

The necessary tools needed to make a tabletop



PHOTOGRAPHS BY MICHAEL T COLLINS

BEGINNERS' GUIDE:

Using hand tools and traditional methods to make a tabletop

Carrying on from the last issue, **Michael T Collins** finishes the table and shows you how to add a hand-finished top

In last month's article, we looked at making the base of a small table, attaching the legs to the skirt using mortise and tenon joints – one of the basic joints of a joiner – and securing the joint with the ancient technique of drawboring. In this article, we will finish the table by adding a hand-finished top.

As I mentioned last time, your tool collection will grow as your experience and needs increase. Well, we have already reached the point where to continue with this project, we need

to add a few more 'necessary tools', namely a rip saw, a couple of 610mm bar clamps, a hand drill, a set of brad point bits, a countersink, a flat head screwdriver and a marking gauge.

Wood selection

To make a tabletop, we need the widest and most stable boards we can find. The most stable wood is quartersawn, where the wood is sawn radially out from the centre of the log, with annular rings running perpendicular to the board's face. ➤



Michael T Collins

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

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WOOD SELECTION



1 It's hard to find reasonably priced quartersawn boards, but for this table a good source is straight-grained construction timber, especially flat sawn 2 × 12in. When picking wood look for boards that are cut close to the centre of the log. The table is going to have a 20mm top and is approximately 380 × 510mm so cut off a length 50mm longer than you need; this will leave a few centimetres for grain matching. Rip out the centre section of the wood; this can be set aside for other projects.

2 Designate a face side and mark 20mm with the marking gauge. To aid visibility, run a pencil down this line. Now rip these two pieces using the same technique we used to saw tenons: placing the board in the vice at 45°, saw the two lines you can see, turn the wood over and again saw at 45°. Now saw away the triangle of wood at the bottom of the kerf. If you find that the saw binds in the kerf, rub the side of the saw with beeswax.



3 Repeat these three cuts, following the line, until you have ripped the two boards. After the first few cuts, the kerf will keep the saw on track. Repeat for the other boards. Ripping boards will give you quite a work out, but the smell of freshly cut pine makes the effort worthwhile.

4 Construction timber in my neck-of-the-woods has rounded corners, so, if this applies to you, remove these with a few passes of the plane. Use your fingers as a fence – this will aid in getting square edges.



5 The size of your table base will determine the number of boards you will need. For my top I needed four pieces. Lay them sawn face down and arrange them to find the most pleasing grain match. Draw a cabinetmaker's triangle across the boards; this will be the face side and will make reassembling them much easier. Stack the boards with spacers between – sticker – and set aside for a couple of days to allow them to dry flat. It always amazes me how much moisture is still in dry wood – you may also need to weight them down.

JOINTING THE BOARDS



6 Take adjacent boards and place the sawn faces together and clamp them in the vice. Planing two boards in this manner serves two purposes: a) it provides a more stable surface to plane on; b) while ideally we want to plane perpendicular to the faces, errors do occur and any angle introduced into the planed surface will be compensated for in the other piece.



7 However, this is not an excuse for abandoning square edges. Check with a try square at discrete intervals along the length; a back light will help to see where you need to plane more; mark these areas with a pencil and plane the marks off.

8 It is also important to check for flatness along the length of the



wood, on a piece this small you can use the edge of the plane's sole. Now put the first board aside and rotate the second board along its long axis, pair it with the third board so that mating edges are again together and plane as before. Repeat this process until you have planed all mating edges. When reassembled, the boards should produce a gap-free joint.

GLUE UP

9 Until you are well practised, gluing four boards together in one go is a tricky and sometimes messy business and it's often better to glue up in stages. Run a bead of glue on one edge and spread evenly – I use my fingers to spread an even coat. It's important to use enough glue as we do not want a glue-starved joint.

Now take the mating piece and position it by rubbing the joint back and forth, aligning the cabinet marks until friction prevents it from moving without force. This is known as a rubbed joint. Repeat the process for the other two boards. If your joints are good, then there is no need for clamping, just make sure that the boards remain flat and the mating joints are flush.

Running your finger across the glue joint is an effective way of checking the joint. It's amazing how accurate your index finger is as a feeler gauge. Clamp the boards if you need to. Once the two pairs of boards have set, glue these together using the same technique. If excessive glue squeezes out, remove the excess with a damp cloth without forcing it into the wood grain. If clamping, you can remove the clamps after half an hour. Clear away any excess glue and then wait for the glue to set overnight.

Once set, all remaining visible glue can be removed with a paint scraper. Don't forget to wear eye protection! Historically, the unseen parts of furniture were left unfinished, so the underside of the tabletop just needs



a few passes with the Jack plane to bring the roughness down. With this step we are not trying to smooth the surface completely and visible plane marks are quite acceptable and add to the finished hand tool look.

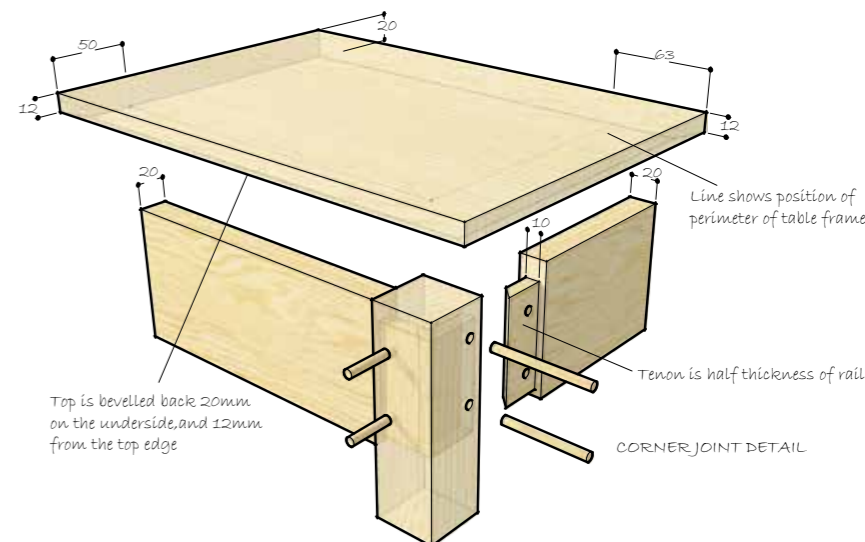
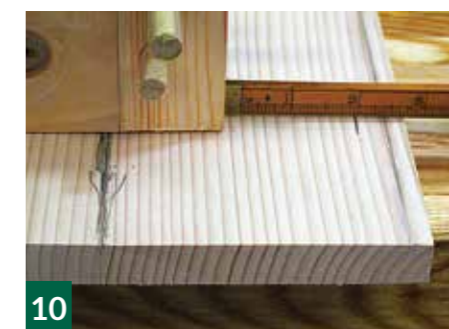
SIZING THE TOP

10 The size of the overlap is a personal choice but needs to be in proportion with the base. Because this table is rectangular I'm going to have a 63mm overhang on the ends and a 50mm on the sides with a 12mm visible edge and a chamfer that is 20mm the depth of the overhang. Use the base to size the top.

11 With your finger acting as a gauge, use a pencil to draw the table's size – allow 1.5mm extra for waste that will be planed off when finished. Cut the top to size using the rip saw and tenon saw – always cut from the face side so that any tear-out will be on the underside, then chamfer the underside.

12 Again, using your pencil and a finger as a gauge, mark the extent of the chamfer on the underside and edge of the tabletop. Always chamfer end grain first – this way, any fibres that are torn out will be cleaned up when the long grain is planed.

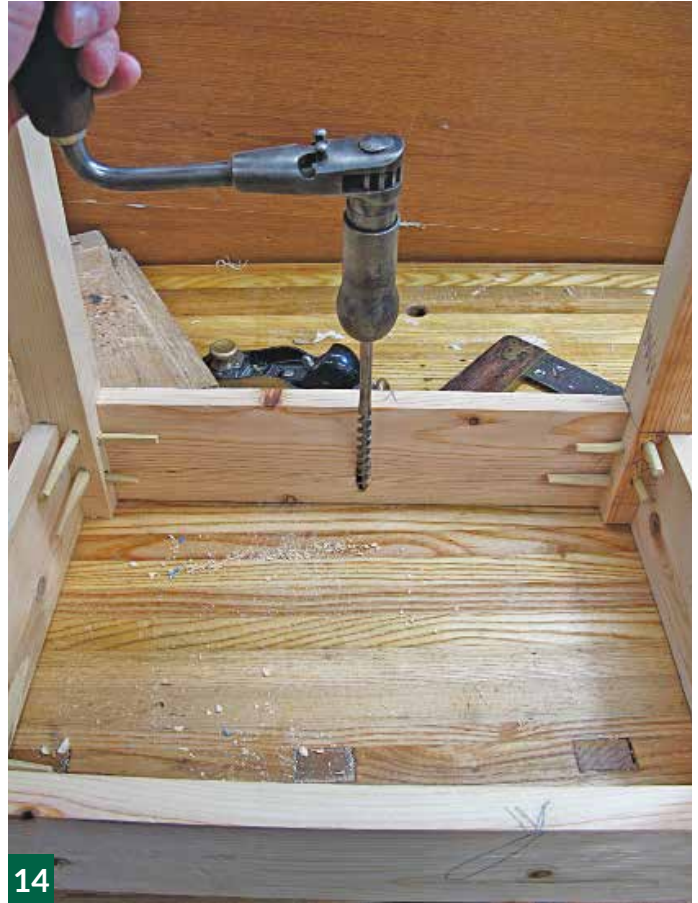
13 Holding the plane at a slight angle will help to slice the fibres, especially on the end grain. The intersecting chamfers should meet at the corner of the table. You may have to sneak up on your lines to get these faces to intersect. The top surface should be pretty flat and will need just a few strokes of the plane with a fine set to finish the surface.



ATTACHING THE TOP

14 Wood is a complex material and expands and contracts based on the amount of humidity in the air. We need to allow for this movement. As a rough guide, a 305mm piece of quartersawn wood will expand approximately 3mm over its width. There are many methods of attaching a top to the base, but the simplest is with screws. Drill holes at an angle from inside the skirt to the top with the 10mm bit then enlarge the pilot hole with a bradpoint bit, rocking the drill back and forth to elongate the hole.

15 Two screws evenly spaced on each side should be plenty for a table this size.



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PREPARING THE TABLE FOR FINAL FINISH

16 Plane off the extra waste you added when sizing the top, chamfer all exposed edges on both the tabletop and base with a couple of light passes of the block plane.

17 Be especially careful when easing the tabletop end grain so as not

to split out any fibres. It's a good idea to 'ease' the end-grain from both sides first. While you are at it, clean up all the legs and skirt with the block plane.

The finish

18 A table can be subjected to a lot of abuse – hot cups and

scratches – and needs to have a resilient finish. I like to use wipe-on polyurethane; this comes in a variety of sheens and gives a hard durable finish. Finish the base and the top separately before assembly and your finished tabletop should look something like this. ■



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