

6 Essential Bench Jigs

Planing stops and saw hooks add speed and accuracy to your handwork

BY MICHAEL PEKOVICH

STOP FOR WIDE BOARDS

This simple stop is the one you'll use most often.



STOP FOR SMALL PARTS

A planing stop with a low fence is perfect for face- and edge-planing smaller parts.



STOP FOR NARROW PARTS

A jig with a side fence as well as an end stop holds long, narrow stock like table legs.

When starting out with hand tools, it doesn't take long to realize that the cutting force of the tool tends to move the workpiece in the direction of the cut. One of the secrets to hand-tool success is stopping that movement.

While clamping a piece in a vise or to the benchtop can work, often it's overkill. Not only that, but clamping and unclamping adds a lot of time to the process. A better method is to use a planing stop or saw hook, which take advantage of the cutting force of the tool to keep the workpiece in place.

When handplaning, the tool drives the workpiece forward. If you add a stop at the front edge of the board, you can plane all day without the piece moving. In addition, it's fast and easy to flip the stock to surface the other faces without messing around with clamps or vises.

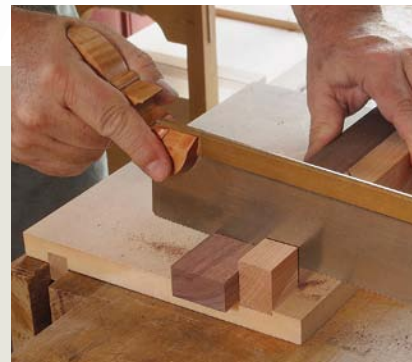
A saw hook works the same way. Hold the workpiece against the saw hook's fence, and you'll get faster, more accurate cuts every time.

Planing stops and saw hooks can take many forms. Some have a cleat that rests against the edge of the



SHOOTING BOARD FOR END GRAIN

This is an indispensable jig for squaring crosscuts and truing miters.



SAW HOOK FOR CROSSCUTS AND MITERS

With a tall, kerfed fence, this saw hook makes quick work of crosscuts and miters.

bench to keep the jig in place, while others are clamped in place.

I use one of these bench jigs just about any time I pick up a handplane or saw. Here I'll cover the ones I use most often. Some take just minutes to make while others are a little more involved. Even so, you can knock all of them out in an afternoon, and then get back to serious work.

Michael Pekovich is a furniture maker, instructor, and Fine Woodworking's executive art director.



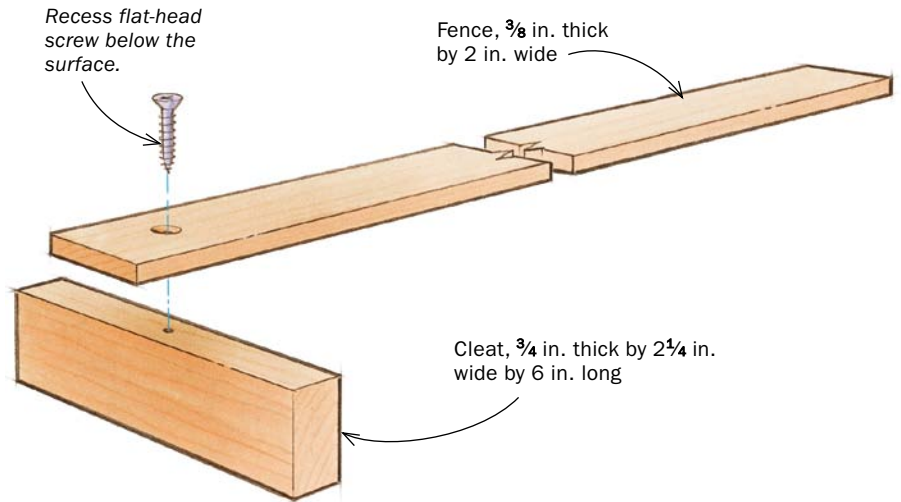
SAW BLOCK FOR THIN STOCK

To cut small, thin stock to length, a saw block clamped in a vise is a better choice than the full-size saw hook.

T-STOP HANDLES MOST OF YOUR PLANING TASKS

The T-stop is the easiest to make and the one I use most often. In its simplest form, it consists of a thin fence screwed to a cleat that gets clamped in a vise. The fence can be as long as your bench is wide. The cleat should be thick enough to accept the screw. Anything $\frac{3}{4}$ in. or more is fine. When attaching the fence, make sure that the screw head is recessed below the surface to avoid contact with the plane blade.

To use the stop, clamp the cleat in a vise and then secure the opposite end—you can clamp it to the far side of the benchtop, or drill a dog hole opposite the vise and drop in a benchdog. The single screw allows the fence to pivot until it hits the benchdog, so the cleat placement in the vise doesn't have to be right on. With the stop in place, you can tackle boards and panels as wide as your benchtop. You can also edge-plane stock up to 6 in. wide by standing it on edge against the stop.



Two scraps and a screw are all you need. The T-square jig consists of a long fence attached to a cleat with a recessed screw. To use it, clamp the cleat in your vise and secure the opposite end with a clamp or benchdog (below).

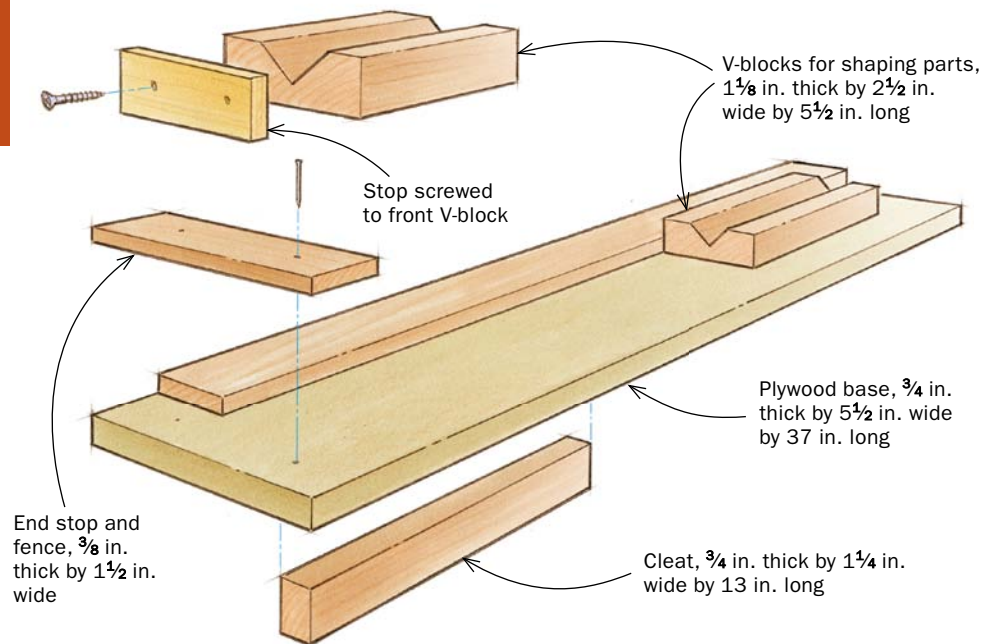


Plane away. The long, low fence offers support all the way across the benchtop without the need to clamp parts in place. Use it to face-plane larger parts and panels (above). In addition, you can edge-plane parts up to 6 in. wide (right).



GET A GRIP ON LEGS AND OTHER THIN PARTS

To plane long, narrow parts, which have a tendency to pivot, I use a stop that provides lateral support as well. Attach two thin strips to a plywood base at right angles and add a cleat on the bottom so it can be clamped in the vise. The stop keeps the work from pivoting, even when you skew the plane for a smoother cut. When chamfering or shaping legs, add V-blocks to the stop to support the stock at 45°.



Easy to build, easy to use. Pekovich glues and pins the thin end stop and fence to the plywood base (left). He also glues a cleat to the bottom of the jig, which allows it to be clamped in place (center). The fence prevents long parts like table legs from pivoting during planing (right).



V-blocks support stock at an angle. For shaping or chamfering long, narrow parts, screw a pair of beveled blocks to each end of the jig (above). The front block has an end stop screwed to the face to hold the stock in place while shaping (right).

SHOOTING BOARD FOR SQUARING END CUTS

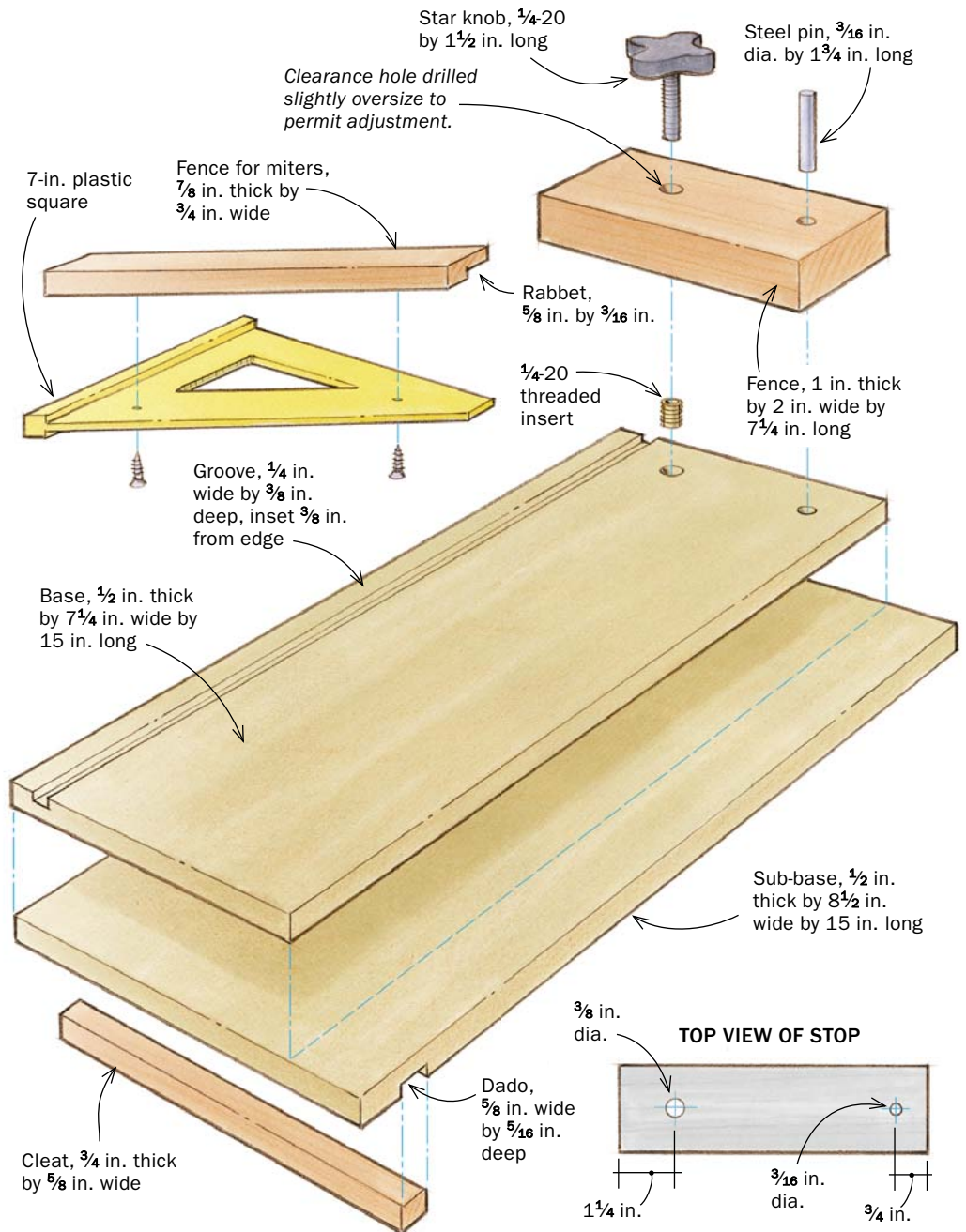
I depend on this shooting board to square up the ends of parts perfectly. In the past, I've tried to attach a fixed fence at exactly 90°, but I've always needed to shim it square later. On this version, though, I made the fence adjustable so that I can square it up as needed.

The heart of the jig is the plywood base, which has two layers glued together to create a bed for the plane. The subbase is dadoed to receive a cleat that registers against the edge of my bench. The top layer has a groove along the top edge to guide a speed square that I use while shooting miters. The hardwood fence pivots on a steel pin, and it has a knob on the opposite end to lock in the setting. Drill the clearance hole for the knob's threaded shaft slightly oversized to allow some adjustment.

Because there's just a small range of adjustment, the fence holes need to be drilled so that the fence is roughly square to begin with. To do this, pre-drill the fence and clamp it in place as square as you can with its end just overhanging the step in the base. Then use the fence as a guide as you drill into the base. Drive the steel pin into the smaller hole in the base, and thread an insert into the larger hole. Once the fence is in place, plane its end flush with the step in the base to create a zero-clearance backstop for planing.

When working end grain I use a low-angle smoothing plane on its side. It rides on the bed and registers against the edge of the base. Place the plane on the bed and snug it up to the edge. Then place the workpiece against the fence and slide it until it contacts the plane sole ahead of the blade. Set the plane for a light cut so that it doesn't get bogged down in the end grain.

For shooting miters I use a speed square with a wood fence attached to it. You need to trim a corner of the square, so buy a plastic one. The base of the square rides in the groove, and you can dial in the miter angle by adjusting the shooting-board fence.



ASSEMBLY TIP



Drilling for the fence. Because the oversize hole only allows for slight adjustment, the fence holes in the base should be drilled as accurately as possible. To make this easier, pre-drill the fence, clamp it square to the jig with its end extending slightly from the edge of the jig, and use it as a guide for drilling. Tap the pin into the small hole and thread an insert into the larger hole.



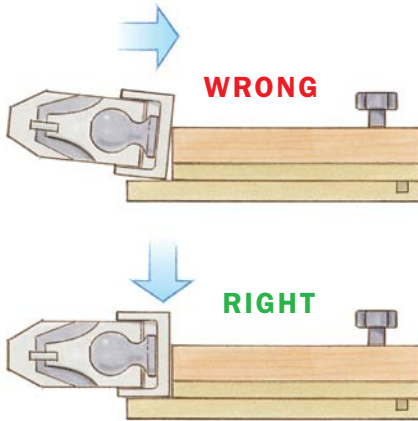
Squaring up is easy. To set up for shooting, loosen the adjustment knob and square the fence to the edge of the jig with a combination square. The first few passes with the plane will flush the fence to the edge of the jig, creating a zero-clearance back stop for planing parts.



DOS AND DON'TS OF USING A SHOOTING BOARD

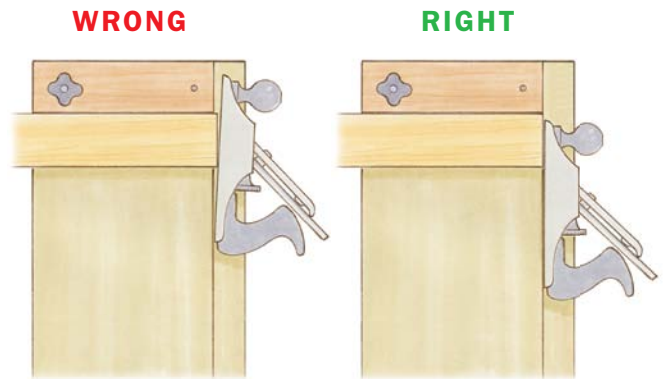
PUSH DOWN AGAINST THE BASE, NOT INTO THE FENCE

The reference face for the plane is its side, so to maintain a square cut and avoid paring into the fence, exert pressure downward.



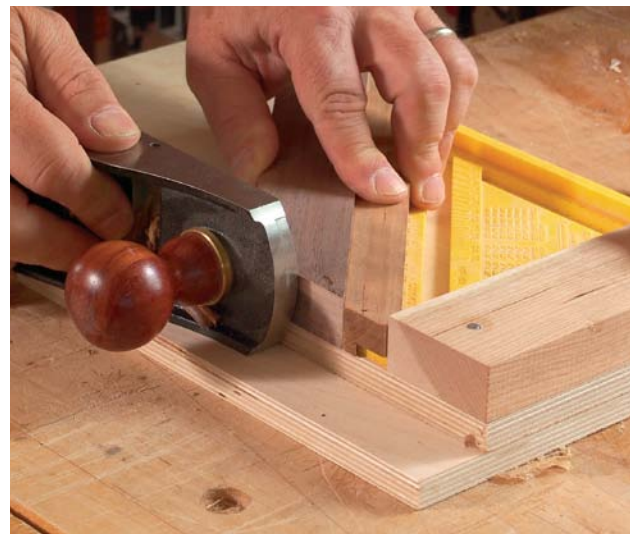
KEEP THE WORKPIECE FLUSH TO THE EDGE

Overhanging the workpiece will result in an angled cut and tearout along the back edge. Instead, set the plane in place and slide the workpiece against the sole ahead of the blade, and then make the cut.



Speed square makes for accurate miters.

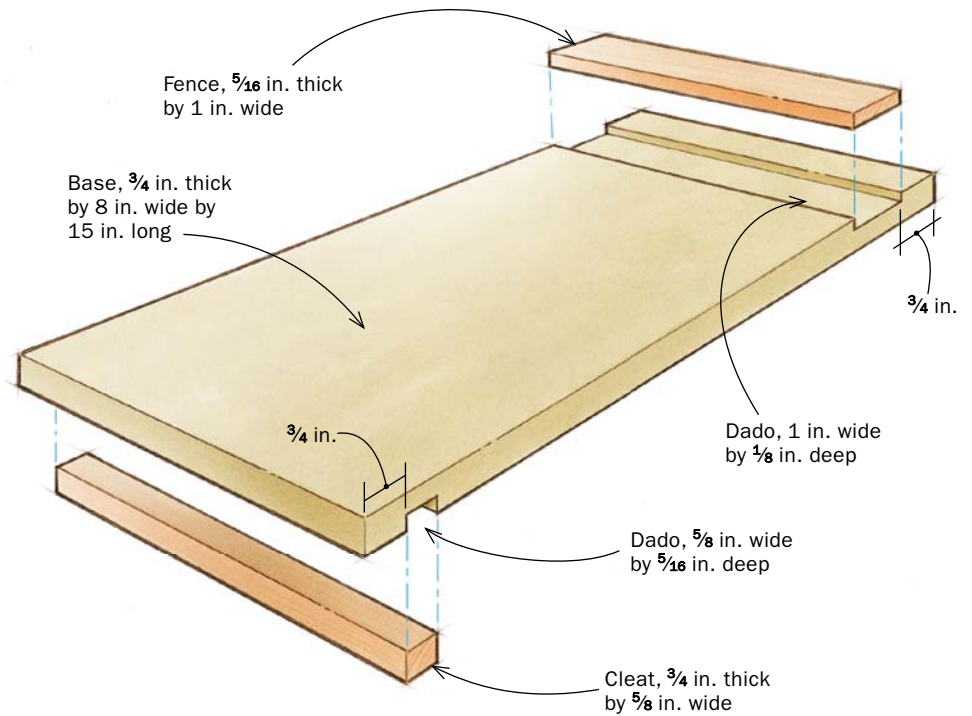
Adapting a *Methods of Work* tip from Sean Montague, Pekovich uses a plastic square with a hardwood fence to shoot mitered ends of parts. The base of the square slides in a groove in the base and registers against the fence.



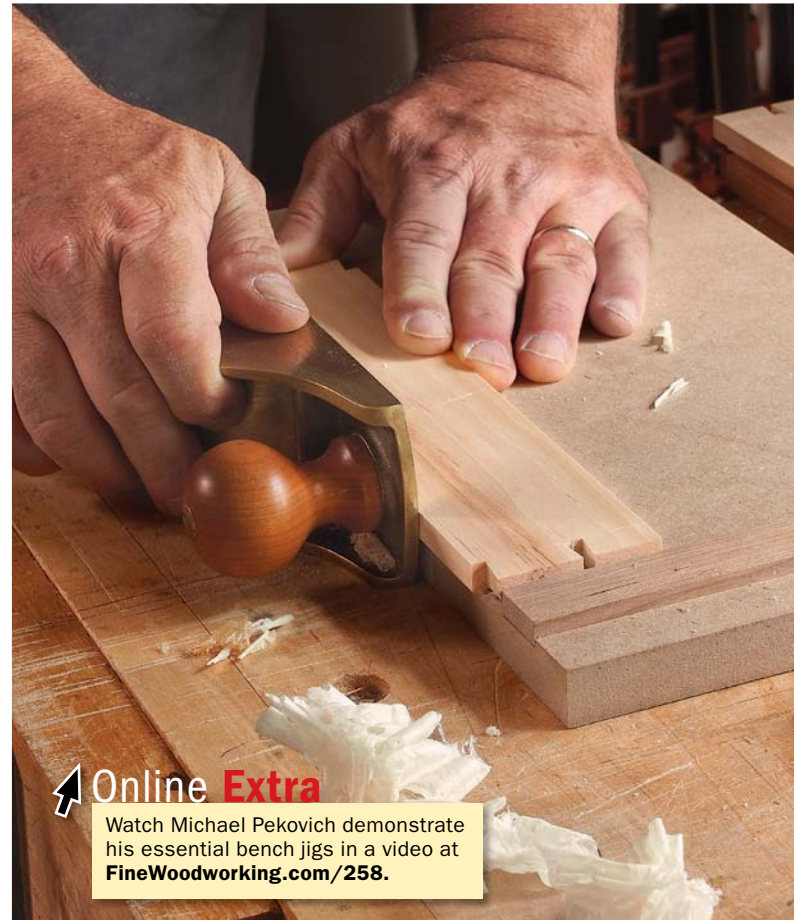
STOP FOR PLANING SMALL PARTS

This stop gets quite a bit of use in my shop. It consists of an MDF base with dadoes for a fence and cleat. The dadoes might seem like overkill, but they ensure that the cleat and stop are square to the edge. More important, this design makes it easy to glue the fence in place, so there aren't any screws to nick my plane iron. Also, I typically make more than one stop at a time, so setting up the dado blade is worth the effort. The fence is only $\frac{3}{16}$ in. high, which allows me to easily plane stock down to $\frac{1}{4}$ in. thick.

The other advantage of the jig is the ability to edge-plane small parts. Just lay the workpiece flat and slide it over until its edge extends beyond the jig. Then place your plane on its side against the bench to plane the edge. This is a great way to ensure a square edge on thin parts.



Dadoes simplify assembly. The fence and cleat on this jig, as well as those on the saw hook (opposite page), are glued into shallow dadoes in the bases. This ensures a sturdy, square glue-up of the jig parts.



Online Extra

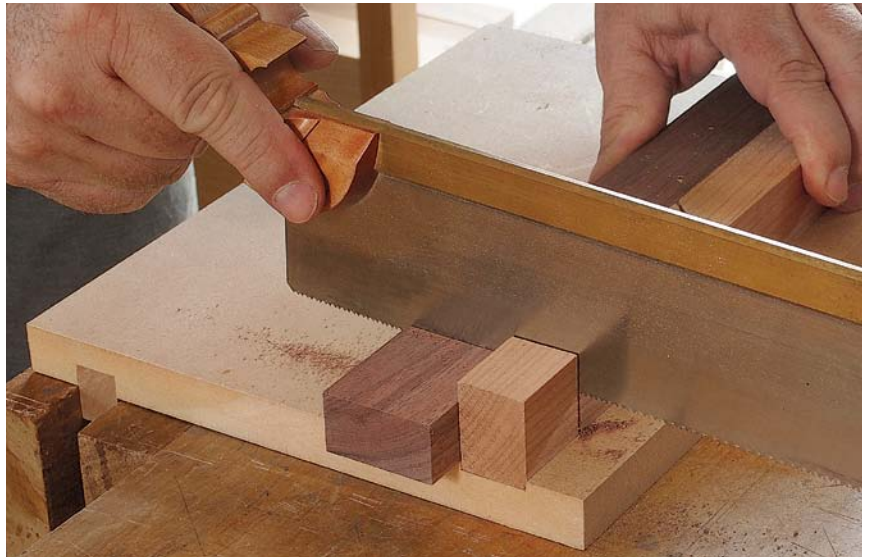
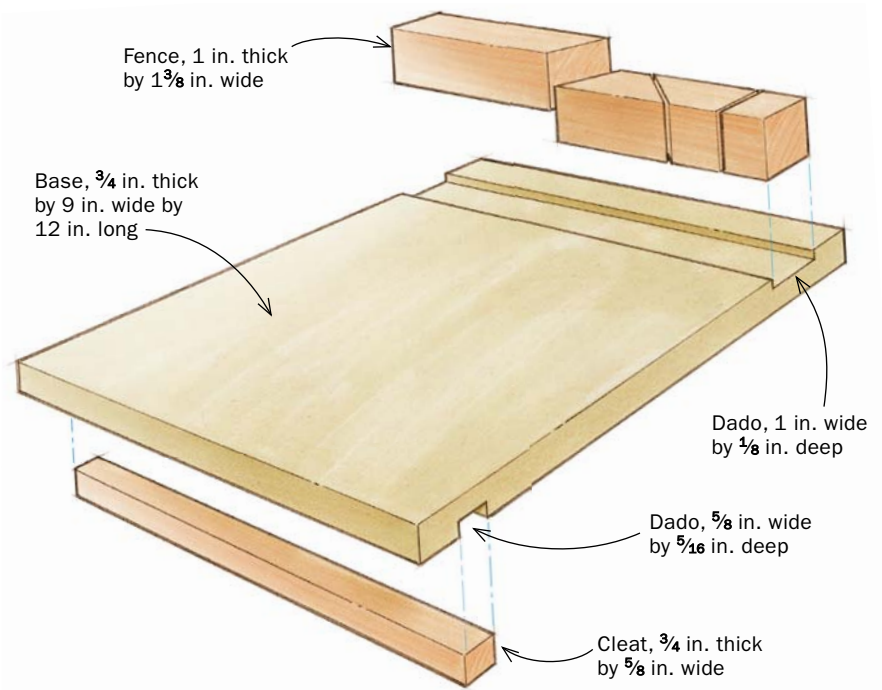
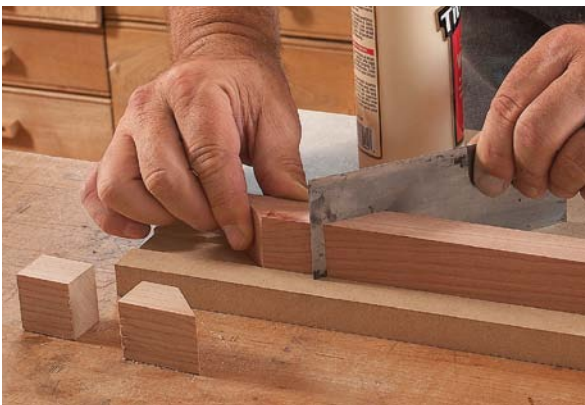
Watch Michael Pekovich demonstrate his essential bench jigs in a video at FineWoodworking.com/258.

A low fence for thin parts. Because small parts also tend to be thin, the fence only protrudes $\frac{3}{16}$ in. above the deck (left). It can be difficult to maintain a square edge while planing thin stock, so Pekovich lays the part and plane on their sides to make edge-planing easier (above).

SAW HOOK FOR CROSSCUTS AND MITERS

I use a saw hook to tackle sawing at the benchtop. It has a cleat and a fence with slots for the saw at 45° and 90° angles. In the past I've simply sawn through the fence to create the slots, but it's difficult to make a plumb cut at the exact angle. To make it easier, start by running a shallow dado for the fence. Then precut the fence into blocks at the chopsaw and reassemble them as you glue them into the dado. Use a card scraper to space the blocks. The resulting slot is slightly wider than the sawkerf, which prevents the saw from binding during a cut.

Chop and assemble the fence parts. Cut the fence apart at the chopsaw and glue the parts into the dado in the base. Pekovich uses a card scraper to space the parts and create a slot for the saw.



SAW BLOCK FOR SMALL PARTS

For small, thin stock, I replace the bigger saw hook with a simple rabbeted block that gets clamped in my vise. I use a Japanese pull saw for trim work, so I orient the block with the fence toward me (reverse that for a Western saw). To make the kerfs, I use the saw itself in combination with a square for alignment.

