



April 2002

Band Saw Blowout

Band saws rank high on many woodworkers' wish lists. And with good reason. From resawing to cutting curves, ripping to crosscut-

ting, cutting circles and even intricate scroll patterns, there is no other woodworking machine that can match the versatility of a band saw. Unfortunately,

choosing *which* band saw isn't nearly as easy as deciding that you need one. That's because there's such a wide range of band saws to choose from.



WHERE TO START

I'd suggest looking at 14" band saws. There's just no question that a 14" band saw is the right size for most home woodworking shops. The combination of power, features and price that these saws offer make them an easy choice.

So with that as our starting point, we gathered up six of the most popular 14" band saws on the market and put them to the test.

What we wanted to know is what qualities made one band saw better than another.

HOW WE TESTED

Because band saws are so varied, even within the 14" size range, we needed a variety of opinions to best evaluate these tools. So we rounded up five experienced woodworkers to grade the saws in 12 different categories.

Before the saws were turned on, we graded them on things such as ease of assembly, the clarity of the owner's manual, and their overall fit and finish.

Then we pushed each saw to its limit, making curved cuts and resawing thick stock (see *Test Cuts*).

As we made our cuts, comparing power and precision, we also paid close attention to some of the finer details that helped us rank the saws. Several of those are featured in *Details That Make a Difference* on pages 3 and 4.

TEST RESULTS

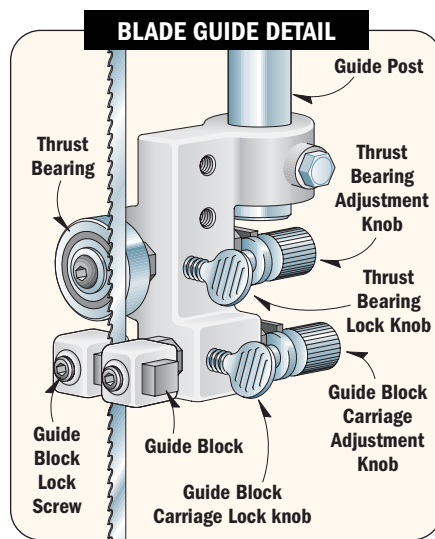
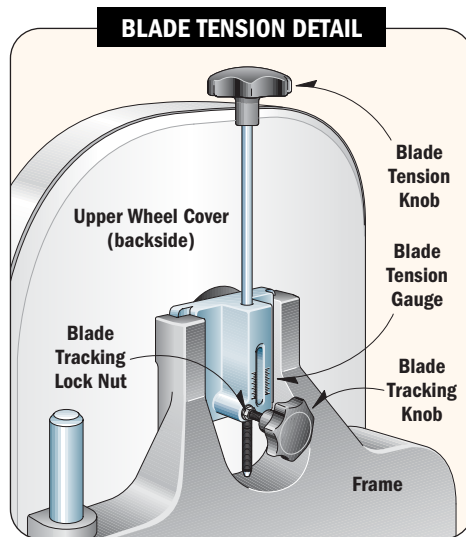
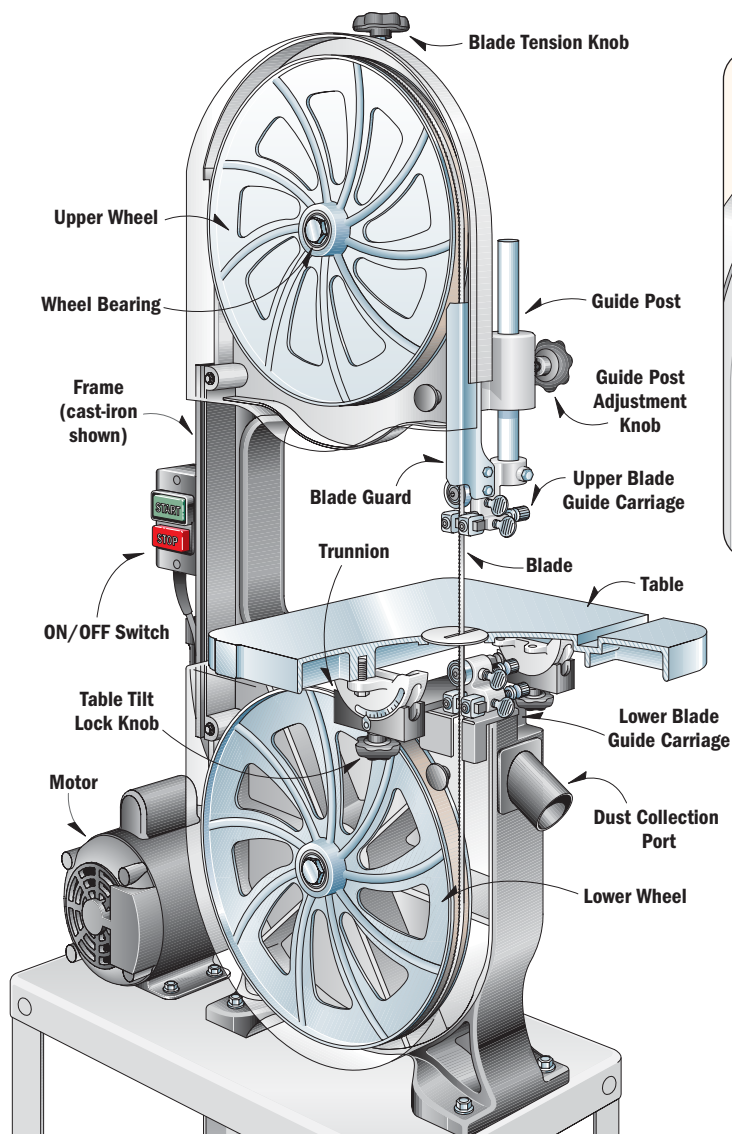
For a complete list of the categories we graded and the average grade each saw received, turn to the *Band Saw Report Card* on page 8.

In addition to the final rankings and the details that make a difference, we'll also tell you our overall impressions of each saw, along with the important facts and figures about each. Finally, we'll tell you which saws we'd choose for our own shop and why.

Six band saws compete for top honors.
Which saws make the cut?



ANATOMY OF A BAND SAW



TEST CUTS

Band saws are largely measured by their ability to cut clean, accurate curves and to resaw thick boards into thinner pieces with power and accuracy.

To compare the curve-cutting abilities of the saws in this test, we cut elaborate patterns out of $\frac{3}{4}$ "-thick red oak using identical $\frac{1}{4}$ " carbon-steel blades (Fig. 1).

For our resawing evaluation, we mounted a $\frac{1}{2}$ " carbon-steel blade on each machine. Then we resawed 2"-thick oak boards at the maximum capacity of each saw (Fig. 2).



1

CUTTING CURVES

▲ Effective guides, a clear sight line, and little or no vibration are essential to making crisp, curved cuts.



2

RESAW CAPACITY

▲ Resawing requires a well-tensioned blade, good guides, and plenty of power.

Details That Make A Difference

BLADE GUIDE SYSTEMS



▲ General's tensioned guidepost operates smoothly.

All band saws have blade guides above and below the table. The guides support the blade and limit side-to-side and backward movement of the blade during cuts.

To keep the blade from moving side-to-side, there are two support members in each guide. These are either block type guides (*Photo B*), or bearing guides (*Photo C*).

Behind the blade is a thrust bearing. This bearing keeps the blade from being pushed backward off the wheel. The thrust bearing can be seen

at the top of *Photo C* or in the *Blade Guide Detail* on page 2.

In our test, we found that all of the guides on the saws we looked at were able to support the blade through a variety of cuts. What differentiated these guides from one saw to the next was how difficult it was to set them up and then keep them set up.

Remember, every time you change a blade, you'll need to adjust the guides. If that's difficult to do, you'll be less likely to change blades,

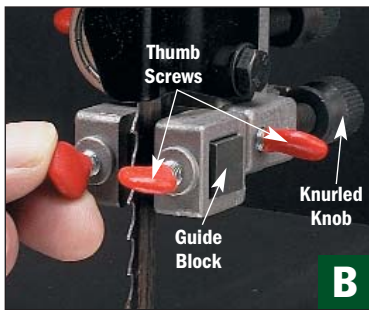
which will limit the effectiveness of your saw.

Our favorite guides were the ones that required few or no tools to change the setup.

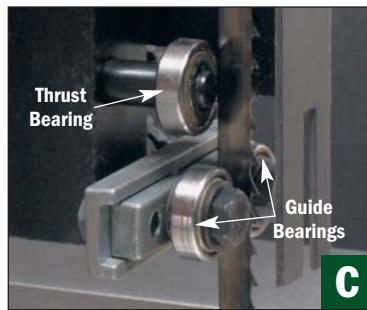
The guides shown in *Photo B* are the best example of easy setup. And this same guide system has another feature we really like. The guide block carriage and the thrust bearing are both positioned by turning a knurled knob (you can just see one of the knobs at the right edge of *Photo B*). This makes positioning the guides much more precise than the type that slide back and forth by hand.

You'll also want to take a look at the guidepost on a band saw (*Photo A*). The post can be moved up and down to accommodate different widths or thicknesses of stock.

Because the upper guides are mounted on this post, it's critical that the post remain parallel to the blade as it moves. Otherwise, you'll have to reset the guides each time you change the height of the post.



▲ Thumbscrews on Ridgid's guide system make it completely tool-less. A knurled knob positions the guides.



▲ Adjusting the guides on the Powermatic proved to be a nuisance because it requires wrenches.

WHEEL COVERS AND CABINET ACCESS



▲ Threaded knobs like those on the Powermatic make it inconvenient to open the wheel covers.

Opening up the wheel guards or other cabinet compartments on your band saw isn't something you'll do everyday. But when you do need to get inside the machine for service, cleaning or blade changing, it should be as easy as possible.

Wheel covers that are held closed with threaded knobs make getting to the inside of the saw inconvenient (*Photo D*). The cam-style closures in *Photo E*, on the other hand, allow quick, easy access to the wheels and still hold the doors closed securely.

We also liked the large knobs and spring clips that were typical on the wheel covers of the saws we tested.

Among these saws, only the Jet has hinged doors on all of the compartments (*Photo F*). Other saws require screwdrivers or nut drivers to remove cabinet covers to get to the motor or pulley compartments.

Jet also used a nifty snap-out latch on the motor cabinet door for a professional touch.

▶ The Jet makes it easy to service the entire saw by hinging every cabinet door.



◀ The cam-lock knobs on the General lock the covers firmly, but still provide easy access.



FRAME & WHEELS

The saws we tested have two types of frames: two-piece cast iron (*Photo G*) and welded-steel (*Photo H*).

Quite honestly, we weren't able to find any performance differences that we could directly relate to the frame type. There are, however, some important differences that you'll want to consider when you select your band saw.

The most important difference in the frame types is really resaw capacity. As a rule, welded-frame band saws have more resaw capacity right out of the box. Most two-piece cast-iron frames, however, have the option of adding a riser block that can as much as double the saw's resaw capacity. Welded-frame saws cannot be expanded.

Another important structural element of a band saw is its wheels. A nine-spoke wheel, such as the one in *Photo G*, is heavier than the six-spoke wheel in *Photo H*.

The extra weight means the wheel will produce more centrifugal force, and thus more cutting force. Heavier wheels also absorb more vibration.



▲ Cast-iron frames have less resaw capacity out of the box, but can be expanded. The heavier nine-spoke wheels help dampen vibration.



▲ Welded frames start with greater resaw capacity, but are not expandable. The lighter six-spoke wheels absorb less vibration.

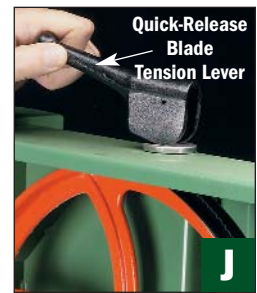
BLADE TENSION ADJUSTMENT

Band saw blades require a great deal of tension in order to resist flexing. If a blade tensioning knob is too small, poorly positioned, or uncomfortable to use, you may not be able to apply the necessary force to tension the blade.

Large rubberized knobs (*Photo I*) or the lever-style tensioner in *Photo J* ranked high among our testers.



◀ Ridgid's large rubberized knobs make tuning the saw painless.



▶ General's quick-release blade tensioner is a pleasure to use.

SIGHT LINES

If you can't *see* the line, you can't *follow* the line. It's as simple as that.

Some saws offered a clear view of the blade and cut line while still allowing the guides to come very close to the workpiece (*Photo K*).

On other saws, the blade guard interfered with the line of sight (*Photo L*). This blade guard also held the guides much further above from the workpiece, which makes the blade more likely to flex.



▲ The Delta's guidepost provides a clear sight line — even with the guides very close to the workpiece.



▲ The Powermatic guidepost has a blade guard that greatly obstructs the view of the blade and cut line.

JET JWBS-14CS



The Jet impressed us right out of the box with its clear, thorough assembly instructions and illustrations.

Once it was put together, the Jet's performance was second to none. It powered through every cut with ease. And even during the most aggressive cuts, it was one of the quietest, smoothest-running machines we tested.

The Jet also has one of the best blade guide systems of the bunch. It's completely tool-less, and fine tuning the guides is incredibly easy.

The guide block carriages and thrust bearings are adjusted with knurled knobs and then locked with thumbscrews. The guide blocks

themselves are also locked with thumbscrews.

The fit and finish of this machine also earned high marks. It has a flat, well-polished table that tilts smoothly. And every adjustment on this saw is made with large comfortable knobs. It was also the only cabinet that didn't require tools to get to at least some part of the machine. Everything about the Jet band saw shows incredible attention to detail.

Amazingly, this is also one of the most affordable saws of the group. Hard to believe they could deliver this kind of quality for under \$600, but they did it.

So, if you're looking for high performance at a moderate cost, this is your saw.

At a Glance:

Price:	\$599
Motor:	1 HP, 115V/10 Amp or 230V/5 Amp
Resaw Capacity:	6"
Rip Capacity:	13¹/₂"
Blade Range:	1/8" - 3/4"
Blade Speed:	3,000 SFPM
Weight:	185 lbs.
Dim:	19"D x 26"W x 68"H
Warranty:	2 years

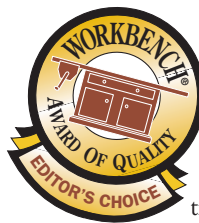
Virtues: Powerful, quiet-running motor; Tool-less blade guide adjustments; Superior quality cabinet; Large, comfortable adjustment knobs; Large table; Great price.

Vices: Lightweight

Verdict: This is a superior-quality band saw from top-to-bottom at an unbeatable price.

Jet . . . 800-274-6848
www.JetTools.com

DELTA 28-280



Delta has long made some of the best 14" band saws on the market. This tool continues Delta's fine tradition, though it does come at a price.

This saw met or exceeded every one of our expectations in terms of performance. And overall, many of the testers felt it was the best-built saw of the group.

The table had the nicest grind and polish among this group of saws. And the heavy, nine-spoke wheels — which help dampen vibration and increase cutting power — was another feature we all liked. As was the resilient-mount motor, which also minimizes vibration and is further evidence of solid construction.

The blade guide system, while requiring an Allen wrench to loosen the blocks, also impressed us. In terms of positioning the guide block carriages and the thrust bearings, the large, knurled knobs on the Delta were the easiest to reach and use.

Where this saw lost a few points was with things like a thumbscrew to adjust the upper wheel tracking — it's undersized and uncomfortable to use. We all preferred the large plastic knobs common on the other machines.

The dust port on this tool was also an issue; it just always seemed to be in the way.

But even with a few quirks, you'd never regret buying this first-class, solidly-built band saw — no matter what the price.

At a Glance:

Price:	\$799
Motor:	1 HP, 115V/9.6 Amp or 230V/4.8 Amp
Resaw Capacity:	6¹/₄"
Rip Capacity:	13³/₄"
Blade Range:	1/8" - 3/4"
Blade Speed:	3,000 SFPM
Weight:	224 lbs.
Dim:	18"D x 25"W x 66"H
Warranty:	2 years

Virtues: Heavy-duty construction; Excellent guide adjustment; Best overall fit & finish.

Vices: Mild vibration; Tools are required to adjust guide blocks and to access the cabinet.

Verdict: This is an outstanding saw that has long set the standard for what band saws should be. Worth the higher price.

Delta . . . 800-438-2486
www.DeltaWoodworking.com



GENERAL INTERNATIONAL 90-100

At a Glance:

Price:	\$650
Motor:	1 HP, 115v/11amp or 230v/5.5amp
Resaw Capacity:	7"
Rip Capacity:	13³/₄"
Blade Range	1/8" - 3/4"
Blade Speed:	2,300/3,250 SFPM
Weight:	210 lbs.
Dim:	25"D x 16"W x 67"H
Warranty:	2 years

Virtues: Two speeds; Powerful; Quiet & smooth running; Large resaw capacity; Quick-release tension lever; Easy cabinet access.

Vices: Crude guide adjustments; No tension gauge; Guidepost did not stay parallel;

Verdict: A good saw with some disappointing flaws.

General Intl. ... 514-326-1161
www.General.ca

The General band saw has several unique and worthwhile features that earned it third-place in our test.

First, it has two speed settings. The slower speed is for dense hardwoods. The faster speed is well-suited to softer material. This is a nice feature that will appeal to many woodworkers.

Another feature we liked was the blade tensioning lever. The lever flips up to instantly release the tension for blade changes or when the saw is not in use. Oddly enough, this band saw did *not* have a tension gauge on it. Which puts an unfortunate black eye on an otherwise well thought-out tensioning system.

On a positive note, the cabinet doors of this band saw

are secured with cam-lock knobs that make opening up the machine a snap.

The solid cabinet construction was another plus.

Finally, a smooth operating guidepost, which is tensioned to keep it from slamming down on the table, also won high praise.

Unfortunately, the guidepost didn't move exactly parallel to the blade.

Another place the General suffered was in its crude guide system. An Allen wrench is needed for most adjustments, and the lower guides are difficult to reach.

Overall, the saw performed well, had some great features and a reasonable price. With a few refinements, it could definitely contend for a top spot.



CRAFTSMAN PROFESSIONAL

At a Glance:

Price:	\$499
Motor:	1 1/2 HP*, 120V/10 Amp
Resaw Capacity:	6"
Rip Capacity:	13⁵/₈"
Blade Range:	1/8" - 1/2"
Blade Speed:	2,700 SFPM
Weight:	194 lbs.
Dim:	33"D x 21"W x 64"H
Warranty:	1 year

Virtues: Solidly built; Nice guide adjustment; Heavy castings; Sturdy open base; Great price.

Vices: Loud; Poor belt guard design; Table adjustment knobs are too close to the table.

Verdict: Not a fancy saw but performed very well. *Top Value* at under \$500.

Craftsman ... 800-549-4505
www.Craftsman.com

*Craftsman claims 1 1/2 maximum-developed HP which means the motor only reaches this output under extreme loads.

The Craftsman delivered performance that we all felt was well beyond its reasonable price.

Despite being powered by what is essentially a 3/4 horsepower motor (Craftsman claims 1 1/2 "maximum developed" horsepower, which is a bit deceiving when rating induction motors), this saw handled even our most demanding cuts. It stalled only when our feed rates outpaced our good sense.

Additionally, the Craftsman has a blade guide adjustment system very similar to the much higher-priced machines.

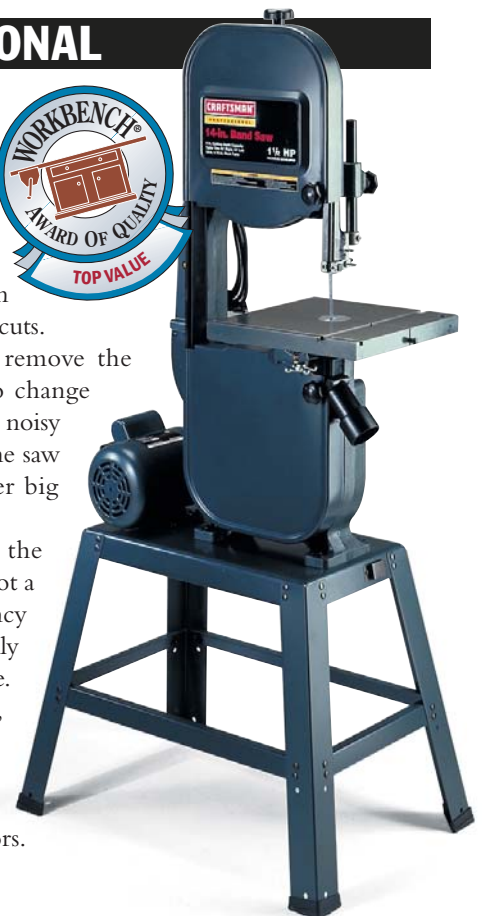
The overall construction of the machine also impressed us. The castings were sturdy, and the large table was nicely polished.

What cost the Craftsman a higher ranking were things such as a poorly designed guard for its drive belt, which actually shook off at

one point. That also speaks poorly of the excessive vibration we experienced when making heavy cuts.

Having to remove the blade guard to change blades and the noisy operation of the saw were our other big complaints.

Overall, the Craftsman is not a particularly fancy saw, but certainly an effective one. Based on that, and a price tag under \$500, we awarded it *Top Value* honors.





POWERMATIC 044



The Powermatic is best described as equal parts good, and equal parts bad.

On the good side, this saw was far-and-away the quietest, smoothest-running saw we used.

That's a huge advantage when you're cutting intricate curves.

In fact, this saw ran so smoothly that the minimal vibration in some of the other saws in the test seemed downright annoying by comparison.

Also in the Powermatic's favor was its enormous resaw capacity — nearly 2" more than the next largest saw.

The tension spring in this saw was easily the strongest. That gives the saw greater ability to tension wide blades.

Unfortunately, this saw was plagued by a few too many problems to be ranked any higher in the test.

For instance, the blade guide system was absolutely maddening to adjust. And the knobs for blade tensioning and tracking were almost painful to use. Also, threaded lock knobs made getting into the cabinet inconvenient. And finally, the guidepost intruded into the sight line so badly that it made us all feel cross-eyed (see *Details That Make A Difference*, page 3).

Just the same, this saw has a lot of potential.

If you want a powerful machine that's solidly built, this is a good choice. And if you can justify the cost of an after-market guide system and friendlier knobs, this saw could be as good as any we tested.

At a Glance:

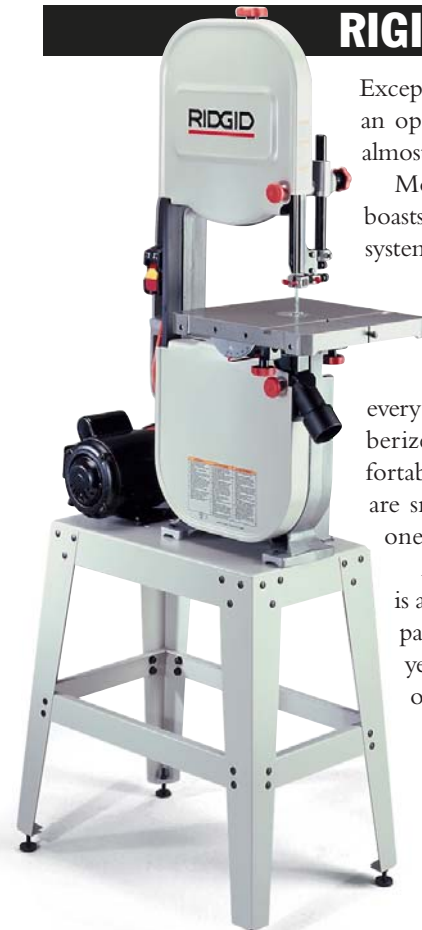
Price:	\$669
Motor:	1 HP, 115V/7 Amp or 230V/3.5 Amp
Resaw Capacity:	9"
Rip Capacity:	14"
Blade Range:	1/4" - 3/4"
Blade Speed:	3,000 SFPM
Weight:	212 lbs.
Dim:	27"D x 23"W x 71"H
Warranty:	1 year

Virtues: Smoothest-running motor; Large resaw capacity; Large table; Strong tension spring.

Vices: Difficult assembly; Poor manual; Threaded knobs are inconvenient; Tensioning knob is uncomfortable; Guides are hard to adjust.

Verdict: Some really good things here, but overall, it's hard to recommend this saw at this price.

Powermatic ... 800-274-6848
www.Powermatic.com



RIGID BS-1400



Except for a smaller motor and an open stand, the Ridgid is almost a clone of the Jet.

Most notably, the Ridgid boasts a nearly identical guide system to the Jet. Interestingly enough, Ridgid went one step further and rubberized all the thumbscrews. In fact, every knob on this saw is rubberized and extremely comfortable to manipulate. These are small touches, but good ones.

Another plus for Ridgid is a lifetime warranty compared to the one- or two-year warranties on all the other saws in this test.

Unfortunately, some members of our team found the 3/4 hp motor to be inadequate for aggressive cutting.

During the resaw testing, the Ridgid stalled easier than we would have liked.

The saw also had an excessive amount of vibration. That may be due to its open stand, which seemed too lightweight to supporting a tool of this size.

Those things alone were enough to knock the Ridgid into the bottom spot.

And yet, despite its poor placement in this test, everyone agreed that the saw would work well for occasional, light-duty use.

We can't recommend the Ridgid for resawing. But, with the money you save on the price of this saw, you could buy plenty of high-quality blades that would maximize the saw's performance in all other situations.

At a Glance:

Price:	\$499
Motor:	3/4 HP, 120V 10 Amp
Resaw Capacity:	6"
Rip Capacity:	13 ⁵ / ₈ "
Blade Range:	1/8" - 3/4"
Blade Speed:	2,800 SFPM
Weight:	178 lbs.
Dim:	32"D x 17"W x 68"H
Warranty:	Lifetime

Virtues: Guides are tool-less and easy to adjust; All knobs and thumbscrews are large and rubberized; Good fit and finish; Great price; Lifetime warranty.

Vices: Heavy vibration; Excessive noise; Lightweight stand; Underpowered for heavy resawing.

Verdict: At this price, it's a reasonable saw for light-duty use.

Ridgid ... 800-474-3443
www.RidgidWoodworking.com

BAND SAW REPORT CARD

	Jet	Delta	General	Craftsman	Powermatic	Ridgid
Assembly/Set Up	B+	B+	B	C-	B	C
Owner's Manual	C+	C+	C	C+	F	C
Fit & Finish	B+	A-	B	B	B	B+
Table Tilt	A-	A-	B	B+	B-	B+
Dust Port	B	C+	B	C+	C-	C+
Blade Guides	A	B+	C	C+	D+	A
Blade Changing	B	B	B	B-	C	C+
Blade Tensioning	B	B	A-	B	C+	B
Noise Level	B	B	B-	C+	B+	C+
Vibration	B	B	B-	B	B+	C
Resawing	B+	A-	B+	B-	B-	C-
Curve Cutting	B+	B+	B-	B-	B-	C
Overall Grade	B	B	B-	C+	C	C

Final Recommendations

EDITOR'S CHOICE

Forgive me for riding the fence. There's just no other way.

The Jet is a great saw. The Delta is a great saw. I searched for a reason to give one of them sole claim to the *Editor's Choice* award. But no matter how I came at it, I just couldn't rationalize making either one of them the "bridesmaid."

Unfortunately, my test group was no help in solving the stalemate. They liked them both, giving them identical final grades.

So, is the Jet the automatic winner because it is priced significantly lower? For some people, yes. For others, the American workmanship and the heritage of Delta tools justifies the additional \$200.

In reality, either of these saws should last you a lifetime. Both will handle the vast majority of cuts you can demand of them. The blade guides on both saws are effective and easy to use. The overall construction of both machines is nearly flawless.

So rest assured, whether you choose the Jet or the Delta, either saw is worth every dime.

TOP VALUE

If you want to spend as little as possible to equip your shop with a capable band saw, then the Craftsman is easily the *Top Value*.

Admittedly, this saw isn't as heavy-duty as the pricier models we tested. And its motor, which Craftsman markets as a 1½ maximum-developed hp, actually produces ¾ continuous hp.

Despite that, and a few other small quirks that we discovered during our testing, this saw impressed us. We especially liked the way it handled fast feed rates when resawing. It also cut curves smoothly with little effort.

Overall, we felt that whatever limitations the Craftsman band saw may have, they are more than offset by its relatively low price.

JET JWBS-14CS



DELTA 28-298



CRAFTSMAN PROFESSIONAL

