BY MIKE DUNBAR

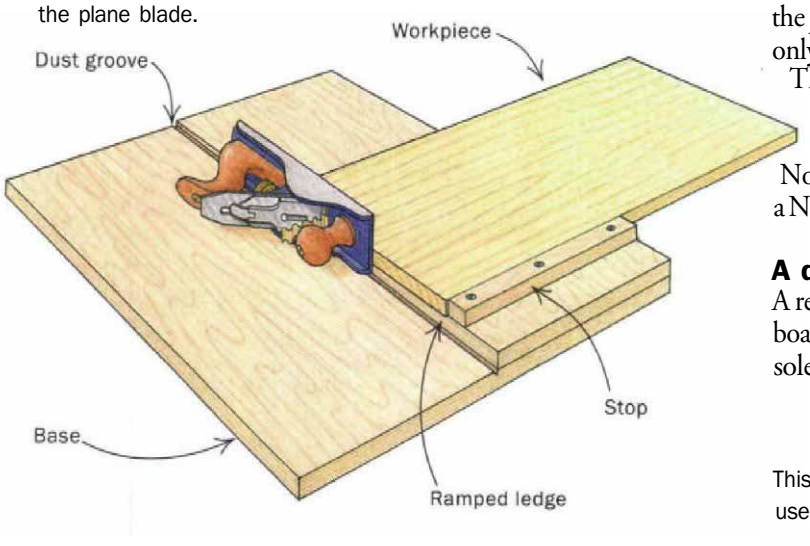
Shooting boards aim for tight joints

Whether you are making a single piece of furniture or doing a production run, you want your stock true, and you want to get it that way quickly and surely. This type of woodworking is done well using machines. But if you want to cut down on dust and decibels, or if you are short on budget or space, you should be using shooting boards.

A shooting board is a device that, used in conjunction with a handplane, will produce exact and true edges, perfect for gluing or for use in a piece of furniture. There are three basic types: the joint and square, the miter and the donkey's ear. Each is easy to make and does its job easily, quickly and accurately. Before the development of jointers, sanding machines and miter saws, shooting boards were a fixture in every woodworking shop, whether big or small, whether doing custom or production work.

THE JOINT AND SQUARE

This shooting board joints the edges and squares the ends of a board. The ledge is ramped to distribute wear over the entire width of the plane blade.



The joint-and-square shooting board joints the edges and squares the ends of boards. The miter shooting board trues up flat miters, such as those used in a picture frame. The donkey's-ear board cleans up standing miters: the type used in baseboard or the bracket base on a chest of drawers.

Anatomy of a shooting board

All shooting boards have three parts in common: a base or bottom board on which the plane rides on its side; a ledge that elevates the work to the middle of the plane blade; and a stop that helps hold the workpiece in the required position.

Lauan or birch plywood is a good material for the base because it is not likely to warp. To make room for dust that might collect against the ledge, a shallow groove in the base or a chamfer on the bottom edge of the ledge is a good idea. Still, regularly sweeping or blowing dust off the base is a good practice.

The ledge should be made of a stable wood such as pine. On the miter board and the donkey's ear, the ledge is uniform in thickness. And if you use it only occasionally, the ledge on the joint-and-square board can be made this way as well. However, a lot of use on a shooting board of this simple design will wear only one place on your plane blade. This will require frequent grinding to keep the cutting edge straight. It is much better to ramp the ledge so that wear is distributed over the entire cutting edge, as shown in the drawing at left.

The stop on both the joint-and-square and donkey's-ear shooting boards is at a right angle to the edge of the ledge. However, on the miter board the stop is triangular, presenting a 45° angle on both sides.

The dimensions of the shooting board will depend on the size of the job for which it will be used. For example, a small job will need only a small shooting board.

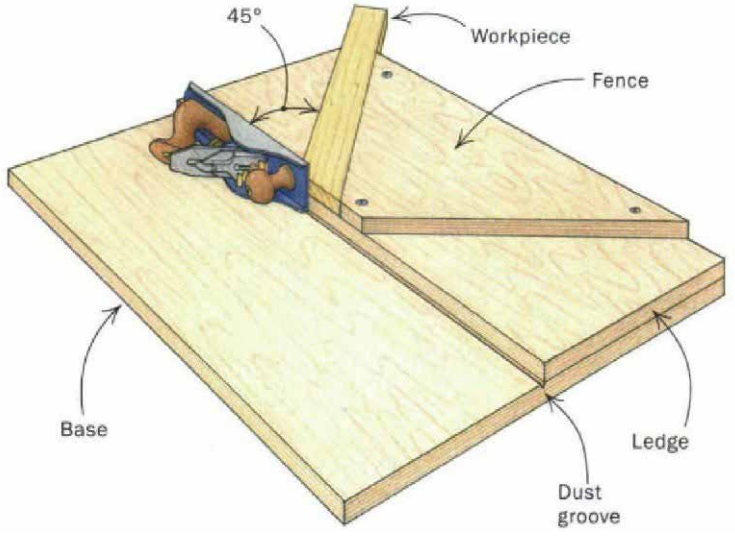
The other half of the operation is the handplane. This, too, should match the size of the job. For small work you might use a block plane. For large jobs such as architectural trim, a No. 7 or even a No. 8 jointer plane may be preferred. You will find a No. 5 jack plane satisfactory for most furniture work.

A dedicated plane is a good idea

A regular bench plane will need to be reset for use with a shooting board. I keep a Bedrock No. 605 fully tuned for this purpose. Its sole is lapped flat, and its frog is moved forward to create a very narrow mouth. The blade of a plane used on the surface of a board is often slightly crested. However, shooting is done on the edges of a board, so the plane's cutting edge must be ground straight all the way across. Keep the edge razor sharp and set the plane to

THE MITER

This shooting board is used to fine-tune flat miters, such as those used in picture frames.



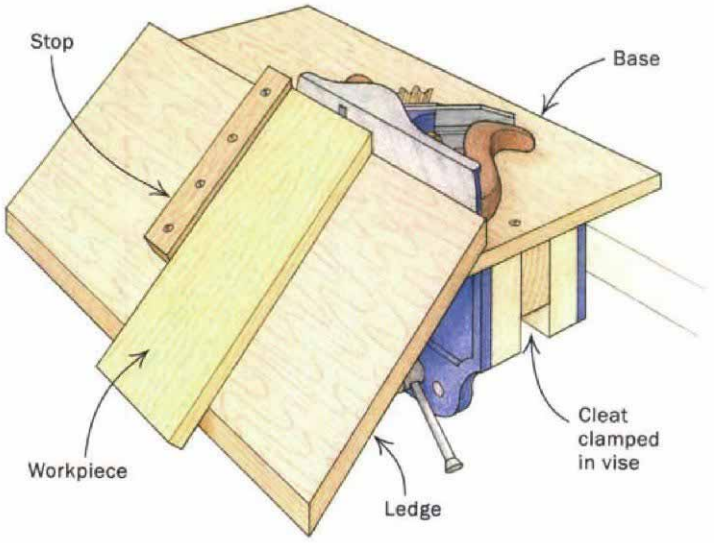
Drawings: Vince Babak

take a medium-thick shaving. If the plane is set too fine, you take more passes and work longer; too deep and you will choke the plane and tear out the end grain. Begin the cut by placing the front of the plane's sole on the workpiece. Also, after shooting an edge, test it with a square. If it is out of true, use your plane's lateral adjustment lever to shift the cutting edge. A coat of paste wax on the base helps the plane slide more easily.

On all shooting boards, keep the edge you are trimming close to the stop; this way there is no chipout on the far side. However, allow just enough overhang so that the plane blade does not shave the ledge.

THE DONKEY'S EAR

This shooting board fits standing miters to each other. It has a vertical cleat that is held in a vise.



Achieving good results requires practice

The joint-and-square board is used for preparing parts such as drawer sides and drawer ends before joining and fitting them, situations in which you have a stack of parts that you are truing at once. Joint both long edges of each part. The plane's sole will ensure that the edges are straight. Next, test the ends with a square. Using either a scratch awl or striking knife, trace a line as close as you can to the end. Place the stock on the shooting board and trim to this line. Test again for square.

The miter and donkey's-ear boards are typically used to fit parts to a project. Cut both mitered ends and try them on your project. If there is a gap, note or mark where the high spots are. Place the miter on the shooting board and trim the high spots. Test again and trim (if necessary) until you have a perfect fit.

Using a shooting board is handwork, and as such requires developing some skill. But the finished project is only half the fun of woodworking. The rest is getting there—in other words, using and developing skills.