

Make a... tool chest

When you are demonstrating you need to show off your talents so David Barron's toolbox had to feature through dovetail and mortice & tenon joints



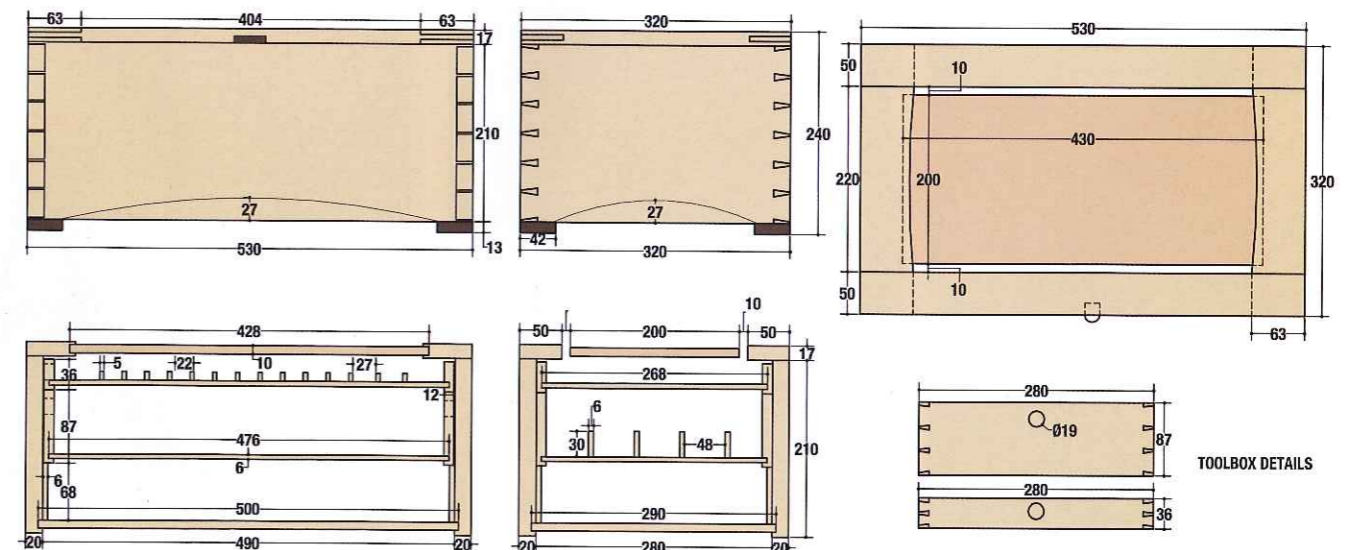
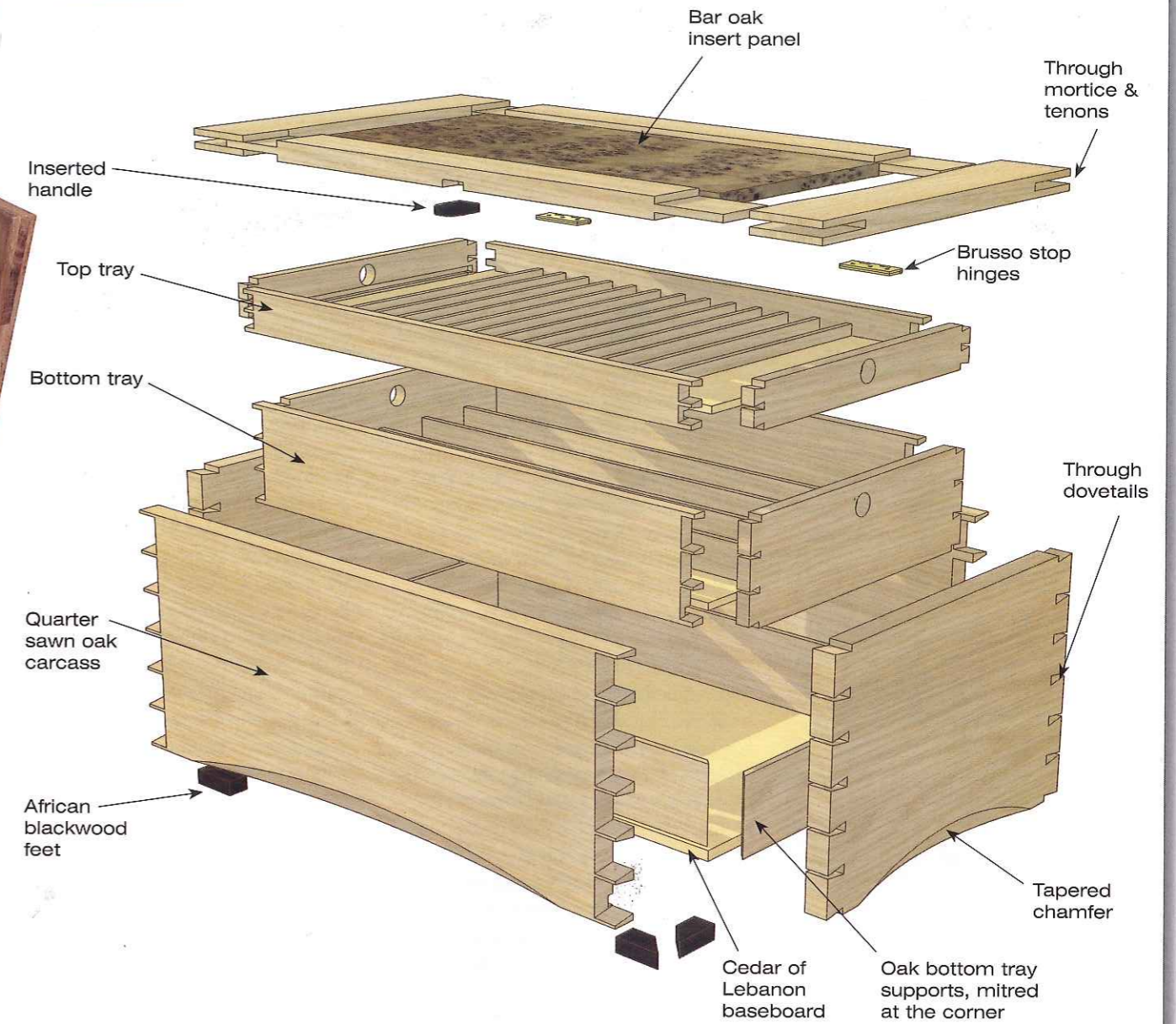
JOHN SAFFIELD, OTHER PHOTOGRAPHS UNLESS OTHERWISE STATED BY DAVID BARRON

Storing and transporting my tools to shows and demonstrations used to be a juggling act involving cardboard boxes and bubble wrap. It was time to make a purpose-built toolbox. I have always fancied constructing one and there are some beautiful examples in *The Toolbox Book* by Jim Tolpin.

The danger with any purpose-made box is that you forget some essential tool or you add a new tool which doesn't fit. Conversely you can try to anticipate future needs and end up with a box that is too big to move.

I laid out all the tools I needed to accommodate, *photo 1*, and then thought hard about the style of the

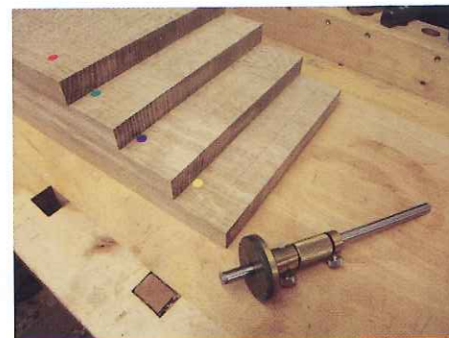
In detail



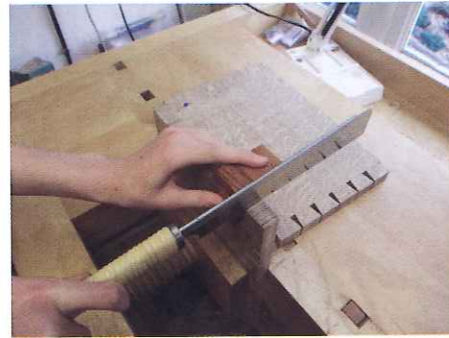
TOOLBOX DETAILS



1 Lay out tools to establish the correct dimensions



2 Use a wheel gauge to define dovetail depth. Note the lignum vitae added to the face for smooth marking



3 Cutting the tails using a magnetic guide

box and how it would work. I decided that the top tray would be very shallow and be lifted out and propped up near vertical on the bench. This would house my chisels, knives and pens etc and help keep them tidy and ready to hand during my demonstrations. Yeung Chan made a similar box which can be seen on

www.crfinefurniture.com/yeung.html
This dictated the depth of the box and the length of my 17in jointer plane gave the width. The height was governed by the two lift-out trays and their contents. The result was a box 530mm wide x 320mm deep and 220mm high, which was smaller than I had anticipated – time to double check the contents. All was well and the smaller size would be useful because it would not take up too much bench space.

Design considerations

As the box would no doubt come under close scrutiny at the Yandles shows it needed to be attractive as well as practical. My biggest selling tool is my magnetic dovetail guide and so the carcass construction had to be dovetailed to show off its capabilities.

A medium-coloured open-grained wood such as oak (*Quercus robur*) would age gracefully with the inevitable knocks and bumps that this box will suffer and I chose a large quarter-sawn board for both its looks and stability.

The feet and handle were made from

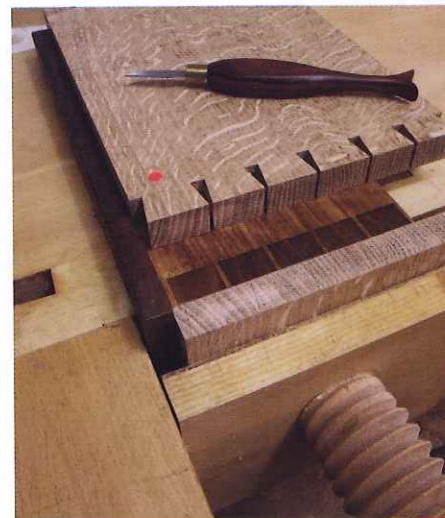
African blackwood (*Dalbergia melanoxylon*) which is a practical colour as well as contrasting nicely with the oak. The chamfers on the bottom sides help provide subtle relief to the square edges as well as providing a finger recess for the box to be carried. I had decided early on that I didn't want to add carrying handles as this would spoil the lines of the box.

I sacrificed the opportunity to store tools in the lid so that I could use a decorative panel, in this case some book-matched burr oak. The frame for the panel featured through mortice & tenon joints which continued the theme of exposed joinery. The design ended up more akin to that of a large jewellery box than a typical toolbox.

Carcass construction

By using one large 8ft board of quarter-sawn oak, I was able to achieve consistent colour and grain direction.

The choice of through dovetails was for strength as well as looks – unusual for me as most of my dovetailing is for aesthetic purposes. I decided on the dovetail spacing and marked them by eye. I think



4 Ready to mark out the pins using my dovetail alignment board



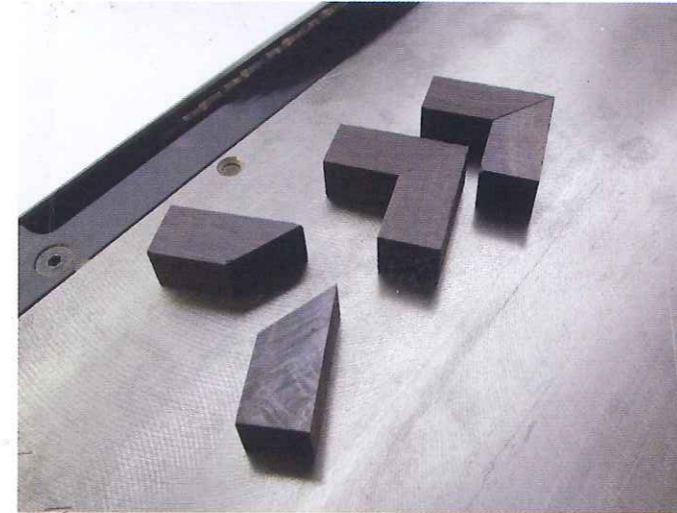
5 Partial assembly before adding any glue saves time. Don't forget to include the base



6 Cutting the tenon cheeks on the bandsaw



7 The completed lid showing off the lovely burr oak



8 African blackwood feet mitred with care on the tablesaw



9 Nicely shaped and polished handle

the various marking methods suggested by woodworking teachers are a waste of time, as the eye cannot detect small variations in spacing.

I increased the pin size from my normal 2mm to 3mm in keeping with the scale of the box. I dislike skinny pins, especially when used with fat ones on the outside.

I used my normal aids for accurately cutting both the pins and the tails and this box was assembled without any paring being necessary, photos 2-4.

The base was made from a board of cedar of Lebanon (*Cedrus libani*) in the traditional way, floating in a groove in the carcass.

The insides were finished before assembly with Osmo Hardwax Oil and waxed so that any glue squeeze out could be easily removed. The base was left unfinished so as to preserve the aroma of the cedar.

The corner dovetails were partially assembled before adding any glue, photo 5. This is a useful tip used by Christian Becksvoort in the race to get the carcass together before the glue starts to set.

The frame for the lid has open bandsawn mortice & tenon joints, photo 6. The mortices were cut first and then scrap material was used to position the fence accurately to cut perfectly fitting tenons. Just as with through dovetails there is no hiding place for sloppy joints.

The burr oak was book-matched over size and then left to settle for a couple of days. The inevitable movement was planed out before glue up, and the resulting panel was passed through the thickness sander to remove all traces of tearout, photo 7.

The lid was attached to the box using heavy-duty Brusso stop hinges.

The African blackwood feet were mitred

on the tablesaw, photo 8, and attached with glue. The handle was cut into the lid, photo 9.

Lastly I cut a tapered chamfer on the bottom edges of the box, photo 10.

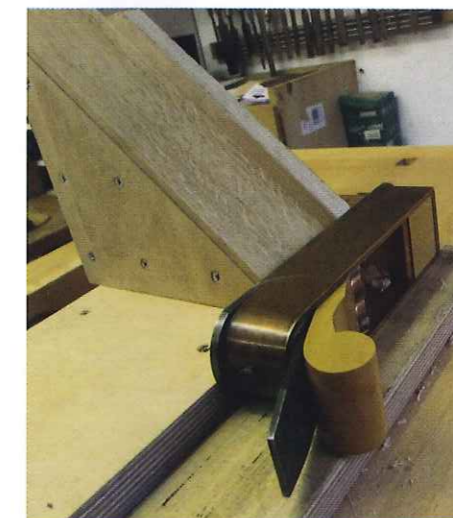
Bandsaw upgrade

The bandsaw is the latest machinery upgrade in my workshop and I am extremely pleased with my purchase. It is a Startrite 401E with a 16in depth of cut and a frame that can really get the blade taut – ideal attributes for deep resawing.

I have also invested in a Lennox Trimaster tungsten carbide blade which cuts extremely quickly and cleanly and is supposed to last many times longer than even HSS blades. I can't vouch for this claim to longevity yet, but at £150 a blade it had better last.



10 Cutting a tapered chamfer on the bottom edges of the box



11 Using a mitre plane by Bill Carter to trim the tray supports to a friction fit



12 Fitting tray dividers using spacers and trimming on a shooting board

F&C PROJECT: Workshop series, tool chest

Interior fittings

To support the first tray, the bottom of the box is equipped with 6mm oak strips which are mitred and friction fitted, photo 11, around the inside of the box.

The two trays are dovetailed on the corners and sized to be a tight fit which can be carefully planed down after glue up. Just as well-fitting drawers run the smoothest, the same goes with these trays which glide down gently on a cushion of air.

Because the grain of the carcass and the trays run in the same direction the fit will stay good throughout the changing seasons.

The tray sides were sealed with shellac sanding sealer before being cut back hard with 320 grit and waxed with a good-quality paste wax.

The tray bottoms are made from plywood and fitted into grooves routed into the tray sides. Being man-made no allowance needs to be made with the bottoms for seasonal movement and the dividers can safely be pinned into the base as well as the sides.

To make sure the panel pins were accurately positioned to locate in the thin dividers I used two spacer blocks, the first one to mark the centre line which is drilled from the inside and the other to hold the divider in the correct location as the holes were drilled back the other way into the dividers, photo 12.

I used a 1mm drill for the pilot holes and used panel pins 1.25mm thick by 15mm long. I snipped the heads off the pins just before they were finally driven home so as to leave only a tiny

hole to be filled. The dividers were carefully sized to length on a shooting board. They needed to be a nice fit but not so tight as to bulge the sides which had already been planed to fit the base.

Conclusion

The outside of the box was finished with five coats of Osmo Hardwax Oil which gives a nice durable and easy to maintain finish. The final result was very pleasing, with the oak and burr oak blending nicely.

All the tools needed for my show demonstrations seem to fit and the carrying method from underneath works well, although it is surprisingly heavy with everything on board. F&C

Next month David makes a spokeshave

Detail of tray showing 19mm hole used for its removal

Useful information

The Toolbox Book by Jim Tolpin, ISBN 978-1-561582-723, is available from GMC Publications at £19.95, tel 01273 488005, web www.gmcpublications.com

Tungsten carbide bandsaw blades are available from Allied Tooling, tel 01202 675767

Buy Brusso stop hinges online at www.classichandtools.com and Osmo HardWax Oil at www.osmouk.com

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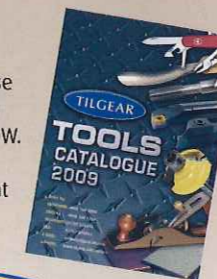


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