Drop-leaf oak kitchen table

By Michael T Collins

Table: from the Latin 'tabula' – a board or flat surface

Then I was growing up, we always ate our meals at the Ercol trestle table. It was where the family gathered, conversations were had and the hot topic of the day discussed, stories and jokes were told, meals were eaten, and my mother could keep an eye on us while we were doing our homework. Clothes were made on that table, and board games and jigsaws were puzzled over. Everything revolved around that kitchen table.

The history of the kitchen table can be traced back millennia - the ancient Egyptians first used them, although they were probably little more than a raised stone platform. By the Middle Ages, the easily transportable trestle table was used.

I was commissioned recently to make a kitchen table/island that would be an extension to a kitchen counter. The only criteria: it had to be the same height and thickness as the existing counter - 508mm wide and 1700mm long, with two offset drawers, a lower shelf and it needed a drop leaf. Other than that I had free rein to make this how and out of whatever I wanted.

Table top

✓ I had one large board about **⊥**3600mm long that was perfect for the top. I first cut the board into manageable lengths, about 1270mm long and almost 80mm thick, and

proceeded to re-saw the board and then plane the sawn surfaces flat. There were a few areas where the saw marks still showed, but this would be on the underside.

7 The boards were jointed with ∠dominoes used for alignment and clamped. Note: Always apply clamps on both sides to keep wide boards flat. Be sure to keep the metal clear of the glue or you will have to deal with black marks caused by the reaction of the water, iron and tannins in the oak. Once the glue was dry any excess glue was removed with a card scraper. At this point I noticed there were two checks (cracks) in the boards that I wanted to secure with an inlaid piece of contrasting wood.

O First, a 20mm thick dovetail key (bow tie) was made out of walnut and secured to the board in the desired location with a couple of dabs of CA adhesive.

Then the edges were traced with a marking knife.

[It was then a matter of chopping **J**out the waste and cleaning up the recess with a router plane. Adding a slight chamfer on the lower edge of the key created a tight fit at the top. The key was then glued into place.

One of the edges was not quite as Otight as it should be so, with a ballpeen hammer, I was able to 'squash' the wood fibres and close the gap. The same repair method was used on a smaller check in the drop-leaf board and a knot hole filled with resin.

















Project







The legs

7I had a hard time getting 90mm square stock for the legs, so to give the illusion of solid oak legs, some maple, poplar and other boards were laminated together. You can see from the image that the legs can be made from pieces of varying sizes. Then a custom 10mm ripped oak veneer was applied to the outside. By using this method, the seams were almost invisible.

Once the glue had dried the legs Owere planed to 90mm square and cut to final length.

The rails

The rails were all planed on one face and an edge.

To create a seamless flow of grain **7** through the upper front drawer rail, 20mm was ripped off the top and bottom edges of the board, then I cut the drawers out and glued the parts back together. The drawer fit would be fine-tuned later. This method means that the front rail would be approximately 6mm less than the other rails The other rails were all planed to final dimension. All layout measurements were taken from the face side. This way any errors would be to the back or inside.

10^I am a firm believer in taking measurements from the actual pieces, so, I mark the locations of the tenon shoulders on all the rails. (The total length of the rails was the distance between the legs plus 100mm for the two 50mm tenons.)

1 Once the shoulders were ⊥ scribed, the mortise gauge was set to the width of a 10mm mortise chisel and then I positioned the tenon centred on the rails.

Orienting the legs

12 It's always nice to show your good side, and building a table is no different. I imagined the location of the table in the kitchen and positioned the legs to present the best faces on first encountering the table. Once I had the orientation, the legs were held together and a cabinetmaker's triangle used to fix the leg positions with the V-point of the triangle facing the viewer.

Now they were in the correct Oposition, the location of all the













mortises was marked with a pencil. Over the years I have found this to be a crucial step and one that will avoid having to deal with mortises chopped in the wrong sides. To create the 3mm reveal, I moved the mortise gauge fence 3mm farther away from the spur closest to the fence. While it is relatively easy to get legs flush with the rails, if there is any errors a reveal hides this. I gauged the length of the mortises - 20mm down from the top of



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each leg, 90mm long. The lower rails were 70mm up from the bottom and 50mm long. All the tenons in this table will be pegged (known as drawboring).

Chopping the mortises

14^{All} the mortises were chopped first. I started approximately 2mm from one end and, with the bevel facing the direction of travel, chopped out the waste. Once getting to the end, it was 'about face' and I walked the

chisel back - I marked the required depth on the chisel.

The tenons

 15^{Next} the tenons were cut, sawing the shoulders on the waste side of the gauge lines first and then the cheeks.

16 I used a shoulder plane to tweak the fit.

7The tenons were cut to size and all the mating mortises and tenons labelled.

18 The whole base was then dry-fited and clamped firmly together - this allowed me to see any issues. I had a couple of shoulders that were not seating just right. A simple trick is to kerf in the shoulder on the inside. This way when it is pegged it will create a very tight joint on the outside.

The base

O The base was then disassembled $\mathbf{17}$ and a small chamfer planed on all the visible edges of the legs and rails. I followed this by sanding all parts with 180, 220 and 320 grit, especially the surfaces that would be harder to get to once the base was assembled. Note: Red oak is a very porous-grained wood and the finer grit sanding helps prevent the oak blotching when stain is applied.

Drawboring

20^{The location of the peg holes} was determined and, using a 9mm brad point bit, holes were drilled through the mortises. I used a piece of scrap wood sitting in the mortise to stop tear-out.

Once all the holes were drilled, L the table was dry-fitted once more, using a brad point drill bit to mark the location on the tenons.

 $22^{\text{The holes on the tenons}}$ shoulder. When the peg is driven through this offset, the joint would get pulled tighter together.

Glue-up

^ ^ The short rails and legs were $\angle \mathbf{O}$ glued together with plenty of glue in the mortises and the tenons. There was no need to add glue to the shoulders as these are very small and end grain to long grain does not have good holding power. ►





























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24 I made my own pegs using a dowel plate. You can see the full method for creating pegs on my website and Instagram feed, @sawdustandwoodchips.

 25^{I} tapered the pegs, drove them jointo place while the joints were clamped and peened them. It is easy to tell if they 'bottom out' because of the change in note as you drive them in. Once the ends were assembled, it was time to glue the long rails into place. But first I had to install drawer runners.

The drawer runners

 $26^{\rm For \ the \ drawers' \ runners \ three}_{\rm pieces \ of \ wood \ were \ dominoed}$ into the lower edge of the top rails. An additional piece of wood was secured in the top centre. Once the three runners were installed, I was then able to glue and peg the entire top assembly and bottom rails to the legs.

The drawers

7For the drawer construction I **∠** / chose a very simple lap joint. This joint can be seen in many examples of old utilitarian kitchen furniture.

28 For the base of each drawer I used a piece of old 6mm poplar ply that slid into a 6mm groove, 6mm up from the bottom. The back of the drawer rests on this ply and is held in place with nails.

29^{The sides of the drawers were} planed to give a two-business card (1mm) gap on each side.

30Once the fit was perfect, I drilled pilot holes and used antique cut nails to provide additional strength. Two blocks were glued on to the back rail. These were sized to allow the drawers to close flush with the front.

31 The glides for the drawers were pieces of poplar that were glued into place, leaving about 1mm side to side movement.

Lower rail treatment **32**The lower rails needed to support a shelf, so two ledges were screwed on to the back of each

lower rail, creating a 10mm ledge. As you can see from the image, at this point I had already given the base a coat of stain.

















33I re-sawed some offcuts to 10mm thick and added a shiplap to each edge. These were positioned on to the rebate in the base. The shiplap will allow the boards to move with the seasons but not show any through gaps.

Finishing the table top

34 With the base complete, it was time to size the top. The top was ripped to 508mm wide and cut to 1170mm long on the tablesaw crosscut sled. The drop-leaf section was ripped to 254mm. The top was sanded with 180 grit then water applied to raise the grain This was followed with 220 and 320 grit paper and the end grain with 600. Any lower areas where the sandpaper did not reach I used a card scraper and repeated the sanding. A small chamfer was planed on all edges.

35 After many sample stains, the client settled on a red oak oilbased stain. The surface was flooded with stain and left for about 15 minutes before wiping off the excess. With oak, it is important to go back over with a dry cloth as the pores tend to weep a little. I applied the same finish to the base and left it to dry overnight.

36 The following day I gave the whole table a coat of wipeon satin polyurethane, allowing it to soak into the wood, then wiped off the excess. When dry the surface was scuffed with 320 sandpaper and I applied another coat. This was followed by one further coat which I applied with 600 grit sand paper. This created a very smooth surface to which I added four additional, thin coats of polyurethane. The legs had only two additional coats.

Securing the top to the base **37**^A piano hinge was used to hold the drop-leaf in place, and two spring-loaded drop leaf supports were fitted.

38 I used figure-of-eight table top fasteners to secure the table to the base, which allows the top to move with the seasons. The top was permanently secured to the top of the legs at the hinge side with pocket screws.

Like my family's old kitchen table, I like to think this one will be a similar fixture for a modern family – a centre for the home to congregate around.









The table in position in its new home









