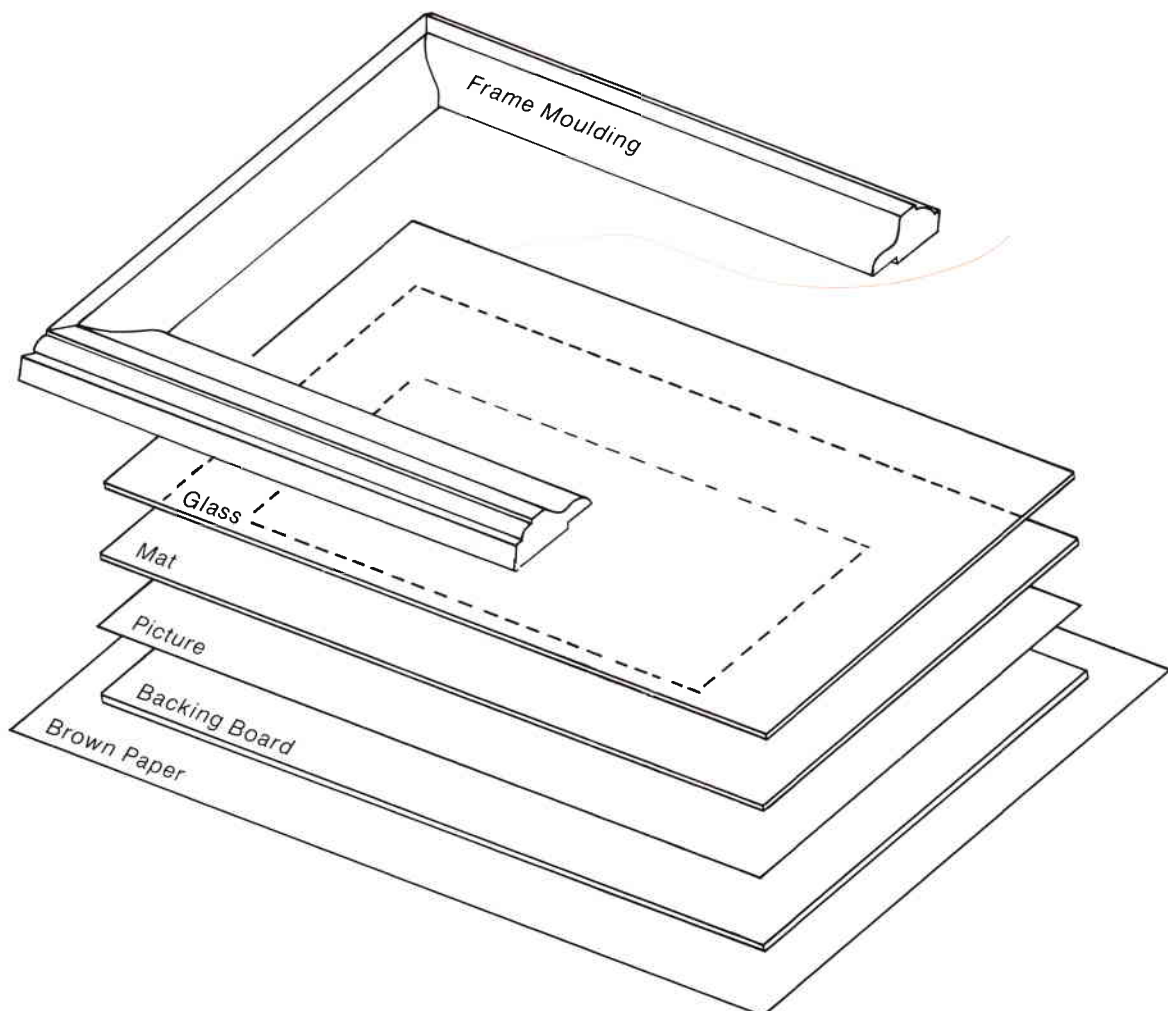


## Simple Picture Framing

Professional picture framing is expensive. The Triton Workcentre enables you to cut the perfect mitres needed for picture framing, and use of the Router and Jigsaw Table makes it possible to shape your own simple mouldings.

This project sheet differs from the others in that no dimensions are provided. Instead, we have provided you with a range of procedural options to guide you in making the picture frame that best meets your needs.



### Tool Requirements

#### 1. ESSENTIAL

1. Making your picture frame from purchased moulding: Triton Workcentre and your power saw, fitted with a 40 or 60 tooth blade (essential for clean mitre cuts), mitre square or combination square, hammer, nail punch, sandpaper.
2. Shaping your own mouldings: Triton Accessory Router and Jigsaw Table, your router, and a selection of decorative router cutters.
3. A jig for working on end grain is needed if you intend to strengthen the mitres by use of a spline (See the Jig Guide for details of the jig). A small handsaw will also be necessary to trim the splines.

**2. USEFUL:** Mitre corner clamps to aid assembly, an extension fence mounted onto Face A of the double-sided protractor, and a mitred stop block, to ensure accurate cutting to length.

# Construction Details

## Material Shopping List

- 1. WOOD** Any seasoned, straight-grained timber is suitable. To determine the total length of your frame material, the standard equation is: Twice the length plus twice the width of the picture, plus eight times the width of the moulding. Add about 300-500mm for cutting and waste. (**Figure 1.**)
- 2. FASTENING** Wood glue (PVA or similar) and 25mm panel pins usually hold a picture frame together. The mitred corners can be strengthened by the addition of splines, (as shown in Step 9 & 10).
- 3. OTHER** All prints or paintings on paper, (as opposed to canvas) should be protected by use of a mat board and glass. A suitable backing board is also needed. ("Mount Board" is generally available from art supply shops). Brown paper and masking tape protect the back of the picture from dust entry.

## General Points

1. This project sheet deals only with the making of a timber picture frame; most libraries have books on mat and glass cutting, but you may prefer to have this done professionally.
2. When shaping mouldings, experiment on scrap pieces of wood to determine attractive combinations of decorative cuts.

### Shaping The Moulding

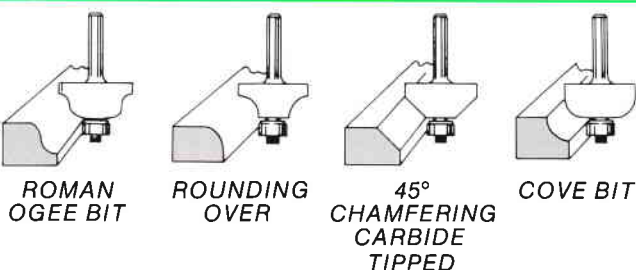
Mouldings can be cut easily and quickly using the Router and Jigsaw table in the Shaper Table mode.

**Figure 2** displays four examples from the range of decorative cutters available from our Customer Service Department.

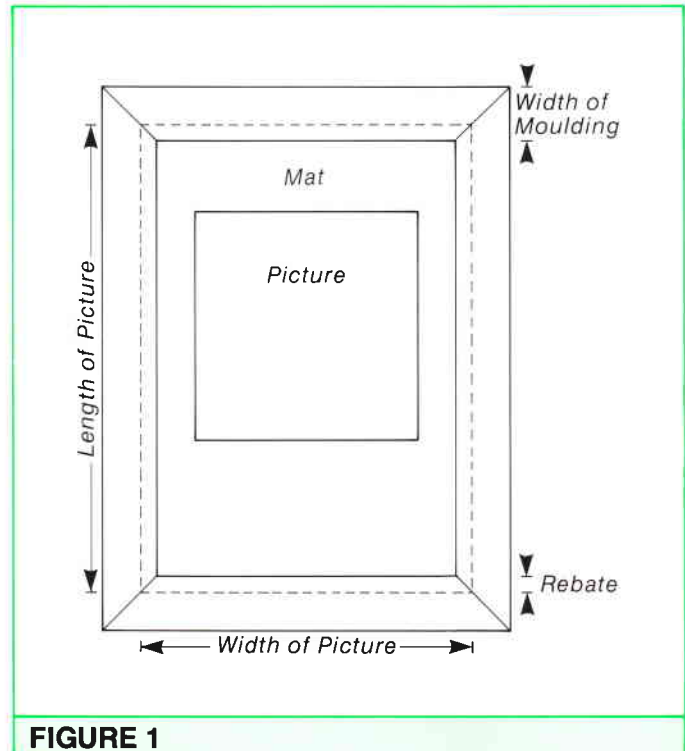
Also, in some cases, it is possible to turn your wood onto its edge or face down to achieve different effects.

Quite complex frame moulding can be created. The frame illustrated on the title page was made using a large core box bit for the coving cut, a Roman Ogee bit and a Rounding-over bit.

**(Figure 3)** Take care to ensure that the workpiece has adequate support when cutting complex mouldings.



**FIGURE 2**



**FIGURE 1**

- 2** Shaping should always be done with your fences in line. Do not attempt to cut the complete profile in one pass, but rather make two or three shallow passes, with the cutter initially well back between the fences. As each cut is made, reset the fences until the cutter is completely proud for the final pass.

The use of a cutter with a ball bearing or high speed steel pilot - in combination with the router table fences - further ensures safe and accurate cutting.

## Safety Notes

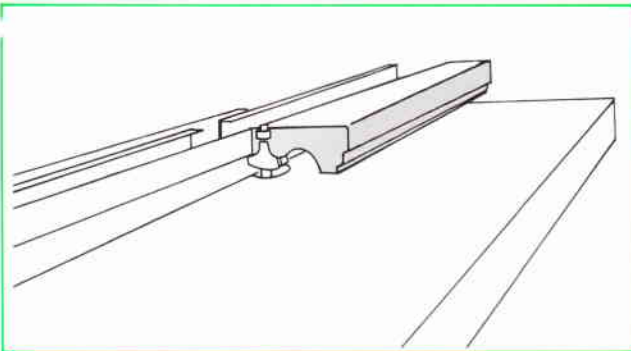
Two most important safety points in shaper table operation are:

- You must always feed **against** the direction of rotation, never with it.
- Never trail your fingers behind the workpiece in the vicinity of the cutter.

### 3 Rebating the Moulding

A rebate is needed in the back of the moulding deep enough to house the glass, mat, picture and backing board assembly, plus a little extra to drive fixing brads into. The rebate width should be about 8-10mm.

This rebate can be cut in two ways. The first is to use a straight cut router bit, the fences in line. Progressively widen the rebate by moving the fences back after each cut. The cutter can be set at full height, as long as only about half the diameter of the cutter is actually in the timber.



**FIGURE 3**

**4** Alternatively, cut the rebate using your saw with the Workcentre set up in the table saw mode.

The first cuts should always be made on edge. If you have a severely rounded over edge on your moulding which prevents proper support of the workpiece, it would be better to do this rebating using the router, as per Step 3.

A safe method of using the saw to cut a rebate in these circumstances is the use of a plywood or hardboard “mask” and a high rip fence extension, as discussed in the Operating Manual under “Edge Work on Thin Material”.

Also, refer to either the Operating Manual or the “Bread Board” project for safe operating procedures when edge rebating.

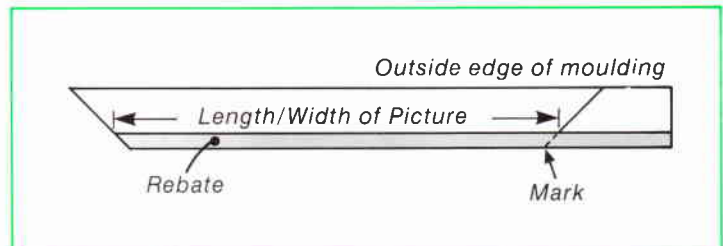
At the completion of the rebating, crosscut the frames to approximate length. Cut each frame piece about 100mm oversize.

## **5 Mitre Cutting The Moulding**

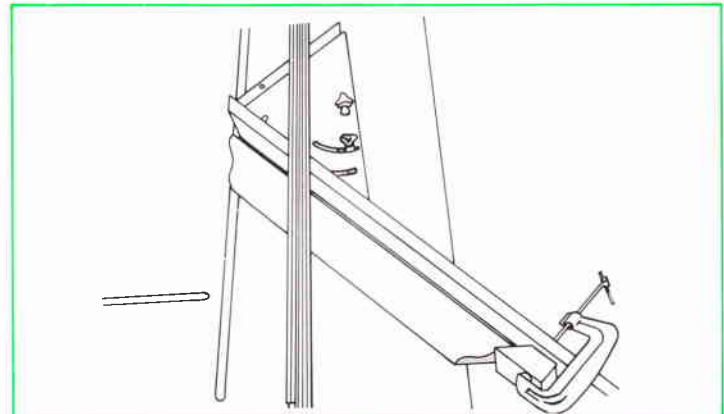
Dependent upon the length and/or thickness of your moulding, the mitre cuts can be performed either in the table saw mode, or the crosscut mode. Heavy or long mouldings are better cut in the crosscut mode, where the material can be held firmly, and the protractor clamped to the worktable if necessary. The basic procedures are the same in either case.

The double sided protractor, with its A and B faces, makes possible mitre cuts that always add up to exactly 90 degrees. (This protractor was introduced with the MK.3 New Series; owners of earlier model MK.3 or later model MK.2 Triton Workcentres can purchase this as an accessory item from our Customer Service Department). Face A is defined as the face closest to the calibrated scale.

**6** Even though the double-sided protractor ensures that mitres will add to 90 degrees, make sure that the protractor is set as close to 45 degrees as possible. If the mitres are cut at, say 46 degrees and 44 degrees, there will be some overlap on the corners.



**FIGURE 4**



**FIGURE 5**

Test on scrap and adjust if necessary. When correct, cut one end of all your frame pieces against Face B of the protractor, holding the outside (non-rebated) edge of the moulding firmly against the protractor to prevent creep.

**7** Measure and mark for your completed picture size, noting that the size is measured from the inside corner of the rebate (as per **Figure 4**). You can use the mat itself to mark this point, by placing it inside the rebate. Use a mitre square to extend your marked point to the edge of the framing and mark the edge where it will be visible during cutting.

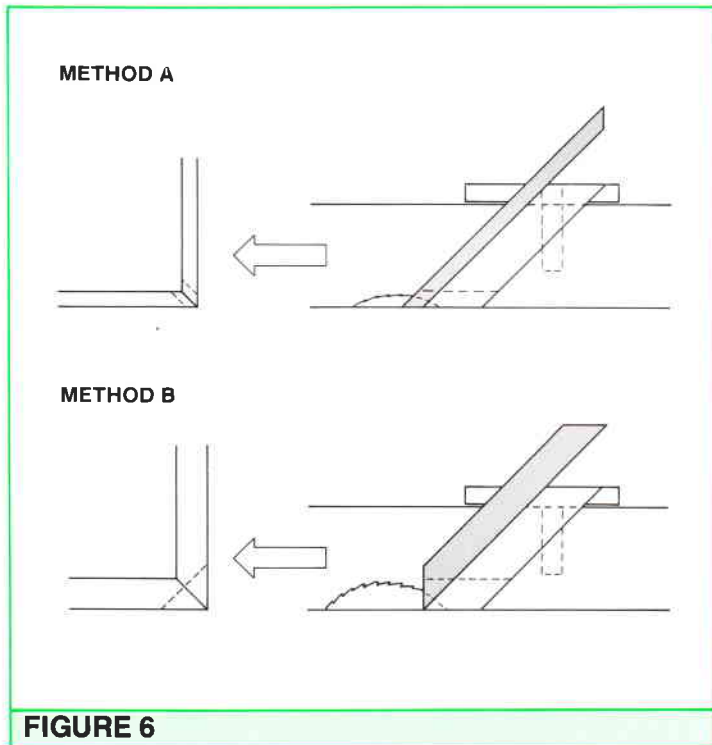
**8** Now attach a straight batten to Face A of the protractor, to serve as an extension fence. Place one of the longer frame pieces against this extension, line up your mark with the saw cut line, and make the cut. As it may be difficult to see the mark clearly, play it safe and creep up to the mark with shaving cuts. Check the picture size against your frame.

When you are satisfied that your frame size is correct, set the stop block by holding the frame side that you have just cut against the extension with the mitred cut just touching the blade (with the power off!). The stop should be placed at the other end, as shown in **Figure 5**. Remove the first workpiece and place the other longer side against the stop block and cut to length.

The above procedures are repeated for the shorter frame sides.



# Construction Details



## 9 Spline For Strength

A simple mitred joint is not particularly strong, relying on limited surface gluing and nails inserted into end grain. The joint can be substantially strengthened by the insertion of a small spline. You will need both a 45 degree end-grain jig and a high fence extension mounted on your rip fence, as shown in the Jig Guide.

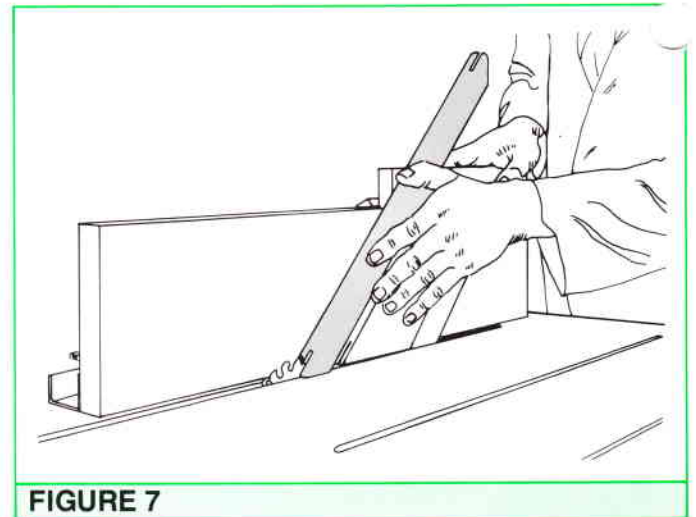
You will also need a small amount of material, the thickness of your saw blade kerf, for the spline. You can use thin plywood (3mm thick for tungsten-carbide tipped saw blades), or you can make your own.

If you make your own spline material, make sure you prevent the narrow off-cut from jamming in the blade slot. Switch off the power just before finishing the cut, wait till the blade stops, withdraw the workpiece and break off your spline material.

**10** It is important that the splines are positioned in the centre of the moulding. To achieve this, the saw blade must cut exactly in the centre of your workpieces. Measure the thickness of your material, halve it, allow for half the thickness of your saw kerf, and set your rip fence to suit.

Test on scrap pieces of your moulding to check for accuracy, running your material on edge over a lowered saw blade, making cuts into each edge, and re-setting the rip fence, until the saw kerfs line up exactly.

(This takes some time and careful adjustment of the fence. Any error in the fence setting is effectively doubled when making cuts with alternate faces against the fence).



**11** The spline cuts can be made in two ways. **Figure 6** shows the options. Use method A for small, light mouldings; method B for large. Note that with method A, it is possible that the spline will be visible on the inside edge of the frame. Also, in either case, if the rebate is deep relative to the thickness of the moulding, you may also need to trim the spline to clear the rebate.

In both cases, the spline cuts are made first on one mitred end of each frame piece with the **moulding** face running against the fence extension. Then cut the other ends of your frames with the **rebated** face against the fence. (This is why it is crucial that your saw cut is central to your workpieces). **Figure 7** demonstrates the procedure.

You will cut into the angled leg of your jig when making these cuts. It is advisable to “pre-cut” this jig slot, which helps to make a smooth pass over the saw when actually cutting the workpieces. Feed the jig and the workpieces slowly over the saw blade, don’t pull the jig or workpiece back over the spinning blade, and keep your fingers well clear.

## 12 Assembly

Do a trial assembly of the frame on a flat surface, rebate up, and check that the glass and backing fit correctly.

When satisfied with the fit, glue and clamp with mitre clamps. If using the splines, glue in position and carefully trim back when the adhesive has set, using a small handsaw. Two brads at each corner help to secure the frame.

Apply a finish of your choice to your picture frame, and then complete the assembly. Fit the glass (make sure the inside surface is clean), the mat, the picture (taped into position onto the mat to stop it shifting around), and the backing board.

Fix in place with a few small brads into the sides of the frame. Apply brown paper and tape to the back of the picture to keep out the dust.