

• SHOP TESTED •

LOW-ANGLE JACK PLANES

Choose a bevel-up jack plane to level up your plane game. We put nine low-angle jack planes through their paces to see which models edged out the competition.

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If you're looking for a single plane that can do just about everything, look no further than a low-angle jack. This plane excels at cutting end grain, and its bevel-up design allows you to sharpen the blade at different bevel angles to handle whatever planing challenges come your way (*Benefits of Bevel-Up* on page 53). Even if you already own several bench planes, adding a low-angle jack to your lineup will increase your planing versatility.

Just a couple of generations ago, if you wanted to buy a low-angle jack plane, your only option was to hunt down an old Stanley No. 62. But a quick search today reveals lots of choices. To get the lowdown on these low-angle jacks, we compared new planes from nine manufacturers on a number of points. We looked at sole and blade flatness, adjustability, steel quality, performance, and overall fit and finish.

Despite the fact that all of these planes trace their roots back to the original Stanley version (and our test includes a modern iteration of that plane), that doesn't mean they are all the same. We discovered definite standouts in terms of features and performance, along with a couple of surprises. For the important plane specs, see the chart on page 57.

PREPARE FOR TAKEOFF

First impressions are important, and here the Veritas Low-Angle Jack Plane, Lie-Nielsen No. 62, Bridge City HP-12, Melbourne Tool Company Low Angle Jack Plane, and Stanley No. 62 Sweetheart all showed up at the gate well packaged, with

polished and flattened blades that were ready to use right out of the box. (The tote on the Stanley was loose, but easily tightened.) All of the other planes required some degree of honing or flattening.

To level the playing field, we compared the performance of all the planes both straight out of the box and then again after honing the blades and flattening the soles. As you might expect, the performance increased significantly for the planes that did not come with blades already flattened and polished.

GOOD FOR THE SOLE

A plane with a twisted or warped sole, or with low spots around the mouth, won't give good results. To test for sole flatness, we drew lines across the bottom of each plane with a felt marker and then lapped each one on 400-grit sandpaper adhered to a granite surface plate to reveal any high or low spots. All the planes proved acceptably flat enough to start using immediately.

We also checked to see how square the sides of the plane are to the sole. Unless you intend to use your plane with a shooting board, side squareness isn't critical, but it indicates the overall care taken in machining. Here, all the planes except the Kunz Plus No. 62 and Stanley were square. Those two were only slightly out of square, necessitating time spent lapping should you wish to use them for shooting.

PHOTOGRAPHERS: CARSON DOWNING, KELSEY HANSEN; ILLUSTRATOR: LORNA JOHNSON



Most of the planes use a simple screw like that of the Stanley (left) to tighten the lever cap against the blade. But the lever cap screw on the Veritas (right) has a large pad to distribute clamping pressure without marring the blade.



STANLEY



VERITAS



LIFE ON THE EDGE

All of the planes in our test feature heavy-gauge blades, ranging from 1/8" to nearly 1/4" thick. All of the blades proved beefy enough to power through tough end-grain cuts with minimal chatter.

The Stanley, Lie-Nielsen, Melbourne, Bridge City, and WoodRiver No. 62 planes clearly state the steel alloy used in their blades. Veritas lets you choose O1, A2, or PM-V11 steel when ordering. The

other manufacturers just referred to their blades as high-carbon steel or tool steel. The planes with A2 and PM-V11 steel took longer to hone because of the harder steel, but they also held their edge longer.

The blades on the Veritas, Lie-Nielsen, Bridge City, Melbourne, and Stanley planes all arrived with flattened backs. The Bridge City blade was also polished to a mirror finish. The blades of the other planes all required flattening, from a little to a lot.

All but one of the planes arrived with accurately ground, 25° bevels. The bevel on the Bench Dog No. 62 was closer to 30°, despite being advertised as having a 25° bevel. The edge was also not square with the sides of the blade, requiring a complete regrind of the bevel.

The Bridge City plane comes standard with two blades, each sharpened at both ends, giving you three bevel options (25°, 30°, and 42°) as well as a toothed edge for fast stock removal across the grain. Veritas and Melbourne offer optional blades with different bevel angles, sold separately.

On most of the planes, removing the blade is simply a matter of loosening the lever-cap screw, sliding off the lever cap (above), and lifting the blade out. Instead of a screw, the Bridge City plane uses a lever (left). Releasing the lever is easy, but because the lever cap is fixed to the plane and there's not much room for your fingers, you have to turn the plane upside down to let the blade drop out.



◀ Lifting the lever of the Bridge City plane releases tension on the lever cap. But because there's so little clearance for your fingers, lifting the blade out is next to impossible. (Blade removed in photo.)



TURN THE SCREWS

All of the planes feature an adjuster for setting the blade depth, and these can be divided into two styles: single-screw adjusters and Norris-style adjusters (*below left*). The single-screw adjusters on the Bench Dog, Grizzly Premium No. 62, Lie-Nielsen, and WoodRiver planes feature a threaded rod with a flanged knob or small shoe that engages a notch in the back of the blade (*below right*). Turning the knob advances or retracts the blade.

The Norris-style adjusters use a more elaborate rod with dual screw threads, allowing for more precise depth control. This adjuster style also allows you to make lateral adjustments to the blade, while planes with single-screw adjusters require making lateral adjustments manually.

We prefer the Norris-style adjusters, but not having one isn't a deal-breaker. The single-screw adjuster on the Lie-Nielsen has a velvety smooth feel that rivals any of the planes in our test. Conversely, the Norris-style adjuster on the Kunz is a multi-part assembly that engages not only the blade but also the lever cap. It has a tendency to lift out of the plane entirely during blade removal and is difficult to put back in place.

The blade of the Lie-Nielsen (*left*) has a single notch to engage the adjuster knob. The WoodRiver (*right*) has a series of (roughly) machined notches to engage a sliding shoe.



Thruaded adjusters on the WoodRiver (*left*) and Bench Dog (*right*) planes quickly advance or retract the blade. Norris-style adjusters like that on the Melbourne plane (*center*) provide lateral adjustment as well.

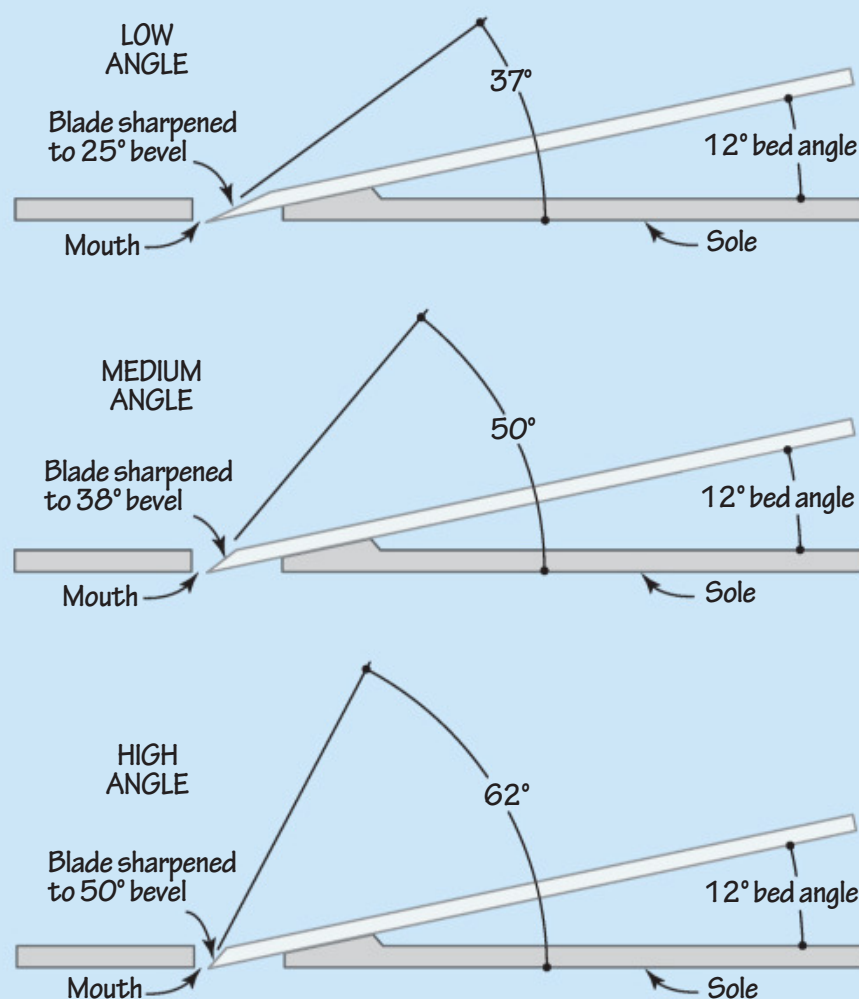


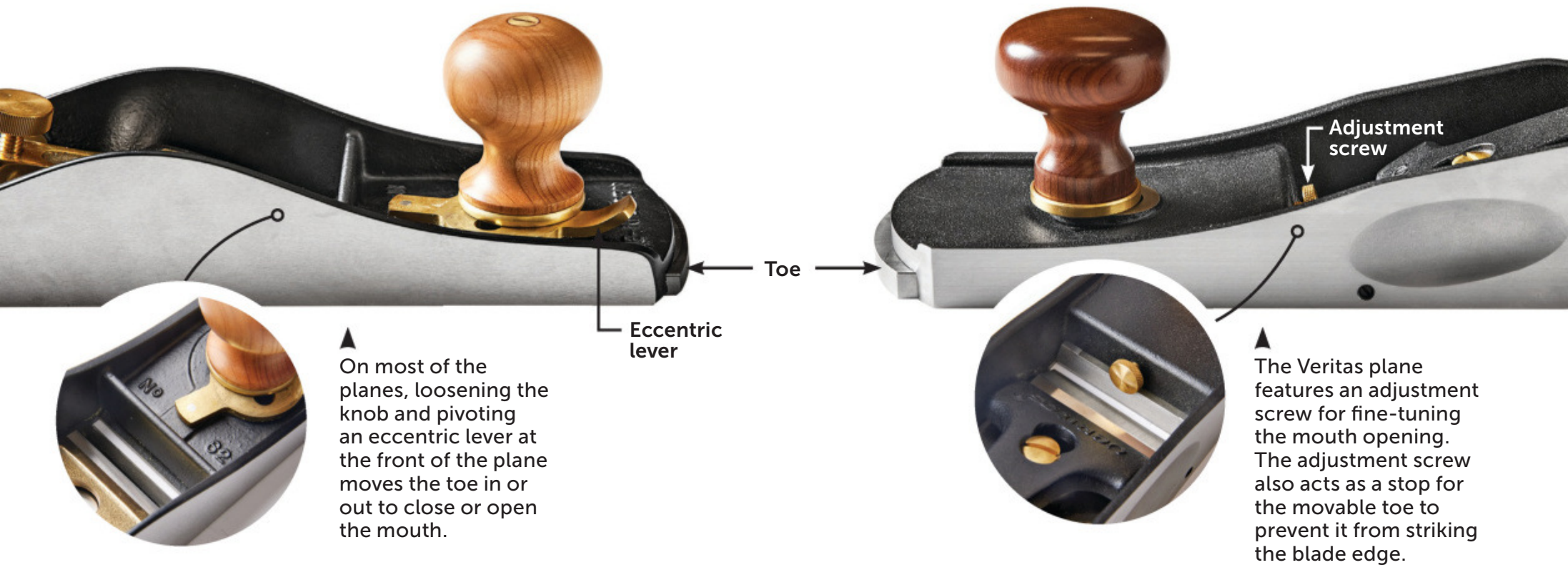
BENEFITS OF BEVEL-UP

Traditional bench planes feature a blade that rests with the bevel down on a bed, known as a frog, that sits at a fixed angle (usually around 45°) to the plane's sole. But the bed on a bevel-up plane is milled into the body of the plane, at a much lower 12° angle.

Eliminating the frog makes bevel-up planes easier to set up, adjust, and maintain. The lower bed angle also lowers the plane's center of gravity, giving many low-angle plane users a feeling of better control.

But the real benefit of bevel-up planes lies in the ability to change the cutting angle by means of the bevel angle on the blade (*right*). Use a low angle on end grain, a medium angle for routine planing, or a high angle when planing highly figured woods. We suggest purchasing optional blades with alternate bevel angles, if available, or buying extra standard blades and regrinding them yourself. Then you can swap blades to suit the job, giving you several planes in one.





▲ On most of the planes, loosening the knob and pivoting an eccentric lever at the front of the plane moves the toe in or out to close or open the mouth.

▲ The Veritas plane features an adjustment screw for fine-tuning the mouth opening. The adjustment screw also acts as a stop for the movable toe to prevent it from striking the blade edge.



Unlike bevel-down planes, bevel-up planes do not have a chipbreaker, or a cap iron. These planes rely instead on a tight mouth opening in front of the blade to break up the chips. All the planes we tested have an adjustable mouth. A sliding plate at the toe of the plane moves in or out to decrease or increase the mouth opening. Most of the planes use an eccentric lever to adjust the toe (*above left*).

The Bridge City and Veritas planes don't have an eccentric lever. On these planes, loosen the knob and slide it fore or aft to open or close the mouth (*above right*). The Veritas plane also features a fine-adjustment screw to make precise changes to the mouth.

All but one of the planes allow you to close the mouth down to nothing. The Kunz, even at its tightest setting, still had a $\frac{1}{8}$ " gap, way too large for planing woods prone to tear-out.

FIT AND FINISH

Like sole flatness, the fit and finish of a plane says a lot about the quality that goes into the manufacturing. The machining on the Lie-Nielsen, Veritas, and Bridge City planes is excellent, with the Bridge City having the best attention to detail (which it should, considering it costs twice as much as any other plane in our test). Just a notch below are the Stanley, Melbourne, and WoodRiver planes.



Aside from slight differences, such as the use of brass instead of steel for the lever cap, the Bench Dog (*left*) and Grizzly (*right*) planes look like they could have been made in the same factory.

The Bench Dog, Kunz, and Grizzly planes have noticeably rougher castings and coatings and poor fitting of parts compared to the others (*previous page, bottom*).

Comfort of the totes (handles) and knobs ended up not being a big differentiating factor in our tests. Most of the planes were comfortable to hold and use for long periods, and the subtle differences among them come down to

personal preference. We could easily get used to the size and feel of most of the planes in the test.

The one exception is the Bridge City plane, with its all-metal tote and knob (*below*). The squarish tote is not very comfortable to grip, and overall we prefer the warm feel of wood over metal, especially when working in the shop on cold winter days.



The Bridge City HP-12 comes with a pair of adjustable skids that attach to the sides of the plane and allow you to plane stock to a precise thickness.

Depth
skid

PLANING PERFORMANCE

In terms of sheer planing performance, the Lie-Nielsen, Veritas, and Bridge City all produced smooth, nearly flawless surfaces in face grain and end grain. We were pleasantly surprised to find that the Stanley (the least expensive in our test) and the newcomer Melbourne were not far behind. The other planes yielded acceptable results, but just not quite as smooth as the top-tier planes.

And while it may have been an issue just with the particular plane we tested, the Grizzly did not have enough lateral adjustment to square the blade within the mouth of the plane due to its rough casting. (You could fix this by filing the inside walls of the plane or grinding a slight skew on the blade.)

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THE BETTER PLANES PERFORMED GREAT RIGHT OUT OF THE BOX. THE OTHERS REQUIRED SHARPENING AND TUNING, BUT ONCE THAT WAS DONE, THEIR PERFORMANCE INCREASED SIGNIFICANTLY.

-KEVIN BOYLE, SENIOR DESIGN EDITOR

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WHERE THE PLANES LAND

Choosing just one winner from the group is not an easy task. Nearly all of the planes we tested performed acceptably (after varying degrees of tuneup). The selection comes down to ease of use and smoothness of adjustment, as well as the time and effort required to bring each plane to peak performance. We ended up with a tie for Top Tool honors between the Veritas and Lie-Nielsen planes. We particularly like the ease of adjustments and the silky smooth surfaces left behind by the top-quality blades.



Our Top Value award was also a tie and goes to the Melbourne and Stanley planes. Melbourne is a newcomer, but it pleasantly surprised us with an affordable price and performance just a shaving's thickness below the Veritas and Lie-Nielsen. And even though it's the lowest-priced plane in our test, the Stanley performed better than several of the other planes that cost more. 🌲

TRACKING THE PERFORMANCE

MODEL	OUT OF THE BOX		PREP WORK		ADJUSTMENTS					BLADE SPECS			LENGTH	WEIGHT	SELLING PRICE (5)	ACCESSORIES (6)
	OVERALL CONDITION (1)	INITIAL PLANING PERFORMANCE	AMOUNT OF PREP WORK REQUIRED	POST-PREP PLANING PERFORMANCE	BLADE DEPTH	LATERAL ADJUSTMENT	MOUTH OPENING	BLADE ADJUSTER STYLE (2)	MOUTH ADJUSTER STYLE (3)	BLADE WIDTH	BLADE THICKNESS	BLADE MATERIAL (4)				
BENCH DOG No. 62	B	C	B	B	B	B	B	S	E	2"	3/16"	U	13 3/4"	5 lbs 1 oz	\$250	
BRIDGE CITY HP-12	A	A	A	A	C	B	A	N	K	2"	7/32"	A2	12"	4 lbs 12 oz	\$529	
GRIZZLY Premium No. 62	C	C	B	B	B	D	B	S	E	2"	5/32"	U	14"	4 lbs 15 oz	\$200	
KUNZ Plus No. 62	B	B	D	B	C	A	C	N	E	2"	3/16"	U	13 3/4"	5 lbs 0 oz	\$325	T
LIE-NIELSEN No. 62	A	A	A	A	A	B	A	S	E	2"	3/16"	A2Cr	14"	4 lbs 10 oz	\$295	H, T
MELBOURNE Low Angle Jack Plane	A	A-	A	A-	B	A	A	N	E	2"	1/8"	M	13 7/8"	5 lbs 1 oz	\$199	A
STANLEY No. 62 Sweetheart	A	A-	A	A-	C	A	A	N	E	2"	3/16"	A2	13 3/4"	5 lbs 6 oz	\$169	
VERITAS Low-Angle Jack Plane	A	B	A	A	A	A	A	N	K	2 1/4"	3/16"	P	15"	5 lbs 8 oz	\$284	A, T
WOODRIVER No. 62	B	C	D	B	B	B	A	S	E	2"	1/8"	Mn	14"	4 lbs 10 oz	\$250	A

- A** Excellent
 - B** Good
 - C** Fair
 - D** Poor

- (S)** Single-screw adjuster
 - (N)** Norris-style adjuster
- (E)** Eccentric lever
 - (K)** Sliding knob

- (U)** Unspecified carbon steel
 - (A2)** A2 air-hardening steel
 - (A2Cr)** A2 cryogenically treated steel
 - (M)** M2 high-speed steel
 - (P)** PM-V11 powdered metal steel
 - (Mn)** 65Mn spring steel

- Prices current at time of article production and do not include shipping, where applicable.
- (A)** Alternate-bevel-grind blades
 - (H)** Shooting handle
 - (T)** Toothed blade



STAY SHARP

When it comes to plane blades, a general rule of thumb is that the harder the steel, the longer the edge lasts. The trade-off is that a harder blade takes longer to sharpen than a softer one.

The secret is to not let your blade get too dull before you hit the sharpening stones. Quick and frequent blade touch-ups will prevent the blade from becoming so dull and worn that it requires a complete sharpening overhaul.



Watch a video on how to sharpen hand tools.
woodmagazine.com/staysharp