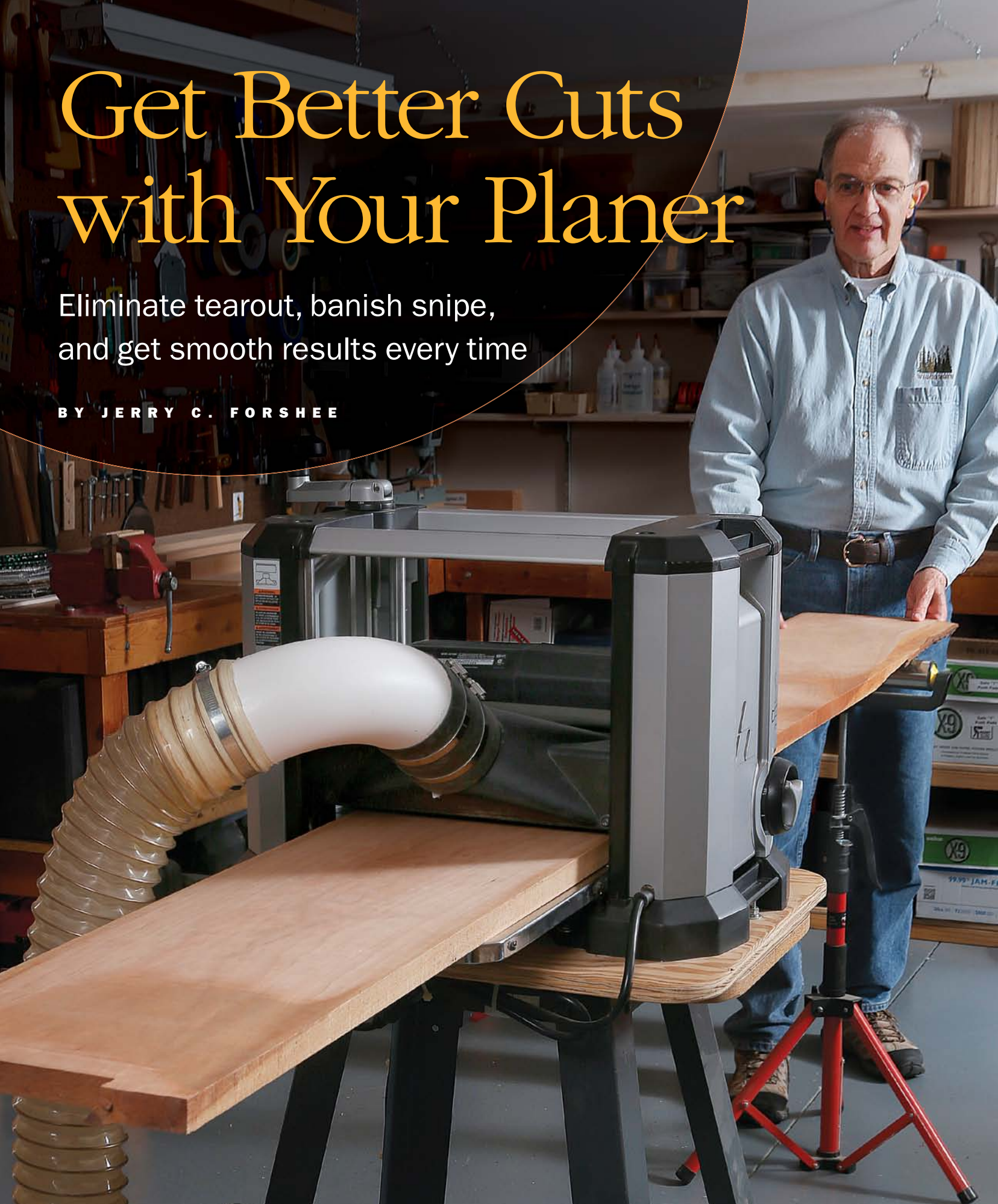
Get Better Cuts with Your Planer

Eliminate tearout, banish snipe, and get smooth results every time

BY JERRY C. FORSHEE



Photos: Dillon Ryan

Precisely prepared stock, with a smooth surface and consistent thickness, is the foundation of quality woodworking. The planer is essential to that process.

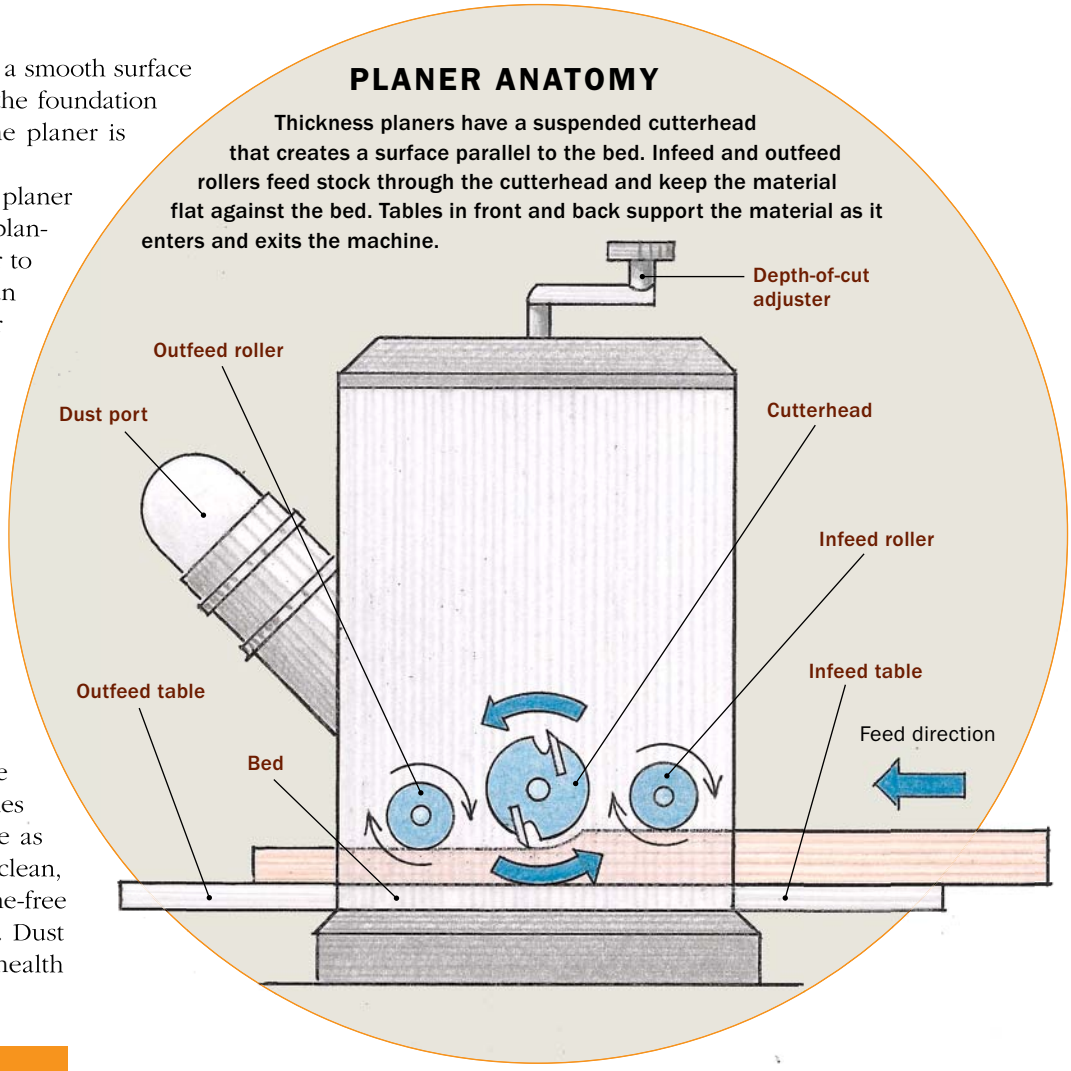
It's important to understand that a planer does not flatten wood. Instead, the planer works in tandem with the jointer to flatten and square stock; neither can do the job of the other. The jointer is used first to surface one face flat, and the planer creates an opposite face smooth and parallel to it.

Set up your planer for success

Like other woodworking machines and tools, a planer must be well-tuned to do its job properly. Keep the knives clean and sharp, and change them when the planed stock's surface becomes irregular or grooved, when chipout becomes significant, and when the feed rate becomes noticeably more sluggish. The infeed and outfeed tables must be flat and in the same plane as the bed, and they must be smooth, clean, and treated with wax or dry, silicone-free lubricant for a low-friction surface. Dust collection is critical for personal health

PLANER ANATOMY

Thickness planers have a suspended cutterhead that creates a surface parallel to the bed. Infeed and outfeed rollers feed stock through the cutterhead and keep the material flat against the bed. Tables in front and back support the material as it enters and exits the machine.



Jointer before planer

The planer doesn't flatten a board; it creates a surface that's parallel to the surface riding against the bed. One side of the board must be flattened at the jointer first. That flat face is the surface that rides against the bed.

Keep it clean and waxed

Use dust collection. *The chips created by the planer are not only hazardous to your health, but they also can get trapped under incoming stock and cause an irregular cut with poor results.*

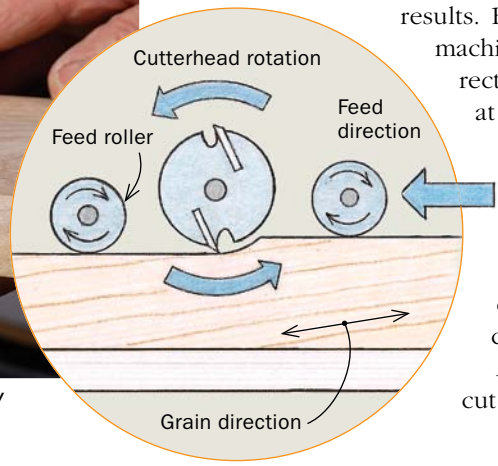
Make surfaces slick. *Wood passing under the rollers applies a considerable amount of friction and pressure to the bed and tables. Applying wax to those surfaces will prevent things from bogging down.*

Drawings: Vince Babak

Tips for tearout-free planing

A planer's job is to create a smooth surface. But for many woodworkers, tearout is a common problem. Here are a few simple tricks that will help you minimize or even avoid tearout completely.

GO IN THE RIGHT DIRECTION



Pay attention to grain. *The simplest way to avoid tearout is to carefully orient the grain before you feed any material into the planer. The grain should always be heading downhill into the machine.*

protection and ease of cleanup. It also can affect the quality of the cut, because unevacuated chips can dimple the face of the workpiece or get under the piece and cause an irregular cut.

Back to basics

While the planer seems to do the work for you, there are a few tips to help you get the best results. Before you turn on the machine, identify the grain direction of the board. Look at the edge of the board and position it so that the grain runs downhill into the planer. Plane in the wrong direction and the machine will leave a rough, chipped-out surface.

Also, limit the depth of cut to 1/16 in. or less. This

TAKE A LIGHT CUT

Lighter is better. *Set the depth of cut for less than 1/16 in. to reduce the likelihood of tearout. This is especially important on wide stock, which can bog down the smaller motors on benchtop planers.*

SKEW THE BOARD

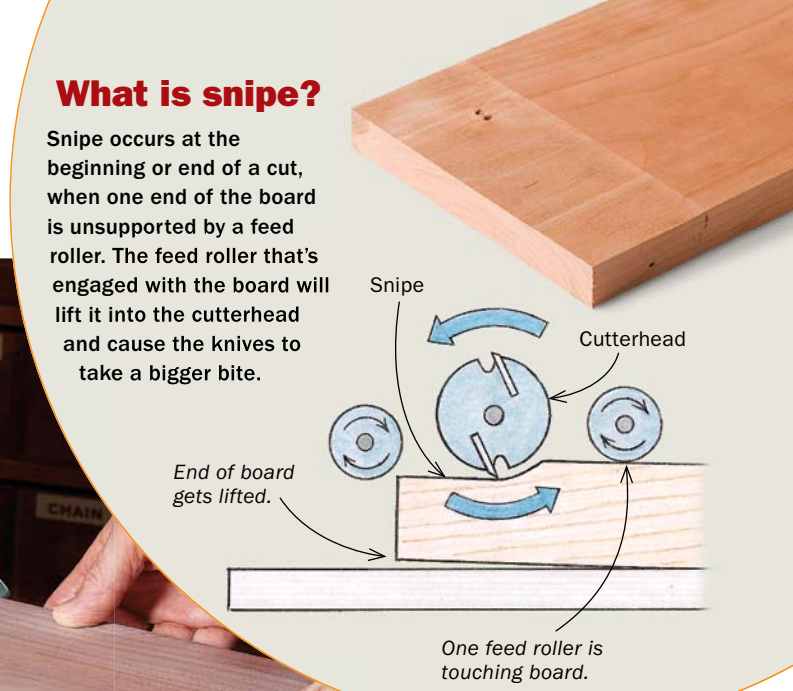
Angle it through. *For boards with tricky grain, feed the board at a slight angle. This creates a shearing cut across the grain that reduces tearout.*

How to minimize snipe

Snipe can ruin stock, so take steps to deal with it before sending material through the planer. Thankfully, it's not impossible to work around.

What is snipe?

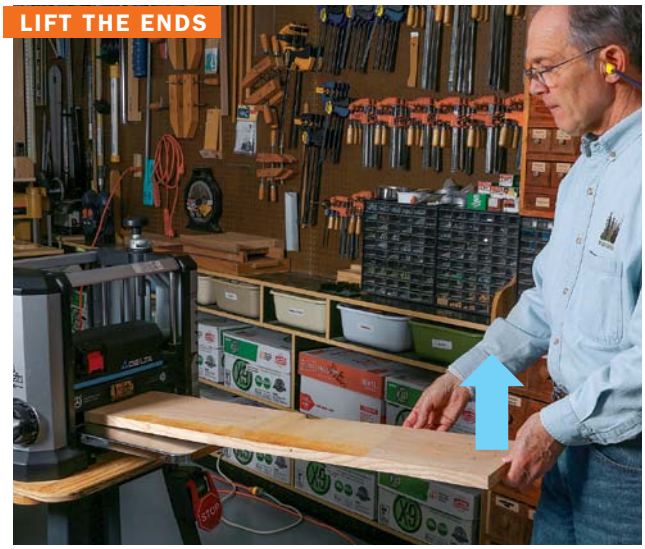
Snipe occurs at the beginning or end of a cut, when one end of the board is unsupported by a feed roller. The feed roller that's engaged with the board will lift it into the cutterhead and cause the knives to take a bigger bite.



GANG UP THE PARTS

Make a train. *Running separate boards through the planer directly behind one another eliminates snipe from the boards in the center.*

LIFT THE ENDS



On the way in. *As the board enters the planer, its leading end is not supported by the outfeed roller. Lifting the trailing end keeps the leading end planted against the bed.*

And the way out. *The same applies for the board as it exits the planer. Lift the leading end to keep the trailing end from rising into the cutterhead.*

makes tearout less likely and reduces wear and tear on the motor. After setting the depth of cut, tighten down the cutterhead lock if present.

When planing, don't always feed boards into the center of the bed. Use the entire width of the cutterhead to even out knife wear and get a lot more life in between knife changes. Feed boards with difficult grain into the planer skewed at an angle, which helps create a cleaner shear cut across the grain.

Once both faces are parallel, remove material equally from both faces by flipping the workpiece, end for end, between passes to keep proper grain orientation. This removes material equally from both sides, which helps the board remain flat.

Tips for avoiding snipe

We've all seen snipe—that ugly gouge on the leading or trailing end of the board. It happens when the stock is not supported by both the infeed roller and the outfeed roller at the same time (see drawing, above right).

One of the simplest ways to avoid snipe is to lift up on the trailing end of the board as it enters the machine and then on the leading end on the outfeed side as it exits. This keeps the end of the board that is not supported by the opposite feed roller flat to the bed. You also can start with a workpiece that is extra long and then cut off the snipe at each end. Or, snipe

Planing narrow and short stock

Edge-planing narrow stock or trying to face-plane stock that's too short isn't just difficult, it can be dangerous. Avoid accidents with these techniques.

GROUP NARROW PARTS

Planing on edge. *When you need consistent and dead-accurate widths for multiple components, edge-planing gives great results. As he feeds the parts into the planer, Forshee holds them firmly to keep them upright and together in the center of the bed (above). He then transfers his grip to the outfeed side (right).*

LENGTHEN SHORT STOCK

Add some runners. *For stock that's too short to plane, glue hardwood runners to the edges. This effectively increases the length of the board so that it can be grabbed by both feed rollers, as well as keeping snipe from the short length of material.*

can be reduced by feeding boards through the planer butted end to end. This keeps the feed roller tension equalized. This "planer train" technique can also be used to control shorter stock.

Edge-planing stock

Stock that has already been milled to have parallel sides and relatively smooth edges can be planed on edge to fine-tune the width and yield smooth edges.

If you are going to try this, the maximum width of the stock should be equal to, or less than, five times the thickness of the stock. For 1-in.-thick stock, the board should be 5 in. wide or less. This keeps the stock from being pressed over and out of square by the feed rollers. When I plane stock this way, I feed it through in small bundles (see photo, above left). This helps keep the boards upright and feeding at the same rate. Also, always use the centermost portion of the planer. On some planers, the feed rollers are spring-loaded on the ends and can cause the stock to tip. □

Jerry C. Forshee is a furniture maker in Bloomington, Ind.

Shim the stock flat. *While on the sled, use shims to stop the board from rocking.*

Keep the shims in place. *To keep the shims from shifting while the sled is inside the planer, use hot glue. A single, thick bead where the shim and board meet is usually enough to hold it down.*

Trim the shim. *Cut the shims with a handsaw, making sure they're well inside the edge of the sled to avoid any hangups as the sled passes through the planer.*

Flatten stock that's too wide for your jointer

The planer isn't a jointer, but when you need to flatten stock that's too wide or wild for your jointer, the planer can get the job done safely and fast.

While the planer and jointer are best used as a team, sometimes a board is too wide, too heavy, or just too cupped and bowed to be flattened efficiently on the jointer. The solution is a simple planer sled that's reusable and easy to set up in minutes.

The sled is a sheet of ¾-in. plywood or MDF, just narrower than the capacity of the planer and as long as you need it to be. A short hardwood cleat glued at the trailing edge keeps the sled and the stock on it moving at the same pace.

Setting up the sled is easy. Put the stock on the sled with the end against the cleat. Use wood shims to stabilize the board from rocking and then under any spots where the board is off the sled. It's best to keep stock removal even across the board, so don't over-shim on one end or side but rather spread out the difference over the board. Once the shims are in place, attach them with hot glue. Then trim the shims so that they don't overhang the sled sides.

Just like normal stock, run the stock and sled through the planer and take light passes until the top face is flat. Then remove the stock from the sled, flip it over, and plane the opposite face.

Flatten it slowly. *Feed the sled and board through the planer, taking light cuts. When one face is flat, remove the board from the sled and plane the opposite face flat and parallel.*

Online Extra

To watch a video of a planer sled in action, go to **FineWoodworking.com/extras.**