

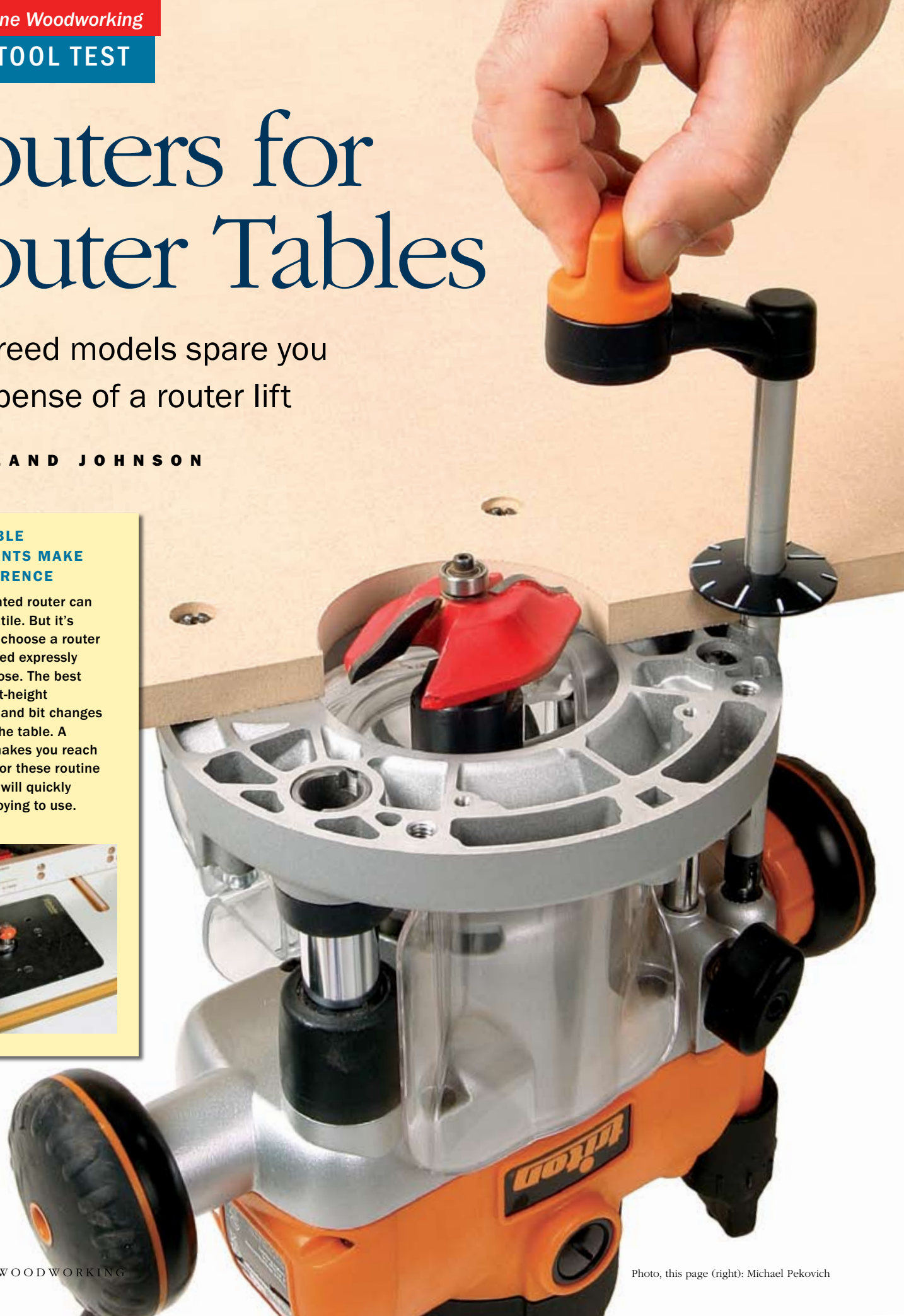
Routers for Router Tables

New-breed models spare you the expense of a router lift

BY ROLAND JOHNSON

ABOVE-TABLE ADJUSTMENTS MAKE THE DIFFERENCE

A table-mounted router can be very versatile. But it's important to choose a router that's designed expressly for that purpose. The best allow both bit-height adjustments and bit changes from above the table. A router that makes you reach underneath for these routine adjustments will quickly become annoying to use.



Routers are among the most versatile tools in the shop—the go-to gear when you want molded edges on lumber, dados in sheet stock, mortises for loose tenons, or multiple curved pieces that match a template.

Routers are no longer just handheld tools. More and more woodworkers keep one mounted in a table. That gives more precise control over a variety of work, using bits that otherwise would be too big to use safely. A table allows the use of featherboards, hold-downs, a miter gauge, and other aids that won't work with a handheld router. With a table-mounted router, you can create moldings on large or small stock, make raised panels using large bits, cut sliding dovetails, and much more.

Until recently, the best way to marry router and table was with a router lift, an expensive device that holds the router and allows you to change bits and adjust cutting height from above the table.

Now, a new generation of routers with a specialized base threatens to make the router lift obsolete. They promise the same convenient above-the-table bit adjustment without the expense of a separate lift.

After testing seven of these new routers, looking mainly at how handy they are to use, I found that at least one delivers fully on the promise of convenience.

The tools I tested range in price from about \$175 to \$300. They have ½-in. and ¼-in. collets, and most have a 12-amp motor for about 2¼ hp; the Milwaukee claims 3¼ hp. Most are fixed-base models; as the table on p. 58 notes, some come with a separate plunge base for handheld use. (The Triton is different: It does everything with its plunge base.) A majority have 1⅛ in. to 1⅜ in. of bit travel with the crank, a typical and adequate amount for above-table bit changes. The Ridgid and the Triton have 1⅜ in. and 2¼ in. of travel, respectively.

Adjustability varies widely

When the router is attached upside down to the router table and is out of easy reach, simple, secure, and easy bit-height adjustments from above the tabletop are crucial. That's the most important feature in this router type because you'll use it most often. I quickly found significant differences.

The Triton has the best design. Its plunge base moves on a rack-and-pinion assembly. You make coarse and fine adjustments to the bit height with an easily turned

Height adjustment

Crank it up. All the tools for adjusting bit height worked well. Graduated dials on the Porter-Cable and the Triton are not very useful.



Unclamping the motor. To adjust the height of the router bit on most of the models, the motor clamp must first be loosened. On the Porter-Cable (left) and the Freud, you can set or release the motor lock from above the table. The rod engages a cam that moves the locking lever. But you have to reach under the tabletop to get to the lock for the Milwaukee (above), the Bosch, the Craftsman, and the Ridgid. The Triton's clever design means you can skip the locking step altogether.

crank handle. The height adjuster also has a ratchet mechanism that comes into play when the bit is extended or retracted fully. It's a nice feature, which keeps you from cranking the bit too far and helps reduce stress on the rack-and-pinion assembly.

Like other routers, the Triton has a motor lock. But unlike most other routers, you don't have to tighten it to maintain the cutting height in use. I found that the rack-

and-pinion assembly stayed put. For the record, the owner's manual recommends using the motor lock for heavy cuts.

On the other routers, you need to unlock the motor in order to move the bit up or down, then lock the motor again.

On the Porter-Cable and the Freud, you can lock or unlock the motor from above the table, using the same handle used to change the bit height. Motor clamps on the

Bit-changing: one wrench or two?



Easiest bit-changing. The Triton (above) has a well-designed spindle lock, and it lifts the collet above the table so you need only one wrench for bit changes. The Porter-Cable (left) is one of several routers that need two wrenches for bit changes; but at least you can do it from above the table.

Bosch, Craftsman, Milwaukee, and Ridgid routers can be worked only by reaching under the table. That's inconvenient, especially if your router table has an enclosed base.

Two offer quick bit changes

You might think that a router meant for a router table would be designed so you could change bits without having to reach under the table or lift the router free. You often would be wrong.

Bit changes are the biggest chore on the Bosch, the Craftsman, and the Milwaukee. Their collets don't extend above the table and they don't have spindle locks. You have to reach under the table with two wrenches or remove the router from the table.

The other routers are better. The handiest are the Freud and the Triton. Both have collets that extend above the table and easy-to-reach spindle locks. You need only one wrench to change bits on those two.

The Porter-Cable falls somewhere in between: It's a good basic system but has some inconvenient details. It has a collet

lock, but you can reach it only from below the table. To compensate, it comes with a pair of wrenches, one of which is cranked for use from above. But a plastic chip guard/dust deflector gets in the way of the wrenches and won't let the collet extend above the table. Fortunately, you can remove the guard.

There are two ways to change bits on the Ridgid, both inconvenient. You can crank the collet nut above the table and use one wrench. But to do that, you must reach under the table to press the spindle lock. Or you can use two wrenches. But to do that easily, you must take the router out of the table.

Collet runout can affect performance

A router bit needs to be as concentric as possible while running, to create as smooth a surface as possible. Too much collet

runout can mean the difference between a router that produces a clean, smooth profile in one pass and one that needs multiple passes to do a decent job.

To check runout, I mounted a 1/2-in.-dia. bit in the collet and turned it by hand while measuring with a dial indicator. I remounted the rod and ran the test several times with each router, then discarded the highest readings, to account for anomalies caused by bit position or chucking.

The Triton had less than 0.001 in. of runout, with Milwaukee and Ridgid very close behind, at 0.001 in. exactly. Bosch and Porter-Cable had runout of 0.003 in. Craftsman and Freud had 0.005 in., an amount I normally consider unsatisfactory.

To gauge what those measurements might mean in use, I ran the best and one of the worst with a large, tall molding bit and a fast feed rate. That would accentuate any differences runout might make in the smoothness of cut. Both the Triton, with almost no runout, and the high-runout Freud left chatter marks after one heavy pass. A

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second pass, taking a lighter cut and slowing the feed rate, cleaned up the molding from both routers. It was hard to tell which router produced which molding.

I had to conclude that actual performance minimized differences in the raw runout measurements. Any of these routers is capable of producing smooth moldings if you pay close attention to the feed rate and don't try to hog out the profile in one pass.

Switch placement and safety interlocks

The Porter-Cable and the Triton have a safety feature I appreciate: an interlock for the power switch that prevents the router from starting when the spindle lock is in place. I use a foot switch with a router table, so the router's switch is always in the on position. The interlock means that the router won't start if I'm changing bits and hit the foot pedal by accident.

The Triton is the only router in this bunch with good dust-collection capabilities. It has a clear plastic shroud surrounding the entire area around the plunge base, and it accepts a 1 $\frac{3}{8}$ -in. vacuum hose. With the rest of the routers, be sure the router table has a good dust-collection system.

One clear winner

The Triton came out ahead in every important consideration. It has the easiest bit-changing design, an accurate and easy-to-use height adjuster, and an integrated spindle lock/power-switch lockout. It had the lowest bit runout measured, and it's the only one with good dust control. My only quibble: The base has a 3 $\frac{1}{16}$ -in. opening, which is slightly smaller than the opening on the other routers; my 3 $\frac{3}{8}$ -in. panel-raising bit won't fit the Triton. I've made the Triton my choice as best overall. Its \$200 street price also makes it the best value.

If you want (or can afford) only one router, the Triton is my first recommendation. Whenever you want to use it as a handheld router, you have to remove it from the table and replace the large rectangular table insert with the standard round base.

The Freud FT1700 is a more convenient alternative if you buy its optional plunge base (Freud said it planned to begin offering one in late 2006). You can leave the fixed base attached to the router table and drop the motor into the other base for handheld routing.

Roland Johnson is a contributing editor.

Other features to consider



Dust collection. A plastic shroud around the Triton's base does a good job of directing dust to a shop-vac hose. None of the other routers has a good dust-collection design.



Switch styles. The Freud's large slide switch (left) is slightly easier to reach and use than a small rocker switch such as the one on the Milwaukee (above).

Routers for router tables



**BOSCH
1617EVS**



**CRAFTSMAN
1617-12**



**FREUD
FT1700VCEK**



**MILWAUKEE
5625-20**

TESTING THE ROUTERS



Slow turn. Johnson tested runout manually, spinning a bit while checking readings on a dial indicator. Test runs with the best and worst for runout, using a tall molding bit, produced some chatter marks on the first pass, but a second pass cleaned up the profiles.

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MODEL	SOURCE	STREET PRICE	WEIGHT (lb.)
Bosch 1617EVS	www.boschtools.com 877-267-2499	\$180	9.1
Craftsman 1617-12	www.craftsman.com 800-349-4358	\$220	9.1
Freud FT1700VCEK	www.freudtools.com 800-334-4107	\$175	9.5
Milwaukee 5625-20	www.milwaukeetool.com 800-729-3878	\$300	11
Porter-Cable 891	www.porter-cable.com 800-487-8665	\$230	9.2
Ridgid R2930	www.ridgid.com 800-474-3443	\$200	9.3
Triton MOF001KC	www.tritonwoodworking.com 888-874-8661	\$200	10.25

PORTER-CABLE 891



RIDGID R2930



TRITON MOF001KC



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AMPS	SPEED RANGE (rpm)	MAX. BIT TRAVEL (in.)	MAX. BIT DIA. (in.)	COLLET RUNOUT (in.)	BIT CHANGE	BASE	COMMENTS
12	8,000-25,000	1 ³ / ₈	3 ¹¹ / ₁₆	0.003	Double wrench	Fixed	Nearly identical to Craftsman. Bit-changing and height adjustment inconvenient. Plunge base included, but lacks above-table adjustment.
12	8,000-25,000	1 ³ / ₈	3 ¹¹ / ₁₆	0.005	Double wrench	Fixed	Nearly identical to Bosch. Bit-changing and height adjustment inconvenient. Plunge base included, but lacks above-table adjustment.
13	10,000-23,000	1 ¹ / ₈	3 ¹¹ / ₁₆	0.005	Single wrench	Fixed	Very easy to change bits. Height adjuster also operates motor clamp. Company has announced a 3 ¹ / ₄ -hp model with similar features.
15	10,000-22,000	1 ³ / ₈	4	0.001	Double wrench	Fixed	Bit-changing and height adjustment inconvenient. Small on/off switch can be awkward to use.
12	10,000-23,000	1 ¹ / ₄	3 ³ / ₄	0.003	Double wrench	Fixed	Above-table bit-changing, but with two wrenches. Separate plunge base included.
12	10,000-23,000	1 ¹³ / ₁₆	3 ⁵ / ₈	0.001	Single wrench	Fixed	Bit-changing is inconvenient. Separate plunge base included.
12	8,000-20,000	2 ¹ / ₄	3 ¹ / ₈	0.0007	Single wrench	Plunge	Easiest bit-changing and height adjustment. Templates, edge- and circle-cutting guide included.