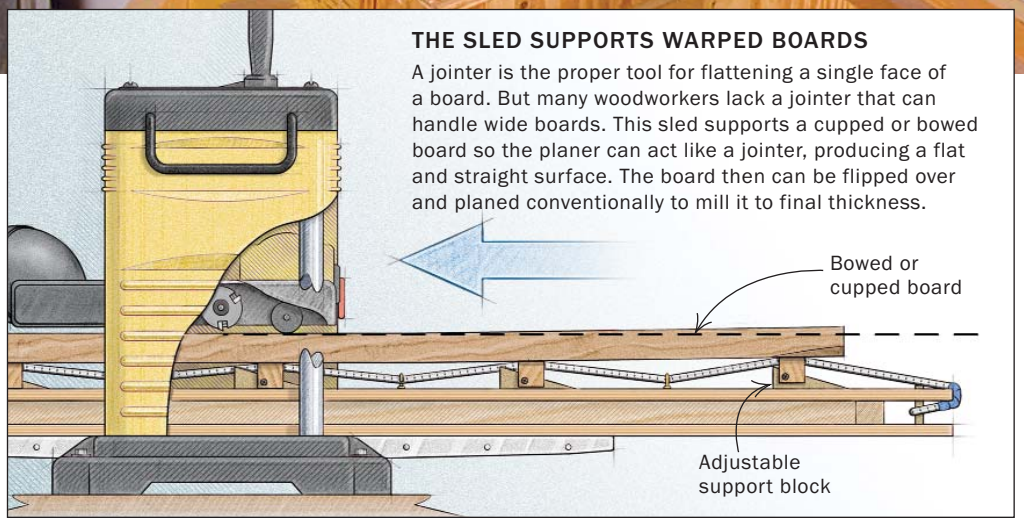
Flatten Boards Without a Jointer



THE SLED SUPPORTS WARPED BOARDS

A jointer is the proper tool for flattening a single face of a board. But many woodworkers lack a jointer that can handle wide boards. This sled supports a cupped or bowed board so the planer can act like a jointer, producing a flat and straight surface. The board then can be flipped over and planed conventionally to mill it to final thickness.

A sled lets you use just your planer to mill lumber to any thickness

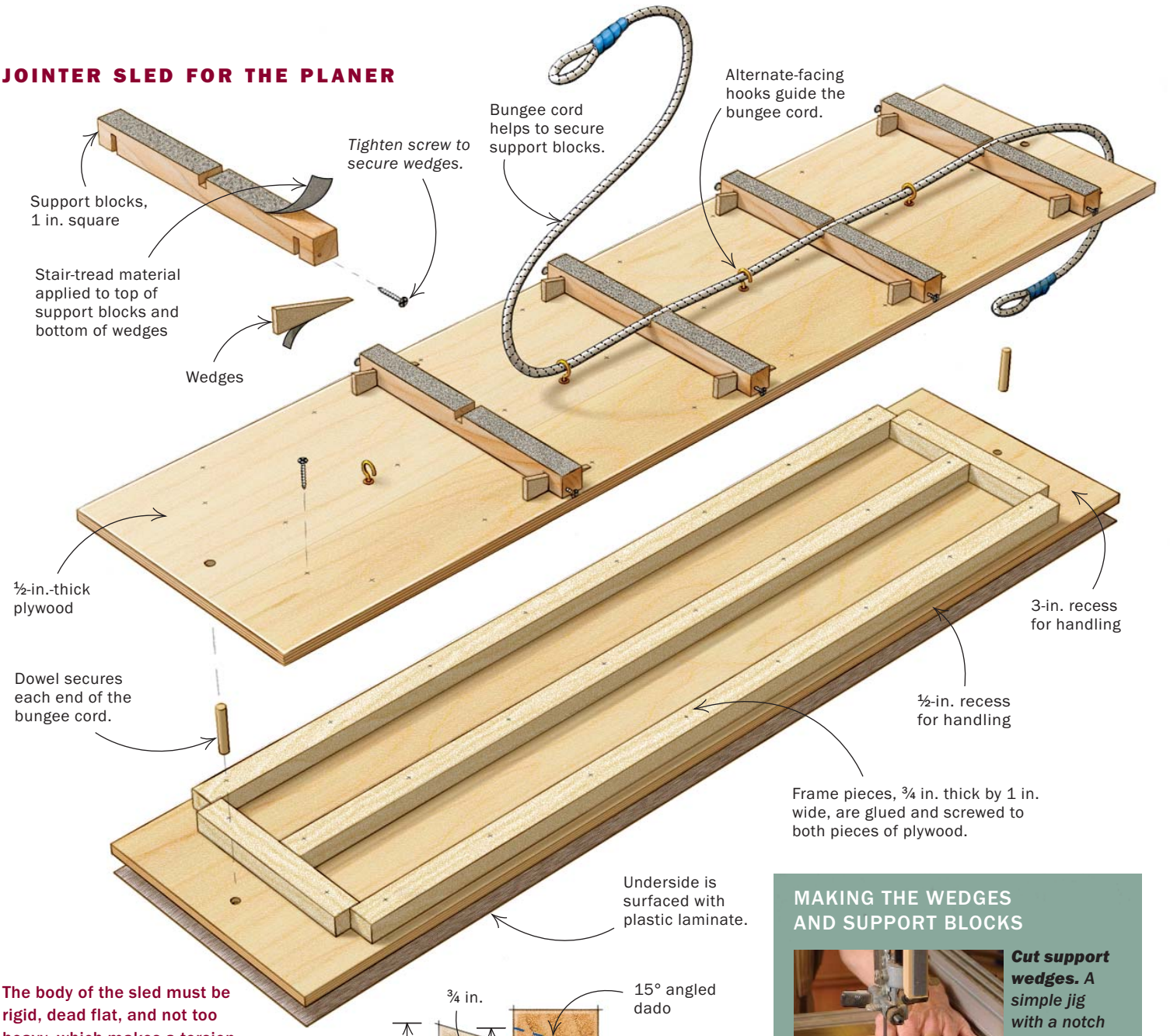
BY KEITH RUST

Working with wide lumber is a joy: The figure and color are seamless, just as it came off the log. But many woodworkers face a problem when it comes to flattening one side of a wide board. We can rip the board into narrower pieces, use a 6-in. or 8-in. jointer, and then rejoin the parts, but a perfect match is not always possible. The alternative is to handplane one side flat, a laborious process.

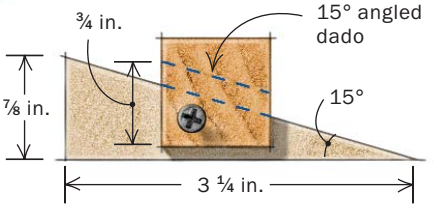
Now, I like handplaning as much as the next guy, but I prefer to save my energy and let machines dimension lumber. To this end, I designed an adjustable sled that allows me to face-joint lumber with a thickness planer. The sled is reliable and quick to set up and adjust without using any tools. To make it, you first need to determine the maximum width the bed of your planer

Photos: Mark Schofield

JOINTER SLED FOR THE PLANER



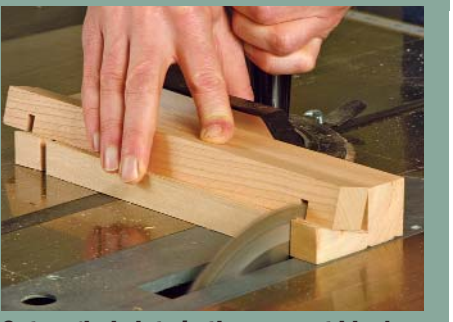
The body of the sled must be rigid, dead flat, and not too heavy, which makes a torsion-box design the best choice. The rough board that needs flattening rests on a series of supports that are adjusted to fit the board using sliding wedges.



WEDGE DETAIL

MAKING THE WEDGES AND SUPPORT BLOCKS

Cut support wedges. *A simple jig with a notch in it allows Rust to band-saw multiple 15° wedges.*



Cut angled slots in the support blocks. *Use a sled angled at 15° to cut a slot in the underside of the support block.*

will accept and how long a sled you want. My 12½-in. portable planer could handle a sled of the same width, but to avoid having too tight a fit, I opted for a 12-in.-wide sled.

The sled's body must be flat and rigid

I had a sheet of 5-ft.-square, ½-in.-thick Baltic-birch plywood, so I ripped two 12-in.-wide pieces the full length to create the upper and lower bed sections. If you work alone, resist the temptation to make the sled too long and unwieldy. Build it on a flat surface, such as a workbench or outfeed table, to ensure the sled also will be flat.

The frame pieces, ¾ in. thick by 1 in. wide, were cut from a couple of dry 2x4 studs. I recessed the pieces ½ in. on the sides and 3 in. on each end so I could grip the sled easily. The frame pieces are glued and screwed to the upper and lower bed sections.

The top of the sled has a series of stock supports made of hardwood milled to 1 in. square. To determine their length, measure your planer's inside clearance, keeping in

Drawings: John Hartman

SLED SETUP

Place the board on the sled. *If it is cupped, rest it with the concave side facing down. Rock the board to locate high spots.*

Adjust the support blocks. *Slide the wedge until the block just touches the board. Then tighten the drywall screw by hand to lock the wedge in place.*

mind that the supports will have about ½ in. of a drywall screw sticking out each end. My planer allowed for 11½-in.-long supports with no danger of a screw head touching anything on the way through.

In use, the supports are raised or lowered using 15° wedges made from ¼-in.-thick medium-density fiberboard (MDF). To keep the supports parallel to the sled's surface as the wedges are inserted, cut a slot ¾ in. from each end of the support blocks, also with a

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Visit our Web site to see Rust demonstrate his planer sled.

15° slope. This is done on the tablesaw with a dado set, using a sled that carries the support block at a 15° angle. While the dado set is on the saw, cut a square dado in the top of each support for a bungee cord. The cord secures the supports when the sled is in use and when it is stored vertically. I stretch the cord through the notches in the supports and through small hooks on top of the sled, securing it at each end with a dowel.

To hold the wedges in place, drill a hole in each end of the support blocks for a 1¼-in. drywall screw. Just tightening the screws by hand keeps the wedges from moving once they are in position.

When I first built the sled, I had problems with the planer pulling boards out of position as the sled went through. To solve that, I put self-stick plastic stair-tread material on top of the supports. I avoided sandpaper because of the likelihood of grit breaking off and getting in the planer. I also put a coarser stair-tread material on the bottoms of the wedges to keep them from slipping. Last, I put plastic laminate on the bottom of the sled to reduce drag through the planer.

Setting up the sled for use

Loosen the support screws by hand and slide the wedges back so that the supports all rest on the sled. Orientation of the board is important: If the board is cupped, place the concave side down so that the edges rest on the supports. Do this regardless of the fact that you may now have a board that bows up at each end. Space the supports to have one at each end and two or three along the rest of the board.

Find the high corners of the board by putting pressure on opposite corners and rocking it. Use the wedges to raise the supports that need it, trying to raise each one an equal amount, and tighten the screws by hand. It takes only a little pressure for the fine point of the drywall screw to bite into the MDF and secure the wedge. Test to see if the rocking is gone. Now go down the length of the board and find loose supports. Use the wedges to raise the ones that need adjusting, but avoid coming up too high. Doing so can cause other gaps to appear.

Roller stands at each end of the planer and a removable support arm attached to the box my planer sits on help support the sled. The arm has a top of heavy plastic (available from Woodcraft) that reduces the friction of sliding the sled across from the outfeed end of the planer to the infeed side.

Using the planer as a jointer

Once the board is stable, raise the cutterhead high enough to accept the entire

package and, without turning on the power, slide everything into the planer to find the highest point. Pull it back out, crank down a bit, and you're ready to joint the board. This is one of those cases where describing the process takes far more time than doing it. It's easy to put a board on the sled, adjust the supports, and be planing in 30 to 45 seconds. It helps to know the combined thickness of the sled and supports so that you can have the planer opening set to the approximate thickness.

After the first pass, check to see if anything has shifted and adjust the wedges as necessary. Send the sled over the fixed arm and back to the input roller, lower the head, and make another cut. I recently built a chest of drawers with bent-laminated drawer fronts and had no trouble using this sled to flatten 11-in.-wide hard maple to make drawer-front plies. This is a jig (unlike some I've attempted) that has proven to be worth far more than the original time invested in designing and building it. □

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USING THE SLED

With the planer turned off, slide the sled through to check for obstructions and to determine the highest point on the board (above). After the first pass, check and adjust the wedges (left), if necessary. Once you have flattened one surface of the board (below), you can dispense with the sled and run the other side of the board through the planer to thickness it.