

Bench Chisels

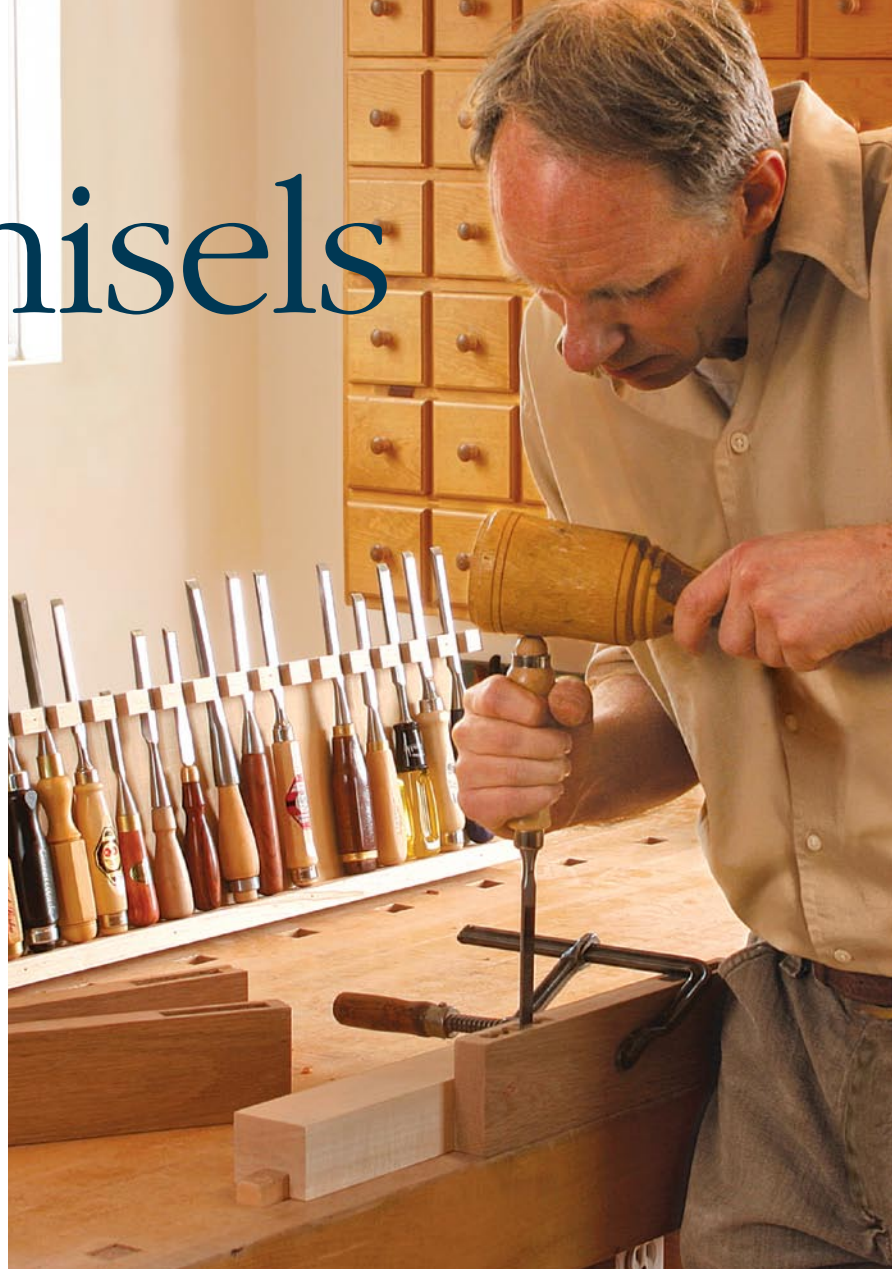
23 brands go head to head
in a real-world test

BY CHRIS GOCHNOUR

Chisels are the epitome of simplicity: a sharpened steel blade attached to a handle. Yet in spite of their simple form, they possess an astounding amount of utility: They can split, slice, scrape, chop, and pare; they can be held in one hand and driven with a mallet, or used two-handed for controlled paring cuts. They work equally well with hard or soft wood. They are almost indifferent to whether they are working with the grain, across the grain, or on end grain.

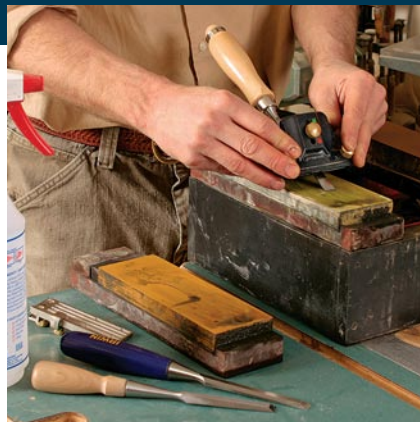
You can buy chisels designed for a particular task, such as mortising or paring, but the jack-of-all-trades is the bench chisel. This general-purpose tool is suitable for a broad range of tasks, including dovetailing and mortise-and-tenoning, paring pegs flush, installing hinges, chamfering edges, and even cleaning up glue squeeze-out.

I ran 23 bench chisels through a variety of real-world wood-working tasks to find out which ones excel and which ones come up short. I divided the test into three parts. The first was to examine each chisel out of the box and to record how much work it took to get it ready to cut wood. Second, I evaluated



Prep, then test

All the chisels had their backs flattened and then were honed to 8,000 grit on waterstones using a honing guide.



The dovetail test. Gochnour used each chisel to clean up a dovetail joint to test how well it handled light cuts for precision work.

Dovetailing



BAD



GOOD

Why side bevels are important. If a chisel's side bevels terminate in large, flat sides, the chisel will not fit into tight corners (left). Chisels with very narrow, flat sides are ideal for getting into dovetails (right).

The right chisel for you

There are many outstanding chisels on the market today. To find your ideal tool, consider a few things: What chisel best fits your style of work? Do you mostly chop, mostly pare, or an equal amount of both? Longer chisels are easier to hold; their greater blade surface gives more leverage and makes for a steady, controlled cut when paring two-handed. Short chisels are easier to control with a fingertip grasp of the blade while driving with a mallet. Consider, too, the amount of prep time you want to invest to get the chisel working, whether it be flattening the back or setting the hoop. You may prefer to spend more money and less time.



WESTERN STYLE

LIE-NIELSEN

This chisel was almost flawless out of the box. Its back was lapped flat and nearly polished, and its beveled edges were milled and tapered precisely. However, it is the tool's size and feel that make this the ideal bench chisel. It is lightweight and balanced, yet stout enough for rugged work, in part due to its socket design. Its mid-range length is great for controlled detail work, yet its blade is long enough for moderate-range paring. The A2 blade's durability found a spot in the middle of the pack, but in spite of this, the ergonomics prevailed.

NAREX

The beech handle, with a hoop and ferrule, is easy to grasp whether chopping with one hand or paring with two. The back of the chrome manganese blade was nice and flat and the edges were beveled sufficiently for excellent dovetailing. The cutting edge held up quite well, and at \$6, this is the obvious choice for best value among Western-style chisels.

JAPANESE STYLE

MATSUMURA

BLUE STEEL

Made by a Japanese blacksmith who has been hand-forging chisels for 50 years, this blue-steel chisel is finely crafted and was set to go out of the box. The wood in the handle's end is mushroomed to secure the hoop and create a comfortable pad for your hand. The blade held an edge with the best, and is slightly longer than the other Japanese blades. At \$50, it's moderately priced for such a high-quality chisel.

GRIZZLY

This chisel is a diamond in the rough. Its back was slightly concave along its length, but this lapped out without much trouble. The end of the handle must be mushroomed over to set the hoop in place, so plan on 30 minutes per chisel for this task. The finish on the handle was a bit rough, but fine sandpaper and steel wool polished it in a minute or two. In use, the tool performed admirably, its edge held up nicely, and at \$14, it is a real bargain.



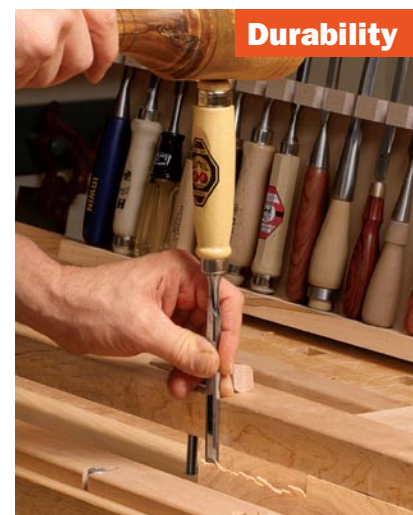
Paring

Long blades pare better. Chisels with short blades, such as Japanese-style ones, are not able to pare as wide a joint as the longer-bladed chisels. Plus, there is less blade to hold with the forward hand for fine control.



Chopping

Cleaning up mortises. To see how well each chisel handled chopping, Gochnour used them to clean up a mortise in white oak.



Durability

Chop till they drop. To test each chisel's edge retention, Gochnour used them to chop end grain on pine, cherry, and white oak.

The rest of the pack

Because tool choice is inherently personal, the author's favorites may not be yours. But his observations, and the performance ratings on the following pages, will help you zero in on the right chisel for you.

ASHLEY ILES

This chisel features a boxwood handle in the traditional London pattern with an octagonal central section. The handle is comfortable but slightly large for the scale of the tool. The back flattened and polished with minimal effort, and the side bevels are nicely softened and tapered to a small flat, which is convenient for working into tight corners.



ASHLEY ILES

AMERICAN PATTERN

At 7½ in. long, this is the shortest chisel and, due to its size, not the best all-around bench tool. For precision tasks that require holding the chisel in the fingertips, like dovetailing and chopping hinge mortises, it really excels. The beveled edge tapers to an extrathin 0.0025 in., which also favors dovetailing. But the short blade means it is not a good choice for paring.



BARR

Made by blacksmith Barr Quarton in McCall, Idaho, this tool looks and feels handmade—in a good way. It doesn't have mass-produced uniformity, yet it is finely crafted with softened edges. It's a sturdy socket chisel but the socket carries a lot of iron, making the chisel feel top-heavy. With its pedigree, Gochnour was surprised that the edge did not hold up better.



BLUE SPRUCE

This chisel is absolutely beautiful and impeccably crafted. The back of the A2 steel blade was dead-flat right out of the box. Its beveled edges taper to a sharp 0.0010 in.—fabulous for dovetailing, yet tricky to hold by its side. The cocobolo handle is the most comfortable of those tested. However, the lack of a bolster and the slightly flexible blade mean you should stick to moderate mallet strikes.



how each chisel felt in my hands and how it performed on dovetail and mortise-and-tenon joints. Last, a stamina test: How long did the edge hold up when chopping end grain? None of us look forward to sharpening, and the longer between sessions the better.

How much work to get a sharp edge?

I lapped the back of each chisel on sandpaper stuck to a granite plate. If the back had heavy milling marks or was not flat, I started with P100-grit; otherwise, I began with P220-grit and progressed to 2,000-grit (CAMI grade). After the back was polished, I honed

the bevel to 30° using a honing guide. For the Japanese-style chisels and those chisels with A2 steel blades, I used an angle of 35°, recommended for these harder and more brittle steels. Using waterstones, I progressed from a 1,000-grit stone to an 8,000-grit stone. Using this sharpening system, I didn't notice that the harder steel of the Japanese or A2 chisels took longer to sharpen.

How does the chisel feel and how does it cut?

The ideal bench chisel should have good balance (in other words, the blade-to-handle weight should feel natural) and a comfortable

HIRSCH

The hornbeam handle is straight and slender, making it difficult to push by its end. The blade is nice and polished with no sharp edges, but unfortunately the polisher rounded over the bevel, requiring ¼ in. to be ground away to get a sharp edge. In spite of these issues, the Hirsch is a high-quality chisel, with good balance and steel that holds up reasonably well.



IRWIN

A carryover from the successful Marples Blue Chip chisels, Irwin chisels would make a great starter set for the cost-conscious woodworker. They're rugged, have nice balance, and the edge retention fell in the middle of the pack. The back was reasonably flat right out of the box, only requiring five minutes to tune up, but the chisel's milled edges were uncomfortably sharp.



LEE VALLEY

This chisel has the feel of a rugged contractor's tool. Its plastic handle is designed to take a beating and the author was impressed by how well the cutting edge held up. The blade's back was quite out of flat and the milled edges were a bit sharp. The side flats are too big for dovetailing.



MHG

The MHG is a well-crafted chisel with a durable handle made from European hornbeam. The chisel was perfect out of the box, with a flat back, softened edges, and a squarely ground bevel. The tool has a real solid feel when chopping, but its edge retention was only average.



SORBY

One of the best-looking chisels, it has a finely crafted boxwood handle with a brass hoop and ferrules and a leather shock washer. The blade tapers nicely and the sides taper to a fine edge, making it great for dovetailing. However, it took 10 minutes to remove a low spot on the back near the cutting edge, and the edge broke down fairly rapidly.



C.I. FALL

The rectangular stained beech handle wasn't the most comfortable, but its sizable end was easy to hit with a mallet. Unfortunately, the handle was twisted in relation to the blade, making it a bit cockeyed in use. The blade's back was flat, but the side bevels terminated with very large flats, making it less than ideal for dovetails.



CROWN

At 10¾ in., this is the largest chisel reviewed, which made it nice for two-handed paring; but its length and small handle end made it tricky to register mallet blows. It has a rosewood handle with a brass ferrule and a nicely polished blade with no sharp edges. Out of the box, the back was flat, but the cutting bevel was ground out of square.



FOOTPRINT

Gochmour really liked the size and shape of this chisel. The blade is long enough for mid-range paring tasks, yet the compact size is perfect for dovetailing and other precision work that requires mallet taps. The cutting edge held up very well despite the budget price (\$18). The tool would be better if its side bevels didn't have such large flats and it came in more than four widths.



GARRETTWADE

This is a solid tool that won't disappoint. The handle is stained beech with a hoop and ferrule. The tool is nearly identical to the Narex and with a similar performance, which may mean that they are manufactured in the same facility in the Czech Republic. The only difference was that the GarrettWade chisel required a bit more work flattening its back.



GRIZZLY

The handle is strong and attractive bubinga. The blade's back was flat, but it took a minute to lap out the mill marks. The blade is well ground and the side bevel tapers nicely to a moderate flat. At \$5 a chisel, the Grizzly would have represented a great value had the edge not completely given out and stopped cutting before all the tests were completed.



grip, and provide a good target for mallet blows. It should have a blade and handle that are stout enough to withstand moderate blows, yet it should also have refined beveled edges so it can work in dovetail sockets and other confined spaces without obstruction.

Length is an important aspect of ergonomics. The chisels reviewed range from 7¾ in. to 10¾ in. The longer chisels excel at two-handed paring tasks, but are less ideal for precision work or for tasks in which the chisel is held with one hand and driven with a mallet in the other. Conversely, short chisels are

easily controlled, but tend to lack the range and leverage of the longer chisels. To get a feel for the ergonomics of the different chisels, I used each one to dovetail a joint: I selected cherry for the pins and soft maple for the tails. I removed the bulk of the waste with a coping saw, then drove the chisel with light mallet taps to clean up the remaining material in front of the baseline.

Next, I shaped a mortise-and-tenon joint in straight-grained white oak. First, I chopped and pared away the waste on the tenon. Then, after boring out the bulk of the mortise on a drill

SWISS MADE

Because of its shape, the hornbeam handle is particularly easy to grasp from the end. The blade was perfectly flat with nicely softened edges, making it easy on the hands. The cutting edge held up better than average. The fine craftsmanship and high performance make this a very close runner-up for best overall among the Western chisels.



TWO CHERRIES

This chisel has a hornbeam handle with a hoop ferrule, and its well-polished blade was easy on the hands. It didn't take much effort to put the tool into service, and its feel, balance, and performance made it easy to like. The side bevels are sufficient for dovetail work and the cutting edge held up about average.



IYOROI

BLUE STEEL

The hoop on the boxwood handle requires setting prior to use. The blade is laminated from iron and hard-wearing blue steel, which is an alloyed, high-carbon steel that contains tungsten and chromium, making it particularly good for hard and abrasive woods. The fully beveled blade made it easy to reach into corners, but the ridge was uncomfortable when holding the chisel by the blade.



MATSUMURA

WHITE STEEL

Like its blue-steel counterpart, this tool was in perfect order right out of the box. White steel is a pure, high-carbon steel without alloys. Though it is reputed to take a keener edge than alloy steels, it didn't seem sharper than blue-steel chisels. And the edge didn't hold up as well as them, becoming jagged on harsh white-oak end grain.



NOMIKATSU

Unique among the Japanese-style chisels, this blade is not a two-part lamination, but rather 100% high-speed steel. Traditionally, HSS is extremely tough and long wearing, but too coarse to take a really keen edge. This new steel, developed by Hitachi, is not only tough, but it also can be sharpened to a keen edge. It survived the test among the elite. This is an excellent chisel.

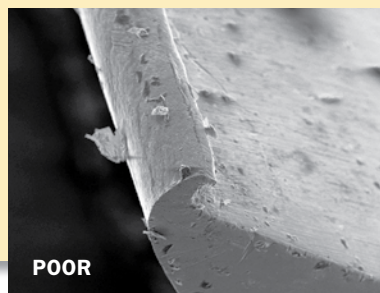


How the chisels rated

EDGE DAMAGE UNDER THE MICROSCOPE

To get a closer look at how the chisels fared after the edge-retention test, we shipped three of them to the Department of Materials Science and Engineering at Case Western Reserve University in Cleveland, Ohio. Under the direction of Professor David Matthiesen, they were placed in a scanning electron microscope at 100X resolution.

The best overall Japanese-style chisel, the Matsumura blue steel, stayed very sharp with minimal wear visible (top photo), indicative of very hard steel. The best overall Western-style chisel was the Lie-Nielsen. Its A2 steel blade didn't hold up as well as the Matsumura, and the wear (center) was representative of the average for Western-style chisels. The worst performer was the Grizzly Western-style chisel, whose edge completely rolled over (bottom).



press, I used each chisel with a mallet to finish the job. Finally, I used the chisel to fit the tenon to the mortise.

How long does the edge hold up?

The final test was for edge retention, the aspect woodworkers care about most. In order to create a level playing field, I re-honed all the chisels with a 30° bevel. This went against the advice of some manufacturers of A2 steel and Japanese chisels, but a 30° bevel is a better angle for most chisel work and I was curious to see if these blades would still be durable at the lower angle. I then trimmed 1/32 in. from the end of three 10-in.-wide boards: soft pine, medium-density cherry, and finally, hard white oak.

After using each chisel, I inspected the chisel edge, both visually and by feeling it, for degradation, and I documented the results. This revealed the quality of each chisel's steel; some edges were barely blemished, while others had collapsed under the strain. □

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MODEL/SOURCE	ORIGIN
WESTERN-STYLE CHISELS	
Ashley Iles www.thebestthings.com	England
Ashley Iles American www.toolsforworkingwood.com	England
Barr www.barrtools.com	USA
Blue Spruce www.thebestthings.com	USA
C.I. Fall www.traditionalwoodworker.com	Sweden
Crown www.woodcraft.com	England
Footprint www.woodcraft.com	England
GarrettWade cabinetmaker's chisels www.garrettwade.com	Czech Republic
Grizzly deluxe bevel edge www.grizzly.com	China
Hirsch www.highlandwoodworking.com	Germany
Irwin www.amazon.com	China
Lee Valley www.leevalley.com	Japan
Lie-Nielsen www.lie-nielsen.com	USA
MHG www.hartvilletool.com	Germany
Narex www.highlandwoodworking.com	Czech Republic
Sorby www.woodcraft.com	England
Pfeil Swiss Made www.woodcraft.com	Switzerland
Two Cherries www.toolsforworkingwood.com	Germany

AUTHOR'S CHOICE
BEST OVERALL

AUTHOR'S CHOICE
BEST VALUE

JAPANESE-STYLE CHISELS	
Iyroi blue www.toolsforworkingwood.com	Japan
Grizzly Japanese chisels www.grizzly.com	Japan
Matsumura white www.thejapanwoodworker.com	Japan
Matsumura blue www.thejapanwoodworker.com	Japan
Nomikatsu premium grade www.traditionalwoodworker.com	Japan

AUTHOR'S CHOICE
BEST VALUE

AUTHOR'S CHOICE
BEST OVERALL

STREET PRICE	OVERALL LENGTH / BLADE LENGTH	SIDE FLAT (HEIGHT)	OUT OF BOX	ERGONOMICS	EDGE RETENTION	DOVETAIL	PARING	CHOPPING
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\$35	10 ⁵ / ₈ in. / 3 ⁵ / ₈ in.	.040 in.	Good	Good	Very good	Good	Very good	Very good
\$26	7 ³ / ₈ in. / 2 ¹ / ₂ in.	.025 in.	Good	Good	Very good	Excellent	Fair	Good
4 for \$335	10 ³ / ₈ in. / 3 ⁷ / ₈ in.	.032 in.	Excellent	Good	Fair	Very good	Very good	Excellent
4 for \$230	8 ¹⁵ / ₁₆ in. / 4 ³ / ₈ in.	.010 in.	Excellent	Very good	Good	Excellent	Very good	Fair
\$18	10 ¹ / ₄ in. / 3 ³ / ₄ in.	.100 in.	Good	Fair	Good	Good	Good	Excellent
\$20	10 ³ / ₄ in. / 4 ¹ / ₄ in.	.080 in.	Very good	Good	Fair	Good	Very good	Good
\$18	9 ¹ / ₁₆ in. / 3 ³ / ₄ in.	.115 in.	Very good	Excellent	Very good	Fair	Very good	Very good
6 for \$80	10 ⁵ / ₁₆ in. / 4 in.	.055 in.	Good	Good	Good	Very good	Very good	Excellent
8 for \$44	10 ³ / ₈ in. / 4 ¹ / ₄ in.	.065 in.	Good	Good	Poor	Good	Good	Good
\$25	10 ⁵ / ₁₆ in. / 4 ¹ / ₈ in.	.080 in.	Good	Good	Good	Good	Very good	Very good
\$12	10 ³ / ₁₆ in. / 4 in.	.080 in.	Good	Good	Good	Good	Good	Very good
\$12	9 ⁷ / ₈ in. / 4 in.	.122 in.	Fair	Good	Very good	Fair	Good	Excellent
\$50	9 in. / 3 ⁵ / ₈ in.	.025 in.	Very good	Excellent	Good	Excellent	Very good	Very good
\$16	10 ³ / ₁₆ in. / 4 in.	.088 in.	Very good	Very good	Good	Very good	Very good	Excellent
\$6	10 ³ / ₈ in. / 4 ¹ / ₄ in.	.062 in.	Very good	Good	Good	Very good	Very good	Excellent
\$41	10 ³ / ₈ in. / 4 in.	.040 in.	Fair	Good	Fair	Very good	Very good	Excellent
\$31	10 ³ / ₈ in. / 4 in.	.080 in.	Excellent	Very good	Very good	Very good	Very good	Excellent
\$22	10 ⁵ / ₁₆ in. / 4 ¹ / ₈ in.	.080 in.	Good	Very good	Good	Very good	Very good	Excellent

\$51	8 ³ / ₄ in. / 2 ¹ / ₄ in.	.092 in.	Fair	Good	Excellent	Excellent	Fair	Very good
\$14	8 ¹³ / ₁₆ in. / 2 ¹ / ₄ in.	.110 in.	Fair	Good	Very good	Very good	Fair	Very good
\$42	8 ⁷ / ₁₆ in. / 2 ¹ / ₄ in.	.080 in.	Very good	Very good	Good	Excellent	Fair	Very good
\$51	8 ⁵ / ₈ in. / 2 ¹ / ₂ in.	.075 in.	Very good	Very good	Excellent	Excellent	Fair	Very good
\$45	8 ⁷ / ₈ in. / 2 ¹ / ₄ in.	.087 in.	Very good	Very good	Excellent	Excellent	Fair	Very good