

# Finger-saving Tablesaw

Tool  
Test

We test SawStop's new portable tablesaw

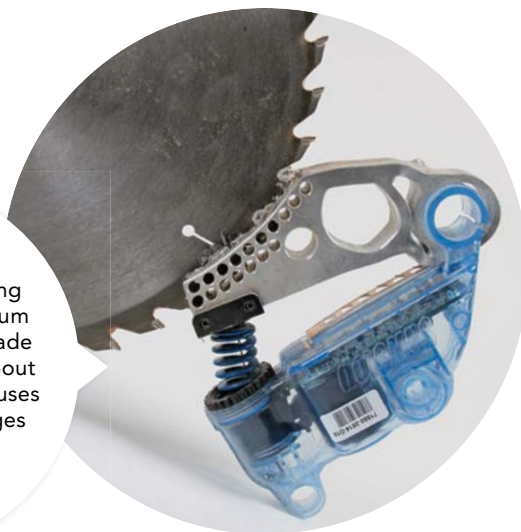
BY KEVIN IRETON

In 35 years as a carpenter, I've made three trips to the emergency room. The first was to have my eyelid turned inside out so that a small piece of concrete could be removed. The second was to receive a dozen stitches in my right thigh after the guard on my worm-drive saw froze in the open position one frigid morning up in Maine. The last trip to the ER came when a board I was cutting on my tablesaw kicked back. My left hand was applying pressure to keep the board tight to the fence, and when the board disappeared, my hand went into the blade. It came out with one less fingertip. I joked with the ER nurse that even though my hand would be less effective at scratching itches, maybe I could get a discount on manicures.

Nobody really knows how many tablesaw accidents happen every year or how many of those result in amputations. Some accidents don't get reported. Some are reported inaccurately. And of all the accidents that happen, only a sampling is used to project national averages. That said, the Consumer Products Safety Commission (CPSC) estimates that there are 67,000 tablesaw-related injuries every year, resulting in 33,000 emergency-room visits and 4000 amputations. That's more than 10 amputations every day.

Given these injuries, the CPSC has been considering whether to adopt a standard for tablesaws that would require the use of "accident injury mitigation" technology. The Power Tool Institute and tool manufacturers oppose new rules because they would increase the cost of tablesaws. Meanwhile, lawsuits are being filed (and won) against manufacturers for not adopting finger-saving technology. Still more lawsuits have been filed over patent issues related to the technology. In the midst of all

**Blade-stopping brake.** At the heart of the saw's finger-saving technology is an aluminum brake that brings the blade to a complete stop in about 5 milliseconds. This saw uses the same brake cartridges as SawStop's cabinet and contractor saws. Replacements sell for \$69.



the acrimony, however, two facts are indisputable: Tablesaws are dangerous, and a safer tablesaw is a good thing. For those reasons, I was delighted to learn that SawStop, the company that pioneered finger-saving technology 15 years ago, has released a job-site version of its tablesaw. When *Fine Homebuilding* asked me to test one, I jumped at the chance to get my fingers on it—all 9¾ of them.

## A big saw that's designed well

In my remodeling work, I generally use a 10-in. Bosch 4100 with a Gravity-Rise stand. It's a big saw, near the limit of what I consider portable, and I don't love moving it in and out of a truck. But I've really come to like it. The new SawStop compares favorably to the Bosch. It's of a similar size and weight, and it's easy to wheel around.

Whoever designed this saw sure did their homework. For instance, to adjust the height of the blade, a single turn of the crank takes it from below the table to 3⅞ in. above. To adjust the blade angle, you squeeze the back-plate on the crank and swing the motor where you want it. And in a nod to the realities of remodeling, there's a separate knob to fine-tune the blade angle one degree or so in either direction.

To lock and unlock the fence on the SawStop, there's a toggle recessed on top of it rather than the typical lever on





## DIFFERENT FOR GOOD REASON

The job-site SawStop looks a lot like every other portable tablesaw, but because of its finger-saving technology, it operates a little differently.

**Folding stand improves portability.** A well-designed folding stand makes it easier to move the 79-lb. saw up stairs and around a construction site. The whole setup weighs 108 lb. and nearly fills the bed of a compact pickup truck.



**Sophisticated switch.** The saw's master switch energizes the safety system so you can determine if wet or potentially conductive materials will trigger the electronic brake. The red paddle switch controls the motor. A chart for interpreting the saw's status lights is next to the switches.





# ONE SERIOUSLY

the end. Poke your finger into the toggle to release the fence, slide it where you want, and rock down with the heel of your hand to lock the fence in position.

The fence locks at the front and cantilevers over the table. The far end rides on a wheel but doesn't clamp down. I read some concerns online about the fence deflecting during a cut, but I found it to be rigid.

Like the Bosch (and several other saws), the SawStop has a sliding table that can be extended for cuts up to 25½ in. wide. However, on the SawStop, you can lock down the extension table only in two locations: fully open or fully retracted. To support the workpiece when the fence is between those locations, you turn a small dial on top of the fence that extends a thin piece of metal for the stock to ride on. It's the only thing on the saw that seemed a little silly to me.

Less silly is the fact that extending the table provides access to a storage compartment that contains the owner's manual, the miter gauge, the blade guard, antikickback pawls, a spare brake cartridge, and a set of adjustment tools. On other portable tablesaws, accessories either are stored on the outside of the saw, where they can catch on things, or else there's no place to keep them.

## Starting the saw is complicated for a reason

Although the SawStop is clearly the safest tablesaw I've ever used, I was scared to turn it on the first time because I was worried about engaging the brake accidentally. Plus, the power controls and status lights were a little intimidating.

The startup is complex, in part because it allows you to bypass the finger-saving technology when you're cutting conductive materials such as wet wood or foil-faced foam that might trigger the safety brake. You can also use the bypass mode to test a material's conductivity; a red blinking light in bypass mode means that the material will set off the safety brake. When the safety brake is triggered, an electrical circuit releases a powerful spring that jams a chunk of aluminum into the blade, stopping it and simultaneously dropping it below the surface of the table.

The process either ruins the blade or destroys enough teeth to require serious repair. To get up and running again, you need a new blade (\$40 to \$100) and a new brake cartridge (\$69), all of which is fine if the saw just saved you from losing a finger, and not so fine if you were simply trying to rip a piece of pressure-treated wood. The big question is this: How often will I trigger the safety brake unnecessarily? I used the saw for a couple of months and didn't trip the brake except intentionally. Contributing editor Gary Katz, former *Tools of the Trade* editor David Frane, and builder Ron Paulk all posted early video reviews of the saw. Katz and Frane each reported tripping the brake once. Frane also tested SawStop's claim that cutting nails and staples won't trigger the brake and

### On-board accessory storage.

Underneath the sliding extension table is a small plastic case that holds a spare brake cartridge, the miter gauge, adjustment tools, and the three-part blade guard. The owner's manual is also in there.



**Modular blade guard.** The saw includes a modular blade guard. An optional guard (\$119) has a port for dust collection. The saw includes two riving knives. One accepts the blade cover and antikickback pawls. The other, a "shark-fin style" knife, is used without the blade cover or pawls.



**Fast blade-height adjustments.** Unlike all other tablesaws, which require multiple turns of the blade-height adjustment wheel to change cutting depth, the SawStop's wheel takes the blade from below the table to its 3⅞-in. maximum cutting height in a single turn.



# SMART SAW

**Redesigned rip fence.** The saw has a rip capacity of 25½ in. to the right of the blade and 9¾ in. to the left of the blade. The fence locks and releases with a red toggle on top of the fence. Pressing down on the front of the toggle unlocks the fence. Pushing down on the other end locks it.



## Fine-tuning bevels.

The bevel adjustment can be fine-tuned with a rotating knob that adjusts the bevel up to 1° in both directions. You have to return the microadjustment knob to zero when returning to straight cuts because the setting is maintained even after changing bevel positions.

## Easy bevel changes.

Behind the blade-height adjustment wheel is the saw's bevel adjustment control. Squeezing the black backing plate allows you to swing the trunnion for blade bevel settings from -1° to 46°. The control is easy to use and accurate.



found it to be true. Paulk has been using the saw for a year now and has never tripped the safety brake.

## Is the saw underpowered?

Katz also has had his SawStop for a year, and his take is that the saw is “slightly underpowered.” For a saw this expensive, he says, “you should be able to rip anything without the motor slowing.” I heard a similar complaint after loaning my saw to a local remodeling crew for a dormer-framing project. Matt Howard, SawStop’s vice president of marketing, told me that he had heard only one complaint about the saw being underpowered, and he explained that under some circumstances, rather than triggering the brake, the saw will slow down and even stop if it detects wet wood. In this context, *power* is a squishy term. I set up the SawStop side by side with the Bosch—same blades, same length of cord, same piece of wood, same feed rate—and ran some 2x stock through each one. I didn’t notice much of a difference and decided that I didn’t really care if the SawStop was “slightly underpowered.”

## How much is a safer table saw worth to you?

So the SawStop is a well-designed table saw. Is it perfect? No. I wish it weighed less. I wish it were quieter. I wish its miter gauge were as nice as Bosch’s. More than anything, I wish it didn’t cost \$1400, which is more than twice the cost of other 10-in. portables on the market. Of course, the SawStop will protect you from cutting off your fingers, and the other saws won’t. How much is that worth?

If you’ve never had an accident and still think, “It’ll never happen to me,” then you probably don’t value a safer table saw very highly. But if you’re like me and can’t count to 10 on your fingertips, you may be dealing with a very different equation. This may also be so if you have employees and workers’ comp payments.

I used to think it would never happen to me. Then it did. Fortunately, I only lost the tip of my ring finger. At the time, a friend of mine said, “That’s just a warning.” I could have lost several fingers, or worse, a thumb. It was indeed a warning, and I became a safer carpenter as a result. Still, we all get tired, and rushed, and distracted, and angry. And we all occasionally ignore the little voice in our heads that says, “You probably shouldn’t do that.”

I know from personal experience that it only takes one slip to send your hand into that spinning blade. On your way to the hospital, you’ll wonder how you could have done something so stupid. You’ll wonder if you’re still going to be able to earn a living with your hands. And now, you’ll also have to wonder why you didn’t buy a safer table saw. Why let that happen? Get the SawStop. That’s what I’m going to do. □

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