

# The WoodRat



## WHAT CAN IT DO?

- Through Dovetails
- Half-blind Dovetails
- Sliding Dovetails
- Finger Joints
- Mortises and Tenons
- Profiling
- Raised Panels
- Dados and Grooves
- Dowels

Genius or just another jig? We have the answer right here.

**S**o that there's no confusion here, I think dovetails are a great joint for strength and beauty. But I'll also do anything I can to avoid making dovetails, or at least do whatever I can to make them easier.

Enter the WoodRat. It was brought to my attention that this multi-use machine was popular in Britain and had been for sale in the United

States for some time, but is slow to gain acceptance. I decided it was time for a closer look.

The siren song of simple dovetails drew me in, but the versatility of this machine sold me. Not only are dovetails less complicated to make, but the WoodRat allows you to adjust their spacing infinitely and even allows for thin pins that look very close to hand cut.

by David Thiel

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On top of that, the machine will also create more than half a dozen other joints without having to buy dozens of accessories.

Is it too good to be true? There are some catches. The WoodRat isn't cheap and it has a pretty steep learning curve. You'll also have to use it regularly to keep the knowledge fresh. The user's manual is 141 pages long, but I recommend watching (and rewatching) the instructional DVD to really understand the tool.

The tool's originator, Martin Godfrey, is also the DVD's host. Unlike many instructional DVD's Godfrey makes this one entertaining and the production values are pretty decent.

### The Jig Itself

In its heart the WoodRat is a joint maker and can also be used as a router table. So it's not really fair

to compare it to a dovetail jig, but that's what most woodworkers will do, and so will we.

Location: Many of us have a special shelf where our dovetail jig lives when not in use. Pull it off the shelf and after 10 or 15 minutes you're ready to start setting up the jig. The WoodRat is designed to be mounted permanently to your wall. It does take up some wall space but it's always ready to use. If you don't have wall space, it can be mounted to a frame and easily attached to your bench when needed.

The manufacturer touts the space-saving benefit of the WoodRat, and initially that doesn't seem to wash. But when you consider the size of a router table and the necessary space for a dovetail jig, the assertion isn't wrong.

When using a standard dovetail jig you're presented most

commonly with templates that determine the spacing and type of dovetail created. Many wood-working purists avoid jigs because of the lack of flexibility in the spacing. The WoodRat uses no templates, so you can space the tails in any arrangement you like. That in itself is a pretty strong argument for the machine.

Add to that the special high-speed steel dovetail bits available for the WoodRat and you gain a very thin tail profile (as thin as 3/16") that's simply not possible with standard dovetail bits. This increases the nearly hand-cut effect of the jig and again earns points for the WoodRat.

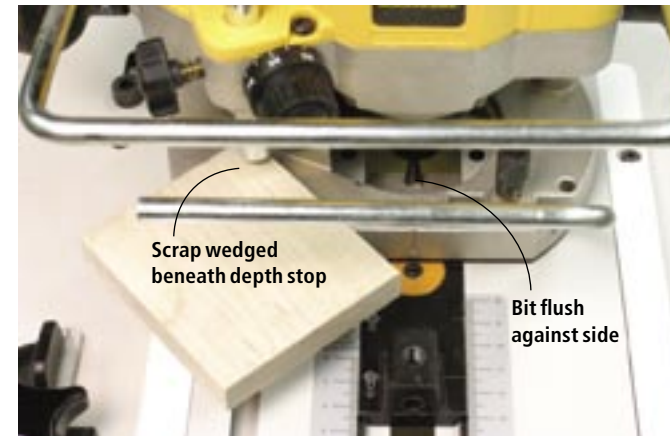
Once understood and set, the WoodRat is very handy at making dovetails, both half-blind and through (though you still have to square out the corners of the half-blinds). Let's take a closer look.

### How it Works

The photo below shows a plunge router mounted to the router plate. Similar to many aftermarket router table inserts, the router plate is drilled to match the mounting holes on your router.

The router plate is attached to the base plate by the two guide rails. The guide rails capture the router plate in milled rabbets and are used for straight cuts, including cutting tails for dovetails and finger joints.

With the guide rails removed, the spirals and center plate come into play for cutting the dovetail pins. The center plate serves as a carefully located pivot point (determined by the type of dovetail bit used). The spirals are eccentric stops that limit the left and right pivot of the router plate, again adjusted to match individual dovetail bits.



To set up the WoodRat for dovetails, the bit is set flush to the actual board. The bit depth is then set using a scrap the same thickness as the drawer front. The router's depth stop is used to set the depth. It's simple and logical.

With the router in place, the material to be shaped is mounted in a vertical cam-clamp at the front of the machine. There are actually two of these clamps—one positioned under the router and the other positioned off to the left to serve as your guide.

The photo (above right) shows a test piece with the dovetail through-cut. This piece is locked in the left clamp and the shape is transferred to the aluminum face of the machine.

You'll notice a crank in the main photo (page 57). This is the handle that moves the entire face of the machine left-to-right, repositioning the wood. After laying out your dovetail spacing on a sample board, it's placed in the left clamp and the pencil marks are used as guides to orient the face (and the workpiece and the sample board) and make your cuts.

By using the sample board "template" any variation of spacing is possible. The sliding face is

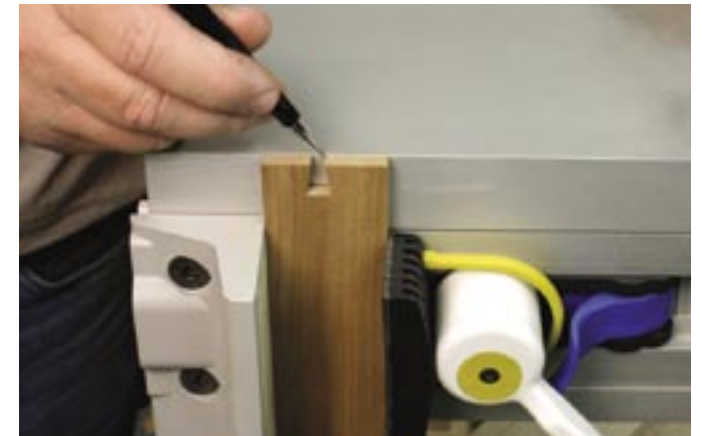
guided by a wire pulley system that has no backlash, and the channel is tight enough that it's unnecessary to lock the sliding face in position during the cuts—no movement and no problems.

With the tails completed, you change to a straight bit, remove the guide rails, set the spirals and then mount your finished tail board in the left clamp. The actual finished board is your template to cut the pins on the pin board, so the match is exact.

Now, there is some fine-tuning required to get the height and fit perfect, but once it's set running all the pins is a breeze.

These same basic steps are used to create all the different joints. One other aspect that I like when creating any of the joints is the ability to see the piece that is being shaped, as it's being shaped. In a router table the cut is usually buried from view.

There are many more things that need to be said about the capabilities of the WoodRat—too many to enumerate here. If you'd like to get familiar with the tool before buying, a demonstration DVD is available for \$3 that will acquaint you with the 'Rat's capabilities, as well as entertain. It's money well spent.



With the bit positioned, a test board is cut and then moved to the left clamping position. The shape of the detail is then transferred to the machine face.

As I mentioned earlier, the WoodRat's not cheap. The WR5 model shown here runs \$645. That's before the router and the clever plunge bar (\$40, and I recommend one). Add bits to that (a four-piece high-speed steel dovetail set is \$79), and you're looking at just shy of \$800. Ouch.

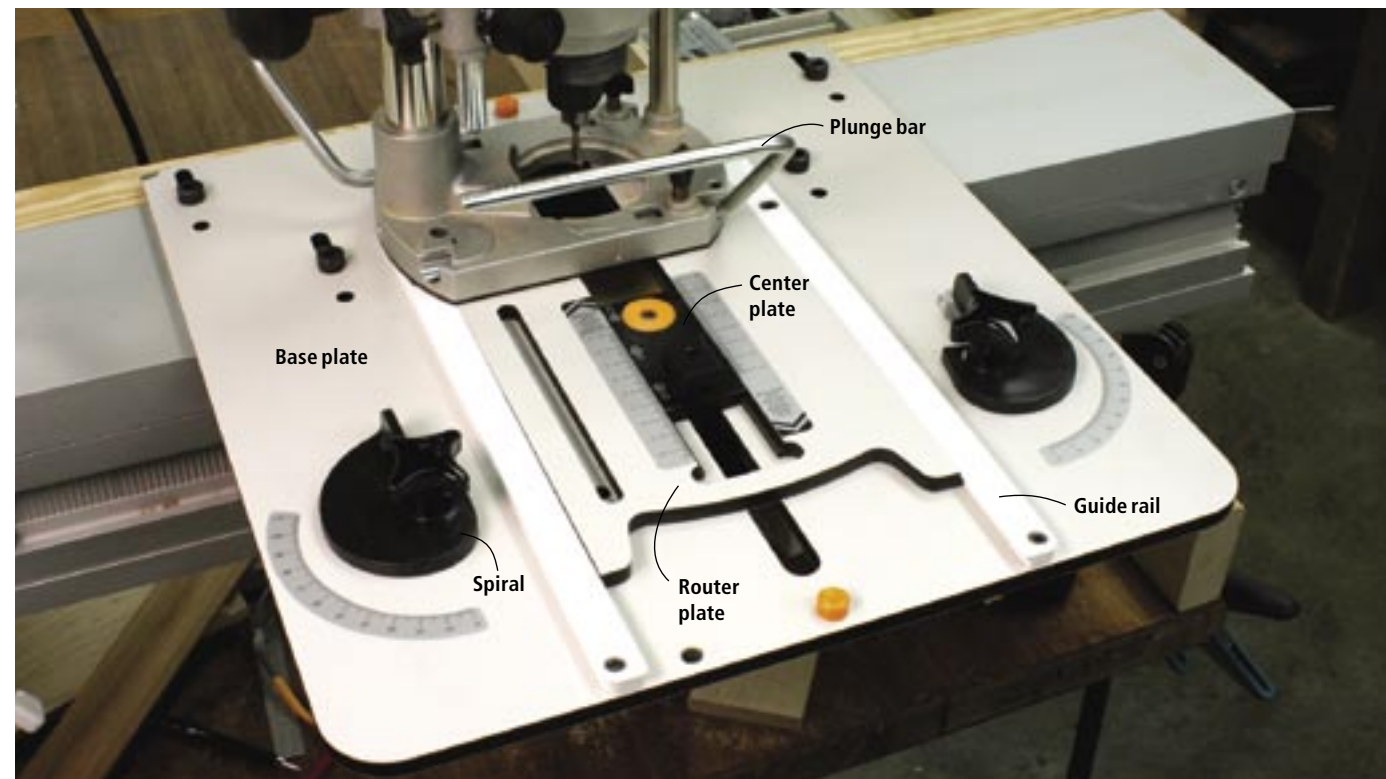
### Bottom Line

If you're willing to invest the time to become comfortable with this machine, it'll be your best friend

and the money spent will be returned in spades.

Case in point: One of our contributing editors, Troy Sexton, has been using a WoodRat for years. As a professional woodworker he has the 'Rat set up to just cut dovetails and never uses it for other applications. And he's very happy with his investment.

Get the demonstration DVD and decide for yourself if the WoodRat is the right tool for your woodworking needs. **PW**

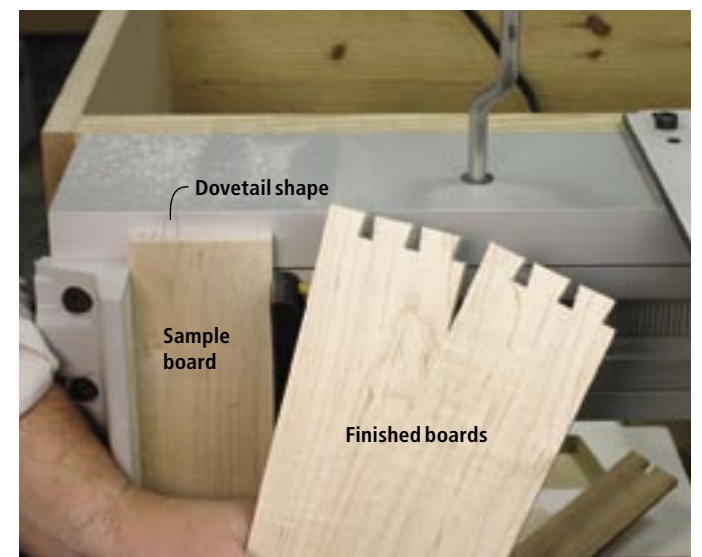


The router plate is guided by the guide rails across the base plate, giving one axis of movement for the router. The plunge mechanism of the router itself (assisted by the plunge bar) provides a second movement axis. With the guide

rails removed, the router plate pivots on the center plate making angled cuts. The left and right swing is limited by the spirals set to the appropriate angle.

### SOURCE

The Craftsman Gallery  
866-966-3728 or  
thecraftsmangallery.com



A sample board with the required dovetail spacing is mounted in the left clamp and used as a reference against the dovetail shape to position the sliding bar and make the cuts for the finished boards.