

# Spade Bits and Beyond

BY BRIAN WALO

We take traditional spades and their modern competitors for a spin

Familiar job-site companions, spade bits have long filled the void for plumbers, electricians, and framers needing to drill medium- to large-diameter holes without lugging around a dedicated ½-in. right-angle drill. Spade bits are relatively inexpensive and widely available in a range of sizes to suit most tasks on the job, making them an easy choice for tool buyers with slim budgets.

Because they are such a common sight on the job, we began to wonder how the brands would stack up against each other for speed and durability in a couple of different scenarios. Also, in case you missed it, the market has expanded beyond the standard paddle-shaped spade and now includes bits with barbed edges, curved paddles, and self-feed screw tips (photo right).

Our goal? To see if the new spins on the traditional spade design affect performance and longevity, or whether the traditional spades would prove the old adage about not fixing something that's not broken.

## Styles in spades

Spade bits come mostly in two variations: flat and barbed. The flat-blade bits vary slightly in their design. Some incorporate



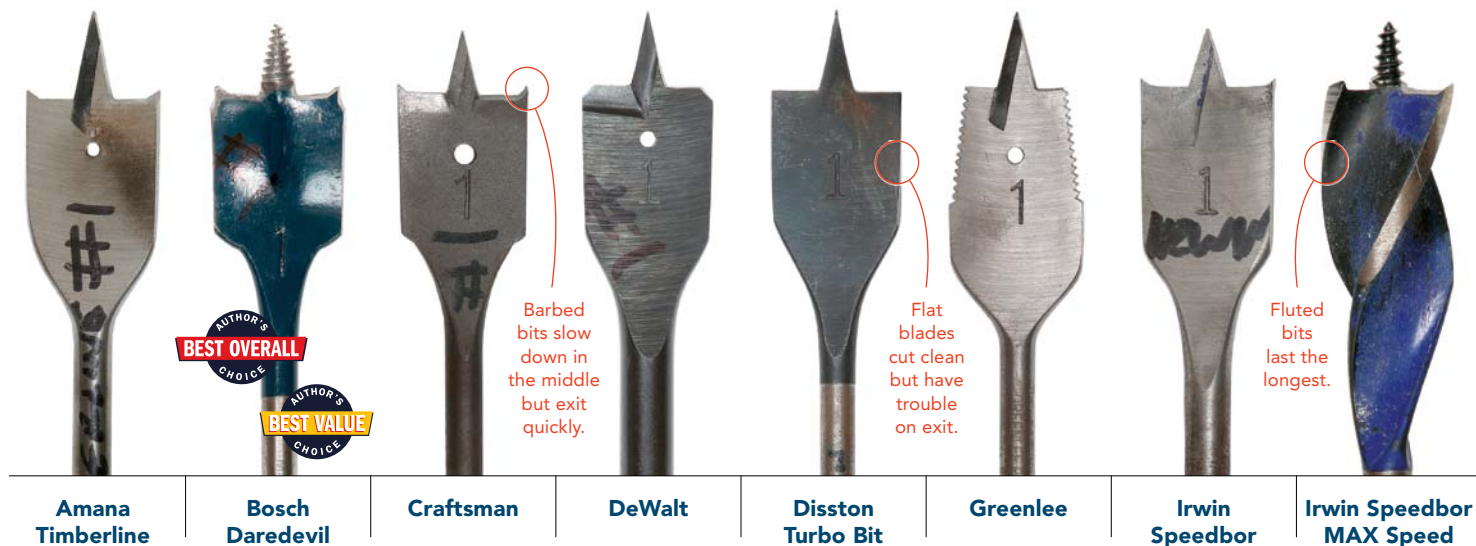
curved paddles in an effort to clear wood chips, but most are essentially cutting blades with straight, sharp edges. In

a now-common offshoot of flat-blade bits, many spades have barbs on each side of the paddle to score the surface of the cutting material and, presumably, to feed material to the cutting edges.

A third component, not often seen on traditional spade bits, is the self-feeding screw tip, which accelerates the cutting speed by pulling the bit through the material.

These days, spade bits also seem to be sharing shelf space with some relative newcomers to the field. Self-feeding fluted bits appear to be gaining traction in the wood-boring-bit market and are often touted as being faster and more durable than standard spade bits. Their distinctive spiral shape is a substantial departure from the traditional spade, but they aren't quite auger bits, either. Although sold at a premium price, these bits are often marketed as direct competitors to spades, so we thought it fair to include them in our test.

Brian Walo is an electrician in Mount Pleasant, S.C. Photos by Rodney Diaz, except where noted.



## WINNER HAS THE LOWEST COST PER HOLE

After two dust-collector bag replacements, a small shop-vacuum fire, and lots of perforated framing lumber, some patterns emerged and a winner was crowned.

### Earning points for style

With some exceptions, the testing showed that

each style of bit had its own benefits and its drawbacks.

The flat-bladed spade bits cut clean holes and never seemed to get hung up until they reached the far side of the lumber. At this point, they often slowed down and took extra time to finish cutting the hole.

The barbed bits, such as the Irwin Speedbor, had a tendency to get hung up on chips when transitioning from one 2x to the next, but had no problems blowing through the opposite side of the lumber to finish the job. The barbs benefit more than they hinder but can jam up,

whereas the flat blades didn't choke up as badly but definitely needed an extra kick for them to punch through.

The fluted bits bored quickly and lasted longer than any of the flat or barbed bits. On the downside, they were difficult to pull out of a hole once drilled.

### The drill makes a difference

Another pattern that appeared was differences in performance related to speed and torque. Most of these bits did not come in packages that specified a maximum rpm for safe operation, and we ignored the ones that



BRAND	PRICE	HIGH-SPEED/LOW-TORQUE TEST DeWalt D21008 3/8-in. VSR drill				LOW-SPEED/HIGH-TORQUE TEST Ridgid R7121 1/2-in. spade-handle drill			
		First hole	Last hole	No. of holes	Cost per hole	First hole	Last hole	No. of holes	Cost per hole
Amana Timberline	\$1.86	3:38	8:01	5	37¢	4:04	5:46	2	93¢
<b>Bosch Daredevil</b>	\$4.89	0:06	0:14	27	18¢	0:06	0:14	38	13¢
Craftsman	\$3.89	5:32	N/A*	1	89¢	3:32	N/A	1	\$3.89
DeWalt	\$5.82	1:03	2:06	16	36¢	0:11	0:24	24	24¢
Disston Turbo Bit	\$3.06	1:50	4:05	12	26¢	N/A	N/A	1	\$3.06
Greenlee	\$7.70	0:47	1:40	5	\$1.54	1:45	1:17	3	\$2.57
Irwin (traditional)	\$2.79	0:24	0:53	8	35¢	0:58	2:58	15	19¢
Irwin (fluted)	\$8.99	N/A	N/A	1	\$8.99	0:11	0:24	49	18¢
Lenox	\$17.15	N/A	N/A	1	\$17.15	0:15	0:31	62	28¢
Mag-Bit Mag 79213	\$4.05	5:30	N/A	1	\$4.05	5:31	N/A	1	\$4.05
Milwaukee	\$8.97	N/A	N/A	1	\$8.97	0:10	0:22	42	21¢
Vermont American	\$2.25	5:17	N/A	1	\$2.25	5:28	N/A	1	\$2.25
WoodOwl	\$5.49	0:26	1:16	13	42¢	N/A	N/A	1	\$5.49

\*Any bit that took 6 or more minutes to finish a hole was disqualified. All times in minutes and seconds. All bits 1 in. dia.



Lenox

Mag-Bit  
Mag 79213

Milwaukee

Vermont  
American

WoodOwl

## HOW WE TESTED

To find out just how well each bit stacks up to its peers, we built a dedicated drilling rig. A sled with vibration-minimizing supports was securely mounted to a pair of drawer slides. The sled held the drill and was attached via a small pulley and cable to a weighted bucket hanging below the rig to pull each bit through the material with the same amount of simulated hand pressure.

### High- and low-torque time trials

To give each brand a fair shake, the rig was built to accommodate both a high-rpm (2500 max), low-torque 6-amp drill that you might find in thousands of

did in order to simulate real-world conditions.

The test revealed a huge improvement in bit life and boring speed when bits were powered by a low-rpm/high-torque drill (1/2-in. drill) versus being powered by a high-rpm/low-torque drill (3/8-in. drill). All but one brand of spade bit (WoodOwl) fared better at low speed. For those that could complete the task in a reasonable amount of time, bit life was better at lower rpm as well.

The takeaway is that if you're using a small drill set up to run at high rpm, stick with a traditional spade bit. The fluted bits want low speed and high torque to chew through material, and they performed poorly in a high-speed/low-torque drill.

### Some clear winners

In the traditional spade-bit category, the best bang for your buck is the Bosch Daredevil series. In both low- and high-rpm situations, the Bosch bit offered the

best value for its performance. These sharp, thick-paddled bits were consistently faster than any other brand we tested, even after hitting a nail that all but trashed the barbs and one side of the cutting blade.

Second- and third-place honors go to the spade bits from DeWalt and Irwin, respectively. DeWalt's offering was different in design from most, which may be the reason it delivered consistently quick holes in the lower-rpm testing and took quite a while to wear down. For longevity and speed, the DeWalt is a great option. Irwin's popular Speedbor finished holes just a little bit slower and wore out just a little bit quicker.

The fluted bits were the distance champs of the group, all drilling more holes in the low-speed/high-torque test than even the best spade bit. When broken down to cost per hole, however, these pricey bits still fall short of the Bosch. The Lenox drilled the most holes, but its



cut quality made me wonder if it was cutting or just grinding through the material. Also, the Lenox and Milwaukee bits both routinely jammed up with wood chips, making for difficult recovery after the hole was finished. This was especially tough with the Milwaukee. The Irwin seemed to lead the pack of fluted options with the quality of the holes it drilled. The Irwin cleared chips pretty well, too, and it was a good value compared to flat and barbed options.

household-tool collections (DeWalt 3/8 in.; D21008), as well as a low-rpm (500 max), high-torque 9-amp drill more commonly found on construction sites (Ridgid 1/2 in.; R7121).

Each bit was timed on its first hole, then tested repeatedly until the time to complete a hole doubled, determining its point of failure.

### Boring through good and bad wood

To mitigate variables further, each bit was 1 in. in diameter and 6 in. long, and each trial hole was drilled through 4 1/2 in. of SPF framing lumber. The chosen diameter is fairly common for plumbers and electricians, and the lumber type and thickness were intended to simulate a double top plate capped with blocking for drywall.

To round out our testing with a punishing variable, each bit was then tested again under the same conditions, but the lumber was spiked with framing nails to simulate the work of overzealous framers. Once the bits encountered a nail, we drilled another series of holes through the all-wood setup. These results are not shown, as few bits survived the nail.