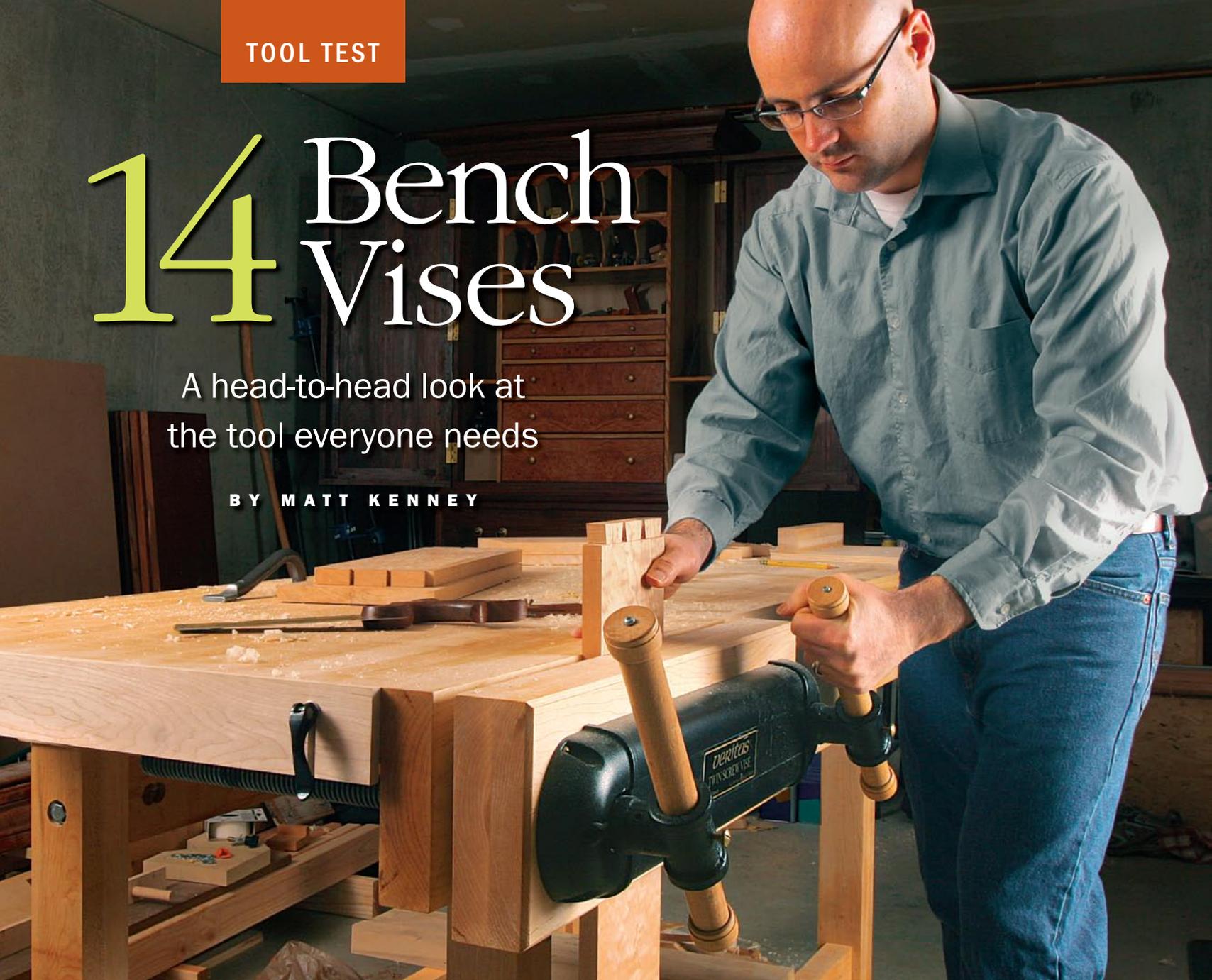


14 Bench Vises

A head-to-head look at the tool everyone needs

BY MATT KENNEY



WISE OR VISE HARDWARE?



There are two basic choices. Cast-iron vises (left) can be used right out of the box and give you the option of adding wooden jaws. With vise hardware (right), you'll need to make and install wooden jaws.

My woodworking improved dramatically after I installed a vise on my bench. With a vise to hold my work, I could mark and cut accurate dovetails, plane square edges, and rout profiles without the board sliding all over.

That's why I'm convinced that a bench vise is as important as any tool in the shop. Whether you use power tools, hand tools, or both, a good bench vise will help you work more accurately, efficiently, and safely.

A bench vise is meant to hold your work securely. A good vise not only does that well, but also opens and closes easily, has jaws that clamp squarely to the stock and hold it tight, and is versatile enough to

handle a variety of woodworking tasks. A bad vise doesn't hold boards tight, or has a nut that pops off the threads when you tighten the jaws.

Narrowing the field

It wouldn't be practical to test every vise available, so I focused on front vises, because they are the first serious vise woodworkers buy and can be the only type they'll need. Front vises are not difficult to install and they can be used as end vises. All have a screw between two guide bars, but there are two types. You can buy a fully assembled cast-iron vise, which includes metal jaws, or simply the vise hardware, which supplies the screw and guide bars. You supply the wooden jaws.

Both types have their advantages. Vise hardware is less obtrusive, because there is less visible metal and the jaws can be made to match your benchtop. Cast-iron vises are easier to install and most have a built-in benchdog.

When I had the option, I chose quick-release models, because slowly winding a vise open to plane a drawer or use the built-in bench dog isn't efficient or fun.

We also tested two twin-screw vises. One model was discontinued, so we're publishing only the results for the Veritas model. Like the other vises, it can be used as either a front vise or an end vise. Though it doesn't have the quick-release feature, it can clamp stock vertically in the center of

Features to consider

QUICK RELEASE IS FASTER



Trigger finger or twist of the wrist. On trigger-release vises (left), a lever near the handle drops the nut so the outer jaw slides quickly to where you need it. This style is based on the iconic vises by Record. On some quick-release vises, a quarter turn releases the nut (right).

DOGS ADD VERSATILITY



Built-in or build it in. Most cast-iron vises have a benchdog built into the front jaw (left). With vise hardware (right), you add a dog hole (or two) to the wooden front jaw.

CAN YOU LIVE WITH RACKING?



Easy fix. Some vise jaws pivot and lose their grip when a piece must be clamped in only one side of the vise. The solution is to clamp a scrap of the same thickness at the other end.



No fix needed. Kenney was surprised to find that some vises racked very little. He could tighten the jaws enough to hold a board for dovetailing and not have the board shift at all (above left). On the Veritas vise, you can place a wide board between the two screws (below left), and the vise applies clamping pressure equally.

Cast-iron vises

ANANT 52½ ED



GROZ 9-IN. QUICK RELEASE



GROZ 9-IN. RAPID ACTION



Groz 9-in. Rapid Action

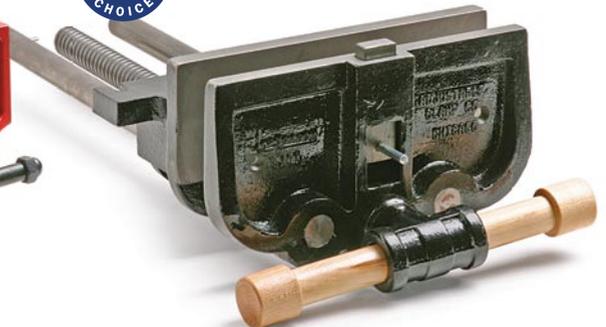


Jorgensen Rapid-Acting Bench Vise

JET 9½-IN. QUICK RELEASE



JORGENSEN RAPID-ACTING BENCH VISE



VICE NAME	SUPPLIER (PRODUCT NUMBER)	STREET PRICE
Anant 52½ ED	www.highlandwoodworking.com (199302)	\$140
Groz 9-in. Quick Release	www.highlandwoodworking.com (199152)	\$110
Groz 9-in. Rapid Action	www.woodcraft.com (148437)	\$100
Jet 9½-in. Quick Release	www.southern-tool.com (WMH708569)	\$194
Jorgensen Rapid-Acting Bench Vise	www.woodcraft.com (16T52)	\$155
Medium Quick-Release Steel Bench Vise	www.leevalley.com (10G04.12)	\$145
Rockler Workbench Vise	www.rockler.com (33487)	\$140
Shop Fox 9-in. Quick Release Wood Vise	www.japanwoodworker.com (66.252.5)	\$72
Wilton 79A	www.southern-tool.com (WMH63218)	\$250

its jaws, making it easier to dovetail wide boards. That's a compelling benefit.

To put these vises to the test, each one had to be used daily for a variety of tasks, and they had to be compared side by side. I needed help and found it in the School of Art + Design at Purchase College in New York. Dennis Fitzgerald, who oversees the woodshop there, installed the vises in the shop, and the students used and abused them for a semester on tasks such as dovetailing, planing, carving, and working on shaped parts. Fitzgerald and I also did our own testing, and weighed in on the results.

Note that the vises were used heavily

for hand-tool work, which puts the most stress on a vise. Any vise that stands up to sawing and planing should be fine for machine work like routing and drilling. The students benefited, too. These vises were a big improvement over the old ones in their shop. And every vise was donated to the school by the manufacturer or supplier.

The makings of a good vise

We don't ask vises to do much, but there are features to look for other than the ability to clamp wood securely. There's an easy fix for vises that rack (see p. 41), but the less you have to deal with racking the bet-

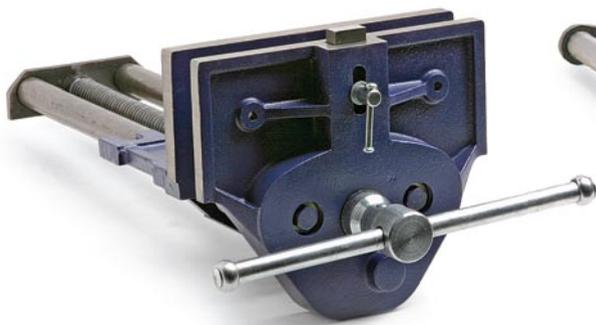
ter. We checked for racking by clamping a board vertically on one side of the vise and measuring how far out of parallel the jaws were on the other side.

Also, check the vertical alignment. The jaws should clamp squarely to the stock from top to bottom. Because the screw is at the bottom of the vise, the bottom tends to pull in as pressure is applied. To compensate, the moving jaw on cast-iron vises should be canted in slightly at the top. (With vise hardware, taper the front jaw so it's slightly thicker at the top.)

There are two types of quick release: trigger and twist. I recommend a twist-release

QUICK RELEASE	JAW WIDTH	OPENING CAPACITY	EASE OF USE	RACKING	VERTICAL ALIGNMENT	COMMENTS
Yes, lever	9 in.	12¾ in.	Poor	0.05	Good	Quick-release nut doesn't re-engage well.
Yes, lever	9 in.	9 in.	Good	0.05	Excellent	Low-quality plastic benchdog in front jaw.
Yes, twist	9 in.	13 in.	Excellent	0.09	Excellent	Must add wooden front jaw to get a benchdog.
Yes, lever	9½ in.	9½ in.	Good	0.06	Excellent	Release lever is not easy to operate.
Yes, twist	10 in.	12 in.	Excellent	0.04	Excellent	Steel benchdog moves easily and stays in place once set.
Yes, twist	9 in.	13 in.	Good	0.13	Good	Doesn't open and close smoothly.
Yes, twist	9 in.	13 in.	Good	0.08	Excellent	Doesn't open and close smoothly.
Yes, lever	9 in.	10¾ in.	Good	0.08	Excellent	Paint chipped easily.
Yes, twist	10 in.	13 in.	Good	0.06	Very good	Quick-release nut doesn't re-engage immediately.

MEDIUM QUICK-RELEASE STEEL BENCH VISE (LEE VALLEY)



ROCKLER WORKBENCH VISE



SHOP FOX QUICK RELEASE WOOD VISE



INSTALLING A CAST-IRON VISE



Just bolt and go. If necessary, install a spacer under the benchtop to keep the top of the jaws just below the top of the bench.



Get more with a long jaw. Mortising a long wooden jaw over the rear jaw makes it easier to clamp wide and long boards.

WILTON 79A



Vise hardware

WISE NAME	SUPPLIER (PRODUCT NUMBER)	STREET PRICE
Economy Quick-Release Front Vise	www.woodcraft.com (145444)	\$87
Large Quick-Release Front Vise	www.leevalley.com (Large, 70G08.10)	\$140
Quick-Release Front Vise	www.woodcraft.com (17A11)	\$215
Rockler Quick-Release End Vise	www.rockler.com (37180)	\$180
Veritas Twin-Screw Vise	www.leevalley.com (05G12)	\$230



ECONOMY QUICK-RELEASE FRONT VISE (WOODCRAFT)

AUTHOR'S
BEST VALUE
CHOICE



LARGE QUICK-RELEASE FRONT VISE (LEE VALLEY)

AUTHOR'S
BEST VALUE
CHOICE

AUTHOR'S
BEST OVERALL
CHOICE



QUICK-RELEASE FRONT VISE (WOODCRAFT)



ROCKLER QUICK-RELEASE END VISE

INSTALLING VISE HARDWARE



Start with the baseplate. The first step is to screw the baseplate to the bottom of the benchtop. Then clamp the rear jaw in place and mark the holes for the screw and guide bars.



Attach the rear jaw. After you've drilled holes for the screw and guide bars, bolt the rear jaw to the benchtop. Barrel nuts mortised in from the bottom of the benchtop capture the bolts.



Bolt the front jaw in place. Clamp the wooden front jaw to the rear jaw, and then install the screw plate and guide bars.

QUICK RELEASE	OPENING CAPACITY	EASE OF USE	RACKING	COMMENTS
Yes, twist	11½ in.	Fair	0.15	Too much play in screw and guide bars caused jaw to open and close poorly.
Yes, twist	13 in.	Good	0.09	Nut occasionally fails to disengage when you twist screw to pull jaw out.
Yes, twist	14¾ in.	Good	0.05	Required more force to open and close jaw than other vises.
Yes, twist	13 in.	Good	0.06	Can clamp up to 6-in.-wide boards between guide post and screw.
No	12 in.	Excellent	N/A	Can clamp up to 16-in.-wide boards between screws; two handles are a nuisance at times.



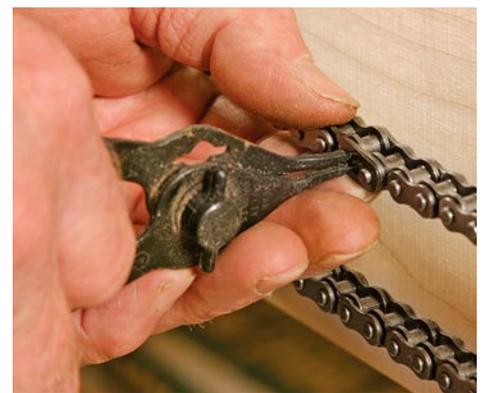
INSTALLING THE VERITAS TWIN-SCREW VISE



Attach the nuts. The round nuts fit into holes drilled into the rear jaw, and the square bases are screwed in place. Then attach the jaw to the benchtop.



As the screws turn. Clamp the front jaw in place and start cranking the screws. When tight, attach the screw plates.



Clip the chain in. A small spring clip holds the ends of the chain together. The chain turns a sprocket on each screw, and lets you open and close both screws with one hand.

wise, because the nut disengages when the screw is turned. This makes it easy to hold a workpiece in one hand and use the other to turn the screw and adjust the front jaw. On a trigger-release vise, you must pull and hold a trigger to disengage the nut. It can be tricky to do this while moving the jaw with the same hand.

With a quick-release vise, an important feature is how well the nut engages. If the nut pops or jumps when you tighten the screw, the vise doesn't tighten and your workpiece can fall out. Finally, check the fit and finish. Rough castings can scratch or cut your fingers or workpiece, and screws that don't turn smoothly are frustrating.

And the winners are ...

Among the cast-iron vises, the Jorgensen is the best. Its twist-release mechanism works very well, and it has a big metal benchdog that moves smoothly and stays in place. The vertical alignment was always dead-on under pressure, and it racked the second least. The best value is the Groz rapid-action vise. It performed very well, and I like the action of the twist release.

Among vise hardware, the Veritas twin-screw is easily the best. It has the biggest clamping capacity and doesn't rack. The front jaw can be skewed for tapered parts or to overcome racking force if you clamp something outside the screws. The Veritas doesn't have quick release, but everything else about it is so nice we didn't miss it. We picked the large quick-release front vise sold by Lee Valley as the best value. It's a solid performer at a good price. □

Matt Kenney is an associate editor.