

Portable Toolbox

The construction of this toolbox is quite simple, and it copies a traditional design which enables the weight of a carpenter's tools to be carried easily.

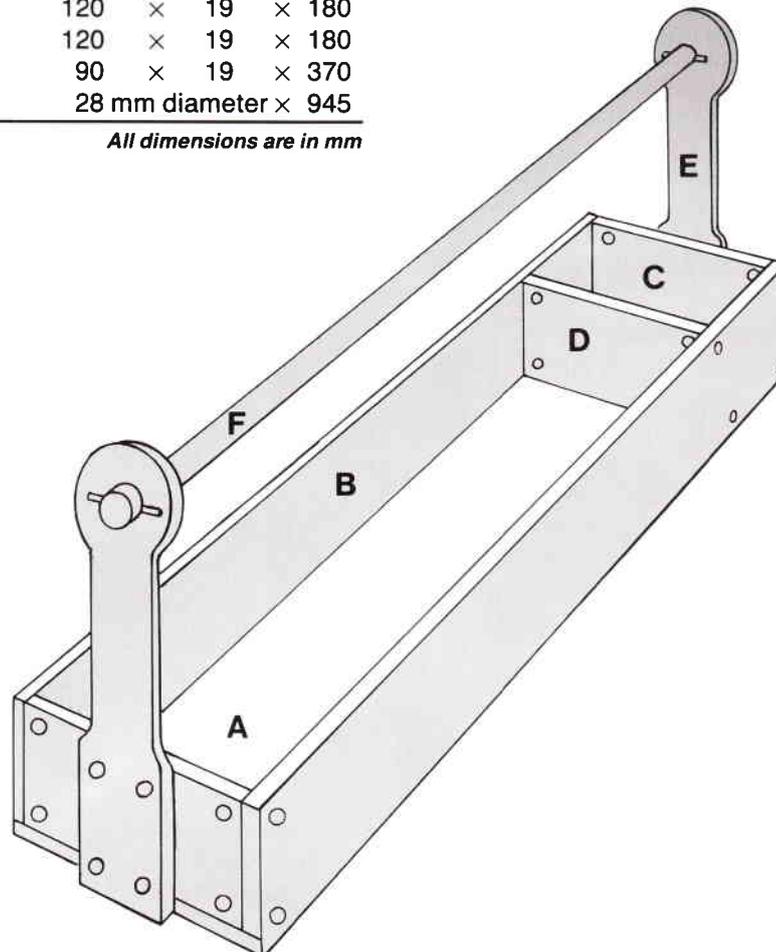
This project demonstrates some useful woodworking techniques such as the attachment of the handle using wooden pegs, and the application of cross dowels to provide increased holding power for the screws joining the sides.



Component Specifications

Part No.	Description	Quantity	Width	Thickness	Length
A	Bottom	1	219	19	860
B	Long Sides	2	120	19	860
C	Short Sides	2	120	19	180
D	Partition	1	120	19	180
E	Handle brackets	2	90	19	370
F	Handle	1	28 mm diameter x 945		

All dimensions are in mm



Tool Requirements

- ESSENTIAL** Triton workcentre and your power saw. Measuring tape, hammer, hand or power drill and drill bits to suit wood screws and dowels, brace plus 12mm auger bit and adjustable bit (to drill the large holes in the handle brackets for the 28mm diameter dowel), screwdriver, hacksaw to cut the heads off nails (if edge joining the boards for the bottom), small handsaw.
- USEFUL** A power jigsaw mounted in the Triton accessory Router Table was used to round the top and scallop the edges of the handle brackets, to add some style to the toolbox.
Two large bar clamps or sash clamps are handy when assembling.

Construction Details

Material Shopping List

1. WOOD Timbers such as Radiata pine, Meranti, Cedar or Oregon are suitable for the construction as they combine light weight with sufficient structural strength. The box in our example was made of pine.

You will need dressed timber as follows:

120×19mm — 4 @ 1.2m*

90×19mm — 1 @ 0.9m

(* see note 2, General Points).

Make sure all your timber is straight, not twisted, bowed or cupped.

Hardwood dowels are needed as follows:

6mm diameter — 1 @ 0.6m

12mm diameter — 1 @ 0.6m

28mm diameter — 1 @ 1.0m

2. FASTENING

* Steel woodscrews: 26 @ 40mm/10 G and B @ 30mm/8 G.

* PVA or equivalent wood glue.

* Bullet-head nails: 4 @ 50mm×2.8mm (if edge joining boards for bottom).

3. FINISHING A durable finish is needed for your toolbox. Satin or gloss polyurethanes are easy to apply and provide hard, long lasting finishes which can withstand general wear and tear.

I Set up your workcentre in the crosscut mode, with a length gauge and a stop block fitted to the work stops. (The Jig Guide shows how if you haven't yet done so.) Set the stop block at 860mm and cut 4 pieces of 120×19×860mm, for the bottom **A** and the long sides **B**

General Points

1. Timber purchased "D.A.R." (dressed-all-round) usually won't have its end sections trimmed neatly or exactly square. It is good general procedure to do this first on all your material with your saw in the crosscut mode.

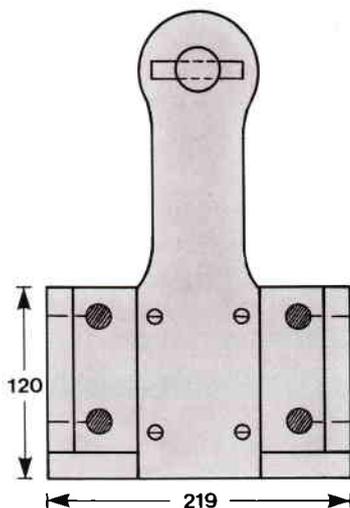
2. The base of the toolbox was made by edge joining two planks together, with its strength resulting from four large nails used as dowels. If you can buy straight, good quality material for the bottom in sufficiently wide dimensions, this operation can be deleted. Adjust your material purchases to suit.

Note that the detailed instructions assume edge joining of the boards for the bottom.

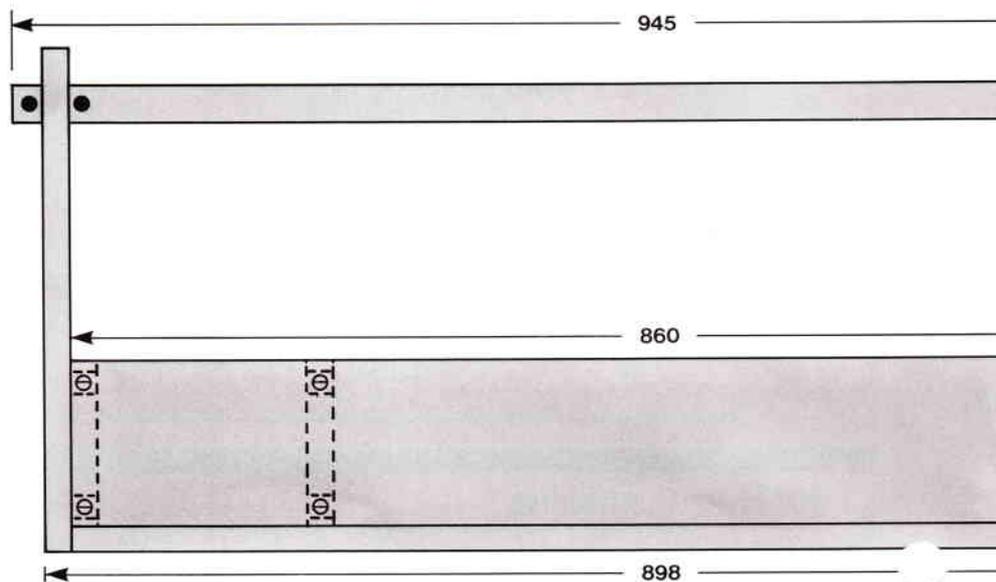
2 Set the stop block at 180mm and cut three pieces of 120×19×180mm, for the short sides **C** and the partition **D**.

Reset the stop block at 370mm and cut two pieces of 90×19×370mm, for the handle brackets **E**.

Reset the stop block to 945mm and cut the 28mm hardwood dowel to this length, for the handle **F**.



END VIEW



SIDE VIEW

3 Change to the table saw mode and rip one of the $120 \times 19 \times 860$ mm boards to 99mm wide (rip fence setting 99mm). This board and one of the $120 \times 19 \times 860$ mm are to form the bottom of the box.

To join these boards proceed as follows:

Take four 50mm nails and hacksaw off the heads. At about equal distances along the long edge of the above 99mm wide board drill four holes (a bit smaller than the diameter of the nails and about 25mm deep). Drill square to the edge and centrally. Tap the nails in with the points sticking outwards. Place this board and the $120 \times 19 \times 860$ mm board on a flat surface, line up the ends and push together so the nails mark the second board (**Figure 1**). At these marks drill holes as before.

Set up gluing clamps, apply glue to the edges and cramp together. Allow the glue to set.

4 The next step is to prepare the short sides and the partition **C&D**.

Because the most simple way to construct the box was chosen, the long sides are joined to the end grain of the short sides. However screwing into end grain is bad practice as the screws will have little grip. To overcome this short pieces of 12mm hardwood dowel are fitted in the short sides **C** and

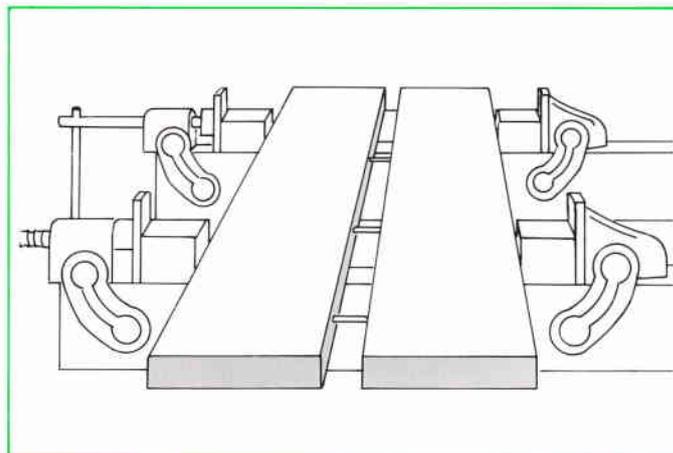


FIGURE 1

the partition **D**; these cross-dowels provide material into which your woodscrews can anchor.

Proceed as follows: Drill 2mm pilot holes at centres 13mm in from the end grain sides and 22mm from the top and bottom. With a 12mm softwood Auger bit bore holes about halfway then bore from the other side thus avoiding tear-out. **Figure 2**.

Cut 12 pieces 20mm long from the 12mm diameter dowel, using a jigsaw or small handsaw, and glue them in the drilled holes.

Let the glue set and trim flush.

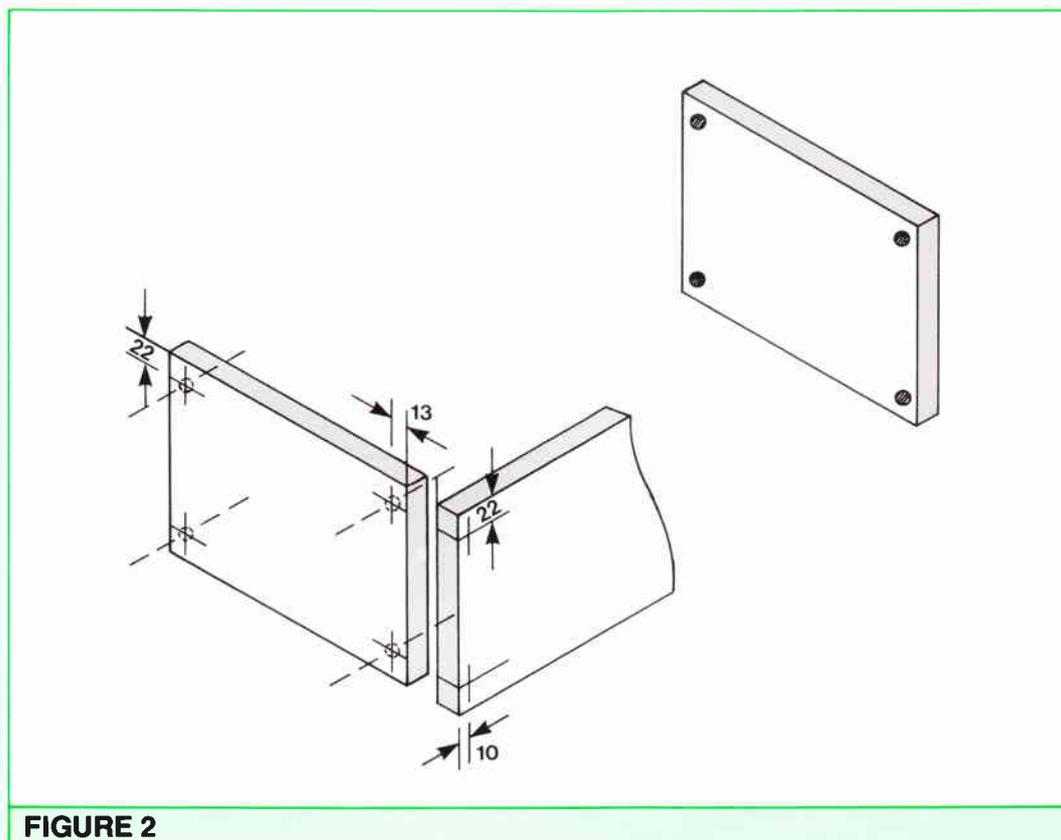
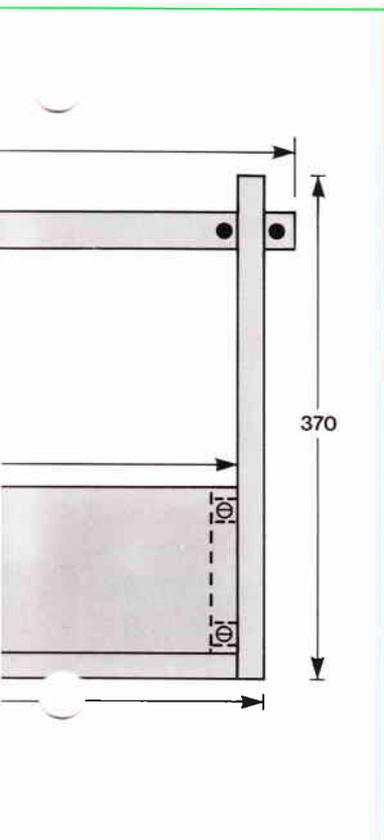


FIGURE 2

Construction Details

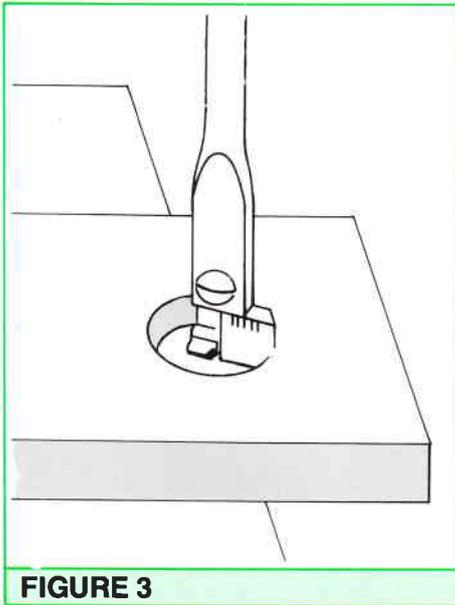


FIGURE 3

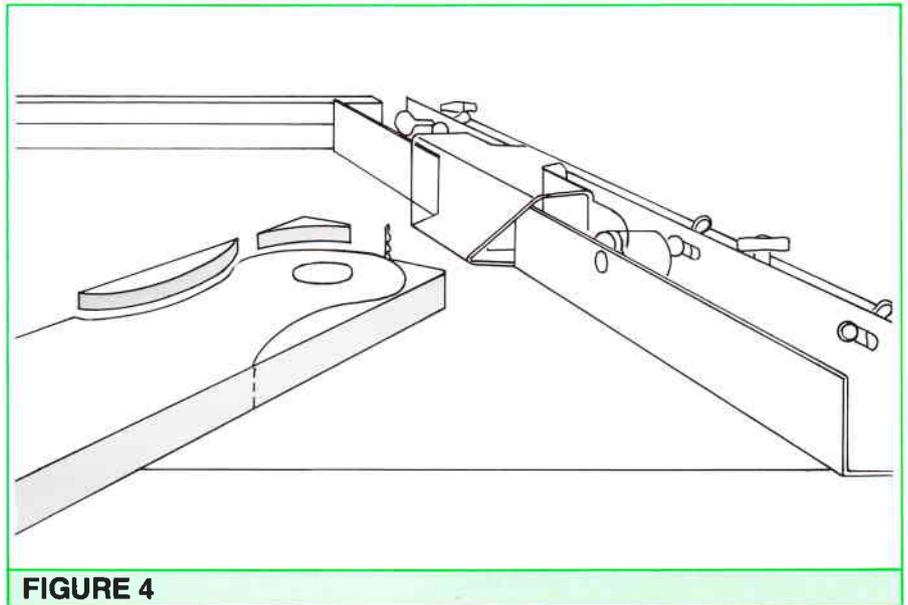


FIGURE 4

5 Assemble the sides of the box. Drill holes to accommodate the 40mm/10G screws in the long sides of the box 22mm from the top and from the bottom and 10mm in from the ends. Pre-drill lead holes into the short sides for these screws. (Should be through your cross-dowels if they have been positioned correctly).

Ensure all the joining edges are square and even and screw and glue together.

6 Screw and glue the bottom to the sides. Use four screws along each long side and three screws for the short sides . . . use 40mm/10 G screws.

Fit the partition (exact location is up to you) by gluing and screwing as before for the short sides.

7 The handle brackets **E** are now prepared and fitted. Take the two 90×19×370mm boards and drill a pilot hole 45mm from the top of each one on the centreline. Now bore 28mm diameter holes for the handle (using the technique described above to avoid tear-out). **Figure 3.**

Set up the jigsaw in the Router and Jigsaw Table and shape the brackets to the design shown. **Figure 4.** Attach the brackets to the box using four 30mm/8 G screws for each bracket.

8 Finally, fit the hardwood dowel handle **F** into your handle brackets so that it protrudes an even distance at either end. Make a pencil mark on the handle each side of the brackets, remove the dowel and drill four holes 6mm in diameter just to the outside of these pencil marks.

Cut four pieces 60mm long from the 6mm diameter dowel (use your jigsaw or handsaw) and sand the ends. Refit the handle, apply glue and tap in these four small dowels to keep the handle in place.

9 FINISHING Using first medium and then fine sandpaper, smooth the surface and round the edges of your toolbox. Apply two coats of polyurethane, sanding lightly between coats. Your toolbox is now ready for years of hard use.