TOOL TEST

Router Lifts

Above-table adjustments and bit changes are just the beginning

BY ROLAND JOHNSON

Lifts make life easier

All it takes is the turn of a crank above the table to raise and lower a router that's installed in a lift plate. That means bit changes and height adjustments are fast.

No need to reach underneath. *To adjust the bit height, simply insert the wrench and turn. Rotate it fast for big changes. Go slow to creep up on the final height, and your setting will hold. To change the bit, there's no need to remove the motor from the table. Just raise the motor so that you can get wrenches on the collet.*

Features that matter

MOTOR CLAMPS

It's best to have a motor dedicated to your lift, but even so, mounting one shouldn't be a struggle.

Rockler's clamp is the easiest to use. *A simple flip of the handle pulls the lift housing tight around the motor.*

JessEm gets the clamp right, too. *The same big Allen wrench used to make height adjustments is used to open and close the motor clamp.*

A simple job made difficult. *The Excalibur lift requires two wrenches, and the mechanism is in a tight space. Clamping the motor into the lift was difficult and time consuming, so it's best to dedicate a router to this lift.*

THE HEIGHT CRANK

Sometimes you need to move the bit a great distance (to change it), but more often you want very fine control, so you can fine-tune the cut for perfect joinery and profiles.

All-in-one adjustments. *All of the lifts except one use a wrench to turn a lead screw, moving the motor up and down for bit changes and to adjust bit height. One rotation of the wrench moves the bit 1/16 in.*

The Woodpeckers lift is unique. *A lift wrench is used to disengage the lead screw so that the motor can be pulled up or pushed down quickly, perfect for bit changes (left). A thumbwheel in the plate is used to dial in the bit's cutting height; a full rotation adjusts the bit just 1/32 in. (above).*

No matter what job you're doing with your router table—profiling edges or cutting rabbets, dadoes, or dovetails—there are two things that you end up doing a lot: changing bits and adjusting the bit height. Both tasks can be frustrating, requiring you to reach under the table to remove the router for bit changes, or to unlock it for height adjustments. And you may struggle with accuracy.

The solution is a router lift with a router motor clamped into it. With a lift, you can raise and lower the motor to make bit-height adjustments from above the table. There is also enough vertical movement to get the collet above the table so you can change bits without removing the motor.

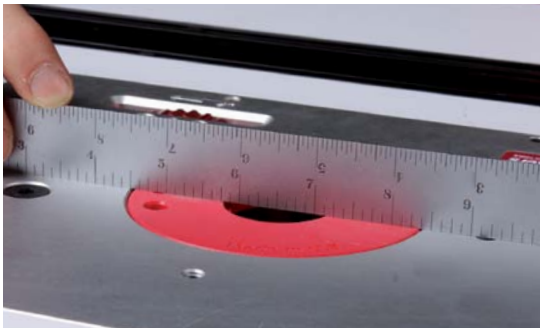
If you don't have a router lift, consider getting one. To save you from having to wade through countless online reviews and search results, *FWW*'s editors asked me to test the lifts currently on the market. I got seven lifts into the shop and examined them side-by-side. I'll tell you which lift proved to be better than the rest and which is the best option for woodworkers on a tight budget.

Convenience is the main reason to get a router lift. The ability to change the bit and adjust bit height precisely without reaching under the table will cut your setup time in half, and make everything you do at the

Photos: staff

INSERT RINGS

The throat in a lift plate must be big to accommodate large-diameter bits, but that's a liability when you're using smaller bits. Insert rings effectively shrink the hole so that it's always tight around the bit.



Level is what you want. *This allows the board to slide accurately through the bit.*

Changes should be easy

The rings must be removed every time you change the bit, so it shouldn't be a hassle.

Twist and lock works well. *Most of the lift plates use a spanner wrench to lock and unlock the insert ring. It's a fast and easy system.*

Snap-in rings are even easier. *The insert rings for the Woodhaven EZ Lift have a rubber O-ring around them that keeps them in place. A screwdriver removes the ring.*

Screw-down inserts are a hassle. *The lifts from Rockler and Bench Dog have rings that are held in place by screws. Removing and replacing them is a slower process.*

router table much faster. Every lift I tested performed both tasks very well.

For most lifts, vertical misalignment and backlash are not a problem

Mounted in a router lift and a good table, a router is capable of amazing precision, and difficult joints like sliding dovetails become easier to get right. But accurate joinery is possible only if the bit is square to the table, and if there is no slop in the mechanism, which can allow the bit's height to change during use. Even a slight change in bit height can affect the fit of a joint. That's why I mounted a router in the lifts and tested for vertical misalignment and play in the height-adjustment mechanism.

I checked for vertical misalignment first, measuring how far out of square the router's collet was to the router plate. More than 0.010 in. of vertical misalignment is too much, because it can cause problems such as poorly fitting joinery and bit chatter, which can result in tearout. All of the lifts had very little misalignment, or could be adjusted to compensate for it.

I used two tests to check for vertical play in the lead screw—a measurement of more than 0.005 in. is too much. First, I simply set the router collet (without a bit) to a specific height and then tried to push the motor down by pressing on the collet. Most of the lifts showed less than 0.003 in. of change. I then put a big bit in the router, measured the motor's height relative to the table, and took a full cut with it. After the cut, I measured the motor's height again. All of the lifts did very well on this test, moving less than 0.002 in.

Three lifts, the Woodpeckers PRL-V2 and the two from JessEm, have height-adjustment locks. I tested these lifts with the lock both engaged and disengaged. The locks did not make a difference, and it's not necessary to use them.

Ease of use matters, too

After testing the lifts for functionality, I turned my attention to the small things that can make a big difference in a tool. I first looked at how easy it was to install the motor and to level the lift plate in the table. You should only have to do it once. All of these lifts provide a means for doing this. Don't worry about it beyond that.

As for installing the motor, you should only have to do that once, too. One big reason for a lift is convenience, and there is nothing convenient about switching a motor between your table and a base for handheld use. So, get a motor that you can dedicate to the lift. I recommend a 15-amp motor. They are often advertised as 3-hp motors, and you can buy them without a base. A 12-amp, 2-hp motor works well, too.

This advice aside, some woodworkers will use the same router in their table and handheld. It's easiest to remove and replace the motor with the Rockler Router Lift FX. It has a nice cam lock on the lift and the motor can be put in or removed in a matter of seconds. The rest of the lifts required a tool (usually an Allen wrench) to lock the motor into the lift—not hard but not as convenient.

Another key feature in any router-table plate is the insert rings that fit around the bit, closing down the throat opening so that it's close to the bit. However, every time you change bits, you have to remove and then

Router lifts, head to head

EXCALIBUR 40-125

Street price: $370
Source: general.ca
Vertical misalignment: 0.002 in.
Vertical play: 0.000 in.
Insert ring alignment: –0.003 in.

The Excalibur is a rock-solid lift that's easy to adjust. The lift mechanism, which comprises four posts connected by a chain and sprockets, is precise, with zero backlash. The insert rings twist and lock into place with a spanner wrench, a simple and effective system. The lift is designed for large routers, but can accommodate smaller ones with the addition of a reducer sleeve that fits around the motor.

JESSEM ROUT-R-LIFT IIV

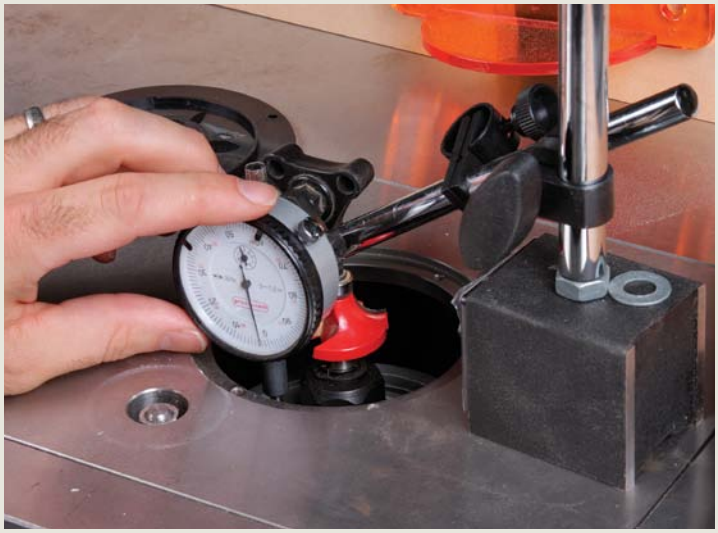
Street price: $180
Source: jessemdirect.com
Vertical misalignment: 0.002 in.
Vertical play: 0.001 in.
Insert ring alignment: –0.005 in.

Designed for routers with 3½-in.-dia. motors (up to 2¼ hp), this lift has all of the features and accuracy of its bigger brethren, but in a slighter package. It's easy to install the motor, adjust bit height, and change bits. The insert rings twist into place with a spanner wrench. Once set, height and alignment were very stable. If you never plan to get a big router for your table, this is the lift to have.

Bottom-line accuracy

Router lifts are fantastic tools, but only if the bit cuts square to the table and doesn't drop during use.

Vertical alignment is critical. *A dial indicator attached to a Betterley Una-Gauge allowed Johnson to determine whether the lifts held the motor square to the plate. Most did.*



Does the lift hold its settings? *To find out, Johnson used a dial indicator to measure the motor's height relative to the lift plate before and after he pushed down on the collet. We called this "vertical play."*

BENCH DOG 40-150

Street price: $350
Source: rockler.com
Vertical misalignment: 0.001 in.
Vertical play: 0.000 in.
Insert ring alignment: –0.002 in.

A cast-iron plate, accurate height adjustments, and a stout lift mechanism make this a great router lift. The crank handle is a speed wrench, which is nicer than the handles on the other lifts, but there was too much play in it during use.

JESSEM MAST-R-LIFT II

Street price: $350
Source: jessemdirect.com
Vertical misalignment: 0.001 in.
Vertical play: 0.002 in.
Insert ring alignment: –0.006 in.

Height adjustments on the Mast-R-Lift are easy. The plate is simple to level and has adjustable "snuggers" to ensure that it fits tightly in the table opening. This motor-clamping mechanism can be adjusted to fit just about any router motor on the market.

ROCKLER ROUTER LIFT FX

Street price: $207
Source: rockler.com
Vertical misalignment: 0.006 in.
Vertical play: 0.007 in.
Insert ring alignment: –0.009 in.

A nifty cam lock made quick work of taking the motor in and out. Height adjustments were no problem, and there was very little vertical play. But the insert ring is held in place by screws, and that's a hassle on a tool that is supposed to be all about convenience. It works only with medium-size routers.

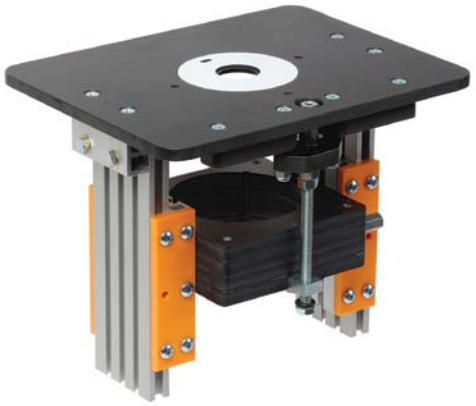
reinstall the insert rings. If that's hard, you'll get frustrated. The easiest are inserts that twist into the throat and lock in place. They come with a spanner wrench that's easy to use, and I like this system. Ideally, the insert is flush with the surrounding plate, but if it's not, an insert that's slightly below the plate is better than one that's above.

Excalibur is a cut above the rest

After testing these router lifts, I chose the Excalibur 40125 as Best Overall. It had very little vertical misalignment and zero vertical play. Height adjustments and bit changes were a snap. The lift mechanism itself is stout, more than sturdy enough to handle the weight and power of a big 3-hp router. But it is also the most expensive lift in the group. If you're looking for a more affordable lift that still does a great job, the JessEm Rout-R-Lift is for you. It's the least expensive lift I tested, but it had better vertical alignment than the Excalibur. It had almost no backlash. However, the JessEm fits only medium-size router motors. □

Roland Johnson is a contributing editor.

WOODHAVEN EZ LIFT



Street price: $237
Source: woodhaven.com
Vertical misalignment: 0.016 in.
Vertical play: 0.019 in.
Insert ring alignment: –0.000 in.

Out of the box, the Woodhaven lift had too much vertical misalignment, but the lift is constructed from aluminum track, phenolic parts, and screws. This means that you can adjust the vertical alignment. The throat inserts were easy to use, as they snap into the opening and are held in place by an O-ring.

WOODPECKERS PRL-V2

Street price: $350
Source: woodpeck.com
Vertical misalignment: 0.005 in.
Vertical play: 0.001 in.
Insert ring alignment: –0.001 in.

A thumbwheel for fine height adjustments combined with a spring-loaded lift handle for big changes results in a lift that's easy and quick to set up. The thumbwheel, which changes the bit's height 1/32 in. with every full rotation, allows for finer adjustments than all the others, and lightning-fast bit changes.

Go for the gusto: Buy a lift/table combo

Making a router table seems to be a rite of passage for woodworkers. You might gain some pride, but you're going to spend a lot of time making the table, and more money than you think on quality materials. And, to be blunt, it's tough to beat the factory when it comes to quality and features. So, if you're looking for your first router table or want to replace an existing one, consider getting a lift and manufactured table for the ultimate in speed and convenience.

We tested 10 router tables at the same time as these lifts (see pp. 40-45). You could mix and match many of these lifts with the tables, but there is no need. The Best Overall table and lift combination is the Excalibur 40-200C table paired with the Excalibur 40-125 lift. The cast-iron table has no sag, great dust collection, and a fantastic fence. The lift is a top performer.

If that package is outside your budget, then you'll find a great value in the JessEm Rout-R-Lift II complete table system, which includes the lift, the Mast-R-Top, Rout-R-Fence, a sturdy stand, a power switch, and even some featherboards. You'll even save money on the router, because the lift fits only medium-size routers, like the Porter Cable 690, Bosch 1617, and DeWalt 610. Not only are they less expensive than routers with more horsepower, there's also a good chance you already have one and can use it in the table.

EDITORS' BEST OVERALL CHOICE

Excalibur 40-200C table paired with the Excalibur 40-125 lift
$1,100, general.ca

EDITORS' BEST VALUE CHOICE

JessEm Rout-R-Lift II complete table system
$650, jessemdirect.com