



TOOL TEST

Benchtop Drill Presses

It's a good bet that most woodshops have at least one cordless drill, and possibly a corded model as well. Between them, they can take care of most drilling jobs. But these handheld drills have a weak link: the hand that holds them. Humans are inconsistent. We don't always drill straight and true, or on the mark. That's why so many of us are willing to spend hundreds of dollars on a drill press. Properly set up, a drill press gives you clean, straight holes, right where you want them, at whatever angle you choose, time after time. It also has more power than a handheld drill, and it won't wrench your wrist with a big bit.

In our last drill-press review (*FWW* #162), we tested floor-standing models. But a lot of woodworkers opt for benchtop

The best do everything
a furniture maker needs

BY CHARLIE REINA

models. They take up less floor space and, on average, cost less than floor-standers. The question is: Do they have the power and precision a furniture maker needs? For this review, we looked at nine medium- to large-size models, based on power and plunge depth. Each has at least 1/3 hp and can drill at least 3 in. deep. All but one cost less than most floor-standers. The results told us two encouraging things about benchtop drill presses: You do get what you pay for; but you don't have to pay a lot to get what you need.

One thing you should know about all benchtop drill presses: Like most of the floor-standing models, they're designed for metal-working, with small tables that are hard to clamp onto. So you'll

have to buy or make a larger auxiliary table that can support large workpieces and accept a fence easily.

All drill accurate holes, but power varies widely

In order to get the consistently straight, perfectly placed holes necessary for making furniture, the important parts of the machine must line up. All of the models come with tables preset at zero (90° to the spindle) for left-to-right tilt, that can be adjusted by loosening a bolt beneath the table. None needed adjusting.

Front-to-back tilt is another matter, since there is no adjustment for this on any of these drill presses. Five of the models were off-level, front to back. Although none was off by more than half a degree, even that slight deviance gives you another reason to attach an auxiliary table, which you can shim level.

Accuracy also requires that the drill bit spin without significant runout, or you'll get oversize holes and, possibly, tearout at the rim. We tested each model using a straight rod held in the chuck and found that every machine had at least a small amount of runout. But when we drilled holes with 1/2-in. brad-point and twist bits, each model made clean, accurately sized holes.

If you're shelling out good money for a drill press, you should expect a significant power upgrade over a handheld drill. It should be able to drive the largest of bits easily through hardwood. We set each drill press at an appropriate speed (500–600 rpm) and

recorded how long it took to drive a 2-in. Forstner bit 3/4 in. deep into maple without slowing down obviously or vibrating. The results varied pretty much according to motor power, from 10 to 12 seconds for two of the most powerful (3/4 hp) models, all the way up to 23 seconds for one of the least powerful (1/3 hp) models.

Ease of use is important, too

If power and precision were all it took to decide on a drill press, I could stop right here. But there's more to it. You want a machine that treats you well, one that lets you work efficiently without fuss, back strain, or scraped knuckles. Money aside, this might well be the deciding factor in your choice.

We looked at two key ease-of-use factors. We rated each model for how easy it is to set the plunge depth and to change drilling speeds (according to the bit size and hardness of the wood.)

Setting the plunge—All but two of the models employ threaded stop rods (long, grooved, threaded rods with a scale in the groove) and stop nuts for setting plunge depth. You turn the stop nuts to the right point on the scale, bring down the bit, and the plunge stops when the nuts hit a stationary bracket. Sounds efficient, but ease goes out the window when the manufacturer takes shortcuts, like using thin, hard-to-turn hex nuts or an extrathin (3/32-in.) stop bracket, so bendable that you can get an unwanted extra 1/64 in. to 1/16 in. of depth when you bring down the bit. The



**GENERAL INT'L
75-100**

The General International 75-100 stands out for performance and ease of use. It tested best for drilling power, and it had the least runout (0.002 in.). One drawback: its \$450 price tag.



JET JDP-15M

The Jet JDP-15M shares top honors with the General for its own stand-out performance in our tests. Its table is also the biggest of the bunch. All that for \$100 less than the General.



GRIZZLY G7943

The Grizzly G7943 earned high all-around marks, matching the Jet for drilling power. Yet it's one of the least expensive benchtops, at \$225.

Benchtop drill-press test

MAKE & MODEL	STREET PRICE	MOTOR	CHUCK	CHUCK-POST DISTANCE	STROKE	QUILL-TABLE DISTANCE	SPEEDS (RANGE)	RUNOUT	2-IN. HOLE TEST	SPEED CHANGE EASE
Craftsman 21914 www.craftsman.com	\$200	¾ hp	½ in.	6 in.	3 in.	15¼ in.	5 (500-3000 rpm)	0.004 in.	18 sec.	Poor
Delta DP350 www.deltamachinery.com	\$220	¾ hp	½ in.	6 in.	3¼ in.	13⅝ in.	V/S (500-3100 rpm)	0.004 in.	23 sec.	Excellent
AUTHOR'S BEST OVERALL CHOICE General Int'l. 75-100 www.general.ca	\$450	¾ hp	⅝ in.	8½ in.	3¼ in.	14 in.	12 (340-2800 rpm)	0.002 in.	10 sec.	Very good
Grizzly G7943 www.grizzly.com	\$225	¾ hp	⅝ in.	7 in.	3¼ in.	12 in.	12 (140-3050 rpm)	0.004 in.	12 sec.	Very good
AUTHOR'S BEST VALUE CHOICE Grizzly G0485	\$200	½ hp	⅝ in.	6½ in.	3⅜ in.	13⅞ in.	16 (230-3270 rpm)	0.002 in.	14 sec.	Good
AUTHOR'S BEST OVERALL CHOICE Jet JDP-15M www.wmhtoolgroup.com	\$350	¾ hp	⅝ in.	7½ in.	3⅜ in.	13⅞ in.	16 (200-3630 rpm)	0.004 in.	12 sec.	Very good
Ryobi DP121L www.ryobitools.com	\$180	¾ hp	½ in.	6 in.	3 in.	12¼ in.	V/S (500-3000 rpm)	0.008 in.	17 sec.	Excellent
Shop Fox W1668 www.woodstockint.com	\$270	¾ hp	⅝ in.	6⅝ in.	3¼ in.	14¼ in.	12 (250-3050 rpm)	0.003 in.	15 sec.	Poor
Shop Fox M1102	\$275	½ hp	⅝ in.	6½ in.	3⅜ in.	14⅜ in.	16 (230-3270 rpm)	0.002 in.	18 sec.	Good

Delta DP350, Shop Fox W1668, and Grizzly G7943 fell short in this area, making depth setting difficult and/or inaccurate.

Two of the less-powerful models made strong showings with different kinds of depth-setting systems. The Craftsman has its depth stop on the shaft of the pull-down arm mechanism, so there are no thin brackets or hex nuts to worry about, and its electronic, digital readout is pinpoint accurate. The Ryobi DP121L has a scale ring on the pull-down arm shaft, and a depth-set mechanism in the form of a large winglike handle that turns and locks in smoothly. This makes it especially easy to zero the bit out on the workpiece surface and set the drilling depth precisely.

Changing speeds—Belts and pulleys are this tool's transmission. Seven of the models require manual speed changes. You pull the motor forward to loosen the belt (on five-speed models) or belts (on 12- or 16-speed models);

then you move the belts to smaller or larger pulleys and, finally, push the motor back to tighten them.

At its worst, this can be a chore, such as with the Craftsman and the Shop Fox W1668. Both came with belts so tight that the motors were held fast in their forward positions. We had to loosen the motor mounts in order to change belt positions.

Fortunately, the rest of the models worked as advertised. The General International 75-100, Jet JDP-15M, and Grizzly G7943 come with levers that allow you to move the motors forward and back for belt changing with ease. The Ryobi and the Delta come with variable-speed mechanisms. Both let you change speeds effortlessly, by turning an arm while the motor is running.

Lights, lasers, and other features may help you decide

Most models come with special features that improve performance or ease of use. All but one (Shop Fox W1668) are equipped for or with work lights. The Craftsman and Ryobi have crosshair lasers to pinpoint where bit meets board.

Oscillating quill—The Shop Fox W1668 has an oscillating quill for spindle sanding. It works off an easily installed belt in the pulley housing, and it gives the sanding drum ¾ in. of up-and-down movement for even wear.

FineWoodworking.com

We review two radial drill presses, which combine very deep throat capacity with the ability to angle the head.



DEPTH SET EASE	COMMENTS
Excellent	Laser, swivel knob, offset table crank, work light, digital depth readout, difficult speed change
Fair	Best work light, offset table crank, variable speed
Excellent	Least runout, belt-change handle, work light, deepest chuck-to-post distance
Fair	Medium-size base, work light, belt-change handle
Good	Medium-size base, work light, solid performance across the board
Excellent	Largest table, large base, work light, belt-change handle
Excellent	Laser, variable speed, digital speed readout, easy depth set on pull-arm axle, work light
Fair	Oscillating spindle sanding, difficult speed change
Good	Largest base, work light

Swivel handle—One of the Craftsman's pull-down arms has a swivel-grip knob that allows a full-depth plunge without having to change to a second arm. That leaves your left hand free to hold the workpiece.

And the winners are ...

All in all, our tests showed that a solid benchtop drill press gives you the performance you need to make the finest furniture.

The General International 75-100 tested best for drilling power and all-around performance. If you can afford the \$450 price, it's the best you can buy. Or, the Jet JDP-15M might be the drill press for you. It rated second for power, among the best for speed-change and depth-set ease, has the largest table, and at \$350, is more affordable. We rated both models best overall.

We gave the best-value award to the Grizzly G7943. It scored among the highest for drilling power and speed-change ease. Its range of 12 speeds offers the lowest setting of all the test models, 140 rpm, ideal for driving circle cutters and the largest of bits. And its \$225 price is among the lowest of the pack. □

Charlie Reina is an associate editor.



DEPTH SETTING



Solid depth setting. Seven models use stop rods for depth setting. Four of them, including the General (left) and Jet, are solidly made, with easy-to-turn, knurled depth-stop nuts. The Ryobi (above) and Craftsman have easy-to-use depth sets on their pull-arm axles.



SPEED CHANGING



Love that lever. All three “best” models have a lever (left) that lets you move the motor back and forth for easy manual belt changing. The variable-speed Ryobi (above) has a digital speed display.



OTHER FEATURES



Extras. The Craftsman (above) is one of two models equipped with laser crosshairs. The Shop Fox W1668 (left) comes with a quill that can oscillate for spindle sanding.