

RYOBI

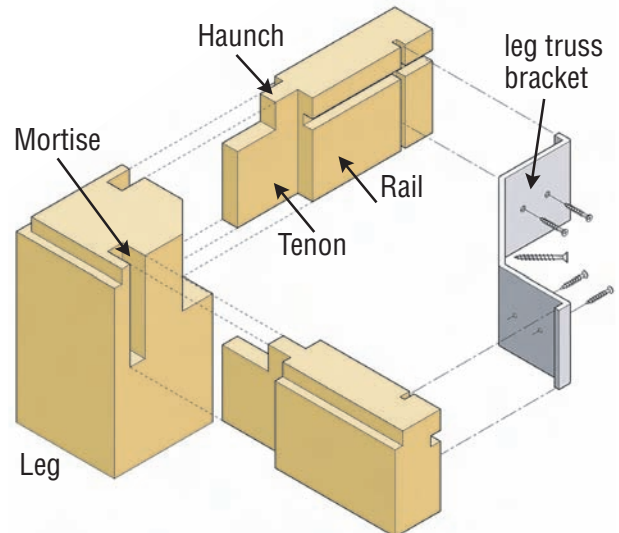
DINING TABLE GOLD LEVEL



DINGING TABLE

CUTTING LIST

Item	Material	Size L x W x T	No.
Table			
Legs	Victorian ash	720 x 90 x 90	4
Side rails	Victorian ash	1900 x 70 x 30	2
End rails	Victorian ash	900 x 70 x 30	2
Support rails	Victorian ash	940 x 60 x 30	2
Top		2000 x 285 x 30	4
Spacer blocks	Victorian ash	100 x 60 x 25	8
Benches	Victorian ash		
Legs	Victorian ash	420 x 65 x 65	8
Side rails	Victorian ash	1680 x 70 x 30	4
End rails	Victorian ash	235 x 70 x 30	4
Support rails	Victorian ash	225 x 60 x 30	4
Seat	Victorian ash	1730 x 285 x 30	2



Haunched Mortise & tenon set-out.

MATERIAL LIST

Material	Size (mm)	No.	Unit cost	Total cost
Victorian Ash	2100 x 285 x 30	4	\$82.50	\$330.00
Victorian Ash	1800 x 285 x 30	2	\$70.70	\$141.40
Victorian Ash	2100 x 70 x 30	2	\$21.00	\$42.00
Victorian Ash	1800 x 70 x 30	7	\$18.00	\$126.00
Victorian Ash	3000 x 90 x 90	1	\$135.00	\$135.00
Victorian Ash	1800 x 65 x 65	2	\$37.50	\$75.00
Victorian Ash	50	12	\$1.20	\$14.40
Victorian Ash	16 x 6g	100	\$4.35	\$4.35
Victorian Ash	#20	50 pkt	\$7.20	\$7.20
Victorian Ash	32 x 8g	100	\$7.20	\$7.20

TOOLS

- PPE
- Cordless drill driver
- Biscuit joiner
- Mitre saw
- Tape measure
- 3 and 5mm drill bits
- Combination square
- F clamps
- Random orbit sander
- PVA glue

INTRODUCTION

If it is a challenging woodworking project you want – then it is a challenging woodworking project you shall have!

Let's not beat around the bush here. Constructing this dining table and matching benches does require one or two advanced woodworking skills. However, having said that, if you are a less advanced woodworker, then I believe it is a great opportunity for you to hone your woodworking skills. Take some scrap material of the same dimensions, follow the instructions and have a go at making a couple of mortise and tenon joints or laminating (joining) solid timber. After all – frustration aside – we all know what practice makes!

Take it from me, advanced skill levels of woodworking just don't happen with time alone!

The following steps show the process of one bench. Constructing the table varies only slightly – steps 15 and 16 show this extra process. The solid timber I chose to use was Victorian ash, a very stable timber (ideal for wide tops). Victorian ash also takes stain very well (in this case chocolate stain) and can easily be matched to your existing furniture colour. The choice of timber can also be substituted – however caution should be exercised when doing this, as a “stable” material is essential.

STEP-BY-STEP INSTRUCTIONS

1.



Shadowline

Square a line on two adjacent faces of each leg (two left and two right legs) 10mm down from the top. Mark a depth of 6mm on the top of the leg. Saw across the grain down to the line before chiseling out the waste, working from the top down.

2.



Mortise set-out

Set the gap between the pins on your mortise gauge to 10mm and the distance from the edge of the leg to 10mm. This setting will produce a mortise 10mm wide with 10mm shoulders. Gauge the lines from the face side to the width of the rail (70mm). Mark the waste area with crosses.

3.



Haunch

Measure 20mm down from the top of the leg and square a line across the mortise. This will be the position of the “haunch”. This will prevent the tenon from sliding upwards. Repeat this procedure on all mortise positions.

4.



Removing waste

I am fortunate enough to have a dedicated mortising machine (see image). However, an effective alternate method is to first drill out the waste with a 10mm drill bit. Drill the mortise to 42mm and the haunch to 15mm in depth. Winding tape around the drill bit acts as a depth stop. Alternatively, a router can also be used.

5.



Trimming up

A sharp 25mm chisel is used to clean up the sides of the mortise. Carefully and incrementally work your way to the mortise gauge line. The final cut should be made by positioning the chisel in the gauge line. A 10mm chisel is used to clean up across the width.

6.



Routing

Set up your router with a 10mm straight cutter and guide fence to machine a 10mm wide and 6mm deep rebate on one long edge of the face of each rail. Tip: Machine all rails before altering set up. Re-set your router with a 6mm cutter to machine a groove on the inside face 18mm from the top rebated edge to a depth of 6mm.

7.



Tenon set-out

Square a 40mm line all round at both ends of each rail. Using the mortise gauge with the same previous mortise set-up, gauge the width of the tenon across the top and down both sides. To achieve a flush joint it is important that the gauge is used from the face of the rail.

8.



Cheek cuts

Set-up your slide compound saw with a scrap fence and a stop set-up to cut the shoulder of the tenon 40mm long (2mm shorter than the depth of the mortise). Set the depth of cut to 10mm, (make a trial cut on scrap, check fit). Slide the saw across the rail on both sides to produce a tenon.

9.



Relieving the corner

The inside corner of each leg needs to be removed at a 45° angle to a depth of 60mm. This is most easily done by making a 20mm deep cross cut before chiseling down from the top with a number of passes and final paring to the line.

10.



End frame assembly

Cross cut a groove on the inside of the rails to support the leg truss bracket. Mark and cut the corresponding portion of the tenon, leaving the haunch. Spread an even coat of yellow PVA to both sides of the tenon and into the mortise.

11.



Gluing up

Clamp the end frames together and set aside to dry. Repeat the gluing up process and assemble the side rails to the end frames. Use scrap blocks to prevent the clamps bruising the material, check for square and set aside to dry.

12.



Support rails

The cross support rails are spaced evenly and glued and screwed to the rails, flush with the top. I used the pocket hole screw method (as shown) but an equally effective method is to glue and screw some 19 x 19mm square timber to both rail and support. A right angle attachment is needed.

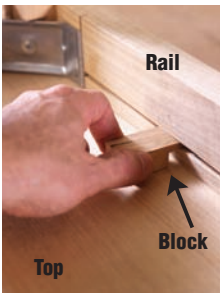
13.



Leg support

Secure the leg truss brackets to the angled corner of the legs with one 32 x 8g screw and washer and to the inside face of the rails with 16mm x 6g pan head screws and washers. Ensure the bracket is pushed down against the cut-out.

14.



Room to move

Solid timber moves naturally. Therefore, it is imperative that the top is not permanently glued to the frame. Making some rebated blocks on the mitre saw is one way of dealing with this. The blocks are screwed to the underside of the top only.

15.



Table: Make a spacer

A spacer block is required to compensate for the extra width of the legs. The groove is cut into the block rather than the rail. Secure the blocks with glue and screws.

16.



Make the top

Four wide boards are laminated (joined) together to produce the top, then trimmed to the correct width. #20 biscuits are used at the joints, spaced at approximately 30mm. Apply an even coat of PVA to both edges and clamp with light pressure. Excess pressure on the clamp may cause the panels to “kick” up at the joints, resulting in an uneven surface.

Mortising machine 44

A dedicated mortise machine makes light work of producing multiple mortises. It works similarly to a standard drill press, with one significant difference – it drills square holes. This square hole is achieved with a sharpened hollow square chisel surrounding a rotating drill bit. The drill bit removes the bulk of the waste and the square hollow chisel cleans up the edges, in one easy step. The work piece is securely clamped and, by turning a hand feed wheel, the work piece moves laterally to increase the mortise to the desired width.