Wormdrive Saws

by Kim and Linda Katwijk

A West Coast deck builder puts these 7¼-inch powerhouses to the test

I've worn out a few wormdrive saws in my 38 years in construction. Here on the West Coast, and extending to somewhere in the middle of the country, the worm drive (the term refers to the gear configuration connecting the motor to the blade) is the workhorse of the industry. You generally won't find a "sidewinder" on a Western job site unless one is needed to make left-handed bevel cuts, as on mitered stair stringers.

The Skil 77 is the classic wormdrive saw, with a long track record of reliability. Over the past 15 years, a number of manufacturers have stepped into the game and produced some very fine wormdrive saws; for this article, I evaluated seven 7¼-inch saws. I tried each of them myself and sent each one out with my crews for more than two weeks. It didn't take long to weigh the complaints and identify the favorites. Still, all the saws we tested are fine tools; it's only when you use them side by side that the differences become obvious.

What I Tested

The tests I ran varied in subjectivity. For example, I rated handle comfort for various-size hands by having people with large and small hands use the saws and report back to me, but what's comfortable for them might not be for you.

In other cases, I carried out more objective testing, as when I set the saws to common settings — 90, 45, and 22.5 degrees — made a cut, and measured the resulting bevel. For square and 45-degree bevel cuts, I also evaluated how accurately the guide notches in the front of the saws' bases aligned with the blade. Power I tested as objectively as possible without a testing lab

The Milwaukee has a lot of good features, but for the author, they're trumped by how the saw throws sawdust ahead of the cut (left), making accurate cuts difficult. Compare its dust pattern with that of the Makita (right).

Wormdrive Saws

by driving the saws into a Douglas fir 4x6 as fast as I could, trying to stall the motor.

Another feature I reported on was how the saws handled sawdust. Several of these saws blew it in front of the tool where it obscured the cut line, a major negative, particularly if you use the guide notch to align your cuts. That's probably less of a concern if you eyeball the blade itself to make your cuts.

I didn't weigh the saws, but relied on the manufacturers' published data. The street prices listed came from Amazon.com, and it's possible you could do better if you shop around.

I looked at smaller details, too, like how easy it was to change the blade and whether the blade guard hung up when starting a cut. I also noted some characteristics that were clear simply through observation, like the material the saw's base is made from.

The DeWalt's blade-lock button is conveniently located, making blade changes a snap.

When you're working with finish lumber, that's very important; on species like cedar or redwood, aluminum tends to leave black marks, and steel reacts with tannins in the wood when it's wet, resulting in a hard-to-remove stain, whereas magnesium and plastic don't have either of those problems.

One feature I couldn't evaluate was reliability. All the saws held up under several weeks of use, which isn't enough time to draw any realistic conclusions. From long experience, I'm confident in Skil's offerings. I can only hope the other manufacturers' tools hold up as well over time, but you need make that judgment based on your own experience with the various brands.

Contributing editor ***Kim Katwijk*** *is a deck builder in Olympia, Wash., and his wife,* ***Linda,*** *assists with his writing.*

My First Skilsaw

It wouldn't be far off to say that I have had a wormdrive saw in my hand for most of my 84 years.

I began learning construction at about age eight in my grandfather's cabinet shop. In 1943, I was 16 going on 17, and like many other young men at the time, I fibbed my way into joining the Army. I was sent to Fort Lewis, where I trained in combat engineering. That was the first time I ever used a wormdrive saw. Before then, I had used only handsaws powered by my arm muscles.

I came out of the Army in 1947 and went to work building houses for a man named John Carter, who had a Wappat wormdrive saw. It was a great saw. I wanted one of my own, so I went to Western Machinery. It had many sidewinders that were in the $50-to-$70 price range, but then I tried the Skilsaw 825 wormdrive, and it was far superior to all of the others. Even with the discount, it was $125, and for a guy making $.72 per hour, that was a lot of money. I bought it anyway and had no regrets.

Still working for John Carter, my brother Charley and I started our own business on the side and built our first home. It took two or three years before we were fully independent.

My brother and I built a large warehouse that had 4x6 tongue-and-groove decking. It was quite a job to cut all the way through it with the 8-inch Skilsaw, so we bought a 12-inch Remington wormdrive saw from Army surplus for $75. The Remington could cut clear through the 4x6s with one pass. It saved us a lot of time.

I still have that old Remington, and it still runs today. It takes a little while to rev up when hooked to 110v, but it can really scream when plugged into 220v. It can still cut clean through a 6x6 with one pass.

I've used it on many commercial jobs where, when I brought the saw out on the job, the other workers would say, "It's too big and heavy!" Soon enough, though, everyone would be using it and loving it.

After a lifetime of building and superintending commercial construction, I'm as die-hard as my old Remington — I even enjoy building decks with my son from time to time.

Clarence Katwijk is the father of contributing editor Kim Katwijk.

Wormdrive Saws

Bosch 1677M

877/267-2499
boschtools.com
Street price: $200

My first thought when I took the Bosch 1677M out of the box was that they didn't ship it with a cord, but then I figured out that you plug your extension cord right into the back of the saw. This design has a lot of advantages: There's no cord to deal with when you put the tool away; there's no plug to get snagged on job-site obstacles; and you can choose any length extension cord to suit your needs. I applaud Bosch for its ingenuity.

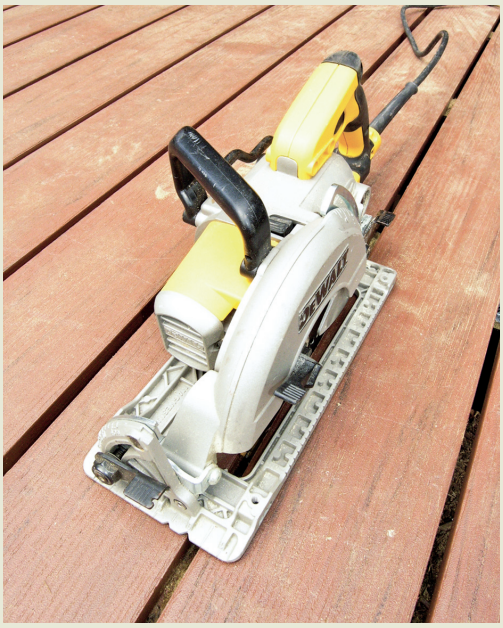
This magnesium saw has a fluted base plate; it glided over the work exceptionally smoothly because it had less surface contact with the wood. The Bosch's blade bolt, like the ones on all the saws in this article, has left-handed threads — plus, it's helpfully marked with arrows to indicate tightening and loosening directions.

I didn't like the bevel adjustment, which uses a piece of spring metal as a stop for the 45-degree angle; pulling it allows you to set the saw to the maximum 51.5-degree angle. The Skilsaws have this type of adjustment, too, and its accuracy was unreliable in both brands.

Bosch and several other manufacturers mark directional arrows on the left-hand-thread blade bolts.

I also wasn't impressed with the trigger on the Bosch 1677M. It had the hardest pull of all the models we tested, and its square design tended to cause hand fatigue.

In the raw-power test, the Bosch 1677M rated in the middle of the pack.



DeWalt DWS535

800/433-9258
dewalt.com
Street price: $170

The DeWalt's bright yellow handles made it the easiest saw to find, and at 13.8 pounds, it was the second lightest. It has a cast-magnesium motor housing, blade guard, and base plate. Its wide, metal knobs and easy-to-read gauges allowed for accurate settings. The base plate's bevel adjustment has preset stops at 22.5, 45, and 51.5 degrees, and its bevel guide has both 1- and 5-degree increments, which made it easy to set accurate bevel cuts.

To help the user remember that the blade bolt has a left-hand thread, DeWalt embosses its blade washer with very readable tighten and loosen arrows.

DeWalt's hanging hook was deeper and wider than the other saws' hooks, which made it easier to hang the tool with. The hook folded up tightly against the body of the saw with its tip tucked neatly behind the top handle.

The blade lock button is placed conveniently on the top of the saw, so its blade change was the easiest of all the saws.

I found only two negatives with the DeWalt: The rubber grip at the back of the handle didn't have the best finish, so it was uncomfortable to use for a long time; and the saw had a loud startup noise.

The DeWalt's raw power was average.

Wormdrive Saws

Saw Specs							
	Bosch 1677M	**DeWalt DWS535**	**Makita 5377MG**	**Milwaukee 6477-20**	**Ridgid R3210**	**Skilsaw SHD77**	**Skilsaw SHD77M**
Author's overall ranking	4	3	1	6	7	5	2
Weight (pounds)	14	13.8	13.2	15	15	16	14
Base-plate material	magnesium	magnesium	magnesium	plastic composite	aluminum	steel	magnesium
Power-cord length	direct connect	9'2"	9'5"	12'3"	12'7"	7'8"	7'9"
Body material	magnesium	magnesium	magnesium	composite	aluminum	magnesium	magnesium
Front-ruler scale (inches)	1/4	1/2	1/8	1/8	1/16	none	none
Right-side cut offset (inches)	5 5/8	5 3/4	5 9/16	6 1/4	5 3/4	5 5/8	5 5/8
Left-side cut offset (inches)	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Blade squareness to base at factory setting	square	square	square	2° off	1° off	1° off	1° off
Angle scale (degrees)	5	1 and 5	5	5	1	5	5
Maximum angle (degrees)	50	53	51.5	51.5	51.5	51.5	51.5
45-degree bevel setting, accuracy (degrees)	+/- 1	+/- 1	accurate	+/- 1	+/- 1/2	+/- 1/2	+/- 2
Depth-of-cut guide, accuracy (inches)	+/- 1/16	accurate	accurate	accurate	+/- 1/16	accurate	+/- 1/16
Best hand size for handle comfort	medium	small	large	medium	small	small	small
Feature ratings 1 (worst) to 5 (best)							
Location of blade-changing button	2	5	5	3	3	2	2
Guide-notch accuracy, square and 45-degree cuts	3	3	5	5	5	3	3
Trigger comfort	2	5	4	5	4	3	3
Blade-guard smoothness, thick stock	3	4	4	5	3	3	3
Blade-guard smoothness, thin stock	3	3	2	5	4	3	3
Sawdust placement	5	3	5	1	1	3	3
Straight cut, 3/8" plywood, 1" blade	5	2	4	4	4	3	2
Raw power	3	3	4	3	2	5	5

Wormdrive Saws

Makita 5377MG

Magnesium Hypoid Saw
714/522-8088
makita.com
Street price: $165

The Makita 5377MG is one sweet saw. As evidence of that, it kept disappearing while I was trying to write this article, because my workers were sneaking it away to the job site. As its gearing differs (it has a hypoid drive), the Makita is technically not a wormdrive saw, although it looks and acts like one. Its motor housing, blade-guard housing, and plate are magnesium, and at 13 pounds 2 ounces, it was the lightest of the saws we tested.

Its rubber-coated knobs made adjusting both the bevel and the depth settings easy. The preset angle adjustment allowed easy and accurate settings for 22.5, 45, and 51.5 degrees. The cast-magnesium base plate has easy-to-read ruler and guide notches for both 90- and 45-degree cuts. It was the only saw in the group that has start and stop marks on the side of the plate to indicate where the blade is when set at full depth. Its handle has soft rubber grips, which made it comfortable and easy to get a sure grip.

In the raw power test, the Makita came in second to the Skilsaws, but not by much. It scored high in all categories.

The only negative we could find was that its blade wrench was too short.

The Makita 5377MG gets my top recommendation. It's also the saw of choice among my crews.

Milwaukee 6477-20

800/729-3878
milwaukeetool.com
Street price: $170

The black composite base plate set this saw apart, giving it the best glide of all the saws we tested, and its unique guide-notch allowed very accurate cuts. Wide, plastic-coated knobs made it easy to set any angle or depth. The white embossed arrow and numbers on a black background made its blade-depth guide the easiest to read. The Milwaukee achieved an accurate 51.5-degree bevel angle with a button that, when not pushed in, gave a 45-degree cut.

It has a die-cast magnesium housing, a plastic handle with rubberized grips, and a smooth, round, easy-pull trigger. Its blade guard came in first for smoothness. Whether used with thick or thin stock, it glided open effortlessly.

The Milwaukee has a couple of other nice features. Wormdrive saws have a gear case that's filled with lubricating oil, sort of like the crankcase of a car. This one has an innovative glass that allows you to determine the oil level at a glance. And the long-handled hex wrench for changing the blade slips neatly into its storage slot beneath the handle and above the plate.

On the negative side, the oil drain hole is on the top of the saw, so draining the oil could be messy. And the hanging hook stuck out where it could be caught easily. However, if rotated fully upward, it could be tucked nicely behind the top handle. The saw's worst feature was that it blew the sawdust in front of the tool, obscuring the cut line and making it difficult to cut accurately.

The Milwaukee was the only saw with a sight glass for checking the saw's oil level.

At 15 pounds, the Milwaukee was the second-heaviest saw. Its raw power was average.

Wormdrive Saws

Ridgid R3210

800/474-3443
ridgid.com
Street price: $160

The Ridgid R3210 has a magnesium motor housing, plastic handle, and aluminum base plate. Its ruled guides were the most accurate of all the saws. The bevel guide is divided into 1-degree increments, whereas most of the other saws use 5-degree increments. Its depth-of-cut guide was easy to read, with a white arrow and white numbering on a black guide slide. The front- and side-plate rulers are marked in 1/16-inch increments. The bevel and depth knobs are plastic-coated steel.

The cord was the longest of the bunch at 12 feet 7 inches, allowing you to rip a full 12-foot board without the plug hanging up. And the Ridgid has a feature I wish all saw manufacturers would adopt — a light in the plug that shows there is electricity in the cord or the outlet you just plugged it into.

On the negative side, the hanging hook stuck out when in the down position. Also, knowing how rough carpenters can be on tools, I am leery of the flat aluminum base plate, which looked like it would be prone to bending if something were to hit it.

The Ridgid had average raw power. It wasn't a top performer, but note that this would be my saw of choice for setting accurate bevel cuts.

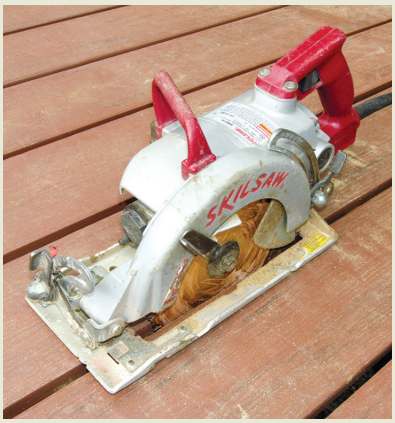
Skil SHD77

877/754-5999
skiltools.com
Street price: $150

Not much has changed from my first Skil 77. It's ruggedly built with a die-cast aluminum body and steel base plate. Its raw power is second to none. The left-hand-thread blade bolt is marked with arrows to indicate tightening and loosening direction.

At a hefty 16 pounds, the Skilsaw SHD77 was the heaviest of the saws here. That was balanced by the tool's strong track record. I can only hope the rest of the saws can withstand the test of time as this model has.

One negative was that the spring-metal stop for setting the bevel angle was not precise. However, if you just checked the guide before locking the bevel, it gave an accurate cut. Also, on the particular saw that we tested, the hex head on the blade bolt was very short. The included wrench worked fine on the nut, but those wrenches frequently end up lost. A standard 1/2-inch box wrench we used as a replacement didn't engage well on the bolt and eventually would have rounded it over.



Skil SHD77M

877/754-5999
skiltools.com
Street price: $175

The Skilsaw SHD77M has a magnesium housing with hard plastic handles and a magnesium base plate. Weighing in at 14 pounds, it's two pounds lighter than its predecessor, the SHD77, with the same raw power. I've actually worn out a couple of these in my lifetime, which says more about my age than any flaw in the Skilsaw. This saw is hard to beat and is still my second choice, after the Makita, to have in my toolbox. Each of my crews has one.

There's nothing fancy about the Skilsaw SHD77M. It has metal knobs and a V-notch as a guide in its plate. The left-hand-thread blade bolt is marked with arrows to indicate tightening and loosening directions.

As I found with the Bosch and the Skilsaw SHD77, I didn't like the spring-steel piece for setting the bevel. Skilsaw had the shortest cord at 7 feet 8 inches long — not long enough to cut a sheet of plywood. ❖