

Garden Bench

Designed and constructed
 by Frank Van Wees.



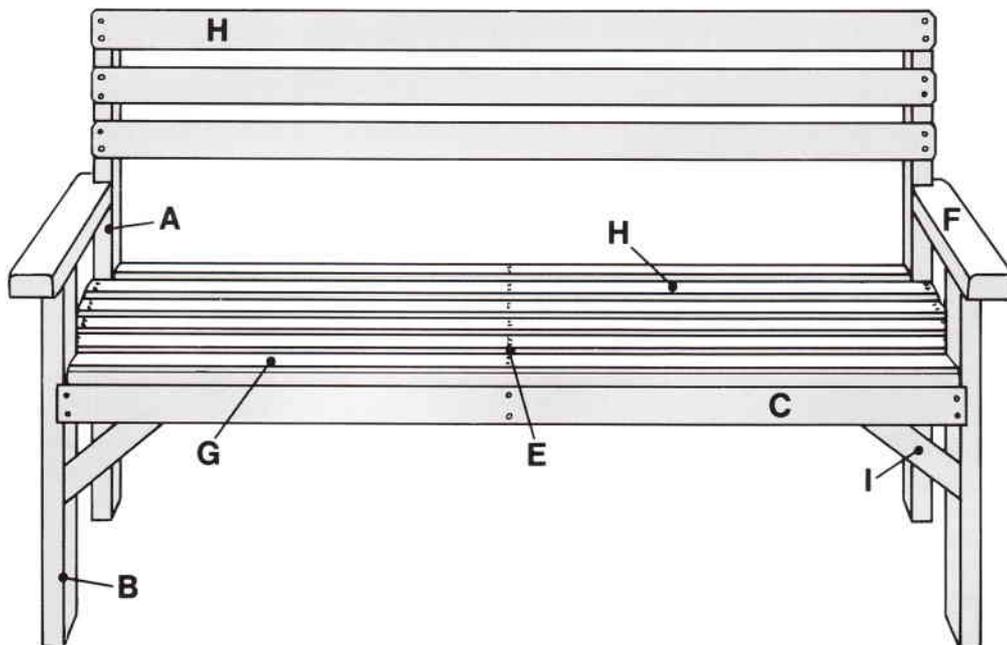
Relax in your garden on a warm sunny day on this elegant garden bench, and enjoy the fruits of your labour. It can serve to enhance your verandah or patio or, if sufficiently durable timber is chosen, reside under the shade of your favourite tree. The seat and back height can be very easily modified to suit personal preferences.

The construction is simple, but sound carpentry practices have been adopted to ensure a sturdy and long lasting piece of furniture. The back is angled, and therefore you will need a taper ripping jig to taper cut on your workcentre. Router work is involved in rounding over the slats and the armrests, but if you do not own a router the same results can be achieved (albeit somewhat more slowly) by hand planing and sanding.

Component Specifications

Part No.	Description	Quantity	Width	Thickness	Length
A	Back legs	2	92	32	930
B	Front legs	2	92	32	600
C	Front & Back rails	2	67	32	1402
D	Side rails	2	67	32	484
E	Middle rail	1	67	32	508
F	Arm rest	2	67	32	568
G	Slats (short)	2	67	32	1378
H	Slats (long)	7	67	32	1442
I	Front Braces	2	67	32	230
J	Rear Braces	2	67	32	366

All dimensions are in mm



Tool Requirements

- ESSENTIAL** Triton workcentre and your power saw, measuring tape, drill plus drill bits to match your woodscrews, countersink bit, screwdriver, square, sandpaper, pencil.
- USEFUL** Accessory Triton router-table plus router, rounding-over bit with bearing (available from better hardware stores or from our Customer Service Department). Triton extension table or outboard work support jig (details available from the Jig Guide). Bar clamps.

Construction Details

Material Shopping List

1. WOOD A durable timber is essential for this project if your garden bench is going to be continuously exposed to the weather. Options could be: preservative treated pine, Western Red Cedar, Jarrah, Cypress Pine or a slightly less durable Australian wood such as Tasmanian Oak.

Shop for:

92×32mm — 1 @ 1.5m, 1 @ 2.1m (back & front legs)

67×32mm — 7 @ 3.0m (for everything else).

2. FASTENING

- * 80 of 50mm/10g zinc plated or brass woodscrews.
- * A waterproof wood adhesive will add further strength but is not essential.

(Note: An alternative fastening that gives a rugged appearance to your garden bench is to use self-drilling hex-head wood screws in counter-bored holes).

3. FINISHING Achieving a combination of attractive finish and durability, needed for furniture exposed to rain and sun outdoors, is worth the effort — no-one enjoys sanding down and re-finishing every 12 months. We used Cabot's exterior timber "Clearcoat" to achieve a satisfying result. See both the "Outdoor Furniture . . . Intermediate No. 8" project notes on finishing, and the appendix on finishes for further information.

General Points

1. A taper ripping jig is needed to make the angled back supports of the bench. The Jig Guide provides detailed specifications of a combination repetition and taper ripping jig. It is possible to make a simpler version of this jig by deleting the long trenching cut that holds the jig captive on the rip fence, and the slotted adjustable component that enables different angles to be cut. On your simpler jig replace this with a nailed-on cleat, and hold the jig firmly against the fence in use. If the jig is to be used only for this project the handle shown can also be deleted.

2. An extension table is very useful to support the weight of your longer material when cross cutting. Alternatively make and use the outboard work support jig or a similar support.

1 With your saw in the crosscut mode cut all the components to length. As usual, cut like components together to ensure identical lengths. It is not practicable to cut the seven slats **H** for the seat and back simultaneously, but try to cut three or four at one time. After you have lined up your timber clamp them together to maintain accuracy.

2 Change to the table saw mode for tapering the back legs **A**. Mark out the back legs as per **Figure 1**, and then set your taper ripping jig angle by placing the jig over the workpiece. Now set your rip fence so that the saw blade begins its cut at point **(a)** on **Figure 1** and cut both required tapers. **Figure 2** demonstrates the procedure.

Safety Notes

The whole purpose of the taper ripping jig is to angle the workpiece to the blade, and whilst angled allow it to be advanced along the fence, under control. **Never angle the fence to the blade** for taper ripping; the fence must remain parallel to the blade.

3 While in the table saw mode, mitre cut the braces **I&J**. Cut each brace at both ends at 45 degrees using your protractor. The **exact** length of these components is not critical (although the matching braces should be the same), but they must have accurately cut mitres. Test on scrap first to precisely determine your protractor setting, and make sure your protractor's guide is a snug fit in its slot.

4 The next step is to mark out all the required rebates. Rebates are needed in the back and front legs **A&B** to take the side rails **D** and the front and back rails **C** (they share the same rebates). Note that the back leg rebates are mirror-imaged.

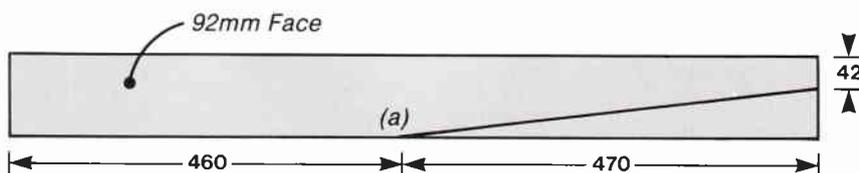


FIGURE 1

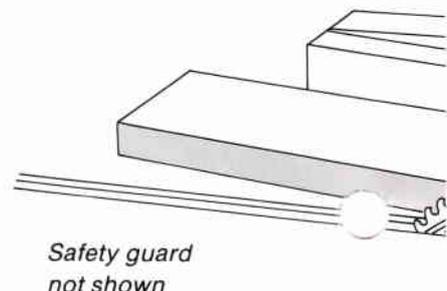


FIGURE 2

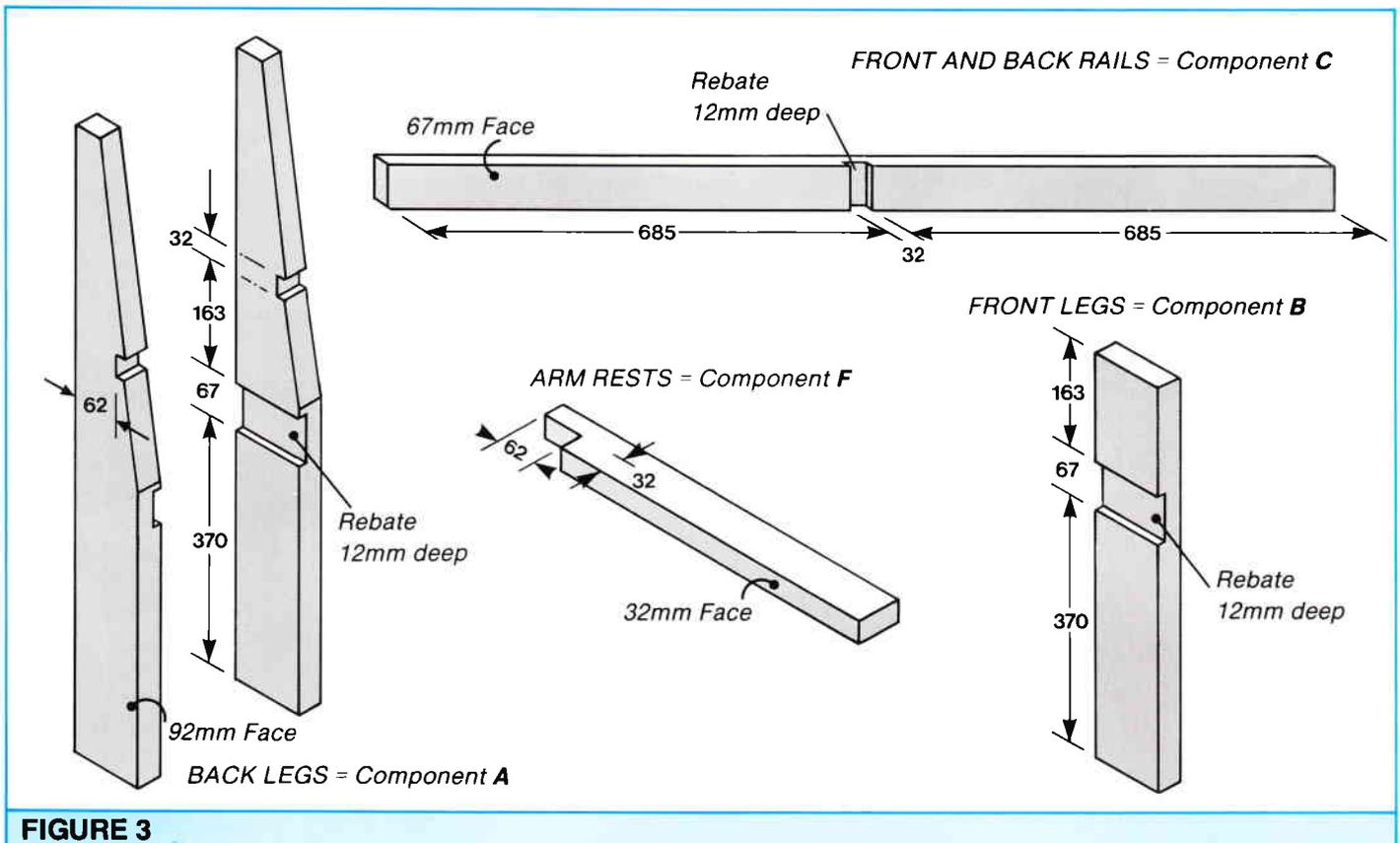


FIGURE 3

Rebates are also required in the top of the back legs **A** to take the arm rests **F**, in the centre of the front and the back rails **C** to house the middle rail **E**, and at one end of each arm rest **F**.

Mark out all these rebates as shown in **Figure 3** clearly designating the waste areas in each case.

5 These rebates are cut with the saw in the crosscut mode. The lower rebates in the front and back legs can be made simply by raising your saw so that it cuts 12mm deep — test on scrap first. Clamp or tape like components together and cut the rebates by moving your workpieces sideways by one blade width after each cut. If you have a saw with a long base-plate a parallel sided packing spacer may be required between the

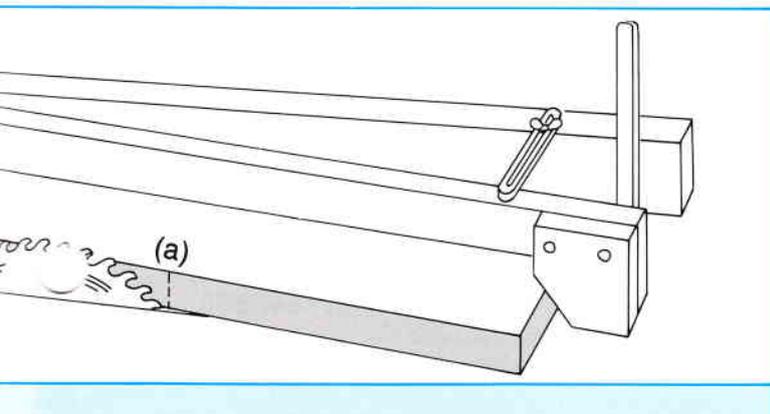
workpiece and the workstops so that you can complete the rebate.

The rebates in the centre of Components **C**, the front and back rails, can be cut next following the same procedures.

6 The rebates needed in the top of the back legs **A** for the arm rests **F** are square to the back of the legs, not the taper. In this case it is necessary to reference the cut from the back face rather than the tapered face into which the rebate will be cut. If you have marked out the rebate as per **Figure 3**, it is easy to measure the depth of material that should remain. (In our prototype = 62mm).

One way to quickly set your saw blade height is to cut off a piece of scrap exactly as long as the depth of material that is to remain (again 62mm in our case). You can lower your saw until the blade rests on this scrap which now acts as a “measuring gauge” to reference your depth of cut.

There may be a problem for those who have earlier model workcentres or smaller saws (7¼” and some 8¼”) because you may find it difficult or impossible to fit Components **A** between the table, slide rails, and saw chassis. You will need to lower the worktable (see operating manual, “Double Cutting”, for hints about lowering the table). Lower the table just enough to allow the workpiece to fit underneath, and reference your saw blade height as suggested above.



Construction Details

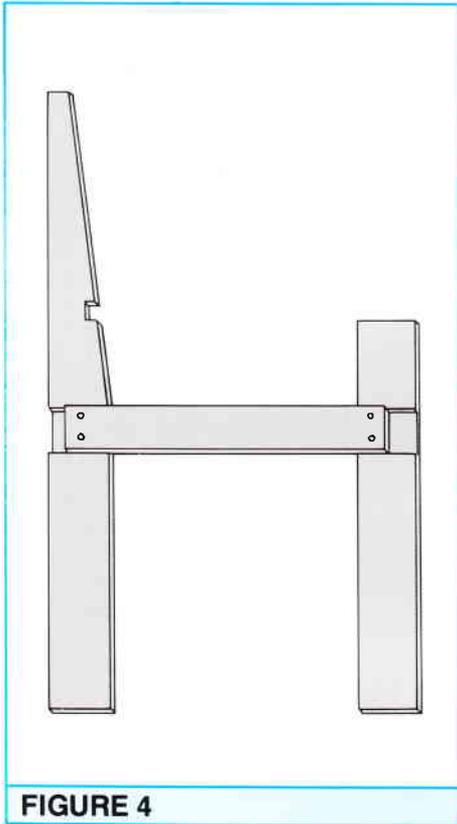


FIGURE 4

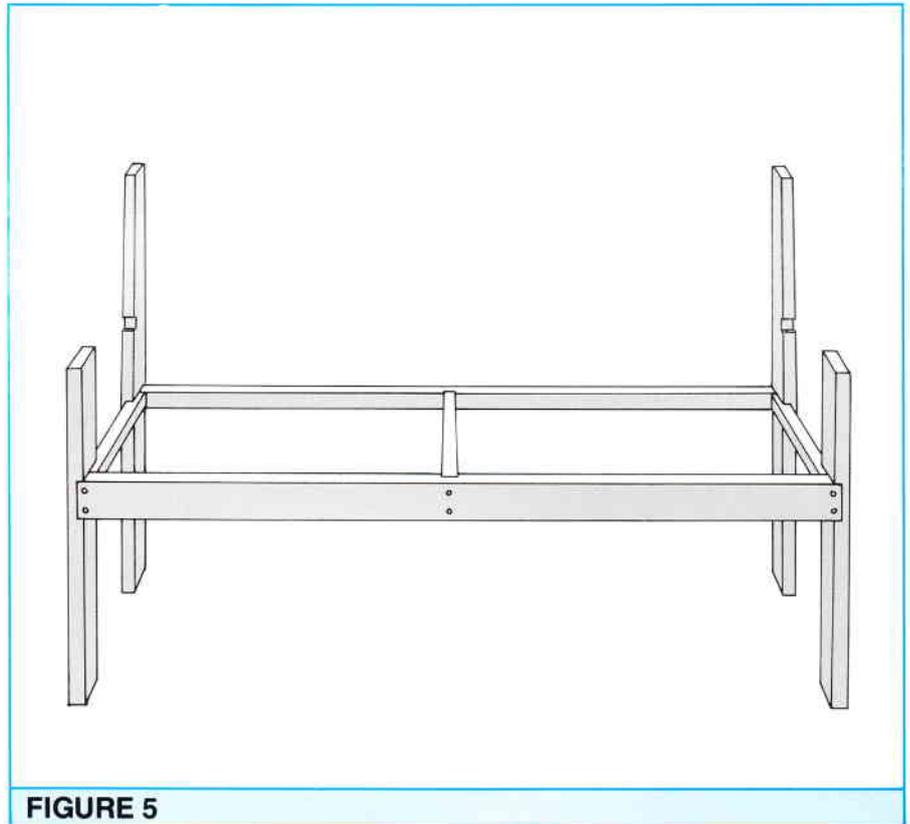


FIGURE 5

7 With these rebates made, the cutting is complete and assembly can begin.

Start with fitting the side rails **D** to the front and back legs as shown in **Figure 4**. Attach the rails with woodscrews (drill and countersink as you go), and leave 32mm clearance from the edges to allow for fitting the front and back rails **C**.

Next fit these front and back rails. Then fit the middle rail **E**, and your bench should look as per **Figure 5**.

8 Now cut the rebates at the end of the arm rests **F**. These rebates are 32mm deep and are cut in from the end the same distance as that which remains in the back legs **A** after their rebating in Step 5 above was completed. The intention is to have the end section of the arm rest flush with the back edge of the legs **A**. Once again, in our example these rebates were cut 62mm in from the end. **Figure 3** shows these dimensions.

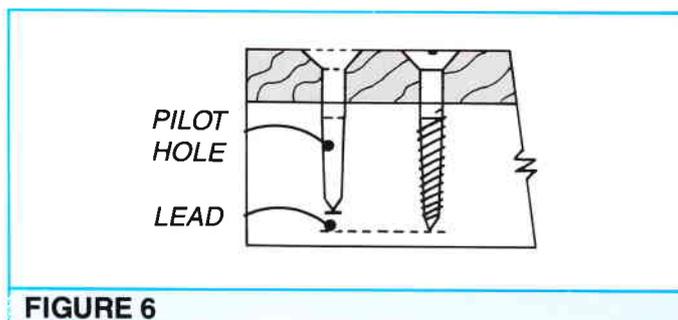


FIGURE 6

9 The braces **I&J** can be fitted next. You may find it easiest to tack nail these in position prior to drilling and screwing. The woodscrews are angled through the ends of the braces into the wide faces of the legs and into the front and back rails **C**.

10 Now using your router in the accessory Triton Router Table (shaper table mode), and a rounding-over bit with bearing, round all the long edges of the seat and back slats **G&H**. The Beginner's Project "Picture Framing" details the procedure if you are unsure how to proceed. The arm rests **F** can also be done at this point, but make sure you stop short at the back of each arm to ensure a neat fit in the rebates in the back legs. Alternatively, wait until the arm rests are attached to the assembly, and use your router hand held.

11 Now fit the slats. The two shorter slats **G** fit flush with the front and back rails **C**, inside the front and back legs. Allow a gap of 30mm between all the slats. Pre-drill and countersink all your screw holes as per **Figure 6**. Screw hole positions can be determined by studying the perspective drawings. Countersink these screws sufficiently so that you can use wood putty to conceal the screws.

Sand all over, and finish your garden bench with an appropriate stain or varnish.