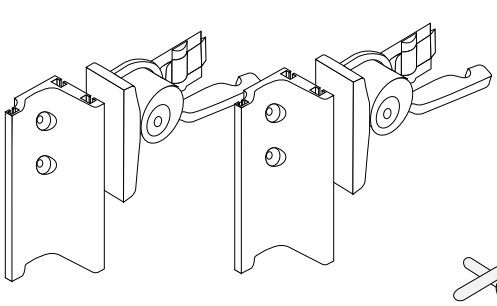
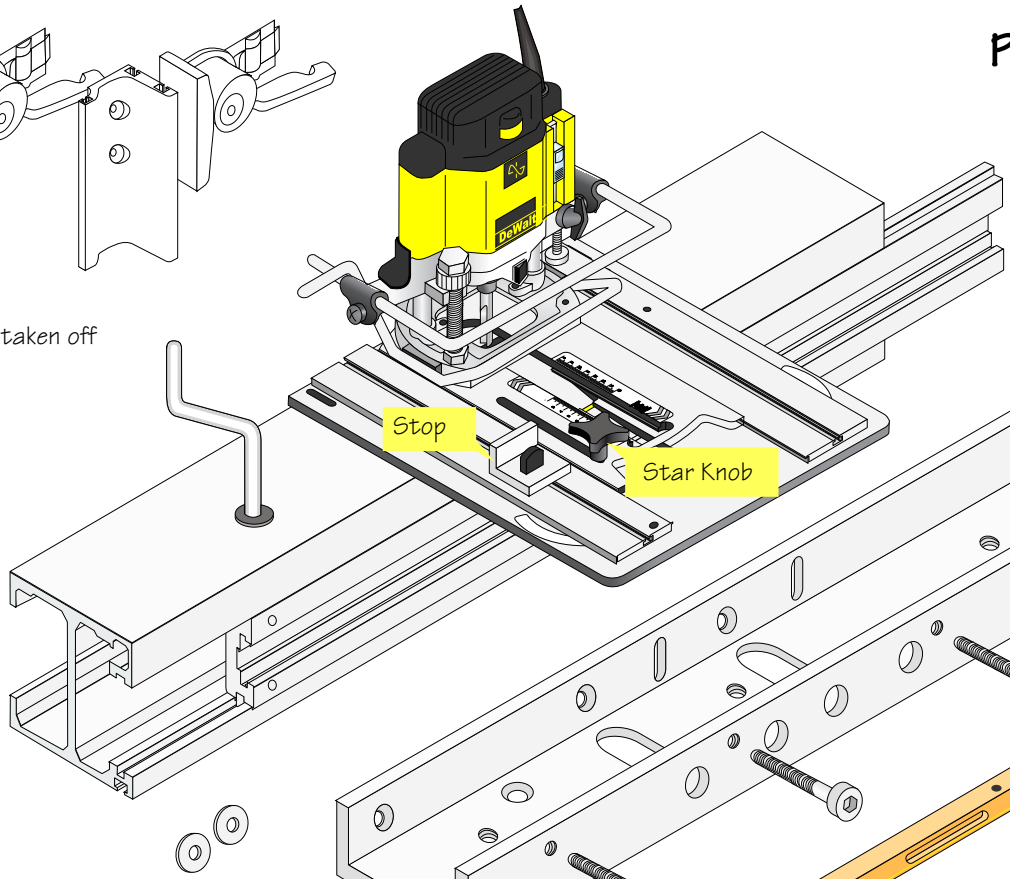
Parts List



Cam Locks taken off and stored

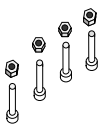


MR4 Mortise Rail

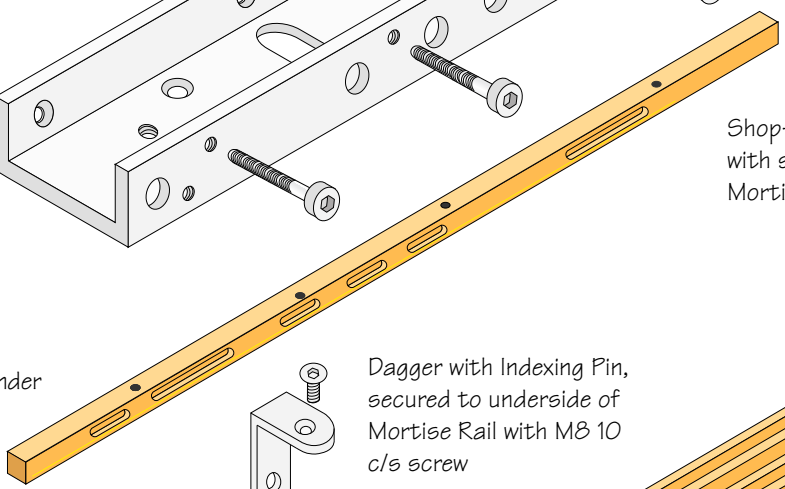
4 Thumbscrews

Shop-made Batten with slots made in the Mortise Rail

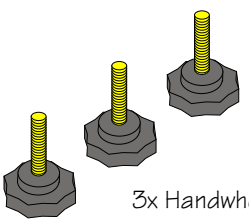
Plated washers to be stuck behind the fixing screw-holes to act as spacers



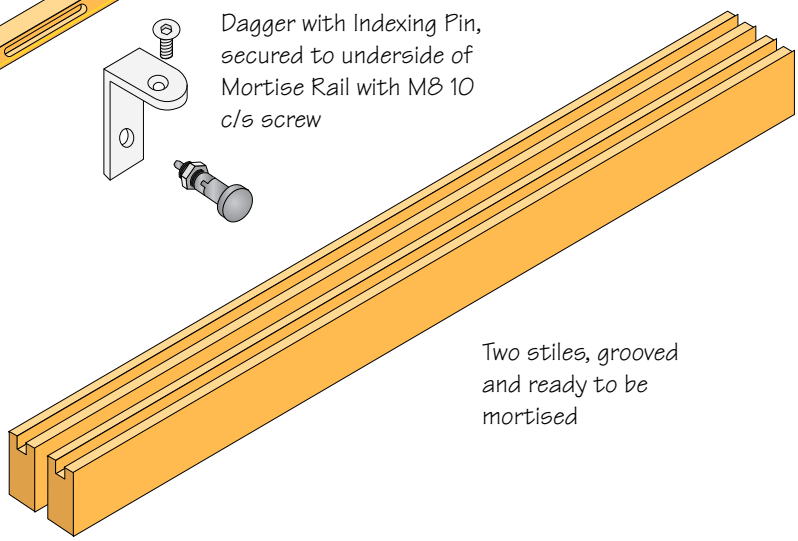
Screws for securing batten to tee-slot under the channel



Dagger with Indexing Pin, secured to underside of Mortise Rail with M8 10 c/s screw



3x Handwheels



Two stiles, grooved and ready to be mortised

Mortise Rail Instructions*

These instructions apply to both the Mortise Rail for the WR900 and for the WR600 and LittleRat

The Set Up

Remove the Fences and slide out the Cam Locks.

There are two washers in the kit. Peel off the backing and stick these to the double sided tape. Cut round them with a sharp knife.

Use two of the M8 25 countersunk screws (the ones that attached the fences) to screw the Mortise Rail to the Sliding Bar. Before you do so, place the washers so that they will stick to the back of the trough when tightened up, forming a spacer between trough and Bar. The Sliding Bar should now track easily left and right running parallel to the face of the WoodRat.

Screw the dagger beneath the trough with the M8 10 c/s screw provided, and screw in the Indexing Pin as shown, locking it with the back-nut provided. It will project below the Channel.

The Caphead Screws

Place the four caphead screws to tighten up on anything placed in the trough. The screws will mark your work, so you'll need a hardwood packing piece as protection.

A workpiece secured in the trough can be tracked under the router and cut and shaped in a number of ways.

Place one, two, or more workpieces side by side in the trough. There are slots in the underside of the trough, so that, with the work loosely held by the caphead screws, you can push it/them flush up under the Base Plate before tightening the screws.

Making The Cuts

With the router plate locked down, the work can be grooved by tracking it through the bit. You will need to use judgement as to how deep you can set the bit at each pass, but each pass will accurately follow the one before.

The rule of thumb is to depth the bit to half the diameter of the cutter. For example: a quarter of an inch depth for a half inch diameter bit. But it will also depend on the length of the blades; short blades being stiffer than long ones.

Work can be drilled with holes using the end cut of the bit. Note that some TCT bits do not have an end-cutting ability.

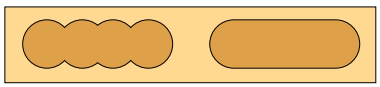
Unless you use a spiral up-cut bit, each hole needs to be cleared frequently so that the chippings do not burn in the hole, but the resulting hole should be very clean cut.

Using the Raising Plate

By placing a Raising Plate (or two) under the Base Plate, you can make more space for mortising wider rails.

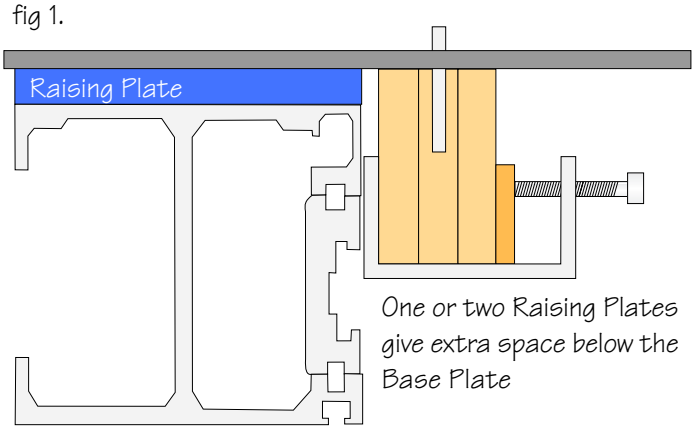
Mortising

This is done using a drilling action, clearing the hole frequently, dropping a second hole overlapping the first, then another close to that one so that you gradually make a series of overlapping holes which can be turned into a slot by an easy East/West tracking movement when you reach full depth. Start from one end and work to the middle, and then from the other end and work back to the middle again. Do not hit the end of the mortise with the partially depthed bit.



With patience you will make a clean faced mortise with the round bit marks hardly showing.

fig 1.



Shaping The Mortise

The shape of the mortise is, of course, determined by the required shape of the tenon. The design of the joint will consider things such as whether it's single or double, its length and whether the bit diameter determines mortise width, and whether the ends of the mortise are to remain round, or to be squared off with a chisel.

Marking Out

is done by measuring the size of the tenon and transferring it to the correct position on the stiles. You will be able to see the lines as you cut, but if in doubt, stop the router, track the work under the blades and then plunge and cut.

Using the batten

If you have a lot of work to do, it could be worth setting up the batten instead of working to marked lines. You make this batten. It is a length of wood drilled to take the screws, and nuts to fit the tee-slot to the underside of the Channel. It can be slid along the Channel, and positioned as needed relative to the position of the work in the trough above.

* Beta Version

With slots cut in the batten, you can drop the 6mm pin of the Indexing Pin into the slots to limit the position and length of travel of the router along the workpiece.

This is done with a 1/4" bit. Secure the batten in the Mortise Rail.

You will need to make a spreader and spacer arrangement to lift the Batten up under the Base Plate. See fig. 2.

Mark the positions carefully with pencil or knife and cut to the lines.

Using Stops

You can of course use any kind of shop-made stop in the tee-slot to catch the indexing pin. This is quicker than the Batten, but not permanent and reusable.

Cutting the Mortises

If you put two stiles in the trough together as one piece, you can cut the first stile, and then bring the router forward to cut the second, just as you would cut a double mortise.

The two mortise positions are found from placing Stops on the Guide Rails. If you make the tenons first, you can get the mortise positions from the tenons.

By placing the slots to determine where the mortises are needed and how long, and by cutting both the stiles with mortises at the same time, your mortises will end up in the finished frame exactly opposite each other, and subsequent frames can be jointed from that slotted Batten and the Guide Rail stops without further marking out – accurate and time saving.

This technique is also used for positioning holes for Dowelling. Holes rather than slots are spaced on the batten to take the Indexing Pin.

Making a Cupboard Door

Note that when making a cupboard door, you can cut the tenons first by the usual method.

When you lay the rails in the trough to cut the groove for the panel, the tenon positions will give the position of the grooves. These positions will determine the grooves for the rails also, and the grooves will determine the position of the mortises.

Mortising larger pieces

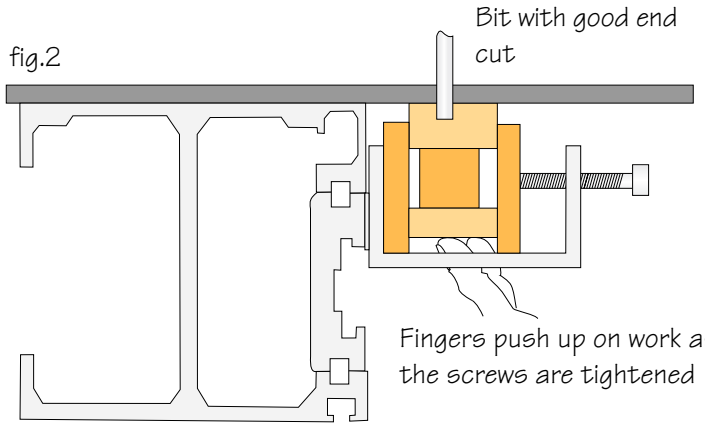
If you place the raising plates under the Base Plate you may increase the effective depth of the trough to take larger pieces.

It's possible to mount the Mortise Rail in the lower set of holes in the Sliding Bar.

This is the very beginning of this tool as an aid to making cupboard doors and louvres and the slatted sides of all kinds of things. It's new and works in a way entirely unlike other mortising tools.

Let us know what you think of it. Email support@woodrat.com with comments and suggestions for how you use it.

fig.2



Spreader & Spacer set up for Mortising small pieces that can be drilled, trenched or mortised.

fig 3

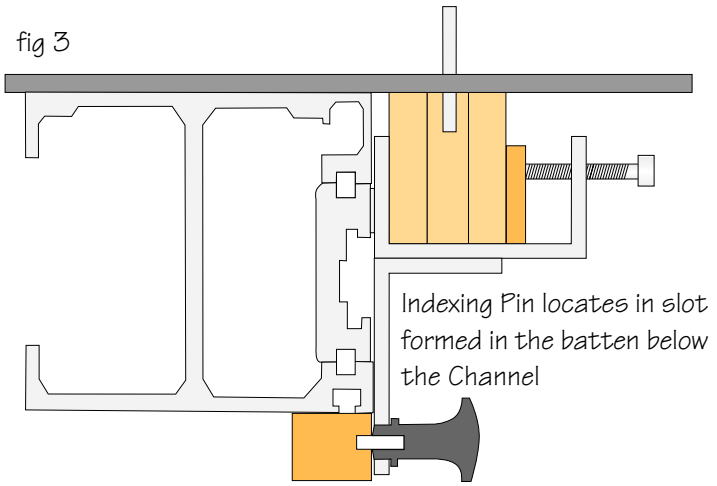


fig 4