



still have the first circular saw I ever bought: a Skil model 553. After almost 30 years, it's beat up and the bearings howl, but I still

by Carl Hagstrom

use it once or twice a year with an abrasive blade to cut roof flashing reglets in masonry. Given the probable life span of a good saw and the amount of use it will get, it's worth thinking carefully about what you want in a saw before buying a new one.

What Makes a Good Saw?

While worm-drive saws are popular in the West (see "In-Line Circular Saws," 4/99), sidewinders are the circular saw of choice among most carpenters. Ultimately, what makes for a good sidewinder is subjective, but for me and the people I work with, a good saw must be lightweight and comfortable because it's a tool we're going to be using all day long. It must also be powerful enough to cut through anything without forcing, and maneuverable enough for out-of-position and overhead cuts. Rugged design also counts, since sooner or later a saw will take a dive off the deck.

Little things can make a big difference, too. For example, the cord should be long enough so the plug doesn't hang up partway through a rip cut on a full sheet of plywood. I also want a

SIDEWINDER

SAWS

A guide to key features to look for when choosing the most-used power tool on site

clear line of sight to the cut, smooth-acting adjustment knobs and levers, and a blade guard that doesn't get in my way.

For this article, my crew and I took a look at some of the critical features on several commonly available 7¹/₄-inch professional-duty saws. Our comments for particular models are included in the saw descriptions beginning on page 52. Where we don't mention a particular feature, you can assume the saw performed well enough; otherwise,

we've confined our comments to features that performed above or below our expectations.

On Guard

How the leading edge of the blade guard meets the material to be cut is important, because a guard that hangs up on thin materials or bevel cuts can be not only irritating and wasteful, but downright dangerous. Most blade guards have trouble with 45-degree bevel cuts, but should work flawlessly on 90-degree

cuts in all but the thinnest materials. We've noted those that didn't.

A guard that hangs up on thin materials can be a nuisance, but a guard that has to be "pinned" in the retracted position to keep it out of your way is worse. If you have to retract the guard to start a cut, a well-designed saw will enable you to hold the guard back and still keep a good grip on the saw with both hands. This feature is essential for making plunge cuts, or for out-of-position cuts, such as when cutting rafter tails overhead or cutting standing 4x4 posts to height. Typically, a right-handed carpenter will hold the guard back with the left hand, and if there isn't a knob or handle extension on the housing to grab, the right hand alone must carry the full weight of the saw and still maintain control.

The Milwaukee 6390 is one example of good front-handle design for two-handed operation. This saw also has an innovative main handle that can pivot through eight different positions (see Figure 1) — handy when cutting in an awkward position, such as reaching across a full sheet of plywood.

The Bosch has a unique guard retraction lever mounted high on the body between the handle and the blade housing (Figure 2). Lifting the lever up toward the front of the saw swings the blade guard out of the way. It's a nice idea and works smoothly — and safely, too, because it keeps your fingers away from the blade. But in the fully retracted position, the lever is still too far away from the stubby front handle to make for a comfortable two-handed grip.

Several of these saws have a useful feature built into the shoe and blade guard design. On the Milwaukee 6375, for example, when the shoe is tilted for a full 45-degree bevel, a cam-like protrusion on the shoe automatically retracts the blade guard 1 inch or so — about as much as you'd have to retract it by hand to start the cut (Figure 3). Slick. The Milwaukee 6390, the Bosch, the Skil, and both DeWalts accomplish the same thing with a cam-like extension on the blade guard arm.



Figure 1. The position of the handle on the Milwaukee 6390 can be adjusted by releasing a lever on top (left). The handle pivots through eight positions (below), making the saw easier to grip at shallow depth settings or when reaching across full sheets of plywood.



Figure 2. The blade guard on the Bosch retracts by means of a lever mounted next to the handle high on the blade housing. The action is smooth and keeps your fingers away from the blade.





Figure 3. On the Milwaukee 6375-20, when setting the bevel to 45 degrees at full depth, a cam on the cast shoe engages and retracts the blade guard about 1 inch — just enough to get the cut started smoothly. The Milwaukee 6390, both DeWalts, the Bosch and the Skil do the same thing by means of a cam-like extension on the arm of the blade guard.

Depth and Angle Adjustments

Easily adjustable depth and bevel controls rate high on the list of must-have features. It's important for a saw to be comfortable while you push it through a piece of lumber, but carpenters are much more fussy about adjustment controls because they change blade settings a dozen times a day or more. Tiny knobs or levers without ample finger clearance are frustrating for carpenters who have big hands or

who work in gloves. Then again, oddly-shaped or oversized controls can get in the way of a strong grip.

Controls must be smooth and reliable as well. Once you make an adjustment, you want it to stay put, but you don't want to fight with a stubborn knob or lever the next time you reset it. The smoothest depth adjustment in this crop of saws is on the DeWalt DW364 (Figure 4). The large, comfortable control knob allows plenty of clearance for

your fingers, and serves double duty as a front handle. A simple twist locks or unlocks the depth setting, and the shoe slides smoothly on the steel runners built into the handle. This is the only saw with the pivot point mounted on the rear of the shoe, which keeps your hand in more or less the same position even on shallow cuts. And the ball-joint pivot is a heavy-duty design that looks like it can take a lot of punishment.

I also like a saw that gives me a clear line of sight to the cutting edge. Visible and accurate depth and angle scales are another plus, and I give a saw extra points if it can make bevel cuts past 45 degrees. An innovative example of this is found on the Bosch sidewinder. It has a thin, spring-steel lever on the angle adjustment that serves as a positive stop at 45 degrees, but can be released to gain an extra 5 degrees (Figure 5).

A blade brake has been a standard feature on some saws for more than 10 years. Removing a saw from a cut while the blade is still spinning is a major cause of kickback, so a brake both reduces the risk of injury and enables impatient carpenters to move on to the next cut sooner.

Shoe Design

A large shoe contributes to the overall stability and accuracy of a saw, but a shoe that's too big can get in the



Figure 4. The smooth-acting DeWalt 364 depth adjustment is built into the handle and is locked with a long-necked knob that provides plenty of clearance for your fingers (left). The sturdy ball-joint pivot (above) is mounted at the back of the shoe, so your hand remains in a comfortable position even on shallow cuts.



Model: Bosch 1657
Price: \$159
Weight: 12 lb. 10 oz.
Amps: 13
Brake: Yes
Shoe: plate
Depth Adjustment: pivot, lever
Angle Adjustment: 50 degrees, lever
Cord Length: 10 feet

Comments: Good, rugged saw, with wrench storage in top of handle. Similar to Skil, but with some additional features. Lever near top of blade housing retracts blade guard — a good idea, but it doesn't align with the front handle, so you still can't get a good two-handed grip. A piece of flat spring-steel provides positive stop at 45-degree bevel setting, but can be released to gain additional 5 degrees. At full depth setting, angling the shoe to 45 degrees automatically retracts the blade guard about an inch, making it easier to start bevel cuts.



Model: DeWalt DW362
Price: \$139
Weight: 12 lb. 2 oz.
Amps: 15
Brake: Yes
Shoe: plate (grooved on bottom)
Depth Adjustment: pivot, lever
Angle Adjustment: 50 degrees, knob
Cord Length: 9 feet

Comments: Hard to see line or blade at 45 or 90 degrees. Solid front handle; cross-hatched pattern on handle gives sure grip. Can grab front handle while holding blade guard arm, but would be easier if handle were offset toward blade housing instead of away from it. Angle adjustment knob is small and thick, hard to grab. With full-depth setting, a cam on blade guard retracts guard when shoe is angled to 45 degrees.



Model: DeWalt DW364
Price: \$159
Weight: 13 lb. 5 oz.
Amps: 15
Brake: Yes
Shoe: plate
Depth Adjustment: pivot, knob (combined with front grip)
Angle Adjustment: 50 degrees, knob
Cord Length: 9 feet

Comments: Heavy saw. Hard to see line or blade at 45 or 90 degrees. Much more comfortable angle adjustment knob than on model 362. Combination depth adjustment/front handle: Mechanism works smoother than most and heavy-duty ball joint pivot looks durable. Good depth scale stamped on housing, but knob is too far back for comfortable two-handed grip with blade guard retracted. Shoe may be too long for some — longest of all the saws by nearly 2 inches. Blade guard retracts 1 inch with shoe set to 45 degrees.



Model: Hitachi C7BD
Price: \$134
Weight: 11 lb. 2 oz.
Amps: 13
Brake: Yes
Shoe: cast
Depth Adjustment: pivot, lever
Angle Adjustment: 45 degrees, knob
Cord Length: 8 feet

Comments: Depth-control lever is awkwardly located between the handle and the blade housing, but sleek lever design is better than the Porter-Cable and Makita 5007NB levers, which are also located here. Controls work okay, but the knobs are too small for gloved hands. With blade guard retracted, front handle extension is too far away for a two-handed grip on saw.



Model: Makita 5007NB
Price: \$129
Weight: 11 lb. 11 oz.
Amps: 13
Brake: No (available on 5007NBAK)
Shoe: plate
Depth Adjustment: pivot, lever
Angle Adjustment: 45 degrees, knob
Cord Length: 9 feet 6 inches

Comments: Except for awkward controls, a solid, no frills saw. Large bevel adjustment knob is easy to grip, but can pinch your fingers against the shoe. Depth adjustment is awkwardly located between handle and blade housing, where it can scrape your hand.



Model: Makita 5740NB
Price: \$99
Weight: 8 lb. 15 oz.
Amps: 10.5
Brake: No
Shoe: plate
Depth Adjustment: pivot, lever
Angle Adjustment: 45 degrees, wing nut
Cord Length: 8 feet 6 inches

Comments: Removable front grip is similar to auxiliary handle on 1/2-inch drill — should be easy to replace if needed. Nice, light saw — great for long reaches, high-wire roof work. Rear table support and depth adjustment is light-gauge — might bend easily if dropped. Only 10 amps, but with the small table and a modest price, a great saw for tight spots.



Model: Makita 5037NBA
Price: \$199
Weight: 14 lb. 4 oz.
Amps: 14
Brake: Yes
Shoe: plate
Depth Adjustment: pivot, lever
Angle Adjustment: 50 degrees, lever
Cord Length: 9 feet 6 inches

Comments: Hard to see line or blade at 45 or 90 degrees. A bigger saw, heavy but powerful. Strong motor might make this a good saw for someone who does concrete form work, and is often cutting with dull blades. But it's not one to lug up on the roof. Comfortable lever controls. Permanent, swiveling vacuum attachment on back of blade housing. Front handle is well positioned for two-hand grip, but blade-guard-retraction arm is too short.



Model: Milwaukee 6390
Price: \$139
Weight: 11 lb. 6 oz.
Amps: 15
Brake: No
Shoe: plate
Depth Adjustment: pivot, lever
Angle Adjustment: 50 degrees, lever
Cord Length: 8 feet 10 inches

Comments: Innovative adjustable handle with top-mounted release lever pivots through eight positions — improves grip on shallow depth settings, when reaching across full sheets of plywood or making other hard-to-reach cuts. Shape and location of front handle enables both hands to share the weight of the saw while holding blade guard in retracted position — good control when making overhead or out-of-position cuts. Soft rubber on both handles makes for comfortable grip, even for big or gloved hands. Blade guard retracts at 45-degree shoe setting.



Model: Milwaukee 6375-20
Price: \$139
Weight: 12 lb. 3 oz.
Amps: 15
Brake: No (available on 6376-20)
Shoe: cast (grooves on bottom)
Depth Adjustment: drop shoe, lever
Angle Adjustment: 50 degrees, large knob
Cord Length: 8 feet
Comments: This has the traditional Milwaukee "drop-foot" bed. The depth adjustment knob works well as a front handle for two-handed control when holding

retracted blade guard. Improved depth adjustment works more smoothly than on earlier models. The only saw with a three-prong cord. Nice saw, but shoe might be too wide for some carpenters. Angled corner of shoe shortens contact with Speed Square when cutting wide stock, especially on rafter plumb cuts (same is true of the shoe on the model 6390). Handy to have distance from either edge to blade stamped on leading edge of shoe. Best mechanism for automatically retracting blade guard at 45-degree shoe setting.



Model: Porter-Cable 347 & 743 (shown here, blade on left side)
Price: \$135
Weight: 11 lb. 1 oz.
Amps: 15
Brake: No (available on 447)
Shoe: cast (grooves on bottom)
Depth Adjustment: pivot, lever
Angle Adjustment: 48 degrees, knob
Cord Length: 10 feet
Comments: Exceptionally good two-handed grip on front handle when making out-of-position cuts with blade guard retracted. Optional dust discharge at top front of blade housing accepts vacuum attachment (covered with spring-loaded metal flap when not

in use). This feature is suitable for shop work, but not useful on site (only other saw with dust collection port is Makita 5037NBA.) Wrench storage on bottom of handle. Hard to see the line or blade on both 45-degree and 90-degree cuts. Bevel control knob is too close to shoe; fingers can catch in the deep fins on top of shoe. Depth adjustment lever is located between handle and blade housing, with not enough clearance to keep lever from scraping your hand when changing the setting. Left-mounted blade (model 743) may be preferred by carpenters accustomed to worm-drive saws; could also streamline cutting bevels on jack rafters.



Model: Ryobi CSB130
Price: \$89
Weight: 11 lb. 9 oz.
Amps: 13
Brake: No
Shoe: plate
Depth Adjustment: pivot, lever
Angle Adjustment: 50 degrees, knob
Cord Length: 10 feet
Comments: Wrench storage on shoe. Guard

catches at the start of cut (both 90 and 45 degrees). Bevel adjustment knob is too small for big hands or gloves; it's also mounted too close to the shoe. Adjusts past 50 degrees, but blade guard hangs up after 45 degrees. Long armature housing sticks way out past shoe and gets in the way more than other saws at full depth when holding a Speed Square. Plastic lever on blade guard broke off when hit lightly against wood.



Model: Skil HD5575
Price: \$109
Weight: 11 lb. 9 oz.
Amps: 13
Brake: No
Shoe: plate
Depth Adjustment: pivot, lever
Angle Adjustment: 50 degrees, lever
Cord Length: 8 feet
Comments: I liked this saw's easy-to-adjust controls, and its no-frills, common-sense

design. Wrench storage slot on top of handle (same as Bosch) — some of the crew liked to rest their thumb on the flat spot to help guide the saw. Like the Bosch, angling the shoe to 45 degrees at full-depth setting automatically retracts the blade guard, which helps when starting bevel cuts. Low marks for two-handed control during out-of-position cuts: The front handle is too small and too far away from the fully retracted blade-guard lever.



Figure 5. A spring-steel tab on the Bosch stops the bevel angle at 45 degrees, but can be released to gain an additional 5 degrees.



Figure 6. Most shoe damage occurs on the rear inside corner, so Milwaukee cut the corner off altogether. Like a few others, this shoe is also grooved to reduce friction.

way. My crew and I prefer a saw that's lightweight and maneuverable — we'll take care of stability and accuracy. Also, the shoe should be designed so the saw can follow a guide or fence without the motor getting in the way. Of course, the shoe and motor housing must clear a Speed Square, although most saws are knuckle-skinners when set at full depth.

The mysterious shape of the shoe on both Milwaukee saws is the result of research showing that the most frequent repairs were for bent shoes. Because the inside rear corner was the part of the shoe damaged most often, Milwaukee decided to cut the corner off to keep it out of harm's way (Figure 6).

Speaking of repairing shoes, I prefer plate material because it will bend if I drop the saw, while a cast shoe is more likely to crack. I can beat a bent shoe back into shape and keep working, but a cracked shoe will have to be replaced and could bring my work day to an abrupt halt. On the other hand, some cast shoes are grooved on the bottom to reduce friction and keep dust and debris out of the way.

Durability

Downtime isn't profitable, so a saw should be sturdy enough to take the inevitable abuse it will get. In addition to good bearings and a strong motor with good airflow for cooling, it should be easy to change the brushes or put in a new switch. For that matter, I shouldn't have to wrestle with the saw just to change the blade. One feature that will save a lot of trips out to the truck is the wrench storage slot in the Bosch and Skil (on top of handle), the Porter-Cable (on bottom of handle), and the Ryobi (on shoe).

When evaluating the long-term durability of a saw, I look closely at the strain relief on the power cord. Despite the manufacturer's warnings, I know that somebody's going to lower the saw down from a scaffold by the cord.

Also, saws with ball or roller bearings will transfer power much more efficiently than those fitted with just a bushing, and the bearings will hold up much longer.

Power

To even the field, we put a brand new Magna Dimple saw blade in all the saws

before using them. Straight out of the box, and with a new blade, they all had plenty of power.

In popular terms, the higher the amps, the more power a saw has. But amperage relates to how well the windings are insulated — the better the insulation, the harder you can push the motor without burning it out. This creates a perception of greater power, especially in materials that are tough to cut. Power in a saw motor actually stems from the number and quality of the windings — the more windings, the stronger the magnetic field will be. Watts, not amps, is the standard measure for this, but few manufacturers publish this rating. Mostly you have to rely on the reputation of the motor manufacturer.

Power is especially important when the work dulls blades quickly — when cutting concrete-encrusted form material, for instance, or LVLs and other engineered lumber. But for most contractors, power is less important than choosing a saw that "feels right" and making sure that you keep sharp blades on hand.

How They Rate

We tried out each saw by making a series of crosscuts at both 90 degrees and 45 degrees. We paid attention to how the saws handled during the cut, and how easy it was to watch the cut from start to finish. As expected, some of the blade guards worked better than others, particularly on bevel cuts. Along with specifics, like weight, amperage, and price, we've pointed out the notable strengths and weaknesses of each saw. We also formed an opinion about the overall design ergonomics.

However, only long-term use will prove whether some of the innovative features work as advertised. All carpenters have their own opinions about the relative importance of different features. We suggest you try before you buy.



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