

brass-body Block Plane



■ If you've already made the jack plane featured on page 32 of issue No. 79, this block plane will be a piece of cake. The construction is very similar to the jack plane, only simpler. (Take a look at the Exploded View drawing below to see what I'm talking about.)

Brass Body. Just like the jack plane, the first step in building the block plane is to make the brass body of the plane. I started by cutting blanks for the sides and sole of the plane from $\frac{1}{8}$ "-thick brass stock. Figure 2 shows the dimensions for the blanks as well as the layout for the box joints. (You can also download full-size patterns for the brass parts of the plane, as well as the knob and handle that are added later.)

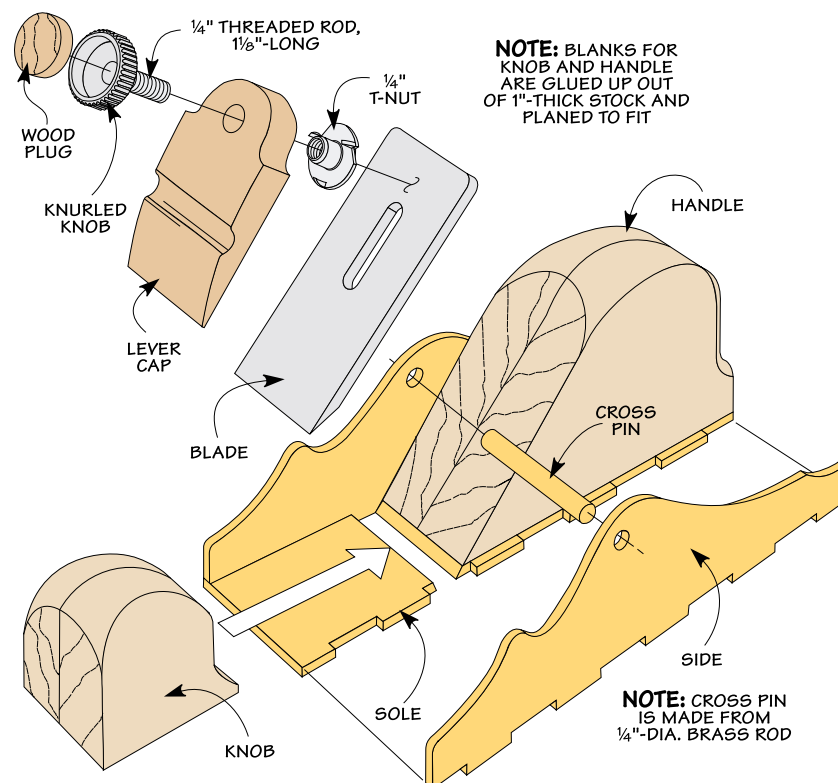
The box joints are cut on the table saw, using a jig and a special carbide-tipped blade that is designed to cut non-ferrous

metals. Since the box joints on this plane are the same size as the box joints on the jack plane, you can use the same jig to make them. (Refer to page 16 in issue No. 79 for more information on making and using the box joint jig.)

Once you've cut the box joints,

go ahead and cut the sides of the plane to shape on the band saw. Then cut the sole in two pieces to create the mouth of the plane (see Figure 2). Now you're ready to solder the brass pieces together. (You can find detailed instructions on how to do this in

1 EXPLODED VIEW



Hardware

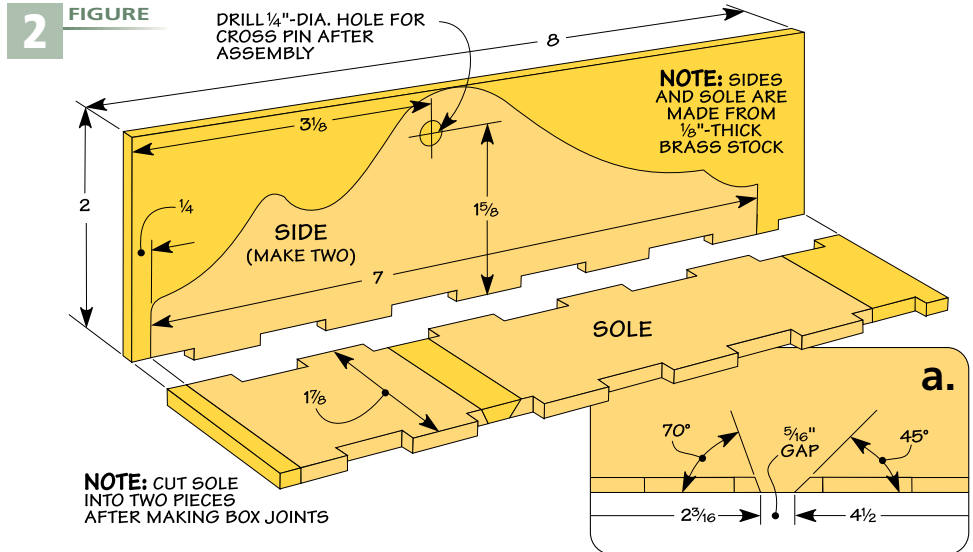
- (1) $\frac{1}{8}$ " x 2" Flat Brass Bar Stock (2' long)
- (1) $\frac{1}{4}$ "-dia. Brass Rod ($1\frac{7}{8}$ " long)
- (1) Stainless Steel Knurled Knob ($\frac{1}{4}$ " threads)
- (1) $\frac{1}{4}$ "-dia. Threaded Rod ($1\frac{1}{8}$ " long)
- (1) $\frac{1}{4}$ " T-Nut
- (1) $1\frac{1}{2}$ "-wide Plane Blade

the "Working with Brass" article on page 37 of issue No. 79.)

Knob & Handle. After removing any excess solder from the box joints and cleaning up the brass body, you're ready to make the wood parts of the plane — the front knob and the rear handle. Both of these are made from glued up blanks. You can cut the blanks to rough shape based on the patterns provided. Then use rasps, files, and sandpaper to finish shaping these pieces.

Brass Pin. The handle and knob will get glued into the body of the plane with epoxy. Before doing this however, I added the brass cross pin for the lever cap (see Figure 1).

This pin is installed by turning the plane on its side and drilling a 1/4"-dia. hole through both sides. Then after inserting the pin, the ends are peened over to rivet the pin in place. Finally, file the ends flush with the sides of the plane. (This is covered in depth in the "Working with Brass" article.)



When it comes to gluing the knob and handle into the body of the plane, no matter how neat you try to be, you'll probably wind up with a little bit of epoxy squeezeout to clean up. You can scrape and sand this off once it's dry.

There's one thing to mention when it comes to adding the handle. The blade will rest on the

handle, so you want to make sure that the face of the handle is flush with the beveled edge of the throat opening in the sole of the plane. If it's not, a small file and some sandpaper can fix the problem.

The last step to complete the plane is to add the blade and lever cap. For more on making the lever cap, see the box below.


Making the Lever Cap

The lever cap is nothing more than a hardwood wedge with a knob at one end. The cap slips underneath the cross pin in the body plane. By tightening the

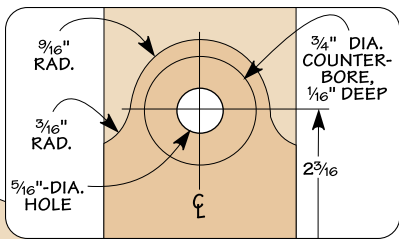
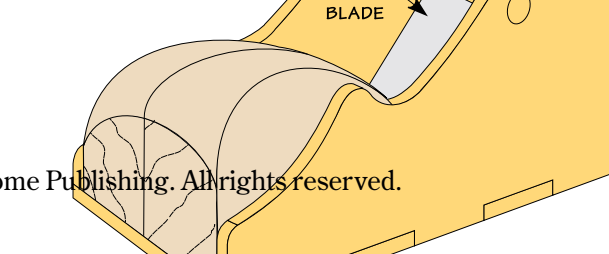
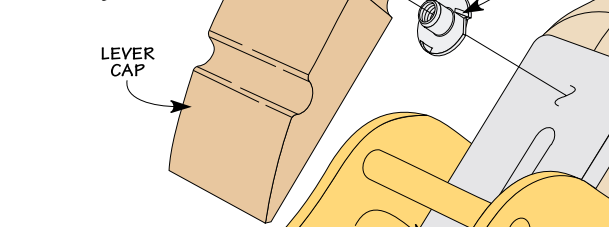
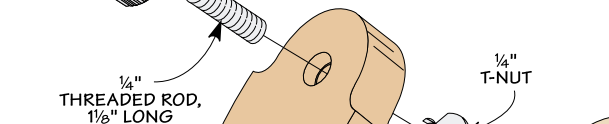
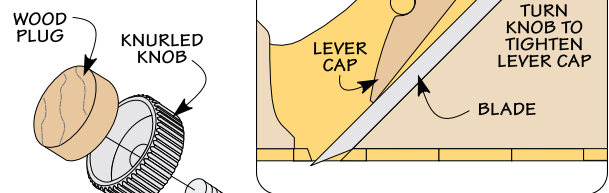
knob, the edge of the cap is forced down against the blade, holding it in place.

The trick to making the lever cap is to start with an extra-long, squared-up blank and drill all the holes first. Then you can taper the blank to create the "wedge" shape of the lever cap.

Start by drilling a counter-bored hole for the T-nut (see drawing at left). To create the rounded groove in the front of the lever cap for the brass cross pin, drill a hole through the edge of the blank.

Using a band saw, stand the blank on edge and cut the cap to its wedge shape. Then cut the curved profile at the top of the blank and sand it smooth. Finally, add the T-nut and knob. 

NOTE: EPOXY ROD & PLUG INTO KNOB



LEVER CAP BLANK (3/4" x 6")

