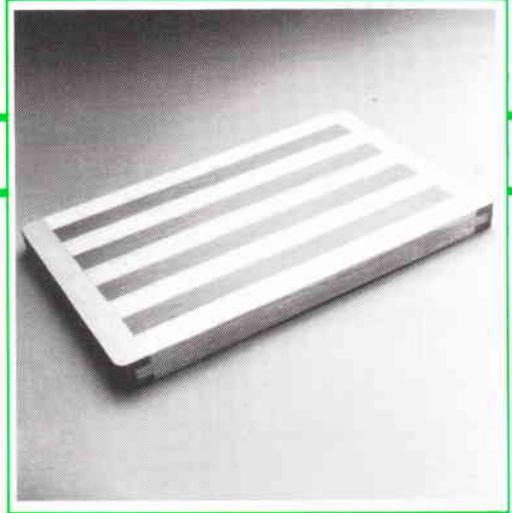


Bread Board



This project has been designed to exhibit the ease of tongue-and-grooving using your Triton workcentre.

The tongue-and-groove joint is a particularly strong way of joining boards together, firstly because of the interlocking nature of the joint and secondly because of the considerable increase in gluing area that results.

If you are looking for good fitting tongue-and-grooves, the quality of your cut is all important. We suggest that you use a 40 or 60 tooth saw blade (a tungsten-tipped blade is best).

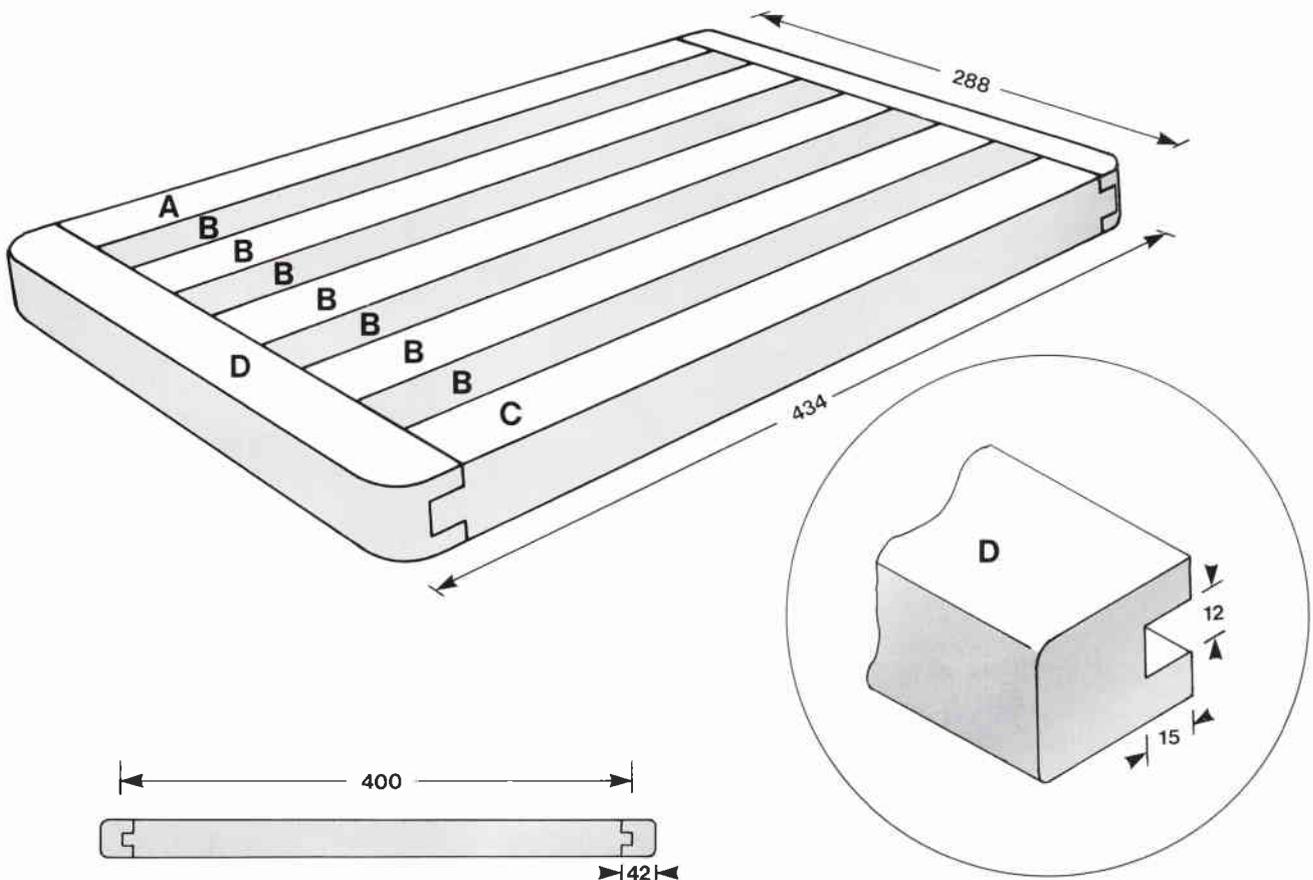
If your saw has some movement between the saw motor and its baseplate, you may have to tighten up your saw (refer to operator's manual) or obtain a Triton Saw Stabilizing Bracket which will hold your saw rigid.

Component Specifications

All dimensions are in mm

| Part No. | Description | Quantity | Width | Thickness | Length |
|----------|----------------|----------|-------|-----------|--------|
| A | Edge Board | 1 | 42 x | 32 x | 400 |
| B | Centre Boards | 7 | 42 x | 32 x | 400 |
| C | Edge Board | 1 | 42 x | 32 x | 400 |
| D | Capping Pieces | 2 | 42 x | 32 x | 288* |

*Cut accurately to length once main boards are joined.



Tool Requirements

- ESSENTIAL** Triton workcentre and your power saw. Measuring tape, square, medium and fine sandpaper, pencil.
- USEFUL** Chisel, gluing clamps, Triton sanding disc, G-clamp.

Construction Details

Material Shopping List

1. WOOD A dense hardwood is preferable for this project. The material needs to be reasonably resistant to the punishment that a bread board could be expected to take, and its weight will be helpful in use.

Quarter-sawn material is also preferred (as opposed to back-sawn material), because it is less likely to shrink or warp. You should ask your material supplier for "select, quarter-sawn wood, dressed all round".

You can make your bread board using one type of wood only, in which case you should shop for:

42 x 32mm (after dressing) - 2 @ 2.4m.

If you chose to use two different types of wood for contrast, shop for: **42 x 32mm** (D.A.R.) - 1 @ 2.7m, and the contrasting wood, **42 x 32mm** - 1 @ 1.8m.

2. FASTENING The bread board is held together by its tongue-and-grooving joints, and glue. Normal PVA or wood glue is suitable if the bread board is never immersed in water, nor left in a very damp situation. PVA adhesives have good initial strength, but their resistance to moist conditions is quite poor.

Alternatively you can use a two-pack waterproof epoxy cement. See our appendix on glues for more information.

3. OTHER A length gauge is useful. See the Jig Guide section for details.

General Points

1. If your material is not uniformly dressed and straight, you will find it difficult to make accurate tongue-and-grooves. Check your material with a square before starting, and if necessary square it up using the planing technique shown in the instruction manual.

2. The shopping list specifies slightly more wood than is absolutely necessary. This is so you have some material spare for test cuts. **Always** make test cuts on scrap before doing cuts on your workpieces.

3. Material supplied by your timber merchant as dressed will have its width and thickness dressed, but the end sections of your material may well be rough sawn. Clean up these end sections by making trimming cuts, using your workcentre in the crosscut mode.

Your first cuts are best made in the crosscut mode, using the length-gauge extension on your workstops. Attach a stop block with a G-clamp or similar at 400mm, and cut 9 pieces to this length. If you are using two different woods for contrast, cut 5 pieces from your 2.7m length, and 4 pieces from the 1.8m length of the contrasting wood. These pieces will be the **A**, **B** and **C** Components. In either case you should have created an offcut which will be

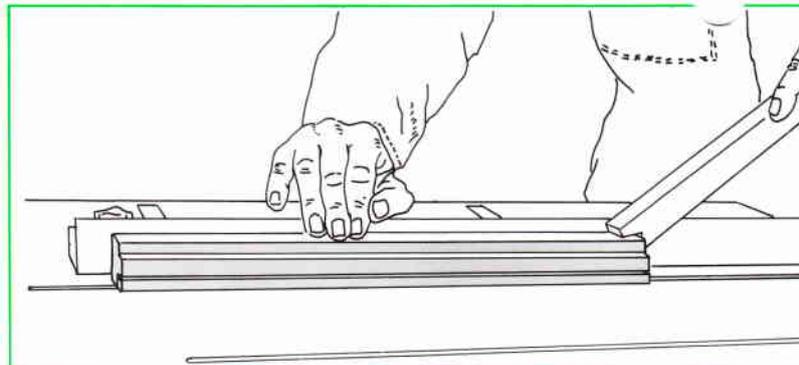


FIGURE 1

useful for testing your tongue-and-groove settings.

Place your 9 pieces side by side, selecting best face up, and mark on each where the tongue should be, and where the groove should be. Note the Components **A** and **C** are different. **A** is grooved but without a tongue; **C** has a tongue but no groove (**Figure 2**).

2 Convert to the table saw mode. It is preferable to make the tongues first, because it is easier to adjust the grooves to fit the tongues, rather than vice versa.

Set your saw blade height at 10mm.

Set your rip fence at 22mm (10mm less than the thickness of your wood) making sure that the rip fence is exactly parallel to the blade. The first cuts are made with the workpiece on its narrower edge (the 32mm dimension). Begin by making test cuts on your scrap. Holding your material down firmly onto the table and the 42mm face against the rip fence, make the first cut. Make the second cut by running the other 42mm face against the rip fence.

Safety Note

This type of cut prevents use of the safety guard. Keep your hands well clear of the blade. **Don't trail your fingers behind the work piece. Use a push stick whenever possible.**

Note that Component A doesn't require a tongue, so follow the above procedure for only 8 of your pieces. Watch that there is no sawdust build-up between the workpiece and the rip fence.

3 Now reset the fence to 32mm to complete the rebate for the tongues. This time the workpiece is placed with its wider face resting on the worktable and the narrower edge against the fence. Again, test on your scrap piece

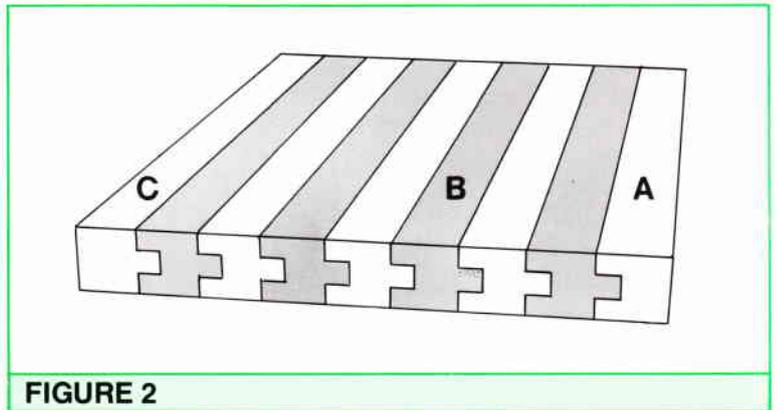
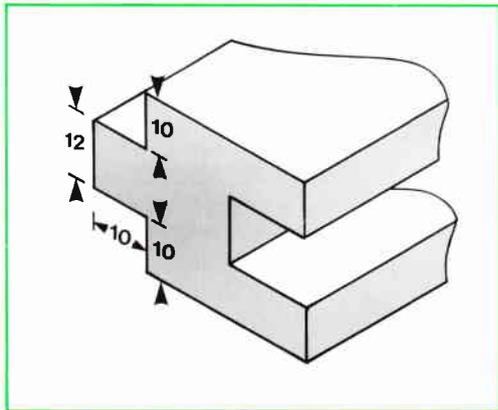


FIGURE 2

first. **(Figure 1)** You may need to move your fence very slightly to ensure that the cuts meet exactly and the rebate is square. You may also need to slightly reset your saw blade height if your first cut was not exactly 10mm. Don't be too concerned if you overcut slightly, as long as the two cuts meet and the rebate is reasonably square. Remember that the tongue-and-groove will not be visible either from the sides or from the end of the bread board, as they are covered by the capping pieces **D**.

4 The grooves can now be made. Set the rip fence at 10mm and make a test cut on your scrap piece. The saw blade height should remain the same, that is at 10mm, but a groove that is a little deeper than the tongue is preferable to one that is too shallow. Again make two cuts, that is one from each face. This ensures that the tongue and groove will be central in each workpiece. Reset the fence 3mm further out, i.e. at 13mm and again make two passes over the blade, one from each face, to remove the waste in the centre of the groove. You may need to reset your fence again slightly to remove any remaining waste.

Check once more that the tongue is clear of the groove bottom, as this will ensure a neat joining of the side edges of the boards. Do a test fit of your components. You should have the tongues sliding into the grooves without having to force them together, but they shouldn't be a sloppy fit either.

5 Raise the saw blade height to 33mm, and reset the rip fence at 32mm. This is to rip 10mm off Component **A** ... this was the piece that was grooved but didn't require a

tongue and is therefore 42mm wide, not 32mm which the other pieces are now.

You now have the basic parts of the bread board completed. Apply a thin layer of glue to both the tongue and the groove in each case, and clamp while the glue sets. Wipe off any excess glue before it dries, and ensure that the bread board is not bowing or twisting as a result of the clamping. **(Figure 2)**

6 Convert to the crosscut mode and, if you need to, trim the ends of your board exactly square (a shaving cut should be all that is necessary). Now measure the **width** of your bread board to determine the length of your capping pieces **D**. (Depending on how close to the 10 x 12mm tongue/groove dimensions you achieved there will be some variance in the width of the bread board. It should be in the 275-290mm range). Cut your capping pieces to your measured length.

7 The next step is to cut rebates across the ends of the bread board. This is to make a tongue which will lock into a groove to be made in the capping pieces. Note that your worktable needs to be set exactly parallel to your saw travel for this next operation if you wish to achieve accurate cutting. (Looking from the side, the worktable should be parallel to the aluminium bearing channels.) You can test that your table is correctly set by placing a piece of chipboard scrap or similar (at least as wide as your bread board) in position against your workstops. Adjust your saw blade height until the saw teeth just clear your scrap piece. Pass the saw from end to end across your scrap and ensure blade tip clearance is the same at the beginning and end of your traverse.

8 Now adjust your saw's blade height so that it cuts 10mm deep into your 32mm material. Make a test cut on a similar thickness scrap piece to check your depth of cut.

Safety Note

Use a push stick when narrow ripping. Refit the safety guard and riving knife.

Construction Details

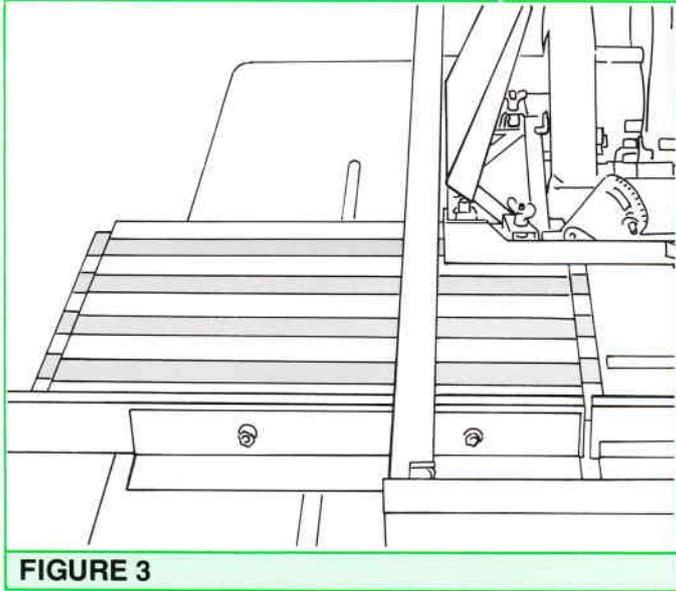


FIGURE 3

Make a pencil mark 15mm in from the end of your board – this will mark the outer limit of your rebate. Bring your saw up to the bread board, power off and blade stationary, and move your bread board until your cut will be just inside your 15mm mark. Clamp a stop block on your work stop extension against the other end of your bread board, and now make four cuts, turning your board over and end-for-end.

After these four defining cuts have been made remove your stop block and cut away the rest of the waste. You may need to make a number of passes over the material to even up your cuts.

Figure 3.

9 Change back to the table saw mode to cut the grooves in the two capping pieces **D**. Set your blade height by holding the bread board on its end beside the blade. (It should be 15mm, but it's probably easier to "eyeball".)

Set your rip fence at 10mm, but again test on scrap before cutting into your workpieces. Once

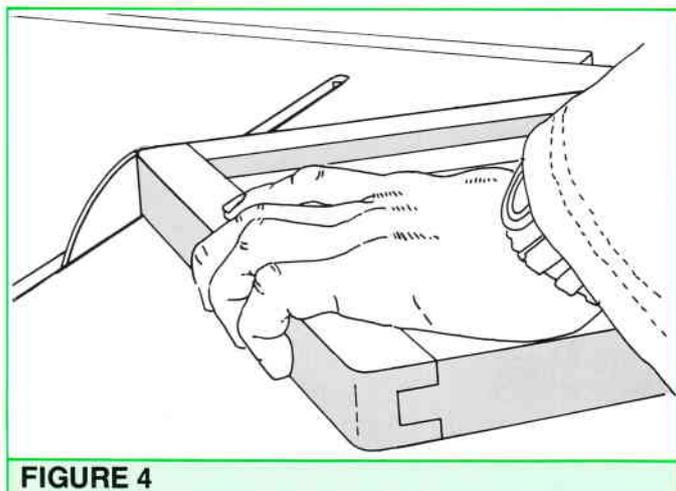


FIGURE 4

your settings are correct, make your two cuts into the narrow edge of your capping pieces (first one wide face, then the other against the rip fence). Reset the rip fence at 13mm and repeat. **Remember the safety concerns noted in Step 2.**

10 Do a trial fit of the capping pieces. If they are too tight on the end tongues of the bread board, you may need to do a shaving cut. This is best done by placing the groove of the capping piece over the saw blade (power off!), rest the rip fence against your workpiece, push your workpiece against the blade towards the fence, and screw down the fence (check for parallel). This will result in a very fine shaving being made in your groove. Again pass first one face and then the other against the rip fence to ensure your groove remains central.

11 Once you are happy with the fit of your capping pieces glue and clamp them on. Because the capping pieces are made from the same material as the main boards which make up the bread board, they are 42mm in width. We felt that this made the bread board look somewhat out of proportion (too long) and therefore we trimmed 10mm off each end of the board. This was easily done in the cross cut mode, but it's a matter of personal preference, and you may decide not to follow our example.

12 Sand your bread board to remove any irregularities ... how much sanding you need to do is a reflection of how accurately you made your tongue and grooves. It is also advisable to round off all the edges. You will find it useful to use the Triton Sanding Disc mounted in your workcentre as a face-plate sander to round the corners of your bread board. **Figure 4.**

13 Finishes on surfaces in contact with food present a special problem. Olive oil or a similar vegetable oil rubbed in over the span of a few days will adequately preserve your wood, but it's possible that they can become gummy or rancid. Linseed oil, tung oil and most varnishes can contain poisonous lead or mercury to speed drying. It is best to avoid these potentially toxic finishes. Paraffin oil is our recommendation as a finish (available from your local pharmacy), as it's non-toxic and won't contaminate the flavour of your food.