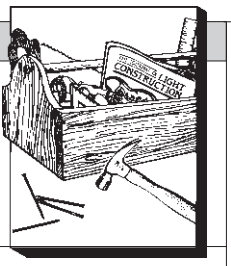
Production Framing Saws



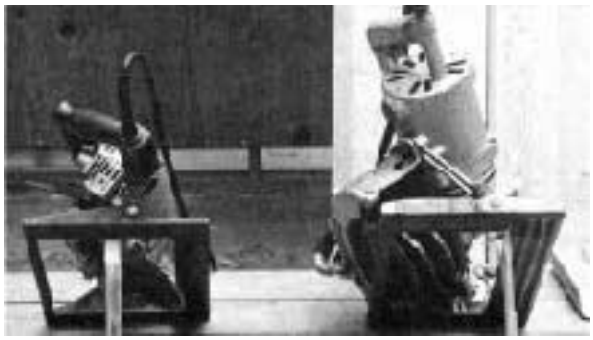
by Will Holladay and Clayton DeKorne

Production framers love breaking the rules. You can confirm this by looking at some of the alterations that get made to worm-drive saws on production sites.

The most common alteration is to remove the saw's retractable blade guard. This makes it possible to mount a larger blade for a greater depth of cut. It also makes plunge cuts and repeated passes to remove stock a bit easier.

Another saw conversion you might see produces what is commonly called a sidewinder (not to be confused with the northeastern term for a direct-drive circular saw). This infamous, flush-cutting hybrid is made by welding an extended arbor onto a blade, which exposes it completely beyond the housing and the shoe plate. These are often used to cut out the bottom plates in doorways, and to finish ridge cuts when gang-cutting rafters.

These conversions are, in a word, dangerous. They are not only discouraged, but they are illegal. Getting caught with one can put you on an OSHA list that guarantees monthly visits and some stiff fines. But these alterations aren't the only way of dealing with the frustrating limitations of portable power saws.



The Skilsaw on the left has a swing table that will allow the saw to "swing" over to 68° in one direction or 5° in the other. The dado saw on the right is a discontinued Skil model, but you can turn an ordinary wormdrive saw into one of these using a conversion kit from Pairis Enterprises.

Swing Table

A swing table is one example of a production cutting accessory that safely expands the versatility of a conventional power saw. It is an add-on shoe that allows the saw to cut bevels from – 5° to 68°. This wider range of angles makes steep cheek cuts possible without resorting to a chain saw, reciprocating saw, handsaw, or a jerry-rigged (and dangerous) set-up on a radial arm saw. You can also set it to gang notch birdsmouths on a set of rafters laid on edge. It takes two passes; you get the seat cut in one pass and, after adjusting the angle, the heel cut on the other.

Pairis Enterprises (P.O. Box 436, Walnut, CA 91789; 714/595-9312) makes a swing table (model 77-A25, $69 list) that can be attached to Skil and Black and Decker wormdrives. It is also available for 16-inch Makita beam saws (model 54-02, $87.18 list). It can be bolted to a Milwaukee wormdrive, I've found, if you drill out the front pivot.

I bought my swing table about 15 years ago; it was probably from one of Pairis's first runs. This edition only swings in the 68° direction, but I don't miss the 5° direction because a lot of the roofs I cut have steeper heel cuts. My table has roof pitches stamped right on the front adjustment arc. But since every framer seems to have a different method of marking out cuts, the current version just has indexing lines at regular intervals.

I end up using the swing table only on roofs between 10/12 and 14/12 with sear cuts just above and below 45°. Although it will work at other pitches, I find the saw slips around a lot on steep bevels. On other pitches, I prefer to use a dado saw.

Chippers

A chipper, as the dado saw is sometimes called by production farmers, will hog a 3 1/4-inch-wide path. Set at a bevel, it can cut birdsmouths in one pass. The dado saw pictured below is a piece of industrial history. This saw, once made by Skil, dates to the '40s. You may be able to pick one up at a flea market from a tool collector, but they are rare.

Pairis makes a conversion kit, however, which is a good alternative. The kit includes 7 1/4 -inch carbide chippers sandwiched between two carbide blades, a housing to cover the top of the blades, and a swing table like the one described above. An extended shaft slips over the saw's drive shaft and bolts to the saw in the same hole as the original blade stud. The kit is sold in 2 1/2- and 3 1/4-inch widths. However, you can adjust the width of your cut down by inserting short lengths of 3/4-inch steel pipe in place of the chippers on the shaft. It can be run right down to 3/4-inch for cutting out rabbets for 1x stock. More commonly, I use the chipper to make beam connections for post-and-beam frames. It may take a few passes for large timbers but it's faster than a chisel.

To convert from a regular blade to the chippers takes about 20 minutes. You have to remove the original table and guard, and then bolt the swing table on at the front and back. Three bolts hold the new housing in place.

The kit weights 35 pounds by itself, and is recommended for an 8 1/4-inch wormdrive (though it will fit on a 7 1/4-inch saw). This combination draws all the juice it can, so make sure you're not overextended on your cord length. You can have your saw motor wound for 220 volts for about $50 if you really want to be safe. Eurton Electric in Santa Fe Springs, Calif. (213/946-4477), is one shop that can do this, but they won't guarantee it. I find the larger motors on a Milwaukee 7 1/4 can handle the load just fine.

Because of the vibration of these saws, you have to torque down on the conversion shaft. Sometimes the shaft wobbles on the new kits. If this happens, you have to start over and realign the shaft so it will seat correctly. I prefer my old Skil dado because the shaft feeds right into the saw's drive train and it has a 20-amp motor.

The 3 1/4-inch dado kit lists for $590.39. Pairis also sells it set up on an 8 1/4-inch saw (Skil or Black and Decker) for $764.89. It is an investment, but if you cut a lot of roofs, you'll recoup it in time. ■

Will Holladay is a builder living in San Luis Obispo, Calif. and the author of A Roof Cutter's Secrets to Framing the Custom Home (available from The Journal of Light Construction, $19.95). Some of the information was supplied by Clayton DeKorne, an associate editor with The Journal of Light Construction.