February 2016 Control Contro

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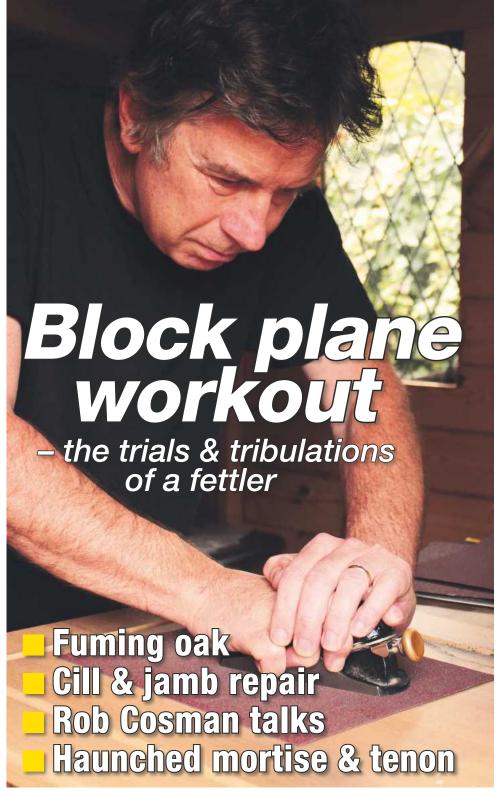
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Welcome



nyone who's worked in the same town for many years will likely have experienced the – hopefully good – feeling of reacquaintance when coming across a past job unexpectedly. From an architectural feature here to a pair of balcony doors there, I always get a warm glow whenever I see my work still out there in the big wide world and being used for what it was originally intended.

refr us woodworkers in particular, this revisiting a job is not just a pleasant excuse for some fond reminiscing, but a very useful learning opportunity with regards to timber movement, wear and tear and even, from an aesthetic point of view, whether a piece still looks good in a new or changed environment. On a return visit to an old customer, it can be quite startling when one beholds, say, a fitted cupboard which has shrunk like a wool jumper in a hot wash over the space of a year or two, but there's every chance that the house-holder won't be too concerned, having lived with the gradual change over the passage of time. There's often the opportunity for a little maintenance for the small problems, but even the sight of a job-related 'disaster' gets easier to bear as the years slip by, and those in particular are the lessons

I was in a restaurant the other night when I got a text from my daughter, also eating out, with a photo and the query 'did you make these?'. The answer was yes and we had a little chuckle over food-related jobs and the urgency that always seems to be a necessary part of the commission. Recent projects have included the tray-boxes pictured alongside, just part of a large number of assorted serving platters and similar. After mostly one-off jobs, I always find something very pleasing about making a batch of items. After the initial design and the making of a test sample, once the materials are all in it's just a question of turning oneself into a human production line. By imitating the most desirable aspects of a factory robot, it's possible to achieve a high rate of production, satisfy the strict demands of one's own built-in quality control, and to ultimately meet those tough deadlines

So, while it's always good to meet up with old woodworking jobs, what about the ones that got away? With the widespread availability of digital cameras, there's practically no excuse to not record one's every creation (although sometimes the desire to get the van loaded and head home over-rides every other thought), but in the earlier days, many a job was simply waved goodbye and left to its own devices. Occasionally one might resurface (like half a reception desk from a much earlier shop fit did for me recently in a hairdressing salon), but, like those old friends we've lost touch with, we just go on fondly hoping that our paths might cross again one day.



You can contact Mark on mark.cass@mytimemedia.com



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February 2016

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In brief...



THE HUNT IS ON!

Marking its 115-year heritage as a quality tool brand, Wolf Tools is on the hunt to find the oldest surviving Wolf power tools. It's time to go rooting around in your workshop to see what you can uncover! The people with the five oldest examples of Wolf power tools discovered will be offered an exchange for a brand-new Wolf Ultimate cordless impact driver, worth £99. See it in action here: www.ukhs.tv/Tools/Power-Tools/Wolf-Ultimate-10-8v-Impact-Driver.

If you have an old Wolf power tool in your workshop, all you need to do is register the model, its approximate age and if possible, email a photo along with your name and contact details to: toolhunt@wolfdiy.com. The offer closes at 5pm on Thursday 31 March 2016. Good hunting!

A rich history

The Wolf Tools brand was established in England in 1900. The company built an enviable reputation for quality and supplied all power tools to the British aviation industry before and throughout World War II. Since 2001, the company has invested heavily in R&D and produces a comprehensive range of products globally, giving it a competitive edge in developing technologically superior, innovative tools offered at very affordable prices.

Today the Wolf Tools brand has again become synonymous with quality power tools. The new and extended product range offers power products ranging from cordless and mains voltage power tools, air compressors, air tools, car jacks, garage equipment, generators, power washers, water pumps, to welders and woodworking.

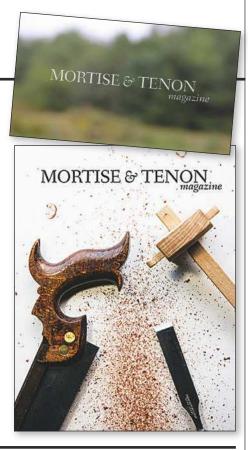
ARTISAN FURNITURE MAKERS IN PRINT

Mortise & Tenon magazine is a print publication currently under development, which seeks to bridge the worlds of furniture maker, conservator, and scholar.

This isn't a typical woodworking magazine (although, obviously there's nothing wrong with those!) and you won't find the usual mix of projects and technique articles.

M&T exists to showcase premier furniture artisans and scholars in an elegant and artful manner. The magazine is printed on uncoated 70# matte paper with a minimalist photography-saturated aesthetic.

Pre-order your first issue today from Classic Hand Tools – www. classichandtools.com. Issue one is currently being produced with an estimated arrival of February.



RUGGED ILLUMINATION

Makita has recently added a rugged site work-light to their range, which can be powered by mains or using Makita's high performance Li-ion batteries. The 20 0.5W LEDs deliver 750 lumens on high mode, giving a bright and even light with full beam option, or 450 lumens on low mode, which can be accessed via the simple push



button control. The light unit is mounted in a rugged moulded carry cradle with flat base and top handle that can serve as a hanging bar. A simple rotating knob releases the angle setting, which can spin through 360°.

Ideal for site operations this work-light features Makita Extreme Protection
Technology, XPT, which protects against water and dust ingress. It has three tripod mounting options as standard.

The work-light is compatible with 14.4V and 18V Makita Li-ion batteries and runtime is dependent on battery capacity. For example, a 14.4V (1.3Ah) battery will give around one hour on high or two hours on low, whereas an 18V (5.0Ah) battery offers 8.5 hours on high or 17 hours on the low setting. Priced at £117, see www.makitauk.com for more information.

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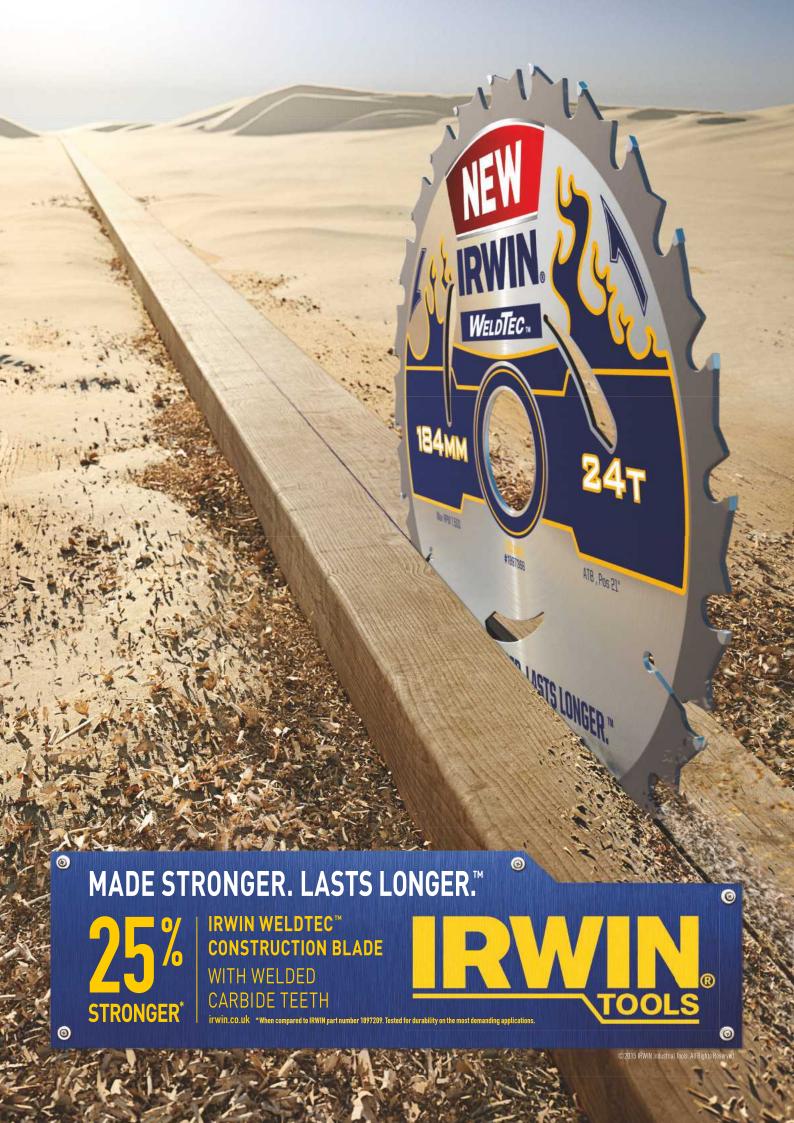
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SYSROCK BR10 WORKSITE RADIO

MANUFACTURER: Festool
D&M GUIDE PRICE: £124.95

Festool has introduced a new lightweight, compact and powerful worksite radio, the SYSROCK BR10. To make sure nothing gets in the way of your music enjoyment, SYSROCK combines excellent sound quality with a compact, lightweight design. The stats are 192 imes 149 imes 94mm with a weight of 700g (excluding the battery). This means it comfortably fits on any window sill, for example. Thanks to the Bluetooth interface and integrated hands-free function, with SYSROCK you can not only listen to your favourite radio stations but you can also play your favourite tracks from your smartphone with SYSROCK sound quality - all while remaining free for your customers to contact you. On top of that, additional mobile devices such as MP3 players and tablets can be connected via the AUX-IN input. Set your site up in no time with SYSROCK - its large, unfussy buttons (ideal for use on site), backlit LCD display and intuitive operation make it incredibly easy to use. It can be powered either from the mains or by battery (not supplied).







KSS 40 18M BL 18V CORDLESS BRUSHLESS CROSS-CUTTING SAW SYSTEM

MANUFACTURER: Mafell **D&M GUIDE PRICE:** £749.95 (inc VAT)

When it comes to internal finishing work, there is no better helper than the new KSS 40 18M bl from Mafell, whatever the task in hand – be it for floors, walls, doors, furniture, ceilings or roof battens – to make cross or rip cuts, rail-guided cuts, mitre or compound mitre cuts at angles up to 45°, or even plunge cuts. With cutting depths of up to 42mm, the new KSS 40 18M bl covers up to 80% of the applications arising on building sites and ensures clean cuts – with the accustomed high Mafell performance.

Thanks to its low weight and cordless operation afforded by state-of- the-art battery technology, the new KSS 40 18M bl is extremely easy and convenient to use. The innovative, high-performance 18V lithium-ion battery technology achieves superb cutting quality and the battery is processor-controlled and automatically monitors all the relevant parameters, such as charge and temperature. The KSS 40 18M bl offers all benefits of five saws in a single case since it can be used as a cross-cut saw, plunge cut saw, shadow gap saw and portable circular saw with or without the Flexi-Guide. So, wherever you are, you always have the perfect, portable saw at your fingertips in a matter of seconds.





BY ANDY STANDING

Flush fitting

Continuing his series looking at various mortise & tenon joints, this time Andy Standing examines the haunched variety

he haunched mortise & tenon joint is used to join frames at their corners, where the outside edges are to finish flush. If a standard mortise & tenon was used, the mortise would be open-ended, in fact a bridle joint, which is considerably weaker. The answer should be simply to reduce the width of the tenon; however, that would leave part of the rail unsupported and liable to twist, so the haunch is made. This is effectively a short tenon, which fits into a groove above the mortise on the end of the mortise member. It must be long enough to support the rail, without weakening the mortise member. This joint is also used in grooved frames for panelled doors, with the haunch being the same size as the groove and the tenon being the same width. In this case, it is usually easier to cut the groove before cutting the joint. WW

TOOLS

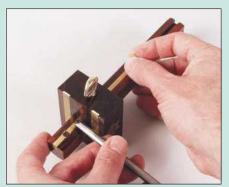
- Pencil
- Mortise gauge
 - Chisel
 - Mallet
 - Tenon saw
 - Vice



1 Using a try square and a pencil, start by marking the tenon length. This should be about three quarters of the width of the mortise member



2 Using the single pin on the mortise gauge, mark the width of the tenon. This should not be more than two-thirds of the width of the rail. Continue the line onto both sides of the rail



3 Set the width of the mortise gauge using your chisel. The width of the mortise should be close to one-third of the width of the workpiece



4 Mark the tenon width on the rail with the mortise gauge. Carry the lines round onto all faces

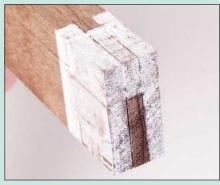


5 Mark the base of the mortise with a pencil and try square leaving about 20mm extra length at the top. This gives extra support while the joint is being cut, and is sawn off afterwards. Mark the mortise width with the mortise gauge - take it right to the end of the workpiece



6 Re-set the mortise gauge, and using the single pin again, mark the depth of the haunch on the mortise member. The depth of the haunch is the same as the width so, for 18mm wide timber, it would be 6mm

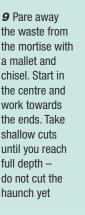




7 Finish marking out the rail. Mark the length of the haunch to match the mortise member and carry the line around the rail. The photo here shows the waste marked with chalk on the rail



8 Using a pencil, transfer the width of the rail and the tenon onto the mortise member







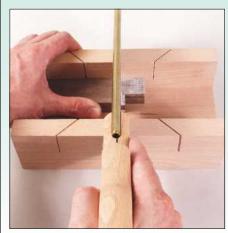
10 Put the rail in a vice and, using a tenon saw, carefully cut inside the marked lines of the haunch down to the marked depth



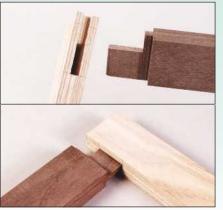
11 Remove the waste with a chisel



12 Put the rail in the vice and angle it to one side. Using a tenon saw, cut down to the shoulder line, keeping the saw horizontal. Angle the rail the other way, and repeat. Finally, set the rail vertically and carefully saw out the remaining waste. Repeat for the other side. You may now cut the tenon to size with the rail held vertically. Do not go right down to the shoulder, but stop at the haunch line



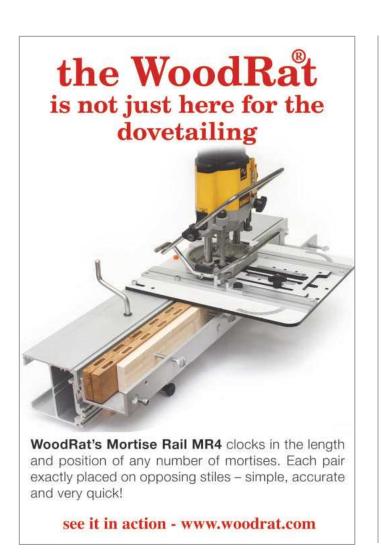
13 Use a mitre box to saw along the haunch line, then turn the rail over and saw through the shoulders

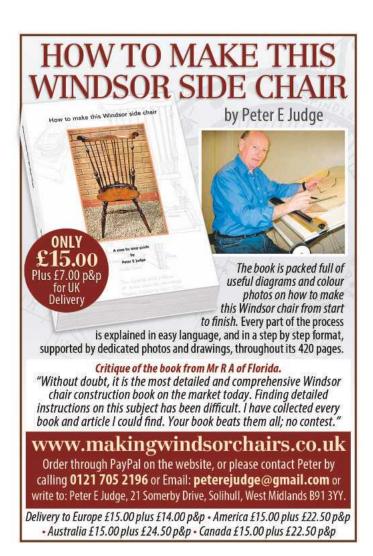


14 The completed components ready for assembly. Test fit and adjust if necessary. The joint should be a snug fit, but not so tight that it jams during assembly when the glue is applied



15 The completed joint should look something like this







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BY ANDY KING

Good as new!

Andy King shows us how he went about rescuing and replacing a decaying cill and door jamb

epairs to door frames used to be commonplace; well for me at least, as I used to do a lot of repair and restoration work, so getting a call from my friend's mum asking if I could rescue their decaying cill and door jamb seemed like a good one to work on as a project.

First off I needed to visit the site to assess the amount of work involved, and indeed, if the frame was worth salvaging. The front part of the cill itself was certainly shot, as were a few inches of the lower left jamb but the right jamb was still in good nick, and with the door itself a very well made mortise & tenon construction from excellent timber, worth trying to save the whole shebang.

So after a quick swing over the critical dimensions with the old tape measure, it was off to the workshop for a bit of prep work: a complete cill and a short length of door jamb.

Basic prep

The cill needs a fall to shed water away, a plough groove for the water bar and also a drip groove on the underside so that water doesn't wick underneath. Apart from the plough groove, the rest is shop machined and finished.

Using a decent piece of sapele as my stock, the first step is to square up and size both the jamb and the cill (${\it photo 1}$). Gaining a fall on the cill can be done by hand or machine. If you have a table saw that has a deep enough cut, you should be able to tilt the blade and remove the bulk of the waste with the crown guard safely in place, but I would not attempt to make any cut without it.

If you are lucky enough, a spindle moulder with a suitable cill block may be available to you but for the rest of us, it's either hand planing, or, as I have done here, with a jig on my planer/thicknesser.



Square up and size suitable stock for the repair. I used sapele here



The jig is made by firstly screwing a batten squarely to act as a hook



A second kicker batten is fixed lengthways down the jig



Determine how much of a bevel you need and mark it up on the cill



By moving the cill further along the batten, the pitch alters. Move it until it's parallel and mark the jig

Making the jig and cill

It's very simple to make a jig to bevel work on a planer and it makes the work easy to control and also allows you to get a consistent result. Running the work over the surfacer will do a job, but not to the same uniformity that a jig offers, so it's always worthwhile making one; and if you want to do differing bevels, you can make an adjustable one. I just needed the one bevel, so simplicity won the day!

A piece of MDF or ply as a baseboard and a few bits of batten are all that is required. Marking a square line on the underside of the baseboard, a short batten is screwed to it to act as a hook (photo 2) and keep it firmly in place once you start to run the stock through the thicknesser.

On the upper surface, it's a matter of fixing two further battens along the length of the baseboard: one as a stop for the edge

of the cill to run against; the second as a kicker to set the bevel pitch (photo 3).

If you pre-mark your cill with the bevel required, (photo 4), you can set it on the baseboard and work out the position and/ or thickness of the batten required once the layout line is parallel to the baseboard.

A standard batten can be moved closer to the stop batten to alter the pitch accordingly (photo 5) as long as it doesn't go too far towards it and allow the cill to pivot on it once the feed rollers engage (photo 6).

Once the jig is made, it's a simple matter of running the cill through on a number of passes until the layout line is hit (photo 7). The nosing to the front of the cill can be easily knocked off with a roundover cutter or with a plane and a bit of deft sanding. The underside has the drip groove dropped in, again using a router with a suitable corebox

cutter or with a traditional drip plane if you have one.

Jamb section

The jamb section on this particular frame is simplicity itself, just a rectangular section with a rebate for the door: no bevel or mouldings to speak of, just a small roundover on the outside edge, which can be matched up on site better than in the workshop.

On a complete frame, making the rebate is normally the job of the spindle moulder. Again, the table saw can be employed to form the rebate in two passes but the blade must be fully guarded with Shaw or tunnel guards to make this cut safely.

As I have a Veritas skew rebate plane on the test bench at this moment in time, it fell in with this task perfectly (photo 9). Setting the fence and depth stops accordingly, the



A stop batten is then added parallel to the kicker batten



The jig is positioned under the cutterblock with the hook against the bed

rebate is soon formed, requiring no further finishing. So with the timber prepped, it's off to site (**photo 10**).

Cutting out the rot

The front part of the cill pretty much came away in my hands (photo 12) but the remainder showed a bit of tenacity and I had to split it out with a hammer and chisel (photo 13). The inner section was fairly solid all the way through so I split the cill away up to the water bar so that I could release it and use it again (photo 14). I could then cut out the remainder by sawing through the centre section with a multi-tool (photo 15), to allow it to be levered away.

With the cill out, the left-hand jamb needs assessing to see how far up the rot has travelled. This is easily checked by jabbing a pointed object, such as a bradawl, into all the exposed faces until there is solid timber.

When cutting out any rotten section, good practice is to make a splayed cut when cutting the waste away and preparing the jamb for the scarfed piece. It doesn't have to be a 45° cut, but should be cut so that the splay is at its highest point against the brickwork. This is to ensure any water that runs down doesn't start to wick in through the joint should it move and open up slightly over time.

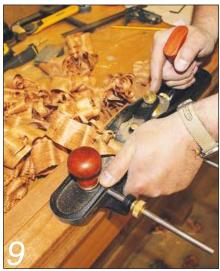
The multi-tool is invaluable and comes into its own on jobs such as this, making a fast and clean cut ready to mark up the new piece (**photo 16**).

With the cill and rotten jamb removed, the cill is cut in first. You can cut a slot to make an open bridle on the tenon where the jamb remains intact, or cut it out if it isn't possible to get it positioned easily.

Once the cill fits correctly the water bar position can be marked up; normally it sits



As the cill is passed through, the bevel is formed. Keep adjusting the height until the correct amount is removed



The jamb needs a rebate formed. This carriage-style plane performs superbly for this



This is the offending cill prior to replacement



After the protection plate is off, the extent of the rot can be seen



Where it has gone so far, it just breaks up in the hand



Breaking the rot out with a chisel exposes good hardwood



After removing the water bar for re-use, the remainder of the cill is removed



The rotten jamb is cut away next. A multi-tool is worth its weight in gold here!

just behind of the rebate line to allow the door to be rebated over it, but I have to consider the original door in gaining the correct position so that the bar does its job. It's simple enough to do this: a combination square can be used to set the correct backset for the rebate, which is then transferred to the cill, allowing a couple of millimetres to prevent any binding.

Make the plough groove using a suitable router cutter (photo 17) or hand plane to allow the bar to be fitted snuggly on a tap home fit once the cill has been installed.

The jamb section is easy to fit; it's just a matter of offering it up alongside the scarf and striking the line. Cut to the line and check the fit, then you're ready to go.

A liberal dousing of Cuprinol wood preserver (photo 18) on all the new and exposed work should ward off any further inclination to rot, so it's ready to fit.

A snug fit on the cill will help keep it in



After cleaning the work area back, everything is ready for a dry fit



Mark up and rout the cill to receive the water bar



Preservative is doused liberally over cut edges and the backs of the new cill and jamb



The jamb is tapped into place with a couple of beads of polyurethane glue



After fixing everything in place, the door is checked for fit

position, especially if the tenon on the good side has been removed.

Once in place, fit the jamb scarf in position using a couple of fixings back to the brickwork and down through the scarf to tie it to the remaining part of the jamb. I also used a bead or two of Gorilla polyurethane glue (photo 19) on the underside and back edge of the cill to bond it in as it's an adhesive that works on many types of materials, not just wood.

If you have had to cut up high enough, the bottom hinge on the door will need chopping back in and fixing before closing the door and checking for fit (photo 20).

If the fit is good, additional skewed fixings into the cill keeps it all in place, although you may need a shim or two against the brickwork to get the hanging gap correct.

A final seal up with suitable mastic or silicone and the repair is done (**photo 21**), ready for a coat or two of paint. Job done!



If all is good, apply a final seal up with mastic or silicone and preservative, then it's ready to paint







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AOB – a forum for woodworking matters

I'd like to extend a big thank you to those of you who have sent in details of timber suppliers in your local area. We're printing the newly revised list here and I'm looking forward to when it covers the entire UK. So if you know of a good wood merchant down your way, pass on the details and we'll add it to the list. I'll be sending Woodworker badges out to anyone who helps thank you in advance and I look forward to hearing from you.

Also, it's recently been pointed out to me that the yearly index of past issues of *The Woodworker* and their contents has failed to appear in print for 2015, for which I apologise. I should have informed readers that the index for 2015 and previous years can be found on our website - www.getwoodworking.com.



Mark mark.cass@mytimemedia.com

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grand display

When approached by a client to make a number of exhibition screens for displaying work at an art show, Keith Smith had to ensure that the tricky brief was filled while still being made cheaply

> friend of ours was hosting a major art show at the West Midlands Showground and needed a number of screens to segregate the various artists and display their work. He had looked to see if he could hire something suitable but the costs were uneconomic so he came to see if we could design something that was within his budget.

> The screens were to be erected in crosses, each made up of four screens, and required a simple method of set-up with minimal need for tools. They were going to be erected on uneven ground so they needed some method of adjustment and had to be reasonably stable to withstand the potentially stiff breezes that can whip through the massive marquees they were to be housed within.

So our brief was to create panels which were attractive, adjustable, durable, easy to erect, stable, and all had to be done cheaply!

Design

My first thought was to use moisture resistant MDF as this would give a good surface to display art; and the pale green colour should be inoffensive enough to avoid the need to paint them. However, the screens needed to be 1,830mm tall (6ft in old money) and 2m wide, which is obviously larger than a standard 8×4 sheet of MDF. We could only afford one sheet per panel so I came up with the idea of surrounding the MDF with a softwood frame, which could incorporate approximately 2ft high legs. This would have advantages in that it would give me a stiffer panel, it would protect the relatively soft edge of the MDF, allow height adjustment through the leg, and give me some way of fixing the panels together.

So we set off to buy enough 2×2 PSE softwood to make the 24 panels we had been commissioned to make. This turned out to be more difficult than we had imagined as we had to reject most of the wood we were offered as it was so twisted. 2×2 is one of the worst timbers to buy when it comes to movement and the way the yards store the very long lengths doesn't help. In the end we went to five different yards to get enough 2×2 for this job. The MDF was much easier to source and I was able to negotiate a good discount for the 24 sheets of 12mm MDF we required.

Construction

I started out by cutting the legs to length; half were 1,880mm long to allow for a 50mm horn at the top; the remainder were 1,780mm long to allow for the adjustable element. The rails were then cut to a length of 1,970mm. I cut 250mm off the length of each adjustable leg and put those pieces to



I used two Dominos per joint because these frames could have a hard life in the future





The foot winds up and down the threaded rod and gives over 100mm of adjustment



I used 2×1 softwood and offcuts of the screen MDF to make the shoes. The parts were simply glued and pinned together

one side while I cut a 12mm wide, 15mm deep slot in one face of the legs and rails.

I decided to Domino the softwood frame together for neatness (**photo 1**), although screws would have worked equally well. I made a sample frame and then used that as a template (rod) to mark out the positions of the Dominos on the various pieces; not forgetting that I was leaving a 50mm horn at the top of each leg.

The next step was to fit the adjustable foot. For this I used 300mm lengths of 12mm threaded rod. Initially I tried stainless

rod but found this didn't work very well; the metal tends to bind on itself and lock up the threaded nuts with repeated use. In fact this was still a bit of a problem with galvanised rod; however, I found that it was less likely to bind if the nuts were turned relatively slowly, and so the quick wind in jig I made for the drill driver was consigned to the bin!

I started by drilling a 10mm hole 100mm deep in the end of each leg, into which I screwed a 300mm length of threaded rod. Next, into each 250mm long leg offcut (foot), I drilled a hole deep and wide enough

to create a good friction fit to house a connecting nut and then drilled a 12mm hole through the centre the full length of the piece. I found it best to drill from both ends and then run a long drill the full length to make sure it was straight and clear. The connecting nut could then be tapped into its housing; it should be a good, tight fit but not so tight that it could split the timber. The foot could then be wound onto the leg (photo 2).

The next job was to cut the MDF to 2m in length and then assemble the frames, which were glued together using water-



The shoe fits on the foot so the projection points inward and can be pegged down without causing a trip hazard

> We have a dolly on which we can stack our bigger projects; this allows us to move the parts around the workshop more easily





With the screens erected you can see the central block of MDF, which holds the four screens together. It doesn't need to be very big as it doesn't provide any stability



I deliberately kept the cap small as I thought it would detract from the look of the screens. However, a bigger cap would keep the cross more stable and it turned out to be quite useful as many people clipped their lights to it

resistant PVA adhesive. Now I needed some easy method of fitting four screens into a cross. For the base I made up an MDF block by laminating strips of 18mm MDF, leaving a square hole in the centre into which I could slot four legs.

For the top joint, I cut a 600mm MDF square (cap) from the offcuts left over from cutting the panels, into which I cut an approximately 100mm square hole. This needed to be a reasonably tight fit but not so tight that it would make it too hard to slide over the tops of the legs when the cross was being assembled. Once the cap was resting flush with the tops of the screens, the cap could be screwed to the top rails.

The final job was to think of some way the feet could be firmly fixed in place. The screens needed to be able to stack flat so that ruled out permanently attaching

anything to the foot, so I came up with the idea of creating a shoe (photo 3). This simply fitted over the foot (photo 4) and could be fastened down with a tent peg. The next step was to assemble a cross in the garden and check that it actually worked (photo 6); this is really a three person job but it is possible to use clamps and manage with just two. They went together really easily and the assembly was quite stable but not completely rigid. The only way to make them absolutely rigid would be to brace one of the legs with some sort of diagonal brace or a couple of guy lines, but that would have created a trip hazard and was ruled out.

Just when we thought we had finished, our customer called to say that he had booked more artists than he had expected and could we make him another 24 screens, by the end of the month!

Two days before the show we went to help him erect the screens. It was a very hot day and stifling in the marquees so we were very happy when they went together without a hitch. The height adjustment in the leg worked really well and was certainly needed on the uneven ground.

The screens were a great hit, and we had quite a few enquiries about them during and after the show as they give such a flexible display area. It was even suggested that we should go into production, but after making 48 of them we decided we had made enough for one year!

If you want to see the screens, and a lot of fantastic art, they will be out again this summer at the Big Art Show, West Midlands Showground, Shrewsbury. It's on from 1-3 July 2016 and is well worth a visit. For more information, see www.thebigartshow.co.uk.



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In your own write.

Here are just a few of the latest letters we've received since the last issue. Drop us a line on paper or via screen and keyboard to add your voice to the woodworking crowd; you might be one of the lucky few who will manage to get their hands on a coveted Woodworker badge!

SNAIL MAIL OR EMAIL?

You can write to us at The Woodworker, MyTime Media Ltd, Enterprise House, Enterprise Way, Edenbridge, Kent, TN8 6HF or send an email to mark.cass@mytimemedia.com





A BIER WITH A TWIST

Hi Mark.

I saw this rig near me the other day, and thought of the recent piece you had on the restoration of a Victorian bier in your magazine. Not quite the same, but do you think near enough? Regards,

Peter Ashurst

Well that's a great photo, Peter and definitely along the same lines as Peter Bishop's restored bier. If any other readers have snapped any other items of interest, I'm always keen to see them.



TIMBER SUPPLIERS DIRECTORY

Dear Mark,

Would you allow me to photocopy page 11 of the January issue, showing the timber suppliers directory? It features addresses and telephone numbers that would be great to have as a colour page from The Woodworker enlarged.

The Woodworker has been my monthly woodworking Bible since the early '80s, and I so agree with many of the sentiments you expressed on January's welcome page. Long may you be with this publication. Yours sincerely,

Sammy Bogle

Well shucks Sammy, it's nice of you to say so, but, like all of us woodworkers, I'm just doing the best I can. Glad you like the mag, though, and this sort of feedback makes it all worthwhile.

And I'm also pleased with all the comments on our developing timber suppliers list; I really hope we can all join in to make it the UK's 'go to' directory for 2016! (see AOB on page 25 for this month's list).

ONLINE INDEX

Hi Mark,

What has happened to the index for The Woodworker 2015? When it didn't appear in the December issue I hoped it might be included in the January 2016 issue, but no luck! I have found that a lot of time is saved if I can flick through the indexes rather than laboriously ploughing through individual copies that I have collected over 30 years. I hope you will take pity on me and publish an index in some future issue.

Regards,

John MacKinnon



The Woodworker index is available online at www.getwoodworking.com

Hi John,

My sincere apologies for this omission. The index is currently to be found online on our website - www.getwoodworking.com - and we'll have to see about printing it again before long.

Mark

Here at The Woodworker we're always pleased to see photos of your work, and we know everyone else is as well! So send them in now and see if you can make the cut.



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In brief...

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comes fitted with premium quality, re-sharpenable HSS knives to ensure a great finish. For optimum setting, both tables are fully adjustable and electrically interlocked to avoid accidental starting without the dust extraction hood in place. For all your home timber sizing tasks, this machine will prove its worth and be a great buy.

Axminster Trade Series AT107PT and AT129PT

For trade workshops there is a choice of machines between the Axminster Trade Series AT107PT and

AT129PT; the AT107PT would also suit the very keen and ambitious hobby user. These models have many similarities: both have cast-iron tables and a tilting alloy fence offering exceptional accuracy and stability. The tables are adjustable and electrically interlocked for safety with an extended support roller on the thicknessing table. Both models come with 1mm self-setting HSS knives and holders for 3mm TCT knives. A pivoting dust extraction hood operates in thicknessing and



surfacing modes. For both models, a spiral cutterblock version is also available, using unique shear cut knives.

The main differences are found in the maximum planing width and maximum thicknesser capacity. Overall, the AT129PT is a bigger, heavier and more powerful machine than the AT107PT, plus the style of the blades for each model is different. Depending on your woodworking needs, either machine would be an excellent choice.

For current pricing and more information, visit www.axminster.co.uk.

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DIARY

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- 20 Scrollsaw course *
- 22 Bandsaws
- 22 Sharpening with Tormek hand tools *
- 25 Sharpening
- 27–28 Woodturning
- 28 Pen making *
- 29 Woodturning refresher
- 30 Spindle moulding *
- * Course held in Sittingbourne,

FEBRUARY

- 4-5 Bowls & platters
- 9 Turning pepper mills *
- 11-12 & 24-25 Beginners woodturning (2 days)
- 15 Pen making
- 18-19 Beginners' routing *
- 24 Kitchen door/jointing
- **25–26** Beginners' routing
- 26 Sharpening with Tormek woodturnina *
- 27 Fine-tuning hand tools *
- 29 Turned boxes
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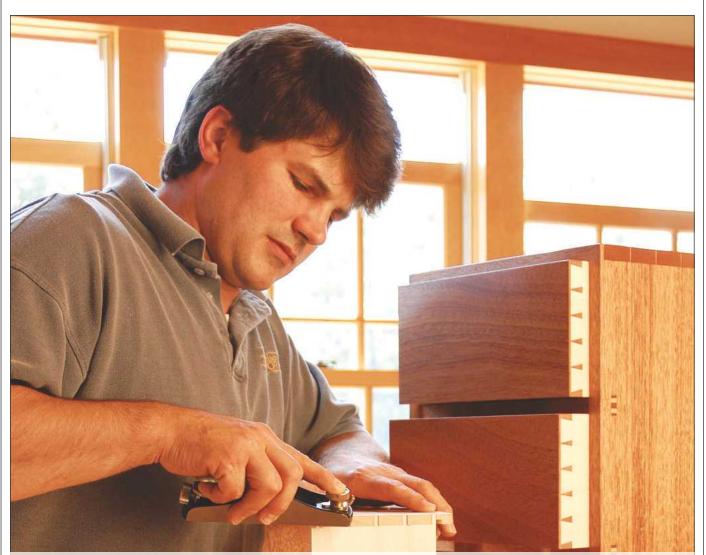
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The FFX Tool Show will be returning to the The Kent Event Centre in Maidstone. Kent from 26-28 February. The full line-up, times and ticket registration will follow soon

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A court with the 'hand tool king'

The 'hand tool king' Rob Cosman describes how he acquired his skills and why he loves passing them on



y father was a woodshop teacher in the early part of his career, around the time I was born. Soon after that we moved from Montreal back to New Brunswick where he started as a contractor, building houses. My grandfather on my mother's side and her grandfather were both carpenters so there was definitely sawdust in the blood. We always had tools and wood and my father built a lot of the early furniture in our home. I picked it up at a very early age. I can't quite say why, but the fascination was there from the beginning – I loved wood and I loved to work it. Before I was 10 I had built numerous go carts, a boat that I christened with a maiden voyage (it's one and only) numerous smaller toy paddle boats and who knows what else.

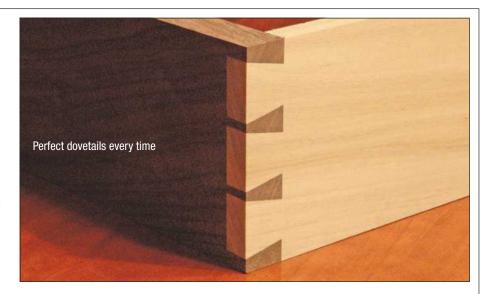
An early start

I got my first workbench at age six, complete with tools. I took some 'shop classes in grade school and loved them. I wouldn't say that they taught me a lot, but being able to spend school time in a 'shop was a real thrill. As time passed I got more and more into building things; we had a Shopsmith, so I had access to a lathe of sorts and I enjoyed turning. My father had done a fair bit of that as well so seeing the turned objects in the house roused my curiosity enough to cause me to explore that aspect of woodwork.

My real break came accidentally during my first year at university. I had attended BYU (Brigham Young University) because of the church connection and having just spent two years as a missionary. I had planned to study physical therapy but soon came to realise I was not cut out for that career.

While wandering through the campus I stumbled across a wood 'shop where students could rent time. I found out the school actually had woodworking classes as part of its teacher education programme. I met Dale Nish and ended up in an advanced furniture class. I found my place and the rest is history.

Dale eventually hired me as his teaching assistant and I spent most of the next five years living in the 'shop. As his assistant I had the keys and I would spend every available hour in there. A typical day would start at 6am; I'd cut a row or two of dovetails before classes started and come back at night to work on commission furniture. I managed to scrounge lots of commissions mostly due to Dale. This kept us (my wife and I) alive and helped pay for my wood habit.



Woodworking abroad

In 1987 I was hired as Peter Korn's assistant at Anderson Ranch Art Center. There I worked with Alan Peters, Tage Frid, Sam Maloof, Monroe Robinson and other great woodworkers.

As graduation approached, those knowing of my plans to return to New Brunswick to build custom furniture warned me of the perils of woodworking for a living. My strategy was to provide the very best work at a decent price. That meant adding speed to precision, my description of craftsmanship.

The purpose of my early morning dovetail practice was first to get it right and second, to get it fast. Alan Peters was my mentor; I adapted his way of cutting dovetails, really, saw cut to saw cut. That seems to have been lost as I read article after article where authors suggest sawing away from the line, then paring to fit. I have always questioned why one would own a lovely dovetail saw only to use it as a 'wasting' tool. The sides of the pin and tail should come from the saw. No test fit either! This robs one of the confidence to do it right the first time. My formula is 70-20-10. 70% of your success is the saw - if it can cut straight the battle is near won. Following that, proper technique is 20%; you have to do it the right way. Practice comes in for only 10%, if you ask me. View the results of any of my thousands of students as proof. In a five-hour workshop we can get three or four out of 12 who's first ever joint is near flawless. The saw has to cut straight.

Teaching for a living

I never anticipated teaching for a living, hearing horror stories from fellow students doing their mandatory student teaching convinced me I did not want to follow that path. However, to my surprise, teaching a group of eager-to-learn students, hanging on every word, was and still is a real thrill. Their success is my success and I find it extremely rewarding. A bonus is the

hundreds of good friends I have made around the world as a result of meeting them as a student in one of my workshops. I work hard to dispel the myth that dovetails are reserved only for master craftsmen; the average woodworker can be taught to do it just as well. A big part of my job is described in the old adage, 'You have to believe it before you can do it'.

The English are my favourite audience; they are so well versed. In North America, most of the audience watch me while wondering what I am doing. In the UK they watch me wondering what I do different to what they do. The UK audiences are tops!

My favourite wood is black cherry. It's lovely to work by hand, I love the smell and it improves with age while others fade or yellow. English walnut is a favourite, too.

I travel to lectures or conduct workshops almost every weekend. I usually leave early Friday morning and return late Sunday night. As a result of staying in touch with students, I am always trying to develop new and better methods and tools for helping them succeed. I have recently been hired to work as a consultant for a large woodworking retailer to develop new tools. I spent a very intense eight years selling high-end hand tools in Canada and found my best technique was to invest the time into teaching them how to use the tools after their purchase. Watching thousands of new woodworkers struggle to learn hand skills enabled me to spot problems with the tools. My suggestions to the company owner on how to improve the tool always seemed to fall on deaf ears. Now to find a company wanting my services as a result of my experience is very satisfying. We have some offerings coming that promise huge potential in the hand tool market. WW

FURTHER INFORMATION

If you'd like to be coached in all things hand tool, then have a look at Rob's website: www.robcosman.com

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www.workshopheaven.com (01295) 678941 recently bought a piano stool at a local auction, with a view to re-selling it. I thought it would be quite a difficult thing to make and, as it posed a bit of a challenge, I decided to make a copy.

Box planning

In my small stock of timber I had a piece of 35mm-thick walnut. After measuring it up I found that it would just make three sides and the arms, so I decided to make a start there. I then took a roll of lining paper and taped two pieces together to get the width roughly the size of the stool. I placed the stool on the paper, which was laid on the floor, and drew around the shape of the front and then the side elevations. This then became my rod.

Most piano stools have a box for storing sheet music and books. The sides of this box were approximately 100mm, so I decided to make mine 104mm, with a 4mm rebate for the ply bottom of the box. The legs are very curved on this stool but there is a straight length at the top of the leg of about 175mm, and is where the joint to the box section is.



Tickling the ivories

Stephen Holliday makes a copy of an antique piano stool with a view to re-selling it

Templates

The next step was to make some templates of the legs and arms, using the rod and the original piano stool components, and draw up a cutting list. By laying out the templates on my timber I was able to make the most

economical and attractive use of my walnut stock, and carefully marked out all the pieces. These were then cut out on the bandsaw.

Next, I cut out the box's front, back and two sides. I squared the ends on a shooting board; it is very important to get the ends as square as possible for the construction of the box and alignment of the legs.

The joints for this piano stool were to be dowel joints, for which I used 8×40 mm dowels. I have some homemade dowel jigs for drilling all of the holes. The only other joint is for the arms, which are a combination of mortise & tenons with a dowel. I drilled the holes in the legs 8×20 mm deep and the sides 8×25 mm deep; this gave a bit of clearance for the dowels. The front, back and sides all needed a rebate for the bottom panel – 4mm or 6mm is OK, but any more and the rebate would break into the holes I'd drilled for the dowel.

CUTTING LIST					
All dimensions are in millimetres					
Part	Qty	L	W	т	
Legs	2	120	75	28	
Front & back	2	510	104	28	
Sides	2	280	104	28	
Arms	1	400	50	30	
Back rail	1	510	90	90	
Splat	1	200	55	8	
Lid	2	510	55	22	

The back rail

The back rail was cut to shape on the bandsaw and then cleaned up and sanded.

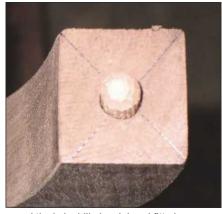




Cutting out the back rail on the bandsaw



A dowel hole on the leg with transfer marking cap fitted...



... and the hole drilled and dowel fitted



Cutting the rebates for the box bottom on my router table



Matching dowel hole in the underside of the arm



Fitting the lid – this will be upholstered later on



The mortises in the back legs, cleaned up prior to assembly



The back legs and back rail all glued up and cramped

I made a mistake with the arms as I cut them to shape first and then tried to fit them onto the back rail. I think it would have been better to cut the mortise to the correct angle into the arm blanks and then shape them afterwards. By measuring the angle for the arms with a bevel gauge, the mortise can be calculated by working out the difference in height from the top of the front leg to the top of the back leg. The arms are joined to the back rail with a mortise & tenon joint. The back rail and arms are joined to the stool with dowels.

Cutting slots

I cut the small slot for the splat cut in the back of the box, which I made using a router. I cut a simpler slot in the back rail. The slot is about 8mm wide, 8mm deep and 55mm long. I didn't use glue when fitting the splat as the original one was loose and it gives it a chance to move as it shrinks. The frame for the lid is made from four pieces of walnut planed to about 22mm-thick and 55mm wide. The stool frame incorporates a ledge for the lid to rest on.

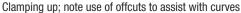


The slot mortise for the back splat



The final glue up; clamping the front to the back





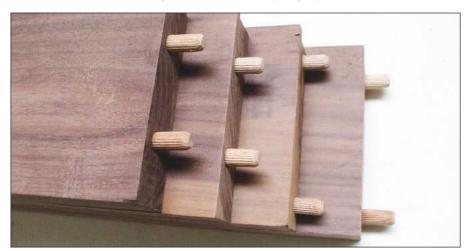


The diagonal clamp helps to keep things square

Fitting the arms

The next job was to drill the top of the legs to fit the arms. I used 8 \times 40mm dowels and found the centre of each leg by marking a diagonal line before making a mark with the bradawl. I then set the depth stop on my hand drill and drilled the holes for the dowels. I used button markers for marking the corresponding holes in the arms and back rail.

I then glued the arms and back rail assembly onto the top of the legs with PVA glue before clamping them up – this turned out to be a fairly tricky job. I then shaped and blended the arms to the legs using a drawknife, spokeshave, chisels, rasps and abrasives. It may take a while but it is worth the effort.



The four sides of the seat box – note staggered dowel positions to avoid structural weakness

The lid

The lid is a square frame joined with dowels and with a piece of ply rebated in to support the upholstered seat. I fitted the brass hinges, making a pilot hole and screwing steel screws in first, then replacing them with brass screws to avoid snapping one off as the smaller brass screws can be quite weak. I turned a small handle and used 6mm ply for the seat, securing it in place with tacks. The bottom panel for the box is made from 4mm ply and cut to size and secured with 25mm nails. WW



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BY IAN WILKIE

Put the kettle on!

Ian Wilkie shows you how to make a laminated mug stand – a perfect project for the newcomer to woodturning

y wife and I were given a set of four mugs for a Christmas present and as they were very attractive, it seemed a shame to put them away in a cupboard and anyway, it is more convenient if they are readily available when a cup of tea or coffee is required.

This is a simple project well suited to the newcomer to woodturning and it is not necessary to have elaborate equipment. It is a good exercise in making sure holes and spigots match up accurately; the exercise covers both faceplate work and turning between centres.

This project is also great for beginners as it only requires a few turning tools in order to make it: a spindle roughing gouge, a spindle gouge and a parting tool.

CUTTING LIST

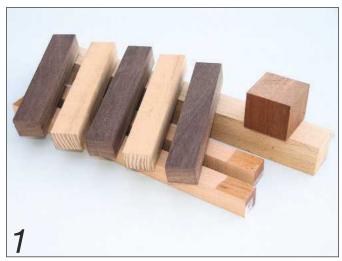
Base: 140mm dia. \times 25mm-thick **Upright**: $35 \times 35 \times 300$ mm **Arms:** $20 \times 20 \times 150$ mm – quantity 2 **Finial & end caps:** $25 \times 25 \times 100$ mm



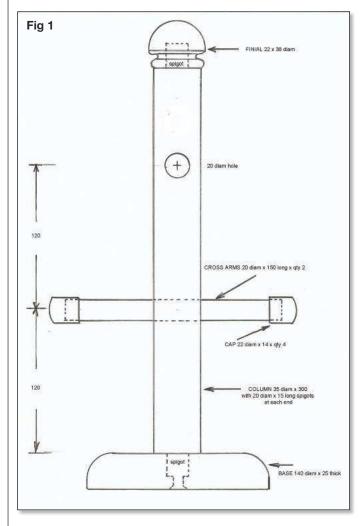
The Robert Sorby Modular blades can be kept very sharp using the Sorby Pro Edge sharpening system



TURNING THE COLUMN



The example here is turned from a walnut and sycamore laminated blank for the base, sycamore for the upright and arms and walnut for the finial and end caps

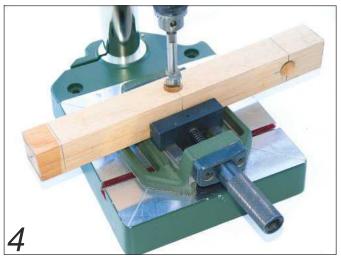




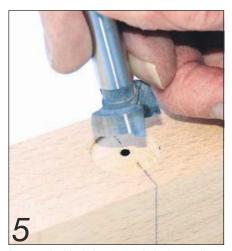
The first step is to work out where your mugs are going to hang so that they will not knock against each other and get chipped. The distance between the base and the first arm is 120mm and then a further 120mm to the next arm, but this will depend on the height and shape of your particular mugs, so do check carefully



Mark the positions where the two holes for the arms are to be drilled. It is easier to drill the blank at this stage while it is still square. The holes must be accurately drilled at right angles or your mugs will slide off!



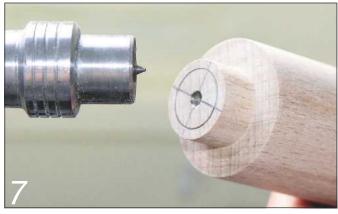
Fit a 20mm sawtooth Forstner bit and drill until the tip of the Forstner bit just breaks through the wood. This is best done in a bench drill with the wood held in a machine vice



Reverse the blank, locate the tip in the small hole and finish the drilling. This will produce a good, clean hole



Mark and centre pop each end of the spindle for the upright and mount between centres using whatever driving accessories you have. I have a limited distance between centres on my Jet midi lathe and the column is about the maximum length I can turn. I am using a ring centre in the headstock. Do take note that this accessory does need to be matched with a revolving centre in the tailstock or it will not work



A ring centre is a good choice if you are a newcomer to turning and it is an inexpensive accessory. It is safe to use because should you have a 'dig-in', which is quite common when you are learning to turn, the wood will spin on the ring and not fly off, which can be most alarming. If the work needs remounting at a later stage, it is a simple matter to match up the centre with the indentation the ring has left on the wood



Turn to the round and check that the column is parallel all the way along

The turning tools are quite straightforward. You will only need a spindle roughing gouge, a spindle gouge and a parting tool for this project and I used the Robert Sorby Modular system. Although, as you can see, most of my blades now have their own handles, you can manage very nicely with just one



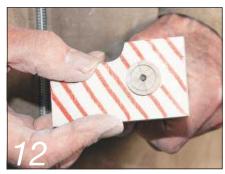


Make a 20mm diameter \times 15mm long spigot at each end with a parting tool. It is well worth taking the trouble to make a small plywood jig to keep with the Forstner bit for measuring 20mm spigots; it ensures they are accurate

TURNING THE COLUMN CONTINUED

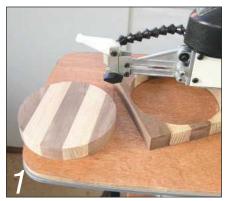


You can then sand well to a smooth finish



Use the plywood jig to check that the spigot will fit tightly in a 20mm hole

TURNING THE BASE



Cut the blank for the base roughly to 140mm diameter. I like to do this on the scrollsaw, which is always out ready for use because it is a safe method. You can cut accurately and it is quick to do



Mount the blank on a screw chuck, face off and shape the edge. Use a drill chuck in the tailstock fitted with the 20mm Forstner bit and drill to a depth of 10mm. Do not go in any deeper because there is a risk that you will hit the end of the screw!



When the base is finished and the work is off the lathe, the hole is drilled slightly deeper to take the upright spigot. Reverse the base and drill a countersunk hole on the underside to take a screw

ARMS, END CAPS AND TOP FINIAL



Turn the two parallel arms to a diameter of 20mm. These slide through the centre column holes and you are looking for a good, tight fit

2

The walnut caps both cover the end-grain and stop the mugs sliding off the arms. Do not make the diameter too large or they will not clear the mug handle. Prepare a glue chuck and the blank and glue the blank to the glue chuck; I like to use hot-melt-glue for this job but do not dither too long because the adhesive dries very quickly!



ARMS, END CAPS AND TOP FINIAL CONTINUED



Bring up the tailstock fitted with a revolving centre and turn the blank to a diameter of 22mm. Mark four divisions along the work, each 15mm wide



Drill a 20mm hole to a depth of 6mm in the first cap. Part off at the first division and continue in this way until the four caps are complete



Make a jam chuck with a 20mm spigot and push each cap in turn on the spigot so that the face can be turned



It is advisable to check that the mug handle passes over the cap at this stage. I had assumed that if one mug went on satisfactorily, then the others would follow suit, but I was wrong! Each handle size and shape was just slightly different and a little adjustment was necessary



Using the same glue chuck method, turn a finial for the top of the column



I chose to use Speed an Eez (light) friction polish to finish the parts and this is applied to the rotating wood while it is still in the lathe

ARMS, END CAPS AND TOP FINIAL CONTINUED

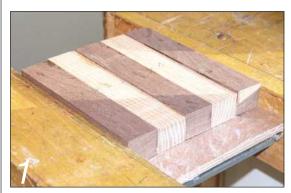


After two coats, the surface can be slightly cut back and then touched with a carnauba wax stick and buffed up to a high shine



It only remains to screw the base to the column, glue the arms in position and then to glue on the caps and finial. Although you may well have a tight fit to start with, wood does expand and contract and a dowel pegged into the column where the arms pass through is advisable. Time for a well earned cup of tea!

LAMINATING A BLANK



Sometimes one does not have a big enough blank for a project or a more striking contrast is required. To make my stand more interesting and colourful, I made the base from walnut and sycamore laminated together. Spindle turning blanks were sliced into five pieces on the bandsaw and passed through the thicknesser to give a uniform thickness of 25mm



The pieces were edge-glued together with PVA to form a square blank and left cramped up overnight in a vice with a heavy weight placed on top





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s an amateur steeped in the lore of hand tools, my woodwork is a journey on which the sights and sounds along the way are as important as reaching the destination. But recently I struck a pothole in the road of this happy-go-lucky philosophy: flattening a banana-soled block plane.

Gentle words like 'lapping' and 'fettling' don't convey the gritty monotony of what I endured in the shed with this pocket-sized plane. A new longest word in the English language is required, one with a string of clashing consonants that makes you spit. The plane flattened me as much as I flattened it.

The Stanley 9 1/2

I bought the Stanley 9 1/2 new about three years ago and - much to my embarrassment - never thought to check if the sole was flat. During that time I restored the gouged and hollowed soles of several old wooden planes to shave another day, but it just didn't occur to me there might be a problem with a metal plane. When I eventually tested the sole for flatness with an engineer's square, I was greeted by a broad smile of daylight stretching from toe to heel, photo 1.

At first I inspected the square, which I had dropped more than once, but it proved as true as the day it left Moore & Wright's Sheffield factory 50 years ago. Nope, this plane's sole was as hollow as a satellite dish. There's no knowing if it had always been that way or had warped over time - perhaps a bit of both.

Thinking back, I had been surprised at the plane's coarse finish when new. The grind marks running fore-and-aft across its bare metal surfaces had been as bold as rain in the headlights, but I assumed that although not pretty, the surfaces must at least be flat - and I put the tool straight to work.

In retrospect, I understood why the plane had not always performed as well as I'd hoped. When the toe and heel had been in contact with the wood, the area in front of the mouth had been lifted clear, so the wood fibres were not pressed down and the blade had been levering them up rather than slicing them cleanly - resulting in tear-out.

In some circumstances, the plane had given better results when skewed, as many do because skewing lowers the effective angle of the blade and achieves a cleaner shearing cut, but in my case, skewing often took the toe and heel out of contact with the wood, allowing the mouth area to land.

Kitchen door

The simplest way to flatten a metal sole is to rub it on a sheet of abrasive, cutting back



A sliver of light between the square and the sole



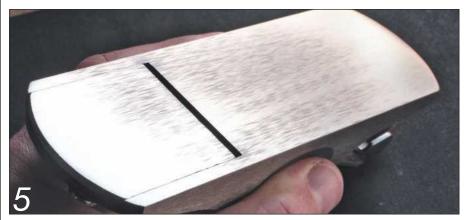
Removing these stubborn machine marks brought closure but wasn't strictly necessary



Early progress was encouraging with flattened areas showing clearly at the heel and toe



With blade withdrawn and lever cap tight, working the sole on WD40-soaked wet or dry abrasive paper



By this stage, progress with the wet or dry had almost ground to a halt, barely having touched the area around the mouth

the high areas until they meet the lows and a common plane is established, so the first requirement was a flat surface to work on. Out with the tool catalogue, and in the space of a cup of cocoa my desire had escalated from a modest plate of safety glass to a top-of-the-range lapping plate and a set of five grits totalling some £130, then reality kicked in and I pulled out the frugalist's alternative – an old melamine-faced MDF kitchen door, which the square showed to be nicely flat.

Besides offering a comfortably large work area, enough for two full sheets of abrasive,

this chunky MDF door has a channel routed around it, which catches the fine swarf generated. If you don't have a spare kitchen door to hand, I'd suggest asking other interested parties before removing one to the shed for this job because it will not re-emerge in show room condition. The local tip is a good source, often overflowing with cast outs from kitchen refits.

For the abrasive, I found a packet of cheap decorator's wet or dry abrasive paper in the shed and chose the coarsest 80 grit. Some people would glue the sheet to the surface with spray adhesive but I



This 'Sharpness' heavy-duty emery cloth saved the day

found this unnecessary, there being sufficient grip between board and paper as long as I didn't push the plane too forcefully.

Before putting the metal to the grit, it's important to withdraw the blade inside the mouth and tighten the lever cap, so that any distortion in the sole this might cause is taken into account. Some would also ink the sole to monitor progress as it wears away, but again I found this unnecessary. The contact areas were obvious from the first swipe across the abrasive, showing as shining islands of freshly abraded steel in a rough sea of machine marks, **photo 2**.



I could have left the problem patch mid-way between mouth and heel...



Tapping the sheet to remove swarf and spent grit



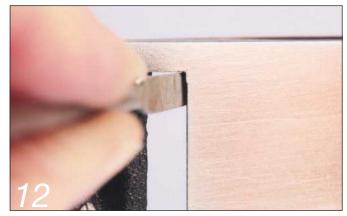
Cleaning the melamine-faced MDF door with a handful of shavings. Swarf gathered in the groove



Sometimes pushing the plane heel-first or obliquely helped maintain even progress and also broke the monotony



Checking contact between lever cap and blade



Filing out a flaw in the mouth

False dawn

Early progress was encouraging as the light bounced off those gleaming summits at the toe and heel, photo 3, and I thought I'd have this job wrapped up by lunch time, but it was a false dawn. Progress slowed and with a stack of wet or dry worn down to the harmless texture of a shower scrunchie, I was well short of reaching the mouth of the plane, never mind what seemed like a hinterland of untouchable steel behind it, photo 5.

I doused the next few sheets with WD40,

photo 4, hoping this might speed the cutting. There was a small improvement, and the wet sheets clung more firmly to the work surface, but they lost their cutting edge just as quickly.

At this point I should have searched for a more effective abrasive but inexplicably stuck to my misfiring guns, alternately reusing the worn-down coarse grits and embarking hopefully on a fresh sheet of finer grit, meanwhile achieving little more than polishing. Yes, what madness! And yet I'm sure I derived some worthwhile insight

from this futile labour, as my mind turned to workers down the ages who have been obliged to struggle with inadequate tools, labouring their lives away for the sake of a few pence saved further up the balance sheet. I dreamed of an industrial revolution in my shed, imagining a machine that would free me from this donkey work.

In a fit of impatience and in fading light, I plucked an old Nicholson 'Hand Bastard' file from under the bench and attempted to remove the bulk of the surplus metal. A few experimental strokes was enough. The file



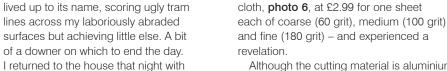
Cleaning the adjustable shoe before reassembly



Honing the edge



The lever cap bears on the blade about 10mm behind the edge



Revelation The next morning I was at the DIY store

a vacant stare and reeking of WD40.

before its new brooms had even hit the pavement, rummaging along the shelves in search of the holy grit. That was when I discovered Blackspur's 'Sharpness' emery



Flattening the back of the blade



Filing a flat surface on the painted lever cap



Job done, with flat sole and firmly bedded blade

Although the cutting material is aluminium oxide, the same as the wet or dry paper, it is electro-coated to a heavy twill cloth and is more aggressive, cutting faster and for much longer. The 60 grit cloth had such an appetite for steel that I could watch it changing colour from claret to grey as the swarf built up. At the stage where a sheet of wet or dry would have been toothless,

I tapped the emery cloth on its edge to dislodge the swarf, **photo 8**, and it was restored to action almost as good as new. Each time I did this I'd also clean the work surface with a handful of wood shavings, photo 9, making sure no stray particles were trapped between it and the back of the abrasive sheet.

The extra weight and coarse cloth back anchored the sheet more firmly to the work surface. More importantly, I could see the abraded areas of the sole at toe and heel advancing towards the mouth like armies



A translucent spruce shaving peels from the blade



...smoothing end-grain

on the march. Thankfully, victory was in sight! Compared to smoothing wood with steel, however, smoothing steel with emery cloth remained a slow process and as the area of metal being worked was enlarged, it only became slower since the force applied was spread more thinly.

I found it pays to change direction with the plane, to not just shunt back and forth but to move obliquely across the sheet



Flattening in progress with the emery cloth



Uses for a block plane: squaring an end using the bench hook...



...and planing a chamfer

and sometimes push it heel first, photo 10. This not only relieves the boredom but enables the grains of abrasive to attack the sole with fresh edges. It also provides an indicator of progress, as one set of striations disappears beneath another cut at a different angle. But the important thing is to maintain even pressure.

A stubborn patch remained between the mouth and the heel, a veritable crater

> directly under the lever cap's tightening screw, and for every thou of progress here it seemed I had to remove a ton of steel from the surrounding area. Strictly speaking, I needn't have bothered since this area of the sole has negligible influence on the work of the blade, but having come this far I felt driven to finish with nothing less than 100% flatness. This done, I worked briefly with a finer grit before tweaking other parts.

Final tweaks

The first niggle was a definite oversight in manufacture,

in that the lever cap had been coated with thick black paint across its point of contact with the blade. This reduced contact to just a couple of high spots, perhaps allowing the blade to flex. A minute with the file was enough to remove the paint and smooth the uneven steel beneath, checking for full contact, photo 17, by looking for light between cap and blade. There was also a projection in the trailing edge of the mouth, again dealt with quickly using a small file, photo 12.

All that remained was to clean behind the adjustable shoe, photo 11, and hone the blade before finding out if all this effort had indeed been worthwhile. And if the proof of the fettling is in the shaving, then I'd have to say this plane is an altogether better tool than it originally was, taking full-width shavings of some knotty spruce, photo 19, with little effort and, though not exactly thin as bible paper, of a finer quality than before.

On reflection, I learned a couple of useful lessons from this difficult project. One being the importance of using the right abrasive and the right tool, for the job; and another being that a mediocre tool can be vastly improved for the sake of a little - no, make that a lot - of elbow grease! WW



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mode

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In brief...



DONE & DUSTED

Hilti has extended its range of harmonised Dust Removal Systems (DRS) with the launch of the TE DRS-4-A, an integrated attachment for the popular TE 4-A22 cordless rotary hammer. Removing dust directly while drilling, the new product is both ergonomically designed and lightweight - weighing just 1kg - meaning it can be used comfortably overhead and for long periods. The attachment is powered entirely by the rotary hammer's 22V battery, so no separate power source is required.

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For more information and to watch a video of the tools in action, see www.hilti.co.uk/drs-4a.

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You'll find it easier than ever to clamp edge mouldings of almost any contour with Rockler's clever new Bandy Clamp edge clamps. The Bandy Clamp combines the easy one-handed operation of a spring clamp with the even pressure and no-mar qualities of a super-tough rubber band. Just open the clamp and stretch the band over your edging material – the deeper you set it, the tighter the pressure. Once the Bandy Clamp is in place, its jumbo ultra-grippy clamp pads simply will not slip, allowing all the clamping force to be transferred into the material. Since every contact point is a no-mar surface, the clamp is ideal for delicate mouldings, even from soft materials like white pine. What's more, the clamp works perfectly for keeping power cables, extension cords and pneumatic lines out of your way as you work. You'll find countless uses for it around the house as well as the workshop. Priced at just £9 for the pair, see www.rockler.com.



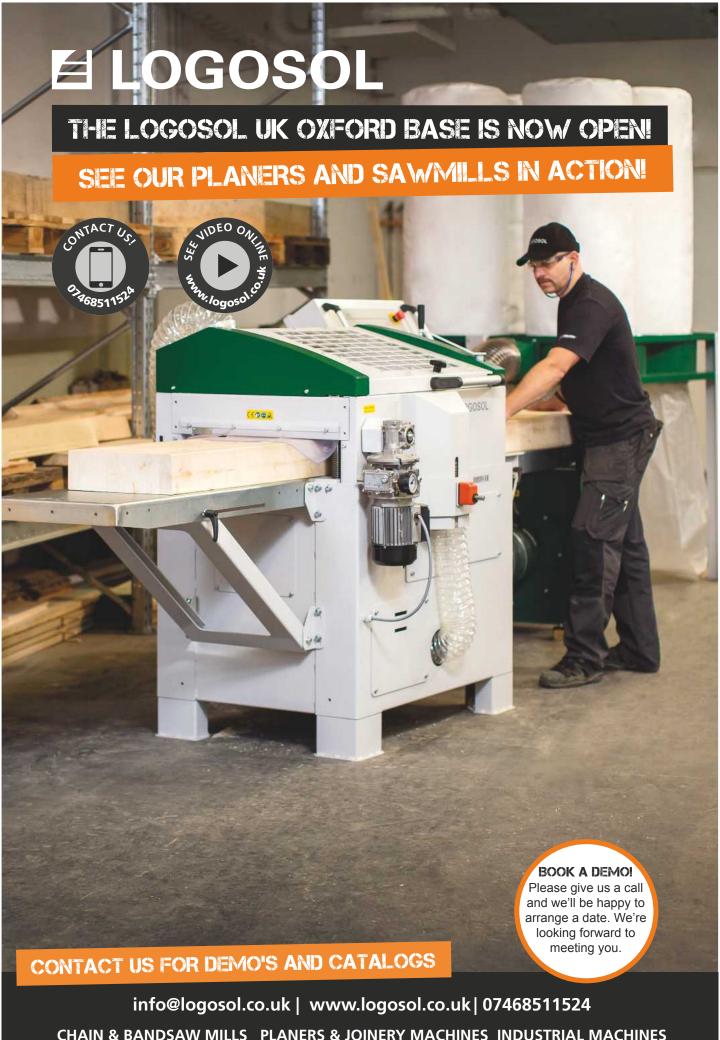


SUPREME DANISH WORKWEAR

MASCOT Workwear has just launched a new 436 page catalogue featuring over 600 products. There are three new ranges: MASCOT® SAFE SUPREME, MASCOT® SAFE LIGHT and MASCOT® LIGHT, as well as new products to supplement the existing ranges. The catalogue focuses on sublime durability, optimal freedom of movement and comfort in any weather. At the beginning of each range, a QR code and a link forwards the reader to a video of the featured products.

MASCOT's catalogue addresses a wide segment of industries, whether it be construction, trade, service industry, production, logistics or offshore. After each chapter, the products are compiled and categorised by colours, making it easier to choose products for your industry or company colour. Following the introduction of the ranges, MASCOT presents the 'Mix and Match' concept, a tool to combine MASCOT's products across ranges and colours to fit personal style and company requirements.

The catalogue also includes detailed descriptions of new and innovative materials, such as PrimaLoft® Black Insulation Eco. To find out more and to request a copy, see www.mascot.dk.



CHAIN & BANDSAW MILLS PLANERS & JOINERY MACHINES INDUSTRIAL MACHINES



To polish or to sandblast?

Colin Simpson shares his designs for two different natural-edge decorative tubes: one of which is highly polished and the other which is sandblasted

n the face of it, this project looks quite simple, and, in all honesty, the turning side of it is. However, there are a few problems to overcome, not least how to hold the log on the lathe in order to hollow it out. My method is to make a home-made mandrel, although other turners might choose a different way.

The finished piece serves no purpose whatsoever, other than the fact I like it as an ornament. It is also interesting to turn and might prove to be a conversation piece when your woodturning friends discuss how it was made.

Mounting the log

Yew or laburnum or any of the fruit tree branchwoods are great for this project and the more buttressed or out of round the branch is, the more interesting the finished piece. I used a piece of cedar branchwood, photo 1, because my plan was to sandblast the piece to create a textured finish, but if you are using a different wood, then the

TURNING Natural-edge tube



The more out of round the log, the nicer the finished piece



Guess the centre point at both ends



If the bark is loose, then remove it before starting to turn



Turn a cove in the log, keeping the natural-edge at both ends



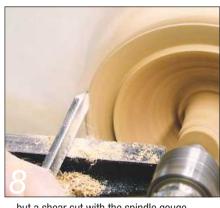
Cut a spigot to fit your chuck



Mount the piece on the spigot and start to hollow at the tailstock end



This cedar tears out quite badly...



...but a shear cut with the spindle gouge...



...improves the surface greatly

finished piece looks great with a highly polished surface.

Start by marking the centre of the log. This does not necessarily need to be at the pith; just use your judgment to locate the centre, photo 2. Mount the blank between centres, making sure you have a good, firm grip with the four-prong drive. If the bark is loose or likely to come off, it is safer to remove it by hand. I use an old screwdriver, **photo 3**. Turn the outside to a rough cove, photo 4. I use a bowl gouge, with the wings ground back to do this rather than a spindle roughing gouge. There is no need to turn it down to the finished dimension at this stage. Next, turn a spigot at one end to fit your chuck, **photo 5**. Mount the piece in your chuck and bring the tailstock up for extra support. The tailstock support is not absolutely necessary, but it does give a more secure hold. Use a 10mm spindle gouge to start hollowing the log at the tailstock end, photo 6. Note this cut is really going against the grain, but with the tailstock in place it is difficult to cut with the grain. With sharp tools and close-grained timber, you shouldn't have too much of a problem, but with this cedar, I experienced eally bad tear-out, photo 7. This is not a problem when you are removing waste wood, but when you are nearing the final shape, it needs to be eliminated. Drop the handle of the gouge down low and use the wing of the tool to cut fine spiral shavings, photo 8. Photo 9 shows the greatly improved surface finish you can achieve with this cut after just one pass and photo 10 shows you the type of shavings you should be getting.

Hollowing out

Before you hollow this end too much you will need to cut a chucking point. I use a parting tool to cut this and the chuck will be used in expansion mode, photo 11, so do allow for some wood around the recess for strength. Once this chucking point has been cut, continue hollowing below it. You will need to reduce the diameter of the stub that is being supported by the revolving centre, photo 12, but keep the tailstock in place for as long as possible. When you can't go any further with the tailstock in place, turn the stub down as small as possible then stop the lathe and twist it off by hand, photo 13. This is far safer than attempting to turn it off with the tailstock still in place.

The chucking point should be strong enough to hold the piece without the tailstock support, but if you are in any doubt or if you are turning a very soft wood like I



You should be getting fine spiral shavings at this stage



Cut a chucking recess at this end...



...and continue to hollow the piece below it



Turn the stub down and then twist it off by hand



I glued the piece into my chuck with CA adhesive



Use a spindle gouge to drill a hole right through the piece



Widen the hole with a spindle gouge working from the smallest diameter to the larger

TURNING | Natural-edge tube



Reverse the workpiece and hollow the other end in the same way



Keep the spindle gouge over on its side and use the bottom wing to make the cut



When you are happy with the curve, sand this end to a finish



This photo shows my homemade sanding stick for narrow areas...



...it keeps my fingers away from potentially dangerous places

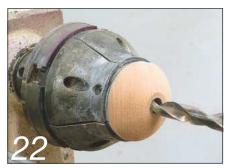
am, then glue the piece into the chuck jaws with CA adhesive, photo 14.

Shaping the tube

With the tailstock removed, drill a hole down the centre of the piece. You can either do this using a drill bit in a Jacobs chuck in the tailstock or do as I did and drill the hole using a spindle gouge, photo 15. With the tool resting on its back on the toolrest - handle down - gently place the tip of the tool in the very centre of the revolving wood. Hold the tool firmly and raise the handle until the tool is horizontal and the handle in line with the axis of rotation. Now push the tip of the tool into the vase to drill the hole. Remove the tool often to release the shavings or the tool might bind. Drill right the way through the piece and then use the spindle gouge to widen the hole, **photo** 16. Continue to widen the hole beneath the chucking recess until you have reached about halfway through the piece and you are happy with the shape, then sand this part of the tube.

Sanding the piece

Reverse the piece and mount it in the recess, then hollow the other end in the same way. Again, I used the tailstock for support initially, photo 17, but at some point it needs to be removed to shape the piece, photo 18. Glue the piece into the chuck jaws if you think it will help - I did!



Make two domes with holes in to fit your studding



The finished mandrel should look something like this



Tighten the workpiece between the two domes



Turn away the last chucking point and blend in the curve



Refine the outside shape with a bowl gouge

course, change the size of the domes

to suit your needs. I cushioned both

the dome shapes with duct tape to

prevent damage to the workpiece

and then mounted the tube

on the mandrel, securing it by

tightening two nuts to clamp

two domes, **photo 24**. Mount the mandrel in your chuck and

gently turn away the chucking

recess and blend in the curve, **photo 25**.

the workpiece between the



If the bark comes away, then clean up the natural-edge

Take gentle cuts with the spindle gouge and blend in the curve with the one you created at the other end. Sand this end to a finish. I used a mixture of hand sanding in the narrow part and power sanded where I could, **photo 19**. When I couldn't reach by hand sanding, I used a piece of dowel with a slot cut in the end and some soft foam stuck to its circumference. The slot holds a strip of abrasive, **photo 20**. Wind the abrasive around the dowel and use it as shown in **photo 21**.

Making a mandrel

Now the piece needs to be reversed again to turn away the chucking recess and blend in the final curve. My method to do this is to make a mandrel. You will need to turn two dome shapes from scrap material and drill a hole through the centre of both of them, photo 22. You will also need a length of studding. Mine was 12mm in diameter, so my holes through the domes were 12mm. The finished mandrel should look

something like this, photo 23. You can, of

29
Option two: the piece finished using sandblasting and bleaching techniques

finished piece once highly polished

Two options
Finally, refine the outside cove, photo 26, and sand to a finish. If the bark stays on, then I think this looks great, but if, like with mine, the bark is loose, then I think you should remove all traces of it and hand sand this edge, photo 27. As I said earlier, these pieces can look nice with a good, polished surface, so sand down to 1,200 grit and apply a wax or oil finish, photo 28. However, the reason I used cedar for this project was because I wanted to sandblast it. Photo 29 shows the piece after sandblasting and bleaching.

Option one: the

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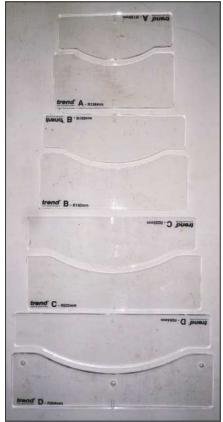
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Scores on the doors

Gordon Warr uses Trend's range of clear plastic panel door templates with a router and template profiling cutter to create a curved rail and panelled door



2 The Trend door templates are supplied in pairs

anelled doors have a long history, but now their construction is simplified when the jointing is modified by the use of scribe and profile sets of cutters, used with the router in a router table. The tenon is made shorter than was hitherto the case, and the grooves in the stiles are used as shallow mortises. These doors are very popular with kitchen cabinets in particular.

Creating matching curves

In order to improve the visual appeal of these doors, the top rails can be made to a curved outline with the upper edge of the panel shaped to correspond to this. While these two matching curves can be shaped by hand methods, Trend has sets of templates available to make this job far



3 A profiling and scriber cutter, along with one for panel raising

easier and which will give consistent results. Five two-part templates are offered, suitable for doors from 300-660mm. Each size overlaps the size of the next larger or smaller one; some latitude on the widths of the doors is available by slightly adjusting the extent of the straight edge of the template to either side of the curve, and additionally, the width of the stiles can be enlarged or reduced by a few millimetres. The templates are made of clear 6mm-thick plastic.

The template

It is preferable to cut the scribe first on the ends of the rails; this can be carried out from both edges while these are still straight. The cutterblock being used will of course have to be adjusted for the profile cuts to the edges of the rails, and for this stage, the template is brought into use for the top rail.

I found it best to first mark in pencil the concave outline required, using the template for this, then sawing the waste marginally away from the line, this stage being carried out on the bandsaw. No smoothing or trimming of this sawn edge is required. The template is now secured to the rail - double-sided tape is ideal for this. A lead-in pin in the table is also



4 Profiling a stile



6 Profiling the curved rail



8 The top edge of the panel is first cut on the bandsaw – note the use of the sawing jig



10 The panel cutter in use

required, when the profiling can then be carried out almost as easily as for straight work, with the wood being guided by the bearing on the cutter following the edge of the template.

Top edge of the panel

A slightly different procedure is followed for the top edge of the panel. For this, I again used double-sided tape to secure the convex template to the panel. This time, when sawing off the waste, I used my home-made bandsaw jig (see the April 2010 issue of WW for full details on making this home-made jig), which gives a uniform amount of clearance from the required line, and this is adjustable. The template is again



5 A lead-in pin is essential for curved work



7 Scribing and profiling completed



9 The sawn edge of the panel is smoothed using a plain cutter guided by the template



11 The completed door

used with a lead-in pin and plain cutter to smooth this sawn edge and thus give a good surface for the bearing on the panel cutter to run along.

Normally, quite a lot of wood will need to be removed from the panel, so this stage is best carried out taking two or three passes; this also allows better control of the thickness left uncut at the edges of the panel, and thus gain a comfortable fit in the grooves of the framing members – neither too tight nor too slack.

Assembling the door

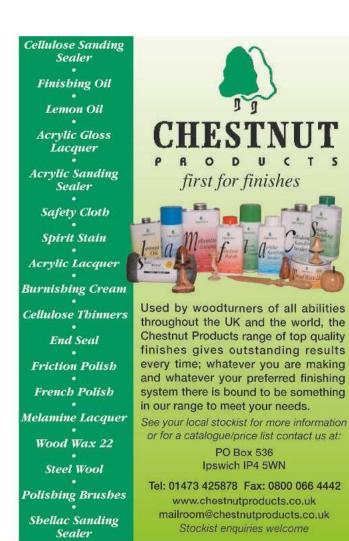
Hey presto! The door is now fully machined. When assembling any door with a solid panel, the panel must not be

glued in place but left free to move slightly as it is very likely to do. The exception to this is to apply a small amount of adhesive over around a 50mm length at the centre of the upper and lower edges; this will retain the panel in a central position without preventing possible movement.

FURTHER INFORMATION

Trend also offer alternative scribing and profiling cutters, along with panel raising cutters. These templates are available as individual pairs, ranging in price from around £15.50 to £18.99

- Trend Machinery and Cutting Tools Ltd
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Fuming with ammonia remains a safe method of chemical staining. Stephen Simmons explains how you do it

Where to fume?

Of course, you don't have to use a clear plastic or glass container to fume your wood. An old cupboard or something similar is fine, but then it's important to have a test piece inside so that you can check for progress. To avoid opening the door, drill a hole in the cupboard and insert a dowel made from the timber being fumed

hemicals have an honourable tradition in restoration for their staining abilities, but they are rapidly falling from favour as environmental concerns mount. Nitric acid has long been a no-no and although potassium bichromate can create lovely reddish browns in oak, it is now regarded as increasingly harmful – not so much from its use but from the disposal of the residues.

But all is not lost. Furning with ammonia is still a realistic option. Like all chemical staining, the colour achieved results from a reaction with chemicals in the wood. The technique is normally associated with and used traditionally on oak, so I'll concentrate on fuming that particular material.

The process itself is simple - it's all the 'ifs and buts' that make it seem more complicated. Basically, an open pot or

saucer of liquid ammonia is placed in a sealed chamber with the timber and the fumes do the rest. Very often you'll only be dealing with small pieces of wood so a large glass jar with a tight-fitting screw top will be sufficient. For larger pieces, a clear plastic storage box with the lid sealed with tape will do, though on occasion you may even need a large frame wrapped completely - top, sides and, importantly, underneath - in a clear polythene sheet and sealed with heavy-duty tape.

Irreversible, unpredictable

And now for the provisos. For the process itself, the first thing to appreciate is that it is irreversible. If you don't like the results, it's tough. So, as with all colouring, test beforehand on a piece of the same timber. Secondly, I've always found ordinary

Tip: tea

Who said cold tea was just a fancy, metropolitan drink? You can kick-start the process for timber low in tannin by giving it a good wipe of strong, cold tea beforehand. The ammonia will react with it

household ammonia to be effective but you still have to follow the manufacturer's Health and Safety instructions to the letter. Respiratory and eye protection and good ventilation are essential when you open larger chambers.

Thirdly, it only works on raw, unsealed timber, and fourthly, the degree of colour change is dependent on the time of exposure as well as the amount of tannin in the wood. The reaction starts within a few minutes and needs constant attention: there's certainly no question of leaving the piece in the chamber overnight and hoping for the best. It is therefore crucial to have a clear view into the sealed chamber - hence the glass and clear plastic and polythene so that you can see what's going on and remove the wood from the fumes when the desired colour is achieved.

Other provisos sometimes state the obvious, but there's nothing wrong with

that. Firstly, as the technique is based on chemical reactions, it is vital to know vour timbers and not mix them; and if you are replacing or splicing in more than one new piece always use timber from the same board wherever

possible for consistency. Secondly, the fumes react with everything in the chamber so replacement parts have to be coloured before fitting to the original piece. Third, there's no need to raise the grain before fuming but the surface does need to be grease free, including sweaty fingerprints as even the hint of a whorl can be disfiguring. So use cotton gloves when handling the timber and give it a final wipe of meths before you start. Fourth, if you propose to polish the wood a wipe of meths will give you a good idea of the subsequent colour. Fifth, if necessary, the process can be re-started by replacing it back in the chamber at any time, provided the wood remains unsealed. There is also no need to neutralise the wood after fuming and, being irreversible, a fumed stain is robust and there's no need to seal it in, making it ideal under soft finishes such as wax or oil. Finally, to dispose of any residual ammonia, simply pour it back in the bottle.

Colour coding

Ammonia fumes will drive oak a variety of

Only oak?

Although fuming with ammonia is a process traditionally carried out with oak, it can be used on other timbers to interesting effect. Like oak, chestnut is rich in tannin and will darken considerably, although mahogany and walnut are less well-endowed and the process will be less effective with those.

The effect also varies between species: European and American oak have different tannin levels. It's well worth a couple of days experimenting on a selection and with digital photography you can easily keep an illustrated record of the results for future reference



Ammonia woodworker					
Timber	Effect	Colour change			
Ash	Darker	Yellow cream			
Beech	Slightly darker	Aged			
Cherry	Little darker	Rose tint			
Maple	Very little darker	Grey tint			
Mahogany	Darker	Redder			
Oak	Darker	Gold to antique dark brown			
American walnut	Little darker	Browner			
English walnut	Darker	Browner			

Tip: paint it black

The traditional way to turn oak black is using ferrous sulphate, but a cheaper alternative is to use some rusty nails in a jar and fill half of it with vinegar, then leave it for a week. It'll work nearly as well

colours from a pale grey to a rich dark brown, depending on exposure time and tannin levels. But for the restorer, its critical property is that it will darken the rays and flowering as well as the mass of the timber, something that water, oil and spirit-based stains will not do. If you need to replicate a Tudor or 17th/18th century oak with a deep weathered tone and want it to look realistic, this is the technique for you. By comparison other stains will look completely artificial.

Fuming is really just the controlled acceleration of the natural darkening process that comes from exposure to ambient pollution. The rays and flowering are dark in old oak for two reasons: partly from long exposure to the everyday atmosphere, and partly because many original boards were left to season in the rafters of stables and barns. The ammonia from horse and cattle urine fumed the timber very gently... and I can vouch for the effectiveness of this bucolic approach, although I'm reluctant to recommend it wholeheartedly. When we demolished an ancient outside privy a couple of years ago, the underside of the oak seat was fumed to a depth of a good centimetre.

As a related aside, the traditional way to turn oak black rather than dark brown is to stain it with a solution of ferrous sulphate, also known as green copperas. Again, it reacts with the tannin and will colour the flowering. Don't be startled if the wood initially turns blue rather than black; a wipe of shellac or linseed oil corrects it. But the fun part is that you can make your own cheap, safe - although slightly less effective - alternative with a mixture of rusty nails and vinegar. Put a handful of old rusty nails and scraps of iron in a screw-top glass jar, half fill with ordinary vinegar and leave for a week, shaking occasionally. Strain the mixture into a fresh jar and, apart from making the workshop smell like a chip shop, lo! WW



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In brief...

DIGITAL SMART DESK

A digital 'smart desk' that promises to improve the health and wellbeing of those who use it is set to be launched this year. Workspace furniture design company OpenDesk has been granted £25,000 from Innovate UK to create a desk which can be customised to the user. The 'desk of the future' will include a built-in computer 'motherboard', which will connect with portable devices



and would "eliminate the need for desktop technology altogether." It will run on open source software, and will connect to The Cloud.

Employees without a permanent desk space will be able to log in to personalised settings via a 'desk cloud', which aims to make "hotdesking much less impersonal," says Tim Carrigan, co-founder at OpenDesk.

The desk will include LED notification lights, wireless charging and motion sensors, which will be used for features

normally akin to a computer. This includes turning on when the user is close by, going to sleep when they're away from the desk, vibrating when emails are received or letting other colleagues know that the user is not available to take calls.

OpenDesk says the new desk will cost roughly £300, with additional features costing extra. A prototype desk design has been completed by OpenDesk's in-house design team. OpenDesk aims to present three prototype models at the London Design Festival event 100% Design this year. The final design for the smart desk is expected to go to market by the end of 2016.



PERFECT WINDOW WOOD

The hurdle for establishing new woods in the window industry is extremely high but Kebony, the sustainable alternative to tropical hardwood, has overcome this obstacle and is now officially recommended by the Verband Fenster und Fassade (German Association of Windows and Facades, VFF).

For years Kebony has been used across the world in window installations. Now, following research and exhaustive testing by Menck in Hamburg, which recommended Kebony as a suitable product for the window industry, the wood has been recognised by the Institute for Window Technology in Rosenheim. The timber concedes with VFF's recommendations, meets the requirements of the leaflet HO.06-4 and is suitable for gluing and coating.

Kebony is not a new wood species per se, but it is a relatively new wood product for the window industry. The Norwegian company based in Oslo developed the Kebony technology, an environmentally friendly patented process, which enhances the properties of sustainably sourced softwood species by impregnating them with bio-based liquid furfuryl alcohol, a byproduct of agriculture. This process permanently modifies the cell walls giving Kebony premium hardwood characteristics, bypassing the need for tropical hardwood and creating a product that is sustainable, durable and cost effective.

Danish company Krone Vinduer sells Kebony windows in Europe, Norwegian manufacturer Førre supplies Kebony windows in Norway and NOKA provides Kebony windows to the German market, just to name a few examples of proven successful window suppliers across Europe. To find out more, see www.kebony.com.

AN ICON REBORN

The Coventry chair, which was designed for the rebuilt Coventry Cathedral in the 1960s, is to be revived, redesigned and put back into production.

The chair was originally designed by Dick Russell and the new version has been created by furniture design consultancy Luke Hughes. The redesign is true to the original but has been strengthened - "We recognised that people have got heavier," says Luke Hughes chief executive Nigel Shepherd.

The original chair went out of production when the Gordon Russell company closed in the 1970s. Dick Russell, who died in 1981, was brother of Gordon Russell, also an architect, and worked briefly for the company but continued to offer consultancy for the practice after leaving.

For the redesign Luke Hughes has worked on a licensing agreement with the Cotswold-based Gordon Russell Design Museum, which owns the rights to the chair.

The new chair sees the manufacturing processes upgraded and production techniques introduced that weren't available when the chair was designed 50 years ago. Like the original it will be made of European oak. To find out more, see www.lukehughes.co.uk.





Hammertime

Mallets are very personal tools, says Dominic Collings, so why not try making one yourself?

o here's how the story goes. I was out in the garden making the most of some clement weather by installing a wooden surround within which to lay some decorative gravel and plants, which basically involves hammering stakes into the ground – hundreds of them. Not wanting to damage the top of this border, I had decided to use my trusty mallet. No problem, you might think, but after four hits I was left with a handle and the opposing fence, now some 40ft away, had a nice dent in it where the mallet head hit it. I guess I was going at it a bit hard.

Down at the local tool agent I tried several mallets but none of them felt right – too long, too short, not heavy enough... That's when I remembered that back in the 'shop, up high on a shelf, I had a nice beech board. Too good to throw out but not long enough to make something substantial out of, this had sat up there for the best part of



I had a spare board of beech that wanted putting into service



a year just crying out for an opportunity to be used.

Hand tools, such as chisels and hammers, can be very personal things. Everyone's different with longer or shorter arms, bigger or small hands, etc. so it can be ideal to make these sorts of tools bespoke wherever possible.

Getting a handle

Back at the bench I started by examining the stock. There were a few cracks at both ends of the beech so the first step was to cut this bad material away on the table saw, then I would know exactly what I had to work with. Taking my favourite small dead-blow, soft-headed hammer because it boasts the most comfortable handle of my toolkit, I simply drew around it. The only modification was to make the mallet handle about 5mm thicker as the dead-blow hammer's handle was a little dainty for my clumsy hands.

I was limited by the stock width of 100mm for the mallet head, which was fine as this would pretty much have been the size of head I would have chosen even without material restriction. So once I was happy with the shape of the handle, I added an oversized 120mm tall extension, tapering outwards like a dovetail to lock the handle to the head.

After rough cutting the handle on the bandsaw, I sanded the convex sections on the stationary belt sander and the concave parts on the drill press with a bobbin sander attachment. The thickness of the stock was about 35mm, which I immediately realised was going to be too thick to be comfortable, so hoping for the best, I ran the handle through the thicknesser until the tape measure read 25mm. Feeling much better in my hand, I used a 6mm rounding-over bit installed in my router table to remove the sharp edges, leaving only the dovetailed section square. After a little sanding and fettling, I was left with a handle the perfect length and more importantly, the perfect shape, for my hand.

Heads-up

Deciding on the head size was more a decision of visual proportion rather than working out the weight of the timber.



Hairline cracks were removed from the block on a table saw, leaving a solid stock



Continue down the sizes, reducing the platens as required until you have a full set of plugs



The profile was cut out on the bandsaw – not the best tool to cut the straights, really



One of my favourite old hammers was used as a template, just 5mm wider



The initial cutting was done on the table saw; the head was cut in the same way



Convex sanding was done on the belt sander, one of my 'best purchases'



It's not usually wise to thickness once the profile is cut. Fortunately there was no breakout



I used a rounding-over bit installed in my router to remove the sharp edges. Always use push blocks for this sort of task



After a bit of fettling, the handle felt very comfortable, fitting the hand nicely



The component parts, ready for glue-up



People say you can never have too many clamps but you need surface area to use them



Walnut wedges were used to fill gaps and lock everything in place



Shaping the head takes seconds but be careful not to press too hard as beech burns easily



With all the sanding done, it was time to make like Thor and give it a swing - just not in the garden!

Perhaps there is a more scientific approach to this sort of thing but being of the opinion that nothing can't be fixed or modified, I decided to make the head over-sized so that I could reduce its weight later if required. The four pieces were simply cut using the mitre guide on the table saw.

At this stage I realised that I had made a slight error in the dovetail of the handle, in that when I made it I machined in a flange to stop the head dropping down the handle. This wasn't a problem but it meant that I had to finish the sides of the dovetail by hand with a chisel, forgetting to check I had done this exactly straight. I hadn't and the result was a slight gap either side at the top of the handle. Not by a lot, only about a millimetre in fact, but the last thing I wanted was the handle to be loose in the head. Having already cut the head sections on either side, any remedy to the handle would lead to a smaller head.

I decided to recover the situation by purposely increasing the gaps at the top to about 3mm with a sharp chisel, then filling these with contrasting wedges, which would lock everything together. With all the glue applied it was difficult to get clamps around to give adequate pressure, but I managed it - just. Walnut wedges were cut on the bandsaw and tapped into place once the initial glue-up had dried.

Shaping and finishing

With the mallet out of the clamps, my initial thoughts were that it was too big and unwieldy. The first step to rectify this was to trim off the excess handle and wedges at the top on the bandsaw, then the entire top was sanded to a gentle arc on the belt sander. The result was better but still too big so I decided to taper the sides to a similar angle to the striking faces in relation to the handle. Again, this was done on the belt sander.

Finally, with the mallet feeling just right in the hand, the upper and lower edges of the head were rounded over on the router table and the striking face edges chamfered with a block plane. After a final sand, I applied a wipe-on coat of Osmo Polyx oil. I hope this will be tough enough but if not, I can always give it a light sand once a year or so and reapply or change to some polyurethane varnish if I find it requires something extra.

I'm very happy with the result. It's well balanced, comfortable and a real joy to use. The total time taken to make the mallet was just four hours. I'd recommend making your own bespoke tools to anyone. Sometimes we just need a mishap to give us the nudge to make something unique and special. WW

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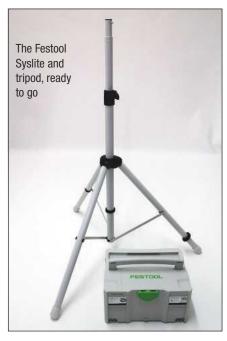


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Quotes over the phone and online 01327 344550 goodtimber.com Ideal for those wanting to illuminate their projects, this working light and tripod from Festool is certainly robust and entirely effective at combatting the darkness

Festool DUO-Plus 240V Syslite working light and tripod





No one likes to be left in the dark, and particularly when there's work to be done. My recent attic lining project was given a much needed boost last week with the arrival of the new Festool Syslite illumination system. Compared to the usual jury-rigged lighting setup I employ, the effect of the Festool lamp – a product of many hours of scientific research – seemed like the light of a thousand suns. Perched atop the (optional) purpose-built tripod, it lit up the whole space right into the darkest corner.

Packed and protected for easy transport in a Systainer box

Bright LEDs

Thankfully free from confusing controls, the contemporarily styled lamp does the required job with little or no fuss. The boffins at Festool headquarters in Germany have come up with a twin array of the brightest LEDs arranged in such a way as to provide maximum coverage in a 180° arc, with the reflected light doing the job for the rest of the space. The colour of the light produced is blueish white and is something approaching daylight; a real boon for all work and especially painting tasks.

Robust build

Mains powered, it boasts a power lead of nearly 5 metres, and it's robust enough to stand up to the rough handling it will inevitably





A Systainer box is a useful addition to any working site



A suggestion of the brightness available

receive on site. We used it free-standing (more like free-squatting, really) and also perched atop its upended Systainer box. It can also be hung on a hook, courtesy of its cleverly moulded base, but certainly it seemed at its most effective when fitted to the top of the Syslite tripod, and this would be my preferred option.

The tripod

The tripod itself is as solid as you could wish; certainly the Victorians would have approved, such is its perceived level of over-engineering. It's easily adjustable, locks into place securely, and one leg features a cable holder to help eliminate tripping. As far as I know, the head fitting is designed exclusively for the Syslite, but I think that even more use could be had from this tripod; it just needs some kind of adaptor, which would provide a solid platform for other devices such as laser levels and similar. It's certainly very adjustable though and, at its optimum spread of leg, you'd really have to go some to tip it over.

Summing up

Fortunately for the clumsy among us (or spatially unaware as they might be known now) the Syslite itself has been tested to just this side of destruction and, like all new Festool products, is as robust as you could wish for. Certainly I was able to make little impact on it during the time we had it set up; even catching the lamp with a swinging timber (shades of *The Plank*) resulted in little more than a scratch. MC



SPECIFICATION

LAMP

LED SERVICE LIFE (L70)	10,000H
COLOUR RENDERING INDEX	Ra – 80
HOUSING SAFETY CLASS	IP 55
SAFETY CLASS	1
CABLE LENGTH	4.9m
WEIGHT	3.4kg
TRIPOD	
BASE DIAMETER	1,150mm
ADJUSTABLE	up to 2,000mm
WEIGHT	5.6kg

VERDICT

A solid piece of kit, and entirely effective at combatting the darkness

PROS ■ Wide spread of light

- Super bright
- Solid piece of kit

CONS ■ Tripod is heavy

■ Could use a carry bag or straps

PERFORMANCE



FURTHER INFORMATION

- Festool Tools
- www.festool.co.uk



From darkness to a site of light

This fantastic little plane would make a great addition to any site kit bag





The upper body is removed to expose the lever cap and enable access to the blade

Axminster Rider No.90 bull nose plane

A bull nose plane is one of the most useful planes you can have in your kit. The Rider No. 90 will do all you require of it straight from the box, but with a bit more care and attention has the potential to perform just as well as any top of the range model.

Quality build

Finely cast, the body is precision ground to ensure the sole is bang flat as well as square to the sides, and I struggled to find fault with it. The nature of this type of plane, where the blade has to be locked down by a lever cap, means that a quick adjustment is rarely on the cards; there's always going to be something needing to be loosened first. Such is the case here, but fortunately the cap screw is readily accessible, then it's just a case of turning the knurled brass adjuster for optimum blade control.

The high carbon blade is slightly wider than the body, a common enough feature but one which I've never seen the point of, but Axminster claim it's to enable easier working in corners. Whatever the reason, it's simple enough to nudge the blade to one side when the lever cap is loosened.

The upper body can be slid forwards or back to change the width of the mouth opening, or removed completely to leave what's effectively a chisel plane, a useful variant on the main attraction. It's got a grub screw set into the underside, which ensures the top will go back into the exact place as before. This sort of adjustment and versatility is always welcome on a precision tool, and made me like it even more.

Summing up

With a length of just over 100mm, it's pretty much a pocket plane, but you'd be better off slipping it into some kind of sock or bag for travelling and bunging it into your site kit bag; you won't regret it. MC

SPECIFICATION

BLADE WIDTH 25.4mm **WEIGHT** 450g **OVERALL LENGTH** 125mm **DIMENSIONS** 125 × 25.4 × 58mm

VERDICT

An excellent tool and terrific value at less than £40

- **PROS** Quality machining
 - Easy to adjust
- **CONS** Poor (and unnecessary?) paint finish on lever cap
 - Wide blade

VALUE FOR MONEY PERFORMANCE

FURTHER INFORMATION

- Axminster Tools & Machinery
- **■** 0800 371 822
- www.axminster.co.uk



The adjustment screw ensures correct replacement of the upper body



Blade wider than body; still a puzzle to me...



The mouth opening can be wide or narrow



Five grooves to engage the adjuster suggest a lot of mileage in the blade

This range from Trend is cheaper but will it be as durable?

Trend diamond stones range

From **£18.95**

The Trend diamond bench stone has been my 'go to' stone since I first reviewed it 10 years back. Those stones are pricey though, so this new range, called Diamond Cross thanks to their relief pattern to help move the slurry and swarf, has been designed to offer the same more durable monocrystalline diamonds, but at a lower cost.

It offers stones suitable for honing small tools as well as a bigger bench stone that could interest those looking for a way into diamond honing of chisels and plane irons without breaking the bank – but it does have a cut-price construction compared with my old trusty stone.

Diamond Cross plate

The Diamond Cross plate is a three-part construction with a precision-ground tool steel core with two thin stainless steel plates bonded with different grits of 1,000 fine and 300 coarse diamonds equivalent to 15 and 50 microns.

However, this stone quickly raises a wire edge as well as backing off and polishing the backs, but I guess the questions will be about durability and flatness compared with the original. The first is tricky to test in a short space of time, but checking the flatness against a chisel pre-flattened on my original Trend showed it to be of equally decent stead, maintaining the same flatness.

Smaller stones

The smaller and more specialised stones all have a somewhat tacky small handle or two bolted to them, but each of the 1.5mm-thick stainless steel diamond-bonded plates is cut out to include lugs that are sandwiched by the plates and prove to be pretty useful. I found the longer double-handed file type especially useful for going over a bigger edge where working over a stone is difficult; it worked a treat on my adze.



If you are looking for a good range of diamond honing options at an affordable price, then Trend has hit the mark. The only issue is the durability of the diamonds to the stainless steel plate, but with a three-year warranty on all the range, you have plenty of time to find out! AK



The grips prove useful for honing larger blades such as this adze



The bench stone has plenty of surface area for honing chisels and planes



Smaller credit card hones work well for touching up router cutters



The bench stone proved flat when tested with this pre-flattened chisel

SPECIFICATION

MONOCRYSTALLINE DIAMONDS **GRIT SIZES IN COARSE AND FINE** STAINLESS STEEL PLATES

VERDICT

Ideal if you're looking to update your range of diamond honing stones, and the three-year warranty is a bonus

PROS ■ Various profiles available

- Finger grips on smaller hones
- Big area on bench stone

CONS ■ Finger grips look a little cheap

■ Time will tell for durability

VALUE FOR MONEY **PERFORMANCE**



FURTHER INFORMATION

- 01923 249 911
- www.trend-uk.com

Tormek has given its T-3 wetstone grinder an upgrade

Tormek T-4 water cooled

sharpening system

Tormek sits with the likes of Lamello and Festool as innovators and providers of tools at the top end of the market, and although Tormek only has the wetstone grinder as its mainstay, it's still a notable brand. It has evolved over the years and currently comes in a couple

of guises, the T-3 and the flagship T-7, but now the T-3 has had a makeover to become the T-4. It still has the smaller and slightly narrower wheel to the T-7, coming in at 200mm diameter and 40mm wide, as well as retaining the intermittent motor: 30 minutes of use per hour. But this latter specification is not as limiting as it seems as you have to be going some to exceed this over a sharpening session; after all, wetstone grinders aren't designed to do huge regrinds such as restoring extensively damaged and chipped edges, but rather to touch up established edges as well as honing to a razor's edge when put to the leather strop wheel.

This combination of fine grind and leather polishing is great for woodturners and carvers especially when touching up or lightly re-dressing a dull edge, and with a consistency that can't be replicated by hand-held means.

No square-edge quide

To do so needs an extensive range of jigs, and of course Tormek has them to suit pretty much every common edge tool on the market, so you can add to the basic setup as you need to. However, the standard square-edge guide found in the T-3 for chisels and plane irons, another area where the Tormek gains plenty of fans, has been dispensed with. I think this is a bit of an oversight; even the most avid carver or woodturner will likely have a plane or chisel tucked away and the general woodworker will look to the start point of square-edge tools before moving to the more complex jigs.

This means you have to factor in the additional expense of a jig before you can get up and running, although Tormek believes in safety first as they still include a few sticking plasters just in case you cut yourself after a tool has been worked!

Despite the jig omission, Tormek hasn't cut corners in the build of the T-4; it has the same stainless steel spindle shaft for longevity, and also has the EzyLock nut to remove the stone if you want to swap or replace it.



This is a plastic nut whereas the T-7's is metal as I recall, but it works well and it's not a thing you would do regularly so longevity and durability shouldn't be an issue.

There's also a solid zinc head, which I guess is the top metal plate on the casing. Tormek claims it offers 300% more precision than the T-3 grinder so I guess it also holds the motor assembly within the ABS plastic lower casing.

In use

It certainly is a very smooth ride; I used the T-4 to grind a few chisels and plane irons and found the stability to be silky smooth.

The stone is equally impressive. It cuts very quickly but still leaves a very clean and fine scratch pattern on the tool edges, making it



The EzyLock nut makes it easy to strip down the Tormek for stone swaps or maintenance



The roughened pin drives both wheels and rests against a rubber wheel for grip to drive



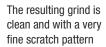
The water trough clips easily onto the body



Setting any bevel is consistent and easy with the AngleMaster



The grind wheel works very quickly and slickly





very quick to dress and lick tool edges back into shape.

The power switches are top mounted so you can easily get to them whichever side you are working from; a good upgrade to the front-mounted switches that are well placed for some operations but at the back of the machine for others.

As with the T-7, the anomaly between the diameters of the grind wheel and the leather honing wheel is present, the 200mm grindstone being paired with a 145mm honing wheel. It does mean that any grinds that are then put to the honing wheel have to have the main bevel setting jig altered to allow for it, and with the diameter of the grind different from the hone, the actual bearing surface is slightly awry; It can't be a huge increase in costs to match the two wheel diameters and makes life a little easier when using both the functions to their full advantage, surely?

Summing up

But that niggle aside, this latest incarnation is a very efficient and stable setup that does a sterling job once you have a jig or jigs to suit your needs. However, it's not a cheap machine on its own, and all the more costly when you factor in a jig to get you started, which will be a stumbling block for many despite the machine's abilities. AK

SPECIFICATION

MOTOR	20W
SPEED	120rpm
STONE DIAMETER	200mm
STONE WIDTH	40mm
LEATHER WHEEL DIAMETER	145mm
LEATHER WHEEL WIDTH	26mm

VERDICT

Although not cheap, this sharpening system is a very efficient and stable setup that is definitely up to the challenge

PROS ■ Stainless steel drive shaft

- Seven-year warranty
- Easy access switch

CONS ■ No jig supplied

PERFORMANCE

VALUE FOR MONEY

FURTHER INFORMATION

- Axminster Tools & Machinery
- **0800 371 822**
- www.axminster.co.uk

You can check the wear of the stone against this simple diameter gauge





Rubber-shrouded power switches are easily accessed - also note the carry handle



The toolpost has the standard Tormek fineheight adjustment for tweaking the angle



It fits in various positions to suit the grinding or polishing task in hand

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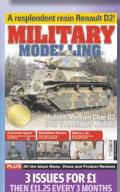




















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Making your own toboggan

We go back to 1939 when good clean fun was high on the wartime menu and look at how to make your own toboggan with steam-bent runners



Despite recent winter weather, which suggests that the UK now enjoys its own lengthy 'rainy season', there's always the chance of a bit of snow and the opportunity it might provide for some tobogganing.

These clear instructions for an achievable vehicle were first published in The Woodworker of October 1939, when good clean fun was high on the wartime menu and there were still plenty of men around to read them. If you're like me, any recent experiences sliding down a snowy hill will likely have taken place on a moulded plastic sledge or at worst, on a heavy-duty plastic sack as might have held agricultural supplies or similar.

Steam-bending

With the current time shortage (it's not just me is it?) and the rarity of the extended family, the likelihood of most of us making a toboggan for the grandkids to this standard is heading towards remote. While a lot of the job is quite straightforward – English ash, mortise & tenon joints, etc. - the bending of the runners stands out as the biggest problem poser. Anyone who has had any experience of steam-bending will know just how tricky it is to get right first time; sure, it's not impossible but it takes a lot of careful planning, preparation and a speedy execution to get a good result.

The article here recommends employing the services of the 'nearest steam-bending mill or van builders' as they generally have the facilities to carry out such work. Good luck with that in 2016.

Stability

As well as the wagon carving details on the legs (to reduce weight as well as introduce

a bit of decoration) one of the things which is of definite interest is the splay on the set of the runners. A full 3 inch difference is suggested between the width measurement from front to back. This is all in the interests of stability as the author of the article puts it 'on rounding a bend at top speed', possibly on the Cresta Run or similar. We have to remember we were a hardier (or is that fool-hardier?) species back then, and anyone sustaining a significant tobogganing injury would, on reaching home, probably just have had a stiff brandy, a quick patch up and a hot bath with a horse liniment rub down to follow. Happy days.

More from The Woodworker archive next month...

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