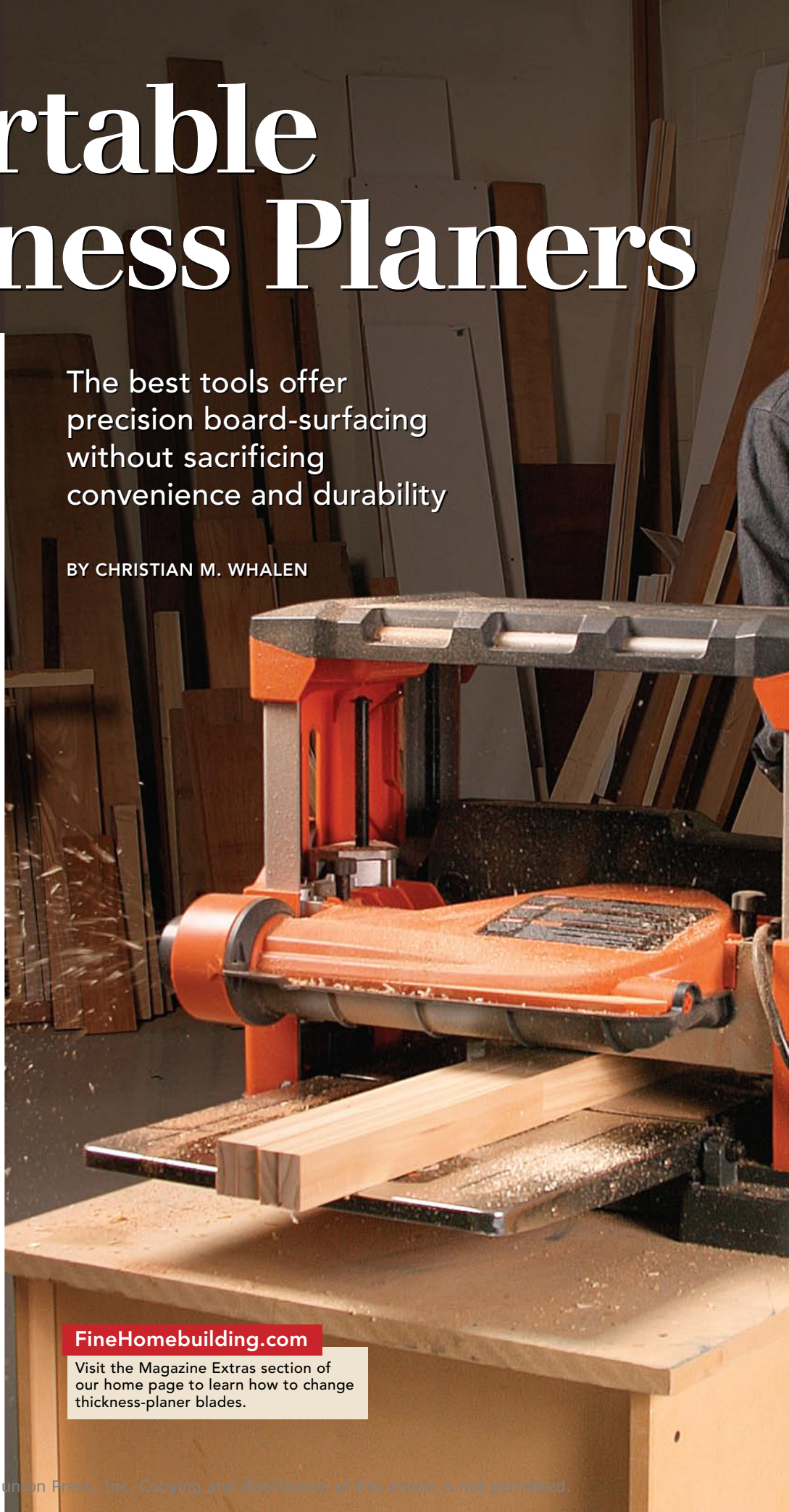
Tool Test

Portable Thickness Planers

The best tools offer precision board-surfacing without sacrificing convenience and durability

BY CHRISTIAN M. WHALEN



Just as drills and saws have become more portable, so have many shop tools that we once thought of as stationary. Thickness planers aren't a new category in this list of portable tools, but they are a group that has grown significantly in popularity due to improvements in performance. These tools allow me to clean up a poorly surfaced board from the lumberyard, ensure flush joinery by allowing me to plane each board in a stack to the exact same thickness, and provide design flexibility by allowing me to customize board thicknesses.

For this review, I tested seven portable thickness planers, which despite a wide range of prices, share lots of similar features. Unlike many stationary thickness planers, the bed of each model in this review is fixed; the cutterhead is raised and lowered to adjust thickness settings. One full turn of the height-adjustment crank equals 1/16 in. on all models except the Makita, for which a single turn equals a more awkward 5/64 in. Except for the Steel City model, which uses 26 small cutters arranged in six rows, all the others use either two or three full-length blades.

The DeWalt and Ryobi models aside, each planer has extension tables on both the infeed and outfeed sides of the tool. Although some operate better than others, each tool uses a paddle-style switch; all but the Ryobi have a built-in circuit breaker to protect against electrical overload. Although the severity varied, every machine in this review produced snipe during my testing, and all of the blades and tables were slightly out of parallel.

Although my favorite, the DeWalt, is the most expensive, the Ridgid is an exceptional value at almost half the price (see p. 78).

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Visit the Magazine Extras section of our home page to learn how to change thickness-planer blades.

Consider "The Four Ps"

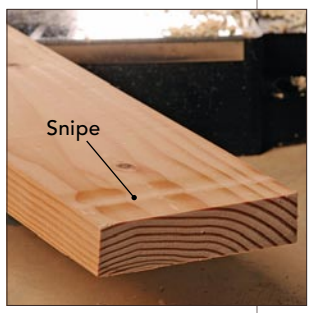
I evaluated each of the seven portable planers in this review based on what I call "The Four Ps": precision, performance, portability, and practicality.

PRECISION

Depth gauges that are barely readable, preset depth stops that are spongy, and adjustment handles that spin loosely aren't helping anybody. I want a planer that can be dialed in precisely to produce reliable results.

PERFORMANCE

I don't expect my thickness planer to remove ⅛ in. from a piece of white oak in a single pass, but I do expect it to produce surfaces that are smooth and free of ripple-like **chatter marks**, and be reasonably parallel so that one edge of the board is not thicker than the other. Although **snipe**—a gouge across the width of the board that occurs when one end of the stock gets lifted into the spinning cutterhead—is nearly inevitable, it shouldn't be worsened by short infeed and outfeed supports and cutterheads that drift from the depth setting during use.




Chatter marks

PORTABILITY

I typically work alone, so I have to think twice about tools that are too cumbersome for one person to move from job to job. The planer's weight and center of gravity are concerns, but so are the carrying handles, and the tool's ability to fold neatly for transport.

Which would you rather lift?

54 lb.

98 lb.

PRACTICALITY

I don't have an engineer on staff, so I need a tool that allows for easy adjustments and blade changes. A thorough instruction manual is a great start, but the best tools are designed to be intuitive. My favorite planers provide ample access for blade changes and include a T-handle wrench with magnets that allow for safe handling of the razor-sharp blades, and the metal gib that is tightened over them.

Photo left: Rodney Diaz

CRAFTSMAN 21759

www.craftsman.com $530

Maximum width: 13 in.
Depth capacity: 6 in.
Weight: 98 lb.

This two-speed, three-knife machine is the largest and heaviest of the group. The depth gauge has presets ranging from ⅛ in. to 1¼ in., but as on most of the machines, the stops are a bit spongy. Unlike the other planers, however, the Craftsman has a digital depth readout, which increases its accuracy. The 12½-in. extension tables have rollers on the ends, but they have quite a bit of flex. I really like the oversize paddle switch and removable lock, and the dust-collection system that allows the planer to be attached directly to a 30-gal. trash can for chip disposal. The tool left visible chatter marks when cutting at the faster speed, but they were easily removed with a light sanding. A hinged cutterhead cover makes blade changes straightforward, and a spare set of blades is included in the box. The return rollers drop into slots and can be knocked out easily, which is not great for portability. Still, this machine would be a fine addition to a small shop.

Accurate but confusing. *The digital readout zeroes at 1 in., so it must be set to -0.25 to yield a ¾-in.-thick board.*

GRIZZLY G0663

www.grizzly.com $200

Maximum width: 12½ in.
Depth capacity: 6³⁄₃₂ in.
Weight: 66 lb.

This economically priced, entry-level planer is a basic unit, but it includes a terrific set of specs and instructions, is easy to transport, and is certainly functional enough for professionals. The extension tables are only 6¾ in. long, making the total bed length a bit short at 23½ in. The top-mounted, gear-driven depth adjuster functions well but has no infeed depth gauge, only a tape measure with an adjustable indicator. The dust-collection adapter must be purchased separately. It has a paddle switch with a removable safety lock.

Replacing the blades would be a little simpler if the wrench were long enough to avoid hitting the motor housing while turning. Although this machine sounded a little rough in operation, it produced a smooth finish with minor chatter marks that were easily removed with a light sanding. My only concern with the Grizzly is its lack of amenities; I also wonder how it will perform over time.

A tight fit. *The Grizzly's blade changes are hampered by a short wrench and a too-close motor. A long T-handled wrench would help.*

MAKITA 2012NB

www.makita.com $530

Maximum width: 12 in.
Depth capacity: 6³⁄₃₂ in. **Weight:** 61 lb.

With only a 12-in. blade, this tool is the best of the small models. It's not big on flashy features, but it's the most compact and portable, and the only model ready to use right out of the box. In fact, without making any adjustments to the scale before my initial test, I set the cutting depth at ¼ in., and the resulting thickness measured 0.250 in. with a digital caliper. The plastic-covered, gear-driven depth adjustment allows for precise fine-tuning, though one turn equals 5⁄64 in. on this machine, unlike 1⁄16 in. on all the others. The tape-measure depth gauge is standard fare; the simple drop-down depth stop made it easy to achieve repeatable thicknesses. The paddle switch has a removable safety lock that snaps into place, but it loosened while running the machine (maybe that's why Makita includes an extra). The factory-set 9-in. extension tables are solid and produce an overall bed length of 30 in. Infeed and outfeed snipe were equal to the other tools, but the surfaced boards were otherwise free of noticeable chatter marks. A shorter nut driver would make blade-changing a bit easier because the one provided hits the motor housing.

Uncommon math. *One turn of the Makita's depth-adjustment knob equals an odd 5⁄64 in. instead of the 1⁄16-in. ratio on other tools.*

Photo right, facing page: Thomas G. Begnal

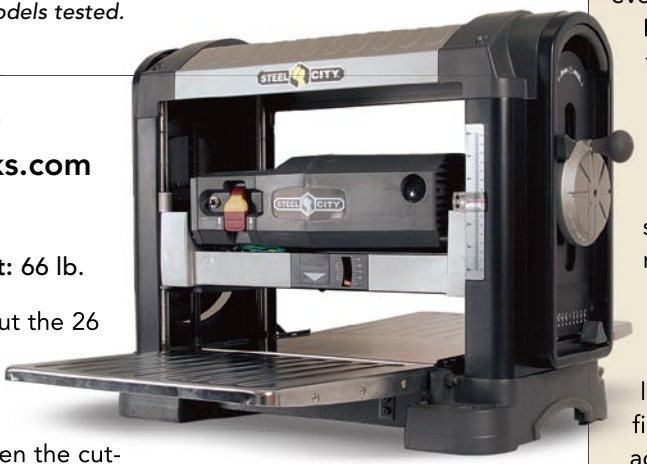
RYOBI AP1301

www.ryobitools.com $200

Maximum width: 13 in.
Depth capacity: 6 in.
Weight: 54 lb.

The motor on this machine runs smoothly, but because it has no circuit breaker, it could burn up if overloaded. Still, despite making a lot of chipping noise while planing, the Ryobi produced smooth surfaces with only minor chatter marks. The dust outlet does not accommodate anything larger than a 2½-in. shop-vacuum hose, but when I jury-rigged the tool with a 4-in. hose, it worked fine. Even though the features on this model tell me it's aimed at hobbyists, the blade-changing protocol would challenge a millwright. There are no positive locks or alignment tabs for positioning the blades in the cutterhead. After replacing the blade, the instructions just say to check "visually" that the blade is parallel to the cutterhead before replacing the gib and tightening the adjustment screws; accuracy just left the building. While the price is right and the surfaces produced are smooth, this unit needs better engineering.

Got snipe? *With no extension tables and only a 14-in. bed, this planer leaves the most visible and severe snipe (0.01 in.) of all the models tested.*

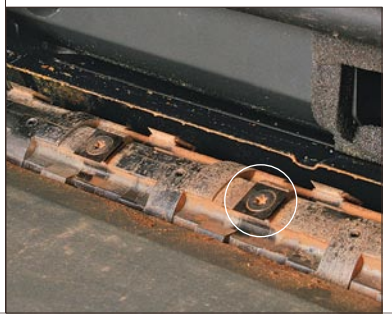


STEEL CITY 40200

www.steelcitytoolworks.com
$600

Maximum width: 13 in.
Depth capacity: 6 in. **Weight:** 66 lb.

This machine runs smoothly, but the 26 individual cutters produced a striped surface on the face of the board during my tests. On the plus side, when the cutters become dull, they can be rotated 90° and reused, which means less time for blade changes. There was virtually no outfeed snipe, and a ¼-in. cutting depth produced a board measuring 0.252 in. with digital calipers. The 12-in.-long extension tables make an overall bed length of 34 in., have little flex, and snap up out of the way. Unfortunately, the outfeed table cannot be flipped up when the dust-collection adapter is in place. Because of its slim shape and built-in handles, this machine is fairly easy to carry. A pin attached to a gauge is used for the depth-of-cut indicator. There are still a few bugs to work out on this newly released model, but I think this planer could be a contender.



Two, three, or 26? *Instead of a two- or three-blade cutterhead, this model has a cutterhead with 26 small, four-sided blades arranged in six overlapping rows.*

DEALING WITH SNIPE

A low-cost, adjustable infeed/outfeed table

Some manufacturers have drastically reduced the amount of snipe created by their benchtop planers, but it eventually comes down to a trade-off. For these tools to be portable, the folding infeed and outfeed tables are kept short, and are prone to misalignment. But by removing the manufacturer's tables and replacing them with a portable, adjustable, shopmade version, snipe becomes much less of an issue. This table has only a handful of parts: four cleats—two on the infeed side, two on the outfeed side—and a long piece of ½-in. medium-density fiberboard (MDF). The MDF is laid across the bed of the planer so that it extends out both ends of the tool, and is supported by cleats that are attached to the top of the shop cabinet or job-site table with carriage bolts and washers. The bolts allow you to raise each end of the MDF to create a slightly bowed table. This bow is the key to eliminating snipe. This setup will reduce the planer's depth capacity by ½ in., but that's rarely a problem.

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Visit the Magazine Extras section of our home page for a link to shop drawings of this adjustable infeed/outfeed table.

DeWALT DW735

www.dewalt.com $650

Maximum width: 13 in.
Depth capacity: 6 in. **Weight:** 92 lb.

Despite its weight, this compact tool is easy to carry and has all the features I want in a planer with none of the chintzy bells and whistles. The built-in dust chute has a powerful blower that ejects chips into a snap-on dust-collection adapter or through a flat port if no dust collection is used. The 19-in.-long cast-aluminum bed can be extended to longer than 3 ft. with DeWalt's aftermarket extensions. Instead of an inverted pin, the DW735 uses a more accurate full-length bar to indicate the infeed depth of cut. The preset depth gauge ranges from ⅛ in. to 1¼ in., and a board run through with the depth set at ½ in. yielded a digital caliper reading of 0.509 in. The side-mount depth-adjustment crank is sturdy and operates smoothly. Other than the small amount of snipe visible on the infeed end of test boards, this tool produced the smoothest surfaces of all the planers, regardless of cutting speed. Changing the blades is a simple procedure done with a T-handle hex driver stored in the lid. This machine is accurate enough for a small production shop, and if you don't mind the weight, it's definitely durable enough for job-site use.

Choose your speed. *DeWalt's two-speed feature provides adaptability. Speed 1 (179 cuts per in.) is ideal for hard or figured woods, and for getting the finest finish. Speed 2 (96 cuts per in.) removes material more quickly.*

RIDGID R4330

www.ridgid.com **$370**

Maximum width: 13 in.
Depth capacity: 6 in. **Weight:** 73 lb.

This machine is what I call a hybrid. It has many of the same features found on the large heavy-duty models, but it is almost as light as the smaller models. The two solid 12-in. extension tables yield a bed length of 34 in. and have very little flex. However, the dust-collection adapter is not quite as effective as others, and it prevents the outfeed extension table from being folded up, which is a strike against the tool's portability. As with most of these machines, the preset depth stops—in this case ranging from ⅛ in. to 1¾ in.—are a bit too spongy for my comfort; they don't stop solidly, making depth settings a bit of a guessing game. On this model, the blade gib is spring-loaded, so the blades can be replaced without having to remove all the screws—a clever idea. The motor on this machine purrs, but the three-blade cutterhead produced a surface with visible chatter marks that required additional sanding to remove. If my budget were tight and I had to choose one model for both shop and job-site use, I would take this machine.

Repeatability made easy. *Ridgid's preset depth stops, although a bit spongy, are still a helpful feature. If nothing else, they are good insurance against spinning the adjustment knob too far and cutting a board too thin.*