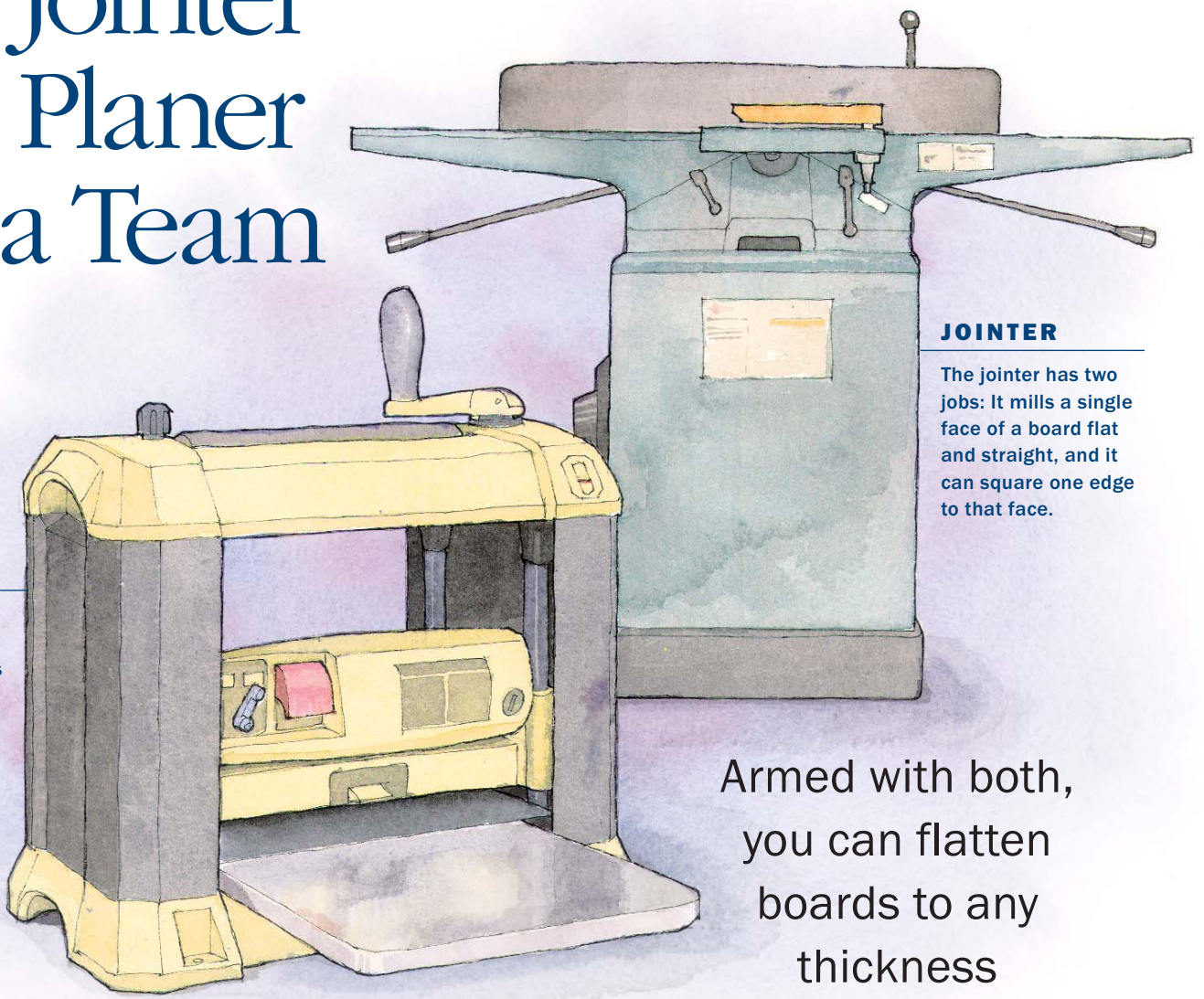
The Jointer and Planer Are a Team



JOINTER

The jointer has two jobs: It mills a single face of a board flat and straight, and it can square one edge to that face.

PLANER

The planer is better described as a stock thicknesser. Its job is to plane one face parallel to another.

Armed with both, you can flatten boards to any thickness

BY GARY ROGOWSKI

My beginning students often ask me, "Which machine should I buy first, a planer or a jointer?" The answer is both. That's one reason why this *Tools & Shops* issue contains reviews of each machine. With a jointer alone, you can't get boards of consistent thickness. And with only a planer, you'll get consistent thickness, but your boards still can come out twisted or bowed.

Perhaps because of these machines' confusing names, many woodworkers don't grasp the separate functions they serve. The European names for these tools—planer (for jointer) and thicknesser (for planer)—are more accurate. The jointer planes a level surface, and the planer simply creates uniform thickness. Because of its American name, some woodworkers think the jointer is only for milling the edges of boards before glue-up.

Together, the two machines form the gateway to serious woodworking, allowing you to mill your own lumber to custom thicknesses instead of being stuck with the surfaced hardwoods available at the local home center. They also allow you to work with rough lumber, which is much less expensive than S2S (surfaced two sides) or S4S stock. Add a bandsaw or tablesaw, and you have the ability to dimension lumber to any width, thickness and length.

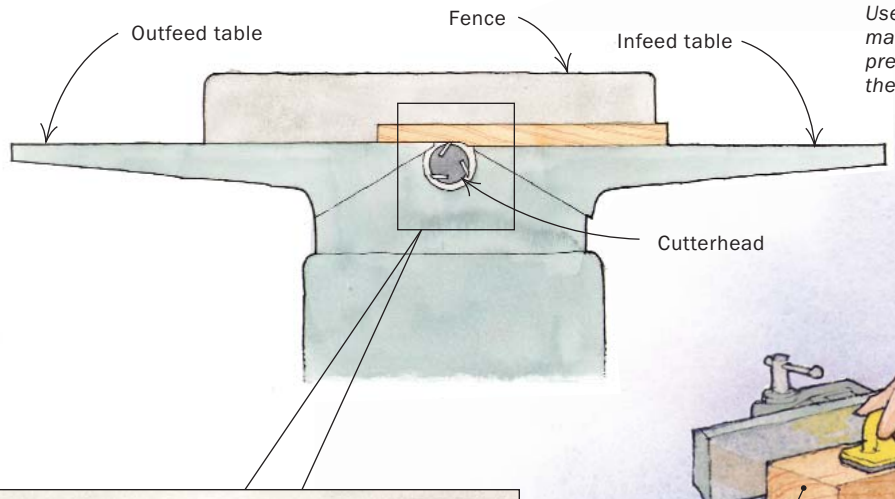
Thicknessing starts on the jointer

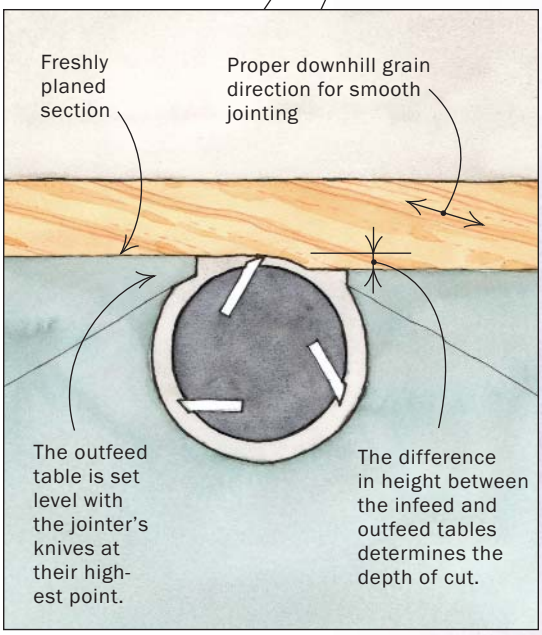
A jointer works like a handplane turned upside down, with its reference surfaces in line with its cutter knives. Use this tool for flattening one face of a board. If you flip over the board and joint the other side, there is no guarantee the faces will be parallel. On the jointer, each face is cut without referencing the other.

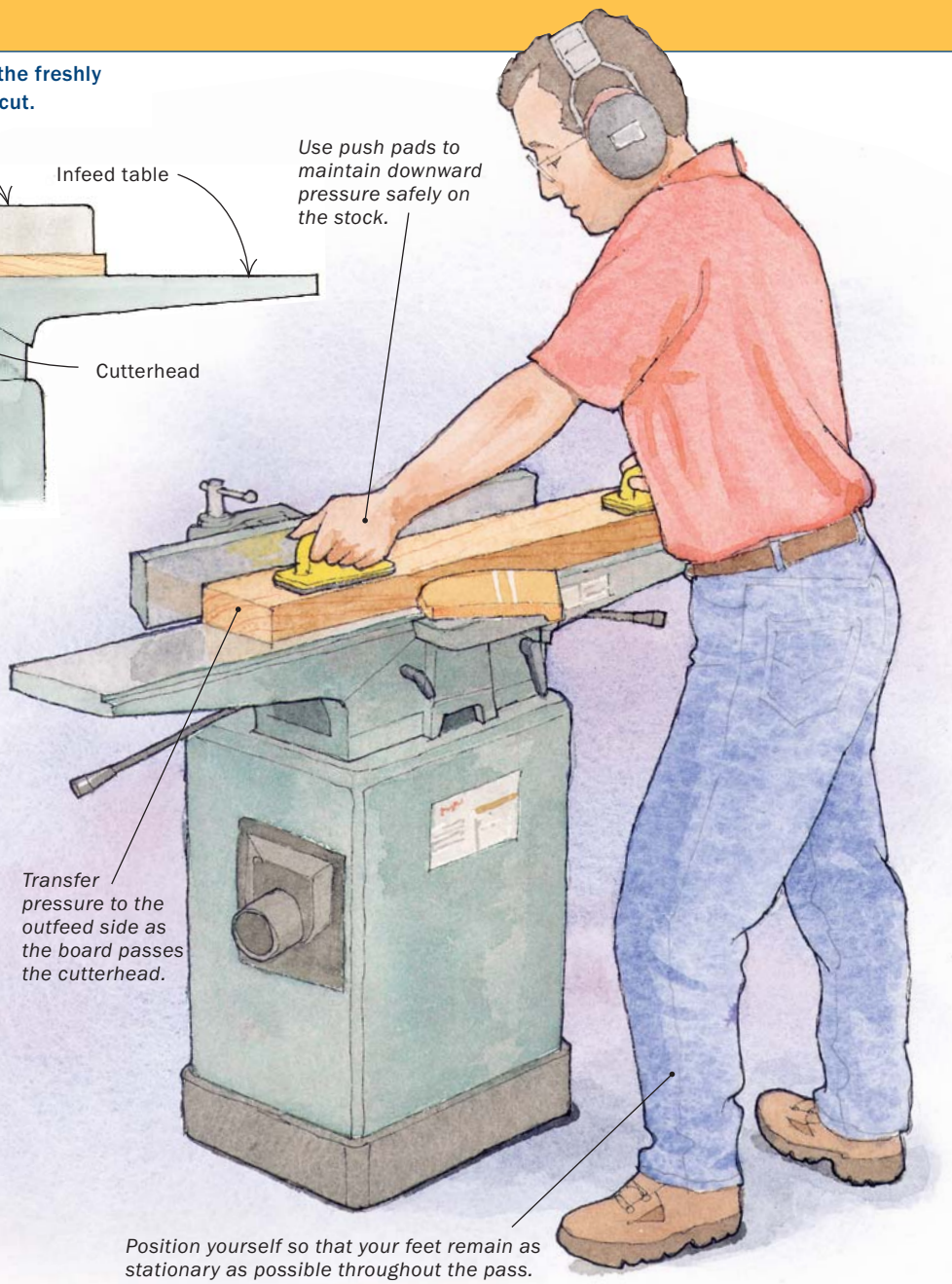
Start by roughing stock to size—Before jointing the first face, get your material roughed out to length and width. If a long or wide board is badly cupped or bowed, running it over a jointer until it's flat will waste a lot of wood. You also can rough out around board

THE JOINTER COMES FIRST

This machine planes a flat face on a rough board, using the freshly planed section as a reference surface for the rest of the cut.

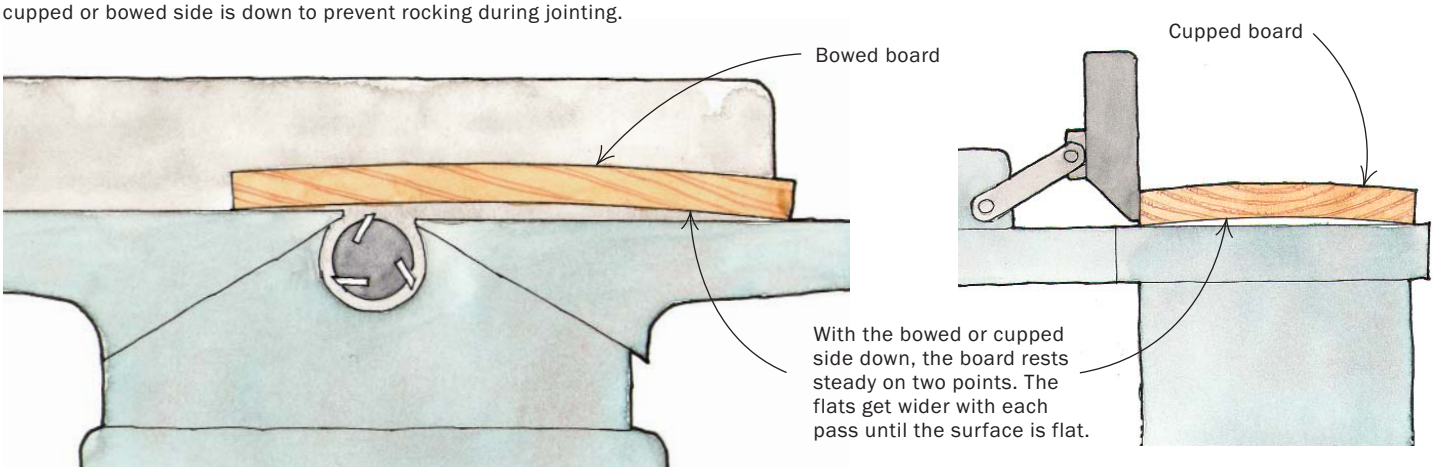






WHICH FACE TO JOINT?

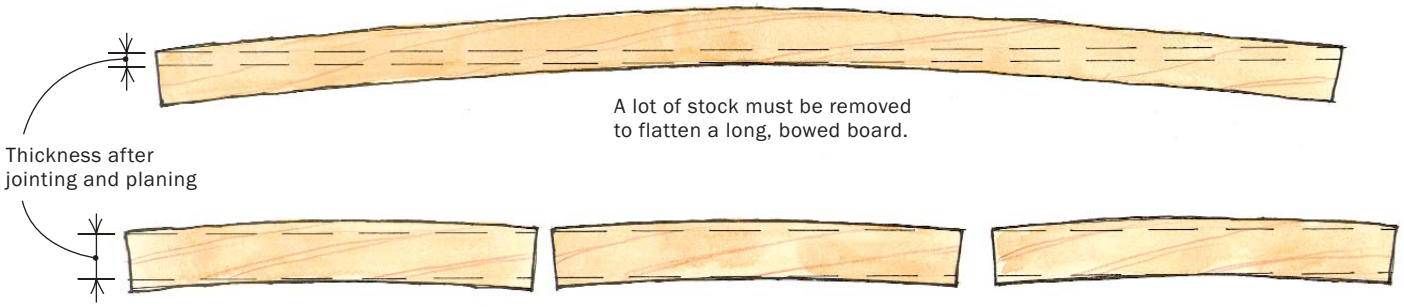
Chances are the lumber you are milling will not be flat. Orient the board so that the cupped or bowed side is down to prevent rocking during jointing.



Drawings: Jim Richey

ROUGH-CUT STOCK TO SIZE BEFORE MILLING

If you need smaller pieces from a long, bowed board, cutting the board to rough length first will result in thicker stock. The same goes for width.



defects such as knots, sapwood or checks. Use a chopsaw or handsaw to rough the stock to length, removing any checked or cracked areas on the ends. Next, rough your stock to width. This can be done in a variety of ways. If the board is badly crooked, you may need to snap a chalkline on it and bandsaw to the line. Otherwise, run one edge over the jointer or handplane the edge to level it out. Now you can rip the board to rough width.

I highly recommend a bandsaw for ripping rough lumber. It wastes less wood and is much safer because there is no danger of kickback.

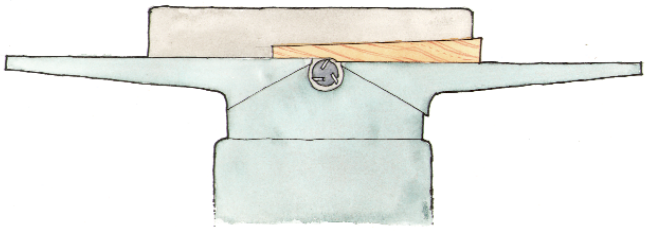
Put the cupped or bowed side facedown—It's highly unusual to find perfectly flat stock. That's because wood at a retail lumberyard gets uneven exposure to the air. Here's what to look for: cupping across the width, bowing along the length, and twist or wind in a board's thickness. First, check to see whether the board is cupped across its faces. Use a straightedge or check with your one good eye. It will be easier to run the cupped side down on the jointer table because the board will reference off its two outer edges and not rock. Take off small amounts of wood with each pass until you cut across the entire face and length of the board. Use push sticks or pads to hold the board firmly and safely on the jointer table. Mark the unjointed face with an X.

Twisted wood is deceiving. Use winding sticks to check your lumber or hold a board flat on the jointer table and see if it rocks when you push down on a corner. Mark the high corners of one face. On the jointer, start with all of your hand pressure on the leading high corner. As you continue the cut, transfer the pressure to the opposite high corner, trying to prevent rocking to one side or the other. Make multiple passes until the board is flat.

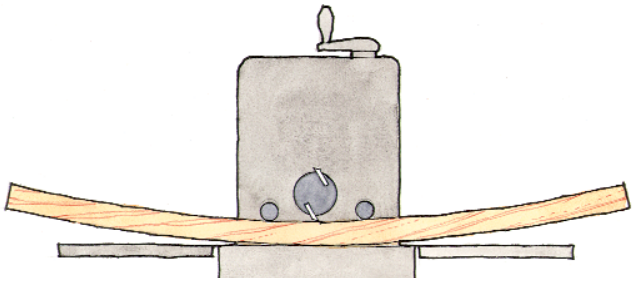
For any of these cuts, check the grain direction of the board before passing it over the jointer. And always keep your feed rate slow, use push pads for protection and to dampen vibration, and take shallow cuts.

WHY ONE MACHINE IS NOT ENOUGH

Jointers and planers are great at doing the jobs they were designed for, but you can get into trouble by asking them to do too much.



FLAT BUT NOT PARALLEL
If you use a jointer first to plane one side and then the other, you may end up with flat sides but an uneven thickness.



PARALLEL BUT NOT FLAT
If you use a planer to flatten the first face of a bowed or cupped board, it simply will follow the curve.

The planer comes next

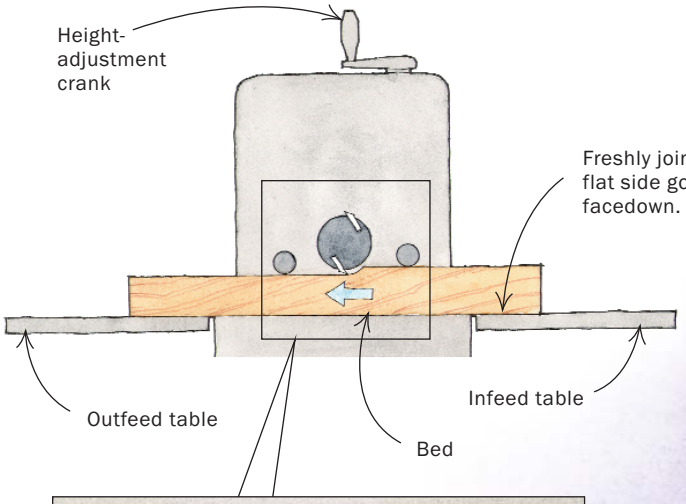
The impatient woodworkers among you may think, let's skip all this bother on the jointer and go straight to the planer. Sorry, it won't work. The planer will take whatever bowed or twisted surface you give it and make a cut parallel to that face. The reference surface on a planer is the bed; the knives are above the stock. So if the board is bowed when it goes in, it will be bowed when it comes out. If it's cupped, the planer's feed rollers may flatten the board slightly, but when it comes out it will pop back to being cupped.

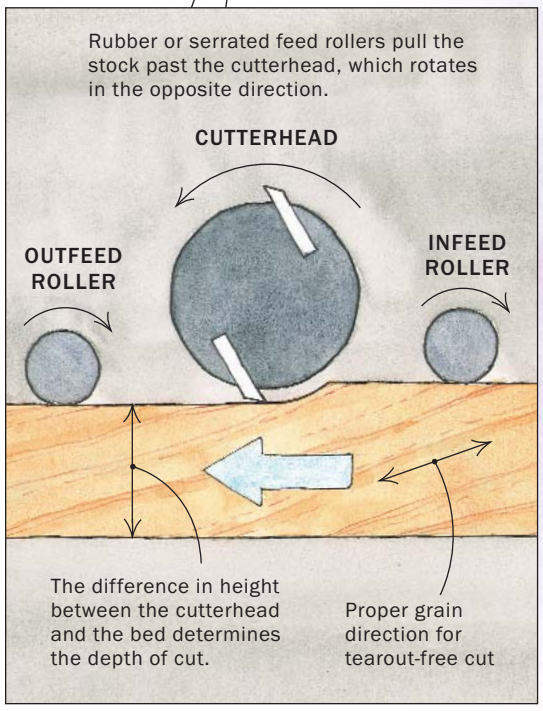
You must use the jointer first to flatten one face. Then run this straight, flat side facedown in the planer to create a parallel, flat face on the other side of the board.

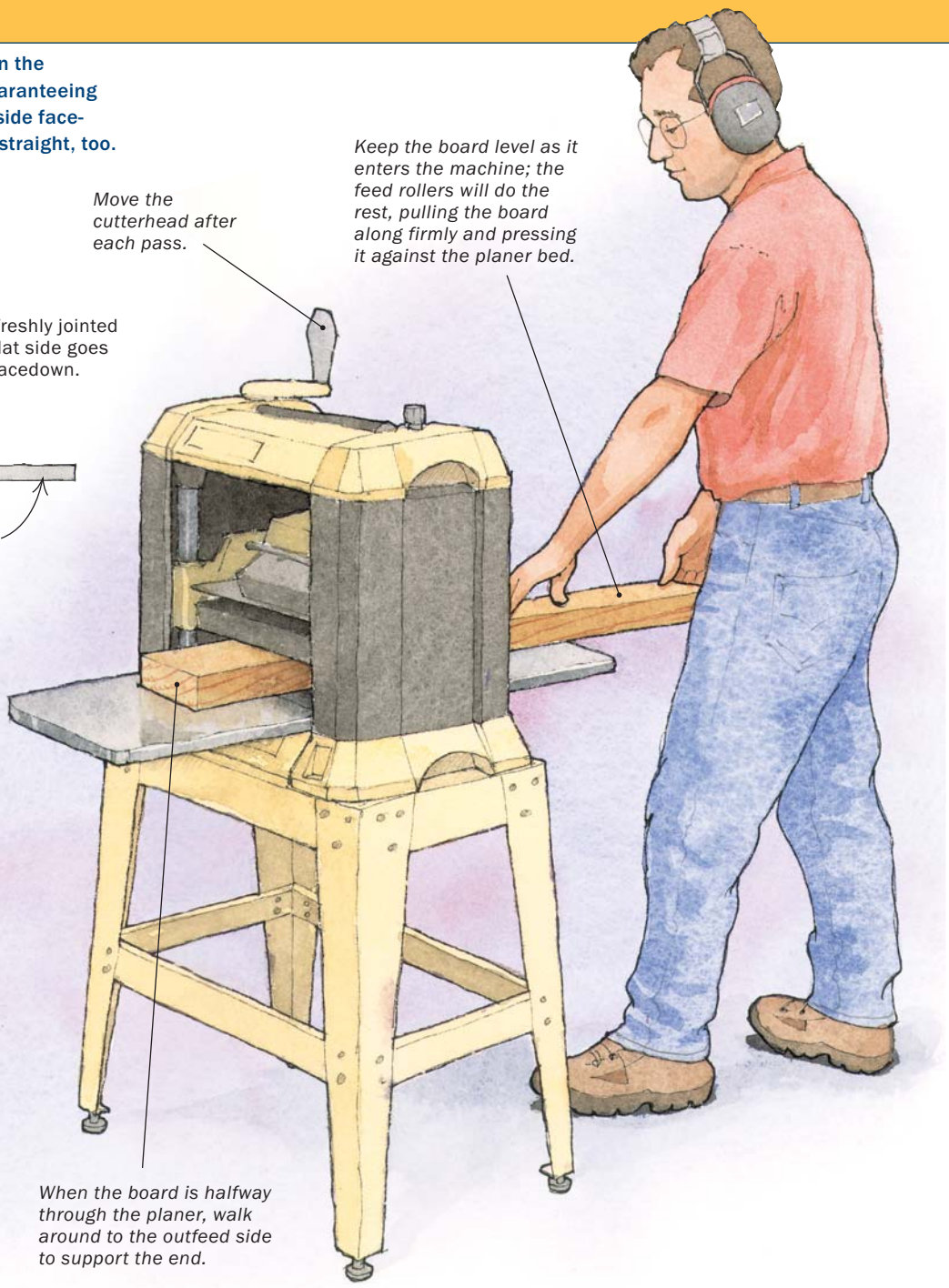
Arrange all of your boards for grain direction before starting the planer; remember, you're cutting on top of the board now. Make the first pass a light cut. If possible, feed the boards continuously one after the other, end to end, which eliminates the planer's ten-

THE PLANER COMES NEXT

On this machine, the reference surface (the bed) is on the opposite side of the cutterhead and parallel to it, guaranteeing uniform thickness. Place the freshly jointed, straight side face-down on the bed, and the planed face will come out straight, too.







dency to snipe at the beginning and end of a board. Plane all of the boards down to thickness, leaving them a hair oversize to allow for removing the milling marks. These marks are not a decorative effect.

If you get tearout on a face no matter how you feed the board, dampen a rag and lightly wet down the surface of the wood before planing. This will help soften the fibers and tone down most of the tearout. Also, wax your planer tables.

Last, mill the stock to width and length

After your faces are flat and parallel, work on the edges. Check that your jointer fence is set square to the table just beyond the cutterhead on the outfeed table. This is where your hand pressure should concentrate once the cut is established. Check for crook along each board's edge, and run the crooked edge down to the jointer table. Mark the squared edge and face after cutting.

Rip the last edge to width on the tablesaw or bandsaw. If the cut is rough, you'll want to leave a little extra for one final pass on the jointer. Last, cut the ends to length. Crosscut one end square on all of your boards, using your crosscut sled or miter gauge on the tablesaw. Then clamp on a stop to index the remaining cuts. □

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