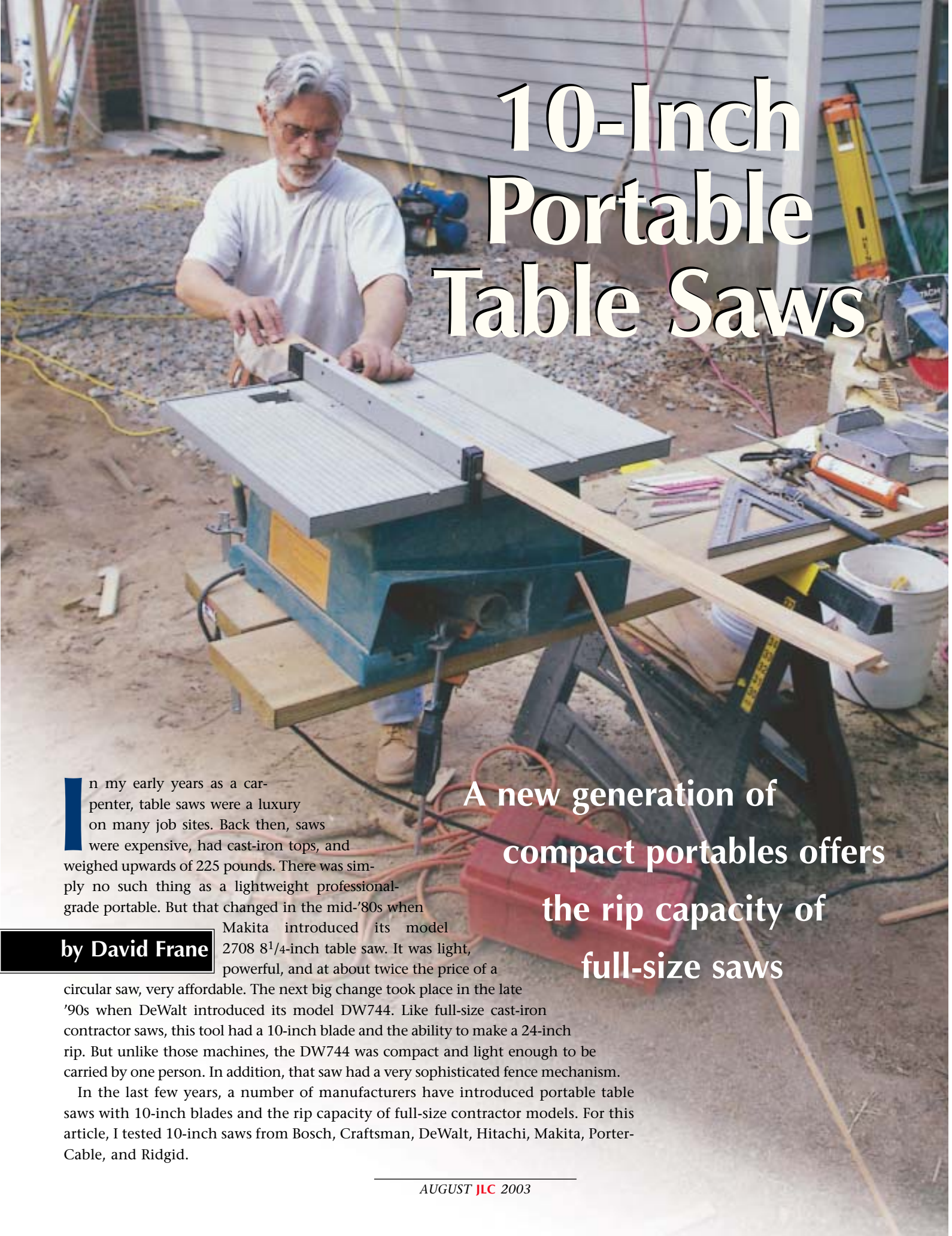


# 10-Inch Portable Table Saws

## A new generation of compact portables offers the rip capacity of full-size saws

by David Frane

In my early years as a carpenter, table saws were a luxury on many job sites. Back then, saws were expensive, had cast-iron tops, and weighed upwards of 225 pounds. There was simply no such thing as a lightweight professional-grade portable. But that changed in the mid-'80s when Makita introduced its model 2708 8 1/4-inch table saw. It was light, powerful, and at about twice the price of a circular saw, very affordable. The next big change took place in the late '90s when DeWalt introduced its model DW744. Like full-size cast-iron contractor saws, this tool had a 10-inch blade and the ability to make a 24-inch rip. But unlike those machines, the DW744 was compact and light enough to be carried by one person. In addition, that saw had a very sophisticated fence mechanism.

In the last few years, a number of manufacturers have introduced portable table saws with 10-inch blades and the rip capacity of full-size contractor models. For this article, I tested 10-inch saws from Bosch, Craftsman, DeWalt, Hitachi, Makita, Porter-Cable, and Ridgid.

## Noise Output

Most carpenters have a general sense of which tools are louder than others, but the introduction of inexpensive decibel (dB) meters has made quantification possible. I used a digital meter to measure the noise output of these saws. There are many ways to measure sound, so the numbers I came up with are less important than the relative rankings of the machines. Even so, Porter-Cable lists a dB rating in its specs, and it's the same as the number I got.

The meter confirmed what I already believed: that some saws are louder than others and that they're loudest when you first turn them on. I tested the tools in the center of a 20x20-foot garage. The meter was on a tripod 24 inches above the table, pretty much where your head is when you're ripping. I measured the maximum sound output at startup and at idle.

It helps to put the numbers into perspective. Sound intensity is measured in decibels and is a measure of fluctuations in air pressure caused by sound waves. The dB scale is logarithmic, which means that an increase of 10 dB represents a tenfold increase in sound intensity. Increase a noise by 3 dB, and you've doubled its intensity. Human physiology is such that we perceive a tenfold increase in intensity as a mere tripling of loudness. The important point is that aside from being more annoying, a tool that puts out 100 dB is significantly more likely to damage your hearing than one that puts out 90 dB.

Normal conversation is usually between 45 and 60 dB. A car horn is over 90 dB, loud enough to cause hearing damage; 110 dB is considered deafening, the equivalent of standing next to a cannon; 130 dB is loud enough to cause immediate hearing damage.

*— D.F.*

### Decibel Ratings of Table Saws

| Model | Maximum Start-Up dB | Average Running dB |
|---|---|---|
| Bosch | 91 | 91 |
| Craftsman | 97 | 91 |
| DeWalt | 96 | 93 |
| Hitachi | 98 | 94 |
| Makita | 97 | 91 |
| Porter-Cable | 97 | 93 |
| Ridgid | 98 | 97 |

### Power

How much power you need depends on the kind of work you do. For example, most of these saws can make 24-inch rips, which is what you need to cut sheet goods such as plywood. Every one of these saws has more than enough power to cut 3/4-inch plywood and MDF.

The saws showed up while I was building a deck, so I put them through a sterner test, ripping pressure-treated framing lumber. None of the saws had any trouble ripping 1 1/2-inch stock, so to get a better sense of their power, I resawed some dry hemlock 2x4s. Normally, you'd cut halfway in from each side, but I did this with the blades all the way up. It was not a scientific test, but the results were consistent with how the saws felt cutting thinner material. Makita's model had the easiest time resawing 2x4s and was the only saw with enough depth of cut to make it all the way through in a single pass. The Bosch, Craftsman, Hitachi, and Porter-Cable felt about the same, a little less powerful than the Makita. The DeWalt and Ridgid had the most trouble ripping 3 1/2-inch material with the blade all the way up. That said, every one of these saws had the power to perform standard carpentry tasks.

### Motors

The saws all have direct-drive universal motors. And they all draw 15 amps, except for the DeWalt, which draws 13 amps. The Makita, Hitachi, and Porter-Cable saws are equipped with automatic brakes. This safety feature is especially useful if you set the fence by measuring off the blade.

### Rip Capacity

In the old days, rip capacity was related to the size of the table. The broader the table, the wider the rip. But table size became less important in the late '90s when DeWalt introduced a saw with telescoping rails. Except for the Hitachi and the Makita, all of the saws I tested have telescoping rails and can make rips over 24 inches wide. The saws with fixed rails make narrower cuts. The maximum rip on the Hitachi is 15 inches to the right and 16 inches to the left. The Makita can rip 12 1/4 inches to the right.

### Fence System

On most saws, you lock the rails into position by activating a lever below the table. Ridgid's lever is accessed from above. The Bosch, Craftsman, and Ridgid saws have split

## Bosch 4000K

**Bosch Power Tool**
**877/267-2499**
**www.boschtools.com**

**Weight:** 61 pounds (without stand)
**Table size:** 21 1/2 x 29 inches
**Maximum rip right:** 24 1/2 inches
**Cutting depth at 90 degrees:** 3 1/8 inches
**Scale aligns for bevels:** No
**Amps:** 15
**No-load speed:** 3,650 rpm
**Electric brake:** No (but has soft-start)
**Street price:** $499 (with stand and outfeed support)
**Place of manufacture:** Taiwan

This saw is equipped with soft-start circuitry and electronic feedback control. You can't see those features, but you can hear and feel them when you use the tool. Most saws start with a loud violent jerk, while the Bosch saw ramps up to speed smoothly. It maintains a constant speed during cuts and doesn't rev higher when you come out of a heavy cut.

The first time I used this saw, I thought something was wrong with the motor because it took a second to come up to speed and sounded way too quiet to cut anything. But it cuts with as much power as any saw I tested, with the possible exception of the Makita.

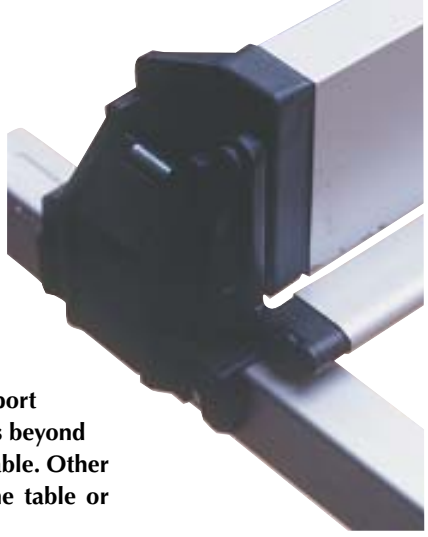
The rails and controls operate smoothly, and the fit and finish are good. There are two ways to use the fence: Narrow rips are indexed off of the front scale, and wide rips off of the back scale. Rips 13 inches and under are set in the traditional way by moving the fence along the rails. For wider rips, you lock the fence at 13 inches and adjust the cut by extending and retracting the rails.

A large cord wrap on the back of the base makes it easy to stow the cord. The base keys into slots on the stand, so the saw is less likely to tip when you support long boards with the optional outfeed extension. This is one of two saws with a shaft lock for single wrench blade changes.

The only thing I don't like about this saw is that the rip scale is not accurate for bevels of less than 90 degrees.

tables, so a 6-inch section of table extends outward with the rails. The extended section supports the right edge of the stock during wide rips. DeWalt and Porter-Cable use single-piece tops. DeWalt relies on a narrow pivoting shelf to support thin stock during wide rips. Porter-Cable uses a support that clips to the side of the fence.

DeWalt's rails are connected to a slick rack-and-pinion mechanism that you can move by hand or by turning a fine-adjustment knob. The other telescoping rails are moved entirely by hand. The rails on the Bosch and Porter-Cable saws slide easily. The rails on the Craftsman and Ridgid are harder to push in and out.



**DeWalt uses a pivot-mounted shelf to support thin stock that extends beyond the right edge of the table. Other manufacturers split the table or add a clip-on shelf.**

## Scale

A good scale increases productivity by allowing you to set rips without a tape. The graduations should be easy to read, and the pointer or indicator line should be thin and close to the scale.

The scales on the Bosch, DeWalt, and Porter-Cable saws are particularly easy to read. The Craftsman, Hitachi, and Ridgid scales are a step down, mostly because the scale or the pointer is harder to read. The scale on the Makita is okay for rough rips, but if you want accuracy, it's easier to set the fence with a tape.

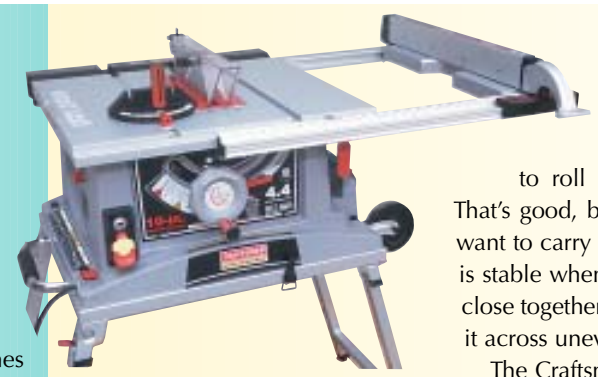
Ideally, the rip scale would be as accurate for bevels as it is for 90-degree cuts. But on some saws (see the specs for individual tools), tilting the arbor shifts the cutting line

**Porter-Cable puts a magnifier over the indicator on its scale. The fence can be recalibrated by loosening the screws and moving the indicator.**

## Craftsman 218030N

**Sears**
**800/377-7414**
**www.sears.com/craftsman**

**Weight:** 83 pounds (with stand; 63 pounds without)
**Table size:** 21 x 30 1/4 inches
**Maximum rip right:** 25 inches
**Cutting depth at 90 degrees:** 3 1/8 inches
**Scale aligns for bevels:** No
**Amps:** 15
**No-load speed:** 4,000 rpm
**Electric brake:** No
**Street price:** $399 (with stand)
**Place of manufacture:** Taiwan



This saw is very compact for a machine that comes with a bolt-on stand. A retractable handle and a pair of wheels allow you to roll it around like a piece of luggage. That's good, because at 83 pounds, you wouldn't want to carry the saw and stand by hand. The saw is stable when the stand is up, but the wheels are close together, so it's not very stable when you roll it across uneven surfaces.

The Craftsman comes with a built-in extension that provides an extra 14 inches of support at the outfeed side of the table. This saw has average power and is capable of performing any standard carpentry task. The rip scales are easy to read, though the rails don't slide as easily as they do on other models. Bevels are set with a rack-and-pinion mechanism and lock into place with a captured nut. The most unusual feature on this tool is the automatic cord reel that's built into the base.

## DeWalt DW744S

**DeWalt Industrial Tool**
**800/433-9258**
**www.dewalt.com**

**Weight:** 58 pounds (without stand)
**Table size:** 19 3/8 x 26 5/8 inches
**Maximum rip right:** 25 inches
**Cutting depth at 90 degrees:** 3 1/8 inches
**Scale aligns for bevels:** Yes
**Amps:** 13
**No-load speed:** 3,650 rpm
**Electric brake:** No
**Street price:** $499 (with stand)
**Place of manufacture:** Taiwan


The DW744 was the first compact job-site saw capable of making 24-inch rips. This was made possible by the development of telescoping rails. DeWalt's version of this mechanism relies on rack-and-pinion gears to fine-adjust rips and keep the fence parallel to the blade. The fence is attached to a fixed location on the rails, so all rips are set by extending and retracting the rails. You can cut without a tape measure because the scale and pointer are easy to read.

All the mechanisms on the DW744 saw operate smoothly, and the fit and finish are topnotch. My only complaint is that the 13-amp motor feels a little less powerful than the 15-amp motors on other saws. The DeWalt comes with a scissor-style stand and can be equipped with optional supports on the left and outfeed sides of the table. The bevel is set manually with a quick-action lever, and a pivoting shelf can be used to support wide, thin stock during wide rips.


**The rear scale on Bosch's saw is especially easy to read because the graduations vary in length and the indicator is right down on the numbers.**

to the left. If that happens, you'll have to make test cuts, because the scale won't work for beveled rips.

## Portability

A cast-iron-top table saw is fine if you always work in the same place. But a carpenter may work on multiple sites or need to set up at different locations on the same job, so it's a big plus if a saw is easy to move and store. Most of these machines weigh around 60 pounds, about the same as a 12-inch sliding miter saw. At 44 pounds, Makita's saw is exceptionally light and easy to carry. The Craftsman and Ridgid saws come on wheeled, bolt-on stands. The wheels make it easier to move the saws, which is good because the stands add a lot of weight.

***Size matters, too.*** The bigger the footprint, the harder it

## Hitachi C10RA2

**Hitachi Power Tools**
**800/829-4752**
**www.hitachi.com/powertools**

**Weight:** 61 pounds (without stand)
**Table size:** 19 5/8 x 34 1/8 inches
**Maximum rip right:** 15 inches
**Cutting depth at 90 degrees:** 3 inches
**Scale aligns for bevels:** No
**Amps:** 15
**No-load speed:** 5,000 rpm
**Electric brake:** Yes
**Street price:** $319 (with stand)
**Place of manufacture:** Taiwan


The C10RA2 is an updated version of a saw that came out in the late '90s. Upgrades include a removable folding stand and a cord wrap. The most unusual thing about this machine is the large table, just over 34 inches across. This allows you to make wider rips than are possible with other fixed-rail machines. However, the maximum rips of 15 inches to the right of the blade and 16 inches to the left are considerably less than you can rip on a more compact saw with telescoping rails.

Unlike the other saws I tested, this one has a sheet-metal rather than the usual plastic housing. The previous version of this machine was the first saw to come with a rack-and-pinion bevel mechanism. This saw has average power, and I like the folding metal stand. The fence slides smoothly and locks evenly on a pair of aluminum rails, but the clear plastic pointer is not easy to read, and the scale seems to have been misinstalled because there was insufficient adjustment to make the pointer match up with the rip.

is to store and transport a saw. The Makita has a smaller footprint than the other models. The Hitachi has the largest footprint if you don't include the stand. If you include the stand, the Ridgid has the largest footprint, though you can reduce it by storing the saw on end.

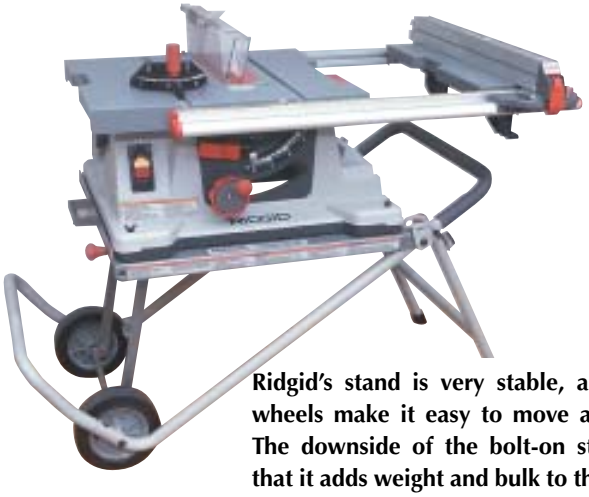
### Stands

Whatever saw you get, it's a good idea to buy some kind of stand, because otherwise you'll have to kneel to use the machine. Some carpenters use sawhorses, but they're rarely as portable or as stable as a manufactured stand. Most saws come with or are available with detachable scissor-action stands that fold flat for storage.

Makita sells optional bolt-on legs, but they make it harder to transport the tool because they don't fold. The Bosch, DeWalt, Hitachi, and Porter-Cable saws are available with scissor-action stands that are stable and solidly made.

Craftsman's stand has wheels, but they work only when the legs are folded. The wheels make it easier to move the saw around, but they're so close together that the saw lacks stability when you roll it on uneven surfaces. Ridgid's wheels are widely spaced, so the stand is more stable when rolled. And the wheels are always on the ground, so you can move the saw without breaking it down. I like using this stand, but it makes the saw so large and heavy that it's hard to consider it portable.

When you're pricing saws, be sure to account for the stand. Some machines come with them, but they're an $80 to $100 option on others.



**Ridgid's stand is very stable, and the wheels make it easy to move around. The downside of the bolt-on stand is that it adds weight and bulk to the tool.**

### Height and Bevel Control

Every saw has a crank to raise and lower the blade. There's nothing unusual about any of them except that the action is particularly smooth on the Bosch, DeWalt, and Porter-Cable machines.

Most of the saws have quick-action bevel locks that can be activated with a single 90-degree turn of a lever. Craftsman and Hitachi use old-fashioned captured-nut mechanisms that require multiple turns. Ridgid uses a quick-action cam.

All but two of the saws (Bosch and DeWalt) include a rack-and-pinion mechanism to adjust the tilt of the blade. The rack is on the housing, and the pinion is on the handwheel. These gizmos make it somewhat easier to fine-adjust bevels, but I wouldn't go out of my way to get one.

### Other Features

Most saws have a variety of small added features. They might include onboard storage for blades, wrenches, and miter gauges or a cord wrap or a better guard. None of these items is that important, but they do make saws more convenient to use.

***Cord wrap.*** This feature is a no-brainer. Of course there

## Makita 2703

**Makita USA**
**800/462-5482**
**www.makitatools.com**

**Weight:** 44 pounds (without stand)
**Table size:** 21 x 27 inches
**Maximum rip right:** 12 1/4 inches
**Cutting depth at 90 degrees:** 3 9/16 inches
**Scale aligns for bevels:** Yes
**Amps:** 15
**No-load speed:** 4,600 rpm
**Electric brake:** Yes
**Street price:** $299 (without stand)
**Place of manufacture:** USA


This machine is an updated 10-inch version of Makita's venerable model 2708 8 1/4-inch saw. The 2703 has a small footprint and weighs only 44 pounds, so it's easier to carry and transport than other 10-inch models. Power is above average.

The Makita is a simple, straightforward saw with none of the bells and whistles that can be found on other machines. The rails don't telescope, so rips are limited to 12 1/4 inches or less. That's plenty for cutting standard trim and framing lumber, but it's not enough for ripping 4x8 sheet goods.

The rails are integral to the top of the saw, and the fence is of the basic clamp-it-on-and-rip design. The rip scale is not easy to read, so I would use it only as a rough guide. This saw can produce precise rips, but you'll need to set them up with a tape. However, there's an upside to the plain design of this machine: It's the only saw I tested that I'd feel comfortable leaving out in the rain or burying under tools and material in the back of my truck. Unlike other models, it has no delicate parts to ding or destroy. The 2703 wouldn't be my choice for building cabinets, but I'd be happy to use it for framing and standard finish work.

## Porter-Cable 3812

**Porter-Cable**
**800/487-8665**
**www.portercable.com**

**Weight:** 63 pounds (without stand)
**Table size:** 19 7/8 x 25 1/4 inches
**Maximum rip right:** 24 3/4 inches
**Cutting depth at 90 degrees:** 3 1/4 inches
**Scale aligns for bevels:** Yes
**Amps:** 15
**No-load speed:** 4,000 rpm
**Electric brake:** Yes
**Street price:** $399 (without stand)
**Place of manufacture:** Taiwan


The rail extensions on the Porter-Cable saw slide smoothly and are held in position by a lever-activated lock below the table. Like the DeWalt, the 3812 has a single-piece top, so there's no table under the fence when you extend it for wide rips. Wide stock can be supported at the fence with a detachable metal angle. I'm not wild about using a removable support, but then the only time you need to is when you rip floppy material like laminate or 1/8-inch plywood.

The 3812 has two scales that are designed to be used with the rails all the way out or all the way in. The saw is simple to use because all rips are set by moving the fence. The fence itself is solidly made and slides easily on the rails. If it ever needs to be squared, you can do that by adjusting a couple of screws.

Bevels are set with a rack-and-pinion mechanism and are locked in with a quick-action lever. The saw comes with a T-slot miter gauge and can be equipped with an optional folding stand ($79) and an outfeed support.

## Ridgid TS2400

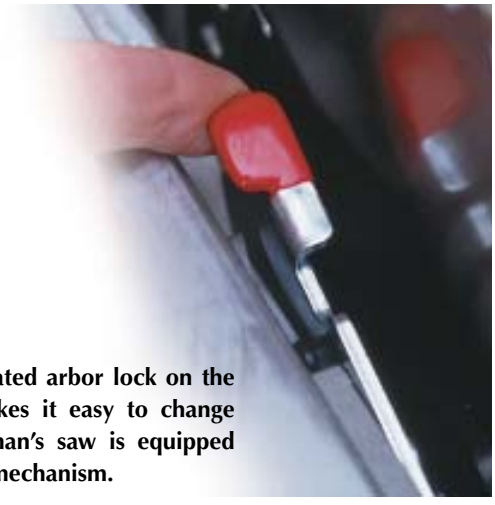
**Emerson Tool Company**
**866/539-1710**
**www.ridgidwoodworking.com**

**Weight:** 120 pounds (with stand; 75 pounds without)
**Table size:** 21 x 30 1/4 inches
**Maximum rip right:** 25 inches
**Cutting depth at 90 degrees:** 3 1/8 inches
**Scale aligns for bevels:** Yes
**Amps:** 15
**No-load speed:** 4,000 rpm
**Electric brake:** No
**Street price:** $499 (with stand)
**Place of manufacture:** USA

The best and worst thing about the TS2400 is the stand. It's very stable and makes it easy to move the machine. But it's also bulky and heavy, so the saw takes up a lot of room even when the stand is folded. The saw footprint is smaller if you store it on end, but there's not always room to do that under a truck cap. This saw weighs 120 pounds including the stand.

The maximum width of cut is 25 inches, and all rips are set by moving the fence along the telescoping rails. A unique tape measure–style scale automatically extends with the fence, so you can keep the right-hand side of the split table under the stock at all cutting widths.

The substantial fence slides smoothly along the rails. The rails telescope by hand but don't move as smoothly as on some of the other saws. Bevels are adjusted with a rack-and-pinion mechanism and are locked in place by an unusual cam lever lock. The blade guard can be removed and installed without tools.



**The lever-activated arbor lock on the Bosch saw makes it easy to change blades. Craftsman's saw is equipped with a similar mechanism.**

**Manufacturers continue to add features, such as the cord wrap on this Ridgid saw. Bosch, Craftsman, and Hitachi also provide places to store the cord.**

should be a way to safely store the cord when you transport the machine. No one wants to trash the cord or trip on it when carrying the saw. The Hitachi, Bosch, and Ridgid tools have manual wraps, and the Craftsman has a spring-loaded reel. I like the mechanism on the Craftsman because it automatically retracts the cord, but I have some doubts about how long that will last under daily use. Bosch has the best traditional wrap because it's big and the plug ties off by clipping on to the cord.

***Guard.*** More carpenters would use guards if they were better designed. I don't mind using one if for no other reason than I'm less likely to catch a face full of chips. The problem is you can't cut dados or rabbets without removing the guard. Most manufacturers make no effort to make guards easy to remove and, more important, easy to reinstall. That task frequently requires the use of tools and the manipulation of small, easy-to-lose parts. No wonder it's rare for carpenters to actually use the things.

But two of these saws come with guards that *are* easy to remove and reinstall. Ridgid's guard attaches to the back of the saw with a small, permanently connected handwheel. Porter-Cable's guard installs by clicking it into a slot behind the blade. To remove, just pull the lock spring and lift.

## Favorites

For a basic no-frills saw, look no further than the Makita 2703. Its fence is clunky and its rip capacity is small, but it has a powerful motor and a simple, solid design that should withstand years of hard use.

If you want to make 24-inch rips, consider a Bosch or Porter-Cable machine. The Bosch is powerful and extremely quiet for a table saw. The Porter-Cable is equally powerful and has a solid, accurate fence.