

## APPLICATION DETAILS

The panelled door set of cutters (T4140) enables fast and simple production of panelled doors with a traditional cove and bead profile. The cutters produce frames with 4mm grooves, enabling them to be panelled with plywood, solid timber, boards etc. The cutter pairs are available in 1/2" shank sizes only and should be used in routing machines of at least 740 watts power rating. This system of construction will produce strong doors for such applications as furniture, wardrobes, kitchen units etc. When very large doors are constructed, extra strength may be given to the joints by dowelling after assembly and plugging the dowel hole afterwards, if required. In order to produce accurate doors without any wind (twist) etc. it is important to prepare the timber carefully, and to carry out all operations in a logical sequence, paying attention to the size/squareness etc. of the timber.

The following notes may be helpful when first using these cutters.

## PREPARATION OF TIMBER

When preparing the timber, the following points are important.

The cutters are intended for doors of 28mm nominal thickness. However, this may be varied between 29mm and 20mm, although in the latter case only a bead will be produced (i.e. no cove). Prepare all the stock to the required sizes in one batch. Ensure there is no twist in the timber. It is preferable to cut the stiles about 25mm longer than the finished door size. This prevents any runoff at the beginning and end of the profile cut affecting the accuracy of the joint (fig. 1). This excess may be cut off before or after the door is assembled. The rails will need to be cut 28mm longer than the required inside width of the door. This will allow for the scribed joint at each end.

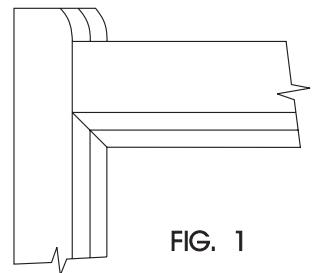
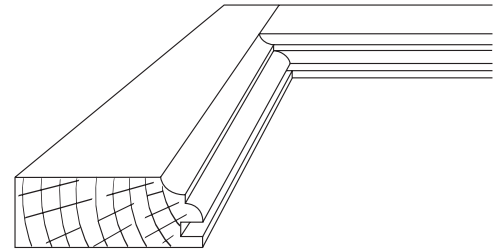


FIG. 1

## USE OF CUTTERS

The cutters may be used freehand with a simple jig for scribing the ends. However, they will be easier to set up and use with a router table. Notes for use, either freehand or with a table, are detailed below.

## USE WITH A ROUTER TABLE

The table should have a fence onto which a wooden false fence can be fitted. This should have the minimum aperture for the cutter machined into it. The front face of the false fence should be set flush with the guide bearing.

A sliding mitre gauge is required, which again should be fitted with a false timber face and it is preferable to be able to clamp the timber being machined against this. (This prevents the workpiece being pushed away when the end is being scribed). The false face on the sliding mitre gauge should extend up to the fence. (This will help prevent breakout when scribing the ends the first cut will scribe the profile into the timber face).

### *Machining sequence:*

The ends of the rails should be scribed as the first operation. The scribe cutter (fig. 2) should be fitted in the router (insert the shank fully).

Align the front face of the false fence with the guide bearing.

Adjust the height of the cutter such that the back face of the rail to be scribed is just below the top face of the cutter.

The ends of the rails may now be scribed. Place the timber face down on the table, clamp to the mitre gauge and use the fence as a positioning guide

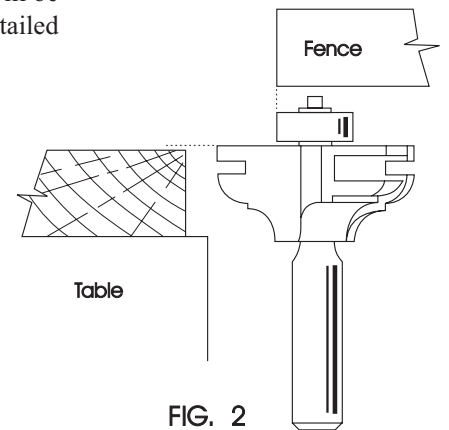


FIG. 2

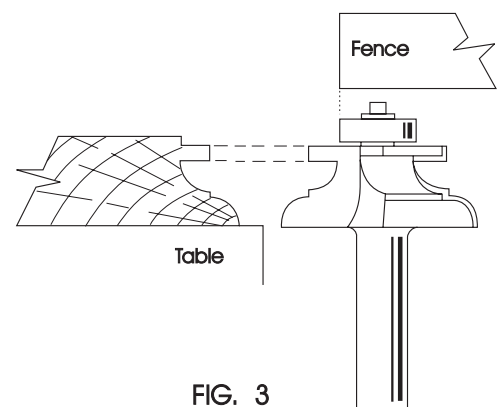


FIG. 3

## Application details - continued

**IMPORTANT:** make a test first to check that the cut is square across the rail and if not, adjust the mitre gauge.

When all the rails have been scribed on both ends, the profile may be cut. Fit the profile cutter (fig. 3) into the router. Again using a false wooden fence, align the face with the guide bearing.

Using the ends already scribed, align the tongue of the profile cutter with the tongue scribed on the ends of the rails. The rails and stiles may now have the profile machined. Remember to place the timber face down on the table and be careful to avoid kicking at the ends of the cut, especially on the stiles, as any damage here cannot be cut off afterwards.

Check one door assembly before machining all the sets.

It is important to clamp the frames firmly when gluing up and if sash clamps or similar are not available, a gluing jig with wedges may be easily constructed.

## USING THE CUTTERS FREEHAND

When using the cutters freehand many of the above points apply, however in order to scribe the ends of the rails successfully a simple jig is required to hold the workpiece and guide the cutter. A sketch (fig. 4) shows a suitable jig, details of which follow.

Construct the scribing jig on a flat baseboard of ply or similar, long enough to hold the rail. Fit a hardwood strip for the bearing to run on and fit sidepieces thicker than the rail to be scribed. These must be fitted square to the hardwood guide. It is most important that this angle is accurate, as it will affect the squareness of the finished doors. Fit a ply or similar top, strong enough for the router to run on without bending. The support on the righthand side of the jig (x) should be flush with the hardwood guide. This will provide a support to the rail when it is being machined. The rail should be clamped against the right hand side support when being machined.

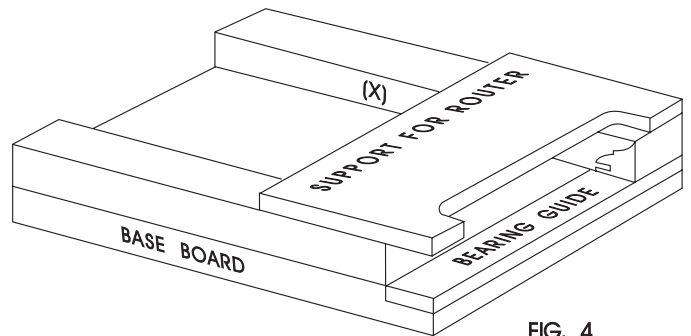


FIG. 4

The profile cutter may be used freehand in the router, setting the height against the ends which have already been scribed. When using the cutter in this way, great care has to be taken at the beginning and end of the cut, so as not to run off from the true line.

It is possible to construct a simple table to hold the router for the profile operation and, if a simple mitre fence is purchased or made, the scribe cut can also be made on this table.

Construction notes below refer to fig. 5.

A flat piece of plywood or melaminefaced chipboard, which should be about 15"–18" square, is required for the top. Fit a timber frame around on the underside to provide strength. Make four mounting clamps to suit the router base from a close grained hardwood, and use countersunk head machine screws and nuts to clamp them. A straight length of timber may be clamped on as a fence, or a more elaborate version with slotted holes and wing nuts for adjustment may be made. If required, machine a slot across the table to suit a mitre fence. A simple mitre fence may be made from timber or a metal unit may be purchased from Picador for a few pounds. Remember to allow some adjustment on the mitre fence, so that the cut may be adjusted to ensure it is square.

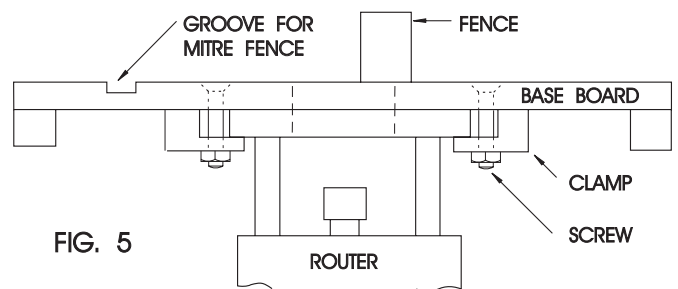


FIG. 5

**Shaped rails.** Where it is desired to produce a rail with a decorative shape, the following procedure can be used.

Prepare the timber and scribe the ends of the rails. Prepare a template of the shape required and use this to make the rails. Cut out the shape with a bandsaw or similar, leaving about 2 – 3mm to be cleaned up. Clamp the template to the stile and using a panel trimming cutter, machine the finished shape. The rail may now have the profile machined in the normal manner, following the shape with the guide bearing.

It is hoped that the above covers most points with regard to using these cutters. However, should you have any queries, please telephone us.