

Curved-front Hall Table in Jarrah

By

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When a friend, who wishes to remain anonymous, posted pictures of his elegant hall table in NSW rosewood (Photo 1) on the Australian Woodworking Forum (see <http://www.woodworkforums.ubeaut.com.au/showthread.php?t=12796>), I was inspired to make a smaller version in jarrah (Photos 2 and 3, and Figure 1). He was kind enough to allow me to use his design, and to write this article about the project. He even sprayed the completed table for me with nitro-cellulose lacquer to give it a professional finish.



Photo 1. Hall table in NSW rosewood.

Apart from the rear apron, the whole table was made from a single 2 m board of 300 mm x 50 mm jarrah. Half of the board was resawn to provide the book-matched boards for the top, and the legs, the side aprons, and the strips for the front-apron laminations were cut from the other half. See the cutting list for the dimensions of the table parts.

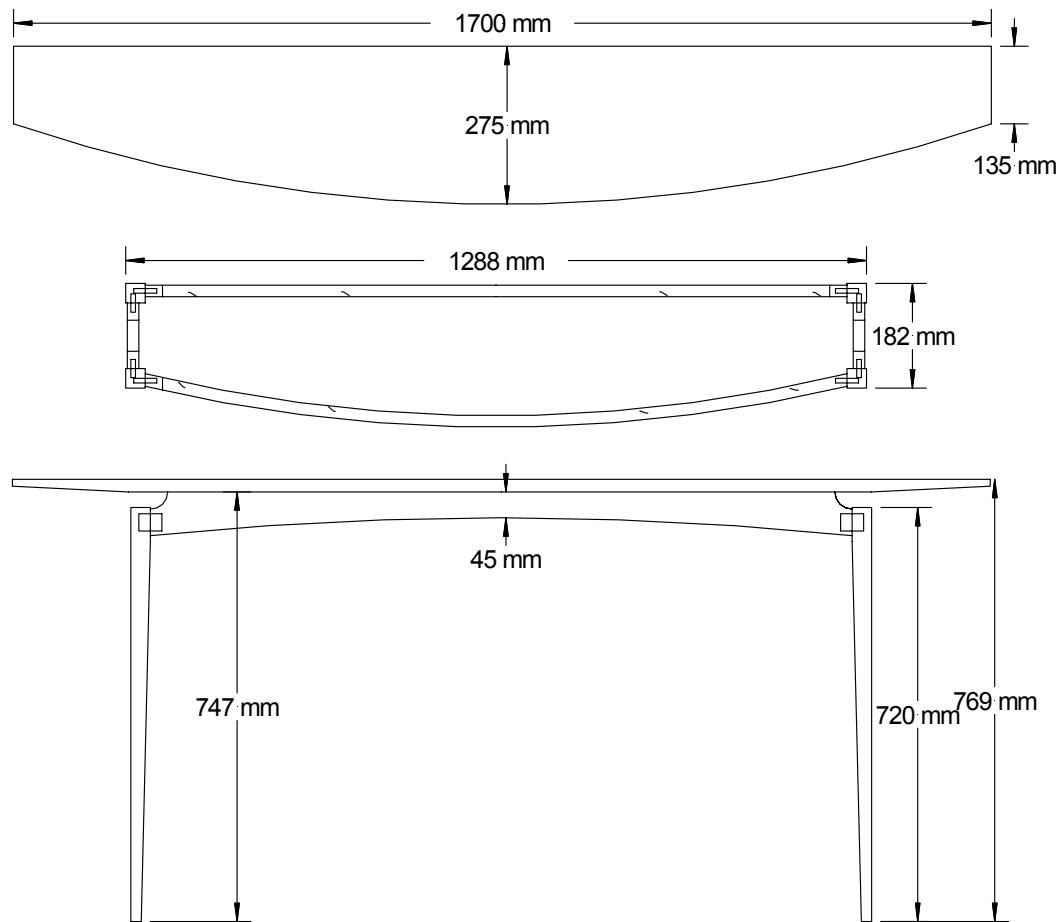


Figure 1. Plan views of the top and frame, and front view of the author's table..

Making the top

The resawn boards for the top are planed to a thickness of 22 mm, jointed, and then edge-joined, using epoxy or urea-formaldehyde glue, with biscuits to aid in alignment. It is best to avoid using PVA glue for edge jointing, since it is liable to creep and to produce an unsightly small ridge along the joint. After a final pass through the planer to level the top, it is trimmed to length.



Photo 2. The author's jarrah table.

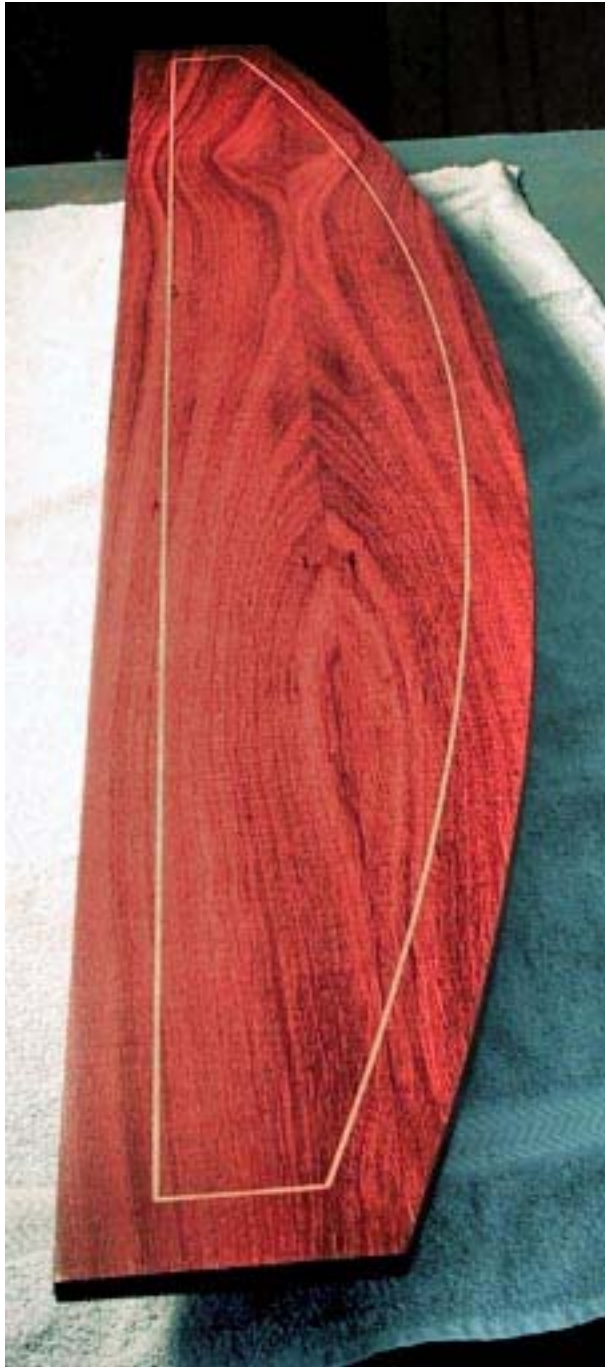


Photo 3. The table top in jarrah, with a silver ash string inlay.

The curved front of the table is an arc of 2650 mm radius. The same curve is used to make the former for the bent laminations of the front apron. To mark out the arc on the glued-up boards of the table's top, I used beam compass heads clamped to a 2700 mm long beam (Figure 2). The easiest way to scribe the arc is to stick the table top with double-sided tape to a tiled floor, and have a helper hold the pivot pin on a scrap of wood (also stuck down with tape) directly on a line perpendicular to the centre of the top's long edge. If you do not have a tiled floor, any level surface will suffice; you just need to measure out the ends of the table's top, marking off the positions where the arc of the curved front should intersect the ends, 134 mm from the table's rear edge. The pivot point (A in Figure 2) is then located 2650 mm from each of these

positions. If you want to make more than one table, it is worth making a template for the curve out of 3 mm MDF.

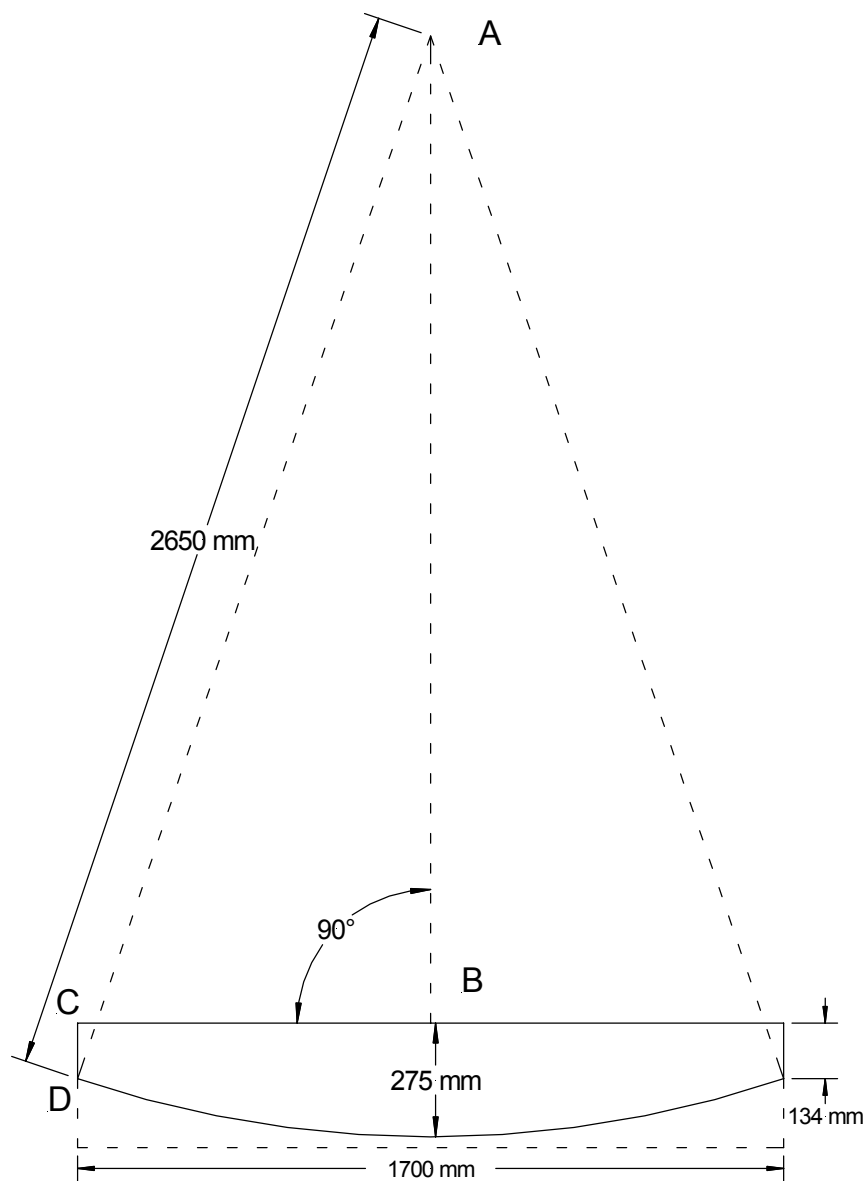


Figure 2. The set-up for scribing the curve of the table's front edge.

The curved front edge is band-sawn, using an adjustable stand topped with ball bearings to support the table's top on the out-feed side of the bandsaw. The sawn edge is then planed to the scribed line and sanded to fair the curve.

Routing the 4 mm deep groove for the inlay, using the router's edge-guide and a 3/32" (2.4 mm) solid carbide bit, must be done with great care, since any mistake will probably mean that the top is ruined. The positions of the grooves are marked in pencil 40 mm in from all the edges of the top. A straight fence is used to rout the straight sections first. Then a fence having a curve matching that of the front edge is fitted to the edge guide, to rout the curved front groove. It is important to feed the

router counter-clockwise around the table's top, as you rout the groove, so that the bit's rotation tends to pull the edge-guide's fence against the edge.

The stringing for the inlay is ripped from the edge of a board of silver ash or rock maple, using a zero-clearance plate on the table saw, in wide 4 mm thick strips, which are then planed to a thickness of 2.3 mm, using an offcut of 18 mm MDF clamped to the planer's bed. The wide strips are then ripped on the table saw into 4 mm wide strips of stringing. Use epoxy to glue the stringing in its groove, after mitring the ends of the strips to give neat joints. When the glue has cured, the stringing is sanded level with the top surface. Finally, the undersides of the ends are planed to form bevels, as shown in Figure 1, and the top is set aside.

Making the legs and the straight aprons

The legs are squared to 34 mm, cut to length, and their tops are clamped together in a vice for marking up, so as to avoid any confusion as to which faces are to be tapered and morticed. I used a bandsaw to cut the tapers on the two inside faces of each leg, but you could use a taper jig on the table saw.



Photo 4. The morticing jig used to rout the table's mortices.

The mortices for the aprons are routed using an 8 mm spiral upcut bit on a morticing jig (Photo 4), to a depth of 16 mm for the side-apron mortices, and 20 mm for the front and rear apron mortices.

Stock for the rear and side aprons is planed to 20 mm thick, ripped to width, and cut to length. 30 mm radius quadrants are scribed with a compass centred on their top corners, the waste is cut away on the bandsaw, and the curves are sanded. Finally, mortices matching those in the legs are routed in their end grain (Figure 3).

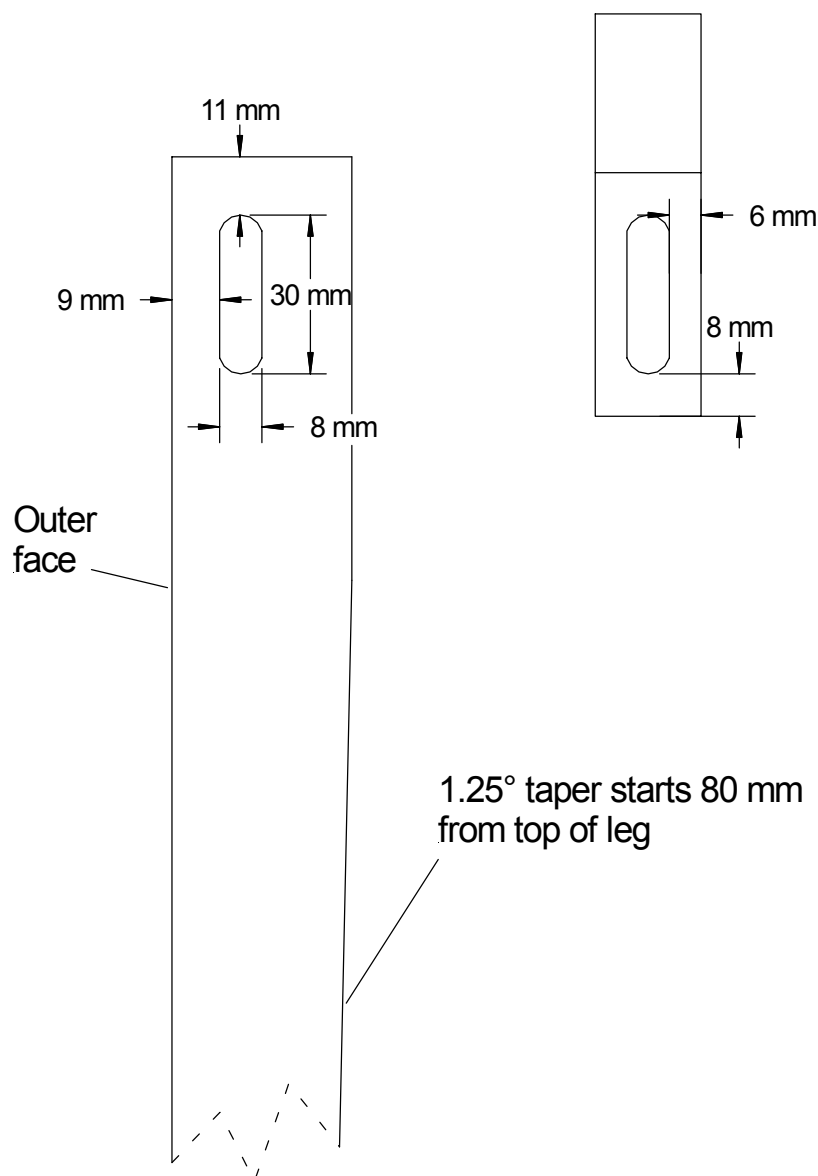


Figure 3. Mortice positions in the legs and aprons.

Making the curved front apron

The front apron is a bent lamination consisting of four 5 mm thick strips glued and clamped in a former. The strips are ripped to a thickness of about 7 mm (Photo 5), and then planed to 5 mm thickness. The curve for the arched lower edge of the apron is scribed onto the face of one of the strips, which will be the concave inner face of the front apron, before the strips are glued up. A length of 3 mm x 20 mm aluminium bar makes a convenient curved ruler (Photo 6).



Photo 5. Cutting a strip for the front-apron lamination.



Photo 6. Scribing the curve for the lower edge of the front apron, using a length of 3 x 30 mm aluminium bar.

The former is made from five layers of 18 mm MDF glued together with PVA glue. A 2650 mm radius arc is scribed or traced onto the first layer of the former, which is then bandsawn along the scribed line. As when scribing the curve on the table's top, it is important to ensure that the scribed curve intersects the end of the former symmetrically, since the former will be used both to trim the ends of the apron at the correct angle, and to hold the apron whilst the mortices are routed in its ends.

The sawn edge of each piece of the first layer is faired with a compass plane or spoke shave, and sanded smooth. The curve is then traced onto the second layer, which is bandsawn and faired in the same way, and so on with the remaining three layers. The five layers of the convex and concave parts of the former are then glued together, and any remaining imperfections in its edges are sanded away. The bandsawn second and subsequent layers could be glued or screwed to the previous layer and then edge-trimmed with a pattern-routing bit, to achieve perfectly matching layers, but this method generates large quantities of dust from routing the MDF. The curved edges of the former are lined with shiny brown packaging tape to prevent glue from adhering to it (Photo 7).



Photo 7. The edges of the former are lined with packaging tape.



Photo 8. The front-apron laminations are glued with urea-formaldehyde glue.

In order to avoid any problems with creep, the strips forming the front apron should be glued with urea-formaldehyde or epoxy, rather than PVA glue. The glue is applied using a rubber roller and the strips are then clamped in the former overnight, whilst the glue cures (Photo 8). On removal from the former, the top edge of the apron is

planed level, and its ends are trimmed to a final length of 1220 mm, by clamping it to the convex half of the former, whose straight base is clamped against the fence of a mitre saw (Photo 9).

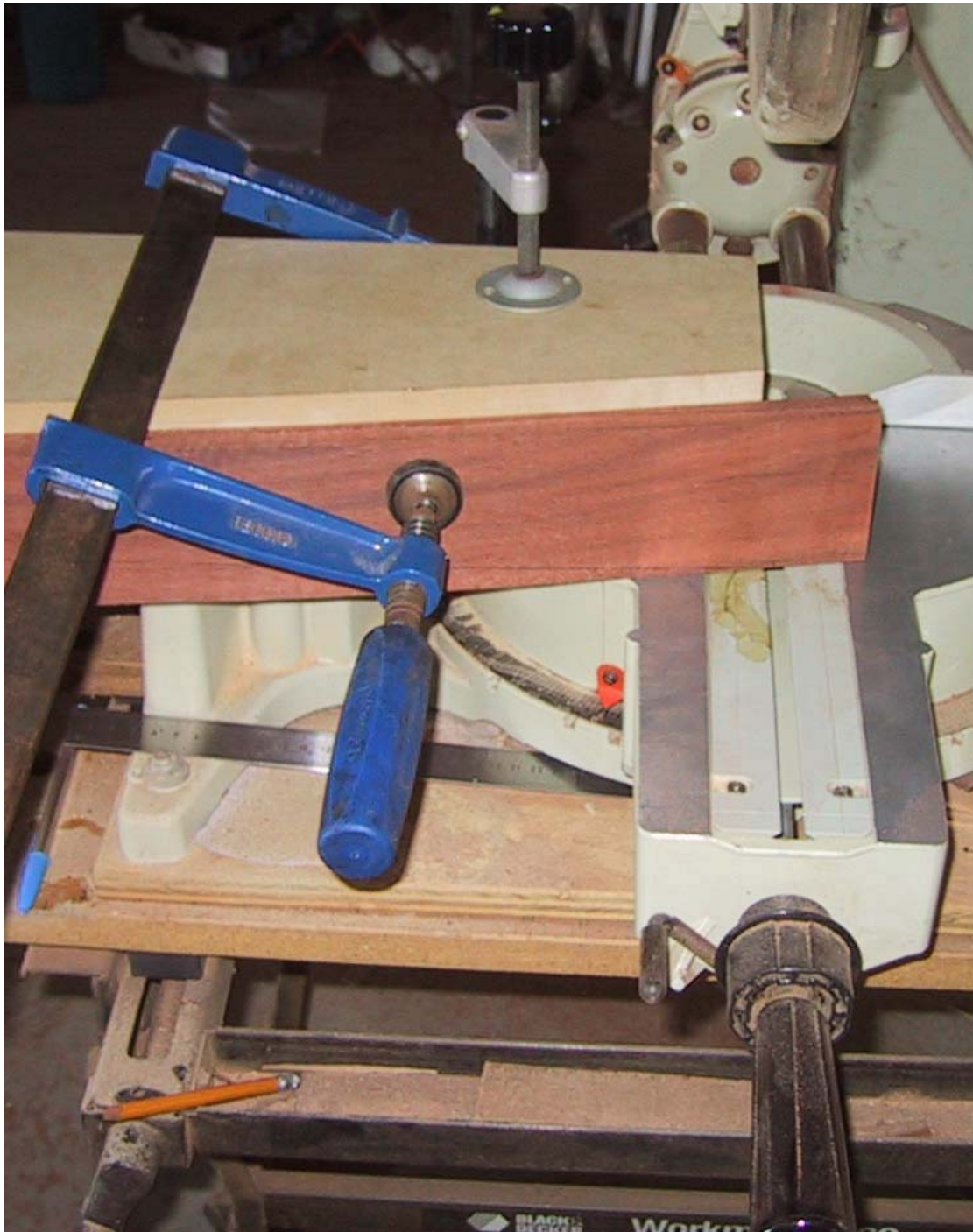


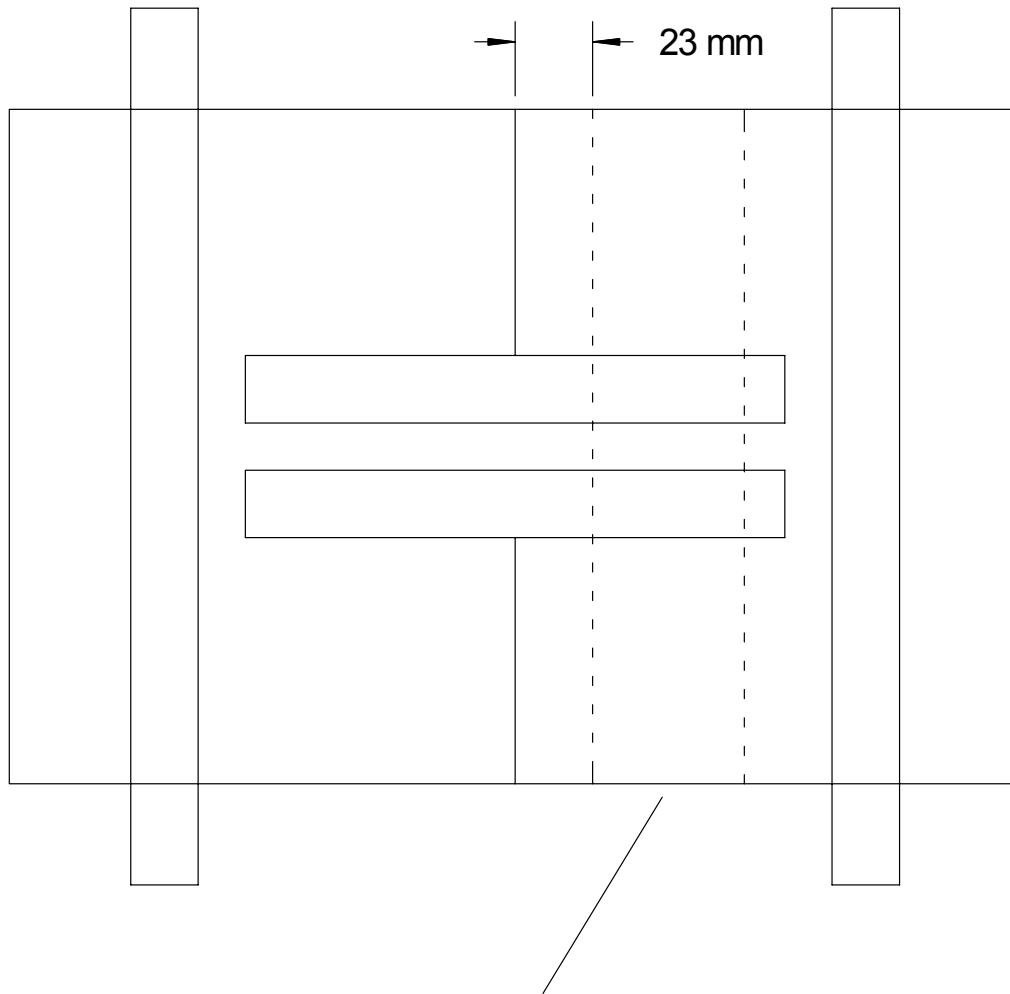
Photo 9. The end of the front apron is trimmed to length, using the former to hold it at the correct angle.

The 20 mm deep mortices in the ends of the front apron are routed using a shop-made jig (Figure 4). The convex part of the former is clamped on-end in a vice; the apron is clamped to it, with its end projecting 10 mm above the end of the former, and the jig

is clamped on the end of the former, with its edge butted against the concave face of the apron (Photo 10).



Photo 10. The jig used to mortice the front apron, which is clamped to the former.



Clamping block glued
under platform

Figure 4. The double-sided jig used to mortise the ends of the front apron. The fences (in the centre of the jig) are positioned so that their distance from the front and rear edges of the jig equals your router's radius minus 10 mm. The stops (at the sides of the jig) are positioned so that their distance from the centre lines equals your router's radius plus 11 mm.

A compass is used to scribe 30 mm radius quadrants on the apron's front face, and the quadrants and the curved profile of its bottom edge are bandsawn and faired.

Assembling the legs and aprons

Before starting the glue-up, slots are cut with a biscuit joiner in the inner faces of the front and rear aprons to accommodate clamping buttons to attach the table's top to its aprons.

The assembly is best done in stages: first the floating tenons are glued into the apron mortises – take care to glue 38 mm tenons into the front- and rear-apron mortises, and 30 mm ones into the side-apron mortises; then the legs are glued to the side aprons to form two side assemblies; finally, the front and rear aprons are glued between the side

assemblies, taking care at each stage to ensure the outer corner arrises of the legs remain parallel.

After cleaning up any glue squeeze-out and doing the final sanding, apply the finish of your choice and attach the top.

Cutting List

Part	T	W	L	Comments
Top	22	275	1700	Made from two book-matched, edge-joined boards.
Rear apron	20	76	1220	Joined to the legs by 8 mm thick floating tenons 30 mm wide x 38 mm long.
Front apron laminations (4)	5	76	1300	Joined to the legs by 8 mm thick floating tenons 30 mm wide x 38 mm long; the apron is trimmed to a length of 1220 mm.
Side aprons (2)	20	76	114	Joined to the legs by 8 mm thick floating tenons 30 mm wide x 30 mm long.
Legs (4)	34	34	720	Tapered on the two inside faces below the aprons. The leg bottoms are 20 mm square. Mortices for the side aprons are 16 mm deep; mortices for the front aprons are 20 mm deep.
Former layers (5)	18	300	1200	MDF.
Jig platform	12	200	399	MDF.
Jig fences (2)	12	20	160	Hardwood.
Jig stops (2)	12	20	260	Hardwood.
Jig clamping block	45	45	200	Hardwood.