



The ragged edge. A circular saw left a trail of destruction across the grain of this ½-in. AC plywood. This could easily have been prevented.

Cutting Against the Grain

These simple techniques will help you to make cross-grain sawcuts that are smooth as silk

by Larry Haun

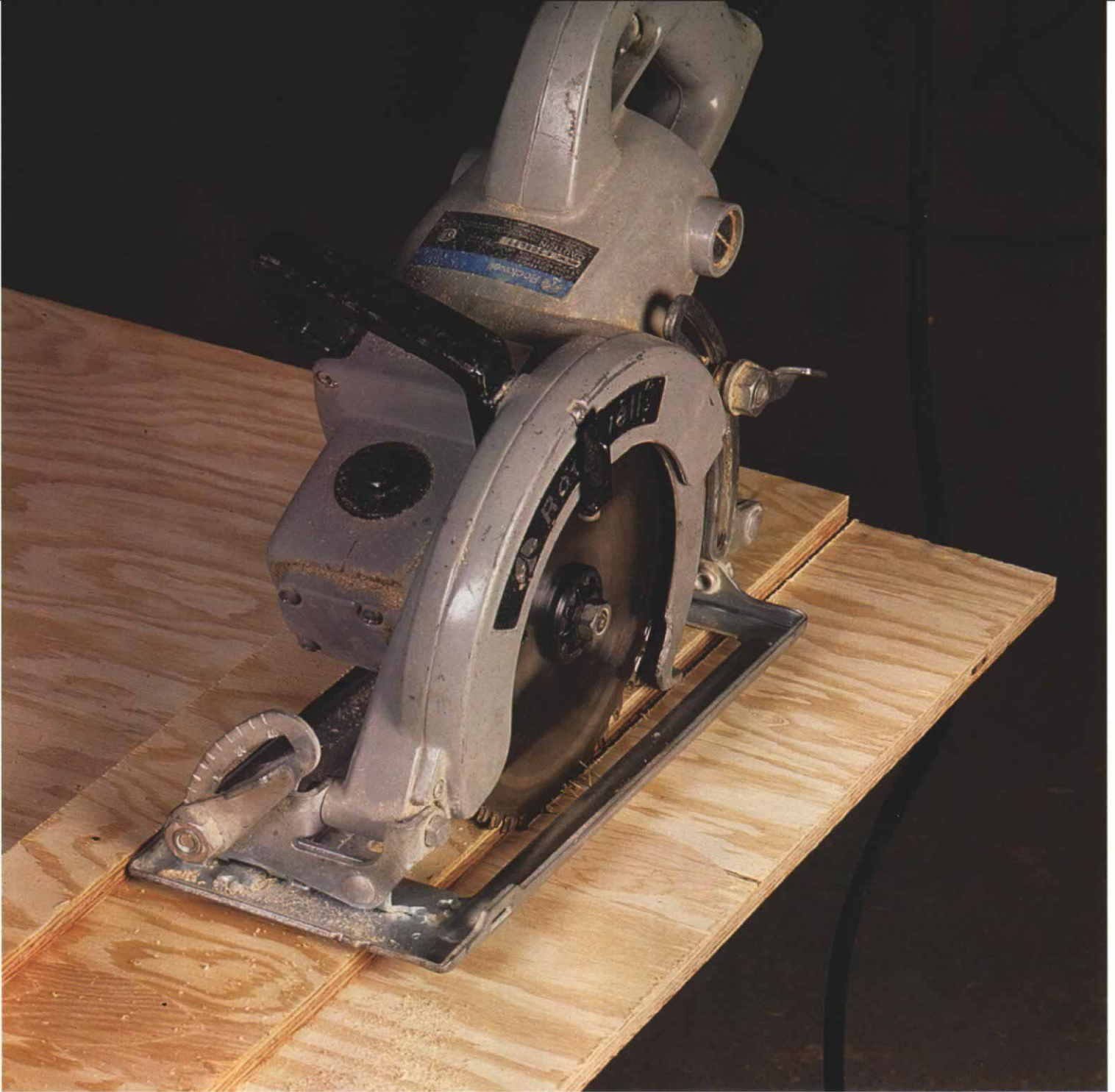
I remember the first door I was allowed to hang as an apprentice carpenter in the early 50s. We were doing finish work in a large custom home, and my task was to haul things around and nail in some of the pieces that the journeymen were cutting and fitting into place. They had installed a number of doors, and toward the end of one day, the foreman allowed me to hang a simple veneered door in a back room. I did great, except that I forgot to score the veneer before cutting the door to length. The splintered edge I left behind marred an otherwise commendable effort. Well, I learned the hard way, but nobody should have to. Cutting across the grain of a door or a sheet of plywood (photo above) without messing up the edge can be done successfully with minimal fuss. The simple solutions I'll describe here can also minimize problems when cutting other materials, including particleboard, Masonite and plastic laminates.

First, the sawblade—One solution couldn't be much simpler: Choose the right blade for the material you're cutting. The teeth of a sawblade tend to break slivers from the surface of the material being cut, and the wrong blade makes the problem worse, resulting in a ragged edge instead of a smooth one.

Carbide circular-saw blades with a triple-chip grind (TCG) and 40 teeth leave a clean cut on hardwoods, particleboard and plastic laminates. A sawblade with an alternate-top-bevel (ATB)



A guide to straight cuts. This cutting guide includes built-in clamps that set easily to grip panel stock. The 50-in. length of the tool means it can guide cuts across the width of a plywood sheet.



The shootboard. In minutes, you can build a guide (photo above) that will ensure straight cuts and minimize cross-grain splintering. The guide is clamped to the "good" side of the workpiece. The splintering seen here is

on the offcut. The crisp edge in the photo below was made with a cut guide. The cut shown in the top photo on p. 63 was made with the same sawblade on the same material but *without* using the cut guide.



grind—mine has 36 teeth—works well on plywood (see *FHB* #72, pp. 42-47, for more information on TCG and ATB sawblades). Like any cutting tool, sawblades work best and leave a cleaner cut when they are sharp.

When cutting with any blade, especially when you want an absolutely straight cut, clamp a straightedge to the work to act as a saw guide. Edge chipping is minimized when the sawblade doesn't wobble in the cut. You can use all sorts of things as straightedges (as long as they're straight), but I use a store-bought 50-in. long aluminum edge that easily clamps to the stock. It's a simple and easy-to-use device that locks in place as you push a lever on one end, and the integral clamping mechanism adjusts to various widths (bottom photo, p. 63).

Manufacturers also make jigsaw blades that minimize tearout. Bosch, for example, offers one (#T-101BR) with a reverse-tooth configuration that leaves a chip-free upper surface when cutting plywood or plastic (photo below right). They also have a plastic insert that fits into the shoe of any Bosch jigsaw. The insert snugs up to the blade tightly and holds down veneers as they're being cut (Bosch Power Tools, 100 Bosch Blvd., Newbern, N. C. 28562; 919-6364200).

Making the score—The time-honored method of avoiding tearout is to lay a straightedge across the material and score the cutline with a sharp knife. This cuts through the outer surface of the wood fibers, preventing them from lifting up as the saw chews its way along the scrap side of the line. If you have only a few cuts to make, the technique works admirably. But anybody who has lots of doors to hang or stacks of cabinet-grade plywood to cut will find this method time-consuming.

The masking method—Another simple way to keep the chips down is to lay a strip of masking tape over the area to be cut, then mark the cutline on the tape. The tape holds the wood fibers in place during the cut and, once removed, will reveal a smooth edge. A couple of cautions, though. If you use tape with too much stick, you're likely to pull wood fibers from the stock as you pull up the tape. Cheap tape works just fine. Also, as you're removing the tape, pull it in a direction perpendicular to the cutline; this minimizes any disruption of the fibers. The tape technique works well if you have a few cuts to make, but it gobbles up time if you have a lot of them. By the way, the tape trick is also helpful if you work with textured plastic laminates or dark wood veneers. Mark your cutline on the tape, and it will be easier to see.

The shootboard—Yet another way to make a clean cut is with something we call a shootboard. It's simply a straightedge with a fence screwed or nailed to it (top photo, facing page). The shootboard is clamped to a cutline marked on the material. The saw base rests on the straightedge surface and helps to hold down the cross grain while the fence guides the saw to a straight cut. Also, there's no marring of the finished surface by the saw base. Just remember



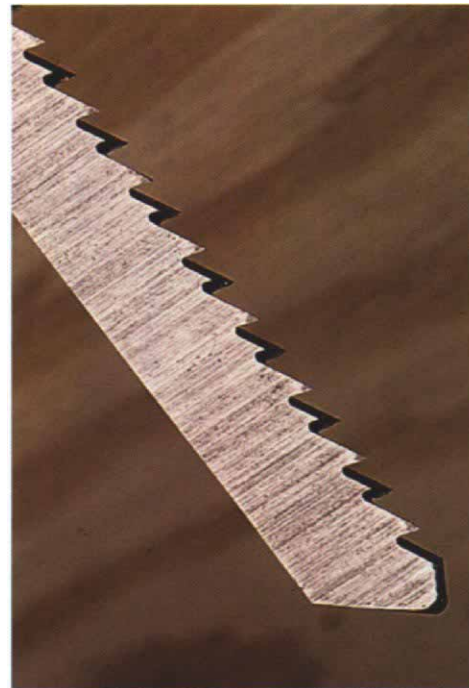
The saw flange. This homemade metal flange bolts to a circular saw's baseplate. The edge of the flange rides along the cutline to hold the wood fibers in place. Placed properly, it won't interfere with the operation of the blade guard.

to set the depth of cut deep enough to account for the additional material.

Shootboards are easy to make. Take a piece of ½-in. plywood or hardboard that's about 8 in. wide and secure a 1 ½-in. strip of the same material to one edge. Place your saw on the straightedge (and against the fence), then cut off any excess material. The edge of the shootboard will match the cutline precisely and will keep the wood fibers from lifting up (bottom photo, facing page). Commercial shootboards with an adjustable fence are available for around \$30 (Olive Knot Products, P. O. Box 188, Corning, Calif. 96021; 800-759-6283 or 916-824-5280 in Calif.)

The saw flange—A device developed by California door hanger Al Schieffer some 30 years ago eliminates the need for all the techniques I've described, at least when you're using a portable circular saw. Schieffer modifies his saw by adding a homemade metal flange that bolts to the baseplate (photo above). The flange is bent so that it comes down alongside the sawblade and rides lightly on the material during a cut. The pressure of the flange prevents the wood fibers from lifting.

The great thing about this device is that it really works. The bad thing is that no one has developed it for the commercial market. I made mine from a 1-in. wide by ⅛-in. thick piece of metal plate strap in about an hour. First, bend the strap to fit the saw base, drill holes in the strap and then drill matching holes in the baseplate. Depending on the model of your saw, you might have to countersink the holes. It takes some adjusting to align the strap properly alongside the blade and also to be sure that it rides properly on the material being cut. But a bit of trial-and-error cutting gets the job done. Note: The edge that rides against the wood has to be rounded and



Anti-tearout jigsaw blade. The reverse-tooth configuration of this Bosch blade leaves a chip-free surface behind.

smoothed with a file so that no scratches are left on the stock.

While you're remodeling your saw's baseplate, take one more step to ensure good cuts. I don't cut a lot of fine materials, but I did glue plastic laminate to the underside of the baseplate to keep it from scratching any finished surface. □

Larry Haun lives in Los Angeles, Calif., and is a member of Local 409. Photos by Robert Marsala.