

PORTABLE Thickness Planers

by David Frane

When I started doing finish carpentry, there was no good way to get lumber that was a nonstandard thickness. If I needed something out of the ordinary, I had to haul wood to a nearby cabinet shop or go to a full-service lumberyard and wait for someone to run it through the thickness planer. The other option was to resaw the board on a table saw and remove the saw marks with a belt sander or hand plane.

I eventually went to work for a company that did projects where it was worth setting up an on-site shop. One of our tools was a 15½-inch cast-iron planer. It saved a lot of time and trouble but was too big and heavy to take to every job. In the mid 1980s, Ryobi introduced a small, lightweight thickness planer. It had 10-inch blades and was as convenient to store and transport as a small portable table saw. Within a short time, we had a few of these machines and were using them on smaller jobs.

These days, there are many portable planers to choose from, which is good if you do the kind of custom work or repair jobs that require nonstandard material. For this article, I tested seven portable planers that a carpenter might encounter when shopping for tools. There are other portable machines on the market, but most of them are designed for hobbyists.



The best portable machines cut smoothly, are easy to transport, and produce little or no snipe

Craftsman 217430

This planer produces a good smooth cut with very little snipe. It has an exhaust blower and comes with a bonnet that allows you to feed chips directly into a trash can. On the downside, this machine is bulky, heavy, and produces a high-pitched whine at idle. The hard plastic grip inserts make it uncomfortable to lift, and the preset thickness stops are a hair off. It has a lot of bells and whistles but nothing useful like an indexing ring or adjustable thickness stop.

Delta 22-580

This is one of my favorite planers. It produces an excellent cut with no discernible mill marks or snipe. When you turn it on it feels and sounds solid and well made. With a new set of blades, it will put a smooth, glassy finish on maple. This machine has two feed rates, and the slow one would come in handy for lumber with irregular grain.

I'm not a big fan of thickness scales, but Delta's is nice because it's high enough to read without bending way over. The zero-out indicator ring under the crank makes it easy to determine just how much stock you're about to remove. I also appreciate the smooth lifting points high and low on the machine. What I don't like about this planer is that it's somewhat bulky and not particularly light. I'd prefer it if this machine had an automatic head lock.

Cutting Capacity

Cutting capacity is determined by the length of the blades; most of the machines in this test will accept 13-inch stock. More capacity is better, but as a carpenter there is a limit to how much capacity you'll ever need. You're unlikely to plane rough lumber, and the widest stock you can get at a lumber yard is 11¹/₄ inches wide. I own a 15¹/₂-inch planer but 99% of the material that goes through it is less than 8 inches wide.

All of these machines accept material up to 6 inches thick, which is plenty because there is almost no circumstance where a carpenter would need to plane something taller than that. The only time I need more than a few inches of height is when I'm taking saw marks off ripped lumber by running it through on edge. Boards are not very stable this way, so I usually gang them together and run a bunch through at once. Even then I'm hesitant about doing this with material over 4 or 5 inches wide.

Power. Another limiting factor is the size of the motor. These machines have small 15-amp universal motors, so they're just not powerful enough to take big bites out of wide boards. They can make up to a 1/8-inch cut, but they are not designed to do it on full-width stock. Delta's recommendations are pretty typical. They say it's okay to take 1/16 inch off a 13-inch softwood board. If it's hardwood, you can only take 1/32 inch per pass. To make a full 1/8-inch cut you should be planing softwood that's less than 6 inches

Craftsman 217430



Delta 22-580



wide. I ran 1x10 red oak through all of these machines and in many cases made deeper cuts than the manufacturers recommend. The tools could do it, but I could tell that a steady diet of this would burn up the motors and risk breaking the gears that drive the feed rollers.

Quality of Cut

It's okay if there are mill marks on framing lumber, but no one wants to see them on trim. Mill marks show up as a series of lines perpendicular to the grain and usually happen because the feed rate is too high or because the blades are improperly set.

Cuts per inch. The feed rate, number of blades, and rpm of the head combine to determine how many times the blades touch the work. This is expressed in a spec called knife cuts per inch (kcpi), and the number varies widely for this group of machines. In theory, more cuts per inch should produce a smoother surface and reduce the incidence of tearout. I believe that extra cuts do reduce tearout, but past a certain point they do not significantly improve the finish. In my opinion, these machines are all beyond that point.

I ran hardwood boards through the planers and saved a piece from each machine. It would have been nearly impossible to tell the boards apart if they hadn't been marked. In some cases, more cuts per inch produced a slightly finer polish on the surface. But in other cases I could not tell the difference between 51 kcpi and 179 kcpi. If the blades are sharp,

DeWalt DW734

The DW734 is a simple, well-made machine that produces clean cuts with no discernible mill marks or snipe. This planer is relatively compact and in the middle of the pack in terms of weight. It has an indicator dial under the crank and comes with an exhaust hood that will fit a 4-inch duct or a large shop vac hose. On the downside, it has a manual head lock, the top-mounted crank does not fold away for transport, and the slide-out handles are not very comfortable to grip.

DeWalt DW735

This is an unusual-looking machine. I wouldn't mind having it in a small shop, but at 92 pounds, it's kind of heavy to haul back and forth to the job. It produces an excellent cut with no mill mark and little or no snipe. The upper handles are extremely comfortable, as are the ones lower down on the base. The DW735 has a low center of gravity, and the table is big enough that there is no need for extensions. There's a large, comfortable hand crank on the right and a dial that controls accurate preset thickness stops on the left. The case is almost entirely plastic, but it seems like tougher stuff than the plastic that's on the sides of the other machines.

Despite two cutting speeds and a high number of cuts per inch, the DW735 does not produce an appreciably better finish than the other machines. The coolest thing about this planer is the system for exhausting chips. A fan downstream from the head sucks the chips out of the machine and ejects them at a high rate of speed. An optional \$60 chip collection bonnet will allow you to feed chips directly into a trash barrel without the need for a vacuum.

The main problem with the DW735 is that it's heavy. I would also be concerned about what would happen to the fan (which is plastic) if a knot or hunk of wood broke off and got sucked through it.

DeWalt DW734



DeWalt DW735



Jet JWP-13DX

The Jet planer looks like it came out of the same factory as the Craftsman; there are a lot of common parts. It cut cleanly with little snipe at the outfeed but usually some at the infeed side. This machine does have two speeds, but the grips are uncomfortable, and it does not seem particularly well made. For example, the lifting mechanism contains plastic pinion gears, while the other planers contain metal gears and sprockets.

Makita 2012NB

This planer is my personal favorite. Compared to the other models, it's exceptionally small and light. It does have an inch less cutting capacity, but with 12-inch blades, it will handle 99% of the planing tasks most carpenters will ever do.

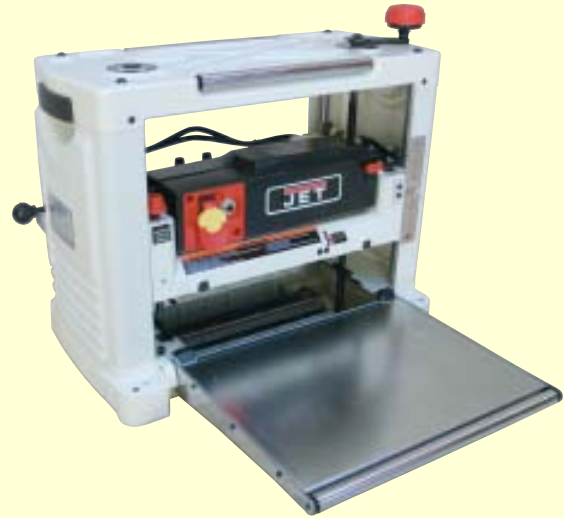
If you only look at the specs, you might expect the 2012NB to produce a lower quality of finish than the machines that make more cuts per inch. This is simply not true. This planer produces a smooth finish with no discernible mill marks. However, it will produce a small amount of snipe if you're not careful about supporting the ends of boards.

The 2012NB does not have a lot of bells and whistles. It's just a simple, well-made machine. It has a rudimentary depth-of-cut gauge and no preset thickness stops. This doesn't matter to me, since I don't use those features anyway. But it does have an adjustable stop rod that allows you to make repeat cuts. My only complaints are that the dust hood is \$35 extra and that a turn of the crank changes the height more than 1/16 inch.

Ridgid 1300LS

This machine cuts smoothly but produces noticeable snipe at both ends. It's not particularly light or compact, and there was chip bruising on softwood on all but the lightest cuts. The manufacturer does throw in extras such as a spare set of blades and a metal stand. However, a planer is not very portable if it's bolted to a set of legs.

Jet JWP-13DX



Makita 2012NB



Ridgid 1300LS



every one of these machines is capable of putting a smooth finish on hardwood or softwood lumber.

Most of the planers have a single feed rate, usually around 26 feet per minute (fpm). The Delta, Jet, and DeWalt DW735 have two speeds, a regular speed and a slow one for making the final pass or planing lumber with irregular grain. It's nice to be able to run highly figured stock at a lower speed (more cuts per inch), but it doesn't make much difference on standard material.

Snipe. If a planer removes too much material from the ends of the board, you end up with a depression referred to as snipe. It can be subtle or severe but it's never more than a few inches long. If the snipe is minor, you can sand it out. Otherwise, you'll have to trim a couple of inches off one or both ends of the board.

Most of these machines are equipped with manual head locks. The locks are supposed to reduce sniping by securing the cutter assembly to the lifting rods.

The Makita and DeWalt DW735 have automatic locks, and as far as I could tell, they planed as well as the other machines. I don't care for manual locks because they're just one more thing to think about.

Some planers produced less snipe than others. The Delta, Craftsman, and both DeWalt models rarely produced snipe, and when they did, it was nearly undetectable. Makita's machine sniped at both ends, but it was very subtle if the boards were properly supported. The Jet planer produced no snipe at the outfeed end, but there was usually some at the infeed. Ridgid's model produced noticeable snipe at both ends.

Portability

None of these machines is fun to haul around. Many of them are bulky, and half are close to or above 90 pounds. The Makita is significantly more portable than any of the other machines. It's very compact and weighs only 61 pounds. Consequently, it's easier to lift and takes up less space in a vehicle or job box. Compare this to the DeWalt DW735, which weighs 92 pounds and has a label that shows two people lifting it.

Chip Ejection/Collection

All of the planers can be connected to a shop vac, dust bag, or dust collector. Some models come with the necessary parts; others require you to buy an

optional collection hood.

I don't always do it, but it's a good idea to use a vacuum to collect chips. This not only keeps the air and work area cleaner, but it also sucks the chips out of the planer and makes it easier to get a good cut. When chips pile up inside, they get pressed into the stock by the outfeed roller. This produces chip bruising, which shows up as numerous small depressions on the surface. It's more likely to happen when you plane soft lumber or make deep cuts.

All of the planers have fan-cooled motors. The exhaust air is channeled toward the outfeed to give chips a push on their way out. This idea has been taken a step further in the Craftsman and DeWalt DW735 machines. Chips are funneled through a squirrel cage blower and ejected with enough velocity that you can feed them into a trash can without using a vacuum. Craftsman's planer comes with the necessary collection bonnet; it's a \$60 option on DeWalt's DW735 machine. You'll want to collect the chips somehow because the fans blow them all over the place.

Noise

Every planer makes noise, but some make more than others. Makita claims to have the quietest machine on the market, and, in fact, it did sound quieter. I tested the tools with a decibel (db) meter, and the Makita produced less noise at idle than every model except Delta's (see spec table). However, they all made about the same amount of noise under load.

Still, I did like the quieter machines because there was less noise between cuts. A significant portion of the noise produced by the DeWalt DW735 seemed to come from the exhaust fan. The same was true of the Craftsman, which produced an annoying high-pitched whine at idle.

Changing Blades

It takes 5 to 10 minutes to change blades. All of the planers take double-sided disposable blades that are easy to align because they index to the head.

These blades can't be resharpened, so you may need to purchase several sets per year. They're not always easy to find, but you can mail-order them. A set of blades costs between \$35 and \$50, which is not bad if you consider the cost of two sharpenings and the time it takes to drop blades off and pick

Portable Planer Specs

	Craftsman	Delta	DeWalt	DeWalt	Jet	Makita	Ridgid
Model	217430	22-580	DW734	DW735	JWP-13DX	2012NB	1300LS
Street price	\$430	\$359	\$379	\$479	\$429	\$387	\$379
Weight (lb.)	88	86	80	92	79	61	85
Maximum width	13	13	12 ¹ / ₂	13	13	12	13
Noise in decibels at idle *	95	89	93	95	93	89	92
RPM of head	8,000	10,000	10,000	10,000	8,000	8,500	9,500
Number of knives	2	2	3	3	2	2	2
Feed rate (fast/slow) in feet per minute	24	27/18	26	26/14	26/18	28	26
Knife cuts per inch (fast/slow)	55	60/90	96	96/179	51/74	51	66
Head lock	manual	manual	manual	automatic	manual	automatic	manual
Chip collection hood	included	optional	included	built-in	optional	optional	included

*measured indoors from 6 feet away with no material in the machine

them up. Nonetheless, it's conceivable that after a few years you could have spent more on blades than you did for the machine.

Convenience Features

These planers are equipped with a variety of controls and added features. They all have some kind of thickness scale and depth-of-cut gauge. Neither feature would be important enough to influence my decision. Some models have preset stops for common thicknesses such as 1 inch, ³/₄ inch, and so on. This is a handy feature, but I wouldn't go out of my way to get it.

The Delta and Makita both have adjustable stops that allow you to plane additional boards to the same final thickness as boards you planed at an earlier time. This might allow you to save stock because you won't be as tempted to mill extra pieces with the main run of material.

On most planers the blades drop ¹/₁₆ inch per turn of the crank. If you keep count, you can

approximate how thick the stock is without stopping to measure. It's harder to do this with the Makita machine because the blades drop ⁵/₆₄ inch per turn. One way around this is to use the indexing ring that's on the crank of the Makita machine. The ring allows you to track the movement of the head in extremely fine increments of distance. The Delta and DeWalt DW734 both have similar mechanisms. It's a nice feature that every planer should have.

The Report Card

If I were in the market for a planer, I would probably buy the Makita or the Delta. I would also consider either one of the DeWalts. The other planers are not bad, but they're not up to the level of the machines listed above.

