When I started woodworking nearly a half century ago, I regarded my machines as the cast-iron kings of my workshop, and my collection of hand tools as quaint relics from our past. However, as I discovered how a properly sharpened plane could deliver speed and precision that I couldn’t replicate using power tools or abrasives, there was a workshop revolution. The table saw and jointer didn’t surrender any territory, but my collection of antiques moved down from the shelf and claimed a regular place at my bench. Partnering the old planes with power machinery was a giant step in my progression from hopeful amateur to fine woodworker.

Planes are surprisingly simple tools but, as with all new things, there’s a bit of a learning curve. To start, you’ll need to understand the parts and make sure that they are assembled correctly. Next, you’ll need a sharp blade and a bit of practice. You can accomplish a lot with one plane, but it’s useful to have a longer plane for flattening and a shorter one for smoothing. In short order, you’ll be using planes to assist with every stage of a project, from shaving away mill marks and burns, to cleaning up casework, to finessing the fit of doors and drawers.

Start smart. When plane shopping, avoid cheap hardware store versions; they’re junk. Alternatively, many new top-shelf models can set you back hundreds. Rehabbing an old plane can be rewarding, but success is not guaranteed. For starters, I recommend WoodRiver bench planes, which are both economical and reliable right out of the box.
Sharpen, reassemble, and start shaving

**STEP 1**
Attach the chipbreaker. After sharpening the blade, reattach the chipbreaker. Set the breaker on the iron, slide it forward until it's $\frac{1}{16}$" from the edge, and then tighten the screw.

**STEP 2**
Install the blade and check the mouth. To protect the freshly honed edge from contact with the body, set the blade into the mouth opening and then tilt it back until it rests on the frog. After attaching the lever cap, check the mouth.

A $\frac{1}{16}$" mouth opening is OK for everyday work. For smoothing figured wood, close the mouth to $\frac{1}{32}$".

**STEP 3**
Spin the wheel and watch the shaving. With the blade fully retracted, move the plane across a test board while turning the depth-of-cut knob. Aim for wide, lacey-thin shavings.

3-Step setup
Even quality planes require some setup out of the box. So before you can start shaving, you’ll need to sharpen the blade and reassemble the plane. After joining the blade to the chipbreaker, set the pair on the frog, slip on the lever cap, and set the lever cap screw just loose enough to allow blade adjustment.

Next, check the mouth. Although a narrow mouth opening can help reduce tear-out with figured woods, thicker shavings can get stuck. I find that a $\frac{1}{16}$"-wide opening works well with most stock, and lets thicker shavings through without choking. Most planes require removing the blade in order to adjust the mouth. But WoodRiver planes allow mouth adjustment by loosening two side screws at the rear of the frog and turning a central screw.

To set the cut depth, place a straight-grained test board against a bench stop. While running the plane over the board, slowly turn the wheel until the shavings are thin and wispy. If your shavings resemble thick curls, retract the blade fully and give it another go.

Photos: John Hamel
Simple shaving steps

Assuming that the blade is sharp and properly set, planing shouldn’t be a struggle. But, like swinging a bat or golf club, knowing the correct grip, stance, and motion makes all the difference. Once you’ve mastered the basics, you’ll be ready to put your plane to work.

Start with your grip. I prefer wrapping the lower three fingers of my dominant hand around the back handle (or tote) and resting my index finger against the edge of the blade. The position of my opposite hand varies. When planing wide boards, I’ll wrap it around the front knob. When planing edges, I prefer pinching the side of the casting. This grip allows me to use my index finger as a guide.

Powering a plane across long boards and wide panels is a mix between a dance and a full-body workout. Your arms will control the cut, but your legs and core will provide the real muscle.

To start, stand slightly behind the workpiece, set your feet shoulder-width apart, and put your weight on your rear foot. Set the front of the plane on your workpiece with the blade off the end.

At the start of the cut, press down on the knob. (This counteracts the natural tendency to rock the plane as the blade meets the board.) As the plane moves forward, transfer your weight to your front foot. At the same time, equalize the downward pressure on the knob and the tote. Use your body to drive the tool forward. (For longer boards, you can increase your range by taking small steps.)

As you approach the end of the board, apply more pressure to the tote, and extend your arms. Keep pushing until the blade clears the far end. Now clear the shaving with your knob-hand, return to your starting position, and repeat. To avoid needless blade wear, I raise the sole a bit on the return stroke.

Take a stand. With your feet shoulder-width apart, plant your weight on your rear foot and set the front of the plane on your workpiece with the blade off the end. Apply firm pressure to the knob so that the blade makes contact right from the start.

Level mill marks. A #4 removes the mill mark ripples left by jointers and planers. Set your blade to make fluffy shavings, then start on one edge and work your way across the board.

Go long. When removing burns, don’t focus on one spot. Plane the entire edge to keep it straight and flat.
Flatten panels

Balance it out. Apply pressure equally to both the tote and knob once the plane is completely on the board. Use your body to push the plane. Skewing, or angling, the plane can make it easier to push.

Maintain contact. At the end of the pass, ease up on the knob and apply extra pressure on the tote to keep the tool flat on the workpiece. Clear out the shaving, then continue working across the board using consistent, overlapping passes.

Start with an angled attack. Secure the panel to your workbench. Knock down major misalignments first, then take long, diagonal strokes to level the surface. Pencil lines can help gauge your progress. For best results, use a longer plane, like a #5.

Surface clamp

Shop-made bench dog

Pro Tip: Cambered Edge

Straight-edged blades are good for joinery and are easier to sharpen, but the sharp corners will leave track marks on wide panels. The solution is buying a second blade and cambering, or curving, the cutting edge. The trick to cambering a blade for a smoothing plane is not to overdo it. To create a minute camber, I simply apply a bit more pressure on each corner during the honing process.

Finish up with the grain. A #4 with a cambered blade (see sidebar at right) is ideal for removing remnants of the diagonal passes and smoothing the surface. Finishing up with a sander is perfectly OK.
Fitting & finessing

Hand planes are great for erasing burns and mill marks (after all, who likes sanding?), but in my shop, planes earn their keep when I’m doing casework. When success is measured in thousandths of an inch, such as when fitting face frames, doors, and drawers, nothing beats a well-tuned plane.

Although techniques discussed here are variations of the techniques on the previous page, the stakes are higher because you’re working with finished pieces. It’s important to start with a freshly honed edge and set the blade for a super-light cut.

Face frames often end up a little proud of the plywood case. Planing a face frame flush with a case is easier than jointing an edge because you can rest the plane’s sole on the case. Watch the shavings and stop as soon as the blade touches the side.

Doors often require some hand plane help. To fix a misaligned stile or rail, start at the high end of the board, and gradually work your way...
Knock down the pins. A smoothing plane is my go-to tool for flushing the ends of a dovetailed drawer. Stop when the shavings change color.

Use paraffin wax to lubricate the sole.

Then smooth the sides. After levelling the pins, take a few long passes across the side. Planing a small chamfer reduces the chance of splitting out the back pins.

Shave down the edges. A shorter plane is handy for levelling a proud corner, or sneaking up on a piston-tight fit. To deal with the grain direction change at the corners, try increasing the skew angle.

back until the ends are flush. If the final pass happens to catch the stile, remove the evidence with a light pass.

Inset doors require an extra step. To achieve an even reveal, mount the door into its opening, mark the tight spots, and then plane the edges and ends. See page 44 for more information regarding inset doors.

Dovetails epitomize fine woodworking, but fancy corners don’t count for much if they don’t look good or if the drawer doesn’t fit.

Whether you cut your dovetails by hand or with a router, a plane is helpful in trimming the pins flush. Using short strokes, plane in from the ends until the pins are flush, then finish the side. To avoid splitting the rear pins, I plane a small chamfer along the drawer’s back corner. Skewing the plane can also help.

Finally, check the top and bottom rims. To fix a high spot, set the plane behind the high corner, take a pass, and gradually work your way back until the parts are flush.
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