

Spindle Sanders

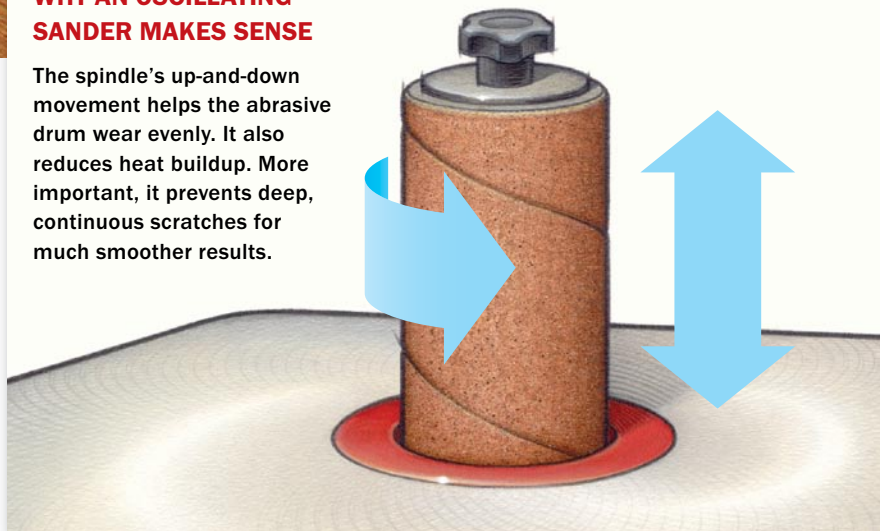
Oscillating drums
smooth curves
quickly and easily

BY ROLAND JOHNSON



WHY AN OSCILLATING SANDER MAKES SENSE

The spindle's up-and-down movement helps the abrasive drum wear evenly. It also reduces heat buildup. More important, it prevents deep, continuous scratches for much smoother results.



Nothing beats an oscillating spindle sander for sanding curves. The up-and-down movement helps keep the sanding sleeve from clogging. Sanding goes faster, the abrasive lasts longer, and there's less risk of heat buildup.

The seven sanders I tested sell for \$140 to \$640. They're compact enough to sit on a workbench, although a couple have a floor stand. One, the Ridgid 4424, has the unique ability to convert quickly from a spindle sander to an oscillating 4x24 belt sander. These machines won't grind away large amounts of hardwood

Test results

Every machine handled its main job—sanding curves—very well. Factors such as table height or onboard storage for tools and accessories mattered more. What set the Ridgid apart from the rest is the added versatility of its belt-sanding attachment.



RIDGID EB4424



AUTHOR'S CHOICE
BEST OVERALL
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BEST VALUE

Two in one. The Ridgid 4422 is the only machine that converts from spindle to belt sander. The changeover takes about half a minute and doesn't require tools.



BRIDGEWOOD OVS-5

in no time. However, all have enough power to sand 8/4 red oak without slowing or stalling. I was able to stall the two with the least horsepower, the Delta and the Grizzly G0538, but only when they were bolted down and fitted with a 3-in. drum and I pushed hard on the stock. But that kind of aggressive sanding isn't right for these machines.

Motor speed, oscillations per minute, and spindle stroke vary, but those differences don't matter. I had no trouble sanding to a line or following a curve with any machine. What does matter are seemingly small things—a place to store sanding sleeves and tools, or a dust port that fits a shop vac without an adapter.

A drum for every curve

Except for the Grizzly G9922, which comes only with a 2-in. sanding drum, these sanders come with at least four spindles, generally ranging in diameter from 1/4 in. to 2 in. That range of sizes highlights a real benefit of spin-

dle sanders—the ability to change the drum and the sleeve that fits over it to suit any curve.

Drums smaller than 1/2 in. slide onto metal spindles and are secured by a washer on the top or a clamp on the bottom. Those larger than 1/2 in. slide onto rubber drums that either fit the 1/2-in. spindle or have a spindle of their own. To hold the sanding sleeves in place, you tighten a nut at the end of the spindle, compressing the rubber drum against the sleeve. That's easiest on the Ridgid, which doesn't require tools. It's outfitted with knobs for drum changes, table tilting, and conversion from belt- to spindle-sanding mode.

Few things aggravate me more than hunting for the wrenches or parts I need to change spindles or sanding drums. The Delta, the Grizzly G0538, and the Ridgid are the handiest; they store spindles, spare drums, and tools on their bases. The Jet is nearly as good; it holds spare spindles, sanding drums, and table inserts, but not tools. The Clayton has a separate

MODEL/SOURCE	STREET PRICE	WEIGHT
Bridgewood OVS-5 www.wilkemachinery.com 717-764-5000	\$270	85 lb.
Clayton 140 www.woodworker.com 800-971-5050	\$640	70 lb.
Delta SA350K www.deltamachinery.com 800-223-7278	\$200	45 lb.
Grizzly G0538 www.grizzly.com 800-523-4777	\$140	27 lb.
Grizzly G9922 www.grizzly.com 800-523-4777	\$200	86 lb.
Jet JBOS-5 www.jettools.com 800-274-6848	\$380	77 lb.
Ridgid EB4424 www.ridgid.com 800-474-3443	\$200	48 lb.

AUTHOR'S CHOICE
BEST OVERALL
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BEST VALUE



CLAYTON 140



GRIZZLY G9922



GRIZZLY G0538



DELTA SA350K



JET JBOS-5

MOTOR	OSCILLATIONS PER MINUTE	SPINDLE STROKE	SPINDLES INCLUDED	TABLE SIZE	HEIGHT	COMMENTS
½ hp, 5.7 amp	30	1 in.	¼, ½, ⅝, 1½, 2 in.	14½ in. sq.	18 in. (39 in. with base)	Cast-iron table tilts. Includes steel base. Very similar to Grizzly G9922 and Jet.
½ hp, 7.5 amp	60	¾ in.	½, ¾, 2, 3 in.	14 in. by 2 in.	13½ in.	Heavy-duty oscillation mechanism, sturdy construction, high-quality motor. Steel table does not tilt. Highest spindle runout (0.012 in.). Mfr. said it would replace machine under warranty.
¼ hp, 3.5 amp	60	⅞ in.	¾, 1, 1½, 2, 3 in.	18 in. dia.	12 in.	Cast-iron table does not tilt. Lowest spindle runout (0.001 in.). Smallest dust port (1¼ in.). Base holds spare drums, spindles, tools.
⅓ hp, 2.4 amp	72	⅝ in.	½, ¾, 1, 1½, 2, 3 in.	14 in. by 20 in.	11¼ in.	Laminate-covered MDF table does not tilt. Oscillation mechanism may need periodic lubrication. Base holds spare drums, spindles, tools.
½ hp, 4.6 amp	64	1 in.	2 in.	14½ in. sq.	18 in. (39 in. with base)	Cast-iron table tilts. Includes steel base. Noisiest sander tested. 3,450 rpm (twice as fast as others). Very similar to Bridgewood and Jet. ⅝-in. miter slot in base.
½ hp, 5.7 amp	30	1 in.	¼, ½, ⅝, 1½, 2 in.	14¾ in. sq.	18 in.	Cast-iron table tilts. Very similar to Bridgewood and Grizzly G9922.
⅜ hp, 5 amp	60	¾ in.	½, ¾, 1, 1½, 2 in.	16½ in. by 18⅞ in.	13½ in.	Unique design converts easily from 4x24 oscillating belt sander to spindle sander. Aluminum table tilts. ¾-in. miter slot in base. Base holds spare drums, spindles, tools.

Spindle-sanding tips

Here are six good ways to make an oscillating spindle sander a workshop asset.

1. BEGIN WITH ACCURATE CUTS

It's hard to turn an irregular line into a fair curve; lumps and bumps tend to get magnified. When roughing out a curve on the bandsaw, try to leave a small, constant margin that can be sanded away quickly and consistently.



2. SAND WITH A LIGHT, STEADY HAND

You'll get the most uniform, fair curves with a steady feed rate and long, fairly fast, sweeping feeds. A slow feed rate or sanding to the line in short segments usually yields lumpy curves. Feed the stock into the drum gently for better control and less heat buildup. Sanding sleeves will last longer, too.



3. MATCH THE DRUM TO THE CURVE

For smooth, fair lines, use as big a drum as you can fit into the curve. All these sanders hold a 2-in. drum; a few go up to 3 in.

rack for spindles, but no tools. The Bridge-wood and the Grizzly G9922 don't provide storage.

Testing spindles and tables

To find out if the spindles were square to the tables, I jointed the edge of a piece of mahogany, drew pencil lines along that edge, and then sanded away. Any remaining pencil marks would show whether the spindle was out of alignment. All the spindles were square in all directions.

I then measured each spindle's runout, or tendency to wobble. My view is

that runout of less than 0.005 in. doesn't matter. On that basis, five of these sanders did fine. But I measured runout of 0.009 in. on the Grizzly G9922 and a whopping 0.012 in. on the pricey Clayton. When told about the runout, Clayton said it would fix the problem. But as this article went to press, I hadn't received the repaired sander.

FineWoodworking.com

Watch a video detailing the basic anatomy and uses of a spindle sander.

Four sanders have tilting tables. I seldom need to sand angled curves, but it's nice to have the option. The tilting tables move on protractor-style mounts held with clamping knobs. All can be returned to zero without fuss, and all have adjustments for setting the zero stops accurately.

The Ridgid and Grizzly G9922 have miter slots in their tables. The Ridgid's fits a common $\frac{3}{4}$ -in.-wide miter gauge, while the Grizzly's is only $\frac{5}{8}$ in. wide. With a miter gauge (or shopmade fence, above), you can easily sand straight stock or end grain.

Sanding accurately to a line requires

4. KEEP SANDING SLEEVES FRESH

Spend \$5 to \$10 for a sanding-belt cleaning stick and use it often. It will greatly extend the life of sanding sleeves, increase the efficiency of the abrasive, and reduce the chance of scorching the wood.



5. TILT FOR BEVELS

A tilting table, found on four of the seven sanders tested, becomes a handy feature for bevels and roundovers along a curve.



6. DON'T SAND STRAIGHT EDGES FREEHAND

If you want your spindle sander to follow a straight line, turn it into an edge sander with this simple jig: Take a board at least 1½ in. thick and bore a hole slightly larger than the sanding drum near the board's edge. Rip the edge off the board, removing a bit of the hole to leave a gap in the side of the board. Clamp the fence to the sander table so that the drum peeks through the gap.

looking directly down at the line. So the work needs to be about elbow-high. For me, at 5 ft. 9 in., the sander table should be no more than 45 in. off the floor.

The Bridgewood, Grizzly G9922, and Jet are about 18 in. tall, much taller than the others. The Bridgewood and Grizzly come with steel bases that put them at a handy (for me) height of 39 in. But the Jet is a benchtop-only machine and too tall for me to use comfortably at my 34½-in.-tall bench. If I were 6 ft. 3, I'd have no complaint. Overall, the Grizzly G0538 at 11¼ in. tall is most suited to benchtop

use, followed by the Delta at 12 in. and the Clayton and Ridgid at 13½ in.

Dealing with dust

The Delta was best at the critical task of dust collection. Its spindle has a small fan that moves air down and out the dust port. The sander comes with a dust bag that does a fair job of containing fine particles. But I found that the Delta, like all the other sanders, does a better job of dust collection when it's connected to a shop vacuum. Next best are the Grizzly G0538 and the Clayton, with dust ports under the edge of

the table. The Ridgid's dust-collection system was reasonably good only when the machine was in spindle-sander mode.

One clear winner

I chose the Ridgid EB4424 as the best overall and the best value. Because it can work as both a spindle sander and a belt sander, it has versatility that the others don't. Its tilting table and no-tools-needed design add to its convenience. And its \$200 price makes it an excellent buy. □

Roland Johnson is a contributing editor.