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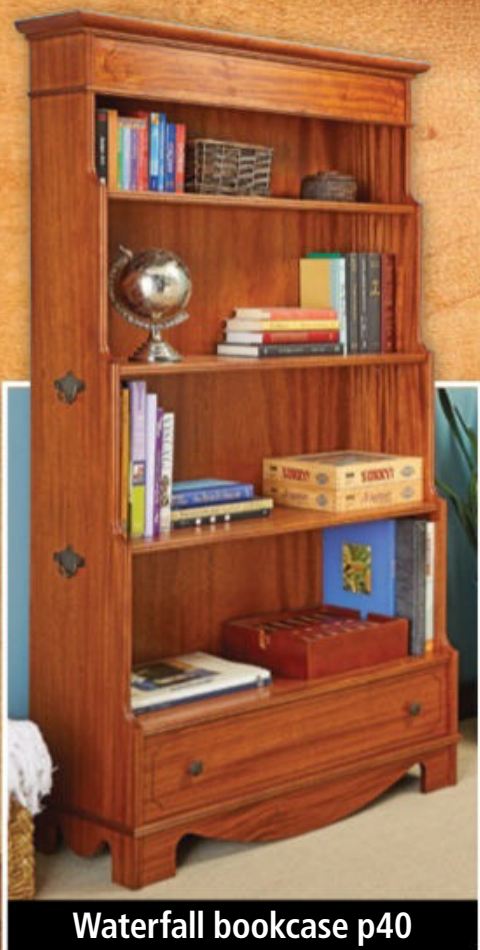
PROJECTS • PLANS • EXPERT TECHNIQUES • STEP-BY-STEP INSTRUCTIONS



Cutting Beads

LEARN ABOUT

- Kevin Potter • Flexible abrasives
- Beading bits • Cutting small parts
- 7 Workshop tips • Cutler's rivets



Waterfall bookcase p40

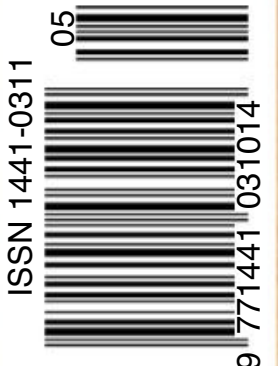


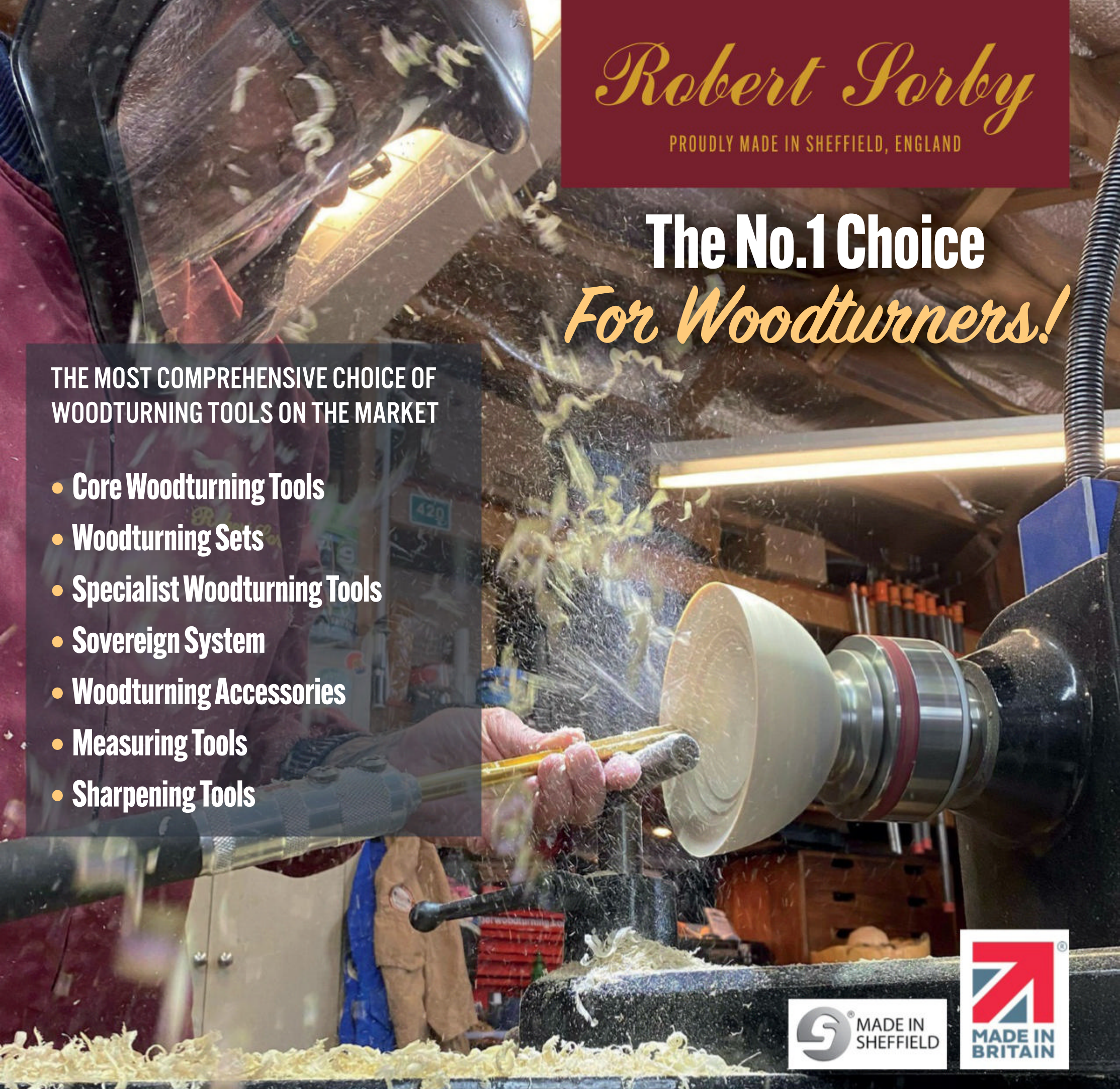
Knife handles p30



Bandsaw boxes p34

ISSUE. 165
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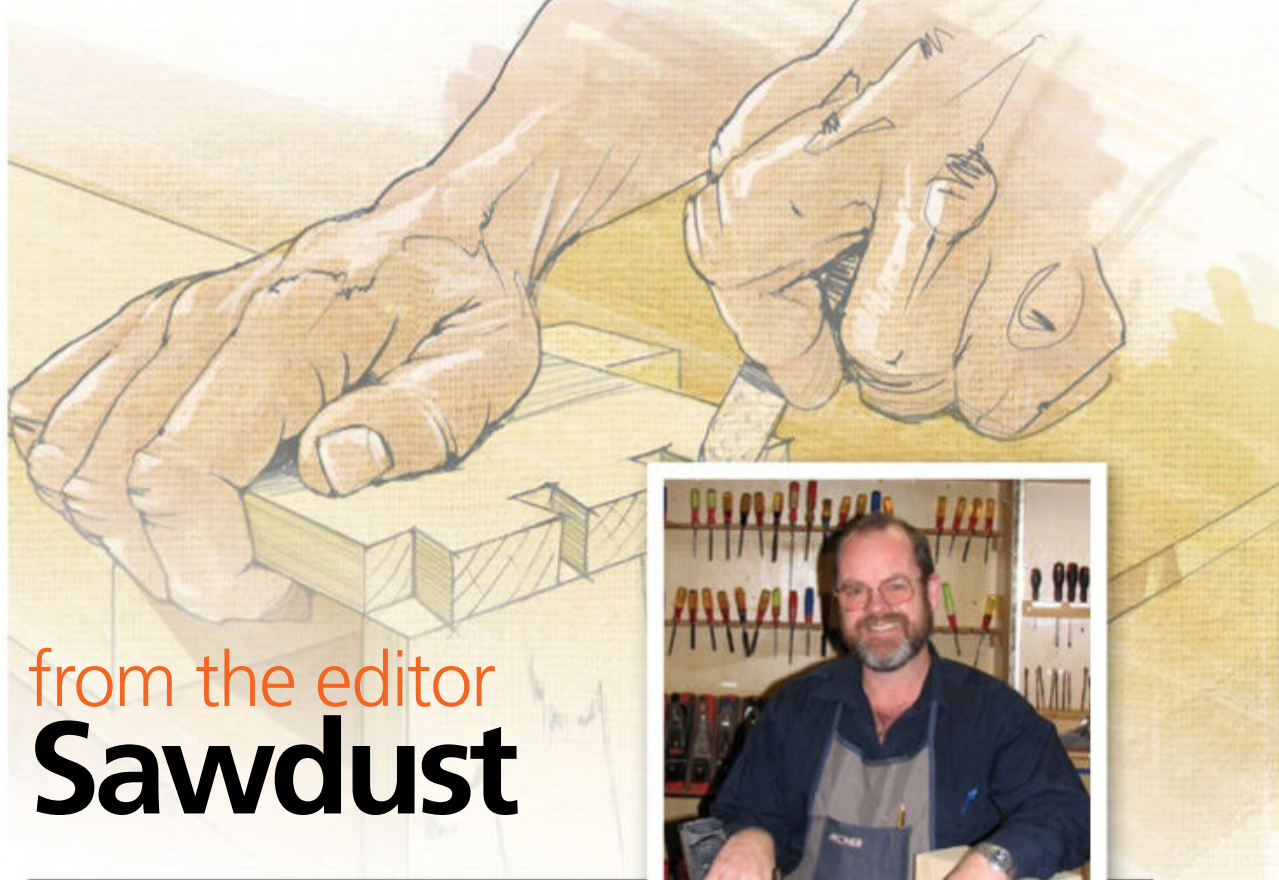
woodturning

Wooden Ladles 60

Two pieces is easy, one piece is a serious challenge!



Go to www.australianwoodsmith.com.au and follow the prompts to register. Each week you'll receive a new e-tip directly to your inbox. It's free, but don't worry, we won't bombard you with advertising or pass your details on to anyone else. We just hope you'll tell your friends about *Australian Woodsmith*.



from the editor **Sawdust**

Spending a morning with Kevin Potter in his workshop was truly inspirational. At age 92 he is still racing around Hobart in his all-electric Hyundai, walking his daughter's Labrador in the park and designing and making beautiful boxes with his bandsaw. On page 16 you can read all about this maverick autodidact who taught himself how to make harps.

Spending the long weekend in June building a Nejigumi box with Hiroshi Yamaguchi was also an amazing experience. While Kevin is self-taught, Hiroshi comes from a culture steeped in craftsmanship that has the apprentice/master tradition at its heart. Hiroshi always challenges me to lift my game and use only truly sharp chisels. Left to my own devices I would sharpen a chisel when it was not able to shave the hairs on the back of my hand, this level of sharpness is below par for a Japanese woodworker! Hiroshi guided the class through his process of cutting the most complicated joint I have ever cut, then he showed us how to insert Chigiri dovetail butterflies into the lid of the box. Chigiri connect timber sections together and are often used to make the most of a cracked plank.

Connections between people and nature is a theme in Hiroshi's work. This theme is also apparent in Kevin Potter's leaf boxes. Bringing nature into the workshop, celebrating the grain of the timber you are using and making the most of a precious resource is a lesson we can all take to heart.

Happy woodworking!

Chris

Chris Clark, Editor

Australian Woodsmith acknowledges the Cammeraygal people, Traditional Custodians of the land on which this publication is produced, and pay our respects to their Elders past and present. We extend that respect to all Aboriginal and Torres Strait Islander peoples today.



This symbol lets you know there's information online at: www.australianwoodsmith.com.au. There you'll see bonus cutting diagrams, articles on techniques, jigs and a lot more. If you don't have access to the internet, contact us on (02) 9439 1955.



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Tips & Techniques

Australian Woodsmith.

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SAFETY IN THE WORKSHOP

Safety devices, such as riving knives, guards on table saws and guards over router bits have been deliberately left out of the line drawings in Australian Woodsmith projects in order to make them easier to follow. It goes without saying that where safety devices have been supplied by the manufacturers you should use them. We encourage the use of push sticks as good work practice.

Exercise vigilance and the greatest of care when using power tools, whether stationary or portable. Keep all your tools sharp and well maintained. Wear protective eyewear, a dust mask and a hearing protector when appropriate. By limiting distractions and developing safe work practices you will go a long way to avoiding workshop accidents. So, work safe fellow woodworkers. -Editor

OUTFEED SUPPORT

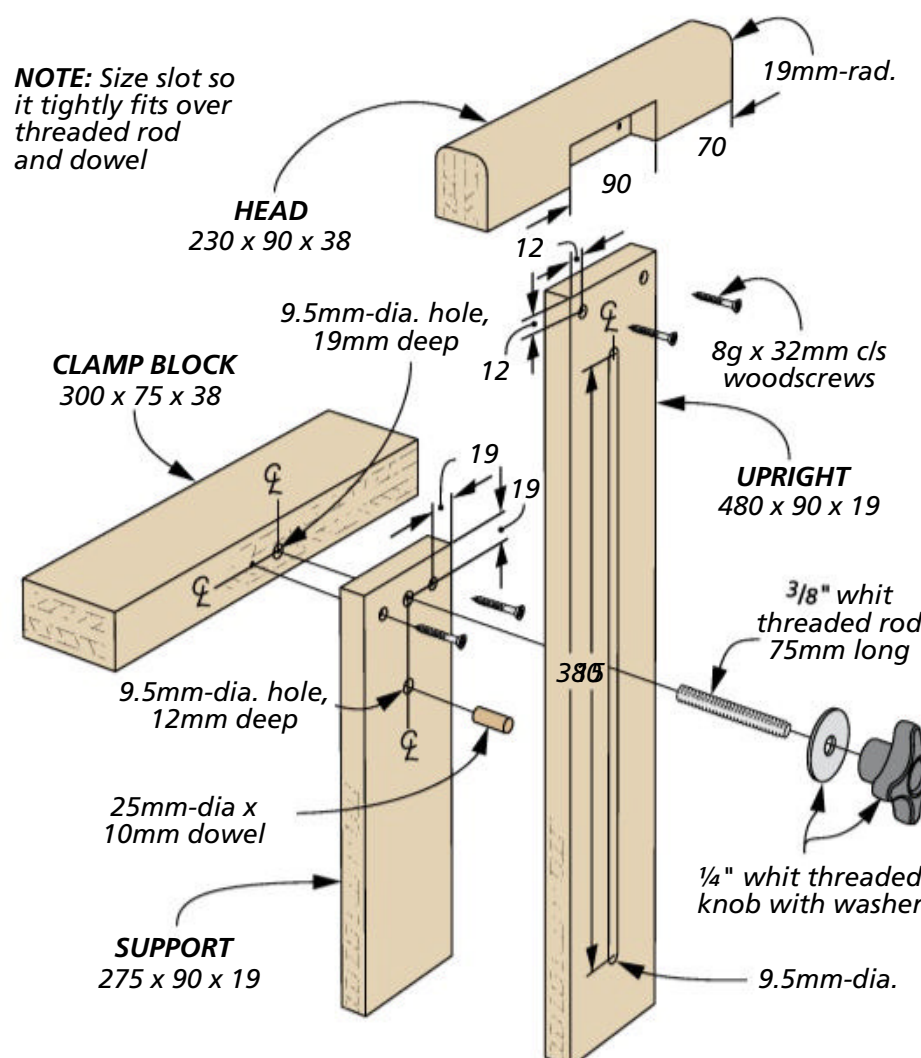
Outfeed support is nice to have on a table saw. I often use one that clamps to the rear rail of the table saw. However, on a recent playhouse build, I needed an outfeed support that was further away from the saw. So, I came up with this support that clamps on a sawhorse.

SIMPLE FORM.

The support has a clamping block that's glued and screwed together. To allow for easy adjustment, there's a groove in the support allowing you to lock it in place with a piece of threaded rod and a knob. The head has a large roundover so workpieces slide onto it easily. A notch in it fits over the upright, and it's screwed

in place. After clamping the support on a sawhorse, I can adjust the head height with the threaded knob and make my cuts.

Phil Huber



QUICK TIPS

APRON HELPER

Carol Roy found herself switching between a drill bit and driver on a recent project. Instead of putting the bits in her apron pocket only to get buried in dust, Carol used a pair of magnets clipped to her apron. That way, Carol can snap the bit, driver and screws on the front of her apron.



FOAM PAINTER'S POINTS

Seth Deitrich needed a few painter's points when finishing a project. Seth utilised some polystyrene scraps he had laying around his workshop. By driving a long screw through squares of foam, they create the perfect, quick painter's points. The foam holds the screw so it doesn't fall over, and you can support the piece without marring the freshly finished surface.



UNIVERSAL ROUTER GUIDE

Lower price for our new model!

Both models remain the same in relation to function except the box is now being manufactured from M.D.F. not aluminium. **A huge reduction in price and weight.**



What does the U.R.G. do? Any standard router fits between two pieces of aluminium angle that are fixed to an M.D.F. box and the timber being machined is clamped in three self-centring vices. It is used in conjunction with a router to machine grooves. A booklet is included outlining its scope and new project ideas.

Why a Universal Router Guide would be useful in your workshop.

Safety The guide allows a router to cut grooves by manipulating the router, not pushing the timber over an exposed cutter where a router is inverted in a table.

Vices The expense of the guide is due to the high quality self-centring vices.

On guard The guide is a part of a computerised testing platform so anybody can familiarise themselves with any WH&S issues that may arise.

Project ideas The video and website demonstrate original joining techniques and many new project ideas that can be created by the use of the guide.

Routers Any size router fits the guide.

Review! Visit our website to read the *Australian Woodsmith* magazine review from Issue 158.

Ideal for schools

Visit our website for demo videos

www.universalrouterguide.com.au demonstrates why your workshop would benefit from a Universal Router guide.

Redesign model prices:

Large model: was \$3500 now **\$2700**
Small model: was \$2500 now **\$1700**

**For more information contact Steve Somerfield on 0435 045 522
 or email info@universalrouterguide.com.au | www.universalrouterguide.com.au**

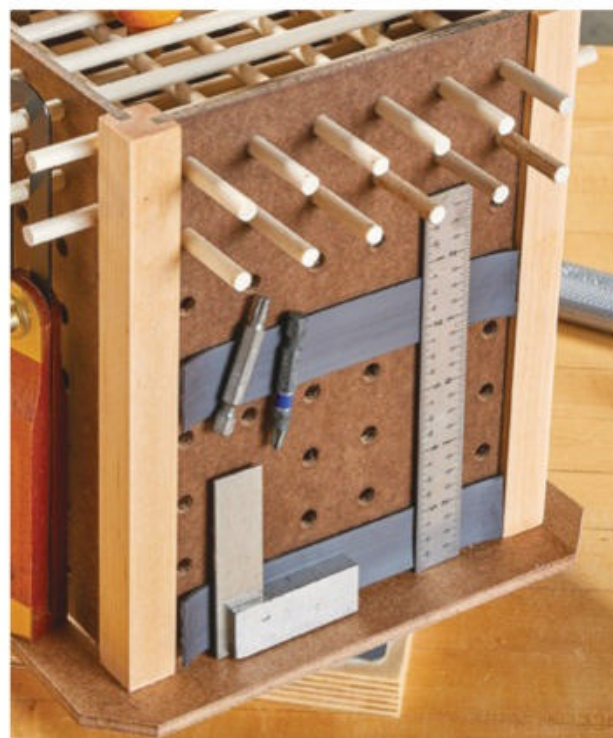


MODULAR PEGBOARD CADDY

If you need a way to keep small hand tools organised on your workbench, much like I did, then this lazy Susan tool caddy is a quick project for you. The caddy has pegboard sides held by grooved corner posts. You'll want to make sure the holes in the opposite sides line up with each other. You can slide 6mm dowels through the sides to divide the space inside the caddy.

By making the dowels extra long, you'll have a great place to hang small hand tools like spanners. A 19mm-thick plug screwed to the caddy keeps it square. Self-adhesive magnetic strips can be added to the outside of the caddy to hold smaller tools, like driver bits, a metal rule or jigsaw blades.

Sally Neimeier



▲ Adhesive-backed magnets provide a handy place to store small tools.



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**WANT TO LEARN NEW
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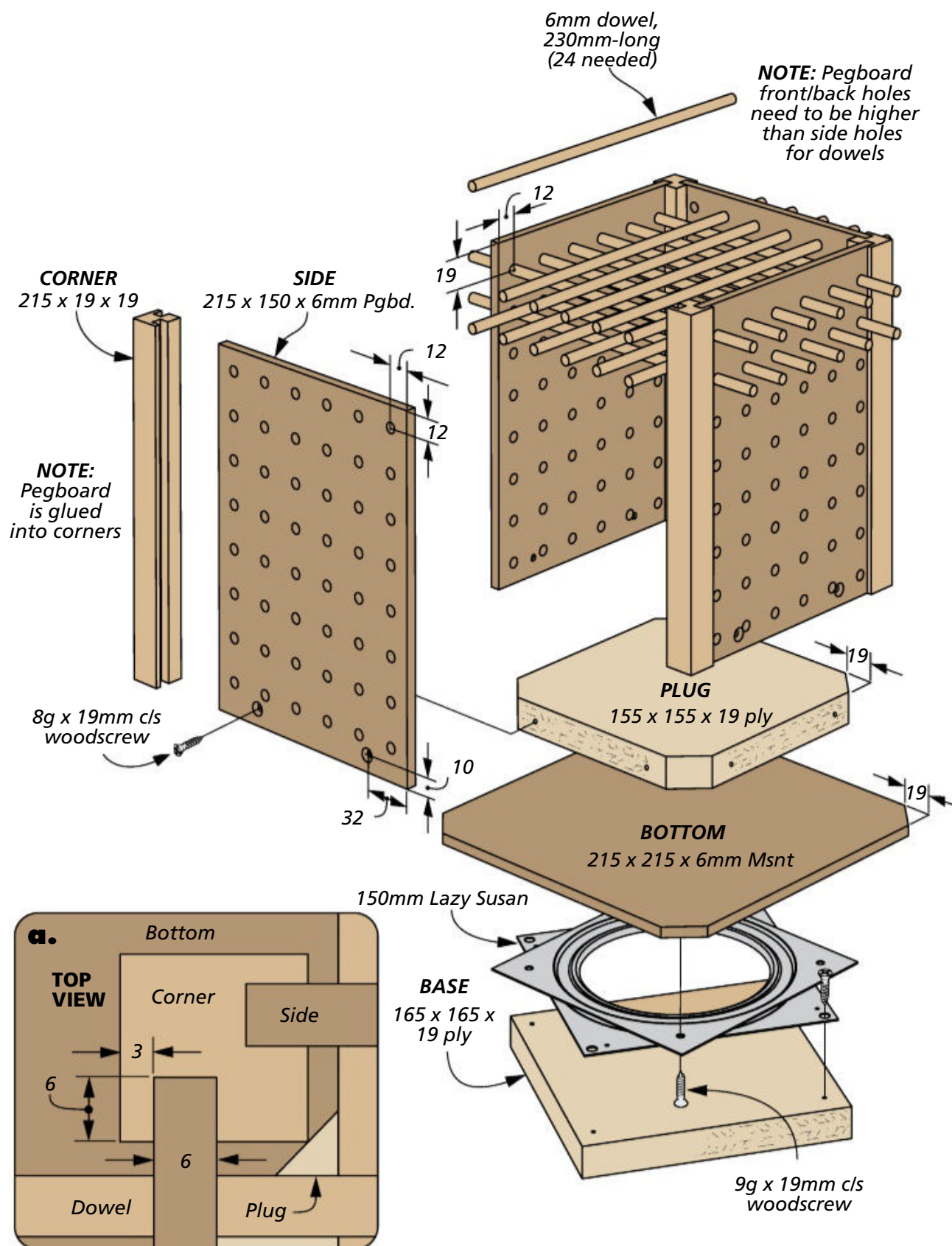
Watch Col Hosie box maker live stream

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Col will share his expertise and clever innovations in our relaxed and interactive sessions.



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QUICK TIP



PINKING SHEARS

I had the challenge of spreading some very sticky Sikaflex onto a surface. The tube of Sikaflex came with a nozzle but not a scraping card. In a moment of inspiration, I realised I could use pinking shears to create a scraper out of an expired membership card. The plastic card is easily cut with pinking shears and is rigid enough to act as a scraper for glue as well as Sikaflex. My wife berated me for using her dressmakers pinking shears on plastic and suggested I buy her a new pair (which I did).

John Noble

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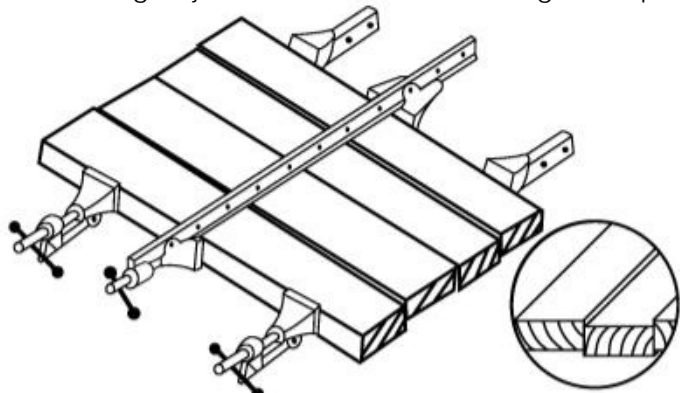
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BRIGHT TOOL MARKINGS

My old eyes struggle to read the engraved names and sizes of spanners in my workshop. They are especially difficult to read in low light. The solution I came up with

is to use a marking pen. The ink flows down into the recessed markings and after wiping away the excess, the spanners are much easier to read. *Ronald Yoder*

TRIMMING DOWELS

I recently needed to trim some dowels flush on a project. Knowing that a flush trim saw can often scratch the surface, I used a sanding disc as a spacer when trimming the dowel. The thickness of the disc leaves the dowel slightly proud of the surface and it can be sanded flush.

Logan Wittmer



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Next issue of *Australian Woodsmith* on sale 7th October 2021 - Issue 166



In our next issue we visit Morrison's Huon Pine Sawmill and step back into an extraordinary part of Tasmanian history. We review apron planes and marking gauges and share some insights into how to use these handy tools and what lifts one tool above another. The weekend project is a carving board complete with runnels for juice. We complement this project with information about food safe finishes. The Designer project is a delightful Japanese-inspired jewellery box that features secret dovetails (we show you step-by-step how to cut these iconic joints), while our heirloom project is a rustic dining table, complete with two bench seats. The turning project is a striking carved rim platter.



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SCHEPPACH TRACK SAW

Track saws are the bee's knees when it comes to breaking down sheet materials. You place the sheet material on the workshop floor (supported by a sacrificial sheet of similarly-sized stock) and cut away. The track allows you to make perfectly straight cuts at any angle from 90-45° without deviation or the saw binding (especially in long cuts). The rubber non-slip strips on the tracks, the weight of the saw and hand pressure is all you need to keep the saw cutting true.



Boys' Toys, Books & Gear

Festool introduced the track system way back in 1962. The patent has long since expired. Today you have a choice of three track saws on the market, all at different price points. The Festool comes in at \$1,169, the Makita at \$759 and the Scheppach at just \$299! If you are new to woodworking (or have a constrained budget) the Scheppach CS-55 is the saw for you.

This German-designed saw comes with a 1400mm-long track that features an oversized plastic cutting strip. The first time you use the plunge cut saw on the track, the blade of the saw will trim the plastic strip flush to the blade, giving you a perfect sight line for further cutting.

The saw itself can be used without the track, in fact you get three saws for the price of one. It is a panel saw (when used with the track) a plunge cut saw and a portable hand saw. The saw has been designed so that it can cut close to a wall (15.5mm compared to 12mm for the Festool) and has a dust port incorporated in the saw design. All-in-all an excellent value for money. Available from Hare & Forbes Machinery House (machineryhouse.com.au).



APUTURE PORTABLE LED LIGHT

The Neji-Gumi box joint above has to be the most challenging woodworking exercise I have ever attempted. Over the long weekend in June Hiroshi Yamaguchi ran a course at Japanese Tools Australia

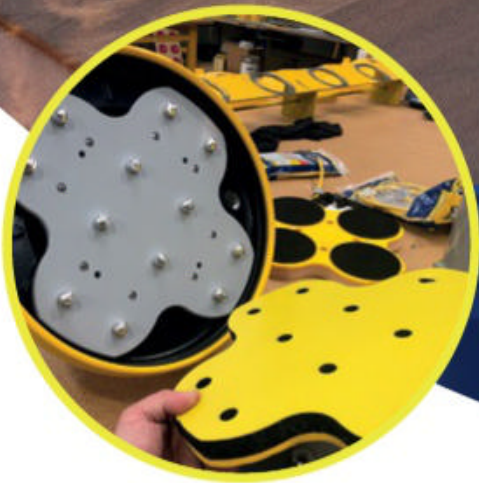
with a focus on cutting both this intricate twisted pin joint and the Chigiri (butterfly joint) seen on the lid. Even though the workshop was well lit, there was always part of the joint that was in the shadows,

this is where Mitch came to save the day. He lent me a clever little Aputure light in its silicone diffuser to illuminate every aspect of the surface I was working on. The light did the trick! It took a full three days on the tools (Hiroshi's are always razor sharp), but I did finish the project with 30 minutes to spare.

Since then, I have bought two lights myself. Just about any colour you like can be dialled up on these Bluetooth wonders. Made for filmmakers and photographers, these rechargeable marvels can be controlled via a smart phone, producing just the right illumination for the job. I can't ever see myself dialling up any colour other than white, however the lights themselves have become a necessary part of my kit. The magnets on the back lock tight on the drill press and project a soft-focus light on the work at hand. The units themselves now sit on my bench and cast light all around whatever I am working on. Available online from a variety of sellers.



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SMF - 200

~~\$3,495~~
\$3,295

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Height: 420mm
Horsepower: (0.55Kw) 3/4 HP
RPM: 1450 for 240 Volt, 1750 for 110 Volt
Orbit Stroke Size: 19mm (3/4")
Central Vac Ready: Yes
Brushless Motor
Discs: 4 x 150mm (6") hook & loop discs (no holes recommended)

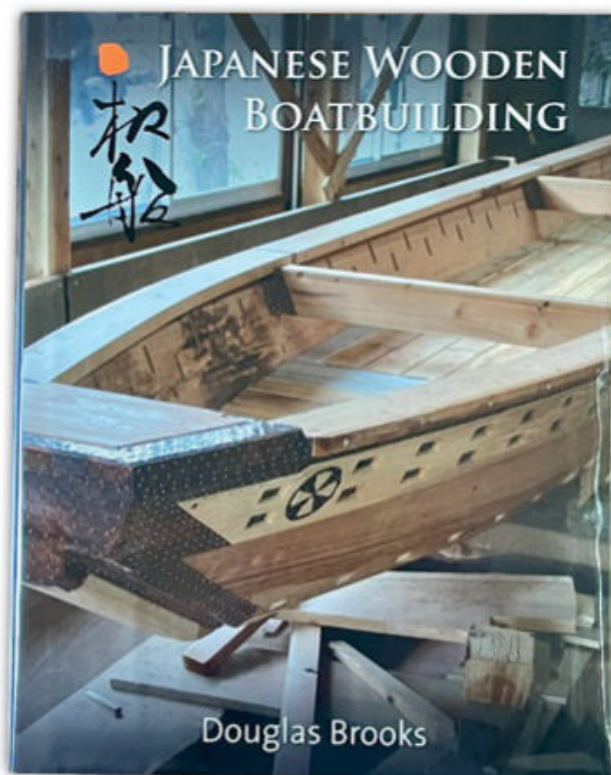


JAPANESE WOODEN BOATBUILDING

Douglas Brooks

Douglas Brooks is an American boatbuilder who specialises in building traditional wooden boats. Between 1996 and 2010 he arranged to be apprenticed to five elderly Japanese master boatbuilders, each one an expert in a locally-designed traditional craft. For Douglas to win the trust and respect of just one Japanese master boatbuilder is an incredible thing, to be apprenticed to five reflects deeply on the charm of the man and how earnest, respectful and interested in craft culture he is.

The apprenticeships lasted for the duration of a single boat build, each vessel distilling the history of the community and the secrets that the master boatbuilder wanted to pass on. The book is divided into two parts, part one is all about the fundamentals of Japanese boat design, building techniques and



the arduous apprentice system that has the apprentice sweeping floors and sharpening tools until he is ready to cut his first joint (after maybe a year of silence and not asking any questions)!

The second part documents the building of the five very different craft and the teaching techniques of the master boatbuilders themselves. Several

themes run through the book. The first is that the stoutly framed boatbuilding workshops mostly have rammed earth floors so that stakes and props can be used to hold the timbers in place while they are being worked on. The second is that edge tools are sharpened at least every second day (each cutting edge lapped 30 times and the back just 7). The third is that most work is done on the floor and not on a bench. Another is that sapwood should not be used in a boat, however if it is it should face the sea so that salt can preserve it. Also, the butt end of timber should always point towards the bow, strengthening the vessel as it cuts through an angry sea. Finally, every edge joint needs to be “killed” (the centre hammered to compress grain) so that it is watertight without caulking.

Douglas is an insightful writer who has researched each vessel with the focus of an historian and the insight of somebody who knows how to drive a nail home! This book will bring tears to your eyes and lift your spirits. Available from Japanese Tools Australia (japanesetools.com.au).

HENRY ECKERT NO 65 ADJUSTABLE MOUTH BLOCK PLANE



Henry Eckert's stable of planes continues to grow. The company itself has now moved out of a twin garage and into Gray Hawk's workshop and studio. This means that clients looking for premium Australian-made planes and tools can drop in and try before they buy, enjoy the creative vibe at the studio and be inspired to lift their game to a new level of excellence.

The Henry Eckert adjustable mouth block plane is based on one of Stanley's most admired block planes. The original Stanley No 65

was in production from 1898 to 1969. If you check out

Hans Brunner's excellent tool guide you can read up on the history of the tool and what to look for when buying a second-hand plane. I think David Eckert

consults these pages and takes onboard the faults that the originals had so that his version of a Stanley plane is always better than the original. This is obviously the case in regards to the new Henry Eckert No 65.

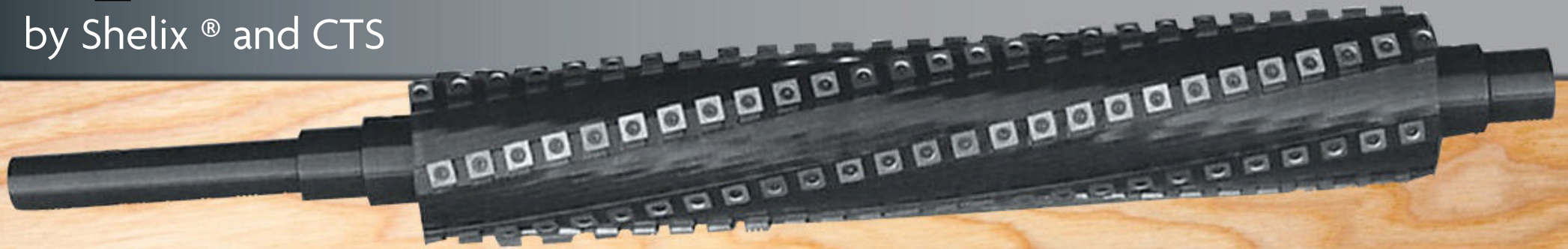
The machining on the plane is exceptional and the manganese bronze cap iron sets the plane off beautifully. The Howard Adjuster faultlessly guides the 4.8mm-thick PM-10V up and down without racking. The 42mm-wide blade rests on a CNC-milled 12° bed and comes ground at 25° (two minutes on a stone had the blade razor sharp and ready for action).

The adjustable mouth can be closed when taking fine shavings, or opened when acting as a shooting plane. The No 65 is a hefty plane (it weighs 950g) and just powers through the hardest of woods, giving it the characteristics of a small smoothing plane.

Well done, David Eckert. Available from Henry Eckert Toolworks (thetoolworks.com.au). 

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Kevin Potter

A thoroughly modern Renaissance man.

The voice down the phone seemed a little older than I had expected, Kevin checked his calendar, we found a time for an interview and made an arrangement to visit his workshop.

The back story was that in 2019 my wife and I visited the Royal Tasmanian Botanical Gardens (always a highlight when we visit Hobart) and were mesmerised by the fabulous leaf boxes on display in the gift shop. I had bought the box on the facing page and made a mental note to track down the maker next time I was in Hobart.

KEVIN AND HIS HARPS

Kevin welcomed me into his neat home and we quickly relaxed in each other's company. I had expected a much younger craftsman as the maker of the delightfully organic leaf boxes, not a 92-year-old gentleman surrounded by exquisite model boats in display cabinets and a Huon pine harp in the corner!

Kevin grew up south of Hobart in the Huon Valley. At school he excelled at leatherwork and woodwork and really enjoyed crafting things by hand. He then went on to attend Technical College (now called TAFE). His working life took him north to Launceston, where he obtained a Certificate in Electrical Engineering. When he retired in 1986 he was an Engineering Associate working for the Hydro Electric Commission. He moved to Hobart in 1995 living at the



seaside suburb of Lauderdale.

Sailing and furniture making had been hobbies before retirement, after 1986 Kevin had the time to finesse these skills. A cancer diagnosis had him and his wife leave Lauderdale and move closer to their daughter in Hobart so that he could make weekly visits to the clinic. He won that battle but lost his wife of 60 years 10 years ago.

In 2003 his granddaughter asked him to make her a harp (not knowing how complicated the request was). Kevin took on the challenge, researched harp design, bought some plans and the hardware required and went on to build the first of 14 harps.



▲ Kevin keeps his hands busy making exact scale replicas of his favourite ships.



- ▲ The maker of this leaf box obviously has a fine eye and the skills and insight to craft beautiful objects inspired by natural forms.



- ▲ Kevin's leaf motif is present in most of his work. This free-flowing bandsaw box is delightfully sculptural.

Each harp took around a year to make and most were commissioned pieces. The beautiful harp on the facing page is one of two that belong to his daughter and was crafted out of Tasmanian blackwood and features a King Billy pine soundboard.

In 2019 Kevin decided that he had made his last harp. From now on he would use up his pile of offcuts and focus on designing and making bandsaw boxes.

HARVEY AND THE WORKSHOP

After an hour of conversation Kevin drove me to his daughter's place (in his all-electric Hyundai!) so I could see his workshop. We were met by an eager 10-year-old Labrador named Harvey

who was looking forward to a treat and his daily walk.

When Kevin and his wife downsized from the family house in Launceston to a unit in Hobart his daughter volunteered her garage as a workshop. She had grown up with a dad who always had busy hands making "stuff" and fixing things. She knew he would wither on the vine if he didn't have access to a workshop. It is obvious that she was right.

It is not only the workshop that has kept Kevin sane, focused and creative, Harvey and the daily walks have kept him fit. His research into Family History and his writing of a book have allowed him to dive deep into history and feed his enquiring mind.



- ▲ I see a whale and a mouse in this playful Australian red cedar bandsaw box.



- ▲ Perfect bedfellows. Kevin makes Huon pine and Tasmanian blackwood shine in his leaf and bandsaw boxes.



- ▲ Seven clever cuts on a bandsaw is all it takes to craft this amazingly organic jewellery box.



- ▲ Close inspection of each leaf box will reveal the surgical accuracy of the entry and exit point. This is where the wall is thickest and the glue more effective.



- ▲ The "babushka doll" technique allows a series of boxes to be cut from a single block of Huon pine.

LEAF BOXES

Taking Harvey for his daily walk allows Kevin to collect the leaves that inspire his work. It also gives him his daily dose of vitamin N (N for nature) and keeps Harvey happy.

The pictures on these pages take you through the steps that Kevin follows to design and make his leaf boxes. The constant motif throughout all the creations on these pages is the graceful lines found in the shape of a leaf.

As you can see above, once Kevin has found the perfect leaf, he uses it as a model to sketch from. When he is happy with the shape, he traces it onto a block of Huon pine, and then cuts the leaf shape on the bandsaw.

The next step is to use his fingers as a depth gauge and trace a fine pen line around the tear-shaped block. This done, the next step is to introduce the band-saw blade to the block via the tip of the leaf shape and cut the inside of the block away with just one flowing cut.

The next step is to pop some glue in the blade entry/exit point and use masking tape to lock the box walls back together. The entry/exit point is also the thickest part of the box wall, the point with the largest surface area for the PVA to penetrate and lock tight.

The inner block that is left can then be processed into a smaller leaf box. This "babushka doll" technique minimises waste and maximises income!



- ▲ A steady hand and a firm grip is all that is required to draw a parallel line on the block.



- ▲ The lid of each box is where the "wow" factor can be found. Select pieces are cut open and reglued with a "vein" insert.



- ▲ The lid insert is what binds the vein and two leaf sections together. Now it is time to take the assembly to the bandsaw.



- ▲ The bandsaw is Kevin's favourite tool. Once the lid is cut to size, a base is butt glued in position on the bottom of the box.

LEAF LID

The base, lid insert and lid stock material is then all carefully cut into 5mm-thick sheets on the bandsaw and sanded smooth. The most attractive pieces are put aside for the leaf lid. This is where Kevin's artistic eye comes in. As you can see on these pages, Kevin chooses to use timber that has fiddleback, burl or figured grain for his box lids.

The first step in making the lid is to trace the inside of the box onto a piece of sound material (it will become the foundation for the lid sections). It is then cut to size on the bandsaw, its edges sanded smooth and set aside. The box is then placed on top of the chosen leaf lid stock and traced. Kevin then draws the midrib of the leaf down the centre and flares it out as it becomes the petiole. A return trip to the bandsaw has Kevin cut the "leaf" down the centre and along the flare lines. A fine veneer of contrasting timber is then glued between the lid sections at the same time as the sections are glued to the lid base.

After the assembled lid has dried, it is placed in position on the box and cut slightly oversized on the bandsaw. The box and lid are then introduced to the belt sander and sanded smooth. Another piece of 5mm-thick stock is then glued to the base and allowed to cure while Kevin works on the stem section.

When the base is dry, Kevin returns to the bandsaw and cuts the bulk of the excess away, before using the belt sander



- ▲ With the base glued in place, it is time to pop the lid in position and sand away the excess on a belt sander.

RENAISSANCE MAN

After the tour of the workshop and the detailed description of box making techniques, it was time to drive back to Kevin's unit so that he could take Harvey for a walk along the river. Kevin cranked



- ▲ A selection of Kevin Potter's leaf boxes from the display cabinet at the Royal Tasmanian Botanical Gardens gift shop.



- ▲ Here you can see the lid insert acting as the foundation for the lid pieces.

up his espresso machine and made me an excellent cappuccino while we talked about the tragic demise of technical education in Australia and how his training had given him lifelong skills.

I drove off to the Botanical Gardens for another walk, visited the gift shop and bought the bandsaw box on page 17 and admired the new consignment of Kevin Potter leaf boxes in the display cabinet.

Kevin is an inspiration to all makers and thinkers in Australia. **W**



Flexible Abrasives

Scotch-Brite is just one of many flexible abrasives that can change the way you sand in the workshop.

Minnesota Mining and Manufacturing (3M) is a company founded on innovation. Wet and dry abrasive papers and masking tape were developed for the auto industry in the 1920s. Scotch cellophane tape, magnetic tape for recording and Scotch-Brite are everyday products that have come to us via 3M.

The culture at 3M has innovation celebrated at its heart, with staff who invent and develop getting a cut of the profits if the product is successful. One such product came to us out of "left field" when one clever 3M scientist found a use for a glue that didn't work as expected. His application of this failed glue has given us Post-It Notes!

SCOTCH-BRITE

The Scotch-Brite kitchen scourers have been around since the 1950s. New applications of these flexible pads are being developed all the time. One clever 3M application replaces steel wool in the finishing industry. For years "0000" steel wool has been used to rub wax onto a surface and to de-nib finishes. The issue you have with steel wool is

that it shreds when being used, can splinter into fingers and get left behind to rust in cracks and grooves on the wooden surface. Scotch-Brite synthetic steel wool does a better job and lasts longer.

The random weave of the polymer that is the base for Scotch-Brite pads is very similar to the loop found in "hook and loop" abrasive discs, so similar in

fact that you can cut pads to size and use them on random orbit sanders!

Scotch-Brite is also used to make finishing belts for knife makers. A new product on the market is a white 50 x 785mm Scotch-Brite belt designed specifically for the Sorby Edge Pro. As you can see on the facing page, I removed the cowl from my Edge Pro and converted it into a mini finisher.



▲ Grey synthetic "000" steel wool pads readily conform to complex profiles and don't rust.



▲ White "0000" synthetic steel wool pads don't shred (unlike steel wool) when waxing a finish.



- ▲ Sanding mops come in a variety of sizes and can be used with a flexible drive to sand difficult-to-access areas.

SANDING MOPS

Sanding mops are a great addition to your workshop. Mounted on a pedestal drill, a sanding mop can be used to finish curved items with ease. Interestingly, the abrasive flaps do no harm to your skin (they work best when in contact with hard surfaces). A flexible drive allows a sanding mop to be used away from the pedestal drill.

Scotch-Brite mini sanding mops are designed to run at high speeds in a Dremel machine and are suited to more intricate work.



- ▲ Scotch-Brite Radial Bristle Discs are designed to be mounted on a Dremel. They do a great job removing old finishes on mouldings.

ABRANET

Abranet is a clever abrasive made by Mirka and is available in 75mm-wide rolls that can be cut to length to fit a Mirka sander or torn into strips and used as sanding belts. The 'net' is impregnated with abrasives on one face and covered in loops on the reverse. The open weave of the stiff warp and weft allows the dust to move away from the surface being sanded. Abranet abrasive can be torn into very thin strips so you can access difficult to reach areas with ease.

FLEXIBLE SANDING PADS

There is a growing number of flexible sanding pad systems on the market. These systems can be used for flat sanding as well as contour sanding and are the right choice when renovating furniture.

The new 3M Sandblaster sanding sponges feature a hexagonal pattern of abrasive that allows the dust to be channelled away from the work surface, this stops the dust clogging the sponge and allows the block to sand more aggressively. See page 73 for sources. [W](#)



- ▲ Abranet can be used as a strap sander or pinched between fingers to blend edges.



- ▲ 3M SandBlaster blocks channel the dust away and last up to 5 times longer than other blocks.



- ▲ 3M "0000" grade Scotch-Brite is also used to make surface conditioning belts for finishers.



Beading Bits



▲ The two bits we used on the waterfall bookcase came from Amana Tools. The double-beaded bit was used on the case and shelves. The single was used on the top.

Thirty-five years ago I fell in love with my first router. It was a Bosch 1604 and I still have it in my workshop. One of my children will have to decide what to do with it, because I'm never parting with the old boy.

The magic of watching a router work has never faded for me. Firing the tool up and watching it devour a square edge while leaving behind a smooth, succulently shaped profile is a delight that never diminishes (photo above).

The shaping satisfaction sawdust really flies when using bits like the two beading bits you see to the left. But that's just icing on the cake in this instance. Complex profiles like these also save a

lot of work when you're crafting a project that harkens back to an earlier furniture style.

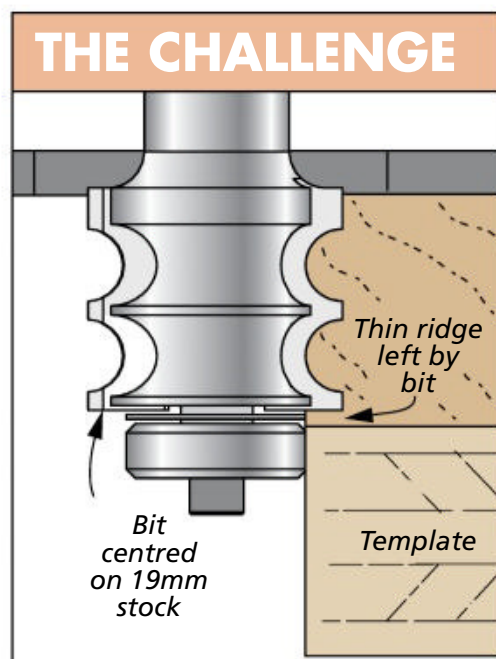
The design DNA of the waterfall bookcase on page 40 comes from the third era of the *Georgian* period of design. There's no need for much more of a history lesson here other than that one of the hallmarks of that style was beaded edges.

YESTERDAY. At the time, the beads were most likely shaped with a combination of moulding planes and scratch stock. Which I suppose could be done here, you know, one of those character-building moments where you spend time shaping and honing a chunk of steel into

the perfect profile. Then craft a holder from a select piece of wood — nah — I’m going to chuck up a new bit in my router.

REALITY CHECK. Okay, I’ll take off my rose-coloured glasses for a moment and address a challenge that came up with these bits. As you see in the drawing to the right, the width of the carbide blade is different at the top and bottom. So when routing with the bit centred, it will leave a ridge on one side of the workpiece (photo, right).

Removing this ridge by hand could lead to damaging the profile. Not to worry though, our workshop craftsman, Marc Hopkins, came up with the clever work-around you see below.



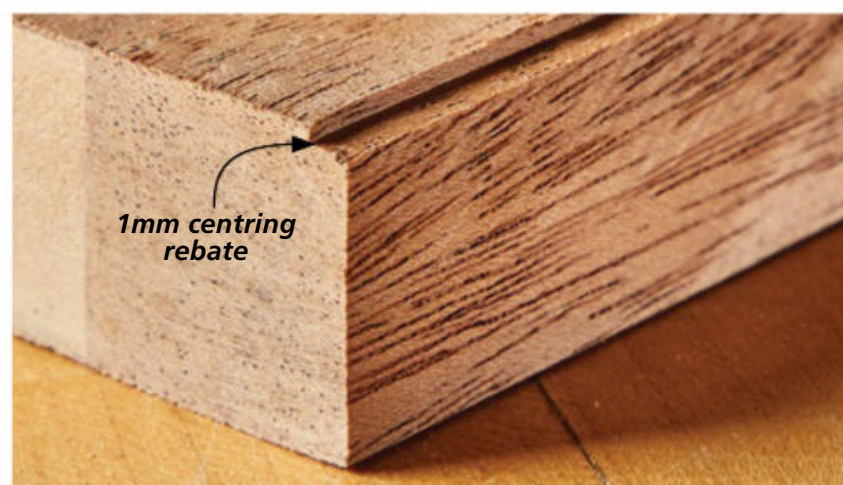
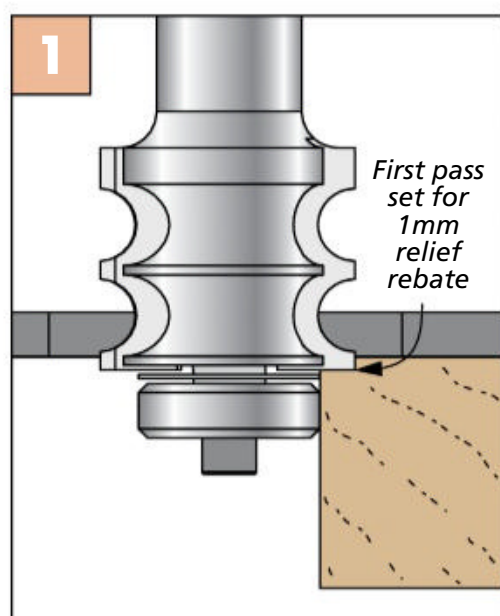
▲ Applying a centred double-beaded profile to a piece of edging leaves the thin ridge you see here. This remnant happens with both the double and single bead profiles.

THE SOLUTION

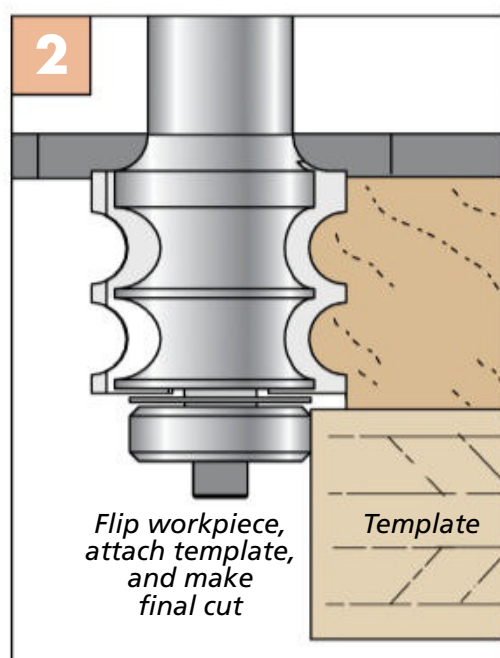
Marc chose to remove the resulting ridge *before* routing the whole profile (Figure 1, below). To do this, he set the depth of the bit so that it would create a shallow rebate on the edge of the workpiece. This rebate (photo below) compensates for the narrow edge on the router bit.

With that preparation done, he

attached the template (or a guide block flush to the edge) and routed the centred profile on the edge (Figure 2). We’ve shown the double-beaded bit in this example, but the same tactics apply for the single-beaded bit as well. With that challenge resolved, please excuse me while I return to my router romance. **W**



▲ The first pass of the beading bit creates a small rebate. This rebate will allow you to centre the bit on the edge when making the second pass.



▲ The second pass is done with template attached for the bearing to ride against.



▲ Taking the time to work with beaded bits pays big dividends like you see on this bookcase.

7 workshop tips to improve Efficiency & Accuracy

Let's face it — whether the project you're working on is a big piece of furniture or a small box, there's going to be some repetition involved in building it. It's all just part of the process of woodworking.

Though repetition is a necessary part of the craft, it doesn't have to be something you dread. In fact, I find quite the contrary is true. Over the years, I've developed several ways to take advantage of this repetition in order to speed up the project-building process.

The best part about these strategies is that many of them not only help you work faster, but they also improve accuracy. This leads to more consistent parts, tighter-fitting joints and other hallmarks of solid construction. Here are some tricks to speed up your next project.

[1] Get Two (or More) from One

With many projects, your first inclination is often to start trimming parts down to their final sizes right away. However, if you're dealing with parts that are going to have identical joinery, as well, then you might want to hold off on the final sizing. Instead, a better approach can be to cut the joinery in a thicker or wider blank first. Then, you can cut the workpieces to their

final size in order to produce project parts with accurate, identical joinery.

Some examples of when this technique can be effective include matching case sides with the same rebates and trenches. Here, you'll cut the joinery in an extra-wide panel first before ripping the two case sides to final width (refer to the main photo above). This approach also works for parts like thin divider strips with interlocking notches. The notches can be cut on a thick blank before ripping the individual strips from that blank.

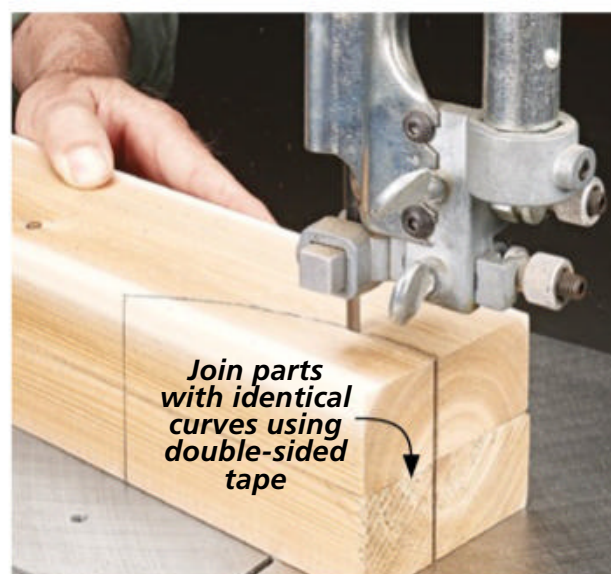
[2] Stack Them Up

One area of woodworking that's dif-

ficult to duplicate is freehand curved cuts at the bandsaw. But if you have parts that require identical curves or tapers, such as table legs, there's a simple way to speed up the process and enhance accuracy. Just join a couple of them with double-sided tape and cut them both at once (lower left photo). You can even leave them together while smoothing them out with a sander.

[3] Set Stop Blocks

When it comes to quick consistency for a variety of operations, a stop block will be your best friend. You can use a stop block to produce parts of identical length





by clamping it to an auxiliary mitre fence on the table saw, for example. And for making holes at identical locations on the drill press, it's also the way to go (lower right photo, previous page). I'll also use stop blocks on my mitre saw fence, at the router table for stopped cuts, and in many other instances.

[4] Save Your Settings

Tenons (along with mortises) are the cornerstone of good joinery. So I tend to cut them a lot. And with most projects with tenons, you'll find that the dimensions are pretty consistent from one tenon to the next, with cuts of similar lengths or depths.

To take advantage of this, I'll make as many tenon cheeks or shoulders as I can at one blade setting before moving on. For example, I'll cut all the 10mm cheeks before the 6mm shoulder cuts (photos above). Not only is this faster, but it improves accuracy by not changing a blade setting that's difficult to reset later on.

[5] Simple Centring

Another operation that can be difficult at times is cutting a centred groove. Though

it sounds simple in theory, you can spend an awful lot of time adjusting the fence and making test cuts to get a groove perfectly centred.

A better approach is to cut the groove in two passes as shown in the photos below. To accomplish this, set the blade slightly off-centre, and cut the groove in two passes by flipping the board end for end between passes. You can also adjust the rip fence slightly to easily change the size of the groove.

[6] Pair Up Profile Cuts

Profiles like roundovers, chamfers and coves are a great way to dress up your projects, as well as soften the edges. But if you've ever tried to line up workpieces that already have the profile cut on them, you know how difficult it can be. That's why another time-saving trick I like to use is to save my router profile work until after the workpieces have been joined together. If I plan to rout a 6mm roundover on the parts of a frame, I'll

▲ By assembling frames before profiling the edges, you can avoid alignment issues later.

assemble the frame first before routing the profile around the perimeter (photo above). The work goes faster, and the profile is guaranteed to align.

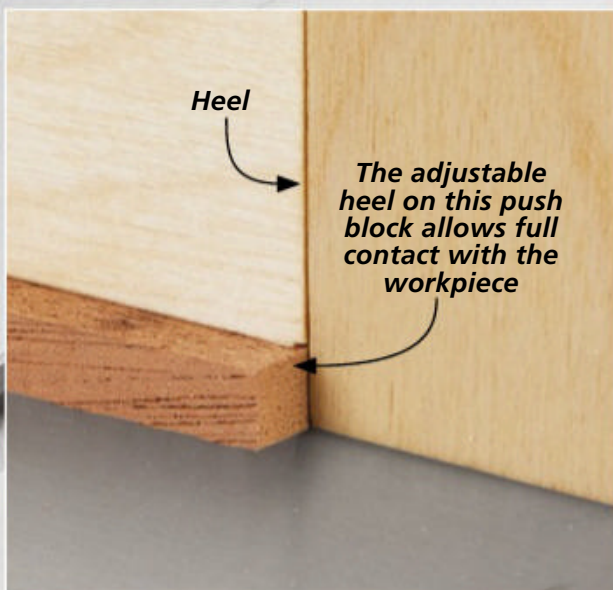
[7] Sand Smarter

The same common-sense approaches can be used when completing project assemblies. For example, the inside faces of cabinets can be tough to sand once the cabinet is assembled. So I'll lay my parts on the benchtop and sand the inside faces before assembly, taking care not to over-sand the joinery. For the outside of the case, though, I'll save the sanding for after assembly to achieve the smoothest results possible (photos below). **W**

▼ Sand the hard-to-reach inside faces before assembly, and the outside faces afterwards.



Working with Small Parts



Often, the size of parts is relative to the size of a project. For example, when building a table, the parts are large. Likewise, when you start to scale down projects, the parts get smaller.

When dealing with these small parts, the table saw might not seem to be the best tool. However, with some proper set-up and technique, you can use your table saw to tackle these small parts. Here, I'll take a look at some of the best practices to make safe and accurate rip and crosscuts on the table saw.



- ▲ A fresh insert in the table saw increases safety when cutting small parts. It reduces the likelihood of the part catching on the insert, or getting caught between the insert and blade.



- ▲ As a temporary fix, you can refresh your insert by using packing tape to close up the gaps. The packing tape is slick and allows workpieces to glide over it.

RIP CUTS

The first type of cut we'll look at is rip cuts. Ripping small parts to width can be tricky. First, you have to feed the workpiece safely. Second, you have to do this without having the piece fall into the opening in the insert or slipping under the fence. Here are some of the techniques I use to get the best results.

ZERO CLEARANCE. It's easy for small parts to get caught or stuck in chewed-up insert plates. To avoid this, I make sure to have a fresh, zero clearance insert in my saw. This doesn't have to be fancy. Usually, it's a homemade insert, like the one seen above. This keeps my cuts clean and also keeps the workpiece

from falling into the saw cabinet.

If my insert is still fairly fresh but I need to tighten it up for just a few cuts, I'll often reach for a roll of packing tape. As you can see in the top right photo, the packing tape can be used to temporarily close up the kerf in the insert while you make your cuts.

A SPECIAL PUSH BLOCK. One of the most important tools for making safe cuts is a push block that suits the task at hand. I've found with small parts, it's best to match the push block to the stock. Often, this means using a thin push block when making narrow cuts. Likewise, I use an adjustable push block to hold thin stock (such as in the main photo on the previ-

ous page). A push block with an adjustable heel allows the entire push block to be in contact with the workpiece, giving me more control.

SACRIFICIAL FENCE. When ripping thin stock (such as veneer or plastic laminate), I make sure my fence has no gap between the fence and the table. A piece of Masonite (lower left photo) addresses this.

SMALL RIPS. For ripping multiple (narrow) parts to the same width, I'll often use a stop block to set the width of the cut (right photo below). This gives you a cleaner cut and the pieces you're ripping don't get caught between the fence and the blade, where they may bind.



- ▲ When cutting thin stock or laminate, the workpiece can slip under the fence. A quick fix is to attach a sacrificial fence made from Masonite using double-sided tape.



- ▲ To rip multiple pieces of thin stock, I'll use the back side of a featherboard as a stop block. After making a cut, move the workpiece against the stop (inset photo) and reposition the rip fence before making another cut.

CROSSCUTS

When I'm crosscutting at the table saw, I find the way to get the most accurate results is to use a crosscut sled, and cutting small parts is no exception. However, a small parts sled needs to be size appropriate. And depending on the type of work you're doing, you may want to make some special modifications to the sled.

CROSS SLIDE FENCE. The simplest form of a small parts sled that I use is a fence and base on my cross slide. You can see this in the top photo below. I like this type of sled for two reasons. First, it's easy to make. (It's a plywood fence face with a Masonite base.) Second, you get some of the benefits

of a cross slide — it stores easily and you can adjust the cross slide for any angle cut you need.

With that being said, this simple sled doesn't have a lot of options for accessories. So, when I need something a little more robust, I take a slightly different approach.

COMMERCIAL SLED. The next step up from a simple cross slide fence is a commercially-made small parts sled, like the one shown below left from Rockler. What I like about this type of sled is that it's sized to handle small workpieces. It's much smaller than my normal crosscut sled and feels like it's right for the task at hand.

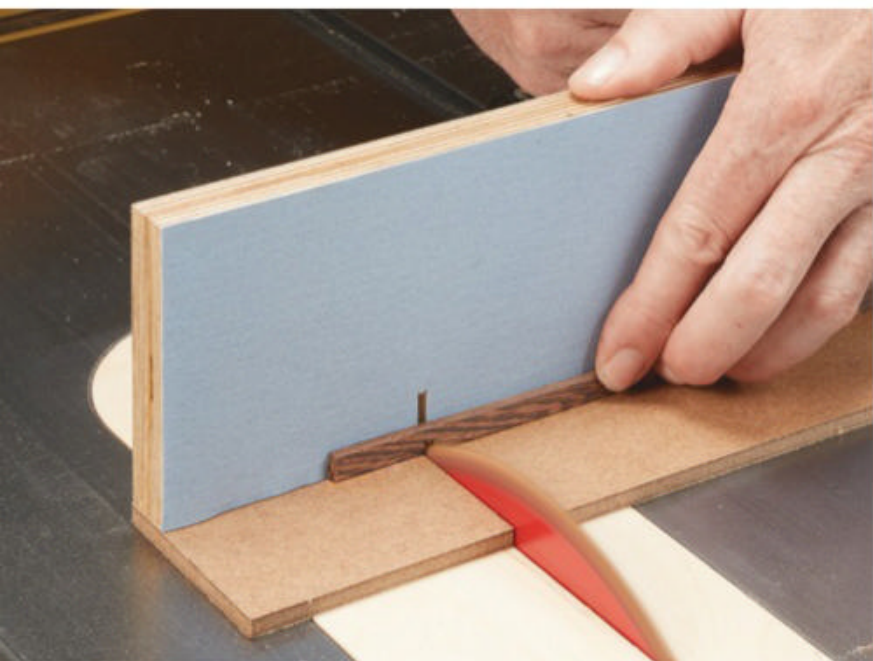
I also like the fact that most small parts sleds have a series of T-tracks along the base of the sled and along the fence. This is particularly helpful when

adding accessories such as stop blocks and hold-downs (more on that later).

In addition, a sled like this usually has a replaceable insert. This means that you can always keep the kerf in the base of the sled tight and keep your cuts clean.

WORKSHOP-MADE SLED. If your desire is for ultimate luxury in a small parts sled, you can't beat a cutting system you can make yourself (lower right photos). A system like this offers micro-adjustments and almost feels like it scales your table saw down to a smaller level — a nice benefit when working with small parts.

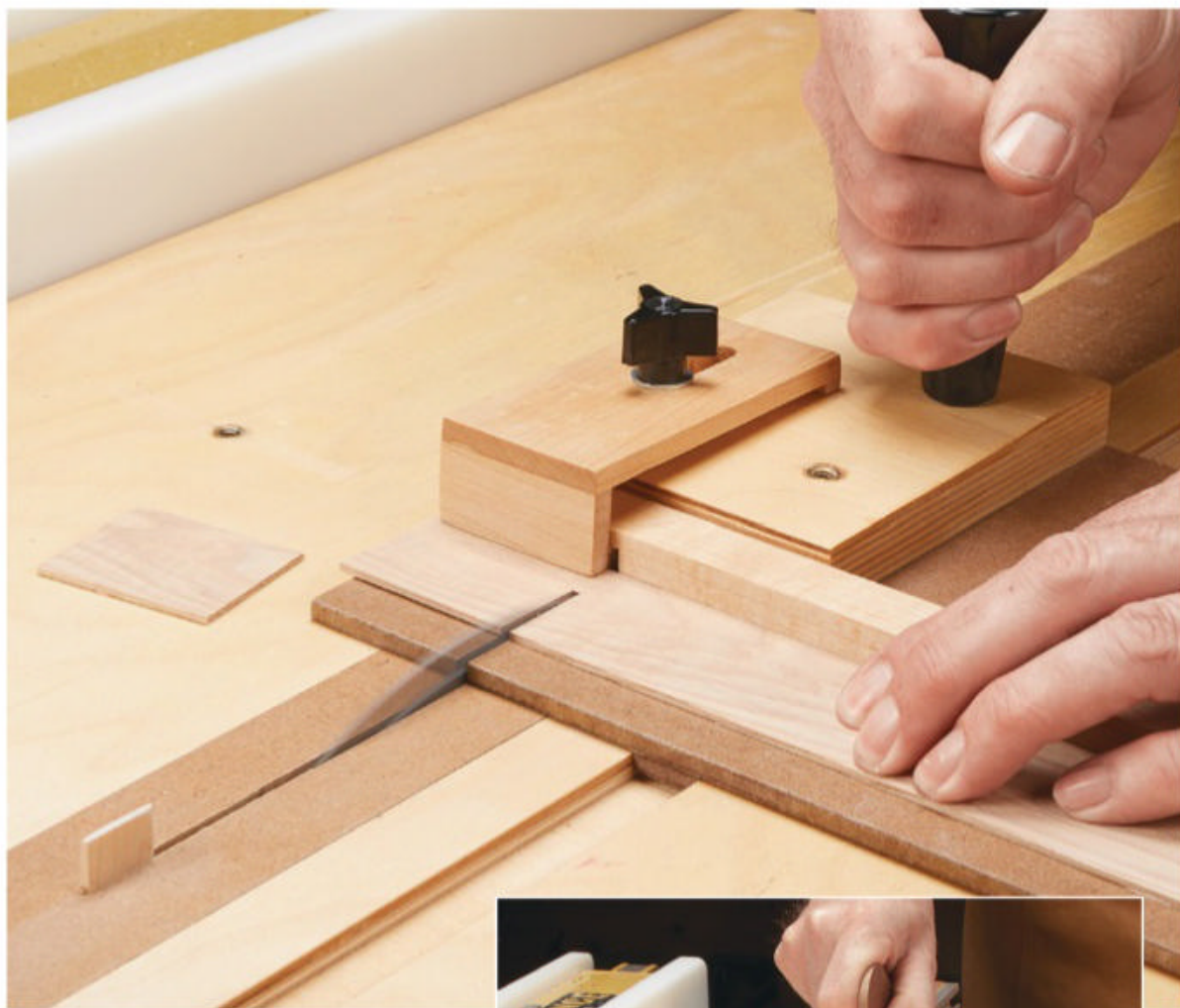
The great thing about a workshop-made sled is that you can customise it to do what you need. You can add T-track wherever you want and make accessories like hold-downs. You can even use some of these sleds to perform rip cuts (such as the inset photo below).



▲ **Good.** Adding a Masonite base to a plywood cross slide fence is a quick trick I use when cutting small parts. The base and fence are zero clearance for clean cuts.



▲ **Better.** A commercially-available small parts sled has handy features like a replaceable zero-clearance insert as well as T-track for accessories.



▲ **Best.** A cutting system like this scales your table saw down to a smaller size. It features accessories for all your table saw cutting tasks, like a sled for precision crosscutting and a micro-adjust fence for ripping (right).



LITTLE PIECES

Now that we've talked a little about some of the tools to help you achieve precise, clean and safe cuts at the table saw, let's talk briefly about securing your workpieces before and after making the cut.

HOLD-DOWN. One problem while making a cut on a small part is securing the part after the cut is made. Small parts can "float" away (or into) the blade. Holding your workpiece down while making a cut is often as simple as using the eraser end of a pencil, as seen in the upper left photo.

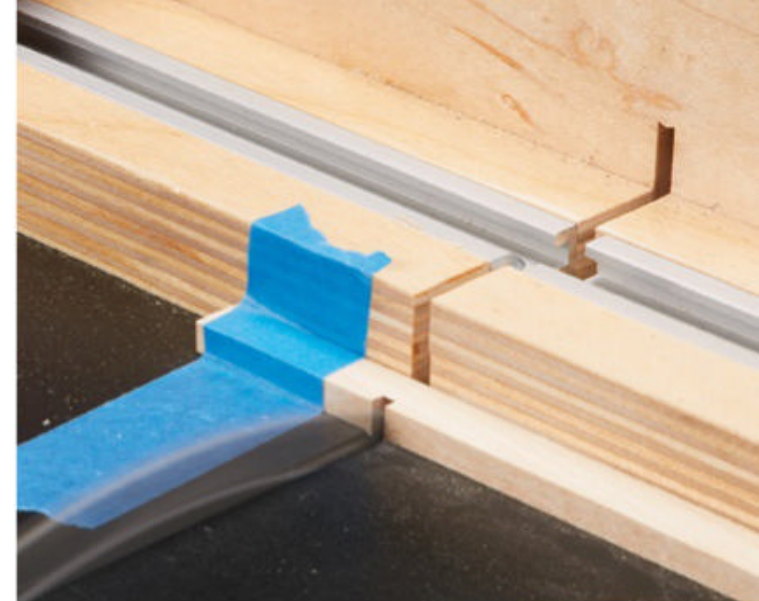
Another option for keeping workpieces in place is to simply tape them to your sled while making a cut (upper right photo). If your sled is equipped with T-track, a hold-down (workshop-made or commercial) also works well to secure pieces.

PARTS COLLECTION. If you've ever needed to make multiple parts the same size (such as making parts for toys), you know that as you cut them, they tend to stack up and can make a mess on your saw. Or worse, if they're round, they roll onto the floor. To wrangle small parts and keep them from running off, take a look at the box below for a simple add-on to your crosscut sled.

PROPER BLADE. The final key (and maybe the most important) to getting quality cuts on small parts is to select the right blade. When ripping, I prefer to use a thin kerf blade. This style of blade takes less effort to make a cut. And for ripping small parts,



▲ A pencil eraser easily holds workpieces in place while you're making cuts. The eraser is grippy enough to give good control of the part.



▲ In some instances, I don't have a free hand to hold a pencil while I make a cut. Here, a piece of tape, such as blue painter's tape, comes to the rescue.



▲ For thin, splintery woods, lightly scoring the cutline with a knife reduces chipping from the saw blade.

it just seems to work better.

For crosscut blades, I reach for a fine-tooth crosscut blade. The key to clean cuts is to make sure the blade is sharp and to use zero-clearance inserts to keep chipping to a minimum. For really splintery woods, it

helps to score your cuts with a knife, such as in the photo above.

Cutting small parts may not be something you do often. But, when the need arises, you'll be glad to have these tips on hand to ensure the best results. **W**

SMALL PARTS CATCHER

Allowing small parts to collect around your spinning table saw blade can become dangerous. The vibration from your saw can cause the parts to work their way into the blade and become a mini projectile across the workshop. You can avoid this problem by crosscutting your parts with a cutoff sled with a small parts bin add-on. It consists of two parts — a platform on one side of the blade to raise your workpiece up and a small trough on the other side to catch the pieces. When a workpiece is cut, it falls down the bevelled edge to be collected in the trough. That way, you can continue to make your cuts and avoid any workpieces coming into contact with the blade.



▲ A high tooth-count blade coupled with the catch tray on the sled keeps small parts from wandering away while you work. This version attaches to the T-track in the sled fence and uses T-bolts and knobs to hold it in place.

Knife Handles

Cutler's rivets can resurrect old knives and make them new again.

In issue 164 I wrote about forging a chef's knife with the guys at Nordic Edge. At the end of that very productive day Bjorn suggested I review one of his knife kits. The knife kit we decided on was the ScandiChef chef's knife.

The kit comprised of a razor-sharp 205 stainless steel blade, a protective sleeve, two Corby bolts and matched "curly birch extreme grade" scales.

Curly birch is a genetic variant of Finnish silver birch and is only found in the slow growing Karelia Forest that straddles Finland and Russia. The amazing fiery grain is caused by the annual growth rings laying themselves down in a wave pattern. The burl-like grain is present all the way through the trunk of the tree and not in just one spot. It really is the perfect timber for knife handles!

The scales are supplied in a matching set cut from a piece of 120 x 45 x 22 birch.

Before I left the workshop, I bought a range of cutler's rivets (and the drill bits to suit) and two 150mm-long mosaic pins so that I could renovate two Solingen knives whose handles had cracked (a wedding present from 30 years ago) and a set of five Mundial knives I had found in a skip while walking the dog.

MAPLE AND BUBINGA

The timber I decided to use for the Mundial knives was some deep red bubinga offcuts left over from a bathroom cabinet build. The Solingen knives deserved some special treatment. I decided that I would use the mosaic pins to rivet the matching curly rock maple handles in place.



▲ The aluminium rivets on these knives have corroded away. Brass rivets and wooden handles will give this set a new lease of life.



▲ Cutler's rivets come in two styles, the cap and pin variety on the left and Corby bolts to the right.

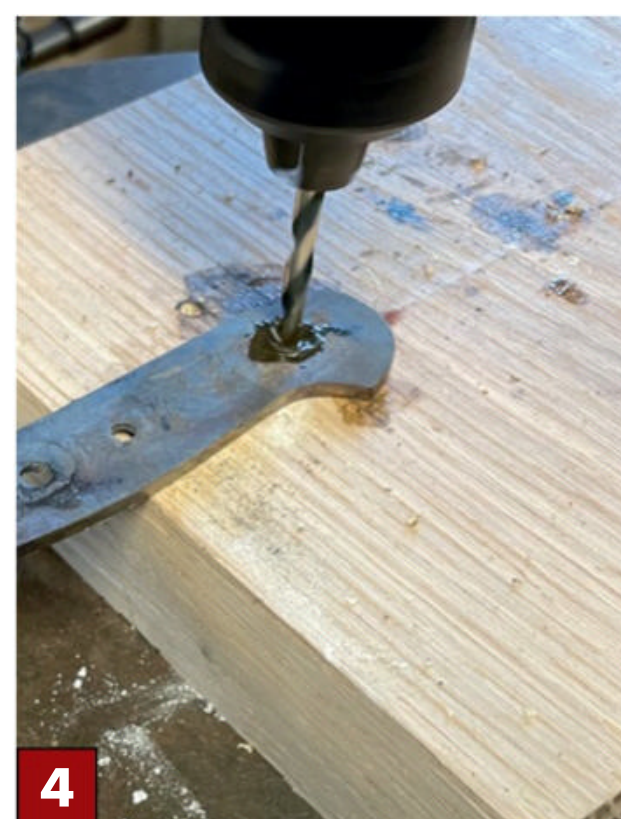
1 The first step was to machine the curly rock maple and the bubinga into 45mm-wide by 25mm-thick lengths. As you can see, I placed the longest knife handle on the stock and stepped off handle lengths (mine were 110mm long).

2 After I had marked the handle lengths on the face of the stock, I chased the lines all the way round so I could number and mark the handle stock. As you can see, I used the babinga as a guide while ripping the curly rock maple. After the stock was ripped down the centre I wrapped masking tape around the ends of the handle before I docked the handle stock to size.

3 Removing the old handles was a bit of a challenge. In the end I placed a narrow length of 19mm stock in the base of a bench vice and then closed the vice until the knife handle rested against the vice face. I then carefully placed a plane blade on the edge of the plastic handle and tapped the blade with a hammer. The handle cracked open like an oyster. The corroded rivets needed to be hammered out of their holes.

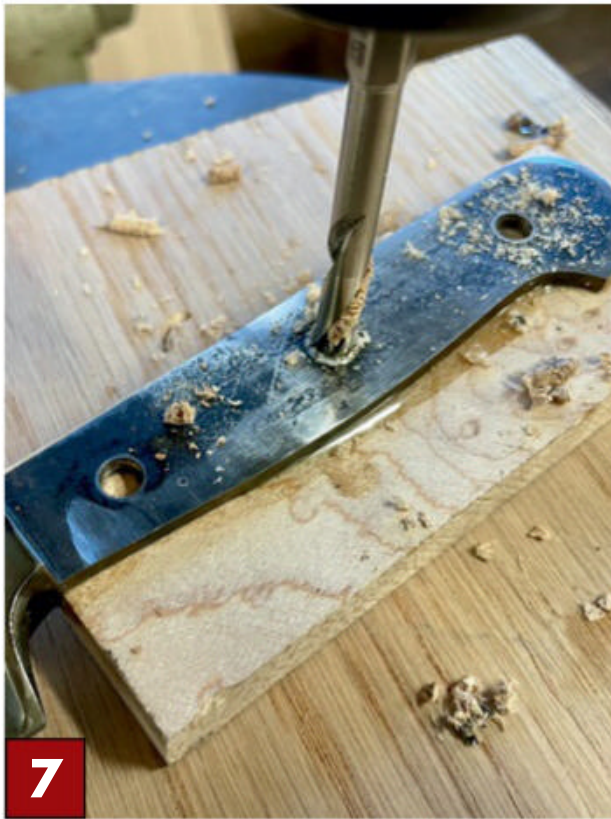
4 The 4mm-dia rivet holes in the tang of the knives were too small for the 4.5mm-dia Corby bolts and the 6mm-dia mosaic pins. This meant I had to enlarge the rivet holes on a drill press. Stainless steel work hardens very quickly. The technique I adopted to drill the rivet holes was to slow the drill down to its minimum speed, use Treflex cutting compound as a lubricant and drill each hole in 0.5mm increments. The two Solingen tangs had to be drilled out to 6mm-dia to accommodate the mosaic pins.

5 Testing the rivets for fit. As you can see, the ScandiChef blade to the left is manufactured with 12 rivet holes and did not require drilling. The 6mm-dia mosaic pins were a tight test fit in the Solingen blades. Sharp eyes will notice that the smallest knife is no longer with us (its cast tang broke while being drilled). With all the rivets sorted and tested for fit, it was time to select the matching scales and pair them with a knife.





6



7



8



9



10

6 The process of drilling out the rivet holes left ridges, both above and below the hole, these needed to be filed flat. The Solingen and three of the Mundial knives had bolsters that tapered into the tang. This required the matching scales to be filed and sanded to match the bolster. The "X" and number marked on the side of the matching scales made it easy to file and sand away the correct end of the scale. When the scale was a neat fit, it was time to mix some epoxy and glue one scale in place.

7 I left the epoxy to set overnight and then went about drilling the rivet holes the next day. A fresh 6mm-dia drill bit made quick work of boring out the holes for the mosaic pins. The brass cutler's rivet holes were then drilled out with a fresh 4.5mm bit.

8 The ScandiChef knife kit comes with instructions to whittle and sand the scale to shape. I was in mass production mode and used the band-saw to remove most of the waste before mounting a flush cut bit in the Gifkins router table and carefully machining the scale flush to the tang. Each time I drilled, filed or machined a blade I used the knife sleeve that came with the ScandiChef kit to protect my fingers from the knife edge.

9 Before I epoxied the matching scales in place I traced the handle shape and trimmed off excess material so the bulldog and drafting clips I had at hand could reach across and clamp the handles. When the glue had dried I sanded the butts of the handles round on the disc sander and then returned to the flush cut bit mounted on the Gifkins router table to finish the profiling.

10 The next challenge was to dock the 150mm-long 6mm-dia mosaic pin stock to length. A hack saw and a vice was all that was needed. Before I tapped the pins home I mounted them in a portable drill, walked to the disc sander and crafted a taper so that the pin would not catch as it was driven home.

11 The Corby bolts are designed to be screwed closed and then sanded flush with the handle. The important proportion to remember is that the heads are 6.3mm in diameter and the shank is 9mm long. This means that you need to leave 11mm of "meat" between the assembled scales when you counterbore to accommodate the bolt heads. I used a pencil line to set the depth of the counterbore and then used a 6.3mm standard drill bit to create the recess for the Corby bolts. The smaller rivets had 14mm shanks and 2mm deep heads.

12 I coated the screw threads on the bolts and the pins of the rivets with Loctite before screwing or driving them home. I drew a parallel Plimsoll line from the tang to the butt and then sketched in the profile that I was going to sand down to for each knife. The sanding disc and the knife sleeve did the rest.

13 I took great care to make sure I didn't sand down to the shank of any bolt or rivet. Before I returned to the router table and the 3mm roundover bit I draw filed the inside edge of the tang to remove any glue. The 3mm roundover bit softened each edge.

14 The knife sleeve again got a workout locking the blades in place while I rounded off the handles with flexible Mirka Abranet belts. As you can see, I started with 120 grit and blended all the curves together. When I was happy with the look and feel of the handle I moved up to 180 and then 220 grit.

15 In my workshop I protect my tools with a thin coat of camellia oil via a clever little felt applicator. Camellia oil is the recommended finish for Japanese chef's knives, so I decided I would finish the handles with it as well. I unscrewed the applicator and topped up the reservoir, closed the lid and went about oiling the handles. I was amazed at the depth and character that popped out of the curly birch and the warmth of the bubinga. The ScandiChef knife kit and forging course has opened a whole new world of woodwork. See page 73 for sources. **W**



Bandsaw Boxes



▲ Colourful flocking adds a luxurious look and feel to the inside of the boxes. It has the added benefit of creating a soft interior for all of your precious items.

A sharp, narrow blade, some nice stock and a little bit of out-of-the-box thinking can yield some amazing boxes that are made with only the bandsaw.

Bandsaw boxes have always captivated me. The first time I saw someone do a bandsaw box, I was amazed how you could create a variety of containers with just one tool. And to me, that was just plain magic. When it comes to bandsaw boxes, your imagination is about the only limiting factor.

A SET OF THREE. The boxes you see above were designed by our creative director, Chris Fitch. They are a great introduction to three box styles — a lidded box, a small hinged box and a chest of drawers. They're all built almost entirely with a bandsaw, so throw on a sharp new blade and let's get started.

LIDDED BOX

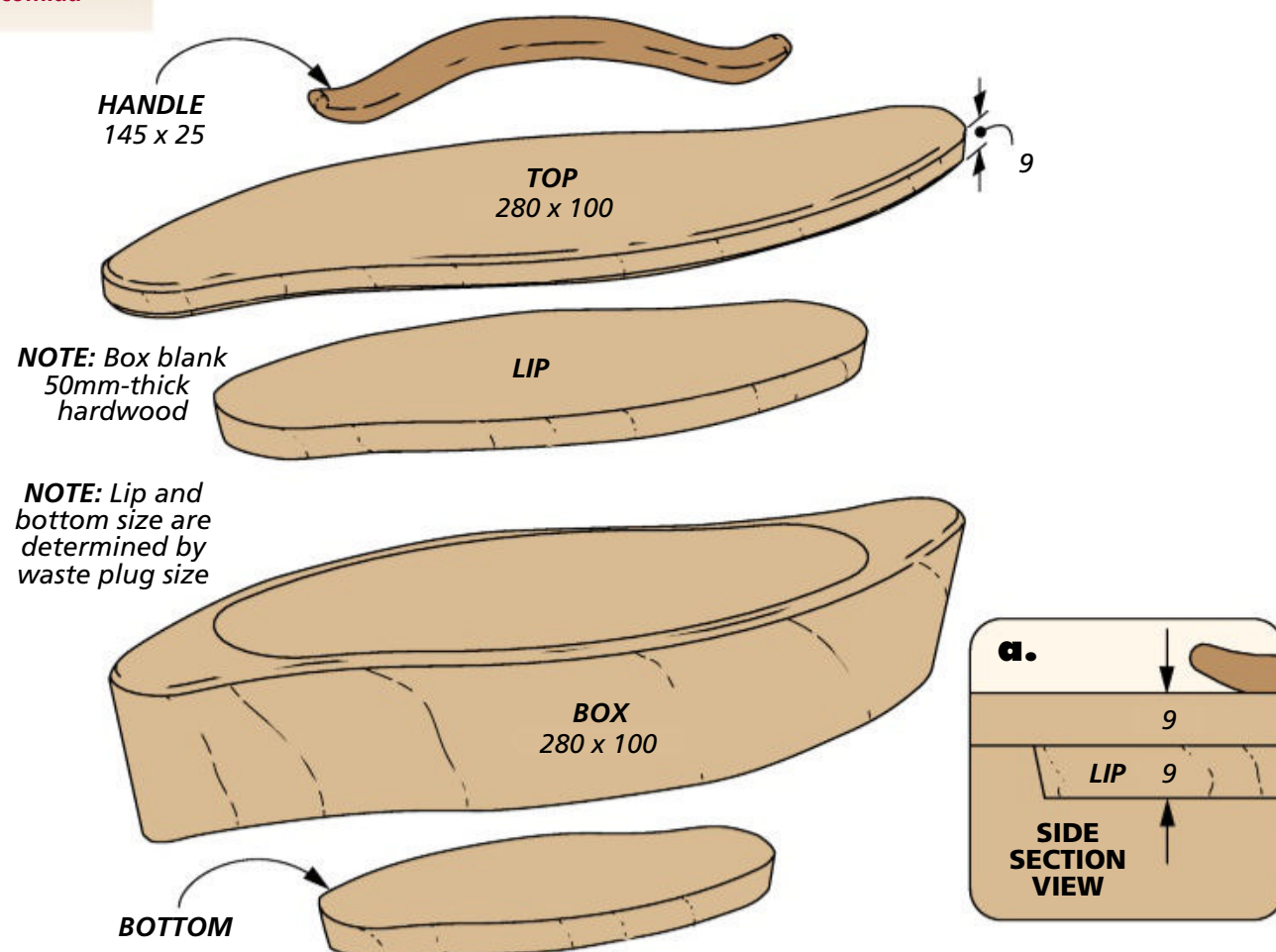
The lidded box is the first of the three boxes. Its leaf shape is cut from one solid piece of wood. It's not large, so don't be afraid to use a special piece of stock — you don't need a lot of it. Here, we used curly maple.

PROFILE. The first thing to do is use the pattern you'll find at australianwoodsmith.com.au and cut the outside shape. I found a $\frac{3}{16}$ " 20TPI blade was ideal for all these boxes. Make sure to tilt the table to create the bevelled sides.

Next, reset the table to 90° and use the fence to cut the top off of the blank. Set this aside for now.

INTERIOR PLUG. The main work on this box is done on the inside. Tilting the bandsaw table again, cut out the waste plug from the inside (Figures 1 and '1a'). From this plug, you'll cut the lip for the lid and also the bottom.

CLOSE THE KERF. Before tackling the bottom, you have to glue the kerf closed on the box (masking tape is all you need to clamp the box closed). This will make the inside slightly smaller than the plug you cut out. Now, insert the plug into the box and mark where it protrudes through the bottom. Then, use that line

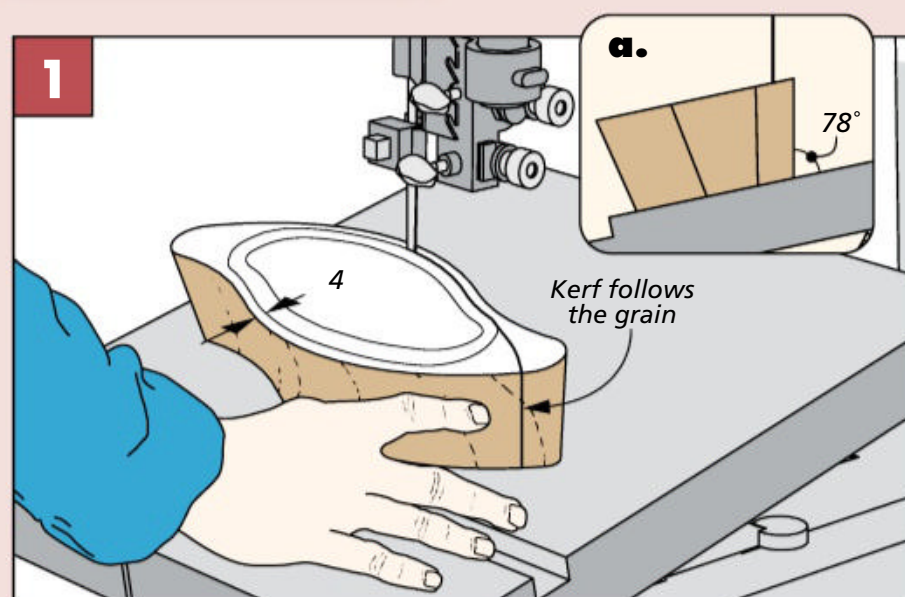


to determine and mark the bottom thickness. Returning the table to 90°, cut off the bottom and lip by guiding the plug along the fence (Figure 2). You can then glue the bottom in place and sand away any bits that are protruding out of the bottom. To glue on the lip, place the lid upside down on your bench. Apply a few dabs of glue and place the lip on the top.

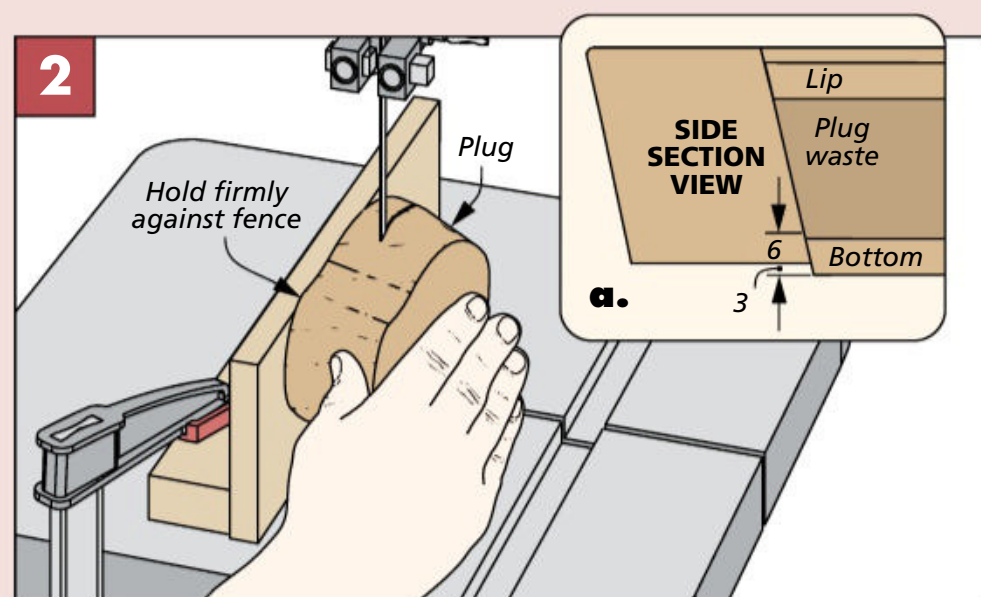
Then, place the box over the lip and slide it around so that the lip is in the correct position. Carefully lift away the box.

THE HANDLE. Cutting the handle is the final piece of this box. Use the pattern and cut it to shape before sanding it smooth. Then, glue it in place. After it's dry, you can sand the box, add a finish and flock the inside and lip.

WASTE PLUG

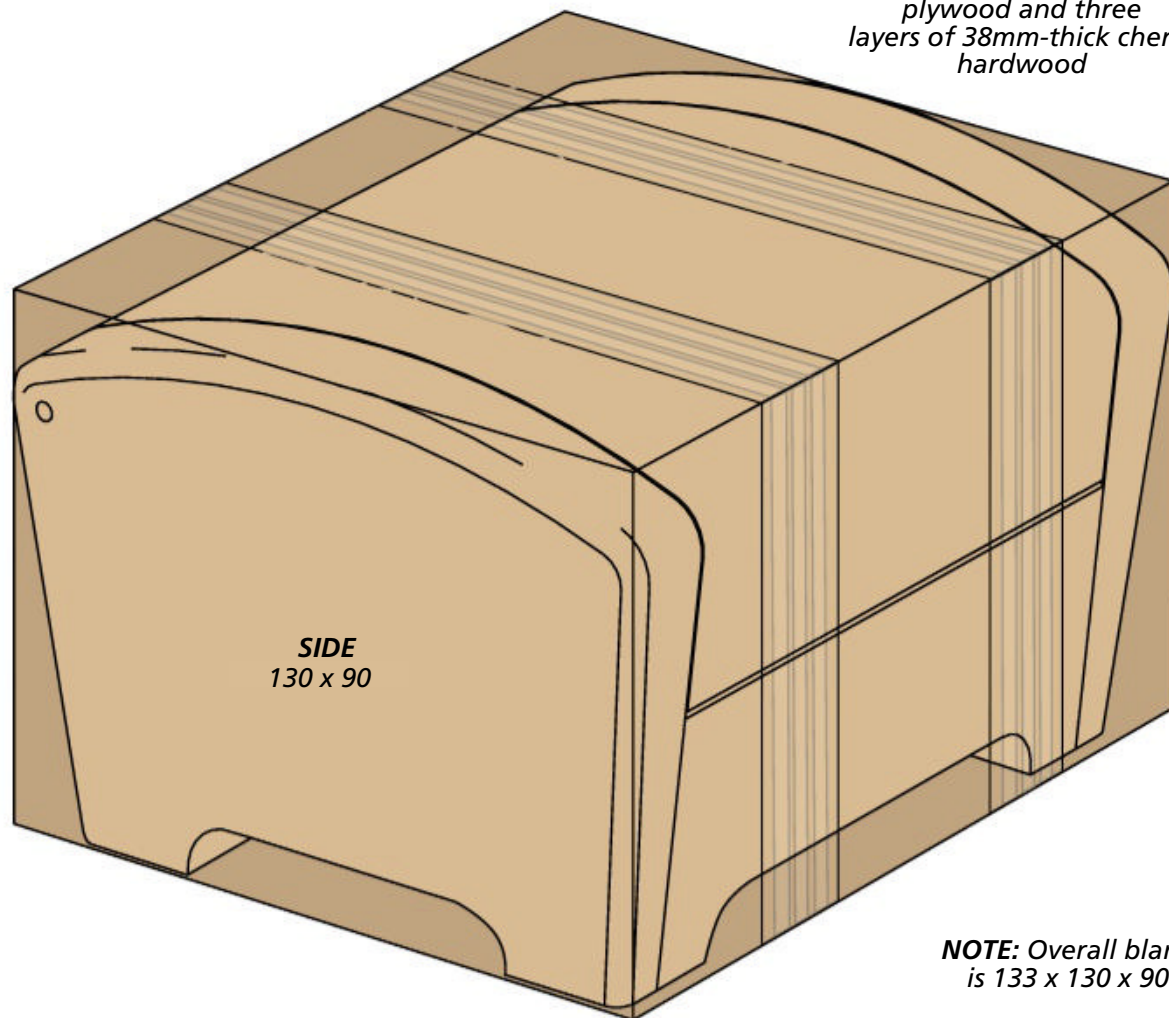


Strategic Cut. Align the initial cut for the interior plug so that it follows the grain of the box. This makes it less noticeable when it's glued closed.



Bottom & Lip. Set the fence to cut the appropriate thickness bottom and lip from the plug. Push it firmly against the fence to keep it from rocking.

NOTE: Blank is glued up from two layers of hoop pine plywood and three layers of 38mm-thick cherry hardwood



NOTE: Overall blank is 133 x 130 x 90

Hinged **LID BOX**

This hinged lid box is made from a stack of blanks glued together. We made ours from two layers of hoop pine plywood sandwiched between three layers of cherry. Once the blank has been glued up, this bandsaw box starts at the drill press.

PIVOT PINS. As you can deduce from the name, this box has a hinged lid. To create the hinge pin location, you need to drill a hole for a brass pin to be installed later. As you can see in Figure 1, that is done by standing the blank on end and drilling the designated spots on the pattern. You'll want to go deep enough so that the pin can create a solid connection when the box is assembled.

OUTSIDE SHAPE. After the pin holes are drilled, you can head over to the bandsaw and cut the outside to shape. Start by removing the waste between the feet first, while the blank is still square. Then, you can focus on the outside shape. As with drilling, cut the box with the blank standing on end. Follow the outside of the pattern and refine the shape later with sandpaper, files and rasps.

CUT OFF THE ENDS. With the shape how you want it, you can cut the two ends

off of the box. You'll notice that these ends have the same angle that the front and back of the box have. Don't worry about that for now. You'll want to leave

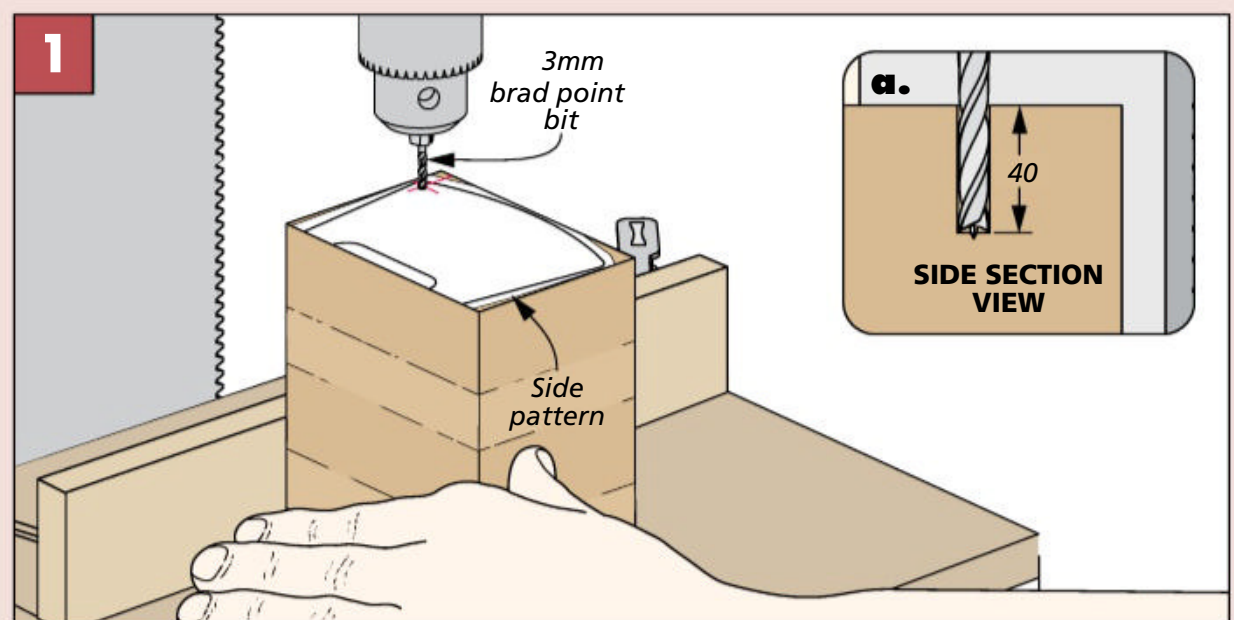
them square so it's easier to clamp the box back together in a little bit. For now, just use the fence and take a slice off each end and set them aside.

BOTTOM & LID. To create the bottom and the lid, you'll need to apply another pattern onto the centre section that you just cut the ends off of. Then, you'll make a couple of cuts. The first is to create the barrel of the hinge. This cut is from the backside of the box and creates the round barrel. Then, from the front of the box, you can make the rest of the cuts, cutting the lid free and forming the bottom. You can see these in Figure 1 on the next page.

When the waste is removed, take a couple of minutes to smooth out the inside of the bottom with sandpaper and files. Then, you can glue the sides back to the bottom of the box. Just make sure you don't glue the lid of the box to the sides — you'll install it later.

ANGLED SIDES. Now's the time to cut the bevels on the sides of the box. You could plane these, but this is a bandsaw box

PIVOT PINS

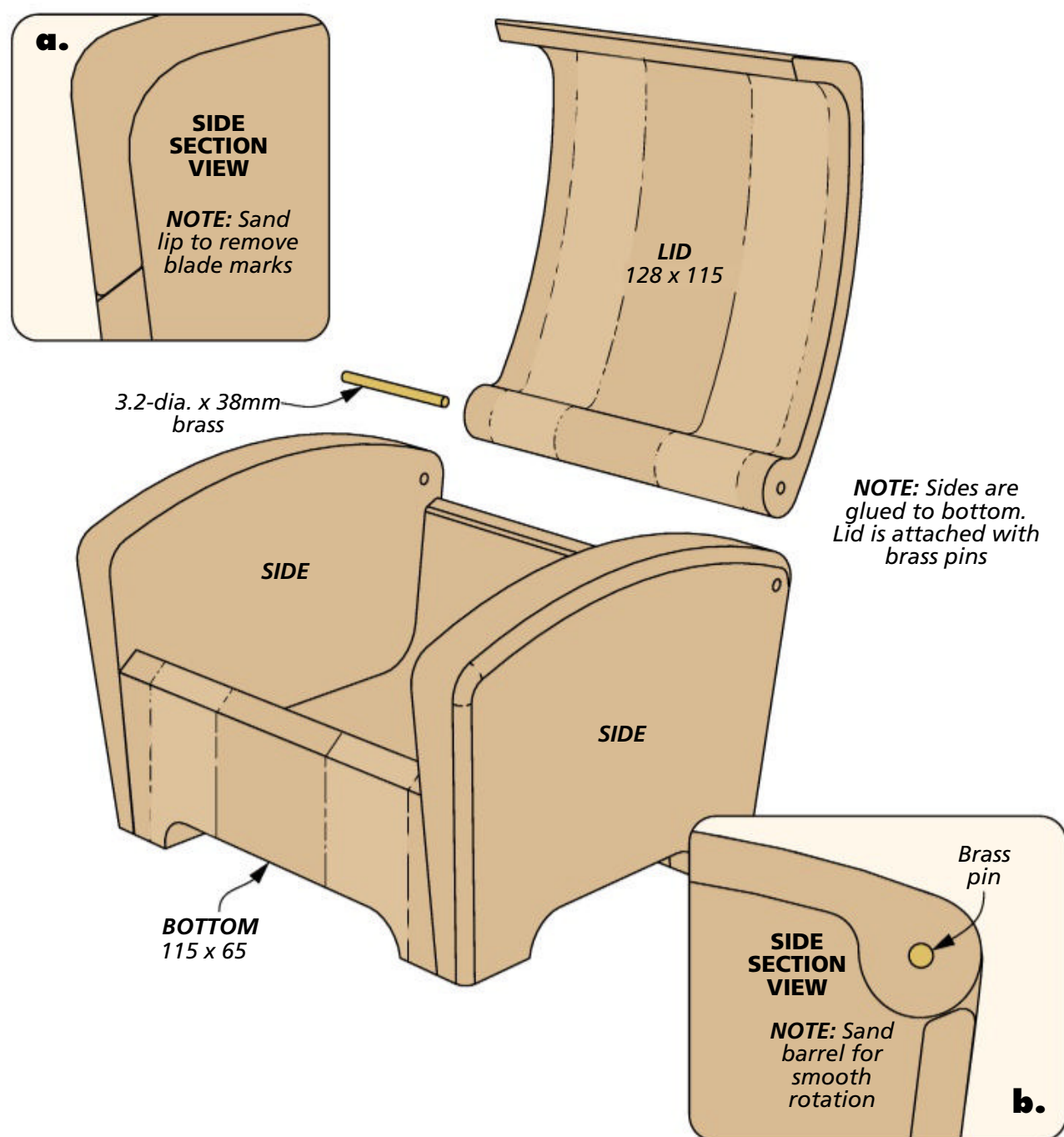


Hinge Pin Holes. Use a brad point bit to drill the pin holes on the ends of the box. Set the fence to position the bit and drill the first side. Flip the box blank over and drill the opposite side.

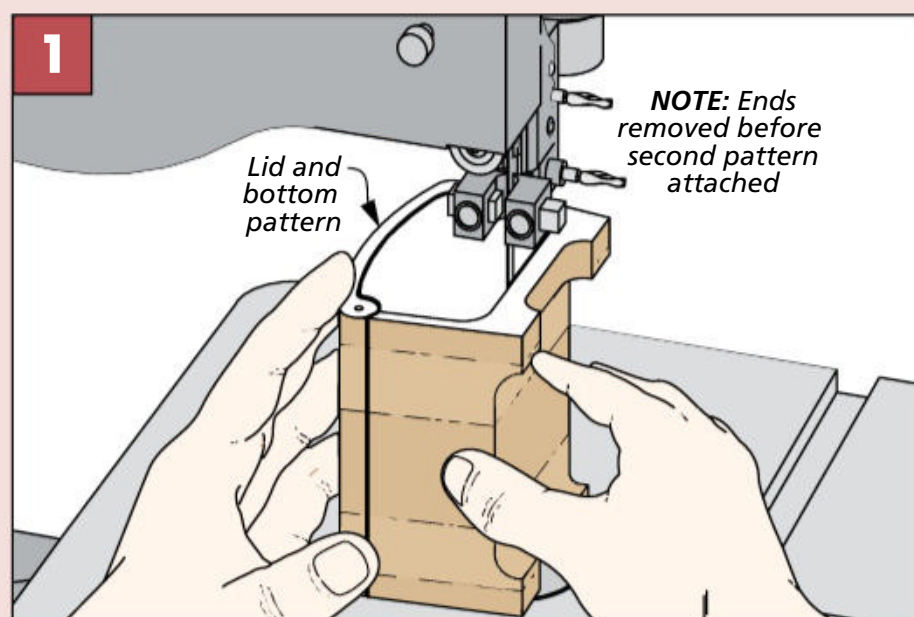
after all, right? To cut these accurately, I feel like the best option is to add an auxiliary fence to the table. You can see this set-up in Figure 2 below.

Start by setting the angle of the table to match the front and the back of the box. Then, use a pair of clamps to secure a tall fence on the right hand side of the blade. The fence must be tall enough to reach the lid of the box or you'll have to reposition it between cuts. Then, you can make a cut along both ends of the box.

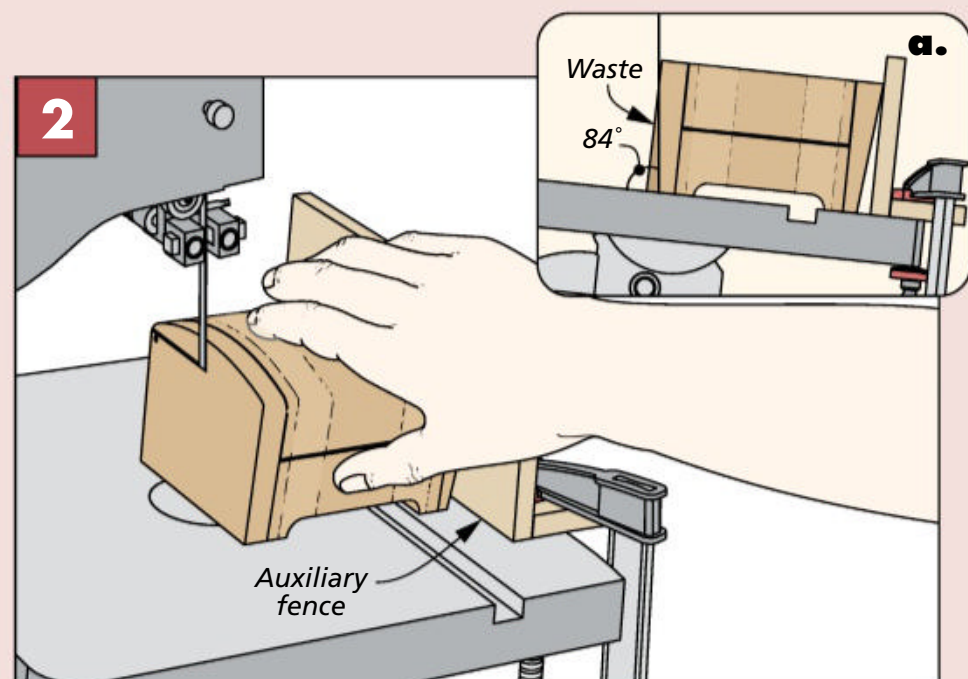
BRASS PINS. The final assembly on the hinged lid box is to attach the lid. Check the fit between the lid and the sides, and make sure it's loose enough to open smoothly. If it's tight, sand the ends and barrel down a little bit. Then, cut a length of brass pin as a pivot point. The pins can be epoxied into place. When you're doing this, add epoxy into the holes in the lid and insert the pin through the side into the lid — make sure to not epoxy the pin in the sides. After the epoxy has cured, sand the pins flush.



SHAPING THE BOX

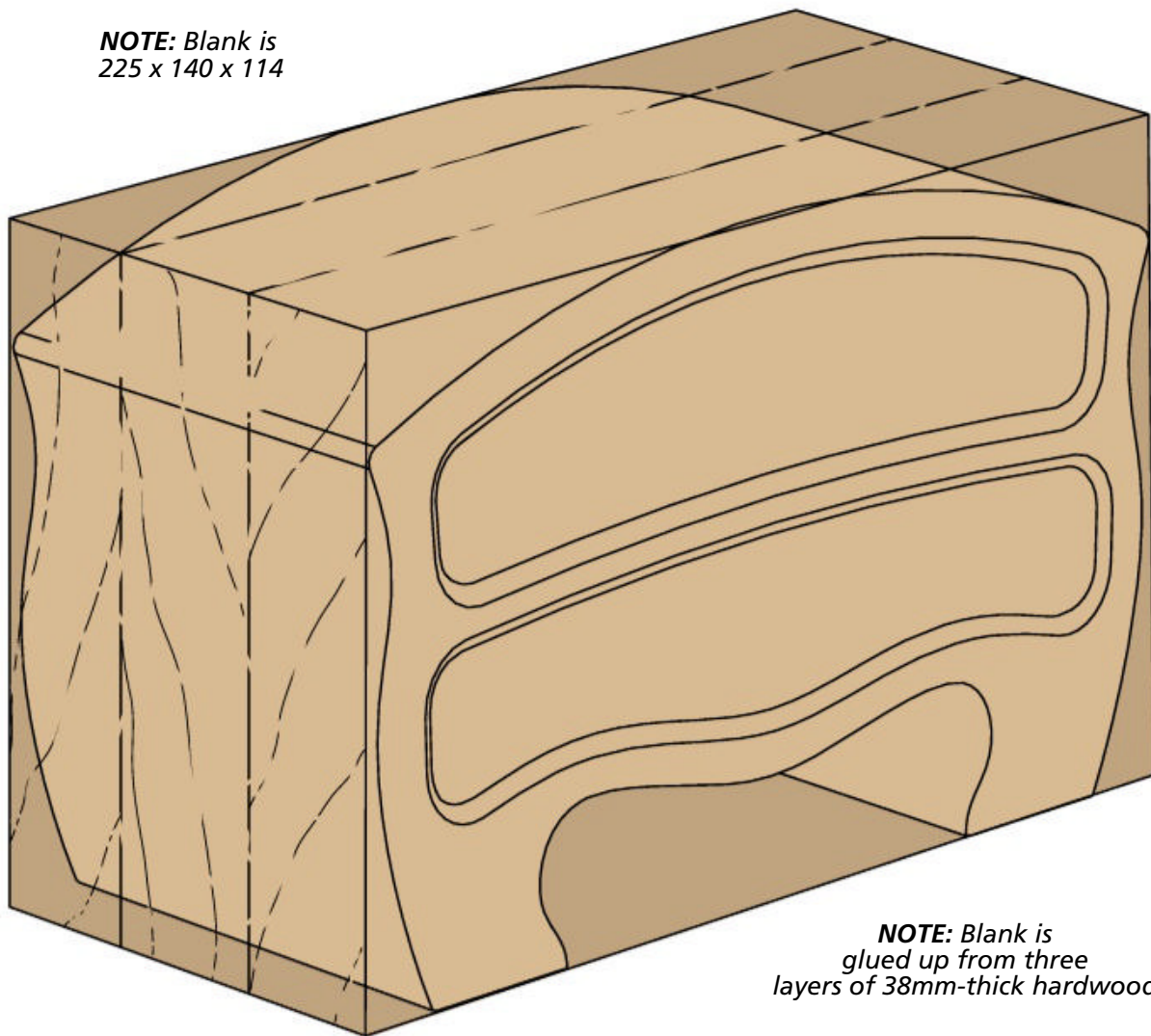


Waste. After removing the ends, apply a new pattern and cut the centre into three parts — a bottom, lid and a waste section.



Bevelled Ends. Tilt the bandsaw table and position an auxiliary fence. Clamp the fence down and make the cut on each end.

NOTE: Blank is
225 x 140 x 114



NOTE: Blank is
glued up from three
layers of 38mm-thick hardwood

Chest of **DRAWERS**

Like its full-sized idol, this miniature chest of drawers features two drawers tucked inside a case. In my mind, this is the most “traditional” type of bandsaw box. Because of the depth of the case, you’ll need to either start with 120mm stock, or glue together stock into a blank, like I’ve done here.

SHAPE FIRST. After printing off a pattern from australianwoodsmith.com.au, attach it to the front of the blank. Then, cut the outside to shape. Here’s where you can go wild and make whatever shape you want. Even though we’ve given you a guide, the main idea here is to get the technique down.

REMOVE THE BACK. At this point, you can position the fence and make a cut to remove the back of the case. Set it aside for now. Later you’ll glue it back on after the drawers are done. For now, we’ll concentrate on creating the drawers.

DRAWER OPENINGS. As you can see in Figure 1, you’ll cut out the drawers by making cuts from the opposite sides of the case. For the top drawer, I came in from the left side of the case and cut the drawer free. For the lower drawer, I came in from the opposite side to keep

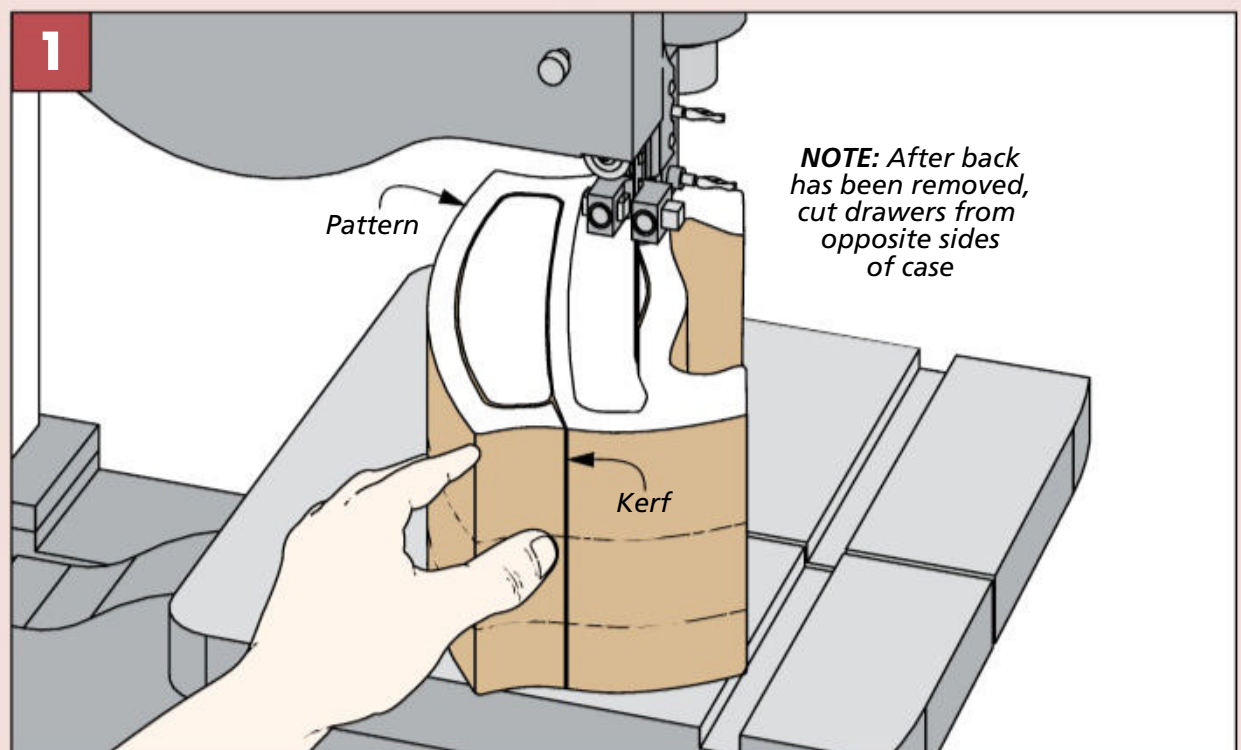
one side from becoming “squished.” With the drawers removed, you can do a little sanding on the inside to remove

any saw marks and loosen the fit a little (the drawer will be tight once you pinch the kerf closed). Then, spread some glue in both kerfs and clamp them back closed.

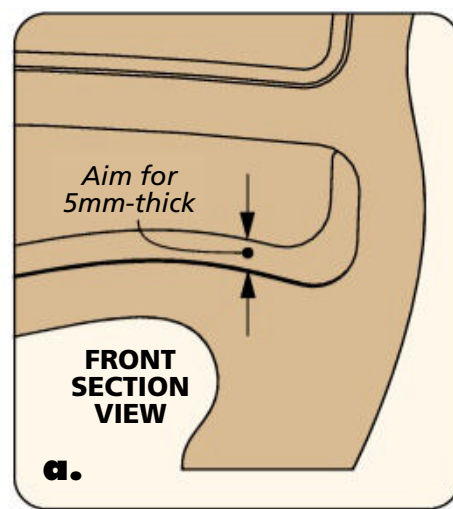
At this point, go ahead and glue the back on. It will not be a perfect fit due to the closed kerfs, but it will be close. After the glue is dry, sand the back flush with the case.

NOW THE DRAWERS. Cutting the drawers is next. And after you think of the drawer as a miniature case, you’ll see how it takes shape (and of course, you can see it on the next page). Start by making a slice along the front and back of each drawer. This will remove the front and back of the drawer. With the remaining section, you can use a pencil with your finger as a gauge to rough in the shape of the drawer. Aim to leave about 5mm of material all the way around.

DRAWER OPENINGS



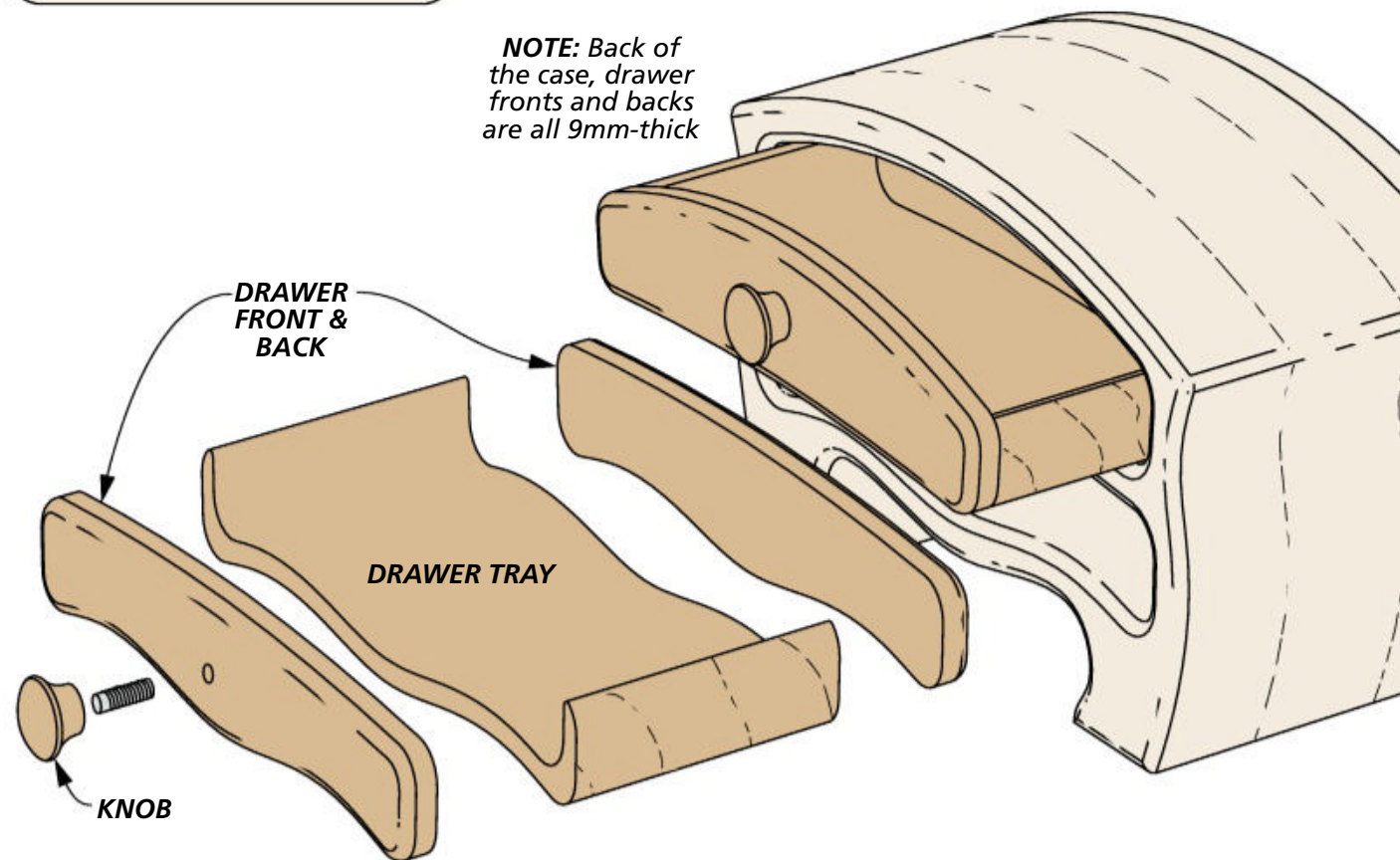
Thin Kerfs. Use a narrow, fine-toothed bandsaw blade to cut the drawer openings. Select a location and follow the grain lines for the least conspicuous glue joint.



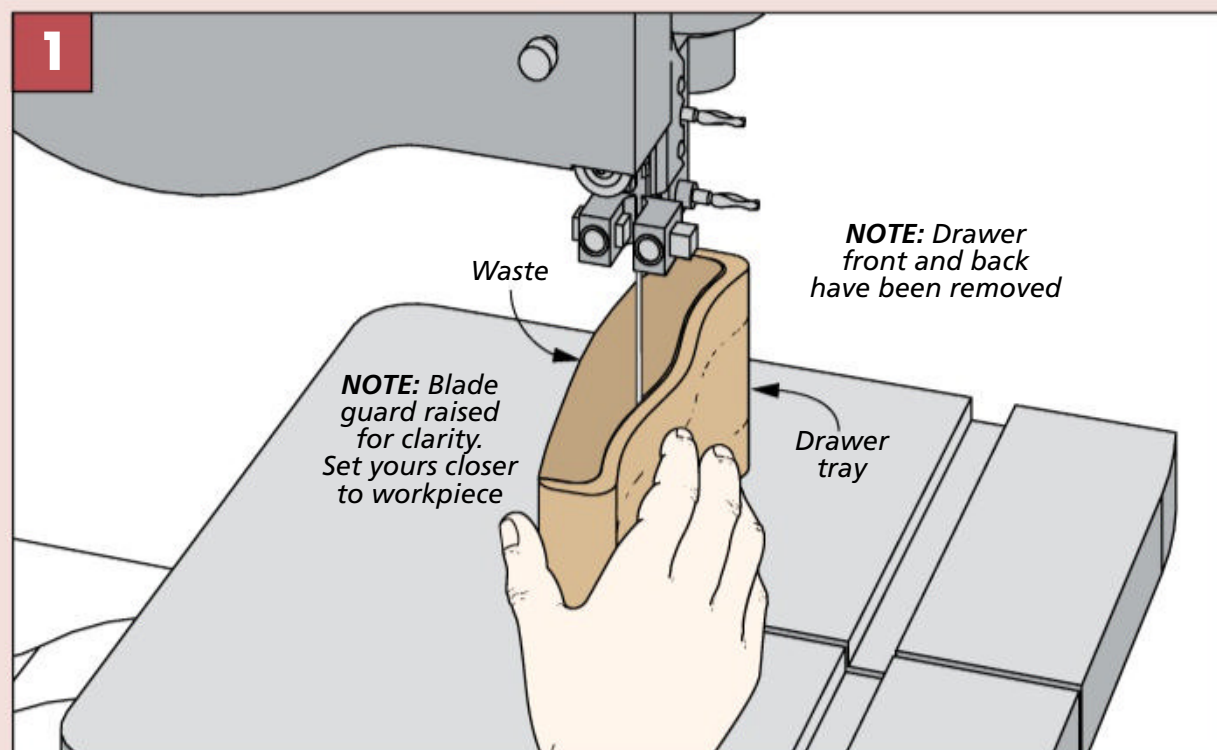
Cut out the waste from the drawers. You can see this in Figure 1, below. Then, you can sand it smooth. Reassemble the drawer and test the fit. If it slides into the opening a little snug, sand the drawer a little. You want an easy fit into the opening. As a final detail on the drawers, you can soften the front edge. This can be done with either sandpaper or a small roundover bit in a palm router.

FINAL DETAILS. There are a few final details on this box that add another level of sophistication. The first is to add a small pull onto the front of each drawer. You can purchase these or make your own — dealer's choice. The next, is to flock the drawers.

FLOCK IT. As with the previous boxes, the inside of the drawers are flocked after applying a finish. But, the drawers aren't the only places that get flocked. The inside of the case can also be flocked.



DRAWER INTERIOR



Drawer Trays. After removing the front and the back of the drawers, rough in a line for the drawer tray shape. Then, cut along that line to form the drawer.

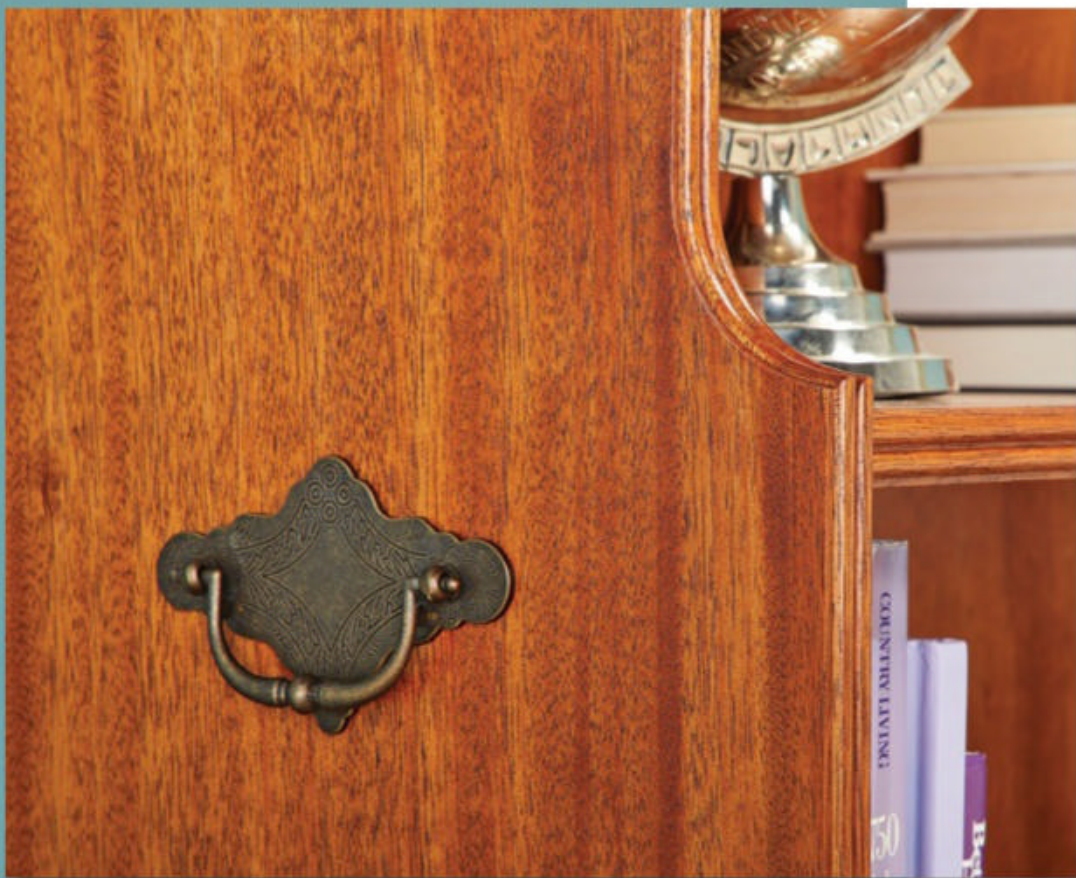
This adds a nice, easy feel as the drawer is opened, see inset photo on page 34.

Flocking is pretty simple, even if you've never done it before. Most flocking will come in a kit and is readily available at craft stores. The kit will have adhesive and the flocking fibre. Paint the adhesive wherever you want flocking, making sure to get ample coverage.

Next, use either the shaker can, or the tube applicator to dust the adhesive with flocking. Get enough coverage here — I've found it's better to get too much than not enough. Once the adhesive is dry, you can shake any excess flocking onto a piece of paper and put it back in the bag.

As I mentioned at the beginning of this article — the main thing I hope you walk away with is the technique of making bandsaw boxes. If you make these exact boxes, great! But if you take these skills and make a set of boxes that are entirely your own, well, that's even better. **W**





The bail pulls on the side of the bookcase provide a pleasant visual break to an otherwise plain surface. This sentiment is in keeping with the marching orders of the Georgian style.

Using walnut for the inlay in the drawer front and upper stretcher adds a little spice to the bookcase. It's not a glaring contrast, but a nice material variation.



Waterfall Bookcase

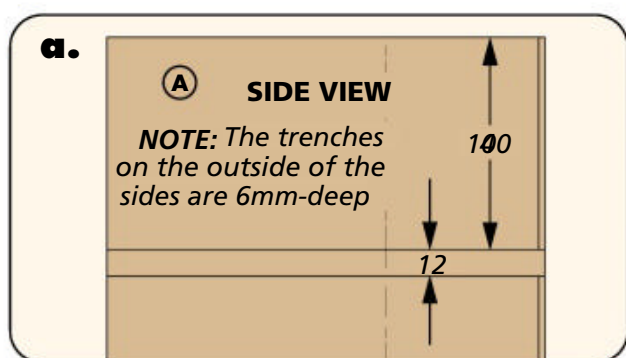
With subtle, solid style and refined flourishes this storage masterpiece looks as though it was built for a king. That's because it was.

Most bookcases in our day and age stay mainly in the safe, practical lane of utility. All we're looking for is a sturdy set of shelves to stow away treasured old books, games and maybe display a few favoured curios. As you see in the photos here, this bookcase does all that in a style that makes plain boxes blush.

HISTORICAL HERITAGE. The bloodline of this bookcase goes back to the third era of the Georgian period of design (which started with King George I). That time is often referred to as the "Golden Age" of furniture making. The hallmarks of that era are captured in this fine interpretation in several ways.

As you see here, the "waterfall" speaks to the treatment of the sides of the case. There are five tiers that widen as they go down the sides. The tiers are separated by scalloped profiles that make the transitions graceful. Beyond beauty, the sides being wider at the bottom removes those top-heavy anxious moments that lesser bookcases often suffer from.

Also, you'll note the edges of the sides, shelves and top of the bookcase are laced with beaded edging. (A double bead on the thicker pieces while the thinner pieces are adorned with a single bead.) But the fine details don't end there. There's inlay on the upper stretcher and the drawer front to sink your teeth into. So, what are you waiting for? Turn the page and dive into this regal project.



Making the SIDES, SHELVES & STRETCHERS

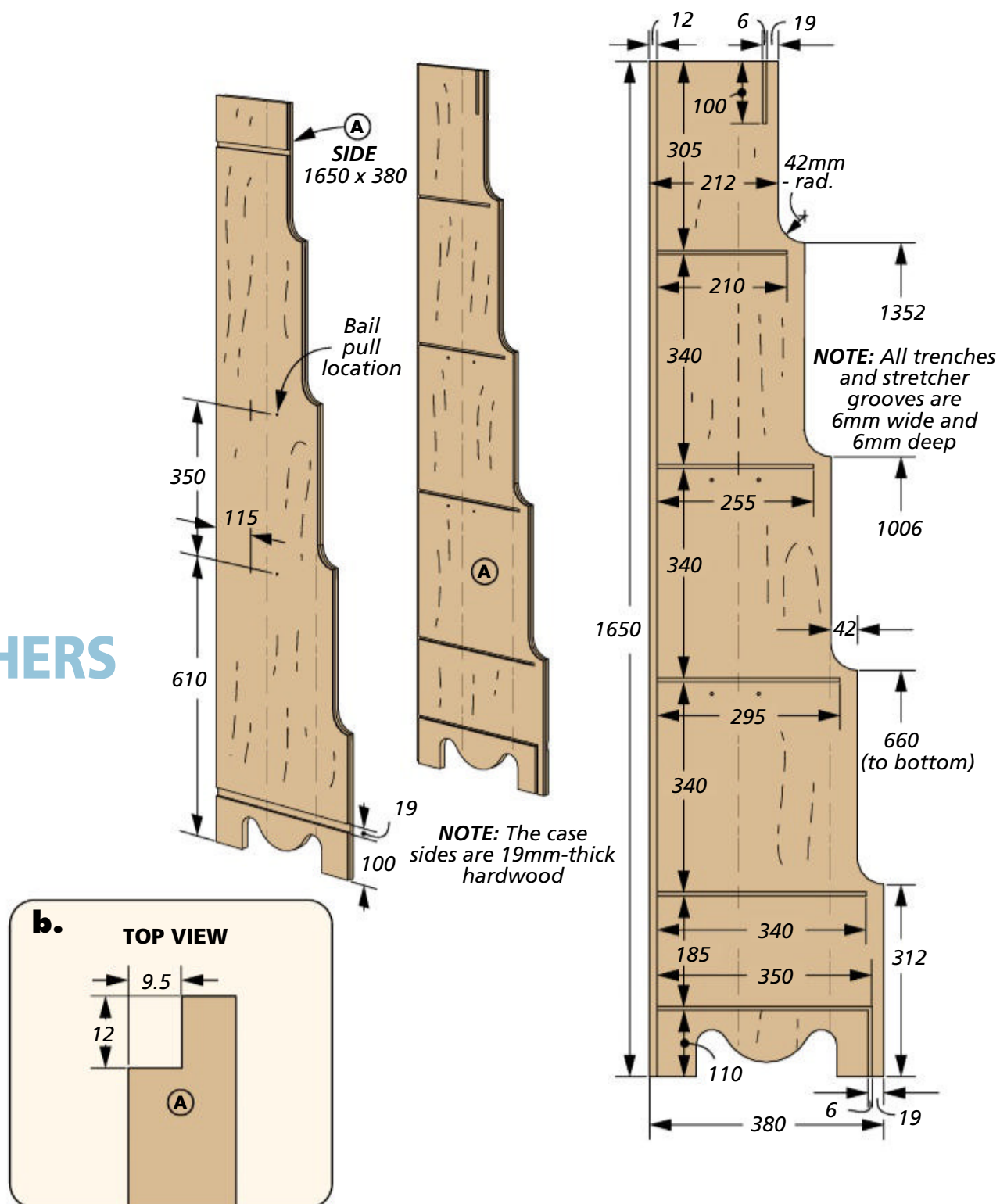
As you see in the drawings to the right, there are a lot of details that go into making the side panels. Considering all that work made it an easy decision to glue up panels from hardwood instead of resorting to using plywood.

GLUE UP THE SIDES. My goal was to control where glue lines landed in relation to the front edge profile. With that in mind, I chose wide panels to start with and added a narrow board on the front. While the glue is drying, it's time to make a template.

TEMPLATE. The easiest way to shape the contour of the sides is with a template, a router and a flush trim bit. Start by laying out the shape on a piece of MDF (use the dimensions in the elevation view of the main drawing). Shaping the template is done with a combination of tools.



All patterns are available at our website at australianwoodsmith.com.au



Starting over at the table saw, cut the long, straight sections between each scallop by adjusting the rip fence after each pass. Keep the blade back from the curve of the scallop — you'll shape those next with a jigsaw. When you're done cutting, sand the curves smooth.

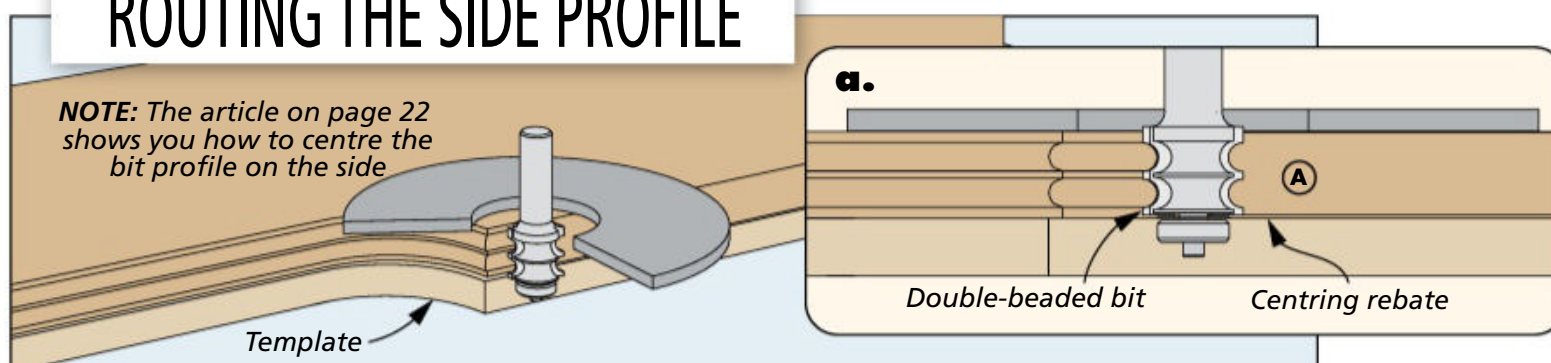
Now place the MDF template on the case side and trace its profile. After you've roughed out the shape, attach the template and rout the case side smooth. Leave the template on for the next step, which is routing the beaded edge.

THE BEADED PROFILE. The front edge of the sides has a double-beaded profile that you'll create with your router and a bit designed for the task. The box below gives you the gist of what it takes to create the edge. But there's some fussing involved with the process, the article on page 22 shows you how.

INSIDE FACE. A handful of trenches and grooves are needed on the inside face of the sides for the shelves, bottom and stretchers. I started with

ROUTING THE SIDE PROFILE

NOTE: The article on page 22 shows you how to centre the bit profile on the side



the trenches for the shelves and bottom.

To keep these aligned perfectly to each other, I laid the sides back to back on the workbench and used a jig with a router and bushing to make the trenches. There's information about this jig at australianwoodsmith.com.au. For the short grooves for the stretchers, I taped a guide block to the sides and used a pattern bit.

OUTSIDE FACE. There are two shallow trenches on the outside face of the sides. The narrow one at the top is part of the trim that the upper stretcher sits on (detail 'a' on previous page). The wider, lower one is even with the bottom panel. I made both with my router and a straight bit guided by a bushing.

ANOTHER TEMPLATE. You need to make a short template for the bottom of the sides (detail 'c' previous page). After roughing out the shape on the sides, use the template and a pattern bit to clean up the contour.

REBATE THE BACK. Cut the rebate in the back to hold the plywood panel you'll install later (detail 'b' previous page). With that the sides are done, but there's more work to do before assembly.

PLYWOOD & MORE

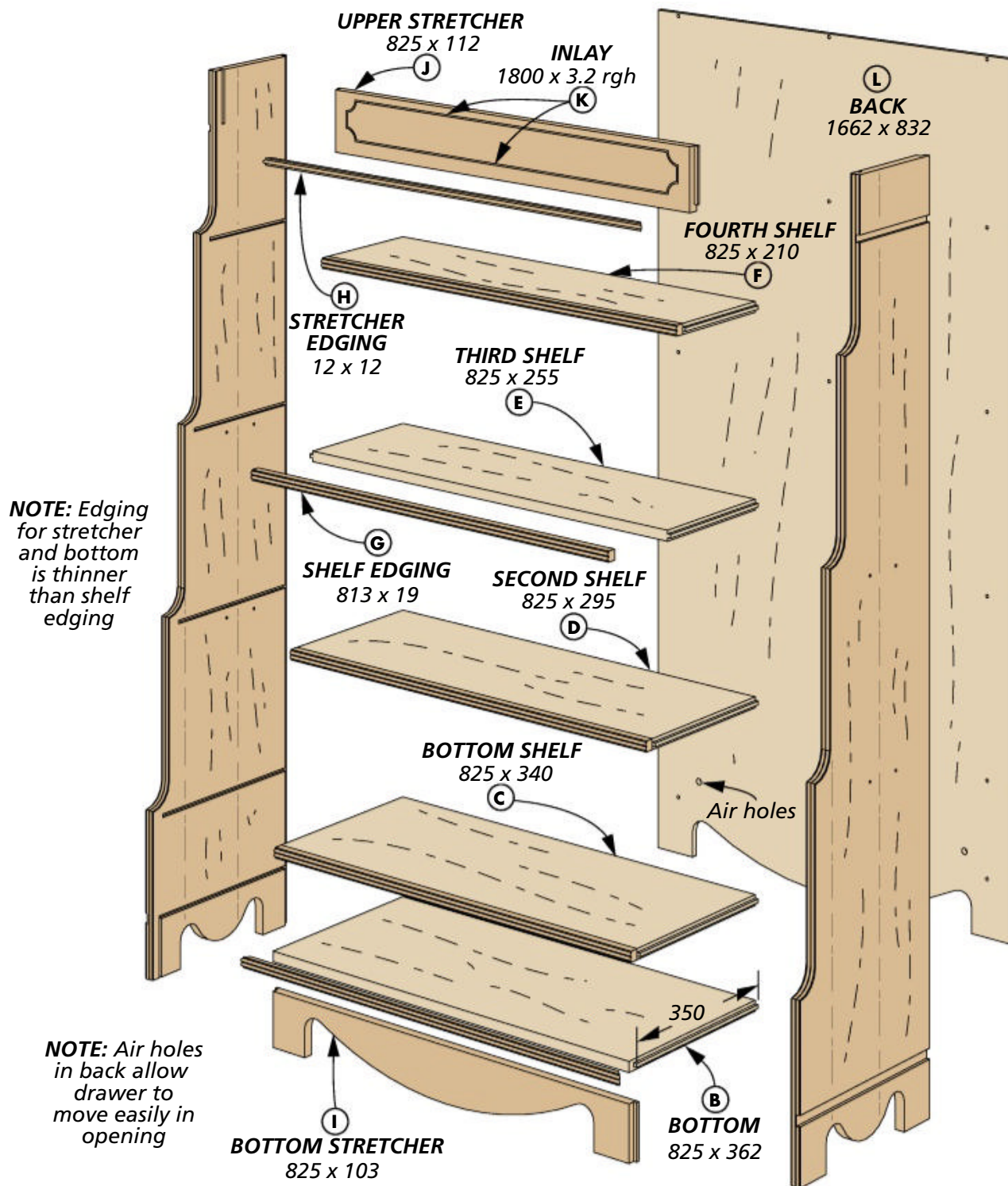
What brings the sides together structurally are four plywood shelves and a bottom. The tongues on these parts (detail 'b') join with the trenches you made in the sides. They all have a hardwood edge that has the same double-beaded profile you routed on the sides (detail 'a').

EDGING IS NEXT. The edging for the shelves is trapped between the sides. So it's just a matter of cutting the nose pieces flush to the shoulders of the plywood, then routing the double bead.

The edging for the bottom, and the trim under the upper stretcher (which is a narrower single-beaded profile) are custom-fit after the bookcase is assembled (detail 'a').

STRETCHER DECORATION. First, cut the tongues on the ends of both pieces at the table saw, then set aside the upper stretcher. Turn your attention to roughing out the shape on the bottom of the stretcher. Like on the sides, use the template to rout the profile.

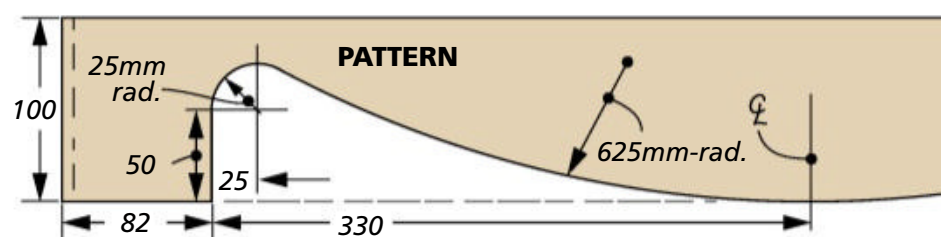
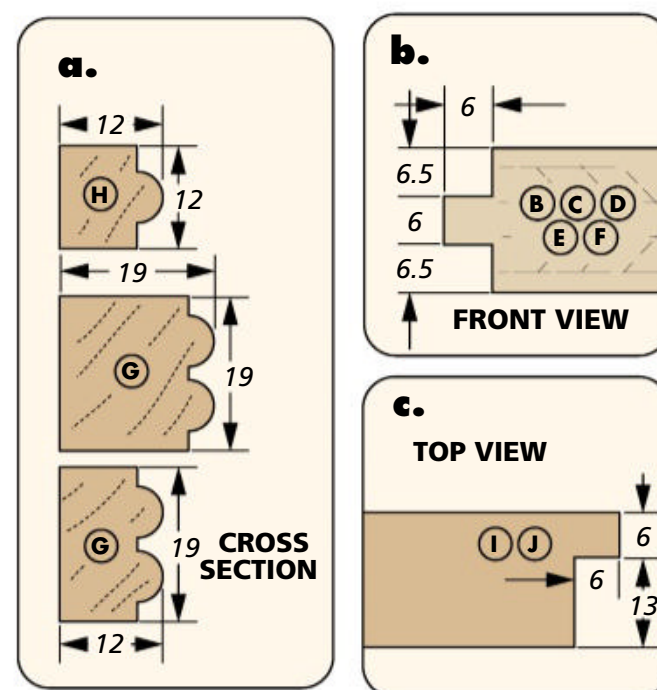
The top stretcher is a whole different ball of wax. The face of the stretcher is decorated by a narrow inlay that has an inverted radius at each corner. The



NOTE: The shelves are 19mm plywood. The shelf edging and stretchers are 19mm-thick hardwood. The stretcher edging is 12mm-thick hardwood. The inlay is 3.2mm-thick hardwood. The back is 12mm plywood

details for making the grooves and the inlay are on the next page.

THE BACK. It can be hard to find 12mm mahogany plywood, so you can make the back out of two layers of 6mm if need be. In any case, you'll need to shape the bottom edge with the same template you used on the bottom stretcher. The back gets attached to the case with screws at the very end of the project. For now, you've got some groovy work and inlay to do.



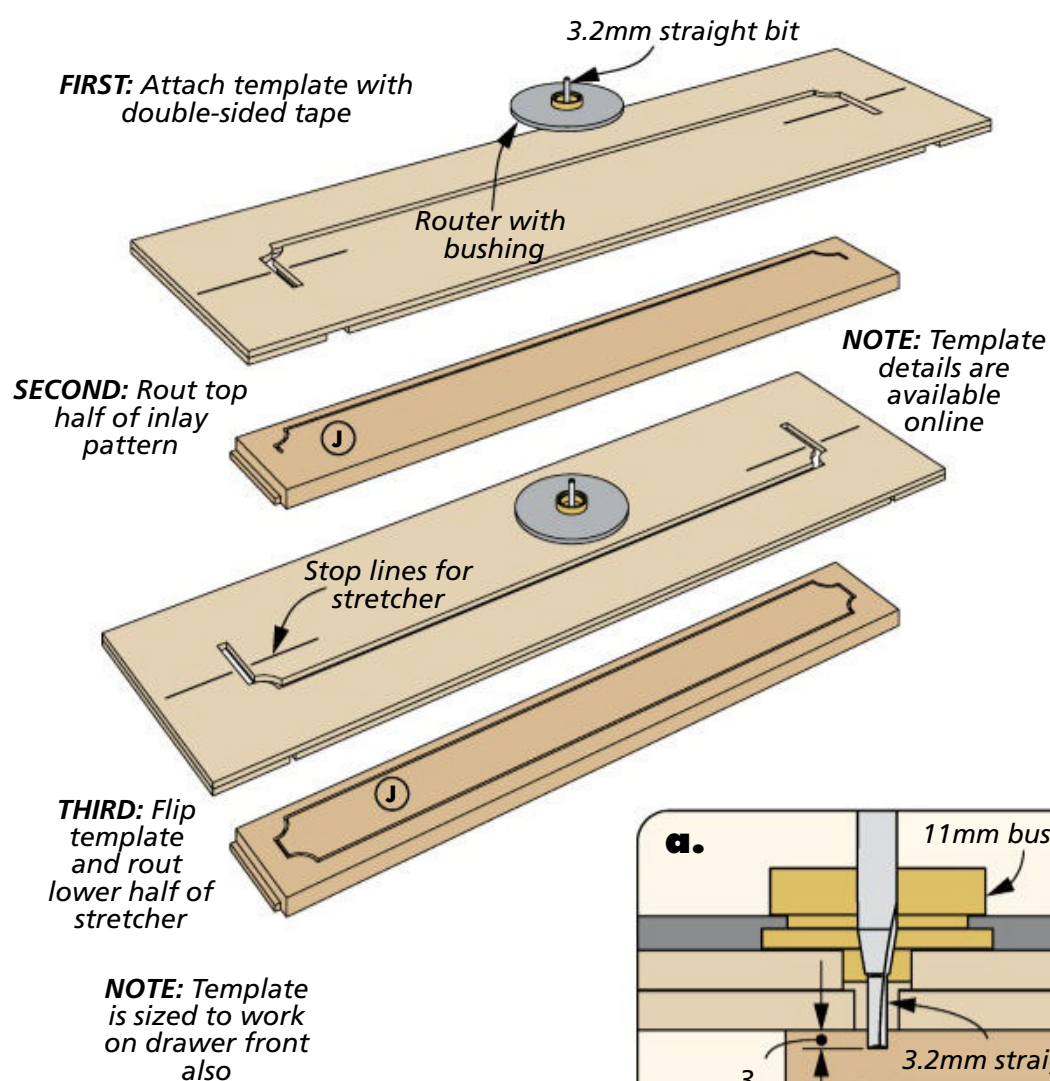
Next up **INLAY** & **ASSEMBLY**

The thought of doing inlay work can be intimidating at first. But the reality is that with some upfront planning, along with the proper tools and a well-made jig, success is all but guaranteed.

The tools you'll need to make the groove are a plunge router, a straight bit paired with a bushing and a template. The template you see here is available at australianwoodsmith.com.au.

The inlay pattern for the stretcher and drawer front are identical. The pattern on the stretcher is a little narrower, but the stop lines account for that.

After the template is made, it's time to put it to work routing the grooves for the inlay, the drawing to the right walks you through the steps. First, align the template and attach it with double-sided tape. When routing the groove it's best to keep light, outward pressure on the template to ensure the groove you're making is smooth when it transitions from the straight sections to the curves of the template.

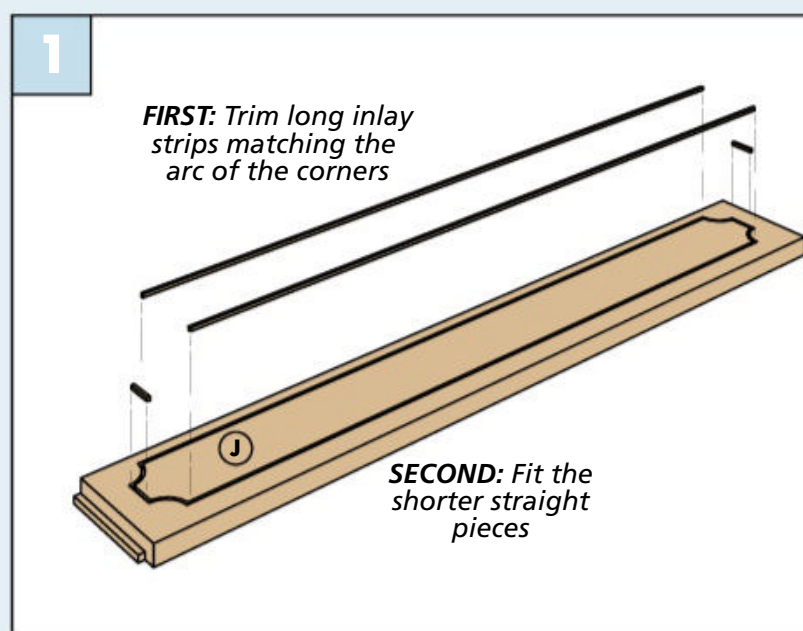


Flip the template and repeat the grooving process on the other side. The router bit will leave the corners rounded. Just square them up with a chisel, then it's time to make the inlay.

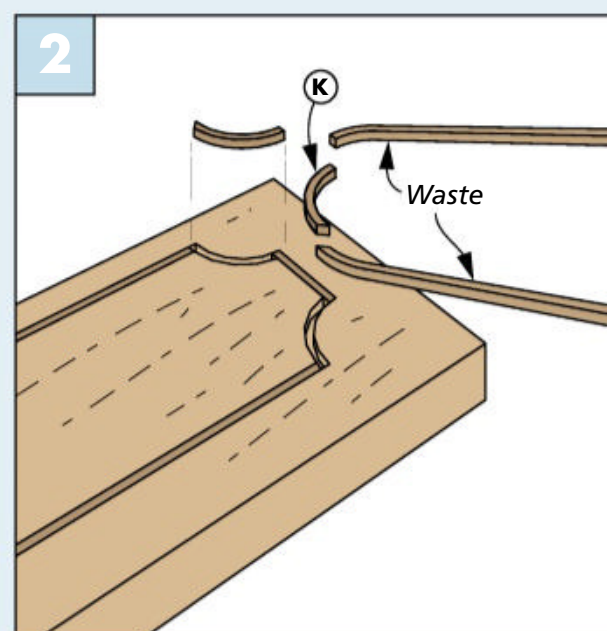
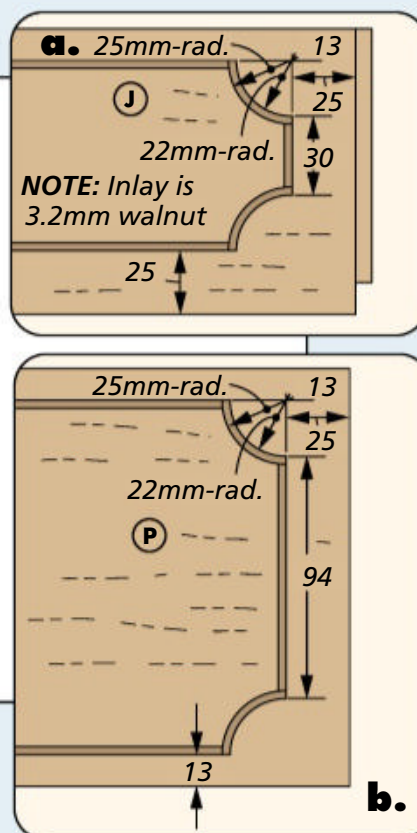
MAKING THE INLAY. To rip the narrow, thin

pieces needed for the inlay I made a brand new zero-clearance insert for my table saw. There are three things to consider here: make plenty of strips, and make them slightly thicker so you can sand them flush to the surface of the workpiece. The third

INSTALLING THE INLAY



Straight Pieces First. The long straight pieces of inlay are installed first. The shorter pieces of inlay are trimmed and glued in place next.



Cool Corners. Lay a corner piece over the grooves and mark the end points a little long to let you sneak up on the fit.

The corners come last. After they're marked for length, use a sharp chisel to slice the ends. A lot of work has been done up to this point without much to show for it other than a pile of panels stacked around the workshop. That's about to change.

ASSEMBLY

There are a lot of big parts to wrangle when assembling the bookcase. The drawings above show you how to put the case together. When the glue is dry and the clamps tucked away, turn your attention to the last detail on the case — attaching the wrapped edging.

NOTCHES FIRST. The edging that goes on

NOTE: Assembly squares hold stretchers, bottom and shelves perpendicular to side

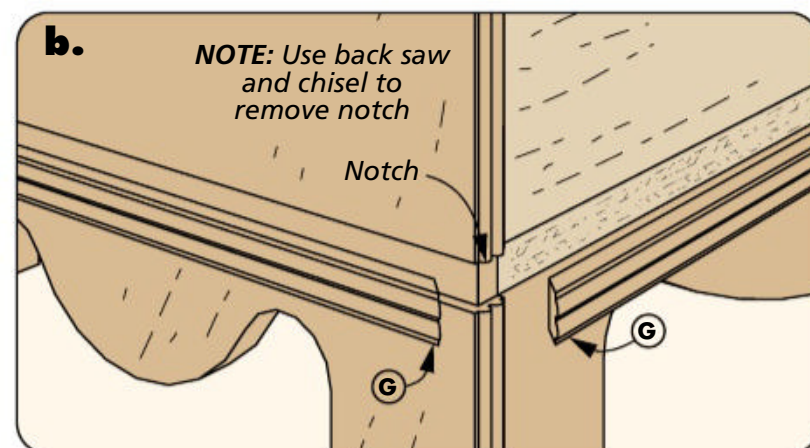
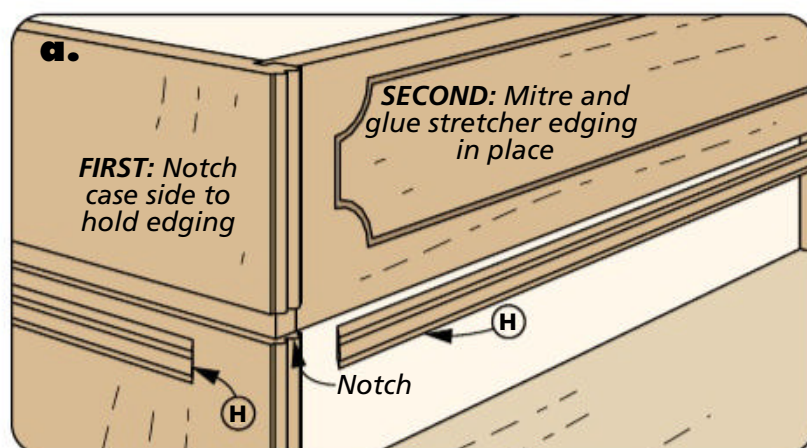
THIRD: Glue remaining shelves and upper stretchers to side

FIRST: Glue
stretcher to
bottom

SECOND: *Glue bottom and stretcher to side*

FOURTH: Glue other side in place

FIFTH: Lay case on its back to notch sides for wrapped edging

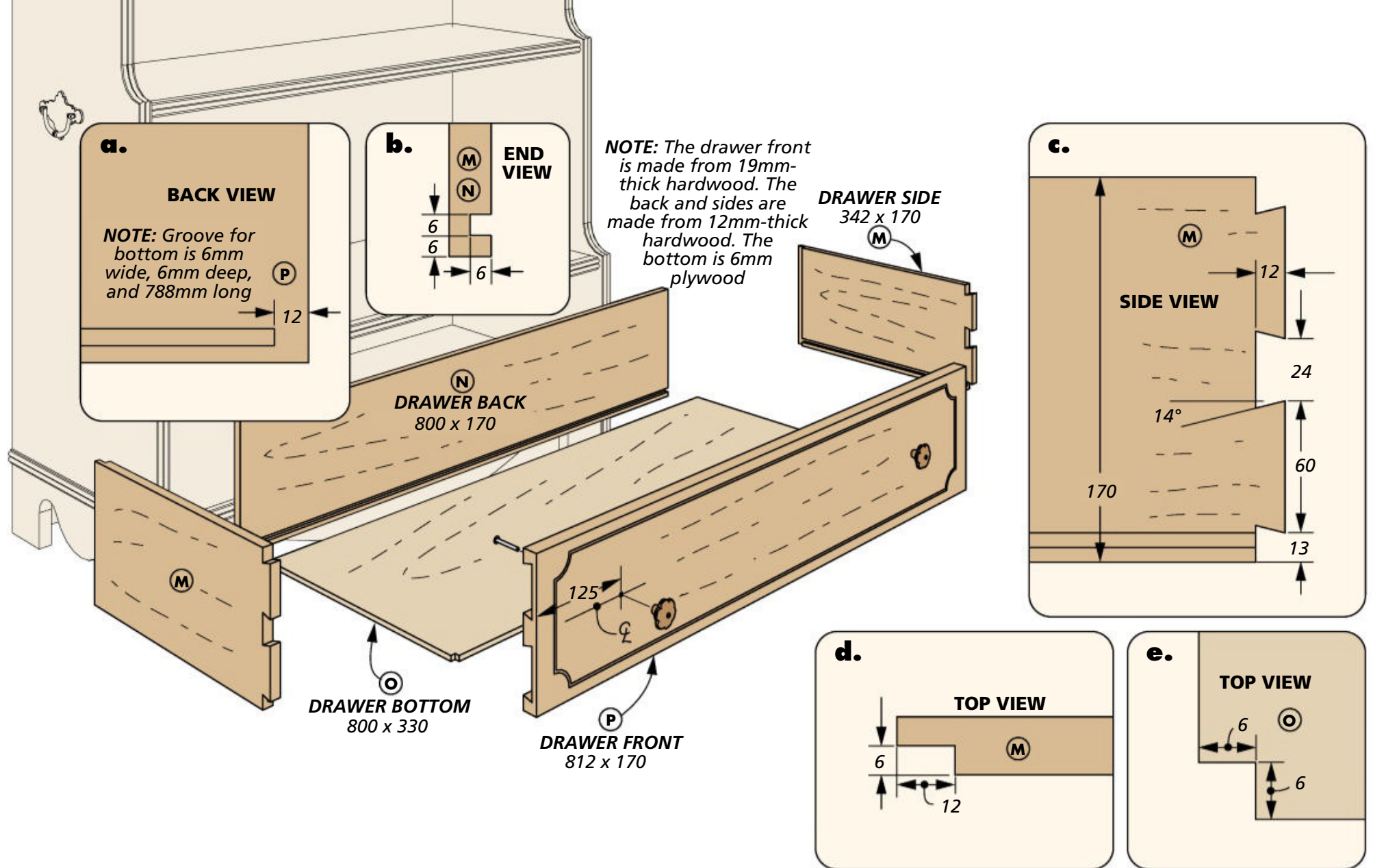


the bottom panel and underneath the upper stretcher wraps around the sides of the bookcase. This simple extension of edging at the top and bottom of the project adds a lot of visual interest to the bookcase.

To accomplish this you need to notch the front edge where the case and edging will intersect. Do this with a backsaw and a chisel. Details 'a' and 'b' show this for both instances.

UPPER EDGING. As I mentioned earlier, the upper edging is a narrower piece of wood with a single bead. The edging frames the upper stretcher. For now, we're only installing the lower piece (detail 'a').

The long piece across the front is mitred like the piece you just installed on the bottom. Here though, you glue and clamp it to the underside of the upper stretcher. After that, mitre and trim the returning parts like you did on the bottom.



Finish up with the **DRAWER & TOP**

The drawer that resides in the bottom of the bookcase has an elegance all its own. As you see in the drawing above, the front of the drawer has the same inlay pattern as the upper stretcher (I did the inlay on the drawer front and stretcher at the same time).

It's joined to the sides with some generously sized half-blind dovetails. At the other end of the sides there's a rebate to join firmly with the back.

The back and sides have a groove on the inside face for the drawer bottom. The drawer front has a stopped groove to discreetly hold the bottom in place. One other thing about the sides and the back, I chose to make them out of walnut. It complements the inlay.

SIZE THE PIECES. So, standard operating procedure here, cut the sides, back and plywood bottom to final size. Go ahead and notch the plywood bottom

on the front corners (detail 'e'). This is where the bottom joins the groove in the drawer front.

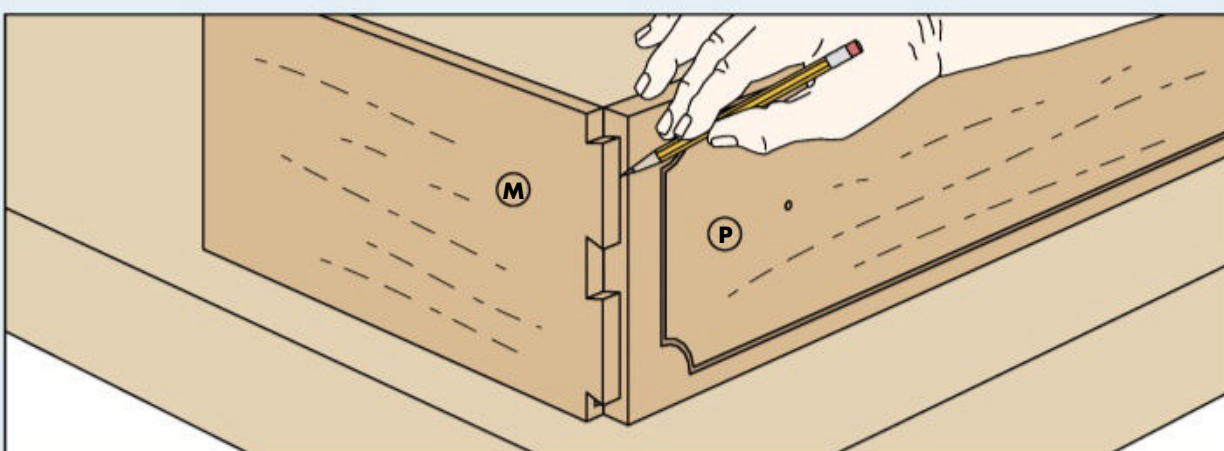
GROOVES NEXT. Speaking of grooves, they normally would be done on the table saw. But in this instance, I switched to the router table for the ease of doing that stopped groove in the drawer front I mentioned earlier. But the table saw need not feel left out, I used it to cut the rebates in the sides (detail 'b'). The other end of the sides is what's next on the menu — dovetails. Large half-blind dovetails to be exact.

DOVETAIL PINS. I must confess, the two large dovetail pins you see in detail 'c' above were a lot of fun to make. I could have laid them out and chopped them at the bench. But I had a hankering to do them quickly.

I did lay them out with a sharp pencil, but then I moved them over to the router table. It was a simple matter of standing the workpieces against a tall auxiliary fence and nibbling to the lines with a 14° dovetail bit.

SOCKETS. The completed pins are used as the pattern for the sockets on the drawer front. As the box to the left shows, all it takes is a flat surface and a sharp pencil

LOCATING THE SOCKETS



Pencil Perfection. Tracing the profile of the dovetail pins onto the sides of the drawer front guarantees a perfect fit. Make sure the work surface or benchtop is flat when doing this.

to scribe the profile of the tail onto the drawer front. As for cutting the sockets, I took a nice quiet break from the machinery and hand cut them at the bench.

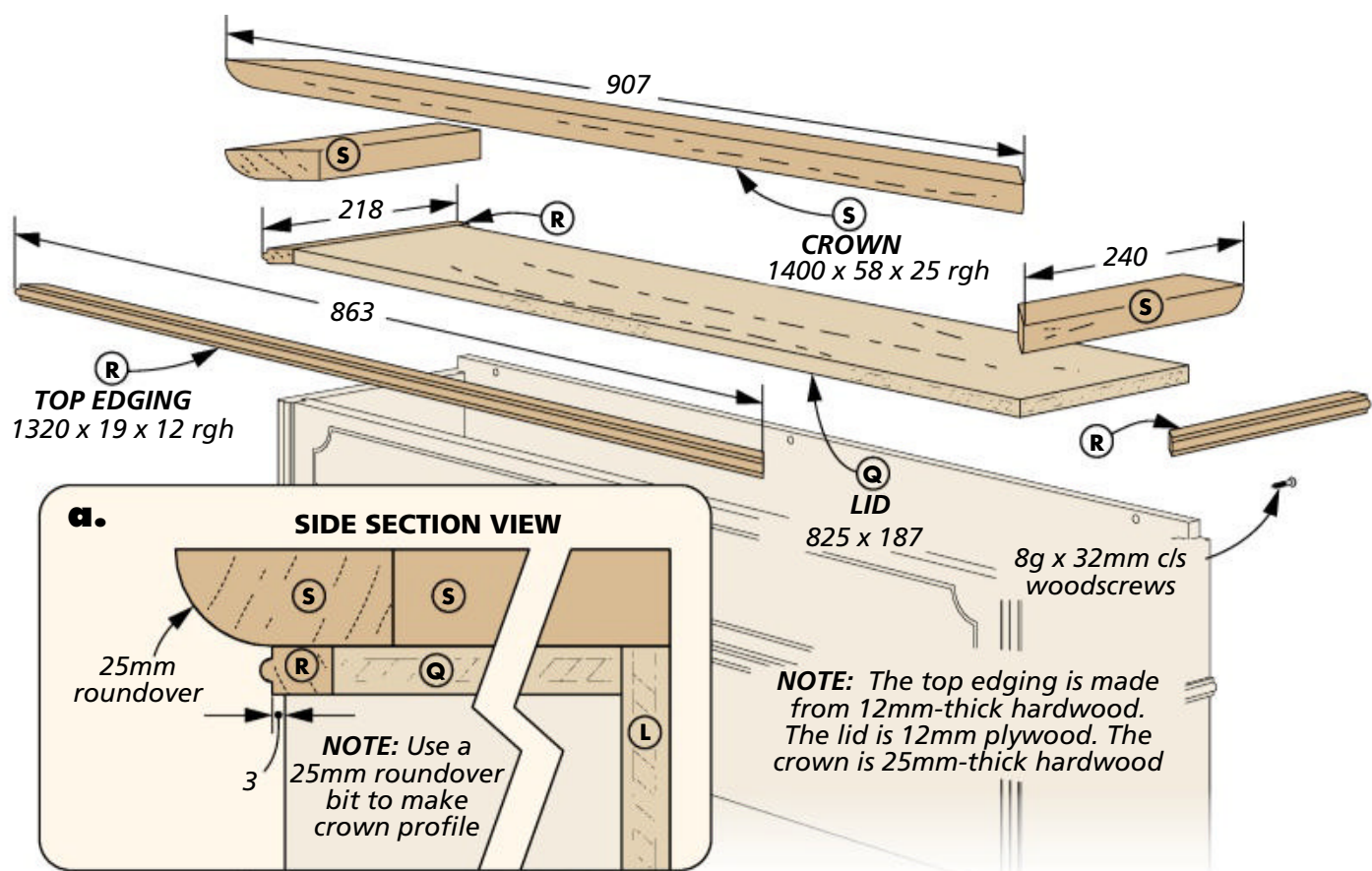
Glueing up the drawer was a breeze with such fine-fitting joinery. It gave me time to plan the final moves of this project, making the top.

THE TOP

The top of the bookcase consists of three pieces. A plywood lid, that's made from the same material as the back. Glued to that is some hardwood edging that matches the edging below the stretcher. And topping the case off is a thick hardwood crown. I started by sizing the lid that the edging will be glued to.

EDGING. Before routing the bead profile on the edging, I mitred and glued the blanks to the plywood lid. With that ground work done, I glued the lid to the top of the bookcase.

THE CROWN. Sizing the thick material for the crown is the first order of business. Then at the router table, shape the lower



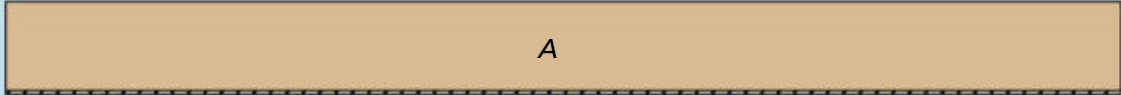
edge with a roundover bit (detail 'a'). I mitred and glued up the three pieces of the crown to each other on the flat surface of my workbench. My bench dogs and

vice came in handy here. When the crown was dry and cleaned up, I glued it to the lid. This kingly bookcase is now ready to shine in your home. [W](#)

Materials, Supplies & Cutting Diagram

A Sides (2)	1650 x 380 x 19	I Bottom Stretcher (1)	825 x 103 x 19	Q Lid (1)	825 x 187 x 12 ply
B Bottom (1)	825 x 362 x 19 ply	J Upper Stretcher (1)	825 x 112 x 19	R Top Edging (11)	1320 x 19 x 12 rgh
C Bottom Shelf (1)	825 x 340 x 19 ply	K Inlay	4600 x 3.2 x 3 rgh.	S Crown	1400 x 58 x 25 rgh
D Second Shelf (1)	825 x 295 x 19 ply	L Back (1)	1662 x 832 x 12 ply	• (4) Bail Pulls	
E Third Shelf (1)	825 x 255 x 19 ply	M Drawer Sides (2)	342 x 170 x 12	• (2) Drawer Pulls	
F Fourth Shelf (1)	825 x 210 x 19 ply	N Drawer Back (1)	800 x 170 x 12	• (18) 6g x 32mm c/s Woodscrews	
G Shelf Edging	5m x 19 x 19 rgh.	O Drawer Bottom (1)	800 x 330 x 6 ply		
H Stretcher Edging	1400 x 12 x 12 rgh.	P Drawer Front (1)	812 x 170 x 19		

1800 x 150 x 19 Mahogany or similar (Four Boards)



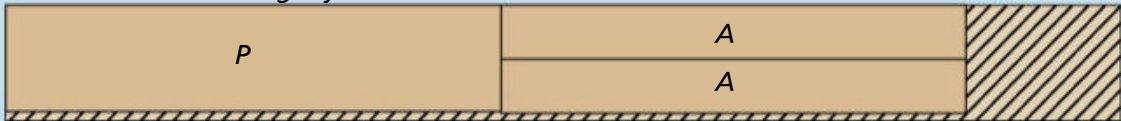
1500 x 100 x 25 Mahogany or similar



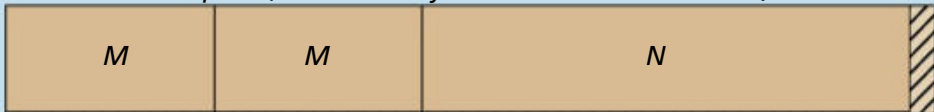
1800 x 190 x 19 Mahogany or similar



1800 x 190 x 19 Mahogany or similar



1500 x 190 x 12 pine (or walnut if you want to be traditional)



900 x 100 x 12 Walnut



ALSO NEEDED: One 2400 x 1200 Sheet of 19mm Mahogany Plywood, One 1200 x 600 Sheet of 6mm Mahogany Plywood, One 2400 x 1200 Sheet of 12mm Mahogany Plywood



▲ A bundle of drawers (main photo) offers storage for nearly everything you need in your workshop. The large drawer beneath the table saw creates the perfect storage space for those large, bulky items like portable power tool cases.



▲ The workstation has a built-in router table. The router is housed inside the cabinet, which offers a large surface to rout long workpieces. An adjustable fence with integrated dust collection attaches directly to the top of the station.



All-in-One Workstation

Get the most out of your workshop space by combining tools into a compact station. This workstation packs loads of storage and tools in a mobile bundle.

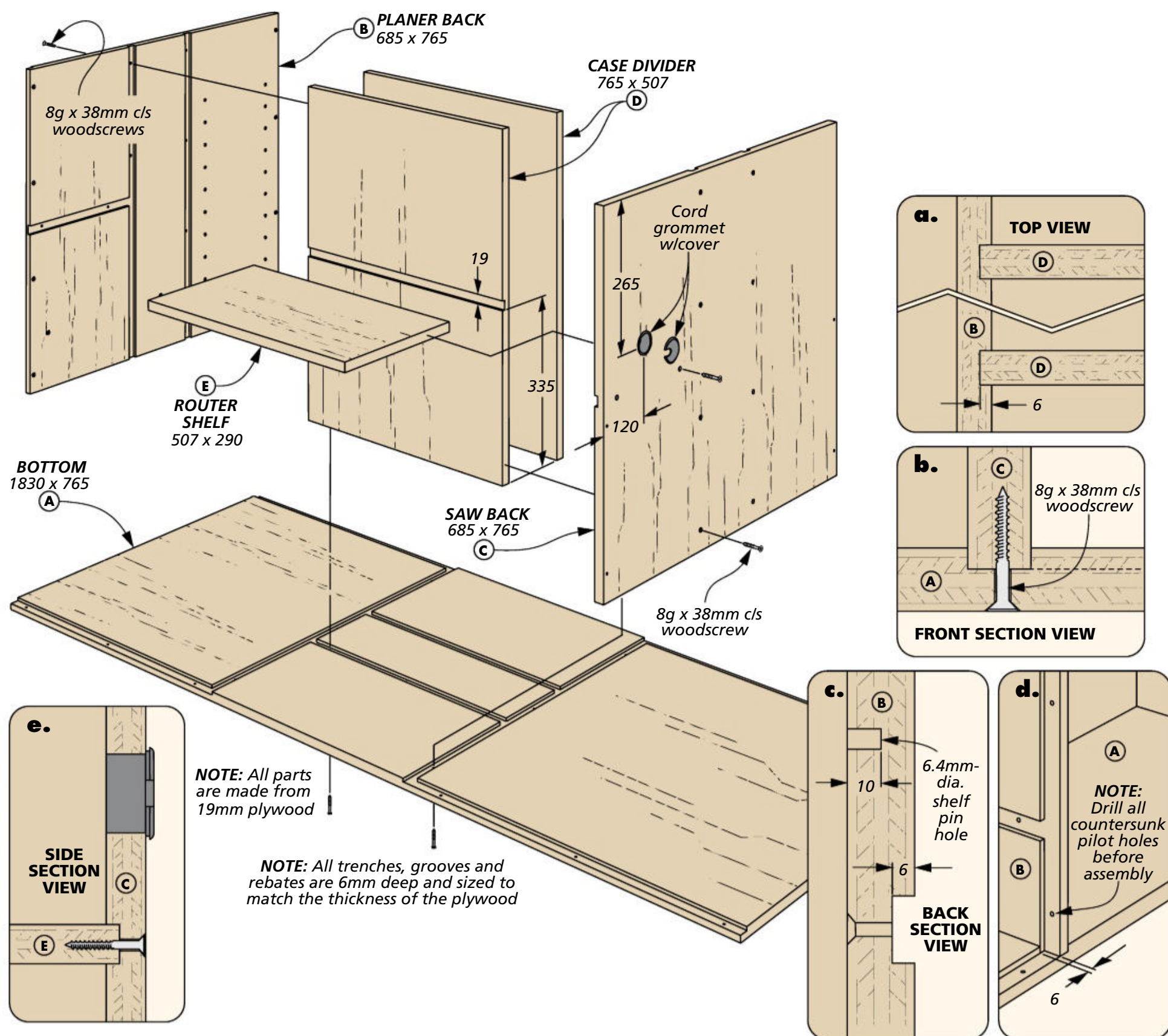
Thinking back to my first workshop, it was set up in the garage of my house. When hail was predicted, the changing weather often forced me to move my tools out of the way to make room for vehicles. I must say — when I was in the middle of a project, it was a big hassle. I would have to move everything from my bench to my table saw. Not to mention cleaning up all the dust and power cords that I had strung all over. When I first saw the design for this workstation, and all the features packed into the compact footprint, I realised how much easier my life could have been.

THREE TOOLS, ONE FOOTPRINT. Looking at the photos to the left, you'll notice this mobile workstation packs (at least) three tools into one. On one end, a benchtop table saw sits on a low table. The main worksurface of the station acts as the perfect outfeed support for the saw. On this worksurface, there's an opening for a router plate that turns the top into a router table. Finally, opposite the table saw is a flip-top with a thickness planer mounted to one side.

BUT WAIT, THERE'S MORE. One thing that you might not think about as you look at the mobile workcentre is the size of the worksurface itself. It's the perfect canvas for assembling projects and serving as your main or auxiliary workbench. That's not to mention the vast amounts of storage packed below the top in the form of drawers and shelves.



▲ By attaching a tool to the flip-top section of the workstation, you can quickly and easily rotate it into working position. A pair of workshop-made latches locks the top in position for use. It's a perfect option for those heavy tools that you use often.



Building the CASE

One of the things I like about this mobile workcentre is that it's made mainly out of plywood. This means in a short amount of time you can have all of the panels cut and ready to tackle the joinery.

When breaking down plywood sheets, I use a workshop-made guide with my circular saw. But a Festool, Makita or Scheppach track saw combo could easily do this job.

I started the workstation by first tackling the main case of the cabinet. This is simply a bottom and a series of dividers and partitions.

THREE ZONES. The mobile workstation can be divided into three areas — the table

saw base, the router table and the planer section. The router table is the centre of the whole operation, so it's a good point to build out from.

After cutting the bottom, planer back and table saw back to size, I wanted to tackle all of the joinery needed to connect everything. The joinery consists of a series of grooves, trenches and rebates in nearly every part of the case.

To cut the trenches and grooves in the large workpieces, I decided to use my router with a workshop-made jig. You can see the jig and how it gets used with a router in the box on the next page.

After laying out the joinery, I cut the

trenches in the base for the backs first. Then, I repositioned the jig to cut the grooves for the case dividers. These grooves start and end in the trenches for the backs, so be careful as you start and finish these cuts.

While I had my router in hand and was working on the base, I went ahead and cut the rebates for the planer and table saw sides. Here again, these rebates start and end in the trenches. Now set the base aside while you work on the backs.

SHELF HOLES & GROOVES. Both of the backs get a couple of grooves cut in them for the case dividers. Also, there's a trench in the backs and one divider for the router

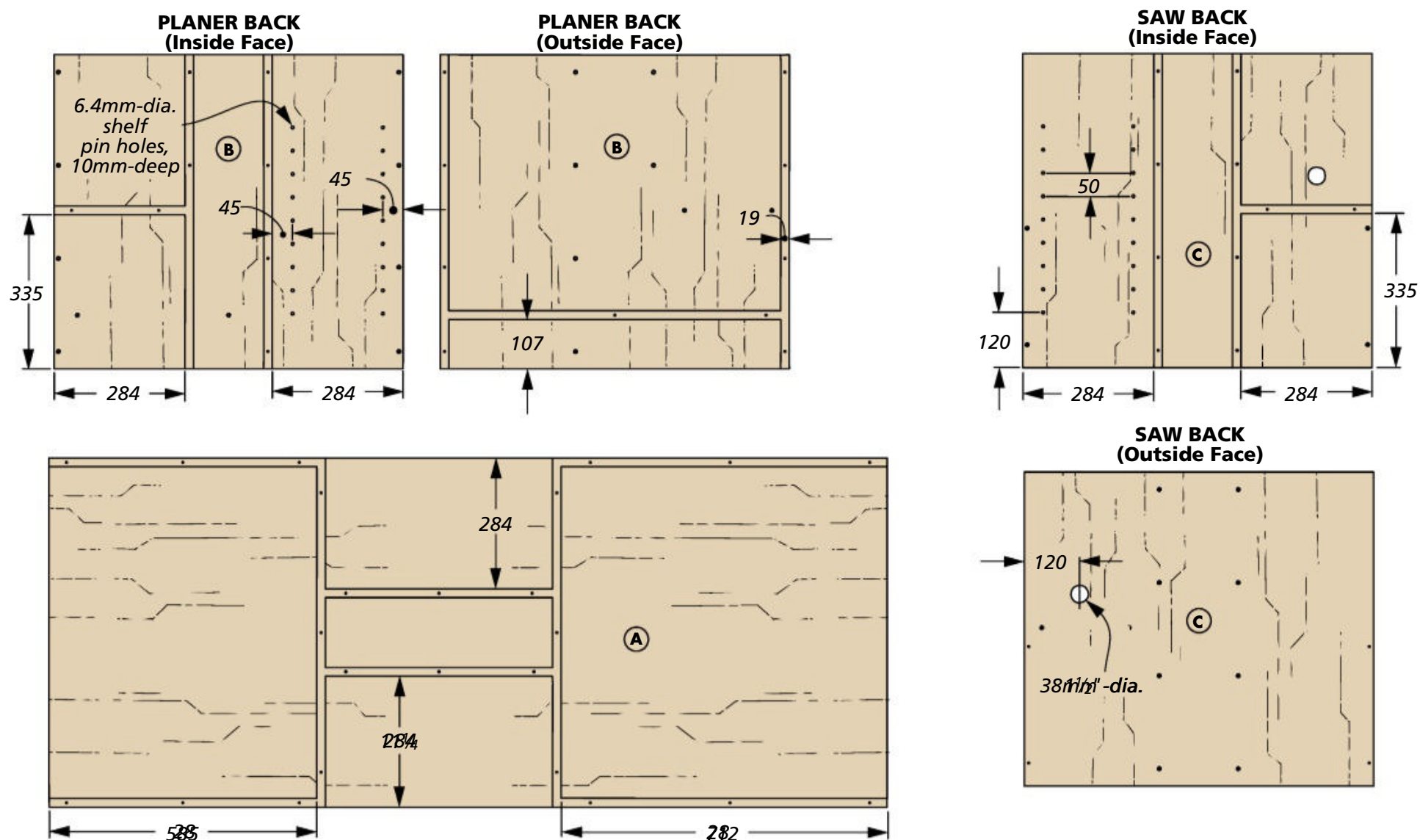


table shelf (see main drawing). Again, I cut these with the router and guide.

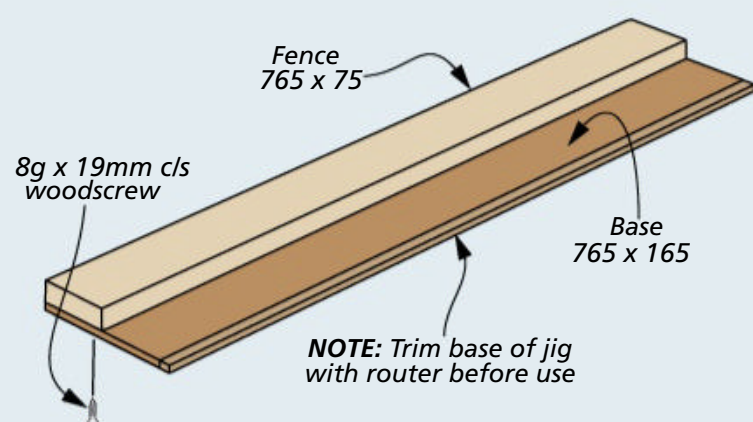
On the opposite side of the router shelf, there's a series of shelf pin holes that will hold pins for adjustable shelves. Take care of drilling those holes next. Use some tape or a stop collar to keep from

drilling through the back of the panels. Finally, a hole is drilled in the table saw back that you'll feed the router's power cord through later.

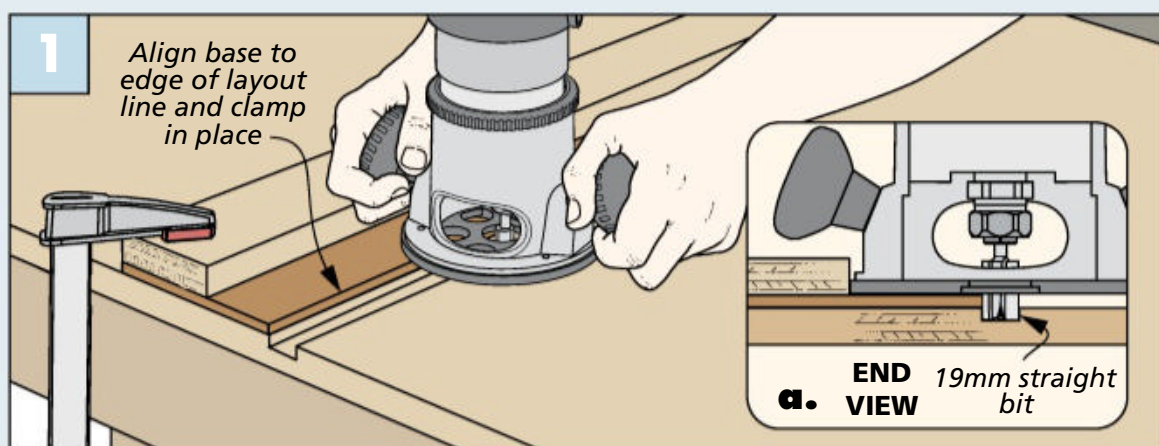
ASSEMBLY. Now you're ready to assemble the backs with the case dividers and router shelf. Use a good bead of glue in

each of the trenches and grooves, then drive some screws home to hold everything tight. At this point, I flipped the centre assembly over so I could install the bottom. An extra set of hands will help in positioning the bottom before gluing and screwing it in place.

ROUTING TRENCHES & GROOVES



Router Jig. To cut the trenches and grooves in the panels, first lay out the position of each one. Clamp the guide along one side of the layout lines. Rout the trenches and grooves in one pass, from left to right.



Add the SIDES

With the core of the workcentre complete, you can turn your focus to each end. On one end, a short case and drawer will support a top for your saw. On the opposite end, a large cubby makes room for the flip-top with attached planer. Below that, a smaller drawer offers some storage. The first thing is to finish the ends in preparation for the tops.

PLANER WALLS. Focusing on the planer end first, I cut the sides and shelf to size. Then, I cut the trenches in the side panels for the shelf. Here, I used my router and the same jig from before. The last thing to do with the panels is to drill pocket holes along the top edge. These will be used to attach the top that will be added later.

With the parts cut, you can install them on the case. Here again, everything is glued into the trenches and rebates and installed with screws. The sides are screwed from the bottom and along the inner edge (details 'b' and 'c').

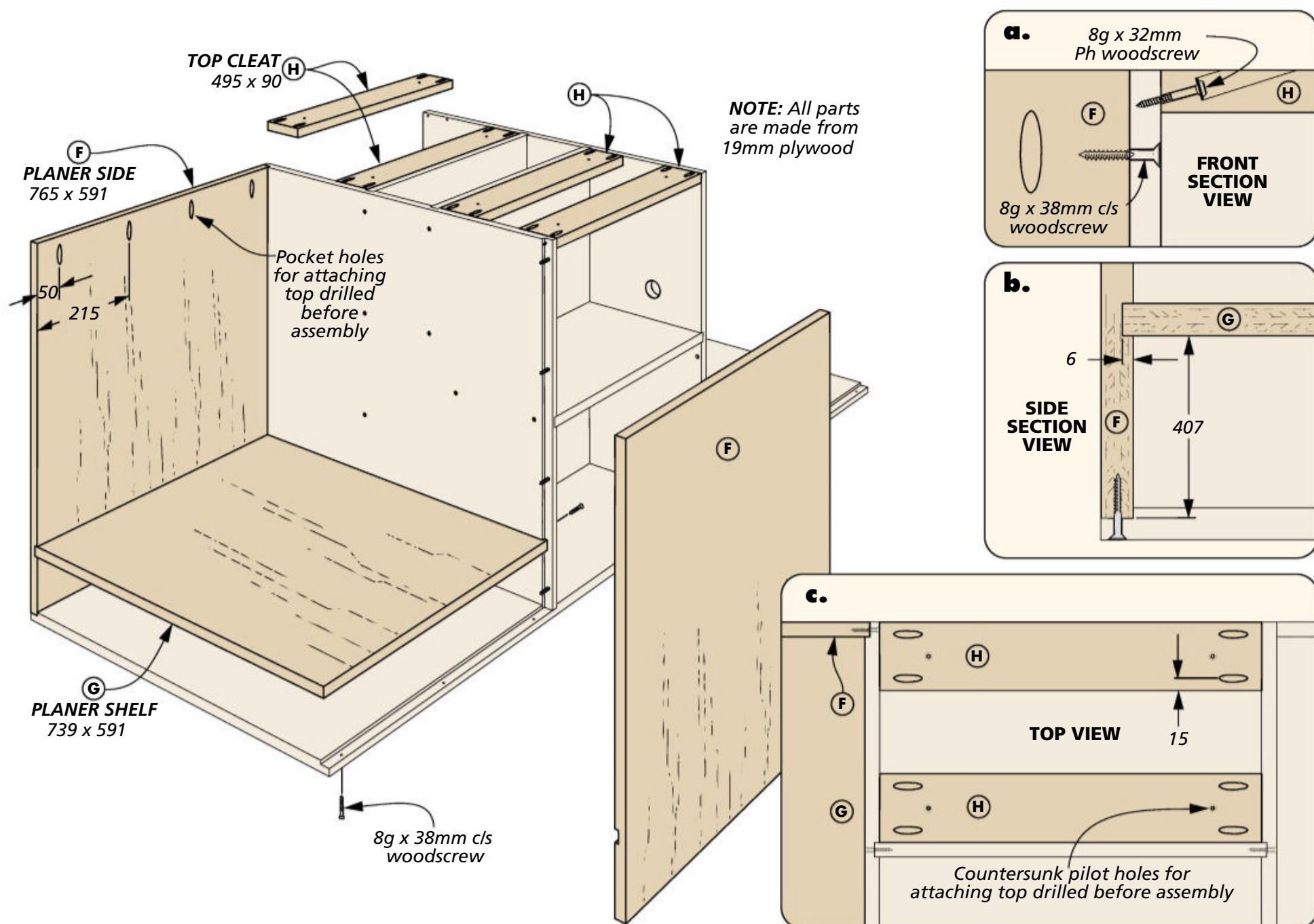
CROSS BRACES. Cut four cleats for the centre of the case. To install them, drill a pair of pocket holes on each end and attach them with screws. See the drawing below for the final positioning. These will also be used as attachment points for the top.

TABLE SAW PLATFORM

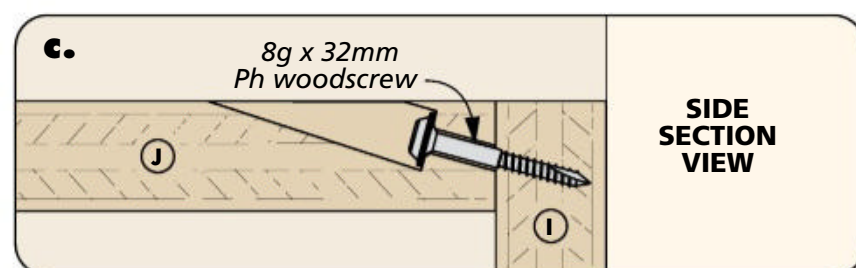
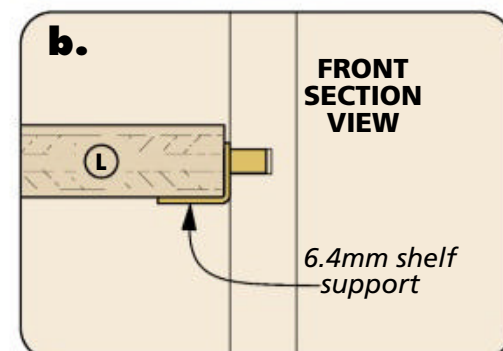
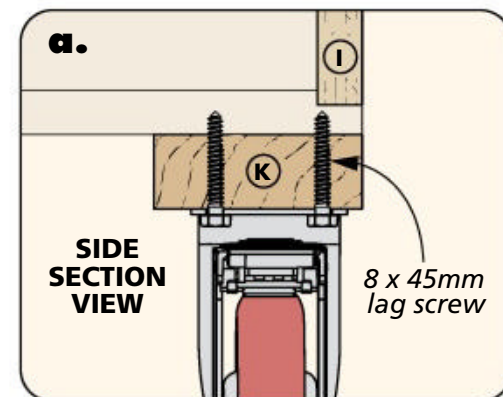
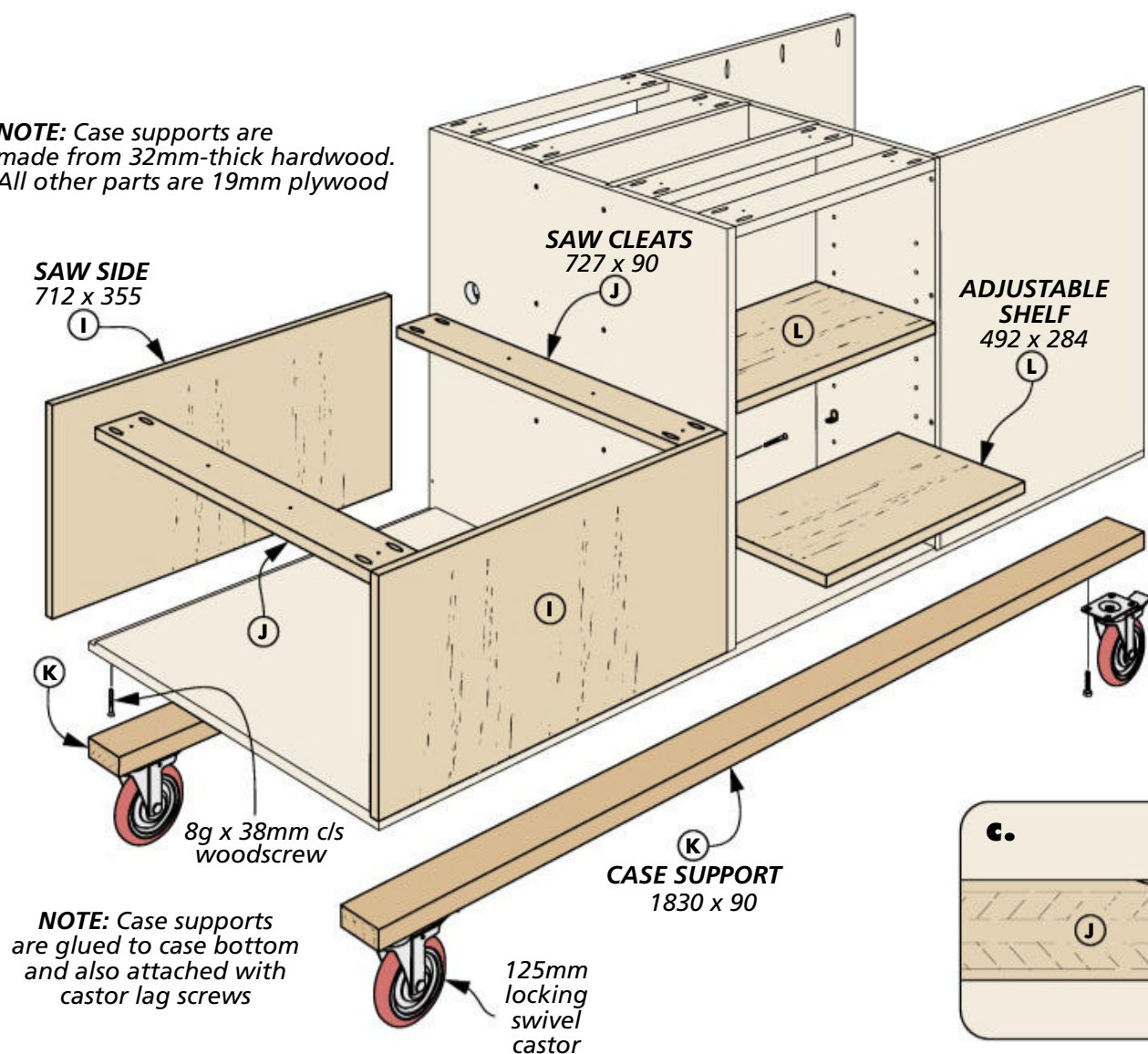
Now move to the other end of the workcentre. Here, you'll work on the platform for the table saw top. The construction

follows suit from the planer end. The sides are cut and installed using screws and glue. A pair of cleats, similar to the ones you just installed, connect the two sides (upper drawing, next page).

MAKE IT MOBILE. After finishing and installing the side panels on both ends, you're done driving screws through the bottom. Now you'll add a pair of hardwood support strips along the bottom edge. These help support the weight of the cart, add rigidity and provide a mounting point for a set of castors. You can see these in the illustration on the next page. After gluing the strips in place, install the castors with a handful of lag screws (detail 'a' on the next page).



NOTE: Case supports are made from 32mm-thick hardwood. All other parts are 19mm plywood



ADD STORAGE. With the foundation of the cart in place, let's talk about storage. Keeping everything close to where you work is a good idea. With that said, there are a few storage options here that will make your work in the workshop easier. The first, and easiest, is cutting a pair of shelves for the centre section. These rest on shelf supports that you can position where you'd like.

TABLE SAW DRAWER

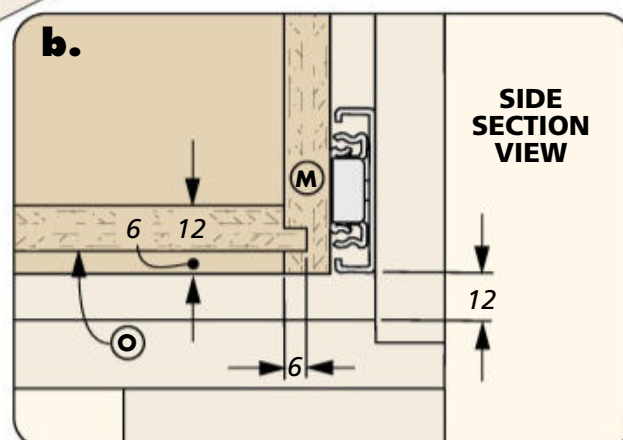
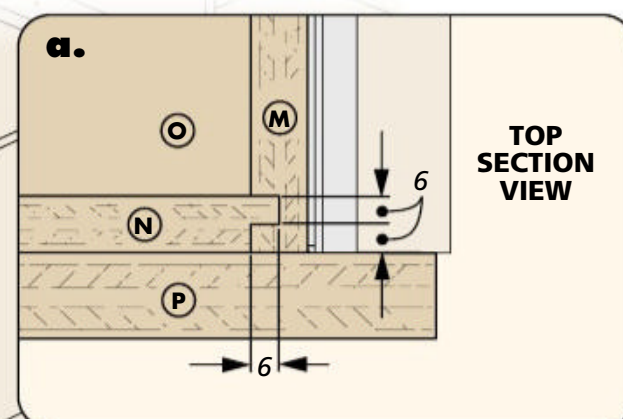
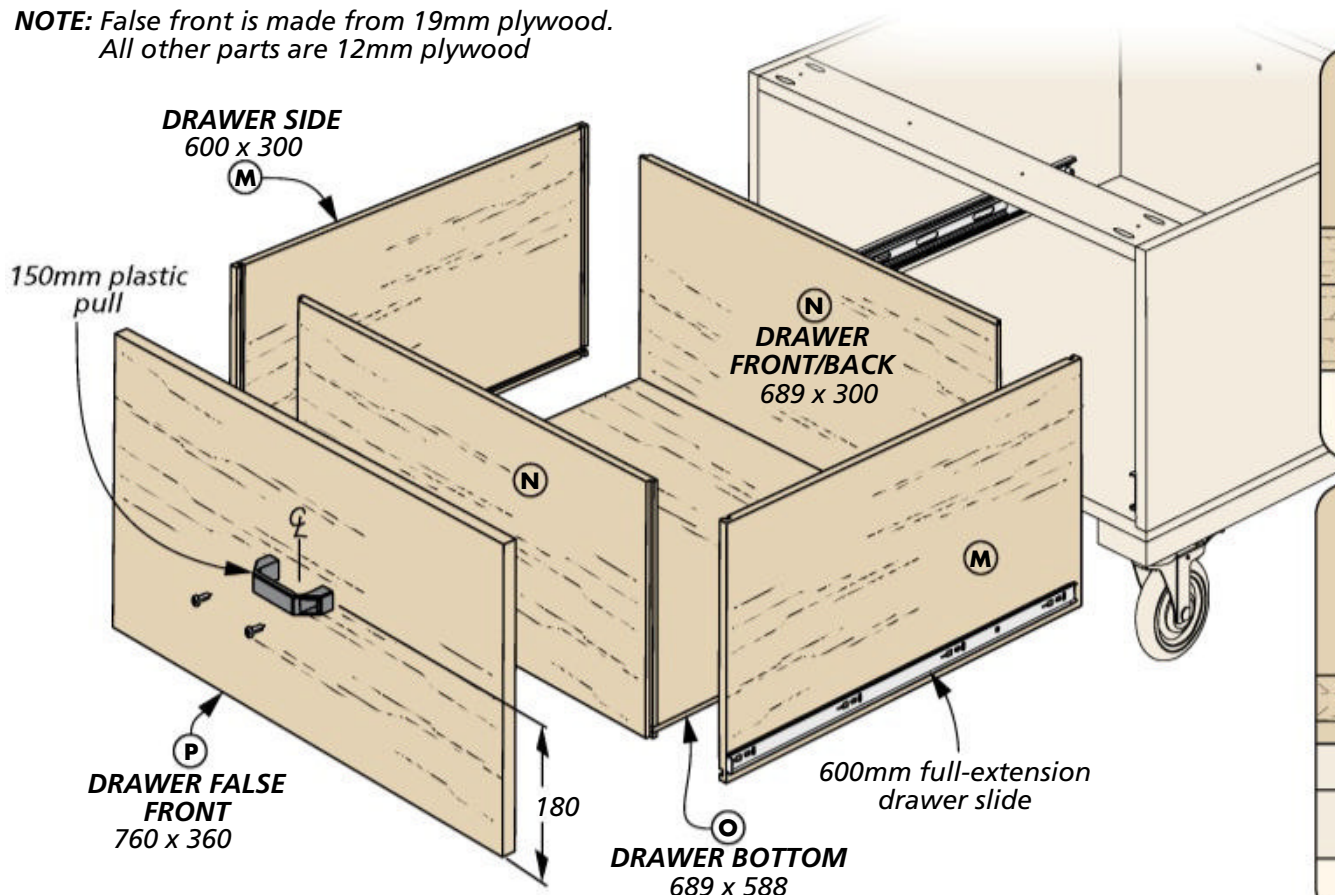
The drawer on the table saw side of the cart is quite large. However, solid tongue and groove joinery holds everything together. The only quirk is the bottom, which I beefed up using thicker plywood to help hold the extra weight of the items that will inevitably get stacked in the deep drawer.

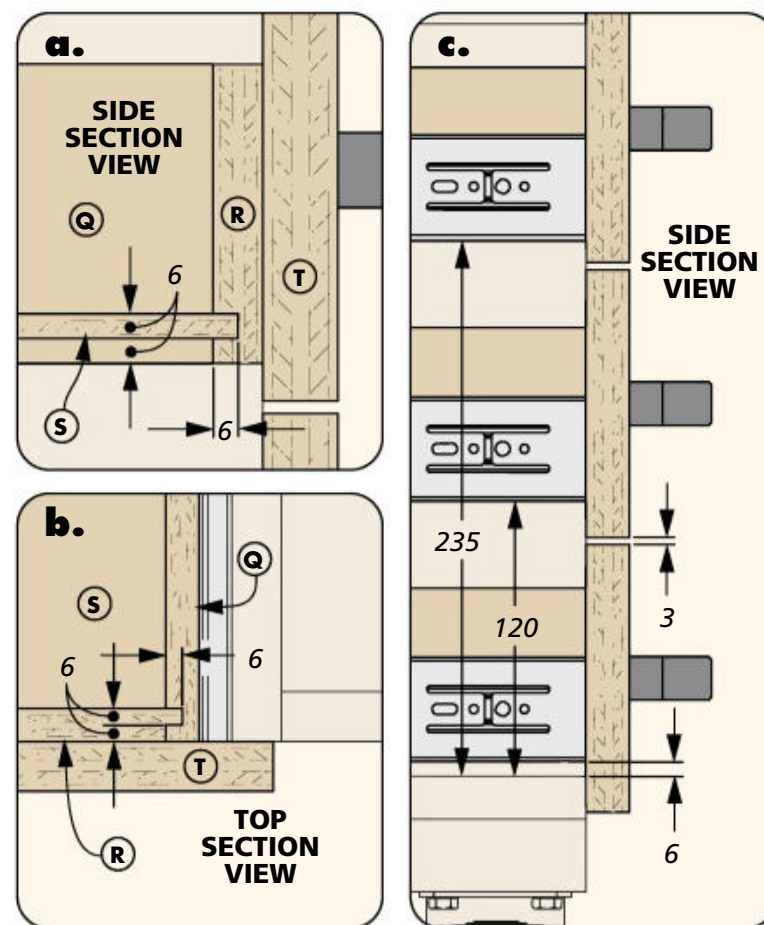
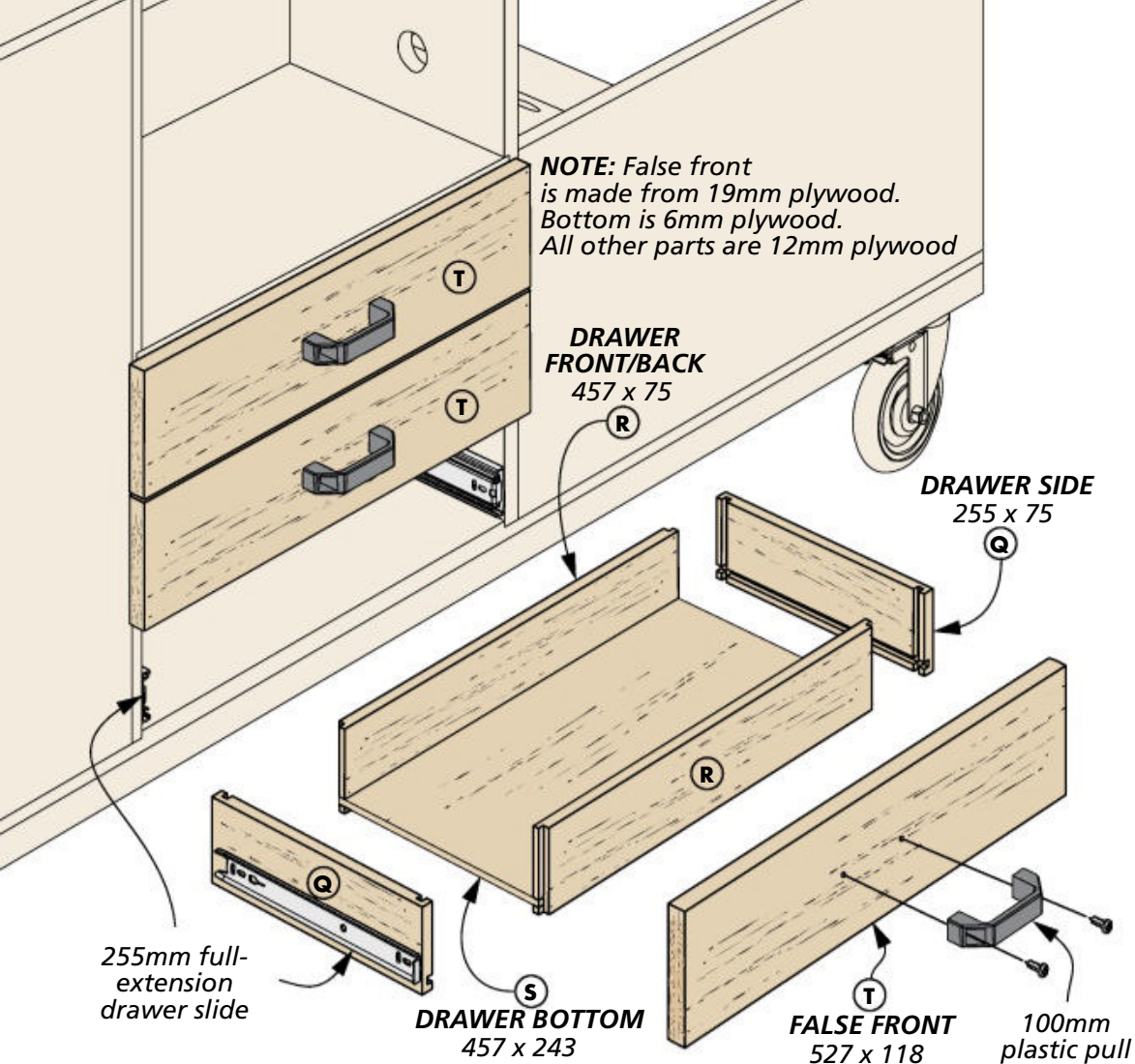
After cutting a 6mm groove for the bot-

tom, the bottom will need a little work to slide into place. This is done by cutting a rebate around the lower edge of the bottom panel at the table saw (or with a rebate bit on a router).

Now, the box can be assembled and installed. It's mounted on metal slides (detail 'b'), and the false front is screwed in place.

NOTE: False front is made from 19mm plywood. All other parts are 12mm plywood





A few more **DRAWERS**

There are a few more drawers to take care of before you switch gears. A series of drawers sits below the router table, and a large, shallow drawer lives under the planer.

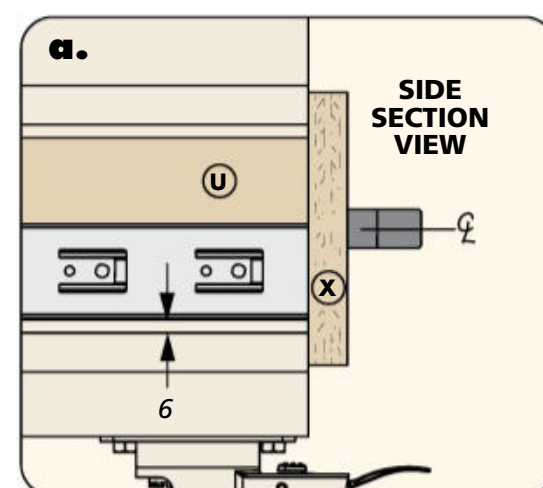
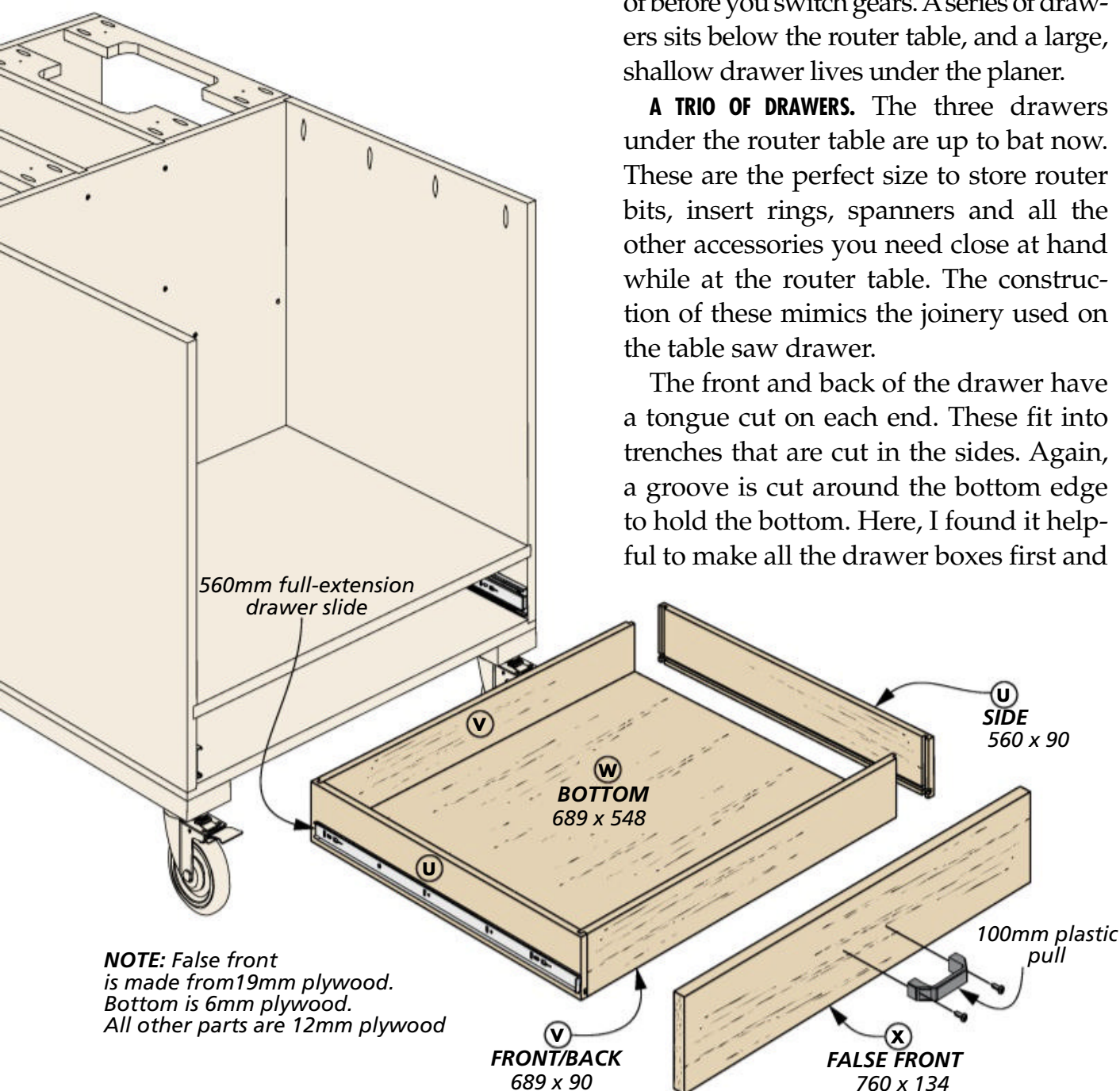
A TRIO OF DRAWERS. The three drawers under the router table are up to bat now. These are the perfect size to store router bits, insert rings, spanners and all the other accessories you need close at hand while at the router table. The construction of these mimics the joinery used on the table saw drawer.

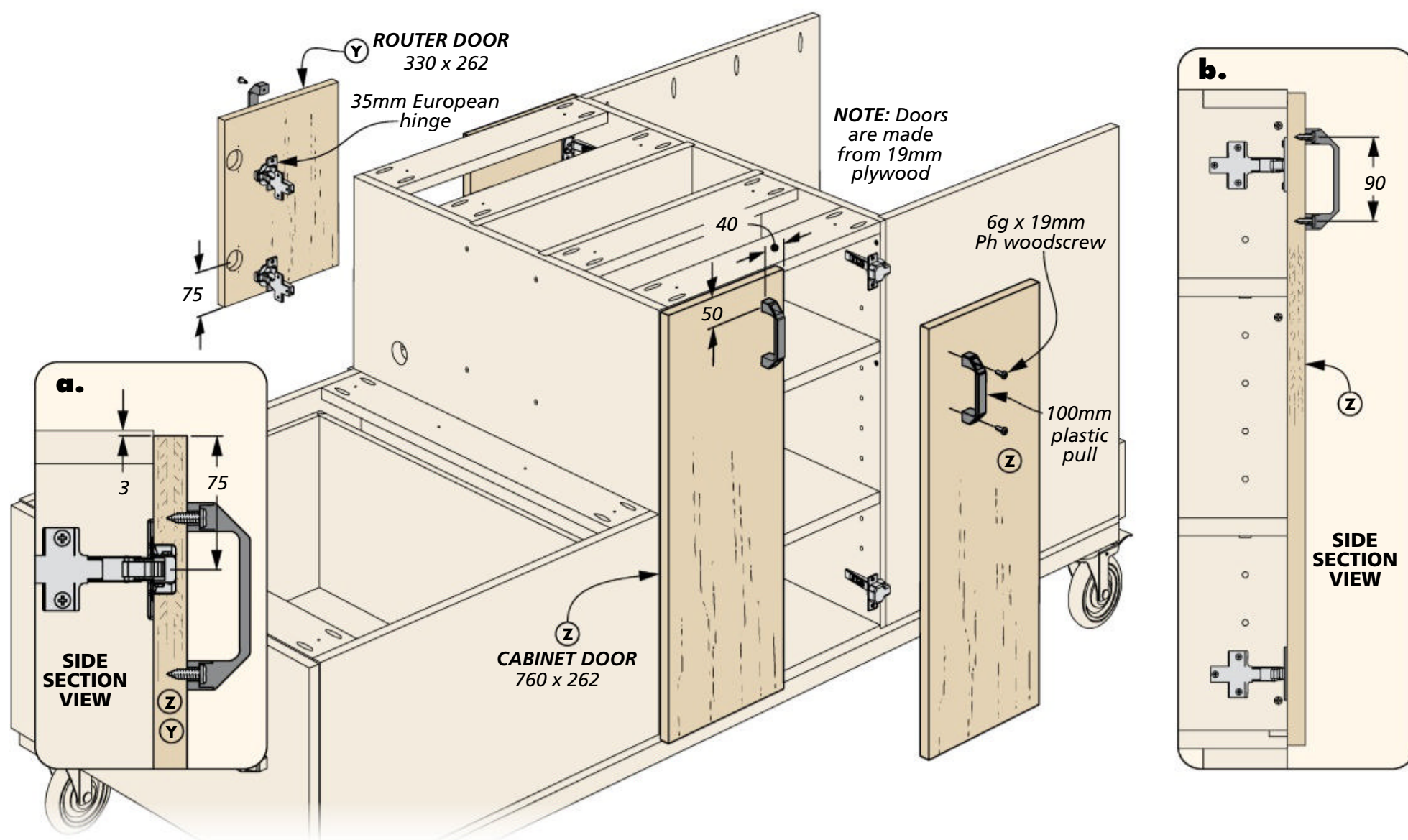
The front and back of the drawer have a tongue cut on each end. These fit into trenches that are cut in the sides. Again, a groove is cut around the bottom edge to hold the bottom. Here, I found it helpful to make all the drawer boxes first and

install them. Then, you can position the three false fronts for even spacing and attach them with screws before installing the pulls.

PLANER DRAWER. The drawer below the planer cubby is fairly shallow, but is the perfect place for extension cords and other small accessories. It's built using the same construction as the drawers you've already built. All of the joinery is easy to cut at the table saw using a dado blade.

After the drawer is built, install it with slides, as shown in detail 'a' below. The slides are installed flush with the front of the case and slightly off the bottom of the cart. Once you have the drawer in place, position the false front with double-sided tape and attach it with screws. The final thing is to install a plastic pull on the front of the drawer.





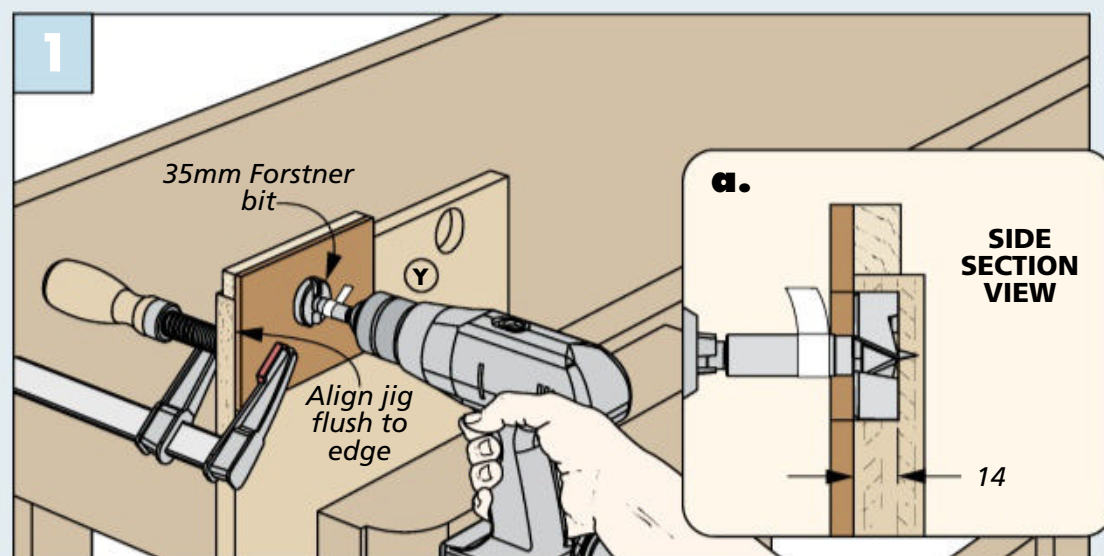
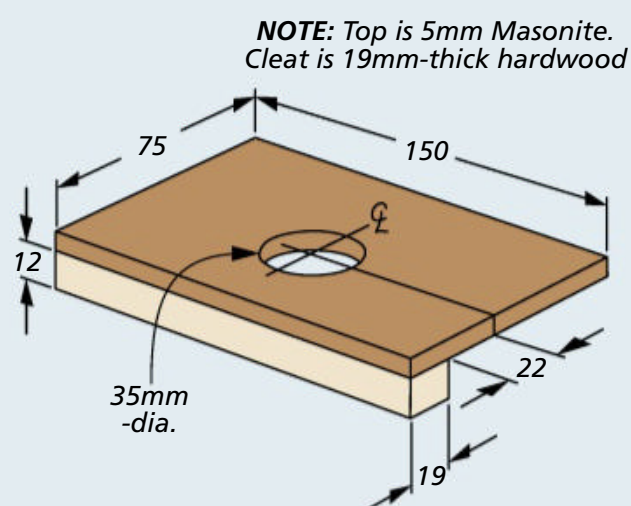
FOUR DOORS

Before starting work on the different worksurfaces, you'll want to wrap up the doors of the workcentre. You'll have a total of four doors to make. Two smaller doors are on the router side of the workcentre and they enclose the router when it's installed. On the opposite side, a pair of tall doors hide the adjustable shelves that you've already installed.

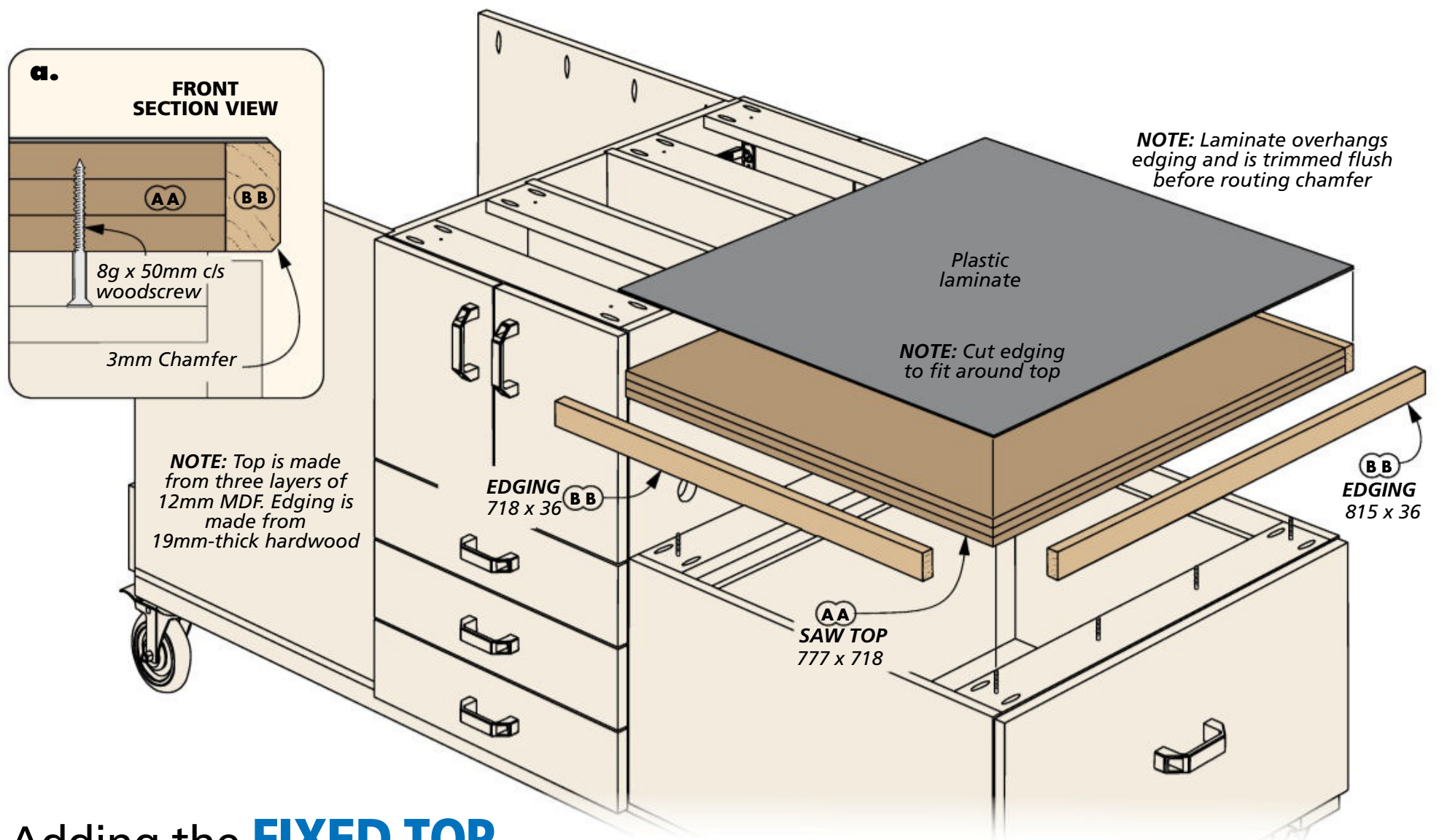
The construction of the doors couldn't be simpler. They're just plywood panels cut to finished size. The only thing that takes a little bit of attention is drilling the recesses for the European hinges used to mount them to the case. Here, a jig is your best bet. It'll help you locate the hinge position so you can accurately install the hinges. You can see how the jig is constructed and how it's used in the box below.

DOOR INSTALLATION. With the hinges installed on the doors, they're ready to mount on the case. I like to position the door and mark the screw locations with an awl and then predrill them. Just pay attention to where you're installing the door, as you don't want it to rub on the top once it's installed. After getting the handles in place on each door, you're ready to start tackling the top of the workcentre.

DOOR HINGE JIG



Hinge Pockets. With the door clamped in a vice, position the jig over the hinge location and secure it with a clamp. Then, use a Forstner bit to drill the hinge pockets, using tape on the bit shank as a depth indicator.



Adding the **FIXED TOP**

The tops for the workcentre can be broken into three sections. The first is the table saw top. Next, is the main top that has the router plate installed. Finally, there's the portion of the top that holds the planer and rotates to reveal an additional worksurface. Up first is making the table saw top.

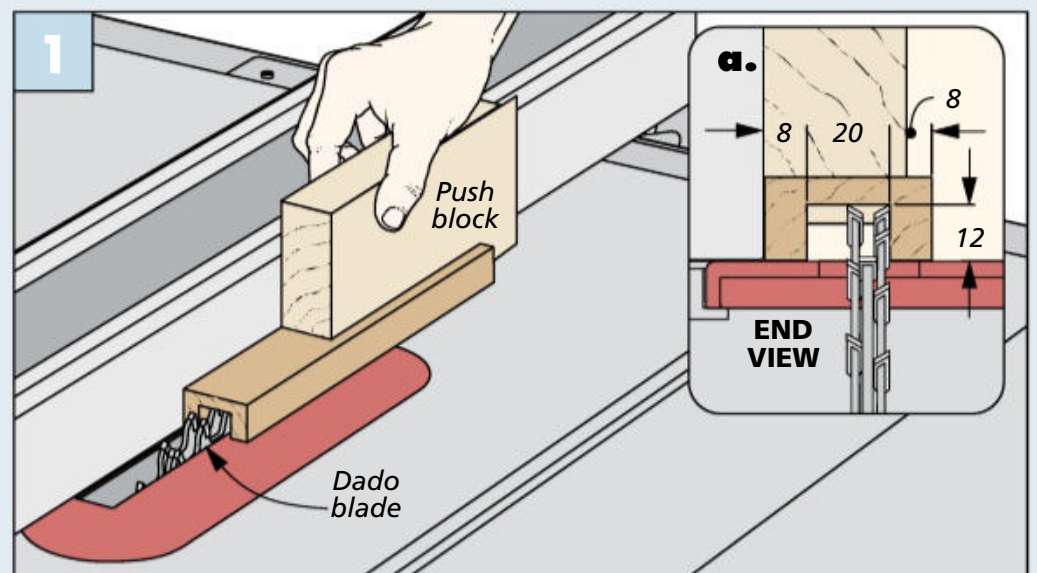
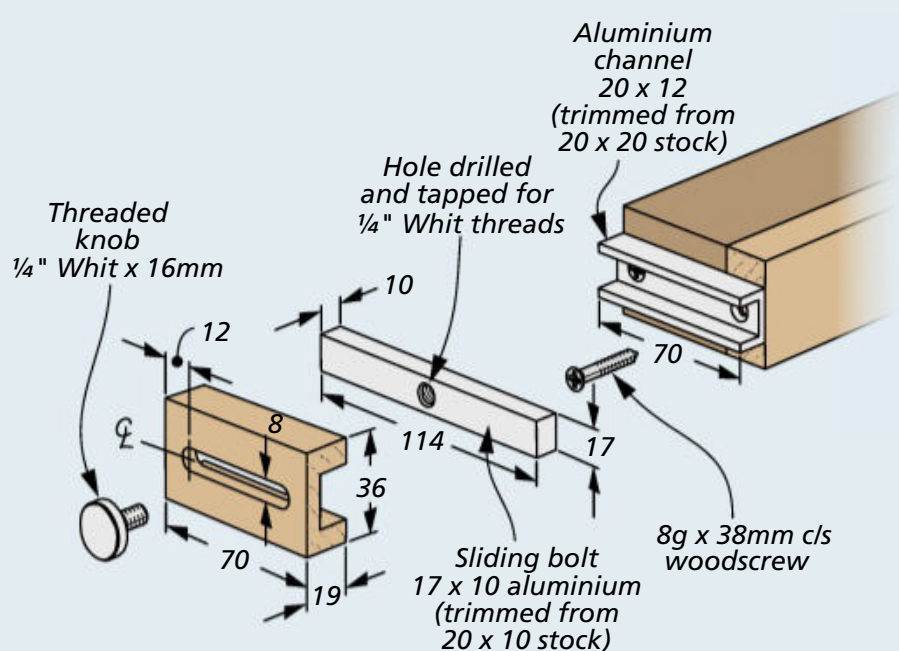
MDF LAYERS. I used three layers of MDF glued together to form a sturdy plat-

form. After glueing the layers together, I cut it to size using a circular saw, due to the weight. Then, I installed some hardwood edging around the three exposed edges (see main drawing).

Before installing the top, I used spray adhesive to attach a piece of plastic laminate and chamfered the edge with a router. The top can be installed with screws through the cleats (detail 'a').

MAIN & FLIP-TOP. The next two tops are the main top and the flip top. These are glued up as one assembly and are then cut apart. Before slapping some MDF together, take a look at the drawings to the right on the next page. To create the pivot point for the rotating top, you'll want to cut the middle layer into two pieces. This creates a channel through the top that the pivot rod can be

SLIDING BOLT DETAILS



Edging Grooves. At the table saw, use a dado blade to cut a wide groove on the inside of a long piece of edging. After the groove is cut, you can rout the through slot.



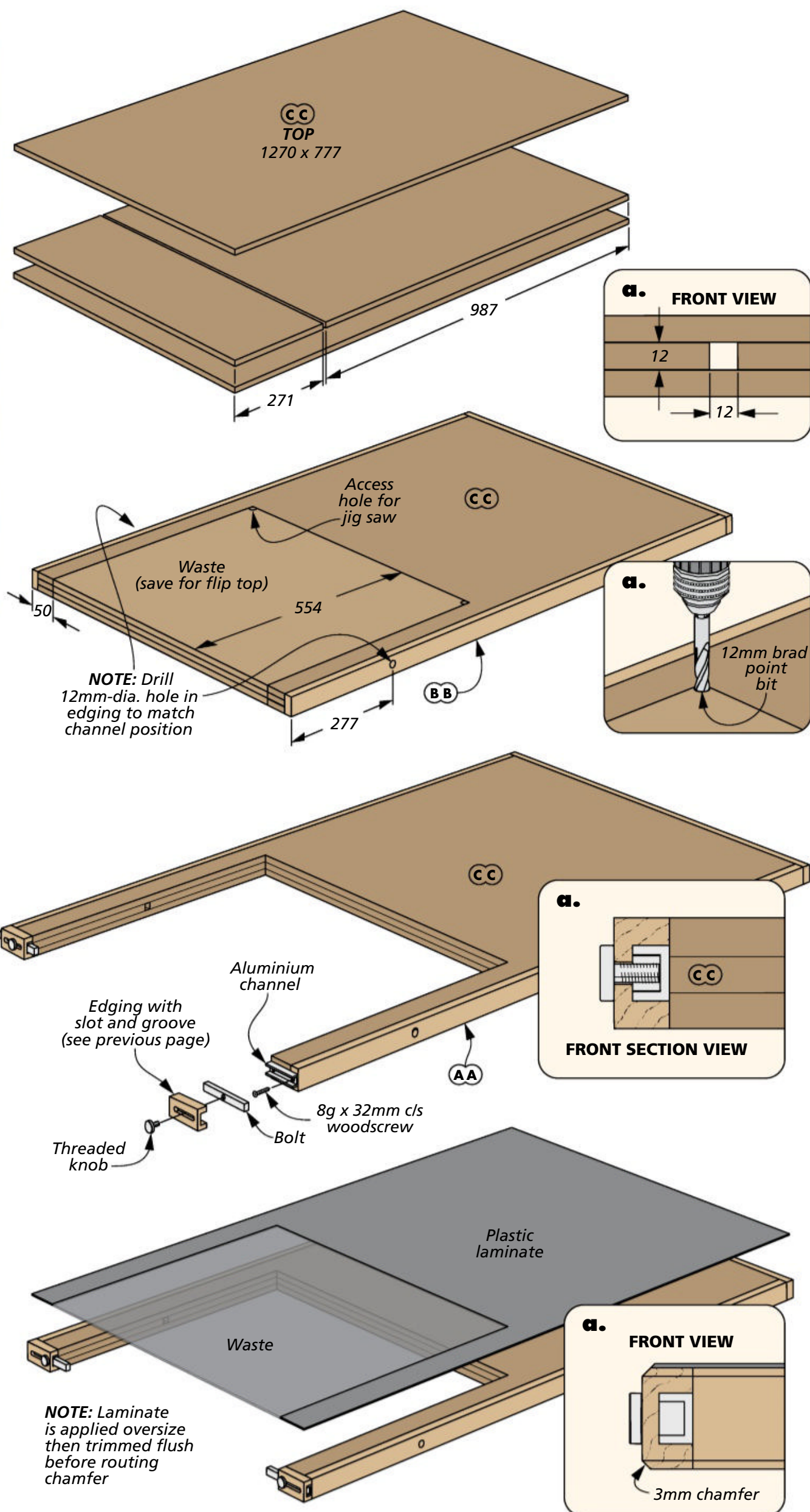
▲ The sliding bolt rides in an aluminium channel. By sliding it in place, it locks the top in both positions.

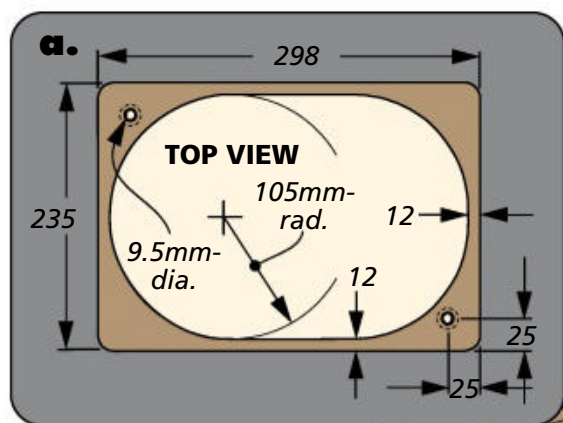
installed in. I simply used the rod as a spacer while gluing the top together and removed it after the glue dried.

CUT IT APART. After the glue is dry, you can split the top into the two different sections, but first edge the three sides as shown at right. Then, use a jig saw with a straightedge guide to cut the flip section loose. The back edge of the flip section will get trimmed down a little bit, so you can drill a couple of holes in the corners to help you make the turn with the saw. Once you have the flip top free, set it off to the side for now.

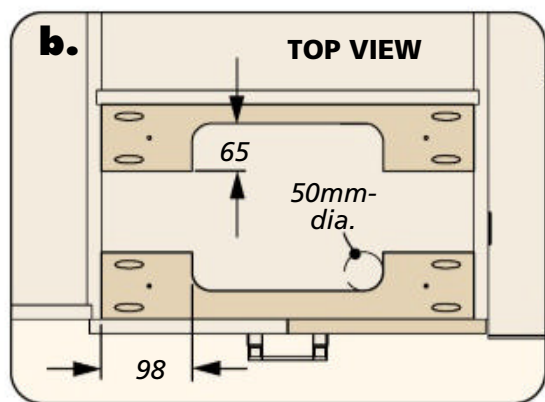
GROOVY EDGING. Now you can add the remaining edging to the top. This edging is grooved to receive the latch mechanism that locks the flip-top in place. I cut this groove with a dado blade, and then used the router table with a straight bit to cut a through slot into the edging.

Before cutting the edging apart and installing it, make the sliding bolt mechanism and install it. The box on the previous page shows how to make the bolt. The channel is screwed to the top, and the bolt slides into the channel. A knob is threaded into the bar through the slot in the edging. To finish the top, add laminate with spray adhesive.

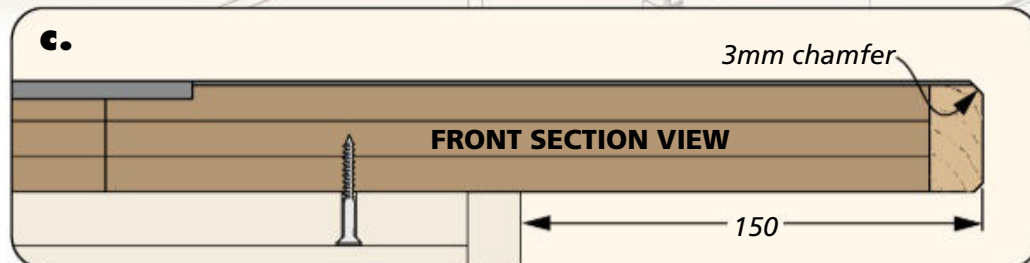




NOTE: Recesses in top cleats are cut out prior to attaching top. Top is installed before cutting router plate recess



8g x 38mm c/s woodscrews for attaching top



Final DETAILS

At this point, you can install the main top onto the workcentre. There are just a few more details to take care of before you start putting it to use though.

ROUTER INSERT. With the top installed, I positioned the router plate and marked the location (detail 'd'). Then, it was a simple matter of using a jig saw to cut the main opening for the router. But first, you'll have to size

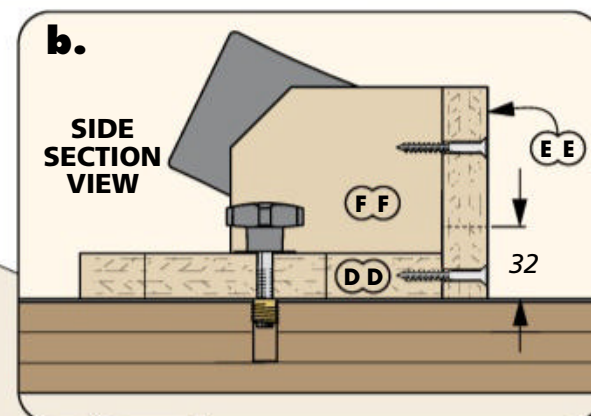
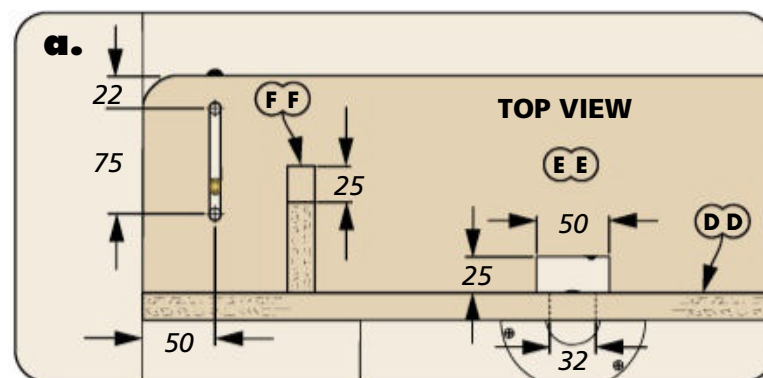
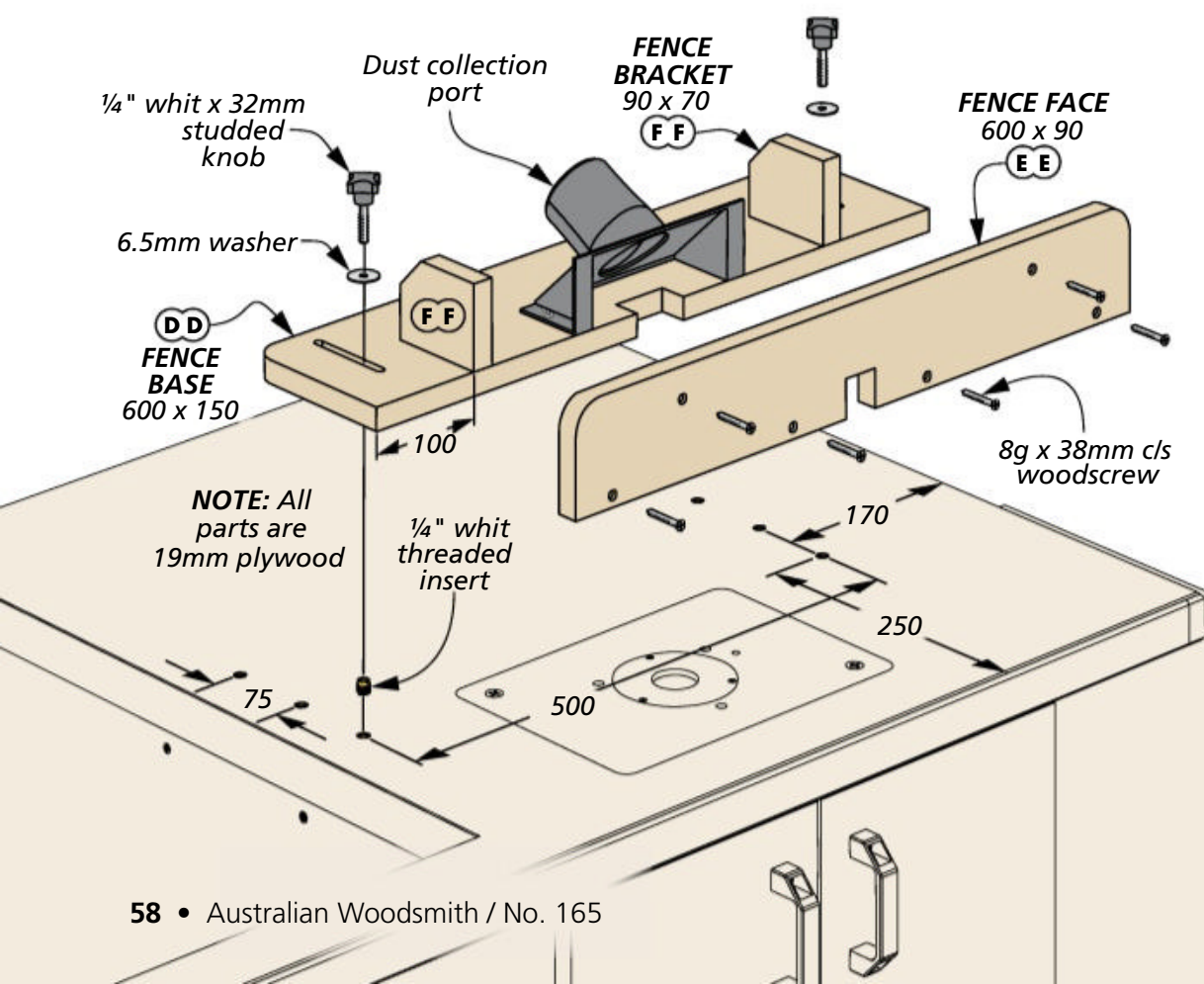
the top cleats (detail 'b'). Finally, you can use a couple of fences and a trench cleanout bit to form the rebate for the router plate.

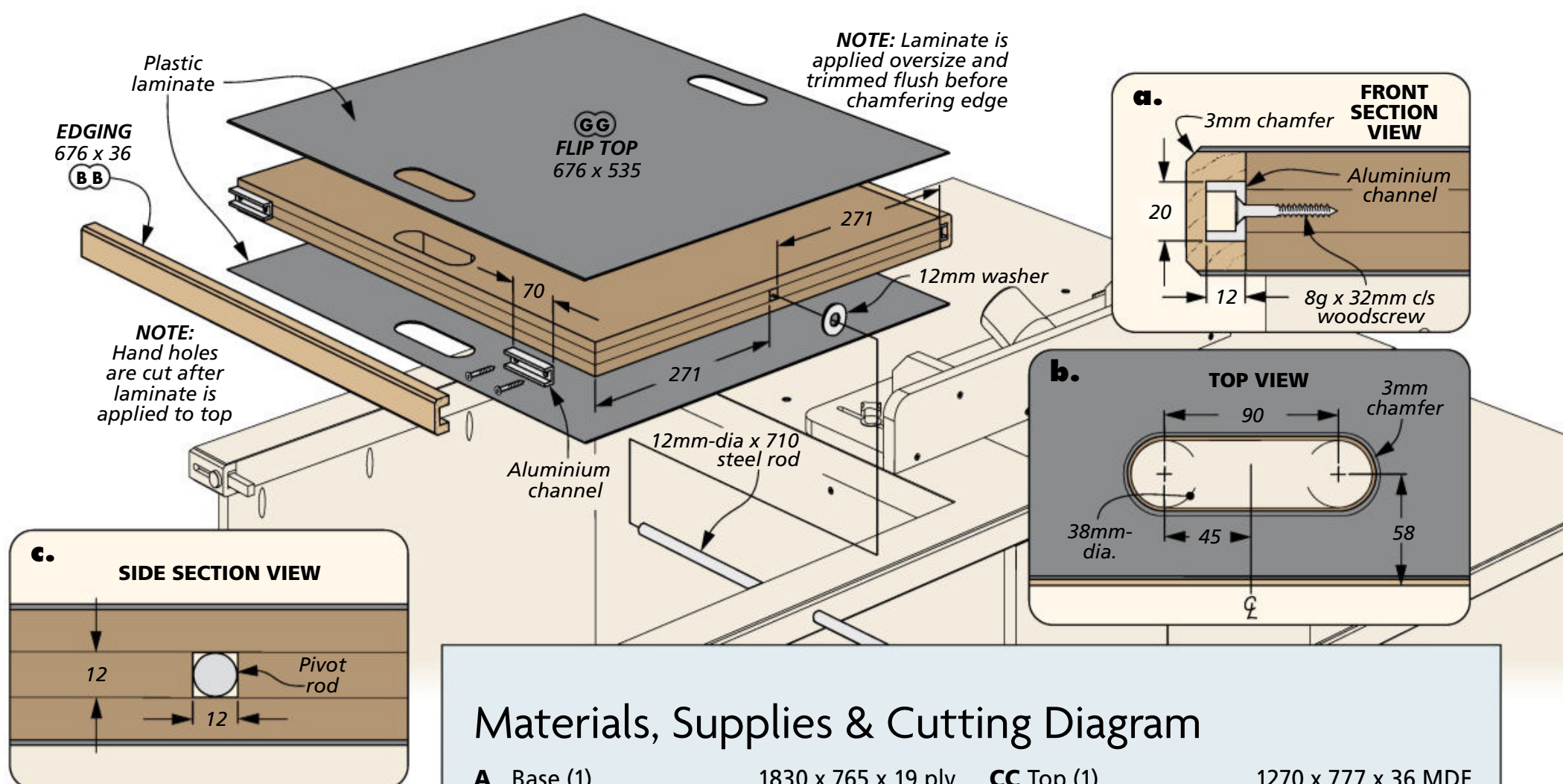
ROUTER FENCE. The fence for the router table is next. It consists of a base, face and a pair of brackets. After cutting the face and base to size, I cut the notches with a jig saw.

While I had my jig saw in hand, I used

it to form the slots in the base — I simply cut between two holes I had drilled to form the ends. Then, after cutting the brace angles with a jig saw, I assembled the fence with glue and screws.

To attach the fence to the table, I drilled holes in three different locations in the top and installed threaded inserts into them. That way, I could use studded knobs to attach the fence to the top.





FINISH THE FLIP-TOP. Now you're ready to finish the flip-top that you set aside earlier. The first thing to do is trim the top down to final dimensions and make a little more edging with a groove in it. After attaching some aluminium channel to the outside edges (main drawing and detail 'a,' above), the edging can be installed.

After mounting laminate on both sides of the flip top and routing the chamfers, the final thing to do is cut a pair of hand holes. Define the ends with a Forstner bit, then remove the waste with a jig saw. Then, you can install the top by sliding in the pivot rod with a pair of washers and plugging the holes with a dowel.

With the top finished, the workcentre is ready to punch the time clock. Now of course, you'll have to mount your tools. We designed the flip top for a planer, but any tool that you want to store out of the way would be the perfect candidate to install there. However you utilise the flip top, this workstation is the perfect space-saving solution for your workshop. **W**

Materials, Supplies & Cutting Diagram

A Base (1)	1830 x 765 x 19 ply	CC Top (1)	1270 x 777 x 36 MDF
B Planer Back (1)	685 x 765 x 19 ply	DD Fence Base (1)	600 x 150 x 19 ply
C Saw Back (1)	685 x 765 x 19 ply	EE Fence Face (1)	600 x 90 x 19 ply
D Case Dividers (2)	765 x 507 x 19 ply	FF Fence Brackets (2)	90 x 70 x 19 ply
E Router Shelf (1)	507 x 290 x 19 ply	GG Flip-Top (1)	676 x 535 x 36 MDF
F Planer Sides (2)	765 x 591 x 19 ply		
G Planer Shelf (1)	739 x 591 x 19 ply		
H Top Cleats (4)	495 x 90 x 19 ply		
I Saw Sides (2)	712 x 355 x 19 ply		
J Saw Cleats (2)	727 x 90 x 19 ply		
K Case Supports (2)	1830 x 90 x 32		
L Adjustable Shelves (2)	492 x 284 x 19 ply		
M Saw Drawer Side (2)	600 x 300 x 12 ply		
N Saw Dwr. Frt/Bk (2)	689 x 300 x 12 ply		
O Saw Dwr. Bottom (1)	689 x 588 x 12 ply		
P Saw Dwr. False Fr. (1)	760 x 360 x 12 ply		
Q Router Dwr. Sides (6)	255 x 75 x 12 ply		
R Router Dwr. Frt/Bk (6)	457 x 75 x 12 ply		
S Router Dwr. Bottom (3)	457 x 243 x 6 ply		
T Router Dwr. False Fr. (3)	527 x 118 x 19 ply		
U Planer Dwr. Sides (2)	560 x 90 x 12 ply		
V Planer Dwr. Frt/Bk (2)	689 x 90 x 12 ply		
W Planer Dwr. Btm. (1)	689 x 548 x 6 ply		
X Planer Dwr. False Fr. (1)	760 x 134 x 19 ply		
Y Router Doors (2)	330 x 262 x 19 ply		
Z Cabinet Doors (2)	760 x 262 x 19 ply		
AA Saw Top (1)	777 x 718 x 36 MDF		
BB Edging	7m x 36 x 19 rgh.		

- (1) 12mm-dia. x 900mm Steel Rod
- (4) 125mm Castors
- (16) 8 x 45mm Lag Screws
- (2) 2400 x 1200 Plastic Laminate
- (66) 8g x 38mm c/s Woodscrews
- (7) 100mm Plastic Handles
- (2) 150mm Plastic Handles
- (1) Router Insert Plate
- (6) ¼"-whit x 32mm Threaded Inserts
- (2) ¼"-whit Studded Knobs
- (1) Dust Collection Port
- (3 pr.) 255mm Full-Extension Drawer Slides
- (1 pr.) 560mm Full-Extension Drawer Slides
- (1 pr.) 600mm Full-Extension Drawer Slides
- (1) 300 x 20 x 20 Aluminium Channel
- (1) 300 x 20 x 10 Aluminium Bar Stock
- (2) ¼"-whit Threaded Knobs
- (8) 35mm European Hinges
- (8) Shelf Supports
- (18) 12g x 19mm Ph woodscrews
- (2) 13mm Washers
- (2) 6.5mm Washers

Also needed:

Three 2400 x 1200 sheets of 19mm plywood
One 2400 x 1200 sheet of 12mm plywood
One 2400 x 1200 sheet of 6mm plywood
Three 2400 x 1200 sheets of 12mm MDF

2400 x 140 x 19mm clear pine



2100 x 190 x 32mm hardwood



Wooden ladles

Les Symonds makes two versions of this handy lathe-turned vessel.



Apart from its size, the crucial difference between a ladle, a spoon and a scoop is the fact that its handle is offset, rather than in line with the bowl rim, allowing the ladle to be used to pick up and pour out liquids. Having examined several ladles in my own kitchen, it appears that the angle between the handle and the bowl varies considerably from ladle to ladle. This probably can be accounted for by the variety of shapes of the containers that liquids might be dispensed from. For example, a ladle used to 'dip' milk out of a churn, with a narrow neck, would need its handle set at close to 90° to the rim of its bowl, whereas a ladle used to dispense punch from a wide-rimmed punch bowl, or soup from a large saucepan, would function quite effectively with a

much flatter angle, say about 30° to 40°.

In this article I will be making two styles of ladle; one out of a single solid section and the second out of two pieces of stock. The one-part ladle is going to be quite a challenge for inexperienced turners, so if you have even the slightest doubts about tackling this, work on the two-part ladle until your skills develop. When you feel ready, make a scaled down one-part spoon first, then tackle a one-part ladle.

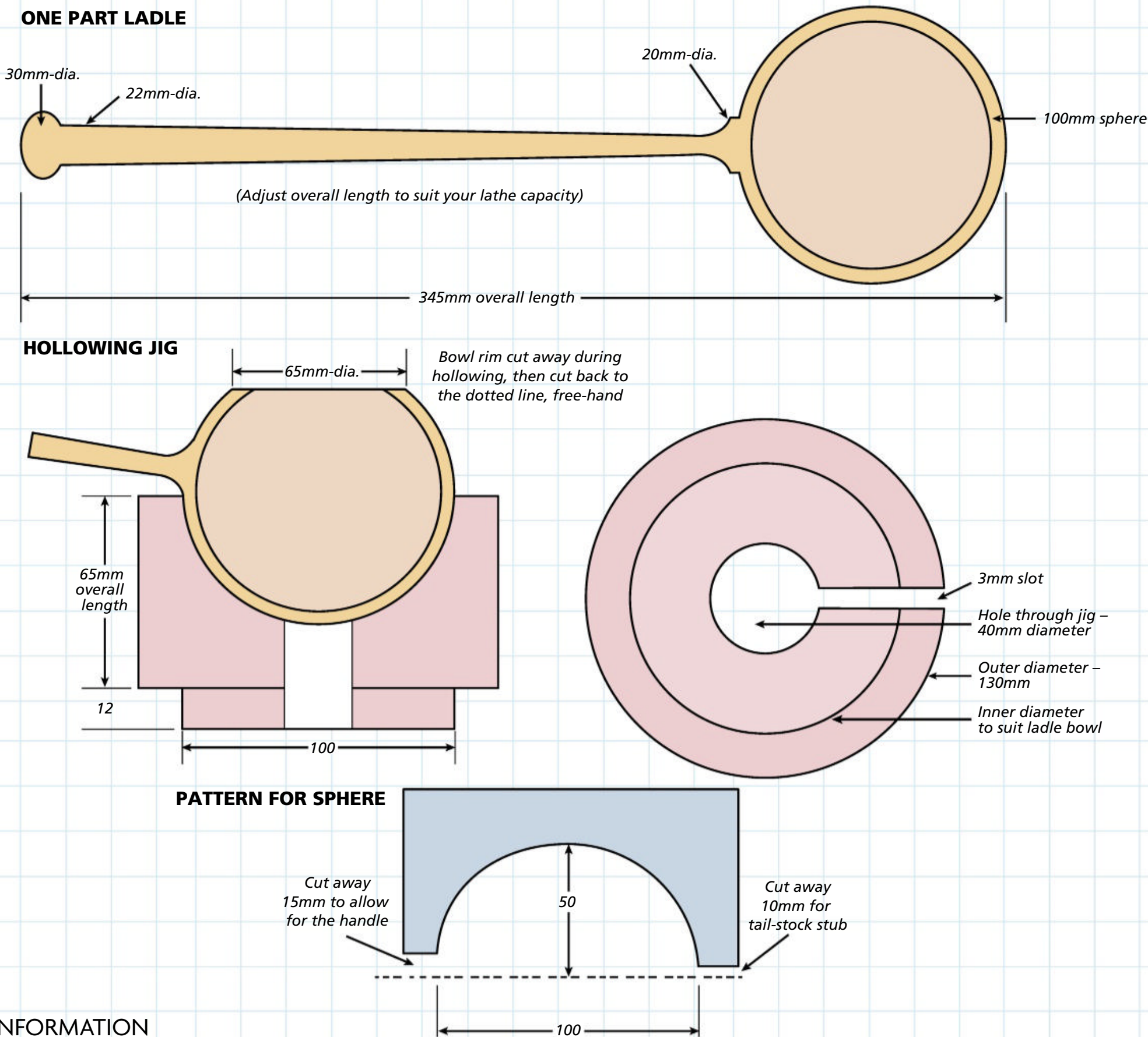
I haven't gone into any great detail with the design of the handles, as this is very much a matter of personal taste, so use my drawings as a guide, but by all means adapt them to your own taste. Furthermore, the overall length of the one-part ladle may well be determined by the capacity of your lathe, so once again, adapt my design to suit your needs.

HEALTH AND SAFETY

With the one-part ladle, there are obvious safety implications when turning a sideways projection, such as its handle. This will not be visible when rotating, so take precautions to avoid having to move back and forth past the workpiece. Set up a table where you can keep your tools and accessories away from the headstock end. Use a portable light, with its flex secured out of the way, to shine directly onto the rotating handle; this will make

it slightly more visible. You can even rig up a few lines of masking tape across the lathe, in front of the workpiece, to act as a strong visual reminder that behind them lies possible danger (see step 25). Most importantly, if you are not sufficiently skilled or confident, make just the two-part ladle until your skills are more advanced; the one-part ladle uses advanced techniques and skills, so it should not be attempted by beginners.

If you do not feel confident in hollowing out the ladle head with the extended handle whizzing around on the lathe you can hollow out the inside of the bowl off the lathe using a rotary carving tool loaded with a combination of burs to remove the bulk of the waste, followed by suitably shaped sanding heads/ attachments of the right profile to clean up afterwards. It is a slower process but just as effective.



INFORMATION

TOOLS

- Personal and respiratory protective equipment (PPE and RPE)
- Spindle roughing gouge
- Bowl gouge
- Spindle gouge
- Skew chisel
- Parting tool
- Square and round-nosed scrapers
- Drive spur
- Revolving tailstock centre
- 10 & 40mm Forstner or similar drill bits
- Tailstock drill chuck
- Fine-toothed saw
- Bandsaw or handsaw

For the one-part ladle

- Your preferred hollowing tool
- Hollow vessel tear-drop scraper
- Deep chuck jaws to accept 100mm diameter spigot

For the two-part ladle

- Chuck with jaws to accept 70mm diameter
- 100mm faceplate
- Pedestal drill with tilting table
- Vice for use on pedestal drill

MATERIALS

- Sycamore (*Acer Pseudoplatanus*)

For the one-part ladle

- 1 piece, 350 x 110 x 110mm
- 1 piece, 150mm diameter x 80mm thick (for the jig)

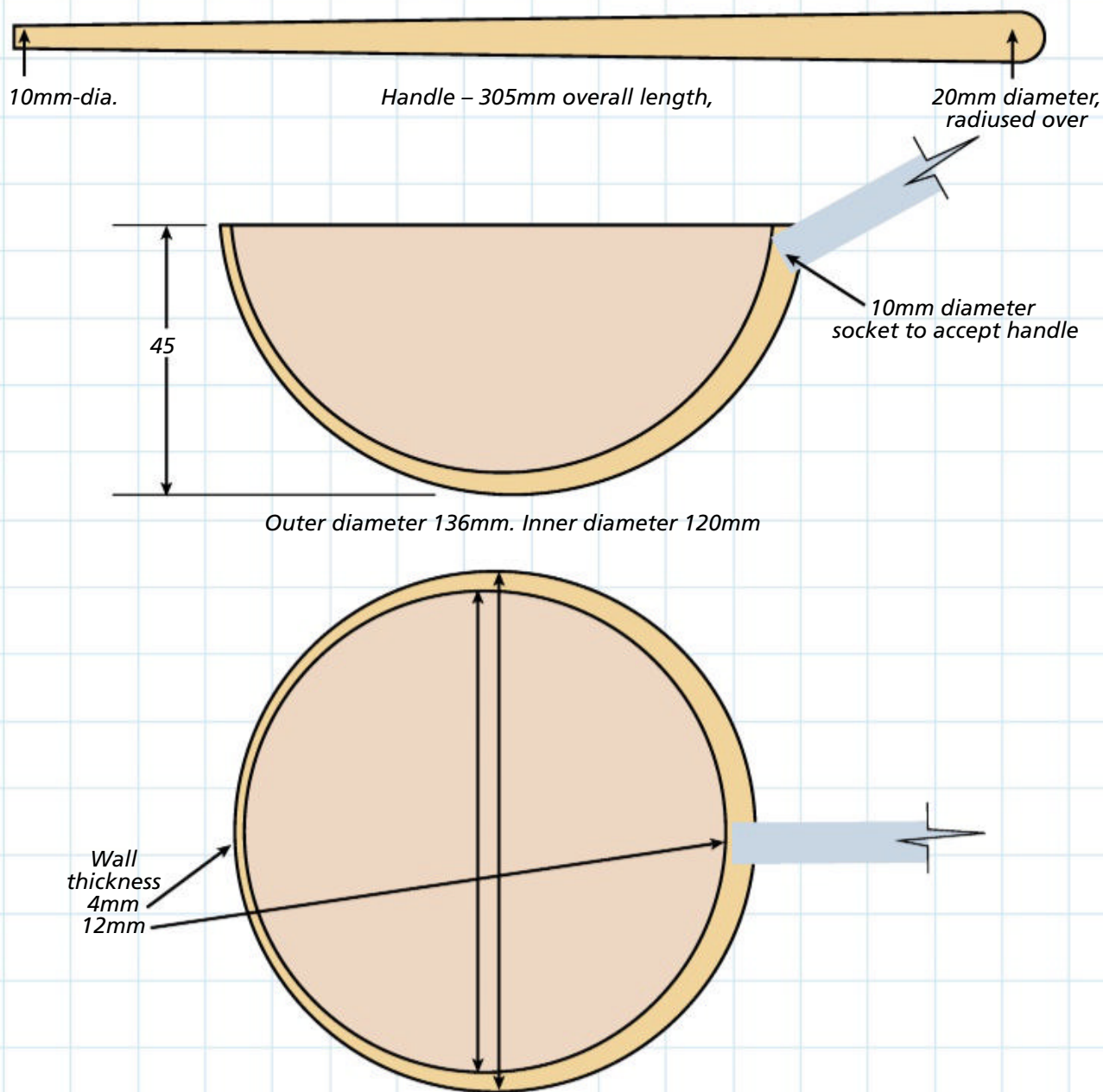
For the two-part spoon

- 1 piece, 150mm diameter x 60mm thick
- 1 piece, 300 x 25 x 25mm
- 1 piece, 75mm diameter x 25mm thick (for the jig)
- Suitable waste piece for bowl reversing
- Two-part epoxy adhesive
- A food-safe oil finish

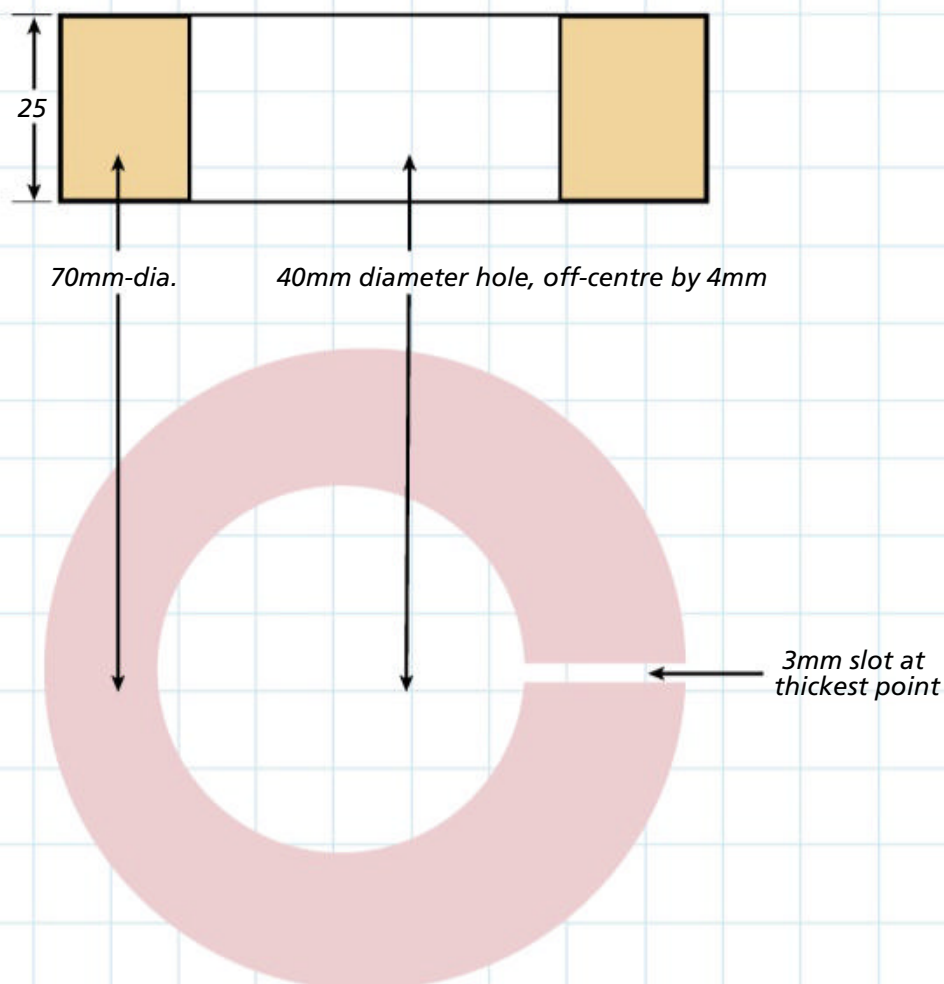
Construction Overview

OVERALL DIMENSIONS: 420mm x 136mm-dia

TWO-PART LADLE AND OFF-CENTRE MOUNTING-BLOCK



OFF-CENTRE MOUNTING-BLOCK

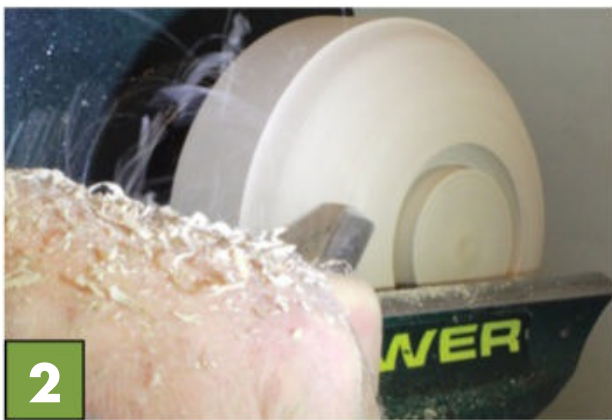


The two-part ladle

1 Select your timber and prepare it for turning, then, starting with the blank for the bowl of the ladle, mount it on a small faceplate or screw chuck, paying due consideration to the length of the screw fixing/s. With a bowl gouge, clean off the outer edge of the blank, roughing it out into a cylinder, then use a shearing cut to achieve a good finish.

2 Clean off the outer face, which will become the underside of the bowl of the ladle, leaving it flat and with a small centrepunt established. Cut a chucking-tenon, a little over 40mm diameter and at least 12mm deep. Working out from the tenon and towards the rim, cut the shape of the underside of the ladle bowl to a gentle, continuous curve.

3 If you need to, scrape the surface to remove any tool marks, then abrade to 400 grit and set the bowl to one side, leaving its faceplate (or screw chuck) in place.



The off-centre mounting block

4 Prepare a piece of straight-grained hardwood to a cylinder, 70mm in diameter and about 25mm thick, set it into a chuck and clean up the outer, flat face, establishing a small centre mark.

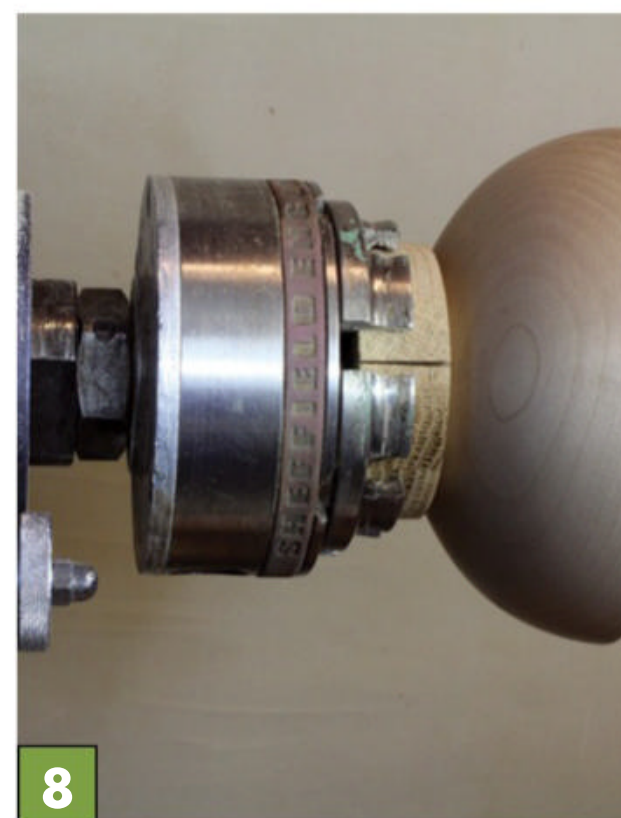
5 Draw a pencil line out from the centre towards the edge (a radius), then make a mark on the line, 4mm out from the centre. I will later refer to this mark as X. Remove the block from the lathe and place it in a vice on the table of your drill-stand, with a piece of slightly narrower scrap wood underneath it.

6 Place a 40mm Forstner bit in the drill chuck and, before switching on, bring the drill down to ensure the centre spur lands precisely on the mark referred to above as mark X. Drill a 40mm hole right through the off-centre mounting block, centred on X, into the top face of the scrap wood. Remove the off-centre block from the vice and make a saw cut from the edge across to the hole, where the edge is at its widest, then open the saw cut up to a slot, about 3mm wide.

Hollowing the ladle bowl

7 Return the ladle bowl to the lathe and refine the diameter of its chucking tenon such that the 40mm hole in the mounting block pushes on to it, even if it means you have to spring the block open very slightly – but only very slightly, otherwise you risk breaking the jig.

8 Remove the ladle bowl from its faceplate and set a chuck onto the lathe, then set the off-centre mounting block into it, with its saw cut/slot lined-up with a gap between any two adjacent jaws (this will allow the closing jaws to lock the bowl spigot in place). Press the bowl into the block and then lightly tighten the chuck. Check to see that the bowl is sitting snug against the block before tightening the jaws of the chuck. The block will compress, reducing in size slightly, thus gripping the chucking tenon on the underside of the ladle bowl.





9 Set a toolrest up against the face of the ladle bowl, rotate the chuck slowly by hand until its narrowest point sits alongside the toolrest, place the tip of a pencil 4mm in from the edge and rotate the blank by hand to draw a circle on it. This circle will clearly mark the off-centre bowl of the ladle and will be your guide to work to when the wood is revolving. Hollow the bowl very gently, make shallow cuts so as not to put too much stress on the mounting block.

10 Check the chuck jaws occasionally to ensure that the wood fibres in the jig have not succumbed to the jaw pressure and caused the chuck to slacken its grip a little. Also, regularly check the bowl's wall thickness at its narrowest point and check its depth.



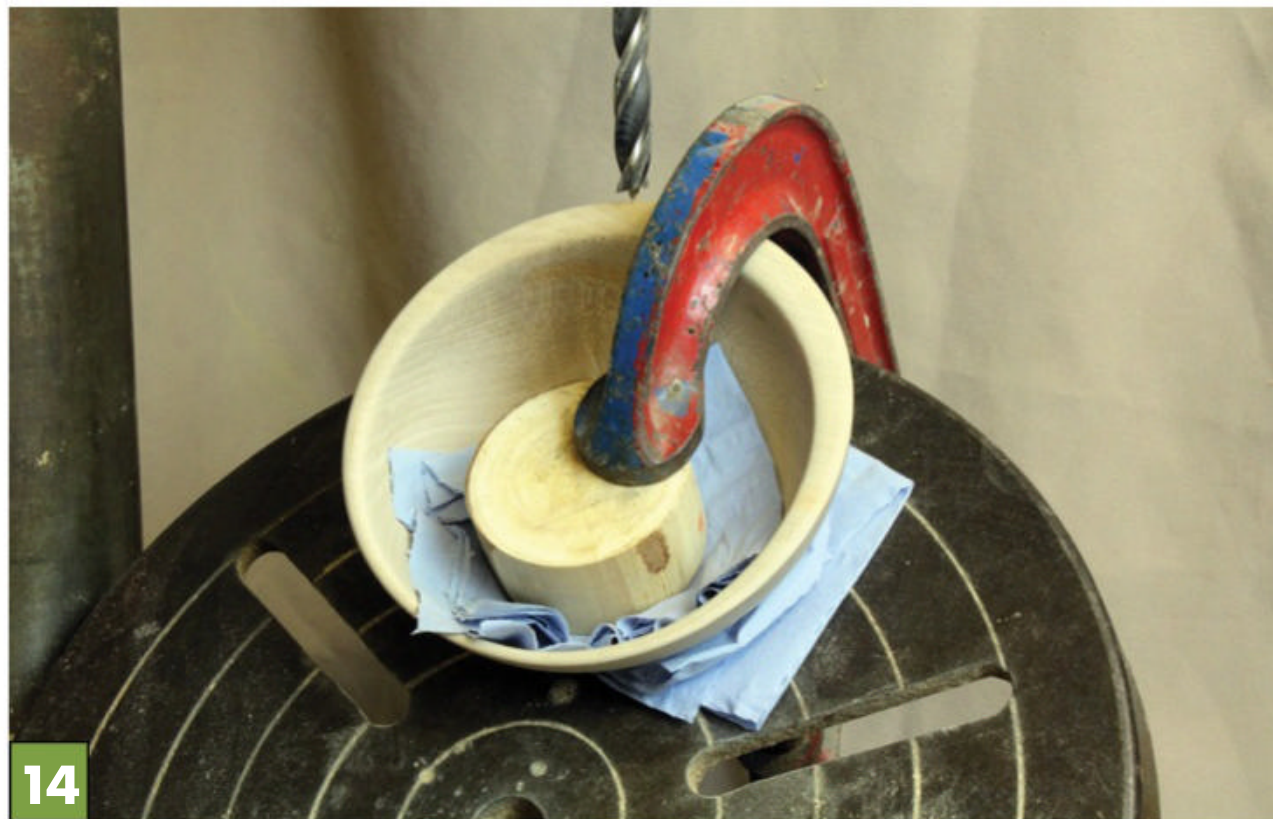
11 When you are happy with the bowl profile, use a scraper very gently to clean its surface, then start abrading with 120 grit abrasive, with the lathe running at a slow speed (about 200rpm). This will allow you to round-over the rim, inside and out, quite effectively. On the outside, at this speed and with gentle pressure on the abrasive, your hand will move in and out to maintain contact as the off-centred wood revolves. Abrade down to 400 grit.

12 Make a pencil mark on the rim and the outside of the bowl, where the rim is at its thickest, then remove the ladle bowl from the chuck and its mounting block. To reverse-turn the bowl so as to remove the chucking tenon, mount a scrap of timber in a chuck, clean its outer face then cut a recess into it such that the ladle bowl sits snugly into the recess with the tailstock engaged in the centre mark previously made (step 2).



13 Using a spindle gouge, gently turn away the chucking tenon to a small, central cone, then abrade the remaining surface down to 400 grit. Carefully cut away the central cone with a fine-toothed saw, remove the ladle bowl and its reversing mount from the lathe, set them down on the lathe bed and then use a sharp bench chisel to pare away the remaining stub of the cone, before hand sanding to 400 grit.

14 Tilt your pedestal drill's platform over to 45° and lock it into place, then clamp the bowl, rim upwards, onto the table, using a few layers of tissue paper beneath it and inside the bowl, where a wooden pad with a gently rounded surface will be placed to take the pressure from a G-clamp, pinning the bowl into place on the table. Set a 10mm brad point drill or Forstner bit into the chuck and, before switching on, wind it down and adjust the position of the bowl such that it sits squarely to the drill and the central spur of the drill lands on the corner of the rim, precisely at the formerly made pencil mark. Next, switch on and gently lower the drill until it cuts a small socket (mortise) for the handle to be set into. Pay very special attention to how deep you drill this hole.



Turning the handle

15&16 This is a simple piece of spindle work and you are free to shape it as you wish. Mount the blank between centres and reduce it to a cylinder. Make two distinct cuts with a parting tool, one directly at the tailstock end, down to about 12mm diameter, the other as close to the headstock as you can comfortably work, also reducing this to about 12mm. This will eventually be reduced to form a 10mm stub tenon to fit into the socket in the ladle bowl. At the tailstock end, use a spindle gouge to radius the end over.

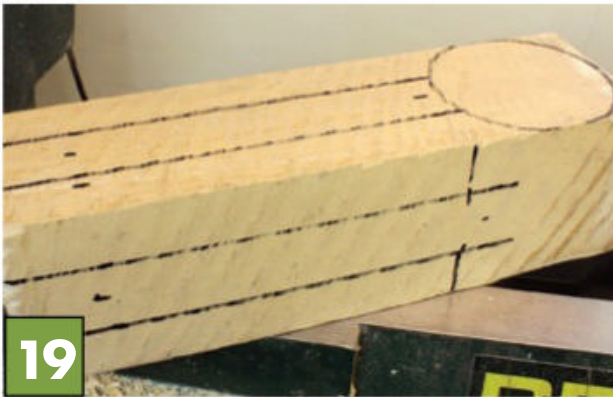


17 Use a skew chisel or a spindle roughing gouge to taper the handle down from the tailstock end to the 12mm step at the headstock end, then use fine cuts to reduce the taper and the stub tenon down until it is a tad over 10mm.

Abrade to 400 grit and remove from the lathe, cleaning off the stubs and abrading the end of the handle by hand.

18 Finally, test the handle for a fit into the hole, making any slight reductions to the diameter of the tenon with abrasive, if needed, and glue into place with two-part epoxy adhesive, carefully applied into the socket with an implement such as a dental pick or cocktail stick.

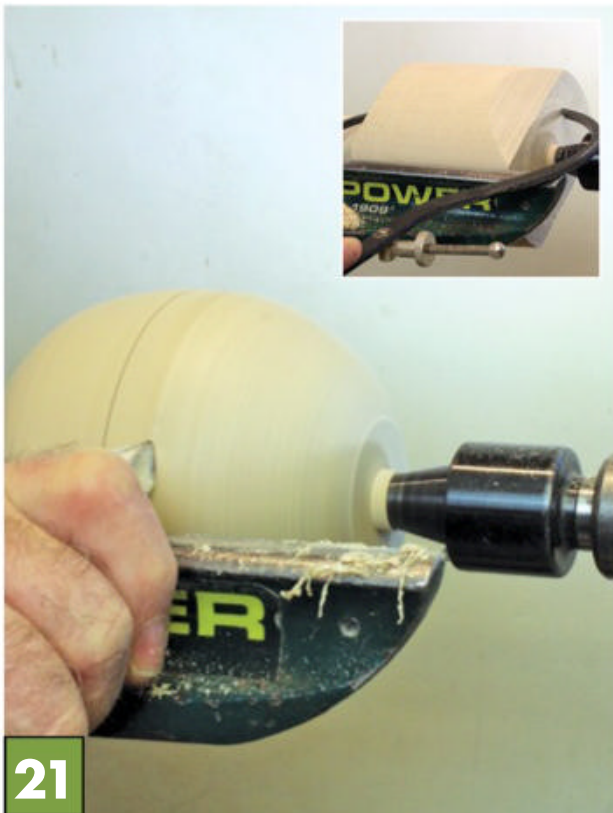




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23



24



25

The one-part ladle

19 First, please read the health and safety notes about this project. Select your piece of timber and mark the centres at each end, then mark out a sphere for the bowl and a 40mm central spindle for the handle ...

20 ...use these marks to cut away as much waste wood as possible on your bandsaw before mounting the workpiece on the lathe, between centres. This step is not essential, but it will save time and give you blocks of timber to use elsewhere, rather than just another bag of shavings.

21 Reduce the main block to a 100mm cylinder and the handle to a 30mm cylinder.

Use a parting tool to clean off the tail-stock end, down to a stub of about 15mm diameter, then put a pencil mark around the cylinder, 100mm to the left of this cut. Cut to the left of the second mark with a parting tool and use callipers to check that the overall length of the cylinder has not been cut below 100mm. If you have accidentally reduced the cylinder to less than 100mm in length, you must also reduce its diameter to match the length such that it can be turned into a true sphere. Use a 12mm spindle gouge to form the sphere, which is effectively just a large bead.

22 Cut a simple profile pattern out of stout cardboard or thin plywood, noting the cutouts shown in the main drawing – these will enable the pattern to sit precisely on your workpiece. Using a spindle gouge, keep reducing the cylinder to a 100mm bead, stopping regularly to check progress with the card/plywood pattern.

23 With the sphere completed, turn the handle to your chosen shape and abrade the whole surface down to 400 grit. Remove from the lathe, trim off the stubs at each end and sand the cut ends by hand.

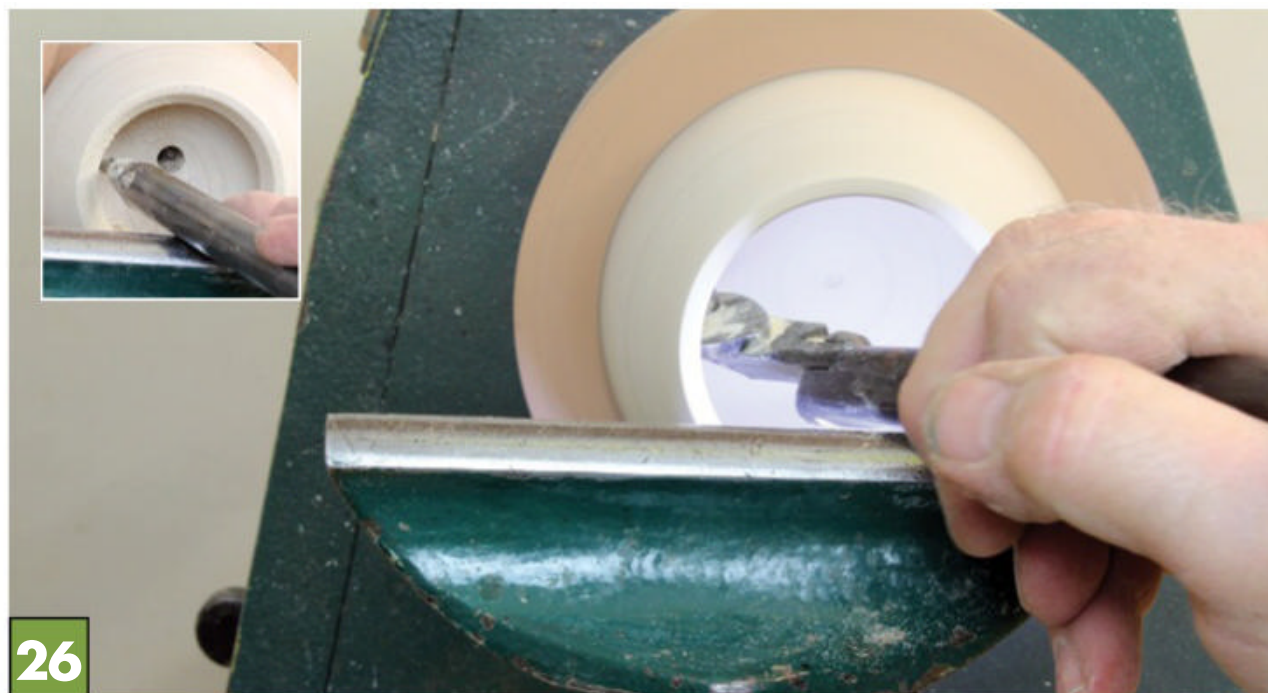
Turning the ladle head

24 Take a piece of scrap wood and reduce it to a 140mm cylinder

with a chucking tenon to fit into a deep set of 100mm-wide chuck jaws. Mount it into the chuck, clean off the outer face and hollow out the jig to a shape that the ladle bowl will fit into tightly. Drill a 40mm hole through the bottom of the jig then remove it from the chuck and make a saw cut from the outer edge through to the 40mm hole, opening up the saw cut so that it becomes a slot, about 3mm wide.

25 Place the jig into the chuck with its slot lined up with a gap between any two jaws. Press the ladle-bowl into place, ensuring that it makes contact with the bottom of the jig. This helps it to sit firmly in place and points the handle forwards slightly. Tighten the chuck firmly to ensure that the jig has a good grip on the ladle bowl. If you are unsure about the grip, place some hot-melt adhesive blobs around the lip of the cradle and ladle head. This is easily removed later when required. Set up a toolrest in front of the ladle bowl and then, as a simple precaution, stretch a few single strands of 25mm masking tape across the lathe, in front of the workpiece. This will give you a very strong visual guide as to where it is safe to stand and how far it is safe to reach forward. Do not use string for this. It must be something which can easily tear away should it accidentally touch the rotating workpiece.

26&27 Draw a pencil line on the surface of the ladle bowl, marking a circle of 65mm diameter. This will be the maximum size of the opening through which you have to hollow the ladle bowl. Hollow out the centre of the bowl to a depth of 92mm, to leave 7mm or 8mm of wood in the bottom of the bowl. You can use a tailstock drill chuck to drill a pilot hole to depth if you want. Hollowing can be done with various tools, but whatever you use, take light cuts and work so the thrust of the tool is working towards the jig. While hollowing above the level of the top of the jig, avoid any cuts which rely on drawing the tool towards yourself. Once shaped, abrade the interior down to 400 grit using a sanding pommel with a ball-shaped end.



28&29 With the spindle lock set and the ladle bowl oriented to a convenient position, use a fine-toothed saw to cut away the rim of the bowl down towards the handle and then clean up this cut edge. Abrade the surface by hand, rounding off the rim and blend-

ing it into the interior and exterior of the ladle bowl.

30 Once sanded, remove the piece from the lathe, check the outer bowl head for pressure marks and, if they exist, sand down to 400 grit. Now oil your ladle with a food-safe oil. **W**



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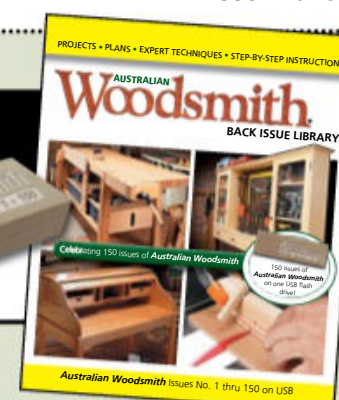
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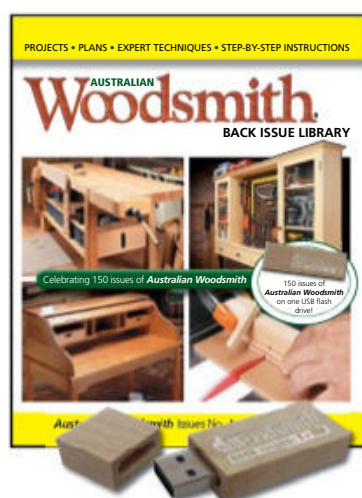
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Runners for Jigs

When building a table saw sled, what is the best wood to use for the runner in the mitre slot, that has the least amount of expansion and contraction? *Walter Pinkman*

A mitre slide for a table saw jig (or any jig, really) needs to slide easily in the mitre slot. But, if it's too loose, your jig won't be very accurate. And if it's too tight, it's hard to use. You're looking for just the right "feel" where it's snug but slides with little effort. There are several options to consider.

WOOD. As a woodworker, the obvious choice is to use wood. For a quick cross slide bar, make one from your wood scraps. The advantage of wood is that you can easily finetune the size for a just-right fit. The problem is that the bar can expand with increased humidity.

To minimise swelling and shrink-

ing that occur with changes in humidity, stable hardwoods are best. Choose quartersawn stock (its horizontal grain keeps it stable) if you can. This way the bar won't expand or contract in width much with changes in humidity levels in your workshop.

ALUMINIUM. You can buy 20 x 10mm aluminium bar stock. It's soft enough that you can drill and file it. Once you get a good fit in the mitre slot, there should be little need to adjust it later.

For a bar that ends up a little too loose, you can apply layers of aluminium adhesive-backed tape. This tape is made for sealing heating ducts and is thin to

achieve a good fit.

UHMW. Ultra high molecular weight (UHMW) plastic is durable and easy to work. It's also available in 19 x 9.5mm stock. It's low-friction, so it's ideal for mitre bars. You can finetune the fit for your mitre slot using woodworking tools.

AFTER-MARKET BARS. A final choice is a manufactured mitre bar available online. These aluminium or steel bars are more expensive than a DIY approach. But the advantage is that they often include adjustment mechanisms. These can be set screws, wedges or cams so you can dial in the fit that you need. 



SOURCES CONTACT DETAILS

Amana Tool
amanatool.com
beading bits

Carbatec
carbatec.com.au
1800 658 111
WA: 1800 886 657
NZ: 0800 444 329

Kreg pocket screws, threaded knobs

Carroll's Woodcraft Supplies
cwsonline.com.au
03 5243 0522
Scotch-Brite radial discs

HNT Gordon & Co
hntgordon.com.au
02 6628 7222
spokeshaves

Japanese Tools Australia
japanesetools.com.au
02 9527 3870
Abranet, camellia oil

Nordic Edge
nordicedge.com.au
knife kits, rivets, Corby bolts

Royal Tasmanian Botanical Gardens
gardens.rtbg.tas.gov.au/visit/botanical-shop
03 6166 0451
Kevin Potter's leaf boxes

The Sandpaper Man
thesandpaperman.com.au
07 3396 4457
abrasive products

Timbecon
timbecon.com.au
1300 880 996
cast iron vice

Trend Timbers
trendtimbers.com.au
02 4577 5277
exotic timbers

HARDWARE & SUPPLIES SOURCES

KEVIN POTTER'S LEAF BOXES

Kevin's beautiful leaf boxes are available from the Royal Tasmanian Botanical Gardens shop. I was surprised to be told by the shop that one interesting use of these boxes has been as urns for the ashes of a loved one.

FLEXIBLE ABRASIVES

Scotch-Brite radial bristle discs are available from Carroll's Woodcraft Supplies. The larger Klingspor mop, the Scotch-Brite belt for the Sorby EdgePro and flexible hand sanding pads are available from The Sandpaper Man. 3M SandBlaster abrasive pads are in the aisle at Bunnings, while Abranet can be purchased from Japanese Tools Australia. Scotch-Brite pads attached to a random orbital sander do a great job cleaning cast iron saw beds and drill press tables. Instead of elbow grease and steel wool, Scotch-Brite and a hook and loop sander can take the effort out of the equation.

BEADING BITS

The Amana single bead (#54162) and the Amana double-bead (#54294) are available online from Amana.

KNIFE HANDLES

Cap and pin rivets as well as Corby bolts are

available online from Nordic Edge. When you go to their website you will see an ever-growing range of knife kits and scales. The ScandiChef knife kit is a great introduction to knifemaking and will leave you with a knife sleeve to protect your fingers while you renovate the handles on old knives.

A bottle of camellia oil and a fully charged applicator from Japanese Tools Australia is a great investment. Both your woodworking tools and kitchen knives will glow.

ALL-IN-ONE-WORKSTATION

The 125mm locking castors that support the workstation, as well as the drawer slides and the cord grommet are available from Bunnings. Remote safety switches, router plate inserts, Kreg pocket screws and the threaded knobs required for the router fence can all be found at Carbatec.

The pivot lock is made from solid 20 x 10 aluminium bar cut down (or filed) to 17mm width. The channel starts as a section of 20 x 20 stock and is trimmed to 20 x 12 (this can be done by inserting some 17mm timber stock in the channel and then cutting the aluminium to thickness on the table saw). Available from your local aluminium stockist.



▲ *Knife Handles.* Cutler's rivets can resurrect old knives and make them new again. All you need to know begins on page 30.



All-in-one Workstation. Get the most out of your workshop space by combining tools into a compact station. We show you how starting on page 48.

Final details



▲ *Waterfall Bookcase.* The five tiers widen as they go down the sides, creating a waterfall effect. Plans begin on page 40.



▲ *Wooden Ladles.* Les Symonds makes two versions of this handy lathe-turned vessel. Step-by-step instructions start on page 60.



▲ *Bandsaw Boxes.* A sharp, narrow blade, some nice stock and a little bit of out-of-the-box thinking can yield some amazing boxes that are made with only the bandsaw. Turn to page 34 to learn more.

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Blades Suit BP-310
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W420A - 6TPI
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W420B - 3TPI
\$14.30
W420F - 6TPI Narrow
\$16.50

Blades Suit BP-360
• Carbon Steel
• 2560 x 12.5 x 0.65 mm

W955A - 6TPI
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- 2 x shut-off valves
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- Variable blade speeds
- 120W / 240V motor

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- 305mm sanding disc
- 435 x 225mm table size
- 0.75kW / 1hp 240V motor
- Includes: mitre guide & brake

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- 1425rpm spindle speed
- Cast iron table tilts 45°
- 0.5hp, 240V motor

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- 5 micron filter
- 50 litre tank
- 1.5hp, 240V motor

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DC-2 Dust Collector

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- Quick action clamps
- 5 micron filter bag
- 1hp, 240V motor

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