Important Differences Between Bevel-up & Bevel-down Planes

It's more than just which way the bevel faces.

At least once a week I'm asked if I prefer handplanes that have the iron's bevel facing up (like in a block plane) or facing down (like in a traditional Stanley/Bailey-style bench plane). It's a tough question that I've struggled with for years, as both Veritas and Lie-Nielsen have expanded their lines of bevel-up planes.

I first learned to plane with the old-school Bailey tools, but I've made a strong and serious effort to get comfortable with both styles of tools from both makers during the last seven years or so. Here, then, is what I see are the important differences between the two kinds of tools.

Difference 1: Adjusting the Blade

This is the most important difference for me. In general, I've found the Bailey-style adjustment mechanism (shown above right) to be the superior one. It's a bold statement, but here's why: It allows you to adjust the setting of your iron on the fly as the tool is moving. As I plane, I make subtle adjustments to the iron, usually increasing the cut to remove material as fast as possible. The adjustment knob of the Bailey planes can be tweaked without moving your hand from the tote, and this allows a level of speed, sensitivity and feedback I can't get from any bevel-up plane.

All of the bevel-up planes have their adjuster knobs that are out of reach of my fingers as I'm planing. So I have to stop my stroke, remove my hand and adjust the cut. Then I resume planing. This slows me down, breaks my rhythm and requires more thought. This is the same reason I sometimes struggle with infill planes and other planes with Norris-style adjusters. Generally, those adjusters are above the tote or generally inaccessible to your fingertips during a stroke.

Also on the topic of adjusters is the difference in "lateral adjustment." This is where you tweak the position of the iron so it's cutting evenly on the left and right side of the mouth. Bevel-up planes can have a Norris-style lateral adjuster that is incorporated into the depth-adjustment mechanism. One knob handles it all, such as in the Veritas planes – I've found this adjustment to be a bit coarse. Or the plane has no formal lateral adjustment, as with the bevel-up Lie-Nielsen planes, and you have to adjust the iron laterally with your fingers or a small hammer.

The Bailey-style adjustment mechanism is *(in my opinion) the best. It is robust and located right where you need it.*

You can use a three-finger *grip with some Veritas bevel-up planes, such as this smoothing plane. But most tools encourage a four-finger grip.*

The Bailey-style planes have a separate lateral-adjustment lever above the tote. It's also a coarse adjuster, and so I generally use it very little and handle my lateral-adjustment chores with a small hammer – tap left, tap right.

What's important here is that ultimately, all the planes need fine tweaking laterally by some other method than the lateral-adjustment lever. So don't get hung up on it.

Difference 2: Grip

One subtle difference is that the bevel-up planes encourage a four-finger grip, while the Bailey-style planes encourage a three-finger grip. Some people really like the four-finger grip, and I believe them and think that bevel-up planes are ideal for this sort of hand preference. I like the three-finger grip and use it on my drills, saws and planes. I think having the index finger extended is a cue to your brain and helps guide your work straighter.

You can use a three-finger grip with bevel-up planes (I do) but it feels weird having your finger suspended above the tool in space with nothing much to support it.

HERE'S THE CLASSIC THREE-FINGERED GRIP *on a bevel-down tool. This is more comfortable to me than a four-fingered grip.*

THE BEVEL-DOWN PLANES ARE A *pain in the tuckus when it comes to adjusting the mouth aperture. Shown is the nicest system for adjusting the mouth, and it's still complex.*

DIFFERENCE 3: CHIPBREAKERS

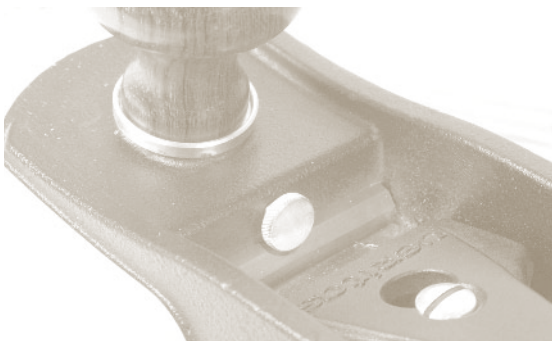
I say this all the time: I dislike chipbreakers. I think they're the No. 1 source of clogging and frustration with handplanes. Chipbreakers are found on all Bailey-style planes, and this is one of their major demerits. There are aftermarket chipbreakers available from Lie-Nielsen and Hock Tools that helps things out, but they're not a panacea.

The bevel-up planes have no chipbreaker. And I marvel every time at how easy they are to set up because of that. If you hate chipbreakers, you'll like bevel-up planes. Period.

DIFFERENCE 4: THROAT ADJUSTMENT

If you want to adjust the throat on your Bailey-style plane, settle in. It's going to take a while. Even the best Bailey planes (with a Bed Rock mechanism) require some fussing and back and forth to get a tight throat opening. Older Bailey planes require you to disassemble the frog.

I don't change the throat much on my Bailey planes – I have one tool set up for each of the three jobs bench planes do. But when I do tweak the throat, it's a pain.



WITH BEVEL-UP PLANES, YOU TWIST *the front knob of the tool, move the throat plate and twist again to lock it. The small brass wheel is a stop for the mouth to prevent you from striking the blade with the mouth.*

In contrast, the throat on a bevel-up plane is a cakewalk to adjust. You loosen a knob and slide a shoe plate where you want it. Nothing could be simpler or more intuitive. This is another big advantage for bevel-up planes if you make any throat adjustments in your work – and many people with just a plane or two do this.

DIFFERENCE 5: ROUGHING IT

The other consideration is that bevel-up planes don't work in the same manner as bevel-downplanes when it comes to the coarse removal of material.

With bevel-down planes, you typically set up a jack, fore or scrub plane with cambered iron to hog off material. Personally, I like an iron with an 8" radius curve for this sort of work.

However, because the iron is pitched so low in a bevel-up plane, you cannot achieve this sort of aggressive chip removal using a curved iron. There is geometry involved, but suffice it to say that the lower the iron is pitched, the bigger the curve you need to take the equivalent shaving in a bevel-down plane.

So how do you do rough work with a bevel-up plane? With a toothed iron. Using a toothed iron you can take a significant bite (though not as significant as with a bevel-down plane). Toothed irons were originally designed for veneer work – they would flatten the substrate and veneer.

However, it's simple to press them into service for gross material removal. You just sharpen them straight across like a chisel and go to work.

Because of the nature of the toothed iron, you can work from all angles with very little tear-out, one of the advantages of a toothed iron. However, you will need to do more work to remove material, which is one of the disadvantages.

OTHER DIFFERENCES

The bevel-up planes have more of their mass low on the tool. The Bailey-style planes can be a bit

top-heavy. The funny thing is, I like top-heavy. And I don't know why, it probably is just what I'm used to. Beginners report that the bevel-up planes' low center of gravity makes the tools easier to balance when working on narrow edges. I believe it, but I think it's easier to balance a top-heavy tool. I chalk this up to what you are used to. I have become comfortable with the balance of the bevel-up planes, but I still favor the top-heavy feel of the Bailey.

Also, the bevel-up configuration allows you to change the angle of attack of your tool by honing a different angle on your cutting edge. With the bevel-down planes, this is harder to control and involves back bevels, shims or other work-arounds. If you work with difficult material (exotics in particular), you'll like having a bevel-up plane around that cuts the wood at a high angle – 60° or even higher.

But if you work with mild material, you won't find this a striking advantage because the stock 45° angle of attack is fine.

Bottom Line

Get a bevel-up plane if you're going to have only one or two planes in your shop, if you're a beginner or you deal with a lot of oddball planing situations that require you to quickly change the angle of attack and the throat. Get a bevel-down plane if you have a fair-sized arsenal of planes and like tools that are dedicated to one function alone.

— *Christopher Schwarz*