



**P**eople love laminate. If you took all the countertop laminate produced in the United States in a year—about 1.5 billion sq. ft.—you could pave Interstate 80 from New York to California and still put new kitchen counters in millions of homes.

Half of all countertop laminate is postformed: It is heated and bent around a curved particleboard substrate to produce a seamless, counter-and-backsplash combination (sidebar p. 70). Developed in the 1950s, postformed countertops are still a favorite among builders and homeowners. They are economical, widely available and easy to install, even along undulating drywall. I must have fastened down a mile of postformed countertops last year, sometimes finishing two

kitchens in one day. Along the way, I've learned some time-saving techniques to fit these factory-made surfaces to the waviest walls.

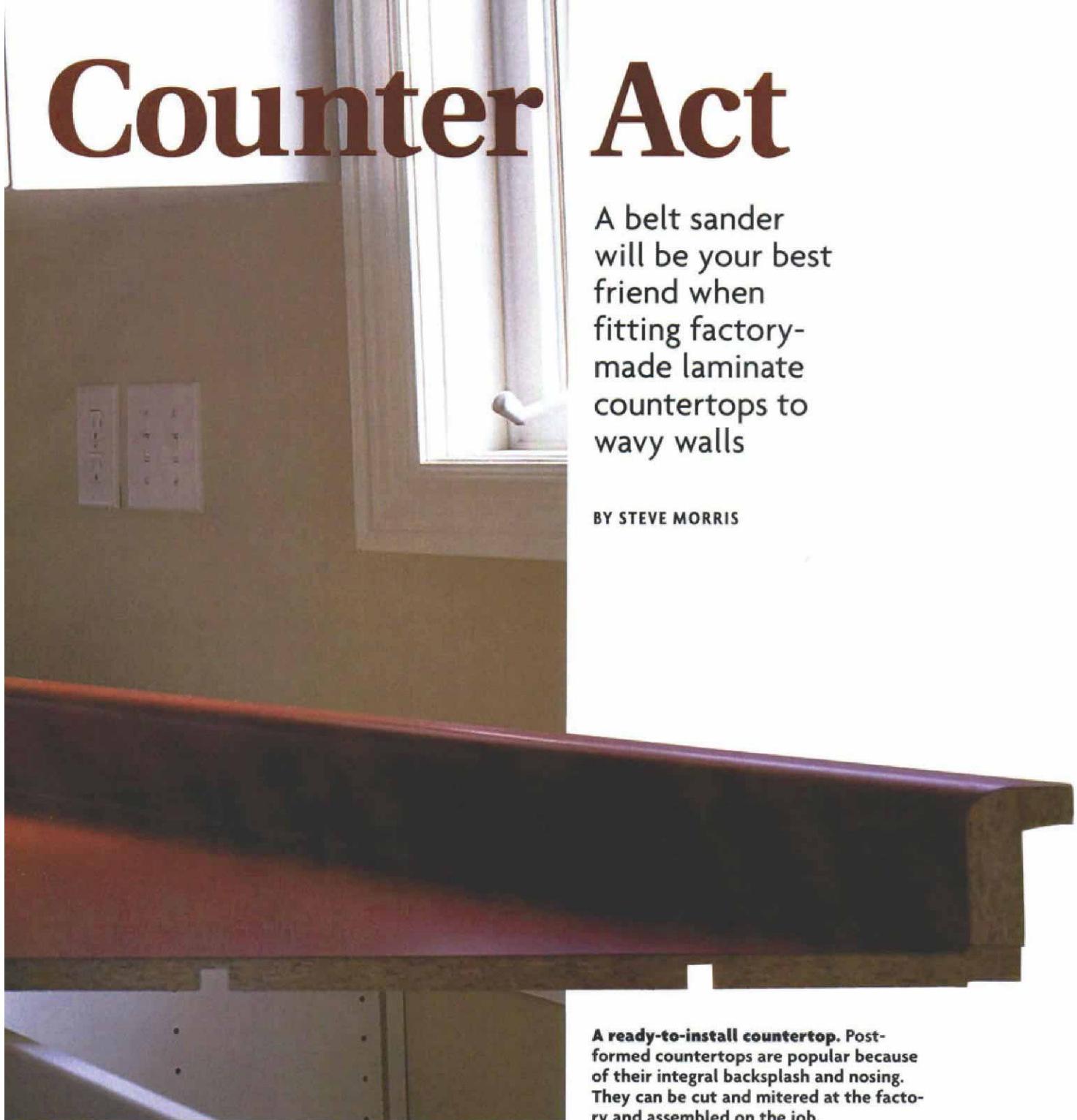
#### **Measure at least twice**

Standard countertops are 25½ in. deep and come in 6-ft. to 12-ft. lengths. With sections mitered together, postformed countertops conform to almost any cabinet layout. One rule about countertop joints, however: Keep them away from the sink. If water seeps into a joint, it can ruin the particleboard underneath. Before measuring a kitchen for new counters, I sketch the plan view of the cabinets. I draw all the miters or butt joints, and mark any exposed ends of the

# Counter Act

A belt sander will be your best friend when fitting factory-made laminate countertops to wavy walls

BY STEVE MORRIS



**A ready-to-install countertop. Post-formed countertops are popular because of their integral backsplash and nosing. They can be cut and mitered at the factory and assembled on the job.**

countertop; they should overhang cabinets by  $\frac{3}{4}$  in. If a stove or refrigerator fits between two cabinets, I leave a small gap on both sides.

Once the sketch is done, I measure each run of countertop along the front and back edges of the cabinets and take the larger of the two dimensions (photo top left, p. 70). Layers of drywall tape and mud can build up as much as  $\frac{1}{4}$  in. in the corners of walls. If you measure just along the wall, you may wind up with a top that is too short.

Unless by some miracle the walls are perfectly smooth and square, you will have to scribe the countertops to fit flush. Use a square or straightedge to see how wavy the walls are, and if extra material is needed, include this amount in your drawing.

Postformed countertops can be purchased any number of ways. At many home centers, you can buy premade blanks, which you cut yourself. Or you can have the home center or the countertop manufacturer do everything but install them, including join the miters. I usually have the factory do most of the countertop preparation. The integral backsplash makes cutting countertops with a circular saw a little tricky. The postforming factory and many home centers have special circular saws that make cutting postformed counters easy, so when possible, let the factory do the cutting.

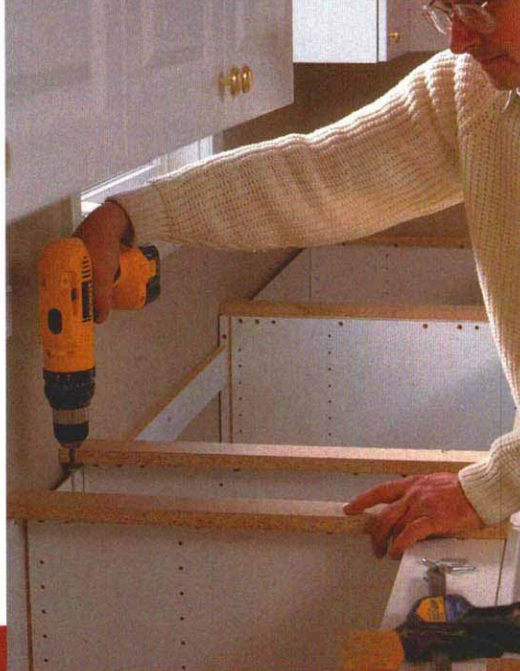
The manufacturer will supply the end caps and end splashes, too. An end cap is simply a piece of laminate glued to the end of the



## Installing a kitchen countertop



**Measure the cabinets.** You don't want to come up short, so measure the front and back of each section and take the largest dimension. If a countertop overhangs an end cabinet, add  $\frac{3}{4}$  in.



**Build up the tops of factory-made cabinets.** To keep the postformed countertop flush with the top of the cabinets, you may need to add 2-in. wide strips to the tops of the cabinets. The strips are also used to fasten the top from below.

countertop that covers the particleboard. An end splash is a laminate-covered piece of particleboard that continues the backsplash where a countertop butts up against a wall.

I stop short of having the manufacturer or the home center assemble the countertop joints. Although they can do a superb job, an L-shaped or U-shaped countertop is difficult to load into a vehicle and carry into a small kitchen. Also, preassembled countertops are more difficult to scribe and cut. I prefer to fit each piece of countertop separately and assemble the joints in place.

### Prepare the cabinets and check the fit

Postformed countertops have a  $\frac{3}{4}$ -in. or  $\frac{5}{8}$ -in. strip glued along the front edge of the  $\frac{3}{4}$ -in. substrate, which makes the countertop look thicker than it actually is. The bottom of the strip should be flush with the top of the cabinets, not overhanging the face frame, which

may mean you will have to build up the top of the cabinets. Do this before you lug the countertops into the kitchen and lay them on the cabinets. I usually fasten 2-in. wide particleboard strips to the tops of the cabinets, perpendicular to the wall, with  $1\frac{1}{2}$ -in. drywall screws (photo above right).

With build-up strips in place, put the countertop on the cabinets and check the fit. If there are miters, see if the miter bolts will be accessible from inside the cabinets. (I sometimes have to cut an access hole to tighten the bolts.) If a U-shaped mitered section fits between three walls, you may have to trim the back corners with a belt sander to get the piece flush against the wall prior to scribing.

### Scribing is the key to a tight fit

Almost all postformed countertops require scribing, or trimming, of the backsplash so that the backsplash will fit snugly against the

## Seven steps to a seamless surface *by Zachary Gaulkin*

Postforming a countertop for a kitchen takes a matter of minutes, as Steve Morris and I discovered when we visited Formatop in New Hamburg, Ontario, to see our burgundy countertops being made.

The process began at a roaring machine composed of sawblades and routers. It cuts sheets of particleboard, glues on the scraps to build up the edges, and then shapes the backsplash and nosing—all in one deafening step (photo 1). After both the particleboard and laminate were sprayed with contact cement and sandwiched together (photo 2), they were sent into the postformer. The postformer uses heat and pressure to wrap the laminate

over the rounded edges. It also cuts the backsplash and bends it vertically, gluing a strip on the underside to hold the backsplash in place (photo 3).

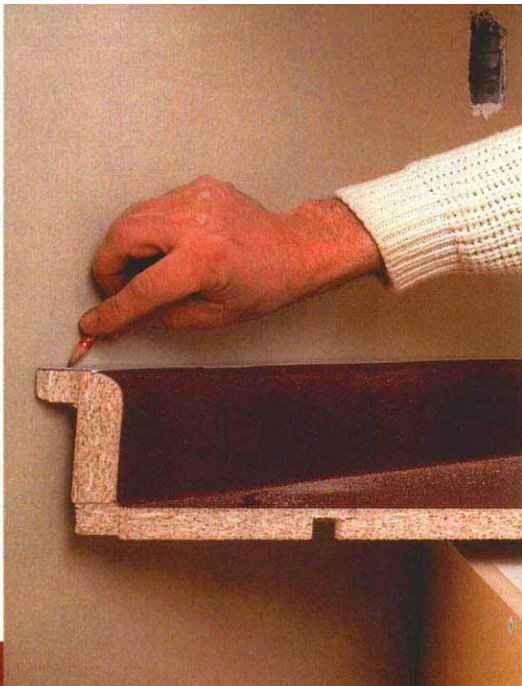
With the postforming complete, Steve and I drove the blanks to Beaver Lumber in Sarnia, Ontario, where the countertops were cut to length and mitered with a stationary circular saw (photo 4). Mortises for the miter bolts were routed into the particleboard (photo 5), and thin strips of wood were used to build up the ends of the countertops for the end caps (photo 6). The end caps (pieces of laminate that cover the exposed ends of the countertop) were applied with sprayed-on con-



tact cement. A laminate trimmer and flush-cutting bit were then used to trim off the excess (photo 7). Finally, a flat file smoothed the rough edge left by the laminate trimmer, and the countertops were ready to be installed.

—Zachary Gaulkin is a former associate editor at Fine Homebuilding.





**Scribe backsplash with a pencil and tape. If the gaps are small, run a pencil along the wall. For wider gaps, shim the pencil out the distance of the largest gap. Masking tape along the splash makes the line easy to see.**



**Belt-sand until it fits tight. To fit the backsplash to an undulating wall, use a belt sander with 30-grit sandpaper. Make sure the belt is spinning toward the substrate, and unlike this fellow, wear a dust mask.**

kitchen wall. Even in many new homes, few walls are as truly straight as the backsplash on a postformed laminate countertop. Fortunately, the 3/4-in. lip on the backsplash makes the chore of scribing into an easy task.

I scribe the longest countertop first. With a piece of masking tape along the top of the backsplash, which allows me to see my scribe line, I push the countertop against the wall, making sure that I have a uniform overhang along the front edge of the cabinets. If I'm lucky, the largest gap between the backsplash and the wall will be just 1/4 in. or less, although I have seen some gaps as large as 3/4 in., even in newly built homes.

I use a pencil and a shim to scribe the backsplash, but you can use a compass or dividers, too. I start at the widest gap, shimming the pencil out just enough to touch the edge of the splash (photo above left). Holding the pencil-and-shim combination against the wall, I scribe

the length of the backsplash. The line described by the pencil matches the wall's contour.

### Bring on the noise, bring on the dust

With the pencil scribe done, now comes the fun part, if you happen to have an itch for belt-sanding particleboard. First, I spin the countertop around so that the backsplash is at the front of the cabinets. Using padded clamps, I clamp both ends of the countertop to the cabinets and, with a belt sander and 30-grit sandpaper, I sand the particleboard back to my scribe line (photo above right).

I recommend removing material slowly and beveling the substrate to make sure the top of the splash will come in contact with the wall. I also hold the belt sander so that the direction of the belt is parallel with the backsplash or slightly downward, toward the substrate. Otherwise, the spinning belt may chip the laminate. I always test-fit the







**Join miters with waterproof glue.** Too much glue in a joint will swell the particleboard, leaving a bump in the surface of the countertop. Use just enough to produce a small amount of squeeze-out on top.



**Tighten miters at the front first.** To assemble a miter, align the front edge and gently tighten the front bolt. Then insert a bolt in the rear mortise, line up the joint, and insert the remaining bolts.

piece as I scribe, checking the overhang to make sure I am not taking off too much. I also check the miters; scribing changes how one piece fits with another.

Belt-sanding is a tedious task, but with patience, you can mate the backsplash flush to the wall. Although I don't always follow my own advice, wear a dust mask and hearing protection; there's no need to sacrifice your health for the sake of a well-fitted countertop.

### Make the miters disappear

When all the countertops sit flat against the wall and tight to each other, I'm ready to assemble the miters. Small pieces can be assembled on the floor or bench. For longer counters, it's better to join the miters in place. (Large countertops may not fit into the kitchen or bathroom after they are assembled.)

The miters are glued and bolted (some people also use biscuits or splines, but I don't). First, I spread a bead of waterproof yellow glue on the joint (photo above left). If the joint is closer than 12 in. to a sink, I use epoxy. Be frugal with the glue; if you use too much, the particleboard will swell, forming a bump on the surface.

With the glue spread, I place the mating pieces together and insert a bolt into the slot closest to the front edge, tightening the bolt just enough to hold the pieces (photo above right). As I draw the front edge into alignment, I place another bolt in the rear slot and align the back edge (don't worry about aligning the top yet). The backsplashes may not align perfectly; if this happens, leave the error at the back.

Insert and gently tighten the remaining bolts the same way. Before tightening the bolts completely, align the top with a hammer or rubber mallet (photo above left, facing page) until you can barely feel the



**Don't pierce the top after all that work.** Use 1/4-in. #8 wood screws to fasten the countertop to the cabinets and to the 2-in. wide strips applied along the tops of the cabinets.



**The sink is the last step.** With the template supplied by the sink manufacturer, cut the sink opening in the countertop. To prevent an accidental scratch, the author attaches cardboard to the base of his jigsaw for cutting the hole for the sink.





**Tap the seam until you can't feel it.** Before the glue sets up, align the top surface by tapping it with a hammer or a mallet until you barely feel the seam. Then tighten the bolts from underneath, and let the joint dry before moving it.



**A finished miter is nearly unbreakable.** Glued and bolted, a miter joint is as strong or stronger than the surrounding particleboard. Still, it is a good idea to wait for the glue to set before moving or fastening sections of countertop.

seam. When the joint is smooth, tighten the bolts, and then pin the mating backsplashes with a finishing nail through the particleboard strip that goes behind the backsplash.

#### **Use caulk sparingly; it's not a piece of trim**

After the glue dries, I fasten the counter onto the cabinets with 1¼-in. #8 wood screws at the front and back, every 2 ft. or so along the length of the countertop. Be careful—it's easy to pop a screw through the laminate. (Some cheaper countertops may be thinner than 1½ in., requiring shorter screws.) If a screw pushes up on the laminate but does not pierce the surface, slowly back it out and tap the laminate flat. If you break it, you're out of luck. This is plastic laminate's Achilles heel: Once broken or damaged, there is no way to repair it.

With the countertop secured, I check for gaps along the backsplash. If I've done my scribing right, there should be no more than a hairline between the backsplash and the wall. A tight seam will not stop water from trickling behind the countertop, so it's wise to caulk the backsplash near the sink. I cut the minimum off the plastic tip of the silicone-caulk tube for a narrow bead. (For more on caulking, see *FHB* #111, p. 86-89.) □

Steve Morris is a finish carpenter and kitchen-installer in Sarnia, Ontario, Canada. Photos by Zachary Gaulkin.



**Fit to perfection.** With careful scribing and installation, you can fit a countertop flush with the surrounding walls and make the miters disappear.