Router Test

In the Doll's house

John Heywood tests a set of cutters for those eager to produce authentic 1:12 scale mouldings and components

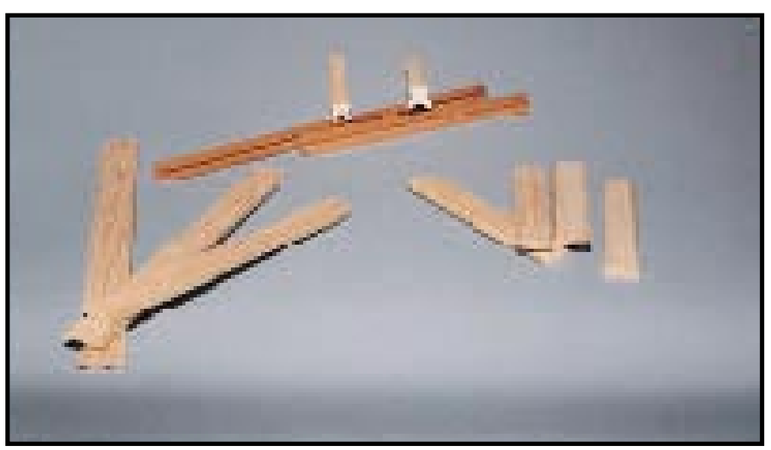
TREND'S 12-piece cutter set is ingeniously and accurately manufactured. Housed in a handsome wooden case and supplied with either 8mm or ¼in shanks, a router table inversion table is essential. However experienced you may be with a router, these cutters should not be used in a hand-held router due to the small dimensions of size of timber required to produce the mouldings.

The selection of cutters includes three straight cutters which have solid carbide inserts, while the nine profile cutters are all tungsten carbide tipped (TCT). The three straight cutters, produce grooves or rebates of 1.6mm (1/16in), 2mm (5/64in) and 3.2mm (⅛in) wide and being so narrow, the depth of cut is limited to 5mm (13/64in) for the first two and 8mm (5/16in) for the largest. If larger cuts are taken, they would readily snap.

The important feature of these cutters is that they can produce an innumerable number of profiles that cover architraves, skirtings, dados, picture rails and frames, beads, cornices, stair nosings, hand rails, chair rails, door and fire surrounds, and covings. These profiles are equally invaluable in making 1:12 scale furniture such as shelves, table tops, cabinets and furniture components. More complex designs can be created by combining cuts using more than one profile.

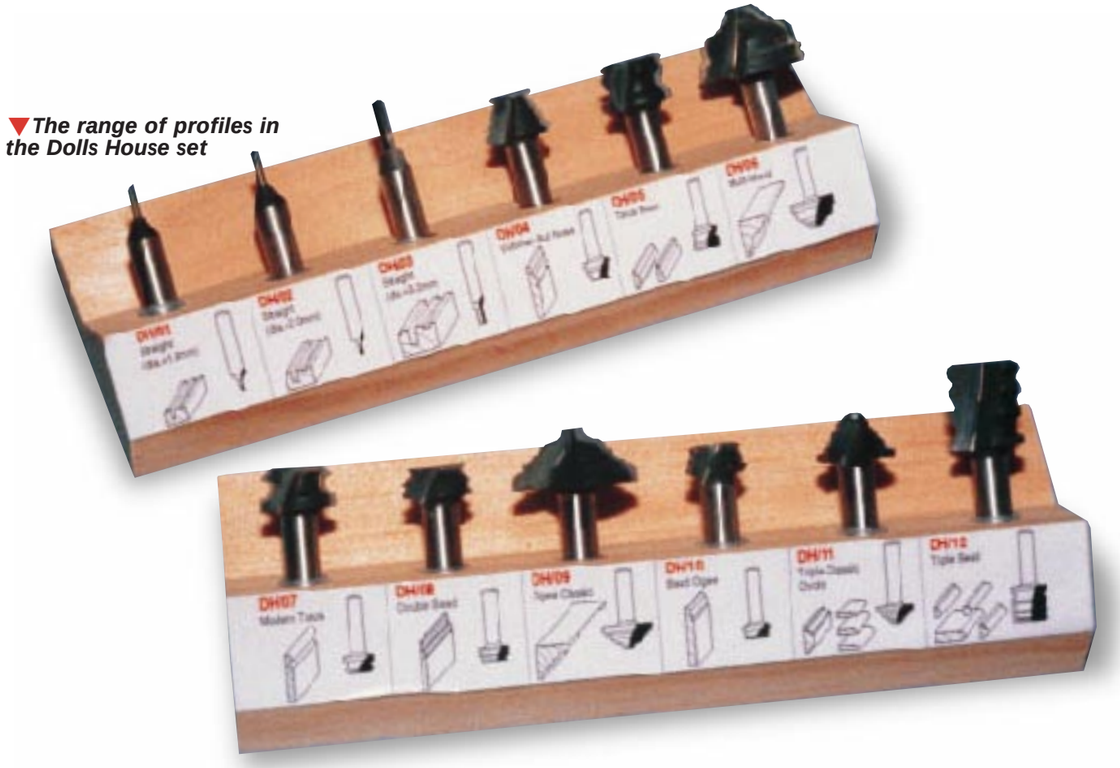
▲ *The Trend set of Dolls House cutters come in a handsome wooden case*

▼ *Examples of cornice mouldings on different timbers – clockwise from bottom, pine, yew, elm, MDF, sycamore, holly and ash*



▼ *Oak skirting, stair nosings and mahogany hand rail*

▼ *The range of profiles in the Dolls House set*



The shape produced simply depends upon the cutter's height above the router table. Therefore, an individual cutter such as the multi-mould can produce beads, dart cornices, covings, cornices, ovolo moulds for furniture, skirtings, architraves and picture frames. In order to rout a picture frame a straight cutter is used afterwards to form the rebate.

By choosing a specific section of each cutter, even variations in profile sizes can be obtained. Using the triple bead cutter for example, beads and nosings can be machined in three sizes – 0.75mm,1.0mm and 1.5mm (1/32, 3/64 and 1/16in)

Although Trend markets its own router table, the company also describes, in its booklet, how to make a simple version using MDF. This won't take up a lot of space: overall it measures 500 by 300mm (20 by 12in).

An adjustable fence is also required. It is vital that it can be adjusted precisely for hair's breadth tolerances, as less than a millimetre is often required to produce perfectly matched mouldings.

Ideally the router being used should have a fine height adjuster. Some of the larger routers incorporate this feature. Alternatively, it can be purchased as an accessory for the model concerned.

Routing profiled mouldings in quantity produces a lot of swarf and dust. A domestic cleaner will help, coupled to an extraction vent on your fence. A dust mask as an added protection would also be wise.

Choice of timber

Close grained hardwoods are the most successful, though during the testing procedure, a selection of native timbers was used such as pine, sycamore, ash, elm, holly and yew. Commercial mouldings are often made from ramin, but apart from dowels, this timber does not feature in my workshop.

Although beech planes well, it is not so successful for these tiny mouldings. Those making authentic miniature furniture are likely to be using mahogany, walnut and oak, or more exotic species such as rosewood. Pine also produces nice clean mouldings. Elm and ash are rather coarse grained, but again they perform well.

Practical techniques

Timber can be planed to the precise thickness and section before passing over the router cutter, but this is an unsatisfactory method in machining a very small and fragile piece of wood. Even when a hold-down or pressure guard is used to maintain a downward and sideways pressure on the timber, the natural reaction is for the piece to move upwards and outwards from the revolving cutter.

Alternatively, the small section can be attached to a larger piece of timber using double-sided tape or hot melt adhesive. The host timber requires an edge planed true. Hot melt is not a permanent adhesive and is just as easy as tape to remove afterwards.

▶ ***If small pieces need machining use a board with a rebate the same size as the moulding as a hold-down. A thin push stick will save fingers***

▲ *A router table is essential for machining small mouldings like this cornice*

▲ *If possible, rout the mouldings on a larger piece of wood then saw them off*

▲ *The Trend information booklet is available free*

Whether larger mouldings or 1:12 miniatures are being machined, I favour planing up wider boards to the correct thickness, then passing the trued planed edge over the cutter. The moulded edge is then cut to width on either a sawbench or bandsaw with fine blades. The sawn edge on the wide board is again planed true and the process repeated. This method is continued until enough lengths of moulding are machined or the board becomes too narrow for safe handling.

As the completed miniature moulding will still have one sawn edge, it is not practical to plane, so sand carefully and lightly on a disc or band sander table.

With hand rails and picture frames where a groove and rebate are required, the moulded section has to be passed through a straight cutter. Use the hold-downs, but ensure that a couple of push sticks are at the ready.

Price

The complete set of 12 cutters costs £170. Individual cutters vary from £16 to £32 – the latter for the most complex multi-mould. The modern torus is priced at £28 and the straight cutters at £16. All prices include VAT. If you feel that a complete set would rather break the bank, you could just buy the three cutters as priced, as these would meet most needs. Additional cutters could then be purchased later.

Availability

From Trend stockists around the UK or at shows. Telephone 0800-487363 for your nearest stockist. For technical advice tel: 01923-224681, fax: 01923-228657. Or write to Trend Machinery & Cutting Tools, Penfold Works, Imperial Way, Watford, Herts WD2 4YF.

▲ *Carefully sand any sawn edges*

Test results

The cutters behaved impeccably on all the timbers tested including MDF and pine. All cutters were tried in turn commencing with the multi-mould followed by the modern torus. I felt that the former cutter would produce most of the profiles likely to be needed.

Setting up to produce the favoured profile does require a little time. Do this initially by eye, then make a series of trial passes until the selected portion of the particular cutter provides the moulding sought. The positioning of the fence is equally as crucial as the cutter height above the table.

Care is needed in machining furniture components, so attention will be needed at the fence opening behind the cutter and a sliding jig, incorporating some means of clamping, may be necessary to ensure accuracy and safety: attach individual small components to a larger section of timber. ●

▼ *When moulding around small components hold them securely with a sliding jig*