How to change a bandsaw blade

DON'T PROCRASTINATE, AND THE RESULTS WILL AMAZE YOU

BY ASA CHRISTIANA

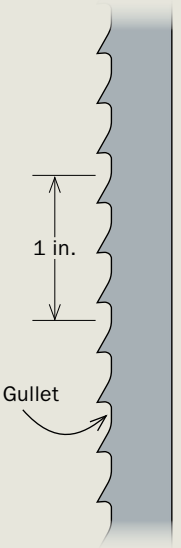
Most bandsaw problems are blade-related. Choose the right kind, tension it properly, replace it when it gets dull, and issues like blade drift and bumpy or "barrel" cuts will be problems that happen to other folks.

Like many of you, I used to put off changing my bandsaw blade, choosing to soldier on with subpar results rather than order a new one, wait for it to arrive, and then struggle through the changeover process. But the job doesn't have to be stressful.

My method is quick and painless. And when you make your first clean, effortless cut with a new blade, it will be clear that the time was well-spent.

A chance to choose the right blade

Woodworkers often assume that more teeth or a more expensive blade means cleaner cuts. This might be true of circular sawblades, but for bandsaws, a basic 3-tpi (teeth per inch), skip-tooth blade will produce superior results to models with 4 tpi or more, no matter the task. Here's why: The small gullets on finer blades pack with chips, causing the blade to resist the cut, twist, and "drift."



SHARP BLADE

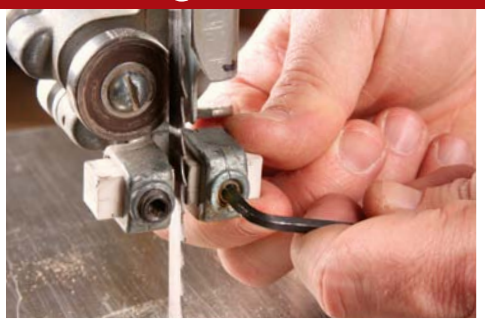
Straight, clean cuts. *If you've been fighting to follow a straight line when resawing, you'll be amazed at how easy it is to make clean cuts with a fresh blade that's properly installed. Basic blades work fine (see box at left), so buy a few at a time.*

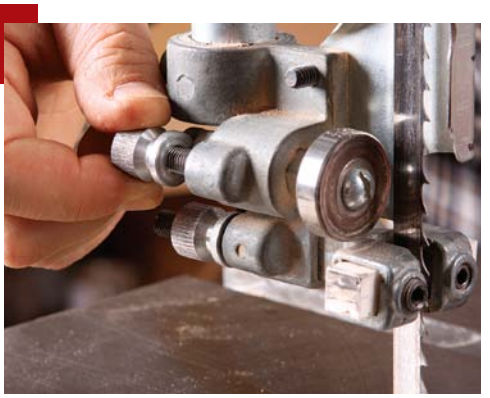
DULL BLADE

Say hello to drift. *Pick the wrong blade, or go too long with a dull one, and the blade will soon begin to drift sideways, making it very difficult to get smooth cuts. The answer to drift is a sharp blade.*

Photos: Henry P. Belanger; drawings: Kelly J. Dunton

Removing the old blade





Back off the guides. *You won't be able to track or tension the new blade correctly with the guides in the way. Back off the rollers or guide blocks (left), and the thrust bearing (right). Do the same to the lower guides, located below the table.*

Pull the pin. *With the guides retracted, remove the throat plate and the little pin that keeps the two halves of the table aligned.*

Release the tension. *The tension crank lowers the top wheel, creating enough slack to get the old blade off and the new blade on.*

Out with the old. *Take the blade off the top wheel first, and then pull it clear of all the guides. You'll need to pivot it to the left to get it through the slot in the table (above).*

Online Extra

To watch Christiana go through this process in a free video, go to **FineWoodworking.com/extras.**

Change the blade before drift sets in

As blades dull, they start to resist the cut, twisting to one side or the other. This causes them to dull more on one side, which leads to even more twisting and makes it all but impossible to make straight cuts. It's called blade drift. Many woodworkers try to overcome it by angling the fence or cranking up the tension—which only causes more problems. If your blade was installed properly and the saw was working fine, drift is a sure sign that your blade is dull and it's time to install a new one. With some experience, you'll start to notice your blade getting dull before drift sets in, because you'll need to push harder than usual, which also causes the blade to twist.

Remove the dull blade

After unplugging the saw, retract all the blade guides, both above and below the table. Remove the throat plate and that little plug in the side of the table that keeps the two halves aligned. Remove any blade guards if your saw has them.

Now you can remove the dull blade. Open the doors and turn the tension crank until the blade is loose. Take the blade off the wheels, turn it sideways, and thread it out the slot in the table.

Install and tension the new blade

With the blade off, it's a good time to clean the bandsaw tires. Built-up sap and sawdust on tires can interfere with how the blade tracks. To remove it, I use the edge of a steel ruler, holding it perpendicular to the tire as I spin the wheel with my other hand. I find this method preferable to using mineral spirits (which might degrade the tire material) or water-based cleaners (which can promote rust).

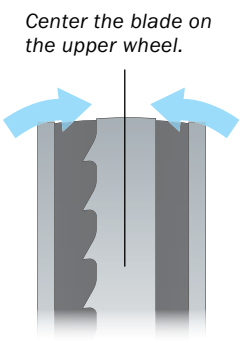
Now you can pop open your new blade and thread it through the slot and onto the wheels. Dial up the tension as

Install the new blade

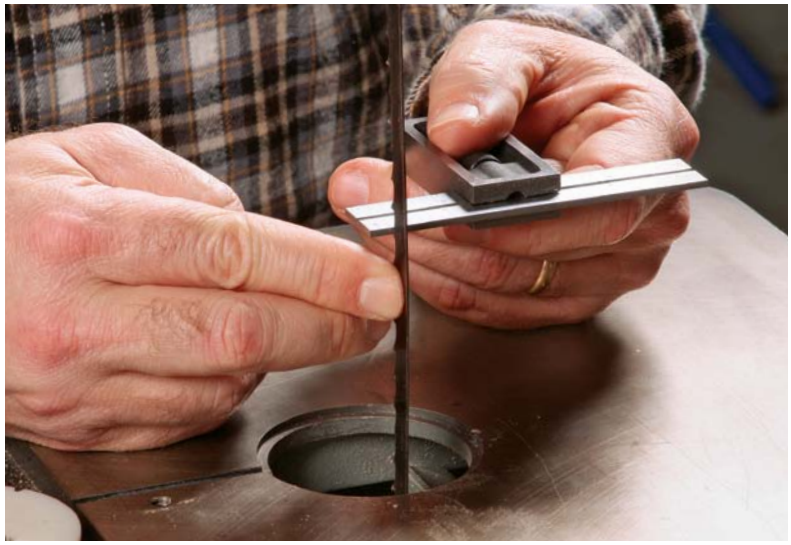
High tension is just another one of those bad fixes for blade drift, and it can chew up your bandsaw tires. With the right blade, you need only medium tension.

Clean the tires. *This is a great time to scrape off any sawdust or sap that could interfere with blade tracking. Use the edge of a metal ruler while turning the wheel by hand.*

Install the blade. *After threading the new blade into position, increase the tension as you turn the upper wheel by hand. You might need to adjust the tracking knob (below) as you go.*



Dial in the tracking. *Another key to eliminating drift is tracking the blade at the center of the upper wheel, at the top of the crown.*



Finger test for final tension. *If you can make the blade deflect ¼ in. before your fingertip starts to hurt, you're good. If you can't, release the tension until you can.*

you turn the upper wheel by hand. You want the blade running dead center on the upper wheel. If necessary, adjust the crank that tilts the upper wheel until the blade is centered on the crown of the tire and tracking perfectly.

With the right blade, medium tension is all you need. If your bandsaw has a tension gauge for various blade sizes, start at the setting just below your blade size (e.g., the ⅜-in. setting for a ½-in. blade). Try pushing on the side of the blade with your fingertip (on the left side of the saw, or on the right, with the guides as far up and out of the way as they go). You should be able to move the blade ¼ in. comfortably with one finger. If you have to put some weight behind it to get it to move ¼ in., it's too tight.

Set the blade guides

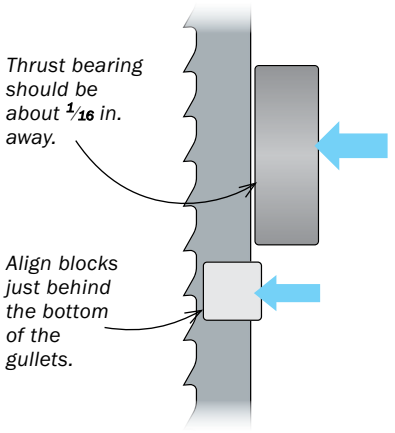
The next step is to move the side guides into place. There are two equally important sets, above and below the table. Some bandsaws have roller guides and some have blocks, but the way you set them is practically the same.

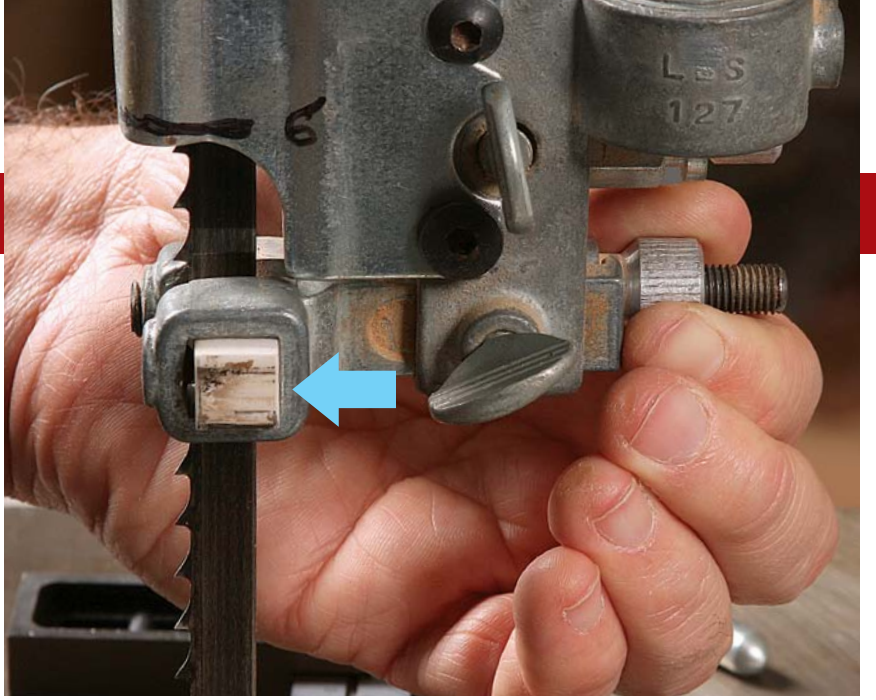
You want the side guides as close to the blade as possible—to keep the blade straight and the cuts smooth—without causing too much friction or catching the weld (there's a small welded spot on every blade, and it's not always ground perfectly flush). Some people set a very precise gap between the blade and guides, using cigarette paper or a feeler gauge, but I go by sight and feel.

Start by moving one of the guide blocks (or rollers) so it's just barely kissing the blade. If you see the blade move, the guide is too close. Hold the guide in that position as you tighten down the set screw. Then repeat on the other side. I take my finger away as I tighten the second guide, so I'm not pushing it against the blade as I tighten it. You should see almost no light around the guides, but when you spin the wheel by hand, you shouldn't feel any friction, nor a bump as the weld catches. Repeat these steps for the lower guides.

Finally, set the thrust bearings, which sit behind the blade to stop it from flexing too far back as you push stock

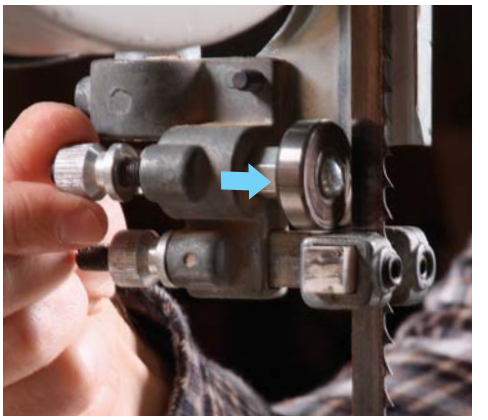
Adjust the guides





Line up the guides front to back. *With the blade tracked properly, adjust the guide assembly so the blocks are just behind the gullets of the teeth.*

Set the blocks (or rollers). *Move the first guide block over (left) until it just kisses the blade without deflecting it. Hold the block lightly as you tighten down the set screw. Do the same with the other block, but this time let go before tightening the set screw (right). The goal is just a sliver of light around the blade. As a final check, turn the wheel to make sure the welded area of the blade passes through the guides smoothly. Do the same to the lower guides.*



Set the thrust bearing. *Experts recommend a 1/16-in. gap between the back of the blade and the bearing.*

through. Bring the top one to within roughly 1/16 in. of the blade. Again, turn the wheel by hand to confirm that the gap remains constant as the blade passes through. Do the same for the bottom thrust bearing.

Put the throat plate back in place and replace that little plug in the side of the table. Now adjust the table so it's perfectly square to the blade and adjust your rip fence so it is aligned with the miter slot. Your blade won't drift again until it gets dull, and you'll never have to angle the fence. If you have one of those single-point attachments for resawing, you can get rid of it. And get ready for the straightest, smoothest cuts your bandsaw has ever made. □

Asa Christiana is the editor of Fine Woodworking.

Square the table and fence. *With the blade tracked and the guides set, recheck that the table is square. Now you can align the rip fence with the miter slot, and the blade should stay perfectly straight during the tallest resaw cuts. Just don't push too hard; let the blade cut.*