

18-inch Bandsaws

These big machines excel at cutting thick stock and slicing veneers quickly

BY ROLAND JOHNSON

Many woodworkers have 14-in. bandsaws. For a wide variety of cuts, these machines are more than adequate. But if you cut a lot of thick stock, or if you resaw stock in the 9-in.-wide to 12-in.-wide range, an 18-in. saw is worth considering. Not only is it a size that offers extra capacity, but most 18-in. bandsaws also have more horsepower to cut faster.

I looked at 11 models of 18-in. bandsaws, ranging in price from \$900 to almost \$3,000. They include the Agazzani B-18, Bridgewood PBS 440, Craftsman 22450, Delta 28-682, General 90-270, Grizzly G0506, Jet JWBS-18, Laguna LT18SE, Lobo BS-0181, Rikon 10-340, and Woodtek 118-199. (At the time of the review, the 18-in. bandsaw made by Mini-Max was unavailable and will be reviewed in a subsequent issue.)

A good guide system is a good start

Among the important characteristics of a bandsaw, the quality of the upper and lower blade-guide systems ranks high. Although they can differ, all guide systems have a common function: to support the blade during a cut.

With that in mind, I looked closely at each guide system. As I soon found out, they can be grouped in three different categories: solid-block guides (steel or ceramic), wheel (European) guides, and bearing guides.

Despite their differences, all of these guide systems are designed to support the blade at three points—the sides of the blade and the back of the blade. Side support helps keep the blade from twisting or drifting side to side during a cut. The



A VARIETY OF BLADE GUIDES

BEARING GUIDES

Because the edges of the guides bear against the sides of the blade, bearing guides offer good support. Also, friction is reduced because the ball bearings spin at the same speed as the blade.



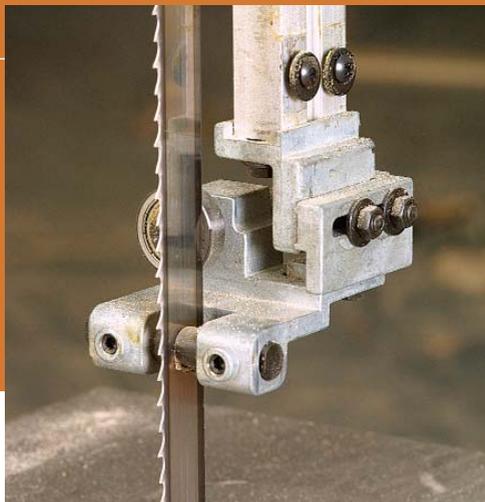
WHEEL GUIDES

Guides designed in the European style support the sides of the blade using the face surface of the ball bearings. Compared with solid guides made from steel, the wheel guides produce less heat from friction.



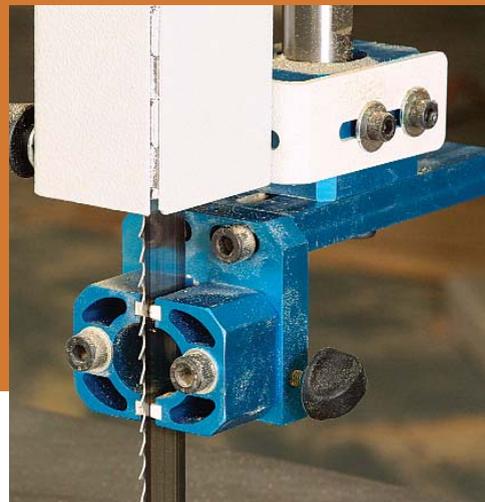
STEEL SOLID-BLOCK GUIDES

Solid-block guides made from steel have one drawback—friction from the blade can wear down the blocks, especially when making curved cuts.



CERAMIC SOLID-BLOCK GUIDES

The solid-block guides on the Laguna bandsaw are made from ceramic, a material that's harder than steel, so they'll last longer.



back support helps prevent the blade from flexing on edge, which can cause blade drift (that annoying propensity of a bandsaw blade to wander off a straight line during cutting), an uneven cut, or both. It also prevents the blade from getting pushed off the wheels.

Solid-block guides—On the Craftsman, Laguna, and Lobo bandsaws, solid blocks support the sides of the blade. The blocks on the Craftsman and Lobo are steel; the Laguna has ceramic blocks.

Both the Craftsman and the Lobo have an angled outside lower guide block, which shortens the distance between the upper and lower guides. That's a plus, because the blade is less likely to bow or twist. However, it was a chore to set the guides on the Craftsman and Lobo saws. I needed four different tools—a screwdriver, an open-end wrench, and two different-size Allen wrenches. Also, a hard-to-reach bolt made it difficult to adjust the guides front to back. I resorted to tilting the table to reach the bolt on the lower guide. Then, after carefully setting the upper guides, I learned that tightening the setscrews made the guides move slightly, so they no longer were positioned properly. It took several tries to figure out how to compensate for the problem.

The Laguna bandsaw features a unique guide system that incorporates blocks made of ceramic, a material that won't wear as

quickly as steel. Two blocks, instead of the usual one, support each side of the Laguna's blade. The back blocks are ceramic, too, and allow the back edge of the blade to slide against them during a cut.

The Laguna guides worked well, providing especially good support to the blade, and setup was relatively easy. This model was my favorite among the saws with solid-block guides.

Wheel guides—The Agazzani, Bridgewood, General, Grizzly, and Woodtek use wheel guides (a wheel mounted in a bushing) to provide side-to-side blade support. The wheel guides, sometimes called European guides, are adjusted so that the side of each one ends up lightly touching the blade. To ensure that the wheels won't contact and dull the blade teeth, the edge of each wheel is positioned just behind the gullets of the blade.

For back-of-the-blade support, Bridgewood uses a third wheel guide. However, I'd prefer to see a ball-bearing setup, such as that on the General, Grizzly, and Woodtek. On those three saws, the bearing's edge faces the blade. As a result, the blade and the edge of the bearing move at the same speed, minimizing friction.

All of the wheel guides were somewhat fussy to set and adjust. For starters, there was a lot of play in the side wheel guides and the back guides, so seating the guides required a bit of pressure be-



AGAZZANI B-18

323-999-2909
www.eagle-tools.com

Acceptable results in the resaw test; did well in curve-cutting test; ranked fourth in frame-deflection test; very good rip fence; cast-iron trunnion support and trunnions a plus; fussy-to-adjust guides made blade changing a chore; fit and finish were top notch.

Street price
\$1,995

Motor
2½ hp, 11.8 amps at 230v

Resaw capacity
12¾ in.

Rip capacity
17½ in.



BRIDGEWOOD PBS 440

800-235-2100
www.wilkemach.com



Fastest resaw cutting-speed; did well in curve-cutting test; ranked first (best) in frame-deflection test; cast-iron trunnion support and trunnions a plus; very good rip fence but lowest rip capacity; fussy-to-adjust guides made blade changing a chore.

Street price
\$1,800

Motor
3 hp, 16.5 amps at 230v

Resaw capacity
11½ in.

Rip capacity
16¾ in.

DETAILS MAKE A DIFFERENCE

When adjusting the guides on the Jet saw, Johnson found the small thumbscrews difficult to tighten fully without pliers. The front-to-back bearing adjustments on the Delta (below) incorporate handles that were convenient and relatively comfortable.



tween the guide and blade. Also, it was impossible to get an even amount of guide pressure on each side of the blade because none of the side wheel guides was on the same plane.

Bearing guides—The Delta, Jet, and Rikon saws use ball-bearing guides to support the sides and back of the blade. But unlike wheel guides, the bearing-guide system supports the sides of the blade using the edge of the ball bearing. Each bearing can be positioned to almost touch the blade (about 0.003 in.), so the guide provides excellent support. Plus, when the bearing and blade touch, they both move at the same speed, which helps reduce friction.

On the Delta saw, the back of the blade bears against the face of the ball bearing. This arrangement works okay, but it sometimes can produce grooves in the face of the bearing. Eventually, that can cause the bearing to chatter or to stop rotating altogether. I prefer the design used on the Rikon and Jet saws, where the edge of the bearing runs against the blade.

Setting the guides on the Delta was a mix of ease and exasperation. Crank handles proved handy for loosening the setscrews that allow for front-to-back adjustment. But to make the side-to-side adjustment, I had to search for an Allen wrench and a screwdriver. Adjusting the lower guides on the Delta meant tilting the table and using a ball-end-type Allen wrench and screwdriver. The adjustments had to be done without a good line of sight to the blade.

The Jet saw also came up short here. Smallish thumbscrews lock the back bearing, and when hand-tightened, they quickly loosened. So I ended up using pliers to turn them. In addition, the lower side bearing on the Jet was a chore to adjust, especially when changing from narrow to wide blades. The Allen-head screws securing the

guide holder were positioned poorly. Indeed, the inside screw could be reached only with the table tilted and the guide moved to its rearmost position. The lock knob for the side bearing adjustment was in the way, and the knob had to be removed.

I prefer guides that simply slide back and forth, as on the Rikon. That way, the axles on the ball bearings remain parallel. The Rikon was easy to set up, needing only two Allen wrenches to adjust all of the guides. The toughest part was setting the upper rear bearing, because the blade guard created an obstacle. Even so, the Rikon saw was my favorite among the machines with bearing-guide systems.

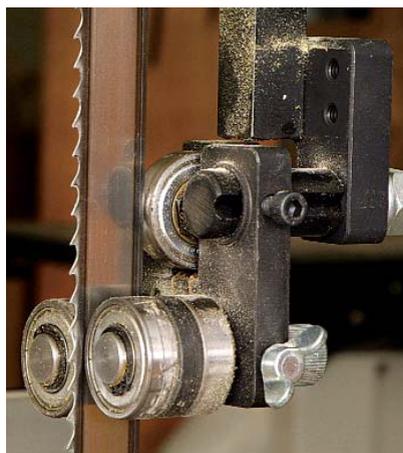
A solid frame is important

When cutting on a bandsaw, especially when resawing wide boards or thick stock, the blade gets pushed into the rear guide. That force, in turn, is applied to the upper portion of the saw. A frame that lacks adequate stiffness is going to deflect slightly. When that happens, the blade twists, and the quality of the cut suffers.

I ran a simple test to see how these saws compared when it came to frame stiffness. I used a push-pull gauge to apply 16 lb. to the upper frame of each saw while measuring the deflection of the frame using a dial indicator. Most of the saws performed well on this test, with the Bridgewood, General, and Grizzly getting the highest marks (see the chart on pp. 70-71). On the other end of the scale, the Craftsman, Jet, and Woodtek had more deflection than I'd like to see.

Blade changing should not cause headaches

I change from one blade size to another pretty regularly, so a saw that allows for quick blade changes gets extra points from me. Honors for the easiest blade-change went to the Laguna and the



LOW-FRICTION REAR GUIDE

The Rikon and Jet saws each positions the rear bearing so that its edge faces the back of the blade, allowing it to move freely with the blade.

Rikon saws. Both saws required only two wrenches (included with the saws) to make all of the adjustments to the guides, which were easy to set. I didn't have to remove the blade guards, and the throat plates were large and easy to use.

I did have to remove the rip-fence guide on the Rikon, but it was held in place only with large turn knobs and could be removed quickly. The lower guide on the Rikon has a fine adjustment knob that was a breeze to set. I did find that I had to track the 3/8-in. blade slightly forward of center because the lower guides could not move back far enough to clear the blade teeth. A screw head holding the rack on the trunnion was the culprit.

Wheel alignment helps the blade to track properly

Ideally, the upper and lower wheels of a bandsaw should be on the same plane prior to blade installation. If they aren't, blade



CRAFTSMAN 22450

800-697-3277

www.craftsman.com

Acceptable results in resaw test; did well in curve-cutting test; ranked ninth in frame-deflection test; fence not adjustable for drift or squareness to table; fussy-to-adjust guides made blade changing a chore.

Street price
\$1,300

Motor
2 hp, 14 amps at 115v

Resaw capacity
10 7/8 in.

Rip capacity
17 3/4 in.



DELTA 28-682

800-438-2486

www.deltawoodworking.com

Acceptable results in resaw test; did well in curve-cutting test; good resaw capacity; ranked eighth in frame-deflection test; fussy-to-adjust guides made blade changing a chore.

Street price
\$1,200

Motor
2 hp, 8.6 amps at 230v

Resaw capacity
12 in.

Rip capacity
17 7/16 in.



GENERAL 90-270

819-472-1161
www.general.ca

Acceptable results in resaw test; did well in curve-cutting test; ranked third in frame-deflection test; cast-iron trunnion support and trunnions a plus; fence not adjustable for drift or squareness to table; fussy-to-adjust guides made blade changing a chore.

Street price
\$1,500

Motor
3 hp, 19 amps at 220v

Resaw capacity
11½ in.

Rip capacity
17¾ in.



GRIZZLY G0506

800-523-4777
www.grizzly.com

Acceptable results in resaw test; did well in curve-cutting test; ranked second in frame-deflection test; cast-iron trunnion support and trunnions a plus; fence not adjustable for drift or squareness to table; fussy-to-adjust guides made blade changing a chore.

Street price
\$1,200

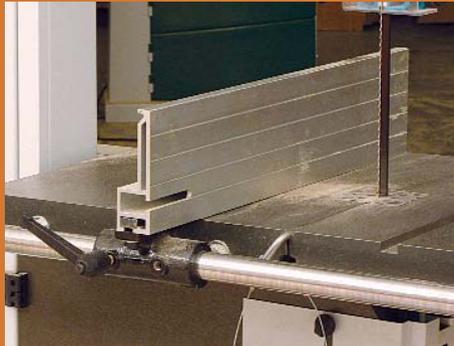
Motor
2 hp, 13 amps at 220v

Resaw capacity
10 in.

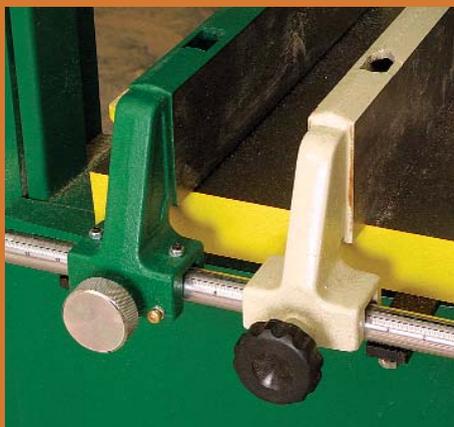
Rip capacity
17¼ in.

A LOOK AT FENCES

High fence adds support. With its extra height and sturdy construction, the Laguna (shown) and Agazzani rip fences offer added support to a tall workpiece, an advantage when resawing wide stock.



Small parts make a big improvement in rip fences. The rip fences on the General, Grizzly, and Woodtek appear identical (Woodtek and Grizzly shown). But the Woodtek (left) has four screws at the clamp head, making the fence easily adjustable for blade drift and squareness to the table.



Dealing with drift. To adjust the Jet and Rikon rip fences for blade drift, you simply loosen four bolts.



JET JWBS-18

877-274-6848
www.jettools.com

Acceptable results in resaw test; did well in curve-cutting test; good fence; ranked eleventh in frame-deflection test; lowest resaw capacity; fussy-to-adjust guides made blade changing a chore.

Street price
\$1,200

Motor
1½ hp, 16 amps at 115v

Resaw capacity
9⅞ in.

Rip capacity
18⅝ in.



LAGUNA LT18SE

800-234-1976
www.lagunatools.com



Did well in curve-cutting test; second-best resaw speed; highest resaw capacity by far; best guides; relatively easy blade changing; cast-iron trunnion support and steel trunnions a plus; very good rip fence; second-lowest rip capacity; ranked sixth in frame-deflection test.

Street price
\$2,900

Motor
5 hp, 21 amps at 220v

Resaw capacity
17¼ in.

Rip capacity
16¾ in.

tracking can be difficult, or even impossible if the misalignment is bad enough. Measurements showed that all of the wheels were close to perfectly aligned, so I had no problem tracking the blade on any of these machines. Keep in mind, though, that wheel alignment out of the box is not necessarily evidence of poor design, as all of the saws I looked at offered a means to adjust the lower wheel.

A stiff table can support heavy stock

A bandsaw table shouldn't tilt while supporting a heavy board. To get a sense of table sturdiness, I applied 30 lb. of force (a number I deemed reasonable) to the outside end of each table, and checked for movement.

The Agazzani, Bridgewood, General, Grizzly, Laguna, Rikon, and Woodtek bandsaws scored high marks in this test. All of them have trunnion supports made from cast iron, and trunnions made from either heavy-gauge steel (Laguna, Rikon) or cast iron (Agazzani, Bridgewood, General, Grizzly, and Woodtek). Also, the tables on all seven of these saws could be locked securely. Large handles on the Laguna and Rikon made them easiest to lock, but I had to use a wrench to lock the tables on the Agazzani, Bridgewood, General, Grizzly, and Woodtek.

The Craftsman, Delta, Jet, and Lobo saws have trunnions and trunnion supports made from a lightweight alloy. The tables on all of them tilted when the 30-lb. test force was applied.

For resawing, a quality rip fence is a must

Each of the saws I tested came with a rip fence. Depending on the kind of work you do, the value of the fence can range from can't-

possibly-get-along-without-it to never-use-it. Any woodworker doing a lot of resawing, however, will want a good-quality rip fence—one that is sturdy and locks solidly in place. It also should sit square to the top of the table. The rip fence should be adjustable for blade drift, too.

The fences on the Craftsman, General, Grizzly, and Lobo saws can't be adjusted for blade drift. They also can't be adjusted square to the tabletops on any of these saws.

At first glance, the Woodtek fence looks to be a clone of the General and Grizzly fences. But, to Woodtek's credit, a closer look reveals the manufacturer took an extra step, adding a few adjustment screws that allow the rip fence to be adjusted both for blade drift and for squareness to the table.

The Jet and the Rikon each has a rip fence with a Biesemeyer-style clamp head mounted to it. Loosening the bolts that attach the fence to the clamp head enables the fence to be pivoted slightly and allow for blade drift. When checked, the fences on both saws were dead-on square to the tabletop.

The Agazzani and Laguna saws both have fences that can be mounted in a high or a low position. In the high position, the Laguna rip fence is the tallest; a bonus when resawing wide lumber. When set in the low position on each saw, the fence doesn't interfere with the upper blade guide and guard, allowing the guide to be lowered closer to the workpiece for better support and a safer cut.

The Agazzani, Bridgewood, and Laguna fences are adjustable for blade drift. Although there is no adjustment for squaring the fence to the top of the saw table, these three fences all can be shimmed

square. The Agazzani and Bridgewood were perfect when checked; the Laguna needed only minor shimming to get it square.

Cutting curves and resawing wide stock were not a problem

Once all of the preliminary tests were completed, it was time to put wood to steel and find out just how well these saws could cut. The test had two parts. First, I checked to see how well the saws would cut curves. Then I gave them a resawing workout.

For the curve-cutting test, each saw was equipped with a 3/8-in.-wide, 0.025-in.-thick, hook-tooth, 6-tpi, carbon-steel blade made by Lenox. To make the saws work extrahard, I used pine that was a full 6 in. thick. All of the curve cuts were made in an “S” pattern, and each machine made several cuts. I was pleasantly surprised to find that all of the saws handled the curve-cutting test with little difficulty. Therefore, I gave all of them a grade of excellent.

To do the resawing test, I first installed in each saw a 1-in.-wide, 0.035-in.-thick, 3-tpi, carbon-steel blade from Lenox. Also, for those saws with fences that didn’t adjust for blade drift, I built a 6-in.-high wooden fence that could be clamped to the saw table at any angle. The test consisted of making several 1/6-in.-thick veneer cuts through 8-in.-wide red oak and 10-in.-wide hard maple.

At the end of the day, the Bridgewood proved to be the fastest when it came to resawing. At a normal feed rate, the cut quality was quite good, and I practically could ram the wood into the blade without bogging the motor. Even with an extreme feed rate, the cut quality suffered somewhat but was still pretty good.

All of the other saws performed adequately, but I did note that the feed rate was directly proportional to the motor’s horsepower: Higher horsepower generally translated into faster feed rates.

Choosing favorites

The three most important features of a bandsaw are adequate horsepower (more so if you mostly resaw wide stock; less so if you crosscut thin material), minimal frame deflection, and upper and lower guide systems that give the blade plenty of support.

With that in mind, the Bridgewood and the Laguna both get my vote for Best Overall. With its 3-hp motor, the Bridgewood had plenty of get-up-and-go, as made clear by its top rating in the resaw test. It also received the best mark when it came to frame deflection. And while its wheel guides weren’t my favorite, they did offer pretty good support. In addition, the Bridgewood had a very good rip fence and a sturdy tabletop.

The 5-hp motor on the Laguna was by far the biggest in this group, and it resawed at a brisk pace, although not as fast as the Bridgewood. Blade-changing speed was the quickest, though, and the saw’s ceramic guides were my favorite. The Laguna also got high marks on the tabletop-sturdiness test and had an excellent rip fence.

Both the General and Grizzly saws also stood out. Their frames showed little deflection, and their tabletops were plenty sturdy.

Considering its bargain-basement price, I was pleasantly surprised by the overall quality of the Rikon bandsaw. It offered acceptable power, easy guide setup, and lots of thoughtful little features, such as the view port to check blade tracking with the upper wheel cover closed. The Rikon easily got my vote as Best Value. □

Roland Johnson is a woodworker living in Sauk Rapids, Minn. Several of the tests in this review were done with the assistance of John Kirchoff, a woodworker in Foley, Minn.



LOBO BS-0181

562-949-3747
www.lobomachine.com

Acceptable results in resaw test; did well in curve-cutting test; ranked fifth in frame-deflection test; fence not adjustable for drift or squareness to table; fussy-to-adjust guides made blade changing a chore.

Street price
\$900

Motor
1½ hp, 12 amps at 220v

Resaw capacity
10¾ in.

Rip capacity
17¾ in.

TEST RESULTS

You usually can get a good idea of quality by looking at how effectively the bandsaw performs a few basic tasks. In particular, cutting ability, machine sturdiness, and blade-changing ease have a big impact on overall performance. So Johnson put the machines through some tests to see how well they handled those basic tasks. The chart shows the results.



Measuring frame deflection. To find out how much each frame deflected during a heavy cut, Johnson used a push-pull gauge and a dial indicator. Too much deflection can cause the blade to twist, resulting in blade drift, a rough cut, or both.

	MODEL
	Agazzani B-18
AUTHOR'S CHOICE	Bridgewood PBS 440
	Craftsman 22450
	Delta 28-682
	General 90-270
	Grizzly G0506
	Jet JWBS-18
AUTHOR'S CHOICE	Laguna LT18SE
	Lobo BS-0181
BEST VALUE	Rikon 10-340
	Woodtek 118-199



RIKON 10-340

877-884-5167
www.rikontools.com



Acceptable results in resaw test; did well in curve-cutting test; relatively easy blade changing; cast-iron trunnion support and steel trunnions a plus; good fence; ranked seventh in frame-deflection test.

Street price
\$900

Motor
2 hp, 12.5 amps at 220v

Resaw capacity
11½ in.

Rip capacity
18½ in.



WOODTEK 118-199

800-645-9292
www.woodworker.com

Acceptable results in resaw test; did well in curve-cutting test; cast-iron trunnion support and trunnions a plus; good fence; ranked tenth in frame-deflection test; fussy-to-adjust guides made blade changing a chore.

Street price
\$1,000

Motor
2 hp, 9.6 amps at 230v

Resaw capacity
10 in.

Rip capacity
17¼ in.

RESAW TEST	CURVE-CUTTING TEST	TABLE-LOCK EFFECTIVENESS	FRAME DEFLECTION	EASE OF BLADE CHANGING	GUIDE TYPE
Very good	Excellent	Excellent	0.0213 in.	Fair	Wheel
Excellent	Excellent	Very good	0.0145 in.	Fair	Wheel
Good	Excellent	Fair	0.0470 in.	Fair	Steel block
Good	Excellent	Fair	0.0408 in.	Fair	Bearing
Very good	Excellent	Very good	0.0175 in.	Fair	Wheel
Good	Excellent	Very good	0.0153 in.	Fair	Wheel
Fair	Excellent	Fair	0.0698 in.	Fair	Bearing
Very good	Excellent	Excellent	0.0335 in.	Excellent	Ceramic block
Fair	Excellent	Fair	0.0283 in.	Fair	Steel block
Good	Excellent	Excellent	0.0338 in.	Very good	Bearing
Good	Excellent	Very good	0.0595 in.	Fair	Wheel