. Although this design lends a refined sense of upward motion to a chair, it also introduces a fussy situation when it comes to joining the rail to the back leg. To allow for the cant of the legs and the trapezoidal shape of the seat, most of the time you'll have to cut compound-angle tenons between the legs and seat rails.

It is tempting to angle the mortises, in either the plan or elevation, to simplify the tenon problem. In the first case, the mortise would angle in the plan view at the seat-frame trapezoidal angle. In the second case, the mortise could be cut square to the back rail in front elevation to correct for the cant angle. Both of these moves force you to shorten the back rail tenon, which would weaken this critical joint.

Both historically and for chairmaking today, I think compound-angle tenons represent the best possible technical solution to this problem. Once you have a system for laying out these joints, cutting them is not that difficult.

Draw simple elevation & plan views

No matter what style chair you're building, there are two angles to consider: the cant of the leg, seen in a front elevation, and the seat – frame trapezoidal angle, seen in a plan – overhead – view. Start by doing a partial drafting job, just enough to get the information you need for layout.

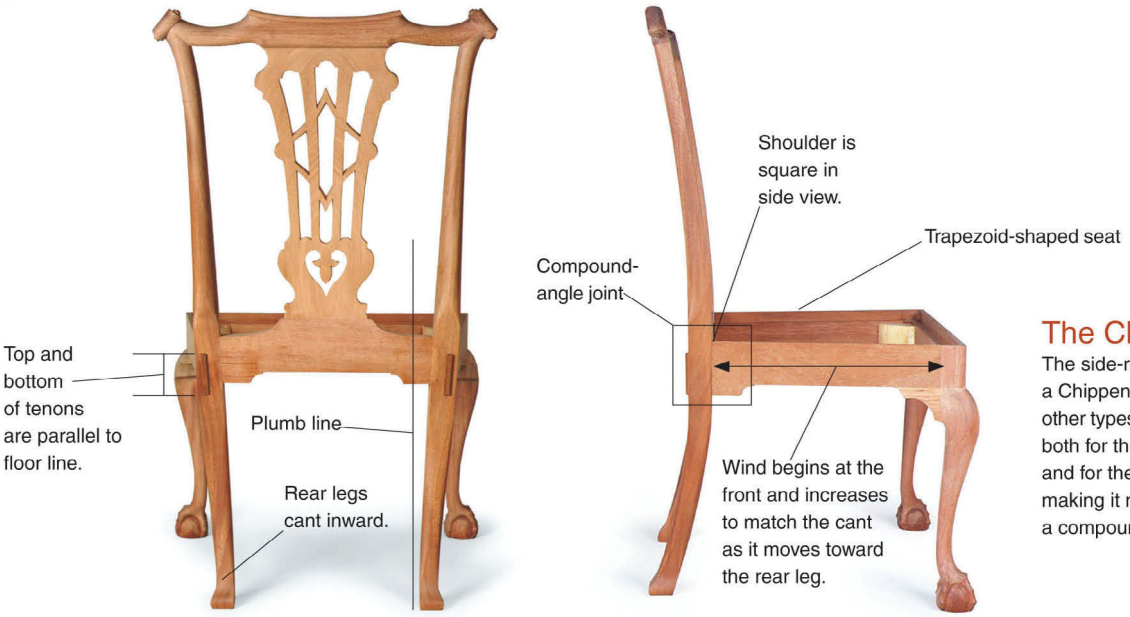
First, draw the leg from a front view and show the mortise. The mortise in the rear leg should be as far to the outside of the leg as possible without sacrificing the thickness of the mortise walls. The mortises can be cut square and slightly short in length, then chiselled to the correct angle at the top and bottom, making the mortise a parallelogram. Cutting a mortise in the shape of a parallelogram not only helps you register the rail, because it makes the rail's top and bottom edges parallel to the floor line, but it also makes the through-tenon look better from the back of the chair.

Transferring information from the elevation, draw the sections of the leg at the bottom of the rail, then you can draw the side rail and its angle. Notice that the side rail must be thick

Will Neptune

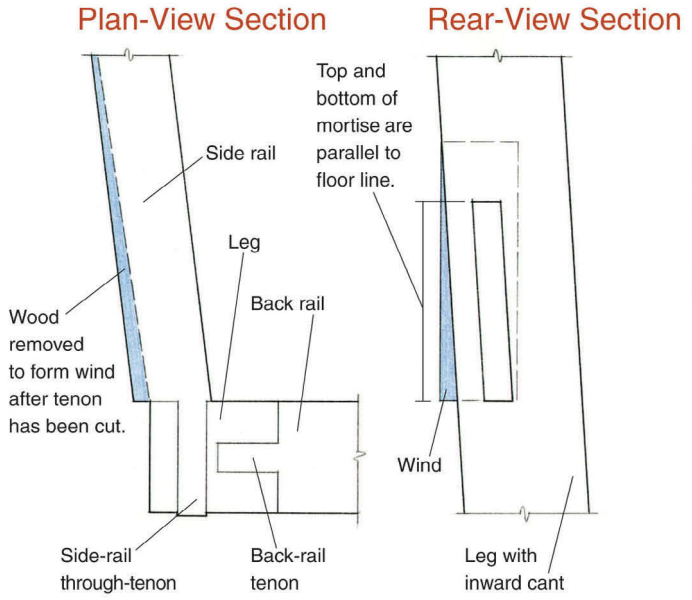
Will Neptune teaches furniture making at North Bennet Street School in Boston, Massachusetts and has done for the past 15 years. Described as 'a star among stars' by the woodworking community, he won the SAPFM Cartouche award in 2013, which recognised his achievements in furniture making. As a furniture maker, he finds ways to solve woodworking problems regardless of the size and scope – that's part of what keeps him interested in building custom furniture. Will is also a master carver, and equally capable using both power and hand tools.

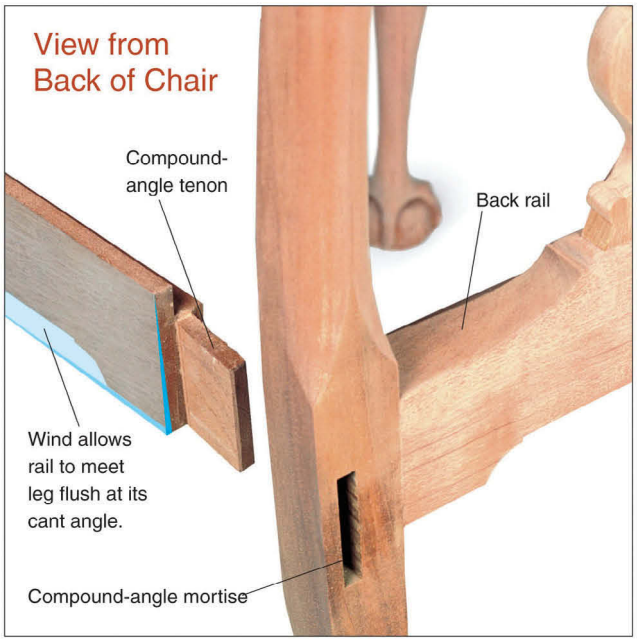
CAREFUL TENON LAYOUT IS KEY



The Chair

The side-rail to rear-leg joint on a Chippendale chair—and many other types of chairs—must account both for the trapezoid-shaped seat and for the cant angle of the leg, making it necessary to cut and use a compound-angle tenon.





The Drawing

I teach students to lay out this joint with only two partial drawings—a plan (overhead) view at the bottom edge of the side rail and a front elevation view. This article will show you that simple drawings are all you need to know to cut this joint.

The Joint

Although the joinery looks intimidating, the drawings make it easy to transfer the layout lines to the rail. Once the layout lines are in place, it's simply a matter of cutting the joint—by handsaw, bandsaw, or other means.

enough to allow wood for the top outside corner as well as the bottom inside corner, as seen in the elevation drawing here. I also like to have extra rail thickness to allow for a shoulder at the bottom inside corner.

First, draw the line representing the outside face of the rail blank and its angle. Here I'm assuming that the outside face of the rail lands flush to the top of the leg, but you could leave a shoulder if your design calls for it. Then draw a parallel line showing the bottom inside face of the rail, choosing a rail thickness that will allow for an inside shoulder of 1.5-3mm. As a last check, draw a detail of the top section of the leg in plan view. I draw this as if the leg mortise runs all the way up to the top edge of the side rail. Extend the line that represents the outside face of the rail back through the leg to be sure that the tenon lies within the thickness of your rail.

This construction has the side rail forming a simple angle, which leaves wood sticking out from the canted leg on the outside. These surfaces will be reconciled by fairing a wind into the outside face of the rail once the joinery has been cut. The front end of the rail is left alone for the leg joints, so the rail starts plumb at the front and develops a wind that becomes the cant angle of the rear leg.

To show this, draw a dotted angled line from the bottom outside corner of the rail out toward the rail's front end. This transfers the information from the elevation onto the plan view. The plan view is simplified but contains all of the crucial points seen in the elevation. These two drawings provide the information necessary for laying out the joint.

Country Chippendale – in any style. Made of curly maple *(Acer saccharum)*, Mary Conlan's Chippendale chair of simple form is built using the same leg-to-rail joinery as a more flashy, high-style chair

Federal period — in the high style. Made by Steve Brown, this heart-back Hepplewhite design has curved seat rails and more complex shaped legs, but the leg-to-rail joinery is the same as the Chippendale chair on the right

Chippendale — one joint, many chairs. No matter what kind of chair you're building, if your back legs are canted and your seat is trapezoidal, you'll need to use compound-angle tenons to join them, as was done with this Chippendale chair by Rich Heflin

Follow the drawings to lay out the joint

To make the layout easier, I pretend the mortise is extended up to the rail's top edge. Once the tongue of the tenon has been cut using the method of your choice, it will be easy to shoulder down the tenon to match the real mortise.

Extend the lines of the mortise opening up to where the edge of the rail will land. From the bottom inside corner of the mortise, square up a line to the top edge of the rail. Where these three lines cross the top rail edge will become the source of the layout information.

The important thing to realise is that the information seen here is true only at one location along the rail: the plane of the shoulders – see the plan view shown previously.

On the inside face of the rail, square a line across that shows the correct shoulder location, measured in from the end. Here I've left extra length for later cleanup. Then, using a bevel gauge set to the seat angle, run the shoulder lines across the top and bottom edges of the rail. These should then connect with another square line, up from the outside face of the rail, describing the plane of the shoulders. Your drawing should now show the location of the tenon at this plane.

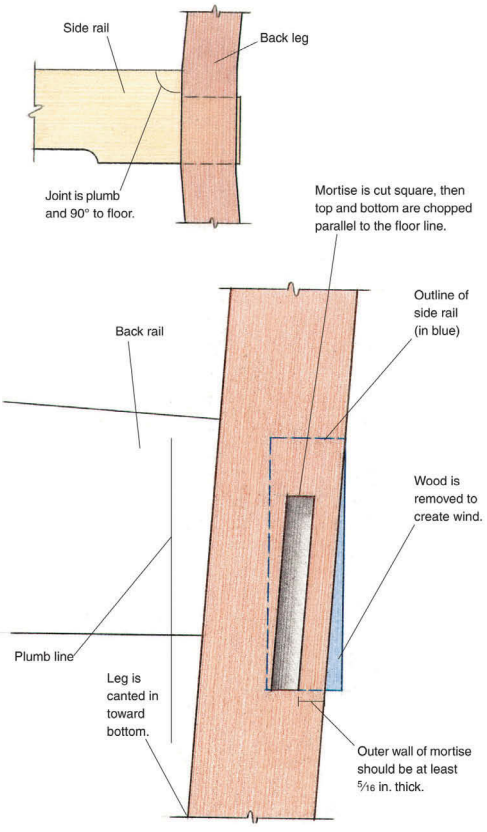
Working from the elevation drawing, set a marking gauge to 'X' and mark this distance across the top and bottom shoulder lines, measuring from the inside face of the rail. From the mark on the top edge, use a pair of dividers set to the distance 'Y' to make another mark along the shoulder. The new mark on the top edge and the first mark on the bottom edge locate the inside cheek of the tenon. From these marks, transfer the size of the mortise to locate the outside tenon cheek.

This may sound confusing, but all you're doing is converting the cant angle to a rise/run problem. The rail width is the run, and 'Y' is the rise. The reason for the initial marking gauge line is that it's more difficult to measure from a corner using dividers. The goal here is not just to get a tenon that fits – the rail should also land on the post at the correct location and project at the trapezoidal angle.

Once the base of the tenon has been located, the plan view shows the next move. The tenon is simply square to the shoulder. Clamp the bevel gauge to the rail and square all four tenon marks out to the end of the rail. Once you've connected these lines across the end grain and knife-marked the shoulders, layout is complete, for now. Once the tenon cheeks and the side shoulder have been planed, the top shoulder can be marked out and cut. After fitting the tenon, mark the wood to be faired directly from the leg.

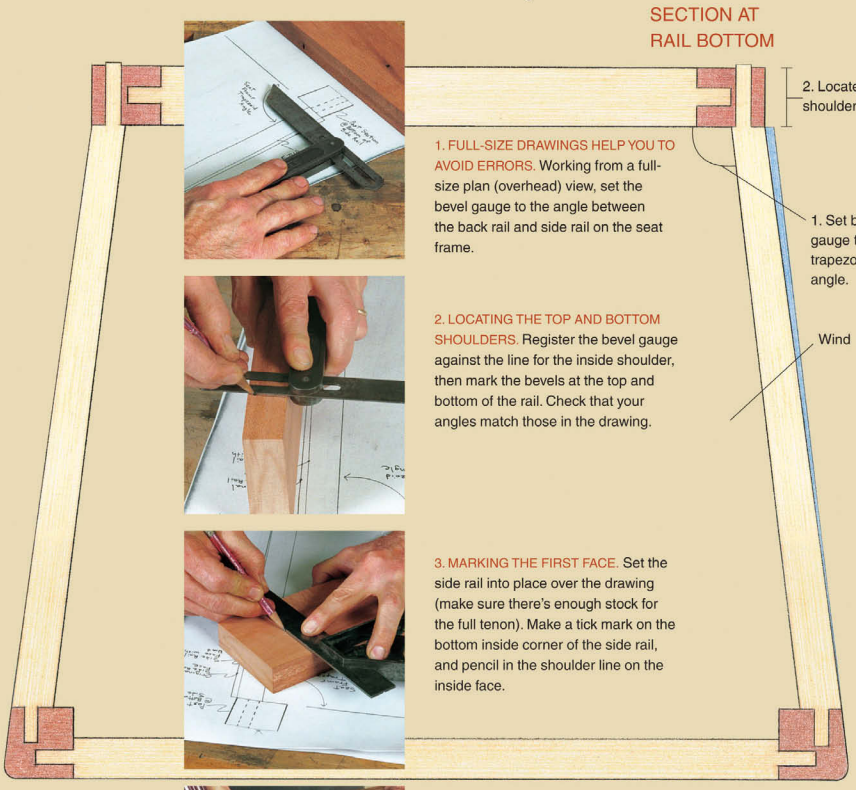
Lay out and cut the mortise

Set the mortise to the outside of the leg as far as possible, taking care to see that the outer mortise wall is at least 5/16 in. thick for strength. Lay out and cut the square mortise parallel to the side of the leg. Then chop the top and bottom of the mortise parallel to the floor line, making the mortise a parallelogram. The rail joins squarely to a flat section of the leg; cut a wind to keep it flush.



Consider length and seat angle when laying out tenon shoulders

While the joints at the front of the chair are simple angles, compound-angle joints are required where the side seat rail joins the back leg. Use simple full-size drawings to determine the angle of the top and bottom tenon shoulders at the back of the seat rail. Then transfer measurements from the drawings to the rails.



1. FULL-SIZE DRAWINGS HELP YOU TO AVOID ERRORS. Working from a full-size plan (overhead) view, set the bevel gauge to the angle between the back rail and side rail on the seat frame.

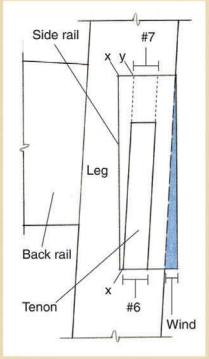
2. LOCATING THE TOP AND BOTTOM SHOULDERS. Register the bevel gauge against the line for the inside shoulder, then mark the bevels at the top and bottom of the rail. Check that your angles match those in the drawing.

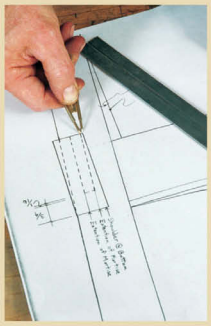
3. MARKING THE FIRST FACE. Set the side rail into place over the drawing (make sure there's enough stock for the full tenon). Make a tick mark on the bottom inside corner of the side rail, and pencil in the shoulder line on the inside face.

4. KNIFE MARKS ARE MORE EXACT. Once the tenon shoulder has been correctly marked, knife-mark the lines on all sides of the rail. The knife marks provide a specific line to pare or shoulder-plane to.

Carefully lay out the angled tenon on the stock

Laying out and cutting angled tenons is a methodical process, but it's not a difficult one. Work from simple but accurate drawings and mark out each measurement from a single reference line on both the top and bottom of the tenon.





1. Use a simple elevation drawing, as seen from the front of the chair, and set dividers to x—the distance from the bottom inside corner of the rail to the inside corner of the tenon.

2. Set a marking gauge to the distance x between the inside face of the rail and point x and scribe a line across the top and bottom shoulders from the inside face of the rail.

3. Set the dividers to the distance between x and y.

4. Use the divider setting from step 3 to locate point y on the top edge of the rail, measuring from point x.

5. Set the dividers to match the mortise width on the rear leg of the chair itself.

6. From point x on the bottom of the rail, transfer the width of the mortise.

7. With the dividers still set to the mortise width, measure from point y to mark the tenon width at the top of the rail.

8. Tenon cheeks are marked perpendicular to the shoulder line by registering a square against the bevel gauge—which is still set to the trapezoidal seat angle.

9. After the top and bottom of the tenon have been marked, use a straightedge to connect the points and complete the layout.

10. After knife-marking the shoulder lines, cut the tenon and shoulders with a backsaw, then trim to fit.

Make practice cuts in scrap before cutting the real joint

One very direct way of cutting a compound-angle joint is with a handsaw. First, the cheeks would be sawn in the ordinary way. The only tricky part is remembering that the shoulder cuts are at different depths on each edge. Begin sawing with the shallow edge facing you and avoid cutting into the tenon.

A bandsaw is good for cutting the cheeks, too. Setting the table for the cant angle – remember to keep track of lefts and rights – you can follow the cheek lines on the top edge and the blade will follow the cant angle on the rail's end.

The tablesaw can probably get you closer and thus avoid a lot of cleanup with hand tools, but the explanation is a story all by itself.

Whatever method you use, lay out with pencil first and confirm that you have things correct. Often, the cant and seat angles are close enough that it's easy to grab the wrong bevel gauge during layout. The shoulder won't look bad, but the front legs will be way off. It's also possible to get the lefts and rights mixed up and lay out the correct angle in the wrong direction. These mistakes make for a long day, so when in doubt, mill a practice rail and check both your layout and cutting method. Once the joinery for the back end of the chair has been cut, the simple angles on the front ends of the rails will seem easy. ■

The New Best of Fine Woodworking – Designing and Building Chairs

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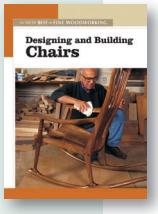

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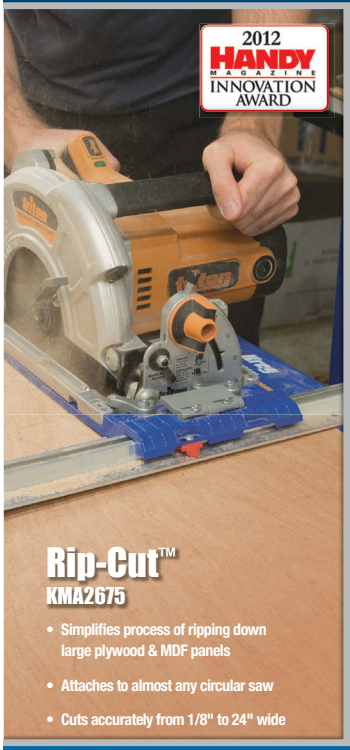

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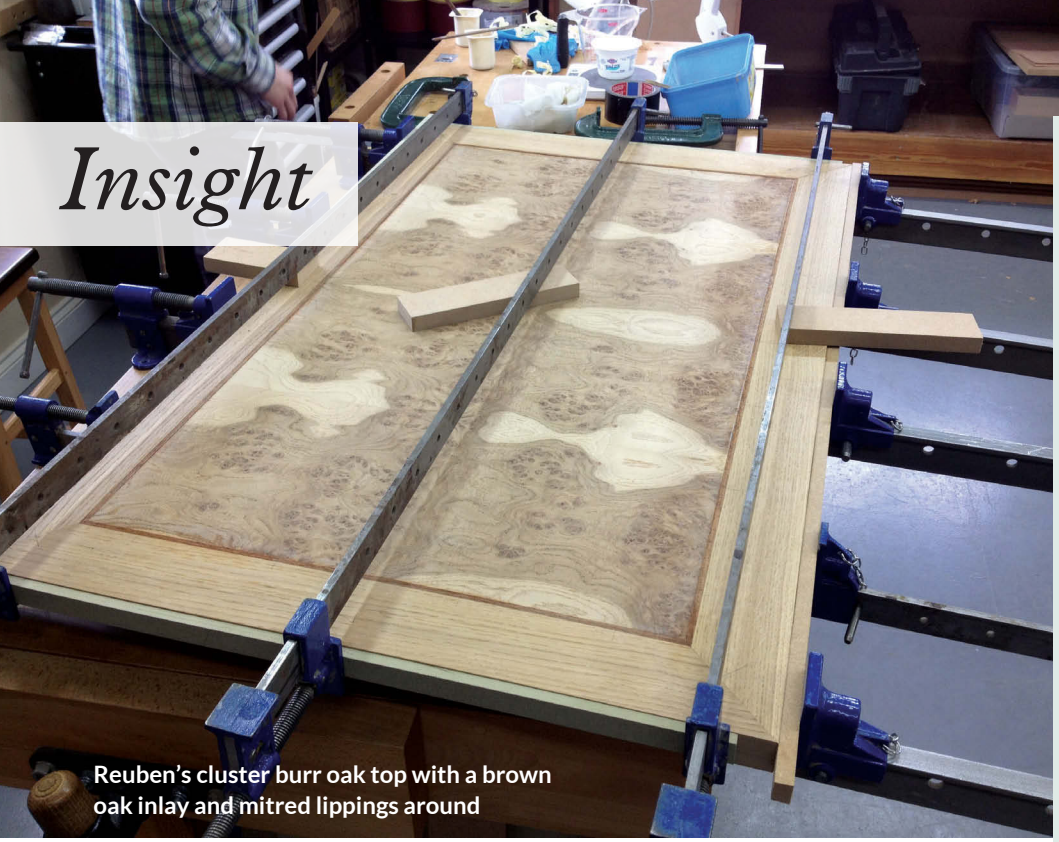


Reuben's cluster burr oak top with a brown oak inlay and mitred lippings around

PHOTOGRAPHS BY PETER SEFTON

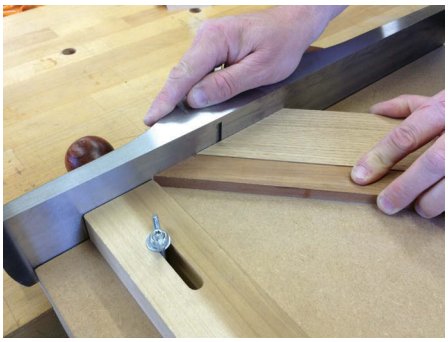
Making mitres

Peter Sefton shows us how there is more than one way to shoot a mitre joint

At first glance, the mitre is one of the easiest joints to make but getting it right and well fitting can be a little trickier than expected. Two of my students have just been working on some constructional mitres that can make or break their projects.

English oak sideboard

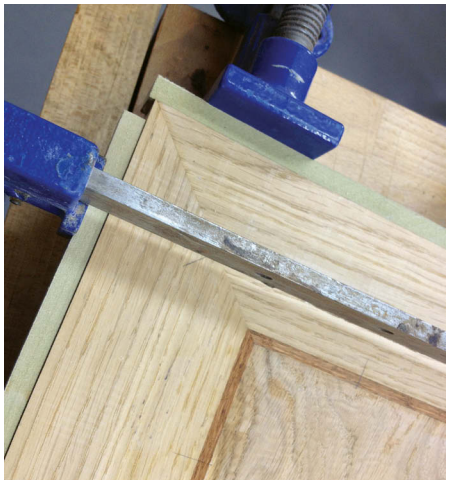
Reuben is making a sideboard in English oak *(Quercus robur)* with a cluster burr oak top surrounded by a 70 × 30mm mitred oak lipping with a brown oak inlay between. These lippings have been located with biscuit joints to the MDF substrate and with one biscuit in the mitre to add a little strength, but mainly to resist the mitres twisting while gluing up. These mitres were cut on the sliding carriage of my tablesaw and then shot in on a flat shooting board with a very sharp No.7 plane, ground and honed with a flat blade. Getting the mitres clean and crisp on all four corners while maintaining the correct internal lengths is the hardest part to achieve. We managed to get the mitres spot on, but a little short. This was soon remedied by planing with the No.7 to clean up the inside face of the lippings to lengthen them a little bit. This top was glued up with sash cramps and Cascamite UF glue. This gives us a longer open time than would have been achieved if using a general PVA adhesive.



Using a WoodRiver No.7 plane on a 45° shooting board

Birdseye maple console table

Then on to Sam's project, which is a birdseye maple *(Acer saccharum)* console table. The mitres here are produced in the opposite orientation and this changes both the tablesaw setup and type of shooting board. For this, we used a donkey's ear, which is a traditional shooting board for box-style mitres rather than Reuben's picture frame variety. Sam's mitres are a little easier as they do not have to fit around a panel, but being made in maple leaves no room for error as the clean light timber is very unforgiving of poor craftsmanship – this wasn't a worry for Sam, as they were very clean indeed. When gluing up mitred box-style frames, we use ratchet cramps to apply equal pressure to the mitres and then glue the panels in as a second stage. ■



Using a pair of sash cramps to pull the mitres together

Peter Sefton

Peter Sefton is a well-known furniture maker who has 30 years' experience. He is the 'hands-on' principal of Peter Sefton Furniture School in Worcestershire, where he runs long and short courses in fine woodworking, teaching and mentoring students. He also owns Wood Workers Workshop, and he is a Liveryman of the Worshipful Company of Furniture Makers.
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TESTERS

Rory Hatto, Glenn Hunt, Geoffrey Laycock, Robert Scotter, John Doonan & Nigel Neill

We asked the testers a range of questions, some of which were graded, but others needed more articulating rather than just scoring. We asked what was their experience using the product and did they have any problems.

Rory Hatto commented: My experience of using this blade was excellent. I found the blade to be well machined, which made the fitting really easy compared to some other blades I have used in the past. It cut cleanly and efficiently through all the materials I've used it on this week: 4×2in PSE, architrave and 180mm skirting board. Cutting through the 4×2in PSE was easy and required minimal pressure to carry out the cut with minimal break-out. I also laid 60sqm of 12mm-thick laminate flooring and cut the boards to length. This IRWIN Marples blade cut the laminate cleanly with no surface chipping. It also easily cut 108 pressure treated boards to make six new fence panels.

Glenn Hunt: I was very pleased with the results produced on different wood materials. Results with the 60-tooth blade were very good; results from the 80-tooth variant were superb.

Geoffrey Laycock: They both performed brilliantly! I used the 96- and 60-teeth blades on old teak, MDF, sapele, birch plywood and red oak. For maximum capacity cuts, I would select the 60-tooth blade but the 96-tooth blade would also be suitable at a slightly slower cutting rate.

Robert Scotter: Both 60- and 96-tooth blades performed really well with acceptable tear-out, which was very minimal. I was really surprised and

PHOTOGRAPHS BY RORY HATTER

Rory Hatter was extremely pleased with the cut finish on his skirting boards

PHOTOGRAPH BY NIGEL NEILL

Nigel Neill was very enthusiastic about the quality of the results he got

PHOTOGRAPHS BY JOHN DOONAN

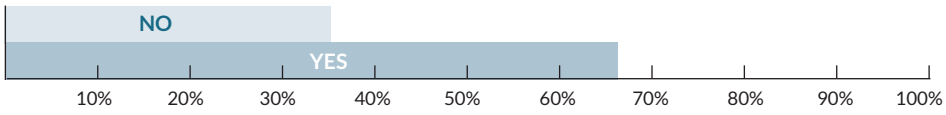
John Doonan ran each blade through some 45 × 95mm redwood, 75 × 75mm imbuya and a 75 × 275mm lump of Scottish elm, and commented; "In each case, the cut followed the line precisely"

impressed with the ease and quality of cut; they seemed to cut fast and efficiently, leaving smooth cut surfaces without burning.

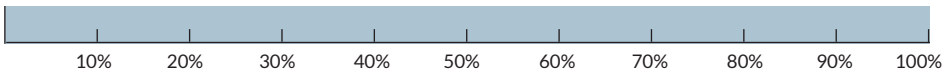
John Doonan: Lovely to use. The carbide tips are noticeably larger than my own blades, which are a reputable make. Even allowing for the blades being new, the cutting was effortless and the quality of the finish on the end grain was superb.

Nigel Neill: I found that both the 80- and 60-tooth blades cut effortlessly throughout daily working tasks that I encountered, which included hard and softwoods and laminate boards. No burr or chipping was left, which was aided by the kerf of the blades – an acceptable 2.5mm. Continuous cutting revealed that the sharpness remains after a considerable duration of time and is superior to other branded blades I have used. I also found that the distinctive blue non-stick coating didn't form a residue throughout the testing, which I initially thought it would.

Did you find the instructions on the packaging easy to follow?



How would you rate the product performance?



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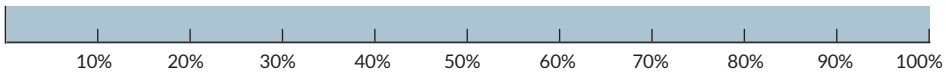
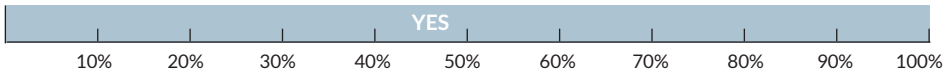
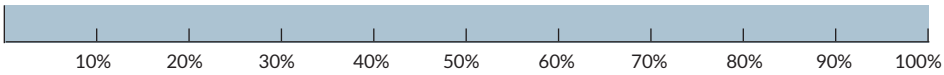


Would you recommend it to other people?



How would you rate the product overall?



Editor's comment

I visited the Italian factory where these blades are manufactured, I was frankly amazed that such a high tech, high output company gave so much care and intervention in the production process. It is amazing that a relatively small workforce can produce such high-quality blades. My own experience is that these blades cut really well even when pushed to the limit. Well worth the premium price alluded to by several of our testers.

The negative score given by the testers regarding the lack of fitting information is understandable, but since machines vary it is the duty of the individual machine manufacturers to provide fitting information. IRWIN's own packaging gives comprehensive information about the blades, including machine type, number of teeth, bore size and diameter. Selecting the correct blade is visually very easy. ■

Total score 93%

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OPTIONAL SUPPORT

STAR TIP

I was struggling to figure out where to position my compound mitre saw – that was the first problem as my shed isn't all that big – and second, how to support long lengths with a separate roller stand, which clashes with the workbench. The answer was simple, really: I had a vice, which I decided to position to the right of the saw but not too far away. I then made an MDF platform glued and screwed to the top end of a 50 × 50mm post and screwed a crosspiece to it, so when I need outfeed support, it just sits in the vice at the correct height.

The other thing was to bolt a mechanic's vice to a 75 × 50mm batten, so I swap the work support for it if I'm doing metalwork, then I've still got the use of the woodworking vice.

Bill Richardson

PHOTOGRAPHS BY GMC/ANTHONY BAILEY

Above: The mechanic's vice bolted to the batten
Right: The MDF platform for the compound mitre saw

Miles' homemade hood for his disc sander – clever stuff!

Not so dusty

Disc sanders are fantastic for all kinds of shaping operations to impart a decent finish, but I think they chuck out too much dangerous dust. I made a hood to go around mine without impinging on the working area. It can just be pulled back if it does get in the way. I added a smaller extraction hose, which is held in a lid in the main hose with duct tape. I still have to close the other blastgates to get the best suction, but it works.

Miles Malin

Easily fixed

Sometimes it's easy to overcomplicate solutions. I don't find I use things like jigs very often, but I did recently discover one for making shelf stud holes: I just screw it to the wall or better still, into the ceiling where it's right out of the way. Simple!

Joe (John) Arbuthnot

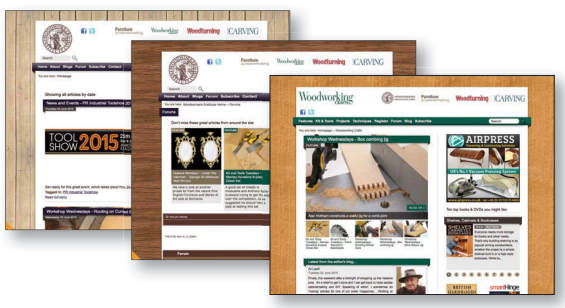
Neil's sections of pine glued together, which will make an ideal workbench

Benchwork

I wanted a really hefty top for my workbench. I didn't fancy the cost and machining problems of a big hardwood top with breadboard ends, etc. so instead, I thought that if I got some carefully chosen pine *(Pinus spp.)* and the annual rings opposing, then I could dowel or biscuit a set of prepared pine 75 × 50mm sections together with PVA and it should be completely stable. I've made it in two sections: this is the second; the other I've drilled for dog holes. Once both sections are glued and clamped together, I reckon it will be stable and just to make sure, it will be fixed to a pine underframe – with screw slotting so it slides on shrinkage. After sawing the ends square, I might use a router to trim the ends clean.

Neil Duffy

A great space-saving solution for making shelf stud holes



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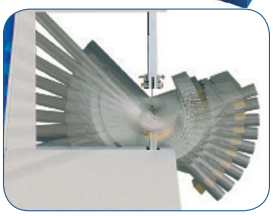

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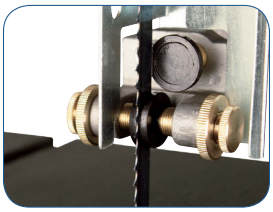

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PHOTOGRAPHS BY WALTER HALL

Re-handling a Stanley combination plane

Some of the best tools of yesteryear came with unlovely plastic handles. **Walter Hall** gets a grip on the problem and found it was fairly plane sailing!

Alongside woodworking, one of my favourite activities is restoring old tools, bringing them back to usable condition and improving their performance. Knowing this, my good friend and fellow contributor to this magazine Neil Lawton, sourced a late model Stanley 13-050 combination plane for me at a very reasonable price. In excellent condition and still in company with the majority of its original cutters, the only downside was the rather nasty plastic handle. If it was meant to resemble wood, then I have never seen wood like it – in fact, the last time I saw anything this colour was an Austin Allegro in the 1970s. The only answer was to make a proper handle from wood. ➤

Things you will need:

- Rosewood – or any other suitable wood blank
- Bandsaw
- Forstner bit
- Pillar drill
- Clamps
- Steel protractor
- Bevel edged chisel
- Utility knives
- Rasps
- Microplanes
- Abrasives
- Drechseln und Mehr Natur-Öl – oil finish


1


2


3

1 Fortunately, my visit to Neil's workshop also resulted in the acquisition of a fine piece of rosewood *(Dalbergia latifolia),* which seemed just right for the purpose, so the first task was to mark out the rough shape using the old handle as a template.

2 The initial roughing out was done on the bandsaw. The machine was fitted with a 16mm blade, which handled the broader curves with ease.

3 Rather than change to a narrower blade for the tighter curves, it was much quicker to fit a suitably sized Forstner bit in the pillar drill and drill out the waste. Note that the blank is safely clamped to the drill table.

4 A key factor in ensuring a well-fitting handle was to check that the hole for the mounting stud was accurately aligned in the body of the handle. In order to achieve this, I measured the angle from the original using a long drill bit through the bore and a steel protractor.

5 The measured angle was then transferred to the rosewood blank in order to facilitate the alignment for drilling.

6 The blank was mounted in the drill press vice and carefully aligned to the vertical, with the aid of a small engineer's square.


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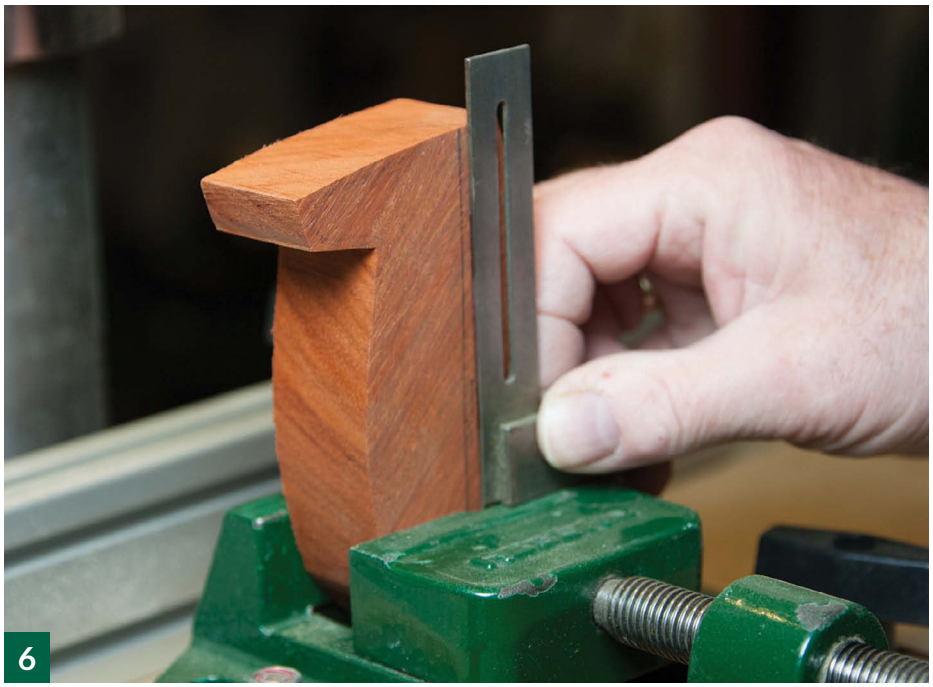
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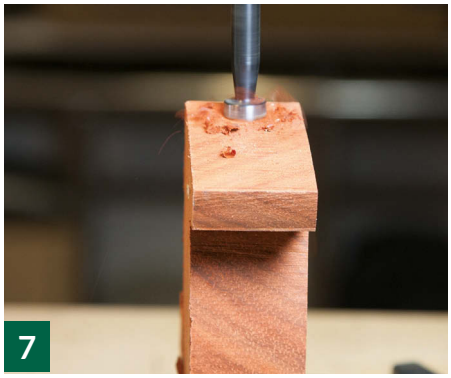
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7 The recess for the retaining knob was drilled first using a Forstner bit. A long lip and spur bit was then used to drill the rest of the way through the blank and finally, the blank was reversed in the vice and a second Forstner bit used to drill a correctly sized recess for the connection to the casting.

8 I am not a woodcarver and as a result, possess no carving tools, so the base was carefully cut to shape to fit the casting using a combination of bevel-edged chisels and craft and utility knives.

9 A gradual process of cutting away and trying against the casting was followed until a good fit was achieved.

10 Once properly fitted, a pilot hole was drilled and the fixing screw in the base fitted.

11 With the main fixing stud installed, it was obvious that a great deal of work remained to be done. The handle body was far from square to the casting, except where the base had been fitted and the square edges needed to be rounded to a proper shape.

12 In profile, however, it was after some initial shaping, beginning to look like a handle that might have been designed to fit this plane. ➤


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13 Again, in the absence of carving tools, the shaping was done with a rasp and Micro-planes. Not a quick process, but it was very satisfying to see the shape gradually developing as I worked. I can see why carving is such an enjoyable hobby. If only I had the artistic skill to visualise anything more exciting than a tool handle.

14 As the shape developed, I paid more attention to fitting the handle to my own grip rather than slavishly following the design of the original, regularly testing the feel of the handle for comfort.

15 Several hours later, I had a handle that differed only slightly from the original, but was much more comfortable due to the bespoke grip. The base was also slightly thicker than the original due to the different


15

characteristics of the wood and plastic. Note also the alignment of the grain to maximise the strength of the handle.

16 A lot of hand sanding later and the finished handle is almost ready to install. It looks a lot better than the original and it is certainly much more pleasant to hold and use. A few coats of Drechseln und Mehr Natur-Öl and the job was complete. ■

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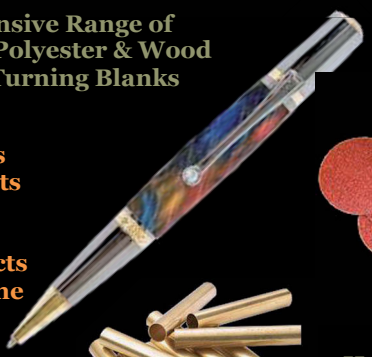

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PHOTOGRAPHS BY LOUISE BIGGS

Curtain pelmets

Louise Biggs makes a set of wooden pelmets to fit a bay window

I received a call from some long-standing customers, asking if I would be able to make two wooden curtain pelmets, one straight and one shaped, to complement their fitted bedroom and replace the existing fabric pelmets to the following criteria:

- The curtains were to hang 75mm off the glass of the windows
- The end front panels on each pelmet had to be removable
- The shaped pelmet was to continue around the lintel to the end of the wall
- The straight pelmet was to extend past the right-hand side to match the existing extension, between the window frame and wardrobe, on the left-hand side.

ON SITE ASSESSMENT

Straight pelmet

- Window frame was recessed within the wall
- Solid wall above for fixing the pelmet
- Window recess was straight and level

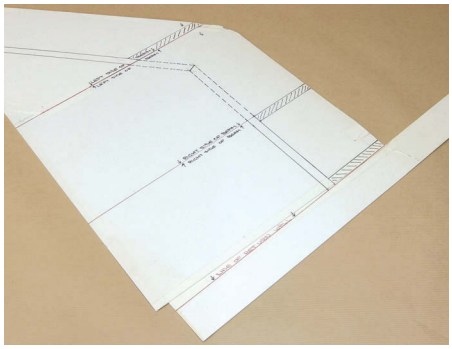
Shaped pelmet

- Four-section bay window
- Concrete lintel ran across the bay from the top right corner of the window
- Corner of wall 380mm to the right of the lintel was not square
- Window frame was tight up to the edge of the ceiling
- Plasterboard ceiling curved round the bay and curved up to the top corner
- No wooden header above the window frame for fixing to
- Best possible fixing was to form shaped metal brackets to screw to the window frame with self-tapping screws
- Window frame was level

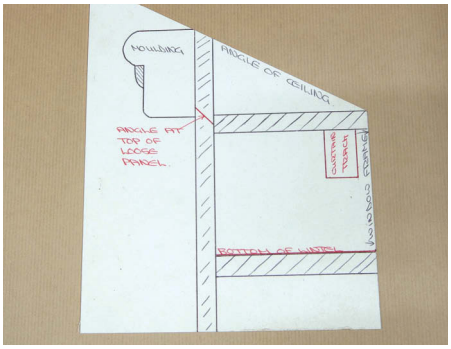
Top right-hand window, with the concrete lintel and existing curtain and pelmet rails

Overview of the bay window showing the curved ceiling and concrete lintel

MEASURING & TEMPLATES



The lintel section showing the return wall and the position of the lintel



The angle of the ceiling to the window frame and layout of the pelmet

Armed with card and tools a site visit was made to make a template of the bay window. At over 2,440mm long it had to be done in stages and marked accurately to be put together in the workshop. Each section was marked off with the joints in the window trims being the reference points.

The template for the area around the lintel was shaped to the wall and frame and the position of the lintel marked. The necessary angles were taken around the lintel, where the wall turned at the right-hand end and where the window met the wall at the left-hand end. The angle between the window frames and ceiling was also measured in order to position the front fascia.

The straight window was measured and the extension of the existing rails past the window frame to the wardrobe on the left was mirrored on the right. When everything had been checked several times the template for the shaped pelmet was taken back to the workshop where it was glued and taped together.

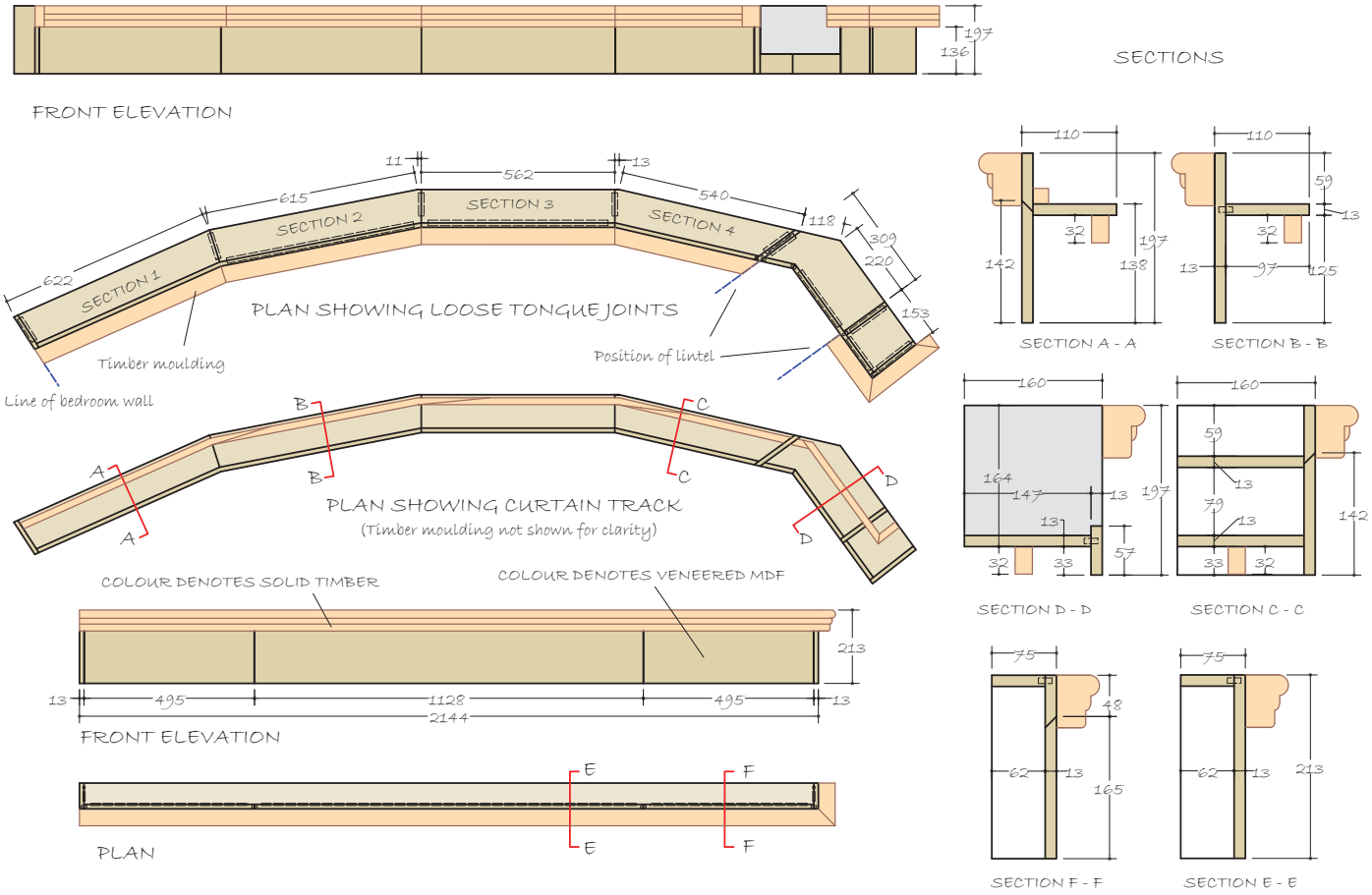
What you will need:

For the templates

- Cardboard
- Straightedges
- Knife
- Rule and pencils
- Squares
- Angle finder
- Sliding bevel

For the making

- Panel and/or tablesaw
- Mitre fence for tablesaw
- Straightedge
- Sliding bevels – more than one if possible
- Bandsaw, jigsaw or coping saw
- Chisels – various widths
- Hand saw – preferably with no back – or flush-cut saw
- Router and router table
- Various router cutters
- Sash cramps
- 'F' and 'G' cramps
- Moulding plane
- Iron for iron-on edging
- Tenon saw, if cutting finger joints by hand
- Drill and various bits to suit fixings
- Mitre saw – hand or powered
- Screwdrivers
- PPE – eye and dust protection



MAIN CONSTRUCTION

The pelmets were formed by a series of 13mm sapele *(Entandrophragma cylindricum)* veneered MDF sections joined together with loose tongues. For the straight pelmet, the long top section was flush with the top of the front, a full width piece in the centre was joined between two narrow sections at either end, which housed the loose panels beneath them. The two end pieces were in turn joined to the top and front sections.

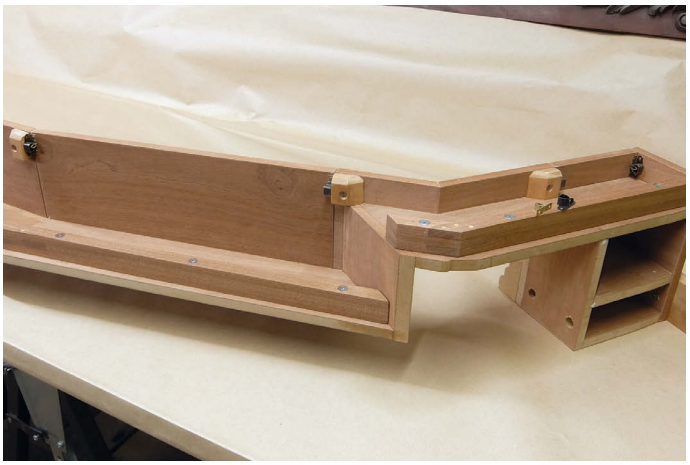
The shaped pelmet was constructed in three parts. From left to right, window sections 1 and 2 were made as one, section 4 and the lintel section were made together and section 3 slid into place last due to the angles between the wall, window frame and lintel. The top section was 59mm down from the top of the front to allow for the curve of the ceiling and the fixing of the pelmet on the brackets, as shown in the photo taken from the back of the pelmet.

Section 3 was held in place with loose tongues that allowed it to slide into position last. To support the joint, a form of dovetail key was cut into the back of the fascia at the top, both sides and at the bottom on the left-hand side. These were glued and screwed into sections 2 and 4 and screwed into section 3 behind the moulding at the top and from behind at the bottom left.

The removable panels had a 45° chamfer on the top edge. The sections above the loose panels had a corresponding chamfer and once the mouldings were in place the chamfered top edges tucked up behind the moulding to be held flush. The bottoms of the panels were held in place with metal clips, some of which had to be mounted onto small blocks to obtain the correct angles for removing the panels. Iron-on edging was used on all exposed edges.

The top and front sections of the straight pelmet

The sections of the shaped pelmet from behind



The lintel section – upside down and from the back – showing the clips and blocks to hold the loose panels

Section 3 – centre, section 4 to right and section 2 to left, showing the dovetail keys to join the sections

THE MOULDING

The moulding had to be made in two slightly different ways. For the straight pelmet and the section to the right of the lintel on the shaped pelmet, the complete moulding was made and would be fixed from behind. For the four sections to the left of the lintel, it was made in two sections so that the middle part acted as a cover piece for the fixings. The timber was planed to the correct dimensions and the main areas of waste were removed using a straight cutter in the router on a router table.

The template with the complete moulding on the right and the moulding and cover piece on the left

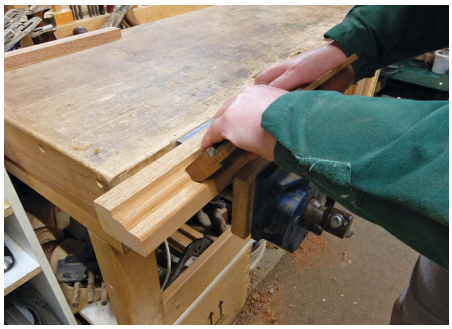
Checking the shape against the template

Four sections of moulding awaiting their cover piece, left, and the complete section, right

The cover piece being shaped with a support piece behind

The completed mouldings

The moulding fitted around the section to the right of the lintel



Cutting the middle section and changing the angle of the plane to flatten the quadrant

A wooden moulding plane close to the right shape was used to form the torus shape at the top and the two quadrants on the middle and bottom parts of the moulding, the bottom quadrant was formed first keeping the curve even on both the face and edge of the moulding. The middle section was then cut on the complete moulding. By changing the angle of the plane, it cut the slightly flattened quadrant shape required on the middle piece.

The torus shape was then cut on the bottom edge in the same way. Where two shapes came together care was taken so that the points of the blade did not gouge a line where a crisp square corner was required or where a curve flowed into a flat. At all stages the shape was checked frequently against the template.

Once the main shaping was correct the top edge of the torus shape was cut, keeping a crisp transition between the curve and the top edge. All the lengths of moulding were prepared to this stage. The cover piece was shaped in the same way but to hold it straight, a stout support piece of timber was clamped in the vice behind it. Once the mouldings were shaped they were sanded through the abrasive grits up to 240.

The moulding on section 3 needed square ends in order to fit in place. Section 2 of the shaped pelmet was cut to the correct angles and length and clamped in position, then three fixing positions were marked out and drilled through to take an M5 machine screw and a 'T' nut. Each section was cut and fitted to the previous one until the four sections were in place with section 3 being the last one fitted. The cover pieces were cut and fitted in the same way to be pinned on after the pelmets were fitted in position. The complete mouldings fitted to the straight pelmet and the section to the right of the lintel were mitred, clamped in position and fixed by wood screws from behind the MDF fascia. ➤

Moulding clamped in position on section 2 and being drilled for the fixings

The four sections fitted with the machine screws visible

REMOVABLE CURTAIN TRACK

The curtain track, clamped in position with the angles cut

The first half of the finger joint being cut

The two sections of curtain track glued and pegged

The straight pelmet curtain rail could be fixed to the wall. On the shaped pelmet a removable curtain track was required to enable the curtain suppliers to fit their curtain rail to it. Timber was prepared to size and once the position of the track was established and marked the sections were cut to length. For strength, a form of finger joint was used.

Each section was cut to allow it to run into the next section on a straight line, this would form the angled finger joint. They were clamped in place until all the sections had been cut and angled. Using a router set in a table, the first half of the joint was routed out using the angled surface as the leading edge. Once these halves of the joints had been cut, the router was reset to cut the other half. If unsure in any way of cutting the joints on the router, either form a jig to support the sections or cut the joint by hand.

The sections were then glued and clamped together and the dowel pegs drilled and glued for additional support. They were fitted with M5 machine screws and 'T' nuts in the same way as the moulding.

FITTING IN POSITION

With the pelmets away being spray finished, the metal brackets were made to the template taken earlier. The straight pelmet had right-angled brackets, the shaped pelmet needed brackets formed to the shape of the window frame. Using lengths of flat steel, they were first cut to length and then scribed at each point where a bend was required. The screw holes were drilled and countersunk prior to bending. To get the brackets looking identical, the scribe lines were placed in the vice in exactly the same position before being hammered over to the correct angle.

Once on site the brackets for the straight pelmet were fitted to the wall and the pelmet was placed on the brackets and screwed together. The shaped pelmet was fitted with sections 1 and 2 and the lintel section was fitted with section 4. Once in place, section 3 was slid into position and fixed. The pelmet was screwed to the brackets and to the plasterboard ceiling before the moulding and cover pieces were fitted. ■

The shaped pelmet fixed in position and finished
Inset: The brackets for the fixing of the shaped pelmet

Louise Biggs
Having completed her City and Guilds, Louise trained for a further four years at the London College of Furniture. She joined a London firm working for the top antique dealers and interior designers in London, before starting her own business designing and making bespoke furniture and restoring furniture.
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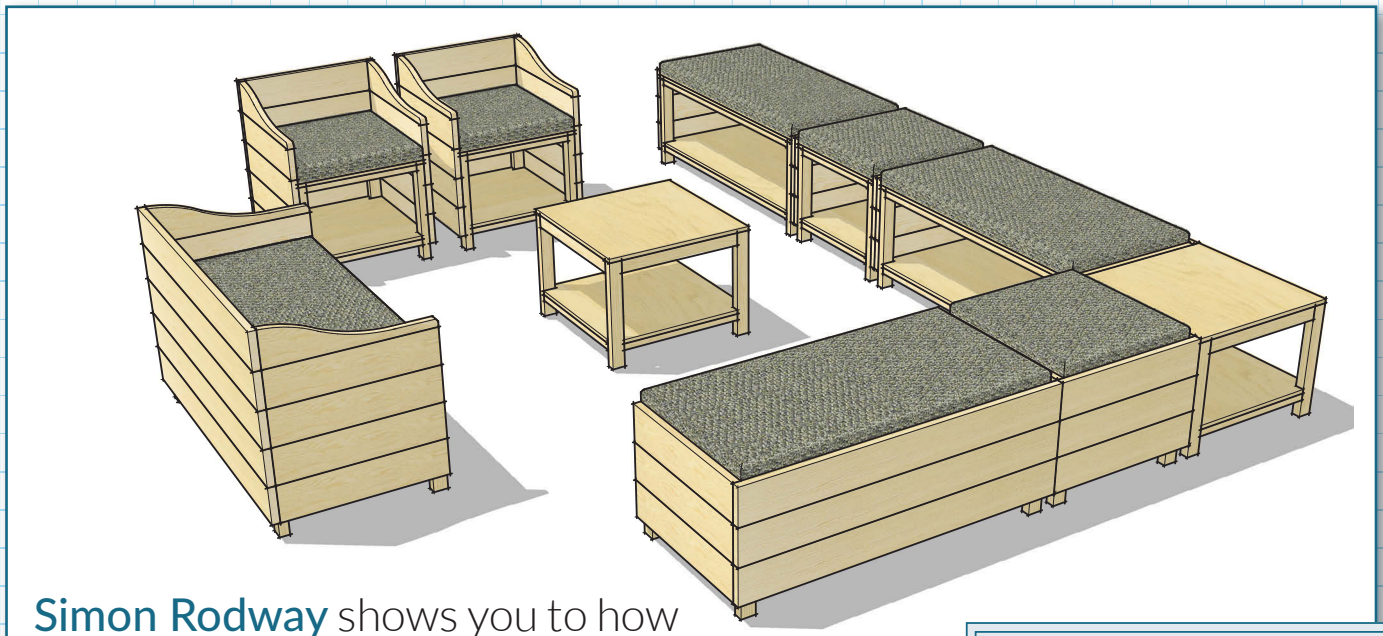
Modular seating



Simon Rodway shows you to how to make your very own set of modular seating – perfect for those summer days

CUTTING LIST

Seat module

Legs	4 @ 323 × 38 × 25mm
Rails	4 @ 367 × 25 × 20mm
Rails	4 @ 360 × 25 × 20mm
Seat/shelf	2 @ 430 × 410 × 12mm
Side boards	6 @ 439 × 100 × 20mm
Back boards	3 @ 450 × 100 × 20mm

Table

Legs	4 @ 323 × 38 × 25mm
Rails	2 @ 400 × 25 × 20mm
Rails	2 @ 374 × 25 × 20mm
Rails	2 @ 400 × 38 × 25mm
Rails	2 @ 374 × 38 × 25mm
Top/shelf	2 @ 450 × 450 × 12mm

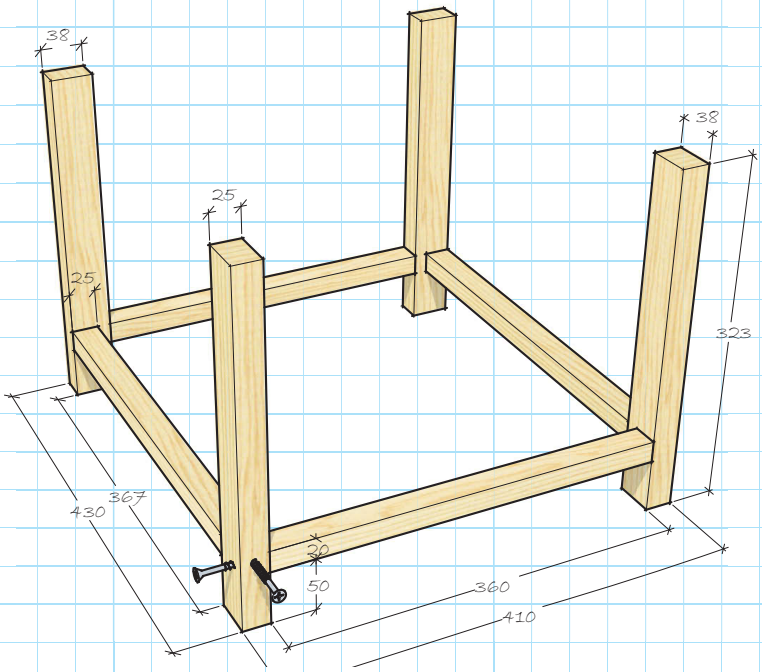
Designing and building things on a module system always seems to have the same advantages and disadvantages. Basically, it will all fit together nicely, making planning and construction much simpler, but the repetition of elements can make the project look a bit machine made or even lifeless. The best way to avoid this is firstly to disguise the basic module by offsetting the structure somehow, and then add variations on the unit so that the overall effect is a combination of a grid pulling everything together, with enough individuality in the components to make it interesting. I'll leave you to be the judge as to whether I succeeded with my modular seating, which is this month's project.

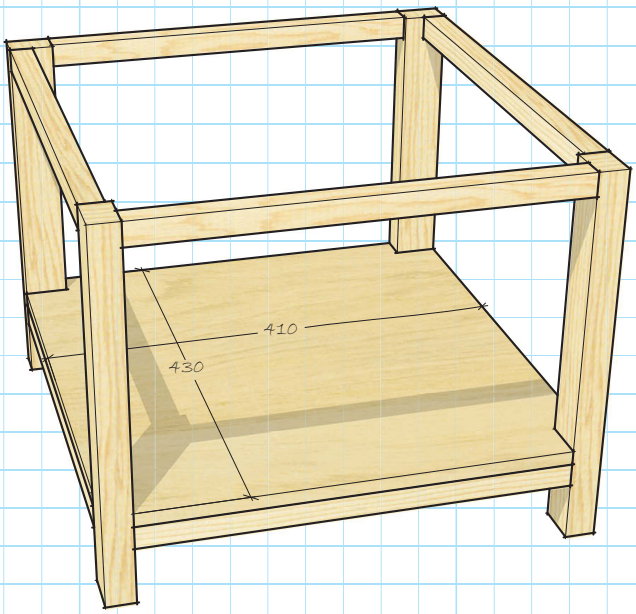
The basic module

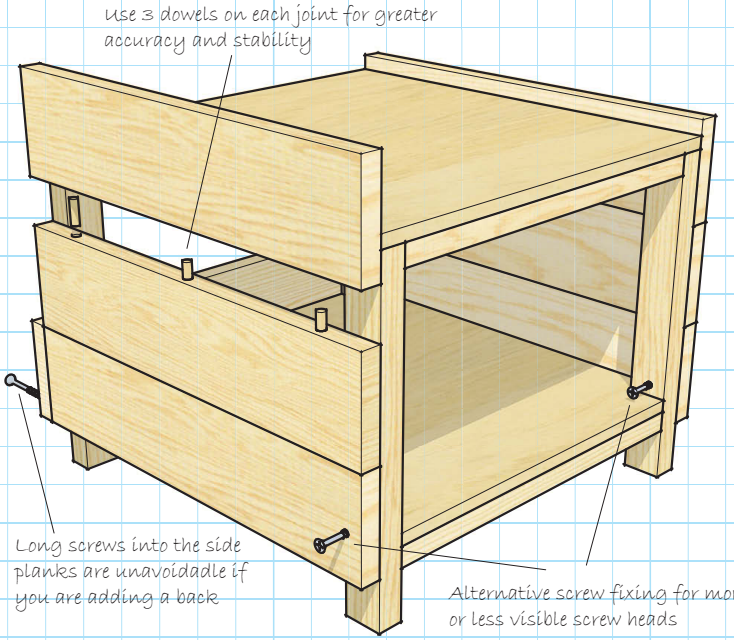
The basic module size is a 450 × 450mm unit, which is doubled to a 900mm length for the longer bench and sofa-type seating. The structure of the seating is very simple and is based around two pairs of 25 × 38mm legs, with the front legs set at right angles to the back. This immediately starts to break down the grid system, but the main reason I've done this is that all the seating is open at the front with a bottom shelf for storage, and turning the front legs therefore made much more sense. The legs are actually set out on a 430 × 410mm rectangle, since I used 20mm-thick boards, wrapping around them on three sides to make up the overall 450 × 450mm. If you cut the 12mm-thick plywood bottom shelf to size first, you could use this to set out the legs, which are small bottom rails – remember to cut the seat to match at the same time. The joints are basically just screws into the end grain of the rails and will be hidden in all cases, except at the front. So if you don't want screw heads showing here, you could improvise with pocket screws into the back of the front legs from inside. The screws will overlap at the corners, so use thinnish ones and offset them slightly up or down to allow for this. Add a bit of waterproof glue to further strengthen the joint.

Bottom shelf

Now you need to accurately notch out the corners of the bottom shelf, not forgetting that the back and front legs are facing at 90° to each other and then slide over the legs and fix this to the rails. Use smaller screws and glue,







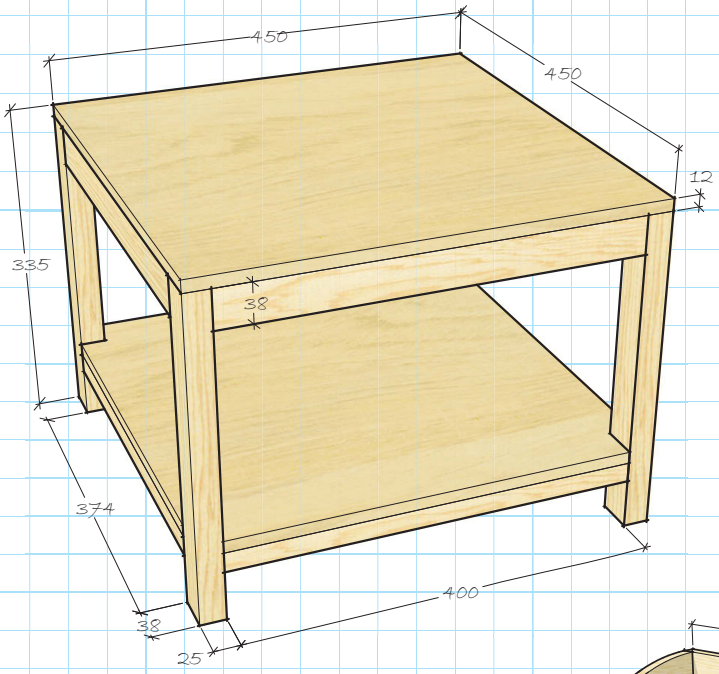
as pinning to such small section rails could damage the joints at this stage. Also, pre-drilling the plywood first will make life a bit easier. The structure should start to stiffen up a bit at this point, then repeat the exercise at the top of the legs, finishing off with the top or seat, which sits above the ends of the legs, so no need for notching the corners this time.

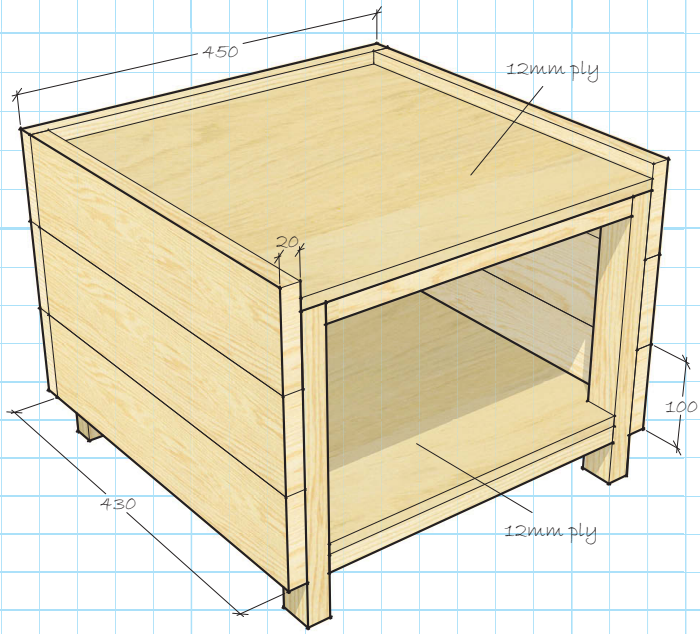
Side & back boards

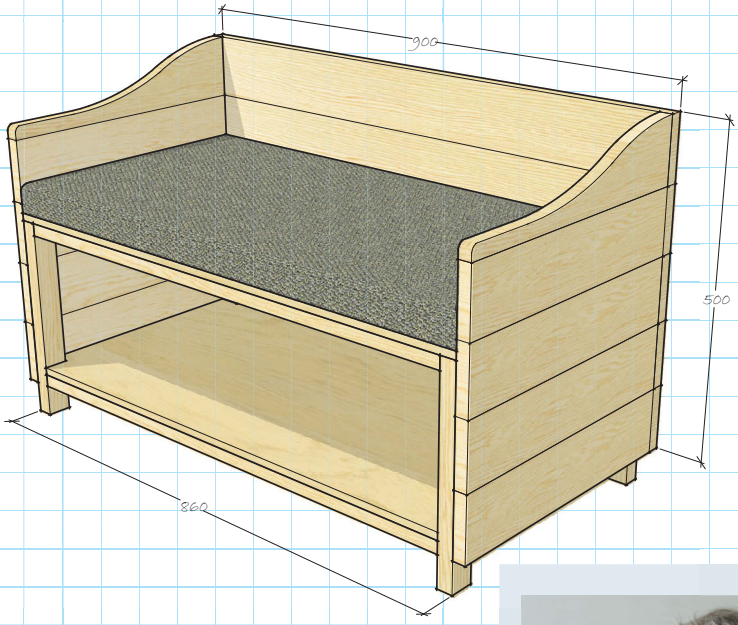
Now you need to cut the side and back boards to length and start fixing them. I would align each trio of boards with three dowels, which will help to strengthen the joint and keep it flush over the years. It's probably better to glue these together as a complete panel of three first, leaving the ends of the individual boards slightly long, to allow for any slight variation in dowel location, and then just trim the ends of the panels. This also allows you to use cramps to keep the joints nice and tight. I have positioned the panels so that there is a small upstand on three sides, which helps to locate cushions. You can screw these from the inside if you wish, but fixing will be much easier from the sides and back, and if you choose to make the variation with the back, you will have no option but to show screw heads along the back joints. Personally, I don't think this is a problem on this sort of robust outdoor-type furniture, as long as the screw spacing is done with some thought and care and the screws are good quality. I would use two pairs of screws per board to achieve a good fixing and if you are including the sofa or chair variant. To achieve a consistent look, fix through the backs into the ends of the side planks on the seats as well. If you are making the longer variant of the seat, simply add 450mm to the overall length of the long components, keeping the ends and other details the same.

Table

The table is a bit more straightforward, as it is laid out on the 450 × 450mm module from the outset. Additionally the legs are orientated in a single direction. The fact that there are no side panels means all the joints are more visible, however, and in this case, I would go for pocket screw fixings all round, as, from the outside, the pairs of offset screws will look a bit crude. I increased the height of the top rail to 38mm to add strength and stability. Fixing the top – and shelf – is a bit of an issue, as these surfaces are much more visible, so gluing and the addition of screw blocks underneath was my preferred solution. If you can think of a better one, then please use it. The edges of the table are pretty unforgiving, as there is no overhang to disguise any variation between the frame and the shelf and top, so a bit of trimming at the end is almost inevitable. ➤







Other variations

The final variation is the chair or sofa. Basically, the only difference here is the addition of a double layer of boards on the top of the back and sides, with the top board on the sides shaped to form an armrest. Again, I would make the sides and back as complete panels, leaving the shaping of the top board on the sides until last. I have suggested a shape for this, but you will probably want to design your own. You do need to remember the depth of your dowels at the front, particularly if you go for a look similar to the one I have shown, as the last thing you want is to expose the end of one when you are cutting out the profile with a jigsaw. My advice is to leave a clearance of about 10mm. As I said earlier, the back will be fixed through into the ends of the side boards or panel all the way up, using a pair of long screws to each board end. This, together with a good glue joint, will be ample as the back is fairly low, with only one board fully exposed. I haven't shown anything in the way of backrests or cushions but you'll need these to soften the edges and the 90° angle of the back.

I have shown the dimensions for the sofa, and the chair is obviously the same height, but otherwise identical in construction and dimensions to the base unit or stool. The sofa uses the same materials as the seat and chair, but just add 450mm to the length of the long components in the same way as you would for the longer seat.

How you finish everything off is up to you. If this is meant for outside use, a good waterproof and preserving stain might be an idea, but something that is fabric friendly. I wouldn't make this an all-weather set for preference, though, as eventually the end grain of the plywood in particular will start to delaminate. This won't happen overnight, particularly if you use exterior grade plywood, but the British weather is pretty unforgiving on timber furniture, so an indoor/outdoor space, such as a conservatory or veranda is probably the best location. Now let's hope for some great summer weather! ■

Simon Rodway

Simon Rodway also runs LineMine, a website with articles and online courses on drawing software. A new course, 'SketchUp for Woodworkers', is starting this month. For details and to get discount coupons, see website details below.

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Amber Bailey

As a recent graduate of the BA (Hons) Furniture: Conservation, Restoration & Decorative Arts course at Buckinghamshire New University, Amber now works as a marquetarian and restorer, specialising in veneered furniture. From September, 2015 she is off to Paris to study marquetry for a year at the prestigious Ecole Boulle, refining her skills and learning the traditional French techniques.
Web: www.abmarquetry.com

The RESTORER'S WORKSHOP – *a miscellany*

Amber Bailey has developed a number of techniques and methods, which she uses in her workshop on a regular basis – she shares them with us here

I have been fortunate enough to have experienced working in or poking around a number of workshops, all having been set up for very specific purposes. Working primarily as a restorer and marquetarian, the arrangement of my bench and tools is in stark contrast to your everyday woodworker. I seemed to have filled drawers with household paraphernalia, lending themselves to very neat restoration methods, which you wouldn't necessarily think of when you are rummaging through your toolbox in search of a quick fix.

Bench preparation

My work surfaces come into contact with materials and liquids that may leave behind residue. To protect projects, I cover the bench with a piece of carpet or a non-slip mat – both are soft enough not to cause scratches.

Collecting tools

It's tempting to splash out on shiny new and expensive tools, but I find it a good idea to stock up on a few tatty old ones as well. Inevitably, restoration requires furniture to be disassembled

before it can be stabilised and there is nothing more disheartening than hearing the clink of metal and realising your beautiful chisel has come into contact with a nail and is suffering the consequences.

Cleaning – materials

I am no stranger to bulk buying household cleaning products. Here are some I could not be without:

- **Wet wipes –** dusting off furniture is all well and good, but can just mean that you are moving the dust around rather than picking it up. Mopping across with wet wipes will lift the dust while not being moist enough to have adverse effects on the wood. Avoid any wipes that may contain silicone, such as furniture wipes.

- **Soda crystals –** in the restoration of some furniture, it may be possible to rework the existing surface finish, but more often than not it is beyond repair and in need of removal. As a last measure before applying anything new, washing the object with soda crystals will remove any lasting residue to leave a blank canvas as it were.

- **Conservation pads** – or a scouring pad to you and me, is ideal for tough dirt that is refusing to budge.

- **Cotton buds and pads –** a staple requirement for anyone who wears make up, they also happen to be ideal for cleaning dirt from furniture, especially from all the nooks and crannies.

- **Other useful odds and ends –** in restoration, surface finishing is a delicate art, dealing with large quantities of materials is no time for guesswork. Precisely measuring on a set of kitchen scales allows for continuity in the results of solution making.

- **Garden water spray gun –** thanks to our toasty warm houses filled with central heating, one of the major problem areas in restoration is timber drying out, which can cause cracks and warping. Manipulating some of these pieces of veneer or wood may cause more damage than good, so I keep a garden water spray gun on hand to lightly reapply enough moisture for the wood to soften. ➤

Enzyme cleaning

As a first time witness to enzyme cleaning, I was horrified and repulsed in equal measure but soon enough it became a 'go-to' technique, particularly when restoring lacquerwork. An efficient cleaning method that demands no more technical ability than spitting onto a cloth – literally.

Oxalic acid

Used in a ratio of two spatulas to 100ml of distilled water, oxalic acid is brilliant for lifting dirt from wood grain or even ink stains – a common problem on antique writing surfaces. With oxalic being a bleach, it does need to be neutralised afterwards.

Oxalic acid lifts dirt instantly

PHOTOGRAPHS BY AMBER BAILEY

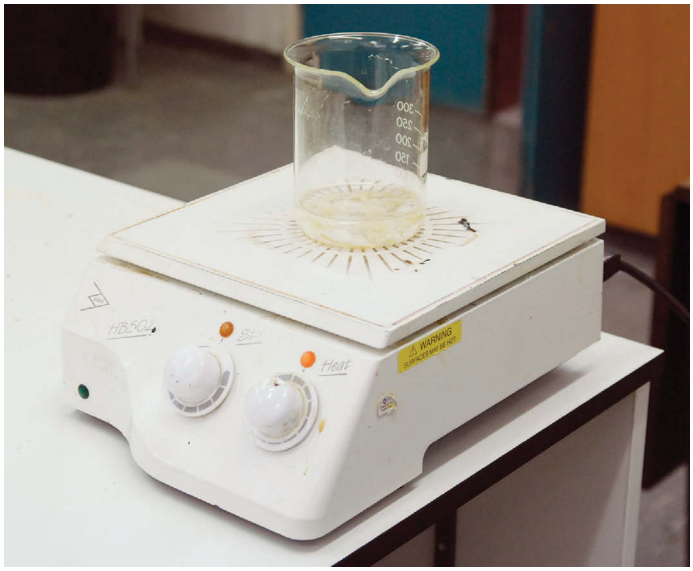
Old tools are often more substantial than modern versions – they will fare better when taking a beating

It's not all hammers and saws!

Cotton buds are ideal for cleaning dirt from furniture

Anti-slip mats or carpet are great for protecting your bench from scratches

Using wallpaper paste to soften animal glue



A hob needs constant attention when in use, unlike a baby bottle warmer which can be safely left

GLUING

The miracle of traditional furniture assembly is that we can quite safely predict the glues that will have been used in a piece. It was only in the 20th century and really with the demands of progression to support the war effort that we start to see all sorts of adhesives invented to fulfil specific requirements. Prior to this period, the only glues available had been protein-based and if you can date a piece of furniture to this period, then you can presume the adhesive. Modern glues can be difficult to manipulate or remove; however, protein glue simply needs to be rehydrated accordingly; this will reactivate the glue and it can then be removed in liquid form.

The danger to look for in antique furniture is previous repairs, particularly bodge jobs where you can find a variety of glues and pieces secured in place with nails shoved in at all angles. When detaching a chair leg, you can tell the glue is protein if separating the two pieces causes a very satisfying and loud crack.

Removing glue

Occasionally, in antique furniture there can be evidence of previous gluing, which needs to be removed. It can be tempting to chisel off an enormous drip of adhesive but there is the possibility that the surface might get scratched as a result. By mixing up and applying a solution of wallpaper paste onto the specific area, the paste essentially works as a water in gel form. If this is left for 10 minutes, it then rehydrates the glue ready to be scraped. Water on its own has the same effect, but the paste will stop any moisture spreading to and damaging other surfaces.

Some traditional glues can be applied cold but conventionally they would be heated prior to use – accessing a hob can be a lot of effort with added health and safety risks. A baby bottle warmer is the perfect answer; this keeps my glue warm and not reaching boiling point. It is also much more cost and energy efficient!

Play pit sand is very fine, making it suitable for sandbags and even sanding shading for veneers

CLAMPING – sandbags

Gluing up work isn't always a straightforward task. It is always advisable to test a 'dry run' to deal with any issues. Not all surfaces are going to be flat and applying enough even pressure can be tricky. Sandbags are ideal to act as a layer between the work and clamps. They are an easy make and with playpit sand costing under £10, they are quite a bargain!

Protecting the furniture surfaces is really important when drying as clamps can leave dents. Softwood is a traditional solution but rubber or Perspex can work just as well. The advantage of a plastic such as clear Perspex or polypropylene is that you can see through it – obvious, I know – this way any movement that may have taken place can be dealt with before the adhesive has set rather than waiting 24 hours to find out if the process has been successful.

Handy hint

When colouring up a piece, I consider the lighting that it will sit under. A workshop may be lit differently and I don't want any hideous surprises when the furniture is reinstated.

Right: A restorer's palette usually consists of a range of browns and yellows

AGEING

Colouring – watercolours

These days, I find that my box of artists' watercolours no longer have a use up in the house, instead they are regularly called upon in the workshop to faux age surface finishes. Thin layers of paint can be built up and sealed with shellac, easily removed if necessary. Sometimes you can believe the aim is to clean an object as much as possible only to find it looks wrong, some dirt or dark areas can actually accentuate detail in a very attractive way.

Reclaiming materials

No matter how well I colour up replacement sections on antique furniture, chances are there will always be a slight difference between the new and old. Salvaging discarded pieces of wood from past projects or disassembling objects broken beyond repair is a good means of using authentic replacement materials.

Ageing hardware

To be as true to history as possible, as a restorer I try to save any useable hardware. Nails are one item that cannot be reused so modern replacements are required. To ensure attraction is not drawn to any shiny metal, the tops of the nails can be painted with a mixture of pigment and shellac to imitate rust.

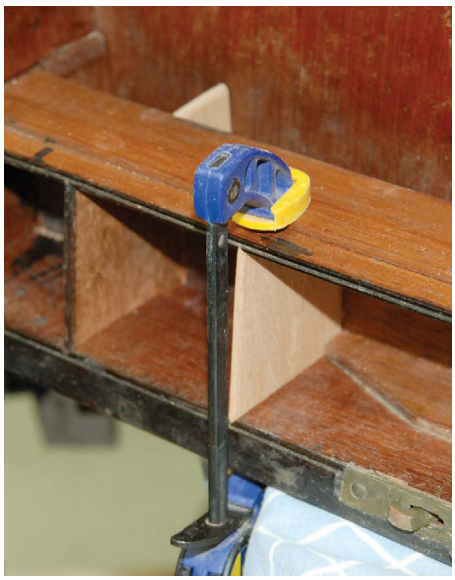
Suppliers

I find DIY stores or the household cupboard generally has most of the things I need for conservation work except oxalic acid, which can be bought from chemical or restoration suppliers. ■

HANDY HINT

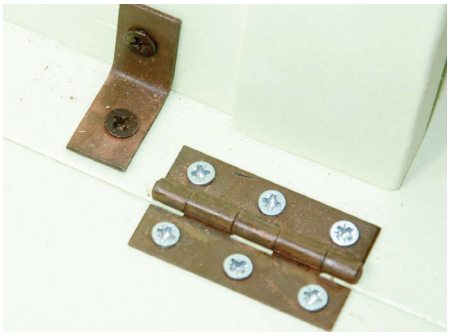
I find it worth splashing out on a few natural fibre brushes, they may cost more than their synthetic counterparts but natural fibres are much softer so will not leave drag marks in the surface finish.

Salvaging veneer from an old tea caddy



A contrast between new and aged wood

A nail, which has been painted to give an aged effect



The same technique can be applied to screws

READER'S LETTERS

If you have something to say about the magazine or a specific woodworking topic, please feel free to send us an email or a letter

Write to: The Editor, Woodworking Crafts, 86 High Street, Lewes, East Sussex BN7 1XN. Alternatively, email: anthonyb@thegmcgroup.com

PHOTOGRAPH BY GMC/ANTHONY BAILEY

PHOTOGRAPH BY ROGER BUSE

Just some of the highlights from issue 2

Marquetry courses

***Ed:** In issue 1, I gave a slightly shabby answer to a reader's request for more information about marquetry. I'd like to thank Quentin Smith for his much more helpful response, which we have published below. Hopefully Quentin will join us from time to time to discuss various aspects of the craft of marquetry!*

Hi Anthony, thank you for your reply to Virginia LeMaistre's enquiry about marquetry courses in the first issue. You're right, there aren't many courses available, but one great way to learn is to visit one of the Marquetry Society's affiliated groups. There are about 20 around the country and all have experienced marquetarians on hand to offer advice and guidance, plus a stock of basic tools and materials to get you started. Details can be found on the Society's website: www.marquetry.org. Alternatively, I run occasional courses, usually in Staffordshire but also at some craft studios, and also offer one-to-one tuition. I can be contacted through my website: www.qjsmarquetry.co.uk

Quentin Smith – by email

PHOTOGRAPH COURTESY OF WWW.GAW.ORG.UK

Marquetarian Quentin Smith

Education, education, education!

Dear Anthony, I have been learning about woodworking for 45 years. I left Tring School in July, 1970 and worked as an apprentice cabinetmaker in Hertfordshire. From 1970–75, I did a City & Guilds course at Hertfordshire College of Building in St Peter's Place, where I carried on working till 1986. I did woodworking at Tring School and took it as a hobby at home, where I undertook many projects and repaired furniture, before I moved to Peterborough in 1986. I bought many tools and also woodworking magazines from *Practical Woodworking*, *The Cabinetmaker*, *The Woodworker* and the great DIY magazine, the editor of which was Tony Wilkins. I look forward to reading the new magazine.

Remi Smit – by letter

PHOTOGRAPH COURTESY OF WWW.RAINFORDRESTORATION.COM

Bill Rainford teaching traditional woodworking

***Ed's reply:** It is a great shame that nowadays, young people, on the whole, do not receive opportunities to work with wood and learn the use of tools. I'm sure this is not just to their detriment but the country as a whole, because we still need people with practical skills. I hope that in some small way, magazines like ours can help teach readers of all ages.*

Something for everyone

Hi Anthony, the new issue of *Woodworking Crafts* has just popped through the letterbox. I love your gothic workstation and I will certainly make the planter and the scrollsaw coasters. My daughter is very much into upcycling, so I almost lost sight of Lucy Bailey's article before I had a chance to read it! I perform in amateur musicals and, from her list of interests, Lucy would have enjoyed seeing the set that our group built for last week's production of *Sweeney Todd*. The bodies dropped from sight spectacularly!

I am lucky enough to have a well-equipped workshop. My other, non-upcycling daughter was married a few weeks ago and I was 'commissioned' to make several items, one of which was a replica post box into which guests could post cards, etc. on the day, which was well used. With the addition of a glass top it will become a feature side table or pot plant stand in the happy couple's home.

John Doonan – by email

***Ed's reply:** Thank you for your letter, John. I'm glad you have enjoyed the second issue of* Woodworking Crafts *and that your thrifty upcycling daughter enjoyed it too! We are aiming to appeal to a wider audience of readers so that is good news as far as I am concerned. I am the lead set builder for our amateur dramatic society so it is interesting to learn you are also involved with 'treading the boards'. Maybe you would like to share your wedding day pillar box with our readers? It sounds like a fascinating project and I can't wait to see it!*

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DIY CONSUMABLES – *part 2*

Last month **the Editor** looked at fixings i.e. glues, screws and nails. This month, he puts some other essentials under the spotlight

ABRASIVES

Abrasive mesh is very similar to domestic scourers, but has abrasive particles attached to it and comes in several grades. It is excellent for cleaning metal and rubbing down between coats of finish. Foam aluminium oxide coated abrasive blocks are a great way to do DIY sanding tasks – there are blocks with a bevel edge that allow sanding in awkward corners.

Aluminium oxide papers are very efficient and last well. They can scratch easily because the abrasive particles don't break down easily during use so avoid the coarsest grades.

Abranet is a unique and brilliant mesh abrasive that can be used by hand or machine, although best as the latter. It doesn't clog and lasts a long time and attaches easily to hook-and-loop sanding pads. Available in various grades.

Finishing papers sometimes have a powdered stearate wax applied so the cutting action is gentler and avoids clogging. The fine grades are the ones to choose for nice smooth results with paint, varnish and lacquer.

Above, from left to right, clockwise: abrasive web; foam abrasive block; two rolls of aluminium oxide paper; grey lubricating paper; Abranet mesh; grey punched half delta sheet; dark grey foam backed finished pad; delta and orbital mesh and punched yellow orbital finishing paper

MASTICS

Silicones come in various grades from exterior to bathroom. It is a complex science: most common silicones use 'acetoxi' curing – smells like vinegar – and there are silicones with either a high or low modulus of elasticity to cope with different working conditions. This matters because it affects the life and strength of silicone joints. Professional silicones should have a neutral alcohol-based curing agent which gives a longer, more secure working life. Mirror adhesives are designed to securely hold a mirror without disturbing and marking the silvered backing. Laminate floor sealant is colour matched to suit a specific hard laminate floor colour. It is useful for filling gaps neatly.

Caulking, such as Polyfiller, is intended for closing cracks and gaps

From left to right: general purpose silicone; bathroom silicone and mirror adhesive. From front to back: laminate floor sealer; caulking and builder's mastic

when interior decorating. It isn't intended for exterior use and lacks structural strength.

Builders' mastics come in two types: water-based solvent free or solvent-based. The first type is useful for general repairs but behave a bit like caulking in consistency. For true strength, the solvent based ones cannot be beaten – use for anything critical.

TAPES

There are a confusing variety of tapes, only some of which are featured here. Hook-and-loop tape has a multitude of quick fix uses. It comes with adhesive backing or without. However, based on experience, I would not rely on the adhesive without using staples as well. Where upholstery meets wood then the plain version is necessary and is available in white or black.

There are various 'tough tapes' but only some meet that description, Gorilla being one of them. More expensive, but so long as the receiving surfaces are dry and dust-free, you will have trouble removing it!

Duct tape is what it says it is – a medium duty tape for sealing ventilation ducts, etc. It is more versatile than that but not as reliable as Gorilla-type tapes.

Silver adhesive tape is intended for sealing edges and joints in silver-faced polyurethane insulation board. I have found other uses for it, but don't leave it where the kids can see it or it will get used to customise toys!

Glass fibre reinforced tapes confer great strength where reinforcement is needed using multiple layers. If you need a waterproof tape, check that it is or buy a suitable tape without reinforcement.

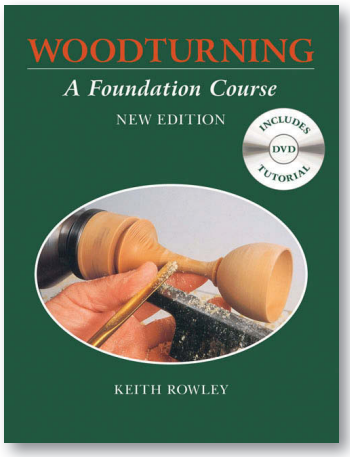
Industrial double-sided tape is thicker with a light fabric layer to reinforce it. Frequently used for jigmaking and routing, but also handy for fixing conduit and other things around the home.

Low-tack masking tape is different to the standard or Pound Shop type because it can be gently peeled away to avoid damaging an underlying paint finish. Some claim to give a really clean paint edge when trying to achieve a neat 'cut line'. ■

From left to right, clockwise: hook-and-loop; Gorilla tape; duct tape; polyurethane board edging tape; glass fibre reinforced tape; industrial double-sided tape and low-tack masking tape

BOOK REVIEWS

We review three books for you to enjoy



Woodturning: A Foundation Course

by Keith Rowley

This is a new edition of Keith Rowley's *Woodturning: A Foundation Course*, first released in 1990, which now includes a DVD tutorial presented by Keith himself. Overall, it is an introduction to the world and art of woodturning, with information on the subject packed in. Keith takes a methodical approach to woodturning, to build up the readers' skills and confidence in turning, in timber selection and choosing the right tools to learning efficient and safe techniques. The text-based guide, as well as good quality photographs and illustrations, has 12 projects for you to try. These projects give you a wide variety of pieces to practise your newly learnt skills on. The projects include a goblet, apple and pear, your first bowl, a platter, bar stool, staircase balusters, plinth, an inlaid nut bowl, twig pot, pepper mill, table lamp and a twist pen. Throughout the book, Keith uses six easy-to-remember 'rules of woodturning'. He guides you through the 12 projects step-by-step and covers between centres and faceplate turning, along with boring, routing and finishing techniques, as well as looking to the very basics, from wood grain and the design of a piece, to courses and where to go for further education after finishing the book.

ISBN: 9781784940638
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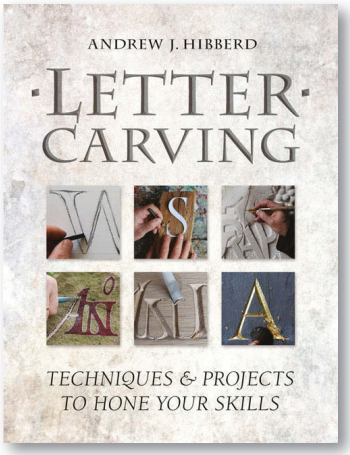

Letter Carving: Techniques & Projects To Hone Your Skills

by Andrew J. Hibberd

Andrew J. Hibberd has released *Letter Carving: Techniques & Projects To Hone Your Skills*, a 192-page guide full of tips, hints and tricks to get your letters exactly how you want them. The author's passion for letter carving in wood and stone is clear to see, explaining clearly all elements of the letters' construction.

Andrew shares key techniques for a beginner to intermediate audience, after the essential background information, examining the techniques in detail. The guide concludes with eight projects, from a simple house sign to decorative lettering on a breadboard and bench. These projects are great to further develop your learnt letter carving skills. It has to be said that there is plenty of information packed into each page, which goes to show just how detailed this book is and how Andrew has provided as much information as he can on each section he covers. The text is also accompanied by a number of diagrams and wonderfully clear and colourful photographs. There are also plenty of photographic examples to help with inspiration.

Although Andrew is aiming towards beginner and intermediate carvers with this book, he also supplies practical tips for professional results.

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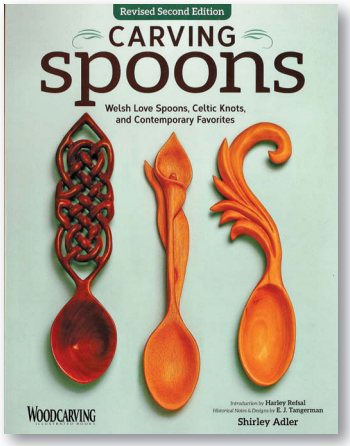

Carving Spoons: Welsh Love Spoons, Celtic Knots, and Contemporary Favourites

by Shirley Adler
– Revised Second Edition

The revised second edition of this book is a bright and fun guide to spoon carving. With an introduction from Harley Refsal and historical notes and designs by E J Tangerman, it is a team effort, resulting in an informative book and creative collection of spoons. The group of designs included make for a 'useful, sentimental and collectable' bunch of spoons.

The print throughout the book is large and the images and illustrations are detailed. The step-by-step chapters are very detailed, with 70 steps for 'carving your first spoon' and 39 steps for 'carving the Welsh lovespoon'. The author even breaks up the instructional chapters, looking specifically at making a curved handle and in the design process, how to make a model, which is also set out in a step-by-step format.

In the introductory chapters there are various tips on tools, sharpening, safety, wood, sanding, finishing, bowl and handle designs. The end of the book serves as a collection of full-size pattern designs, including mix-and-match designs. Shirley doesn't forget to address the possible problems that may arise, providing suitable solutions and for inspiration, includes a short gallery of finished spoons.

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Bosch GLM Professional Laser Rangefinder & R60 Measuring Level

PHOTOGRAPH COURTESY OF BOSCH

Geoffrey Laycock sets his sights on this sophisticated piece of measuring kit

Laser rangefinders have advanced rapidly in recent years and this offering from Bosch, the GLM 80 Professional, is no exception. The combination comes with the R60 Professional measuring rail, which itself is a nice aluminium extrusion with horizontal and vertical level vials/bubbles, both on this example being accurate. The premium price for this 600mm level is due to the socket into which the GLM 80 locks to provide a digital level measuring to 0.1° accuracy.

In use

Using the GLM 80 to measure is simple. Four different reference positions are available: front edge, rear edge – default setting – a pointer that deploys from the rear edge to allow corner measuring, or from the centre of thread of the tripod attachment on the underside of the body. A tripod is available as an extra, as are laser enhancing glasses and target plate – useful in poor conditions and for poor reflective surfaces. When in simple measuring mode, there is also a small display of inclination; one button press changes this to the primary display and switches on the audible horizontal/vertical beep.

In range finding mode it also shows inclination and with one button press this function takes over with a clearer, dedicated display. When measuring, up to 20 results are stored and this may be the first suggestion that it is too clever for its own good. I know that if I take even three measurements I need to have some means of recording what each refers to; the GLM 80 just displays a list. What is useful is being able to add each measurement as you go so finding the total length of multiple skirting, for example.

The need for accuracy

The rangefinder can be set to measure continuously so using it as a substitute for conventional tape is possible and it records the minimum and maximum measurements while in this mode – in other words, find the shortest and longest distances from the measuring point. I tested this function successfully on an old door casing, which I knew was not well installed.

Indirect length measurement allows the unit to be placed on a horizontal surface and then tilted up so the laser hits the target height you wish to measure – for example, the height of a vertical wall but where access to the bottom of the wall is not possible. By measuring the inclined angle and the inclined distance it then calculates and displays the vertical height of the target above the horizontal plane. Think that's clever? It will do the reverse and use the inclined measurement to calculate the horizontal distance. It also

When in measuring mode, a level display is also shown. The display auto-rotates for easy reading

This photo shows the volume measuring mode

Trying to fit the measuring rail into a 600mm gap does not work and fitting any units, shelves and similar is where this level should excel

PHOTOGRAPHS BY GEOFFREY LAYCOCK, UNLESS OTHERWISE STATED

Laid flat the two bubbles are not accurate, a shame as it can be useful to level in two dimensions

Fitted in the measuring rail you have a clear angular measurement. In this example, the arrows show which direction it would need to move to become vertical. Below a 45° angle it indicates the direction to move to horizontal. Once close to those two positions a variable audible indication tells you when you are close and then spot on

does double indirect measurement not requiring a horizontal plane.

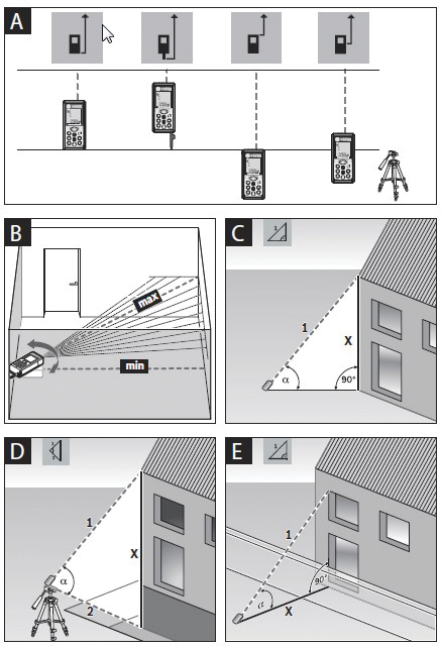
Using with the R60 allows more accurate level measuring. The GLM 80 clips securely into a socket and pressing the 'measure' button converts it to a digital level. Alone and combined with the rail the GLM 80 can have the level function recalibrated but unfortunately the methodology for the two are slightly different and I found the instruction diagrams slightly confusing and the process just a little frustrating. However, once recalibrated, the unit measures accurately.

Lacks ergonomic logic

In use the GLM 80 is accurate and basic measuring is easy. Unless in regular use the other functions can become a dim memory requiring reference to the manual again. A pocket guide is included but as this is purely pictorial it too can seem a bit of a mystery. The display is clear with a two level back-light but I could find no way to maintain the screen light on at full brightness and I have yet to work out what the auto brightness setting does. Whoever designed the user interface – the UI – or what each button does and how, needs to go on a good ergonomics design course as logic seems slightly lacking.

To end on a positive note, I used the checking protocol to ensure it was measuring accurately and consistently. My target was measured at 4716.4mm to 4716.9mm away measured 10 times, so those 10 measurements showed variation of a maximum 0.5mm or 0.017% at that distance.

The included beep function indicating horizontal and vertical would be useful fixing that new kitchen cupboard, but think again. The common unit size is 600mm wide, to fit inside it would need to be less than 564mm long. Also a problem is using between already installed units for example to level an extraction hood. I'm tempted to saw one end off…..



This extract from the manual shows the four measuring positions on the rangefinder and four of the measuring functions available

Verdict

This combination is accurate and highly functional albeit in a 'could-do-better' ergonomics way. It is expensive and I would suggest most users save some money and buy a cheaper and simpler rangefinder and a dedicated digital level. Both requirements can be satisfied by other excellent pieces of kit in the Bosch range. ■

THE BOTTOM LINE

Price: £195 (inc VAT)
Web: www.Bosch-Professional.com

Geoffrey Laycock

Geoffrey Laycock is a regular contributor to our sister magazine, *Furniture & Cabinetmaking*. Outside of his woodworking and engineering activities, he is a Chartered Ergonomics, Human Factors and Safety Consultant.

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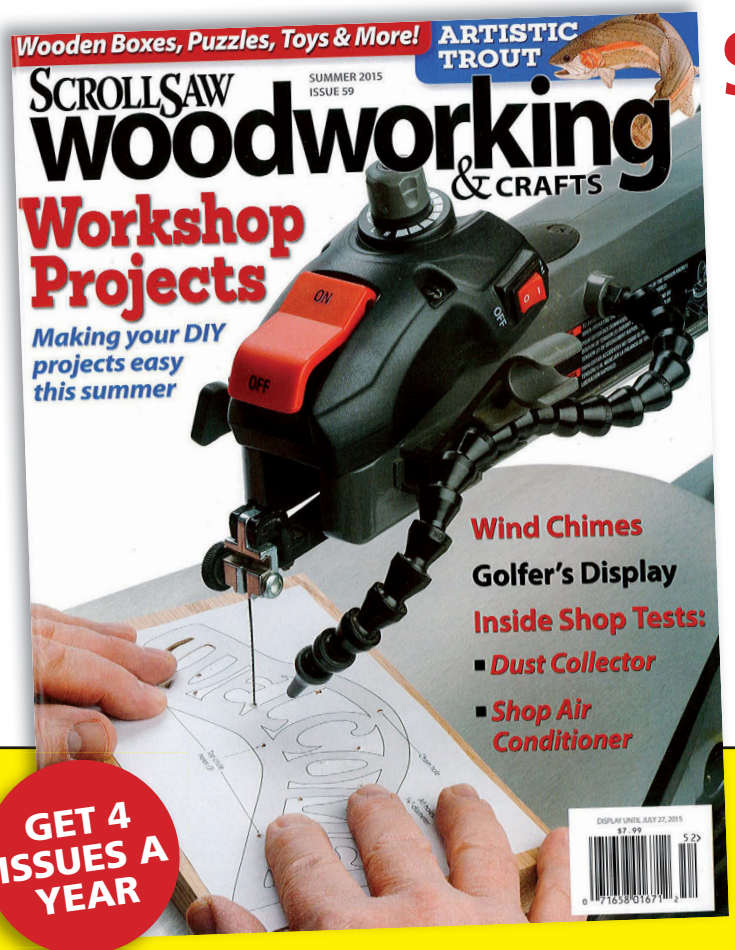

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GREEN WOODWORKING Tools of the trade

Peter Wood, current 'log-to-leg' world champion chair bodger, takes us through a gamut of green woodworking tools and devices used to create wet wood wonders!

In this article I will work through my basic greenwood tool list in order of use for the production of a chair leg, but tools for chairmaking will be covered in a later article.

I do love the look and feel of tools both old and new and have been known to pore over catalogues and search around car boot fairs for the extra tool, but as I run a business, each extra tool has to earn its place by either speeding up the making process or adding to a better finished product while justifying the additional cost! Luckily, I can tell myself that students on my courses need to see and try out a wide range of tools, so I just really should buy that new tool! For the initial conversion of logs to a convenient size, a chainsaw is my best friend but for small diameter wood, a bowsaw is more than adequate for the job.

PHOTOGRAPHS BY PETER WOOD

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!

Web: www.greenwooddays.co.uk
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WEDGES, AXES AND FROES

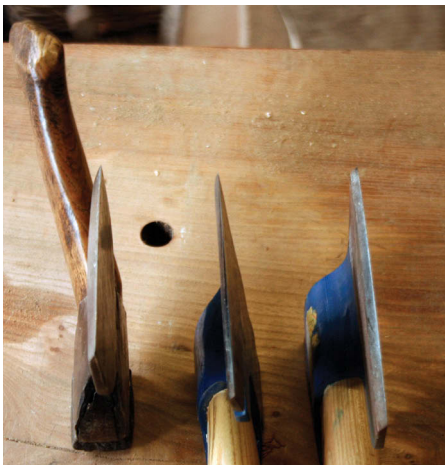
Clockwise from top: a wooden glut; two metal wedges and three mallets – note the tapered handle of the bottom one

Axes for splitting and shaping. The first five are side axes; a left-handed at the top; two blue Austrian axes; two Kent pattern side axes – note the curved reground blade, which works better, and a simple splitting axe for cleaving

I split wood with a variety of wedges, an axe and a froe. I use a series of metal wedges and wooden gluts to cleave longer lengths of timber in half, to protect my back when moving the logs around. When first collecting tools, it's best to make two sets of gluts: while you're using the first softer green ones, the second set are seasoning and hardening. Mallets are simple to make: I like to use the leftover knotty ends of branches. Simply shaped, a gradual taper is stronger than a sawn handle. I prefer to use a simple hatchet and mallet when cleaving short pieces; it gets my hand away from the mallet but be aware, the eye of the axe will slowly widen, loosening the handle. The froe is perfect for cleaving longer pieces, especially when used in conjunction with a cleaving break.

Two froes for cleaving

SIDE AXES



Three side axes: one left-handed with a cranked handle

Side axes are used to trim the billet or perform any rough shaping that's needed – mine's the left-handed one while the others are the cheaper end of what's available. Choose one that suits your wrist strength and wallet but while I like having the flat edge, others are happy with a carving axe or you can just regrind your axe with a longer bevel on the cutting side. The cranked handle is designed to keep your knuckles safe.

CHOPPING BLOCKS

Make as many chopping blocks as possible, nice and stable, each at a different height so when working billets of different lengths, you keep a straight back. You tend to notice the effect of not doing this in the second or third decade! Cover your chopping blocks when not in use – a cardboard box will do – this prevents dust and stones migrating into the top, which damage the blade of your beautifully sharp axe. A simple block can also be made from a forked branch.

Simple chopping blocks made from a slice of ash and three branchwood legs. Make sure the legs have plenty of splay

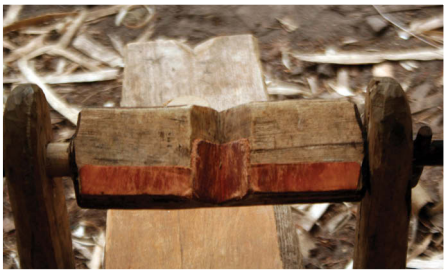
Chopping block made from a forked branch

Traditional shaving horse. The wedge has three sides of different lengths so can be turned for adjusting for different sized billets

A different shaving horse design with one piece body. It's good for travelling with a shorted body and less parts to transport

SHAVING HORSE

Shaving horses are a traditional coppice worker's 'tool of the trade' and there are many styles, each adapted to a specific job. My favourite at the moment is the one-piece – it's simple to transport, though some extra holes in the swinging arm enable it to cope with a greater variety of billet size. The traditional English design makes adjustment easy. Just by turning the wedge, you can customise the horse, maybe a carved seat – experiment with placement, as the one pictured was carved too far forward for me. Pegs at the end keep your drawknife to hand or leather on the top bar, which stops the billet slipping and a notch when shaping awkward pieces.



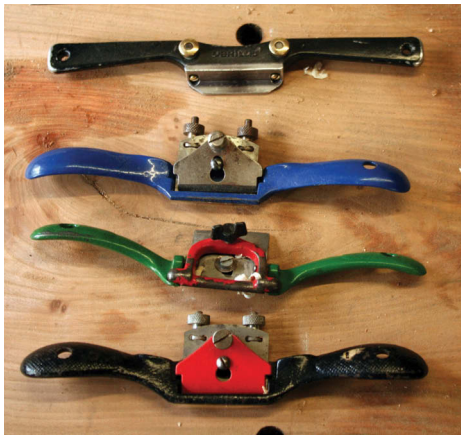
The top bar of the shave horse can be modified to suit what parts you are working. The flat surface and groove reduce sideways movement of billets and the leather reduces slippage

DRAWKNIVES

Drawknives are used in conjunction with the shavehorse and come in all shapes and sizes. If you get the chance, it's worth trying out several, as each works differently. I sharpen mine with a small back bevel so the flat side has more of a knife edge. I tend to work with the bevel upwards using a slicing cut, unless I need to get into a tight radius. The bevel is low as I'm working the wood while green and soft.

Handle size and shape make a real difference when using them over a prolonged period. Too big and your hand tires quickly; too small and not enough grip. I'm not a fan of button handles: they feel awkward but other people love them. At this point, I feel you have all the tools necessary for making the parts for a ladder-back chair; other tools may speed the process but keep things simple.

A series of drawknives – note the variety in size, different shapes of blade and handles



Four different modern metal-bodied spokeshaves

SPOKESHAVES

To refine the finish I'll use my spokeshaves; they can remove large amounts of wood or take the lightest whisper of a shaving leaving a silky smooth finish. Both metal and wooden work well. The geometry of the wooden shaves is different with the bevel up giving a lower cutting angle and, theoretically, a cleaner cut. Use the tool on a skew to further reduce the cutting angle and you'll get a smooth finish even on end grain. The top black metal shave is a modern Veritas version of an old wooden shave; the low angle and thick blade reduces chatter; the green shave is from Kunz – I love the adjustable throat, but the blades are no good so I replaced it with a cut down Japanese plane blade, which works a treat.

WOODEN SHAVES

A selection of wooden shaves – note the orientation of the blade is different to the metal shaves. It results in a lower angle and so a smoother cut

The wooden shaves, when sharp – which can be tricky – work well and are worth searching car boot sales for, just watch out for worn soles. The big one at the top is good for rough shaping of spindles while third from the top is a modern version, a little bulky but produces fine shavings. The bottom tool is really a scraper with a rounded profile for producing spindles.

POLE-LATHES

The final set of tools is for the pole-lathe, which I use for turning all the little treen I produce as well as the turned parts of the chairs. Make your machine fit you and the task in hand – you're using your own energy to power it so fettle until it's comfortable. It needs to be the right height, the right length, and you need to know if the adjustable poppet is right or left-handed.

My first lathe was made from an old school bench and is still going strong. Any wood will do for most parts – just make sure it's stable, either with widely splayed legs or pegged to the floor. This stability makes a great difference. The treadle on this one is adjustable so you can move the string that powers the lathe without taking the piece of work off. I favour using a pole rather than bungee cord if I can help it, as I find the pole gives a more even 'spring' and if set right more revolutions, so therefore more efficient.

My main pole-lathe: adjustable head and tailstock and a treadle with a swinging arm, which makes it quick and easy to change where the string of the lathe runs

CHISELS

I use a simple set of four chisels for 99% of my turning – they don't need to be specific turning chisels as the low speed of the lathe reduces the forces on the tool. To start, a large gouge for roughing out. On the photo, from left to right, we have a carving chisel from Bristol Design; a new gouge from Ashley Iles; a carpenter's gouge and my favourite large bulky car boot sale find, the first tool I bought which didn't have a handle, so the first bit of turning I ever did was to make a handle while holding its tang – not recommended, but it's served me well. A wide flat chisel for smoothing, 50mm is a good size, though I've been told the bodgers would use up to 75mm wide. Here we have my favourite – a light patternmaker's bevel-edged chisel, a carving chisel, a modern greenwood turning firmer from Ashley Iles and a simple modern bevel-edged chisel. I like the extra length of the longer handles, which enables more precise adjustment.

Finally, some spindle and skew chisels to produce the patterns while turning. All of the tools are sharpened to a much lower bevel angle because of working the softer green wood. The blades then cut efficiently and give a 'polished' finished with no need for sanding though burnishing with a handful of shavings helps.

Four different roughing gouges used to smooth the draw-knived billet. A wide shallow curve suits me

There are your basic tools for getting from a log to a leg! It takes longer to describe than actually turn, with chair bodgers racing to turn a pair of chair legs from the log in to the leg in under eight minutes! And here's my set of world champion turning chisels! ■

My main set of pole-lathe chisels, from left to right: heavy-weight gouge, delicate 45mm bevel-edged chisel, standard spindle gouge and skew chisel

Four different flat smoothing chisels

Ask the Experts

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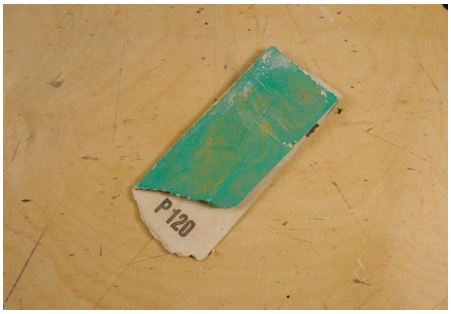
SANDING SCRATCHES

"I have recently bought a table from an auction thinking that it would be a good project to refurbish. I liked the design – a pedestal table in a combination of walnut (Juglans regia) *and sycamore* (Acer pseudoplatanus) *– but the surface finish and some of the wood was badly damaged and stained colour-wise, so I set about stripping it back and re-dyeing it to even up the colour. My problem is that when dyeing it, the sanding scratches show up and I cannot seem to get rid of them."*

Grant Williams – by email

Here you can clearly see the sanding scratches

Always start at the coarsest grit grade necessary to remove all the damage



Worn out 120 grit abrasive is not the equivalent of 240 grit

Wipe over the surface being sanded after each grit grade

If you are going to paint the work, do not use too fine a grit grade

Always hand-sand the piece 'with the grain' using the final grit grade

Mark replies: I too have encountered this problem on both flat, sculpted and turned work. I know it is frustrating when it happens – lots of hard work and then it is back to square one to try and rectify it. It is often the scratches that run across the grain that are the ones that stand out like a sore thumb. Here are a few pointers that may help when sanding work, whether using a power or hand form of sanding.

- Always start at the coarsest grit grade necessary to remove all the damage on the surface being sanded and work through the grit grades sequentially. Never be tempted to skip a grade. The first one used removes the damage and the second one removes the scratches left by the previous grit. So, if you start at 120 grit, then go to 180, 240, 320, 400 grit and so on as required.

- Worn out 120 grit abrasive is not the equivalent of 240 grit – it is blunt 120 grit. Throw the blunt bit away and use a fresh piece. You can see clearly whether it is cutting properly.

- It is prudent to wipe over the surface being sanded – using a tack cloth or similar – after each grit grade; this will remove any rogue grains of abrasive that get dislodged during sanding.

- If you intend to paint the work, do not use too fine a grit grade. Often,

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Wipe over the piece with a cloth dampened with methylated spirits to check if everything is sanded properly

Good lighting is essential for checking for any surface finishing anomalies

180 grit is fine enough when using softwoods. Paint needs a key to lock into – use too fine a grit and the paint will sit on the surface and not key to the surface properly.

• An old trick is to always hand-sand the piece 'with the grain' using the final grit grade.

• If you are unsure whether you have everything sanded properly, you can always wipe over the piece with a cloth dampened with methylated spirits. This will give a temporary slight sheen to the surface which, with the aid of good lighting, helps to highlight any errant sanding scratches.

• Good natural lighting helps no end in identifying any surface finishing anomalies. If you do not have natural lighting in your workshop, take the piece outside and inspect there. Natural light is so much better than man-made lighting sources.

Bad reaction

"When I work with some timbers or MDF, my skin seems to go a bit blotchy and uncomfortable. Am I imagining this or is it dermatitis, because it goes away later?"

Bob Hewings – by email

Anthony replies: You are quite correct, Bob, it is known as contact dermatitis – something I have suffered from in the past although, thankfully, it doesn't affect me much now. Once the source of irritation is removed, the problem goes away. It may be that using a barrier skin cream before working may help the problem. Also, wear construction work gloves so long as they aren't contaminated inside. Latex gloves get very sweaty and uncomfortable and tear easily, so I don't recommend them. To be honest, barrier cream is probably your best option.

Gloves such as these cowhide ones are ideal for protecting yourself against potential skin irritation

PHOTOGRAPH COURTESY OF WWW.PRINCESSAUTO.COM

Things to do in August...

It may be August and the holiday season but there is no excuse to give up on the woodworking. Is the garden really all sorted? Fences repaired, shed roofs refelted and paint on the summerhouse? I've just finished all of mine after a heavy stint of work.

Simple pergola

How about buying some standard treated 'eased edge' softwood stock to build a simple design of pergola? It's easy to cut to length and do some halving joints and use galvanised coach bolts to assemble the whole thing. Best of all, if the weather behaves itself, you can make the whole thing outside in the sun and have a 'staycation picnic' once it's all complete. Then, maybe it's off to the garden centre to find some climbing plants, or roses, for instance, which can be planted ready to make an advance on the framework next year.

PHOTOGRAPH BY CHRIS GRACE

Chris Grace's pergola

Quick boardwalk

Or, what about a boardwalk made from old pallets? I've made one that lies across shingle in part of our garden: it's comfortable underfoot being naturally warm in the sun and it gradually goes a silvery colour when left out in the open. Simply cut a pallet apart and rebuild it so you have close boarding on top of two pallet rails. On earth or grass, timber treatment is essential but on shingle, it's nothing at all to protect it.

PHOTOGRAPH BY GMC/ANTHONY BAILEY

Simple but effective boardwalk made using old pallets

Coming next month in Woodworking CRAFTS

PHOTOGRAPH BY LOUISE BIGGS

Step-by step French polishing

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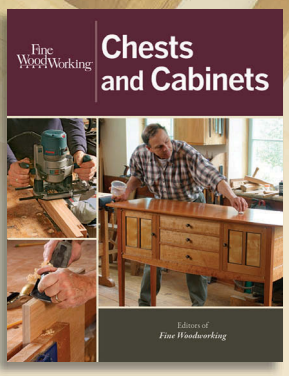

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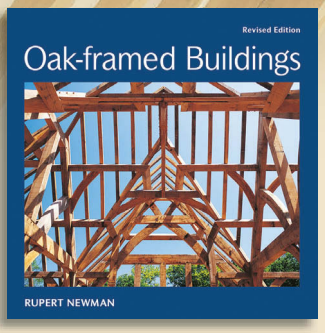

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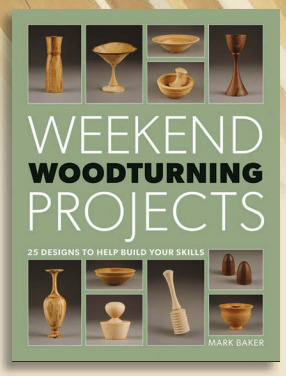

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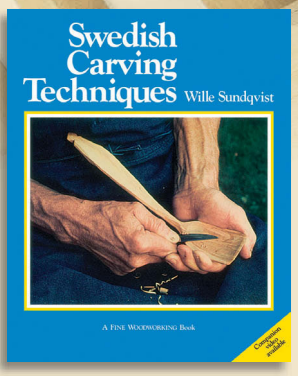

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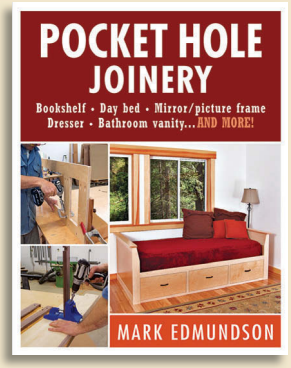

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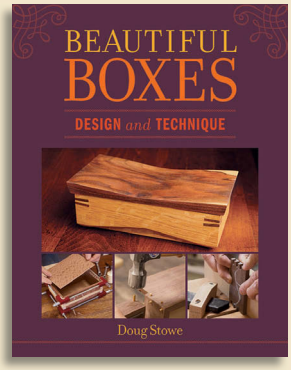

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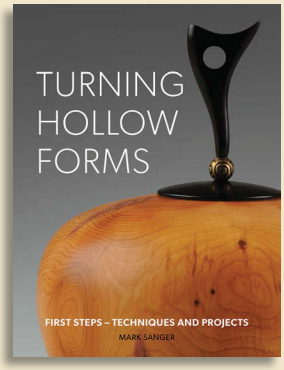

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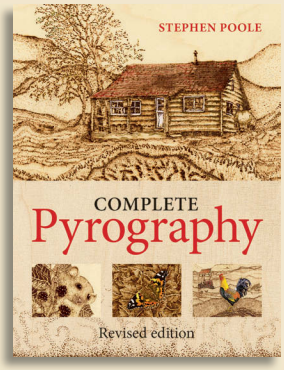

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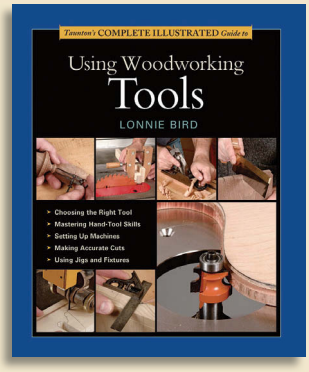

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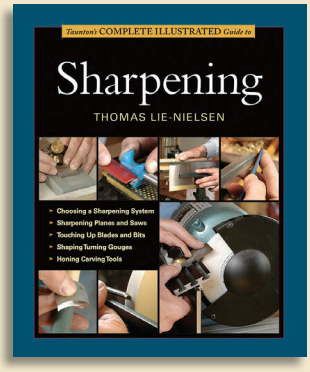

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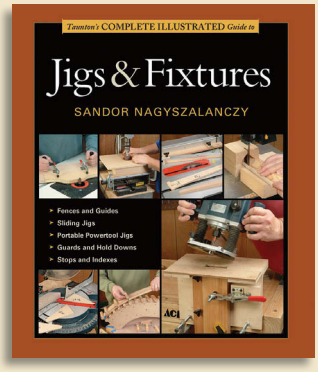

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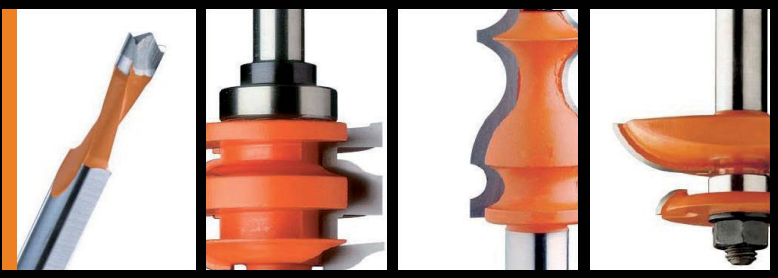

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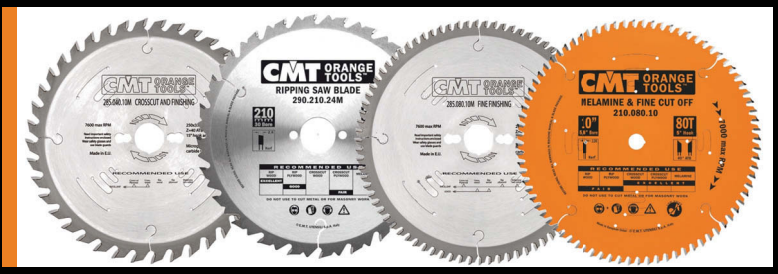

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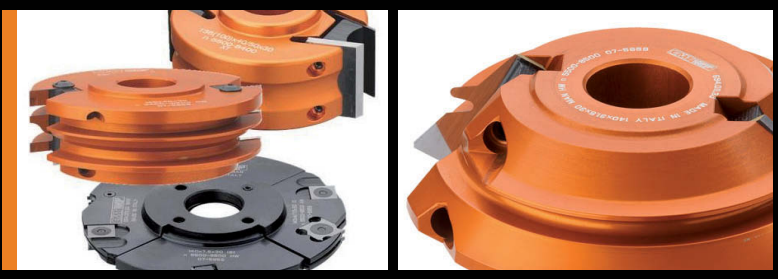

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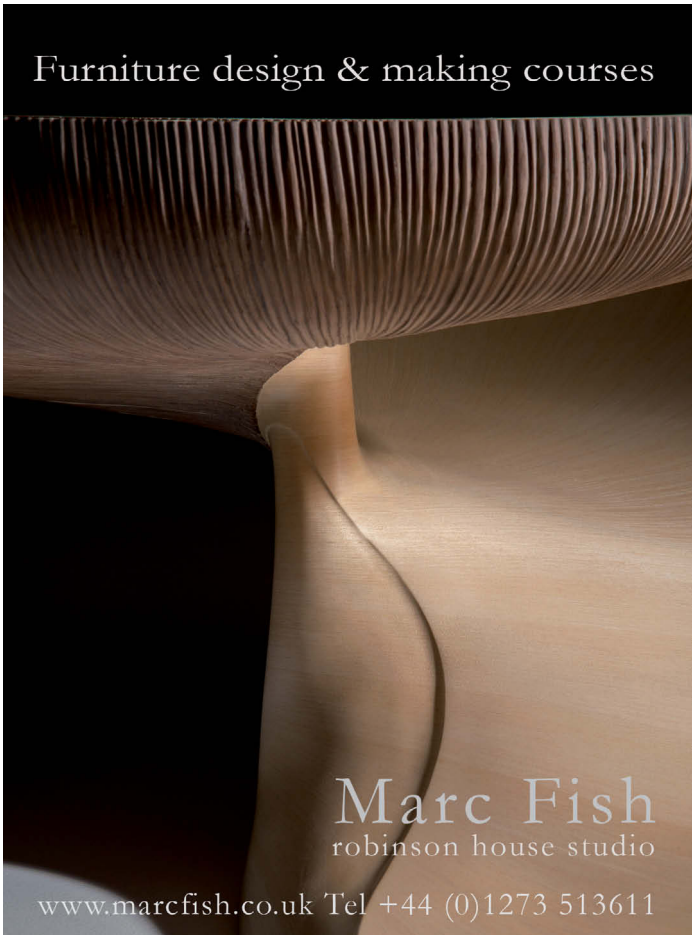

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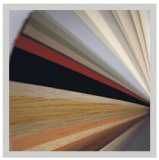
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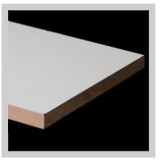
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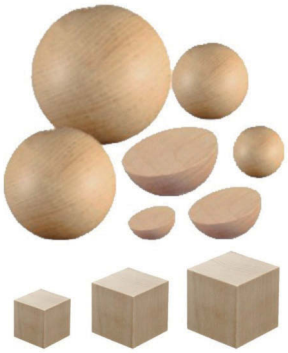

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