


# Saw blades II

## The Retest



Testing flaws require that we retest the general-purpose tablesaw blades originally reviewed in the December/January issue.

In our test of 10" blades on pages 42–45 of the December/January issue, as with all of our product reviews, we did our best to create a level playing field for the blades. In that spirit we designed and built a rip-cut sled that pulled all test stock through each blade with 12½ pounds of force. We've since discovered that device and procedure to be flawed. For many materials the sled pulled the board through the blade too fast—much faster than you would feed the material under normal workshop conditions. That led to unrealistically poor cuts. Also, the sled did not accurately duplicate the force you would normally apply downward and toward the fence during

an actual cut, introducing unnecessary scoring to the workpiece. Bottom line: The cuts we got from the sled are not an accurate reflection of what you would expect to get in your shop.

To remedy this situation we took the unprecedented step of retesting all of the blades. We're just not satisfied knowing that you might buy the wrong blade based on the previous article—and our tool tests are all about you getting the most bang for your woodworking buck. During this test, we hand-fed the stock, using the feedback from the saw and workpiece to tell us how fast to feed the material, just as you would do in your home shop. As a result, the new perfor-

mance grades better reflect the cut quality you can expect from each blade.

Finally, be assured that we stand behind all previous tool tests and feel 100 percent confident that you can use them to make informed tool purchases. We place utmost importance on providing you with accurate and unbiased tool tests. And it's for that very reason that we redid this test. At *WOOD*® magazine we realize that most of you keep your magazines as a reference source for years to come, so it is our policy to immediately correct any mistakes, be it a dimensional error in a project or a testing flaw, enabling you to correct your back issue. It doesn't happen very often, but when

it does we put your success above our egos. You, our loyal customers, deserve nothing less.

## Some of what we learned before still applies

On the following pages you'll find a new comparison chart for the 28 tested blades. We added cuts in 4/4 and 8/4 red oak because so many of you use that popular species. Gone are grades for ease of feed (more on that later) and grades for scoring on the edges of plywood and melamine-coated particleboard. On the *last page* of this article you'll find clear criteria for what constitutes an A, B, C, or D grade for each cut, along with photos showing what the various grades represent in three of the test cuts.

We didn't repeat all of the specifications (such as tooth count and hook angles) from the original chart. Those things have not changed.

That said, it still pays to heed a number of lessons learned from the first test, with a few new findings added:

■ **Previous lesson:** Even the best blade will not perform well in a saw that's not properly adjusted. So take the time to remove any runout from your saw's arbor. Align the fence, miter slots, and blade precisely parallel with each other. **New finding:** Err on toeing out the back end of the fence .001" or .002" away from the blade—that will reduce the likelihood of the workpiece binding between the blade and fence.

■ **Previous lesson:** Many of the tested saw blades yield clean cuts on the top face of melamine-coated particleboard. **New findings:** Only the Freud P410 produced chip-free cuts on the top and bottom faces of melamine (using a standard tablesaw throat plate and a slow feed rate). To improve the bottom-cut performance of the other blades we retried them using a zero-clearance insert. (See photo *right top*.) About half of the blades, such as the Forrest WW10407125, improved noticeably, as shown *right middle*. We got even better results in birch plywood crosscuts. There, a zero-clearance insert eliminated bottom tear-out with nearly every blade, potentially raising their crosscut tear-out performance in plywood by two full grades. (See photo *right bottom*.) Remember that the grades in the chart were determined using a standard tablesaw throat plate, not a zero-clearance insert. To learn how to make an insert go to [woodmagazine.com/zeroclearance](http://woodmagazine.com/zeroclearance).

■ **Previous lesson:** Thick carbide saw teeth give you more resharpenings.

**New finding:** Some of the blades have teeth with complicated grinds, so have your blades sharpened by a service with up-to-date computer-controlled grinding equipment that will duplicate the manufacturer's original grind. To be on the safe side, check the manufacturer's Web site for recommended sharpening services. For example, you can return Forrest and Ridge Carbide blades to the manufacturer for resharpening. By the time you read this, Freud's site should have a list of recommended sharpening services.

■ **New finding:** Ease of feed depends primarily on whether a blade has thin-kerf teeth (.118" or narrower) or full-kerf teeth (.125" thick or thicker), so we separated the chart into thin- and full-kerf categories, then listed them by price. A 3-hp tablesaw on a 220-volt circuit has enough muscle to power a full-kerf blade through nearly any cut. But if you're using a 110-volt saw you'll find that a thin-kerf blade plows more easily through tough cuts. Of course, either type will struggle if dull.

## Recommendations

For the purpose of choosing the Top Tool and Top Value winners, we had to look at how the blades performed in all of the tested materials. But as you look at the grades in the chart, keep in mind the type of saw you use and what type of work you do. For example, if you work entirely in 3/4" hardwoods, focus your attention on the grades for cuts in 4/4 maple and oak. Buy the best-priced blade that does well in the materials you'll cut with it. In other words, don't pay extra for a blade because it excels in a material you'll never cut.

Below you'll find recommendations in five categories broken down by full- or thin-kerf and price range.

### Full-kerf blades priced \$97 or more:

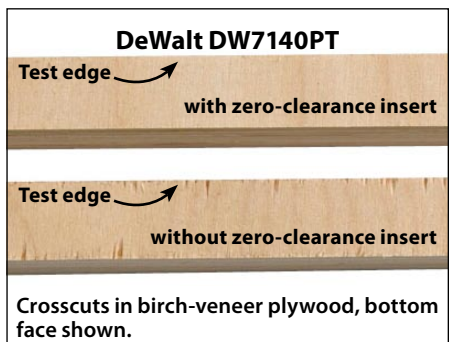
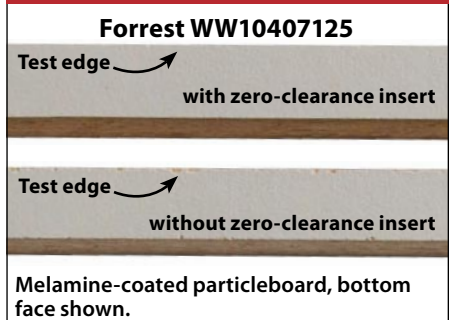
You'll be happy with the cuts you get with any of these premium blades. The Freud P410 and Infinity 010-044 scored slightly better than the others, earning Top Tool honors. Both of those blades owe some of their success to their highly beveled, 30° teeth that cut crisp edges but will dull faster than the 20° beveled teeth on the Forrest WW10407125 and

## AN EASY WAY TO IMPROVE ANY BLADE'S PERFORMANCE



This shop-made zero-clearance insert fully supports delicate veneer fibers as the blade's teeth exit the cut.

## ZERO-CLEARANCE INSERTS UPGRADE SHEET-GOOD CUTS



continued on page XX

# 10" GENERAL-PURPOSE TABLESAW BLADES

PRICE RANGE	MANUFACTURER	MODEL	TEETH BEVEL ANGLE, DEGREES	KERF WIDTH, INCHES	PERFORMANCE RATING (1)																								SELLING PRICE	PHONE NUMBER
					4/4 HARD MAPLE (2,3)				4/4 RED OAK (2,3)				8/4 HARD MAPLE (2,3)				8/4 RED OAK (2,3)				3/4" BIRCH PLYWOOD (3)		3/4" MELAMINE (4)							
					CROSSCUT SCORING	RIP CUT TEAR-OUT	RIP CUT SCORING	RIP CUT TEAR-OUT	CROSSCUT SCORING	RIP CUT TEAR-OUT	RIP CUT SCORING	RIP CUT TEAR-OUT	CROSSCUT SCORING	RIP CUT TEAR-OUT	RIP CUT SCORING	RIP CUT TEAR-OUT	CROSSCUT SCORING	RIP CUT TEAR-OUT	RIP CUT SCORING	RIP CUT TEAR-OUT	CROSSCUT SCORING	RIP CUT TEAR-OUT	CHIP-OUT	CHIP-OUT						

## FULL-KERF BLADES (.125" or thicker)

\$97 OR MORE	FORREST	WW10407125	20	0.125	B+	A-	A-	A	A	A	B+	A	A	A-	A	A	A-	A-	B+	A-	B-	A-	C	\$110	800-733-7111
	FREUD	P410	30	0.126	A-	A	B+	A	A	A	B+	A	A-	A	A-	A	A-	A	B+	A	B+	A	A	\$100	800-334-4107
	INFINITY	010-044	30	0.125	A	A	A-	A	A	A	A	A	A	A	B+	A	A	A	B+	A-	A	B+	B+	\$100	877-872-2487
	RIDGE CARBIDE	TS21040	15	0.125	B+	A	B-	A	A	A	B	A	A-	A	B	A	B	A	A	A	B-	A-	B+	\$97	800-443-0992
\$62 OR LESS	JESADA	110-440	20	0.126	C	B-	C	A	C	B	C	A-	D-	D	D-	B	C-	C	C	B	A-	B-	B	\$62	877-898-6657
	CMT	213.040.10	20	0.130	B	A	C	A	B-	A	C	A	C	B	C-	A	B	A-	C+	A	C	A-	C	\$60	888-268-2487
	SYSTEMATIC	51821	20	0.125	B+	A	C-	A-	A-	A	C	A	B	B+	B	A	A	A-	B	A	B	A-	C-	\$57	800-343-1616
	AMANA	610400	10	0.126	B-	B+	C+	A-	B-	A	B	A	C+	A	B	A	B	A-	B	A	C	A	B	\$55	800-445-0077
	ITP/H.O. SCHUMACHER	40-HATB-VP	40	0.125	B	A	C-	A	A-	A	C	A-	B+	A	C	A	B	B+	C	B	B	B+	B+	\$55	866-537-0700
	AMANA	PR1040	20	0.134	C+	A	C	A-	B+	A	B	A	C	A	B	A	B	A-	B	A	C	A	C-	\$52	800-445-0077
	BOSCH	PRO1040GP	15	0.128	C-	B	D	A-	C	A-	C-	A-	D	C-	D+	A	D	B	D	B-	C-	B	D+	\$45	877-267-2499

## THIN-KERF BLADES (.118" or thinner)

\$90 OR MORE	FORREST	WW10407100	20	0.100	B+	B+	B	A	A-	A-	B	A	A-	A	A-	A	A-	A-	A	A	C-	A-	B	\$110	800-733-7111
	RIDGE CARBIDE	TS21040TK	15	0.093	A-	A	A-	A-	A-	A	B+	A	A-	B+	A	A	B+	A	A	A-	B	B	B+	\$97	800-443-0992
	TENRYU	GM-25540	15	0.111	B+	A	B	A	A	A	A	A	A-	A	A	A	B+	A	A	A	A	A	B	\$90	800-951-7297
\$40 - \$65	AMANA	TB10400	10	0.090	C+	B+	C	A	B	A	B-	A-	B	A	B	A	B	A-	B	A	C	A-	B	\$65	800-445-0077
	SYSTEMATIC	37437	20	0.093	C	B	C	B	B	A-	B	A	C-	A-	C	A	C	B+	B-	A-	B	A-	B-	\$60	800-343-1616
	OLDHAM	1007740	10	0.115	D	B	C	A-	B-	A-	B	B+	D	C-	D	B	D	C-	D+	A-	B-	A-	C	\$50	800-433-9258
	DELTA	35-7657	15	0.118	C+	A-	B-	A	B	A-	C	A	B	A-	B	A	B	A-	B+	A	C	A-	C+	\$43	800-223-7278
	CMT	251.042.10	15	0.098	B	A	C-	A	B	A	C	A	B	A-	C	A	B-	A-	C	A	C	A-	B+	\$40	888-268-2487
	CRAFTSMAN	32808	15	0.100	A-	A	B-	A	A-	A	B	A	A-	A	B+	A-	B+	B+	B	B	C-	A-	C-	\$40	800-383-4814
	MAKITA	A-94459	15	0.091	C	A	C	A	B	A-	C	A	C	C	C	A-	B	B	C	A	C+	A-	B-	\$40	800-462-5482
	\$35 OR LESS	DEWALT	DW7140PT	10	0.098	A-	A-	C-	A-	A-	B+	C	A	A-	A-	B	A	A-	A-	B-	A	C-	B+	C	\$35
FREUD		LU86R010	10	0.094	B+	A	B	A-	A	B	B	A	A	A	B	A	B+	B	B+	A	C+	A	D-	\$35	800-334-4107
VERMONT AMERICAN		27831	12	0.098	C	D+	D	B	C-	C	C-	B	C	C	C	A-	D	C	D	C+	D+	D	D	\$35	800-626-2834
FREUD		D1040X	15	0.098	B+	B+	B+	A-	A-	B+	B	A	A-	A	B+	A	A-	A-	B+	A	C+	A-	C-	\$30	800-334-4107
HITACHI		310878	20	0.098	C	B	B	A-	B	A-	B	A	C-	B-	B-	A-	C	B	B	B	C+	C	D+	\$30	800-829-4752
DEWALT		DW3114	10	0.095	B+	A-	B-	A-	A-	B+	B+	A-	B+	B+	A-	A	B+	B-	B+	B	C-	B-	D+	\$28	800-433-9258
IRWIN MARATHON	14070	10	0.095	B	C-	C-	B-	B+	C	C-	B	C	C	D	B	B	D	C	C-	D-	D	D-	\$28	800-464-7946	



### Full-Kerf Blades



CONTACT INFORMATION	
WEB SITE	

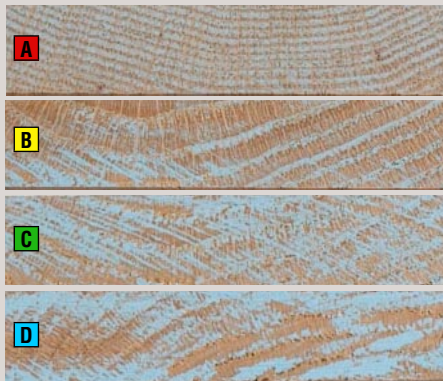
forrestblades.com
freudtools.com
infinitytools.com
ridgecarbidetool.com
razorwoodworks.com
cmtusa.com
simondsinternational.com
amanatool.com
itptooling.com
amanatool.com
boschttools.com

forrestblades.com
ridgecarbidetool.com
tenryu.com
amanatool.com
simondsinternational.com
oldham-usa.com
deltaportercable.com
cmtusa.com
craftsman.com
makitatools.com
dewalt.com
freudtools.com
vermontamerican.com
freudtools.com
hitachipowertools.com
dewalt.com
irwin.com

**Grade samples:**  
(Blue chalk used to show scoring)  
**8/4 hard maple rip cuts**



**4/4 red oak crosscuts**



**birch-veneer plywood crosscuts**  
(Top edges are test edges)



NOTES:

- A Excellent  
B Good  
C Fair  
D Poor

2. **BLADE SCORING EVALUATION CRITERIA**

Maple, Red Oak

- A = Absence of blade marks; joint-ready
- B = Blade marks can be removed with light sanding
- C = Blade marks can be removed with heavy sanding
- D = Blade marks can be removed with jointer or hand plane

3. **TEAR-OUT EVALUATION CRITERIA**

Maple, Red Oak, Birch Plywood

- A = No tear-out on top and bottom faces
- B = No tear-out on top face, slight tear-out on bottom face
- C = Little to no tear-out on top face, significant tear-out on bottom face
- D = Consistent tear-out on top face, significant tear-out on bottom face

4. **CHIP-OUT EVALUATION CRITERIA**

Melamine

- A = No chipping on top and bottom faces
- B = No chipping on top face, slight chipping on bottom face
- C = Little to no chipping on top face, significant chipping on bottom face
- D = Consistent chipping on top face, significant chipping on bottom face

15° beveled teeth on the Ridge Carbide TS21040. So we're also recommending the Forrest blade for work in solid stock, though if used without a zero-clearance insert it will produce more tear-out or chip-out in plywood or melamine than the Freud or Infinity blades.

**Full-kerf blades priced \$62 or less:**

The Amana 610400 and Systematic 51821 scored best, earning Top Value recognition. Both blades produced some chip- or tear-out on the bottom face of sheet goods, and will do better if you use a zero-clearance insert and feed the material slowly.

**Thin-kerf blades priced \$90 or more:**

Top Tool honor goes to the Tenryu GM-25540. It costs less and performs slightly better than the other two blades in this group. But, if kerf thinness is paramount, note that the Forrest WW10407100 and Ridge Carbide TS21040TK are slightly thinner than the Tenryu.

**Thin-kerf blades priced \$40-\$65:**

The Craftsman 32808 had higher grades overall than the other blades in this category and price range. Here, too, a zero-clearance insert will noticeably improve your results on the bottom side of sheet goods.

**Thin-kerf blades priced \$35 or less:**

The Freud D1040X was the best value in the test, scoring within an eyelash of the Craftsman 32808. If you're on a budget, here's a blade that earns an A or B grade in every cut except sheet goods where you'll need a zero-clearance insert for improved bottom-side results. 🌲



**Thin-Kerf Blades**

