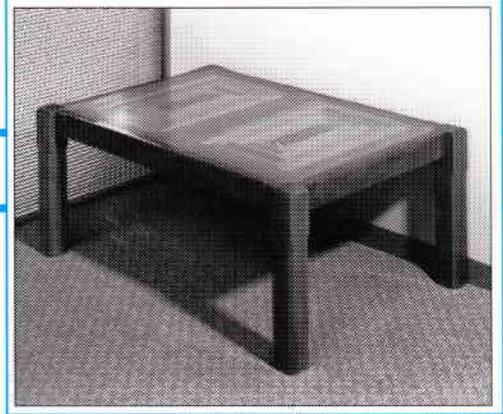


## Coffee Table

Design by Barry Paul



This attractive and functional piece of furniture utilises a mortice and tenon frame of solid timber. The top consists of thin wooden blocks glued in a parquetry pattern on to a foundation of Medium Density Fibreboard (MDF).

Use of a router and the Triton Router & Jigsaw Table will expedite the work. In their absence, however, good results can be achieved by carefully drilling and chiselling out the mortices and bevelling the edges of the timber by hand.

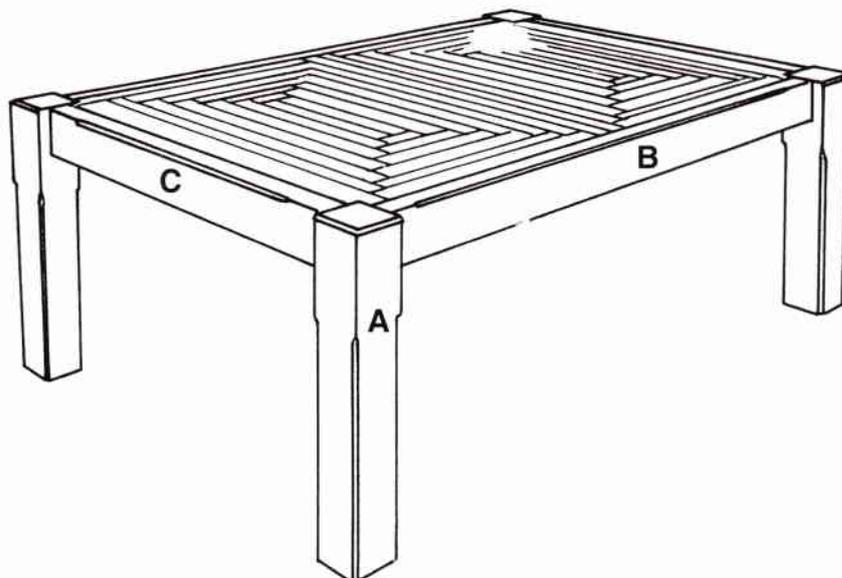
### Component Specifications All dimensions are in mm.

Part	Description	Quantity	Width	Thickness	Length
A	Leg	4	65	65	420
B	Frame side	2	65	32	907*
C	Frame end	2	65	32	607*
D	MDF Substrate	1	600	18	900
E	Parquetry block	4	32	8	600
F	Parquetry block	4	32	8	536
G	Parquetry block	4	32	8	472
H	Parquetry block	4	32	8	408
I	Parquetry block	4	32 <td 8	344	
J	Parquetry block	4	32	8	280
K	Parquetry block	4	32	8	216
L	Parquetry block	4	32	8	386

Part	Description	Quantity	Width	Thickness	Length
M	Parquetry block	4	32	8	322
N	Parquetry block	4	32	8	258
O	Parquetry block	4	32	8	194
P	Parquetry block	4	32	8	130
Q	Parquetry block	4	32	8	66
R	Cleat	2	19	19	850
S	Cleat	2	19	19	550

**\* NOTE:**

1. Length dimensions of frame components B & C include tenons.
2. Use the length dimensions of the parquetry blocks as a guide only. Check measurements and cut to exact length as construction proceeds.



### Tool Requirements

**1. ESSENTIAL** Triton Workcentre and your power saw; Triton Router and Jigsaw Table and your router; router bits as follows: 13mm straight bit, 45 degree chamfering or vee-groove bit; (Or: electric drill and stand; 10mm or 12mm woodbit, 10mm mortice chisel – if drilling and chiselling the mortices); length gauge (see Jig Guide); pipe or bar clamps; small handsaw; measuring tape; square; pencil; orbital or belt sander, or sandpaper.

**2. USEFUL** Large square; band clamp; hand plane; marking or mortice gauge.

## Material Shopping List

**1. WOOD** A stable, seasoned hardwood is best for the legs and frame. The top parquetry blocks are made from “door stop” material, which is usually manufactured from locally available hardwood. We chose to use Tasmanian Myrtle for the frame to contrast with our Victorian Ash parquetry blocks.

Although ordinary chipboard can be used for the table top substrate, we recommend medium-density fibreboard (MDF) for its stability under conditions of changing humidity.

**18mm MDF Substrate:** 1 @ 900 X 600 (available from a number of timber/hardware suppliers as a pre-cut size.)

**Hardwood legs and frame:** 65 X 65 – 1 @ 1.8  
65 X 32 – 2 @ 1.8

**Hardwood blocks for the top:** 32 x 8 doorstep material.  
2 @ 2.4, 2 @ 2.1, 2 @ 1.8, 3 @ 1.5, 2 @ 1.2

**Scrap material for cleats:** any sound timber will do, approximately 19mm square – 1 @ 1.8, 1 @ 1.2

**2. FASTENING** A strong glue is best for the frame; we used Selleys 308 Resin Glue. PVA is satisfactory for gluing down the table top blocks.

**3. FINISHING** It is important that a table top such as this, composed of solid timber blocks glued to a stable substrate, should be well sealed to resist differential movement between the materials. Accordingly we recommend several coats of an impervious finish such as polyurethane varnish, applied to both upper and lower surfaces of the table top.

With the Workcentre in the crosscut mode cut the material for the legs (**A**) and frames (**B,C**) to length. Refer to the Component Specifications and **Figure 1** for dimensions. Note that owners of smaller saws will have to “double-cut” the 65mm leg material – see your Operating Manual for details. At this point it is a good idea to select and mark the best faces of the leg and frame components for the outer or most visible surfaces.

**2** Convert to the table saw mode to make the tenons on each end of the frame pieces (**B & C**). The dimensions of the tenons are 46mm x 13mm x 20mm long. (**Figure 2**) Set your rip fence at 17mm and use it as a stop, and set the sawblade height to 9.5mm. (Note that you can use the fence as a stop for tenoning because the blade is not cutting all the way through the workpiece, i.e. there is no solid off-cut to jam dangerously between the blade and the fence)

## General Points

**1.** The method of construction described involves making the frame first, and then using the frame and MDF substrate to locate the parquetry blocks. This procedure works well with the simple parquetry pattern we chose. If you decide to adopt a more complicated pattern for the top, such as herringbone, you may prefer to make the complete top separate from the frame, and trim the top to size once the blocks have been glued into place.

**2.** The sizes suggested in the shopping list for the “door-stop” material are for convenience only. Because of the large variation in lengths to be cut, there will be very little waste as offcuts can be used for smaller-sized blocks. It therefore does not matter in what order the material is cut up when making the blocks.

**3.** If possible, “season” your material by leaving it indoors for some time prior to beginning construction. This will diminish the chances of excessive swelling or shrinkage of your wood.

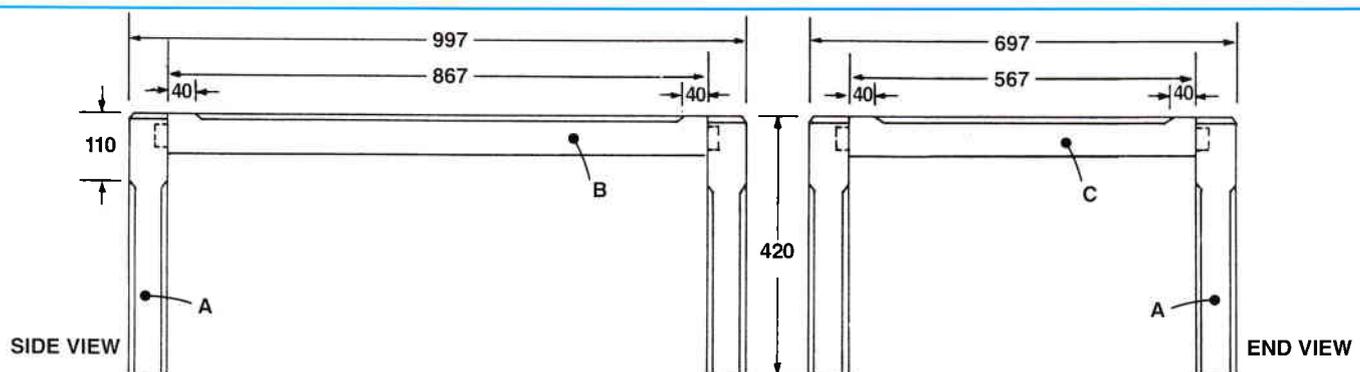
Set your protractor at 90 degrees and butt the end of your material against the fence, and proceed to make a series of cuts on all four faces, moving the workpiece away from the fence by one blade width after each cut, until you have a tenon. If necessary, clean up the faces of the tenon with a chisel or sandpaper.

**(Hint: Make a test tenon first – on a piece of scrap 32mm x 65mm material – to confirm the exact blade height setting.)**

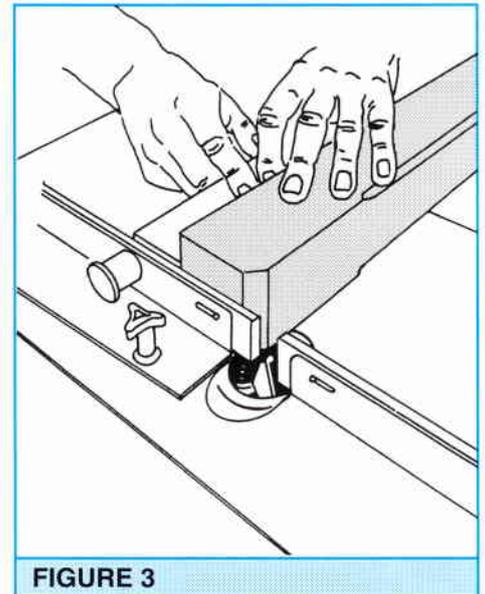
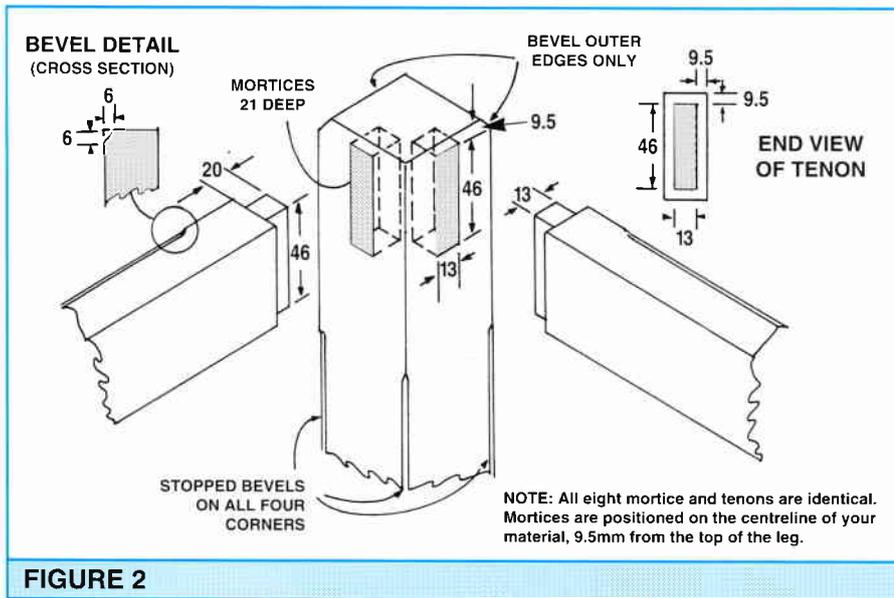
**3** The decorative bevels are most conveniently made with a router, although they can also be done with a hand plane or sander.

Set up the Router & Jigsaw Table and your router in the shaper mode. You will also need two long sub-fences (see the Operating Manual), with a total length of about 1.8m, so that you can clamp on stop blocks to begin and end the bevels on the frame sides (**B & C**). (Locations as shown in **Figure 1**) Use either a vee groove or bevelling bit to make the bevels, noting that they are on the top outer edges only. (**Figure 2**)

Using the same bit, again set a stop to bevel the four long edges of each leg, stopping 110mm from the top, as per **Figure 1**. The same bit is used again to bevel the tops of the legs, but this time bevel only the two outermost faces.



**FIGURE 1**



Adjust the sub-fences up as close as possible to the bit to provide good support for the workpieces, and use a piece of scrap wood to pack up the workpieces to prevent splintering and breaking out the end grain. **(Figure 3)**

If bevelling with a hand plane or sander, it is easier to make full length bevels along the frames and legs (i.e. don't stop the bevels in from the ends). However, in this case make sure that you do not bevel the inside corner edge of each leg, as the legs protrude into the table top, and must remain square.

Bevel the two outer top edges of the legs very carefully with a chisel or block plane, working into the centre from either edge to avoid splintering.

**4** The mortices are now made on the two “inside” faces of each leg. **(Figure 2)** If using your router, set up your Router & Jigsaw Table in the shaper mode, and fit a 13mm straight bit. Fit and adjust your sub-fence and the two stops to give a mortice of the correct length centrally in each face **(Figure 4)**. Your Operating Manual has more details on morticing if you are not familiar with the procedures. Make sure you test your set-up on same-sized scrap before proceeding to your workpieces.

It is safest to mark the desired size and position of the mortice on both faces of all the legs to avoid mistakes.

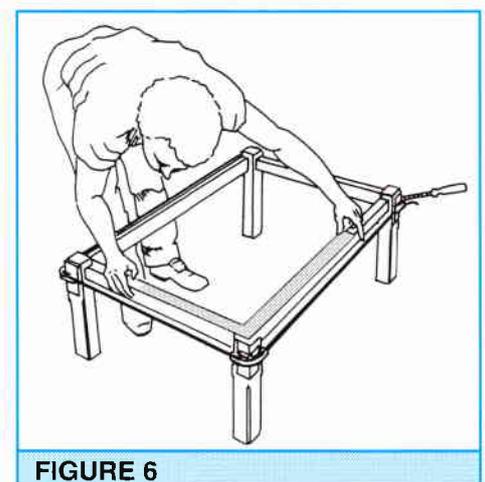
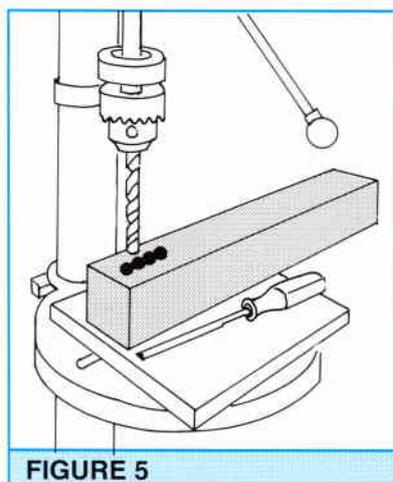
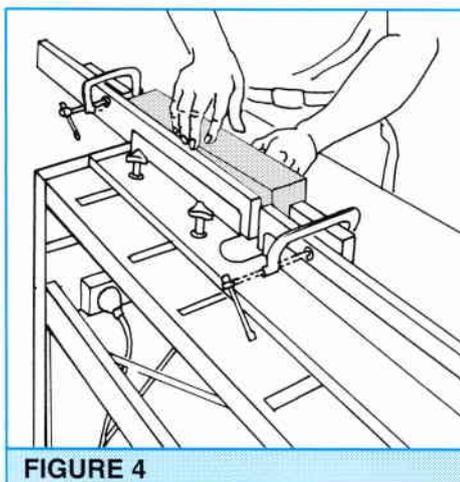
Set the cutter at a height of say 6mm, and put all your pieces through. Then raise the cutter to 12mm, and put the pieces through again. Repeat until the mortices are 21mm deep, to ensure that the tenon shoulders contact the leg faces. You have the option of either rounding over the ends of your tenons or chiselling the mortices square. Test fit and mark adjoining components for correct re-assembly when gluing.

Alternatively, the mortices can be made conventionally by drilling a line of holes and chiselling out the waste. **(Figure 5)**

A drill press or stand is of advantage in accurately drilling the holes, and either a depth stop or a piece of tape on the drill bit should be used as a guide to ensure the correct depth for the mortices.

Unless special wood-drilling bits are available, such as Triton Woodbits or dowelling bits which drill cleanly without wandering, do not attempt to drill holes the same width as the mortice. Drill slightly undersize and pare back carefully to your marking-out lines with a sharp chisel.

**5** The frame is now ready to be assembled. Using a strong glue, coat the mating surfaces of the mortices and tenons and fit the frame to the legs. Clamp in position, ensuring the top surfaces of the legs and the frames are in alignment, and that the assembly is square. A band clamp is very helpful at this stage. **(Figure 6)**



# Construction Details

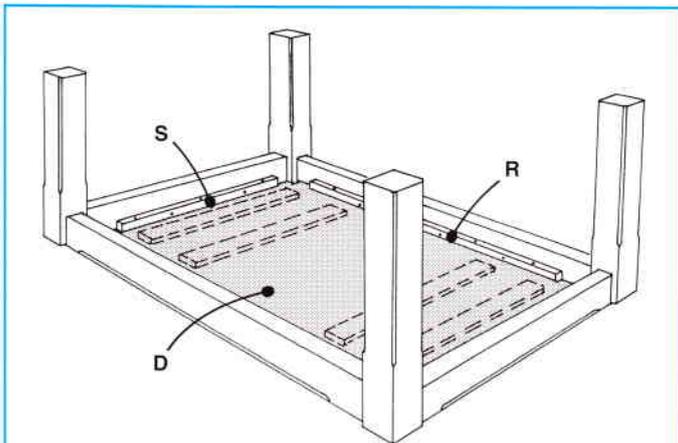


FIGURE 7

Because the inside corner of the legs makes the use of an ordinary square difficult, it will be necessary to check for squareness by using a large roofing square on top of the frame, or by measuring the diagonals. Time spent on this is well worthwhile as it makes the subsequent fitting of the MDF substrate much easier.

After the glue has set, remove the clamps, clean off any excess glue, and check the measurement of the table top opening, which should be 900mm x 600mm.

**6** The pre-cut MDF board is now fitted into the opening. Carefully measure and mark with a square the size of the cutouts for the corners of the legs, and cut with a small handsaw. Test to see if the fibreboard will drop into the opening. If the table frame is out of square it will be necessary to plane one or more edges of the sheet of MDF until a good drop-in fit is achieved.

When satisfied, lay the MDF on a flat and clean table or bench on top of a few pieces of the door-stop material to raise it 8mm. Fit the table frame upside down over the MDF and glue or screw the cleats to both the frame and the board. (Figure 7) Turn the table right side up and check with a piece of the doorstop material that the finished table top will be approximately level with the frame, to minimise the sanding required.

**7** Set up the Workcentre in the crosscut mode to cut the parquetry blocks. It is advisable to check the accuracy of your length gauge at this stage. Because of slight variations in the nominal sizes of dressed timber, it is necessary to measure and test fit each series of four blocks. Figure 8 shows the pattern. Cut four components (E) and notch two of them to fit around the table legs, using a small handsaw. The other two fit side-by-side across the middle of the table. Measure and then cut and fit four components (L) to form two rectangles hard up against the side frames of the table. Measure and cut four components (F) in the same way. It is best to cut one and test fit, then if satisfactory cut the other three without moving the stop of the length gauge. Next measure and cut four components (M) and continue in this way, making rectangles of diminishing size in each half of the table top until the two central components (K) are reached.

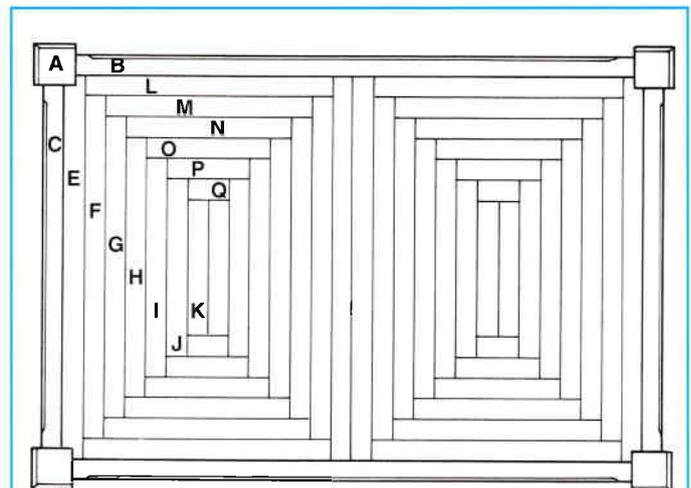


FIGURE 8

It is probable that after cutting to length it will be found that a small amount will need to be ripped from the width of each component (K) equally, to achieve a snug fit. A light push fit on all components is needed, rather than a tight fit, as the glue takes up some space and the blocks could buckle if fitted too tightly.

Lightly mark each component to aid in reassembly, and then remove the blocks from the frame.

**8** Clean the substrate carefully before gluing the blocks in place. It is very helpful to have an assistant while gluing in the blocks, particularly if PVA glue is used, to wipe off excess glue as the blocks are installed and to pass or fit the blocks in sequence.

Coat the substrate in a narrow strip, and also the sides and ends of each block as it is fitted. Use a mallet or a piece of scrap wood to tap the blocks into place if necessary, working inwards from the outsides and "folding" the last two blocks into place simultaneously.

Remove as much excess glue as possible (use a wet rag for PVA) to minimise later sanding, and if necessary use a sheet of plastic and a flat board to weigh down the blocks while drying.

**9** The table now needs only sanding and finishing. If you have fitted the cleats correctly there will be only a very small amount of sanding required to smooth and prepare the top surface.

Any gaps should be filled with a suitable filler (PVA glue and the dust from sanding is as good as any, if you're not staining the top. Otherwise use an appropriate pre-coloured filler).

Apply several coats of a good varnish, not forgetting the underside of the table top, and sand lightly between each coat. A final coat of furniture wax completes the project.