Cast in stainless steel, the Veritas® Inset Plane has a 45° bed angle and a fixed mouth, and uses a brass blade retention screw to secure the included 30° bevel A2 tool steel blade (0.060″ thick by 15/32″ wide). While the inset plane is a fully contained small plane and can be used as is for fine, controlled cuts, it is designed to be mortised into a user-made plane body to suit your work type and preferred grip. Fitting neatly into a 1 11/16″ × 3/4″ mortise, the inset plane has notches along the sides of the body to provide mechanical glue lock. It can be used to create a small smooth or edge plane, but it is particularly useful for making a chamfer plane tailored to a specific width or angle.

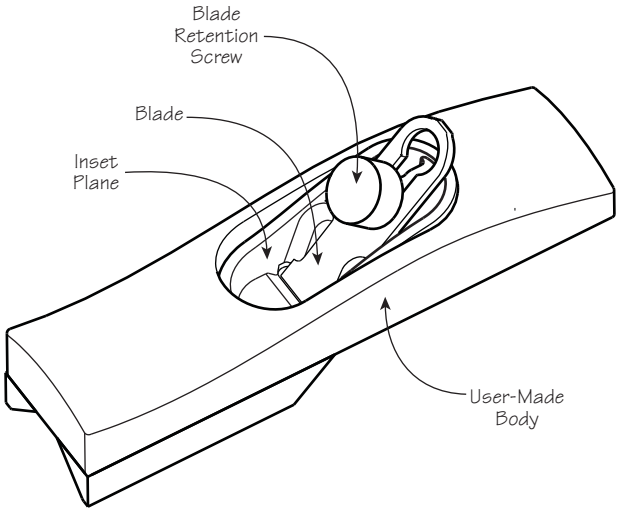

Figure 1: Example of a completed chamfer plane.

Making a Basic Plane Body

Note: *It is advisable to make a prototype in softer wood to test the fit, function and overall shape of the plane before making a final body and gluing the inset plane in place.*

1. Select a hardwood blank and cut it to size: about 1″ × 11/16″ × 4″. The blank should preferably be rift-sawn, as this grain orientation will result in the most dimensionally stable part.

2. Lay out the mortise dimensions as shown in **Figure 2**.

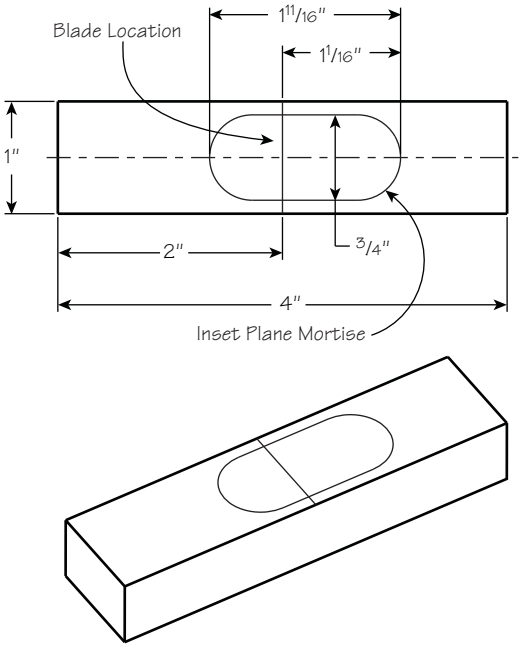

Figure 2: Blank with mortise layout lines.

3. Rough out the mortise by drilling three through holes, as shown in **Figure 3**, using a 3/4″ forstner bit.

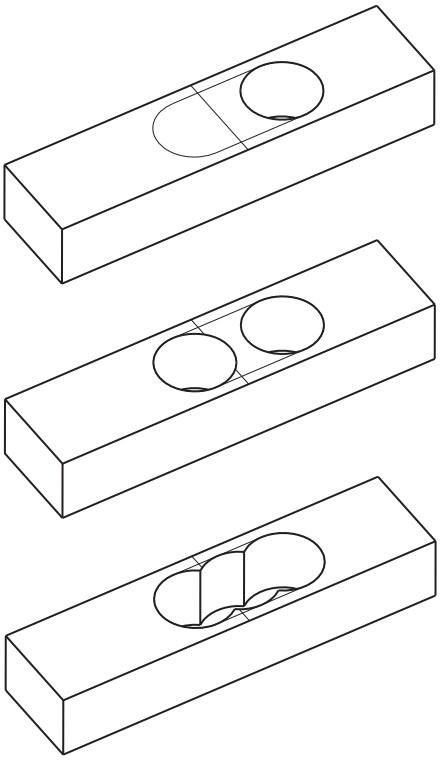

Figure 3: Roughing out the through mortise.

4. Trim the waste with a chisel (see **Figure 4**).

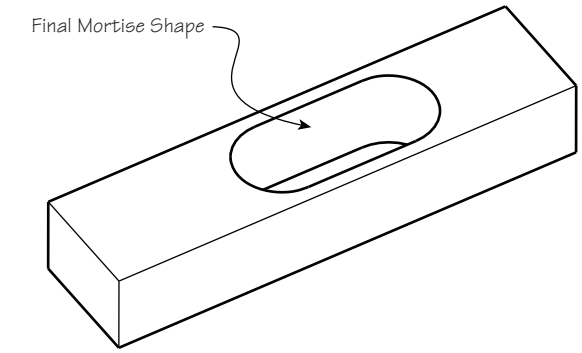

Figure 4: Final mortise shaping.

5. Test the fit of the inset plane and make any necessary adjustments.

6. Shape the blank and round all the hand-contact edges as desired.

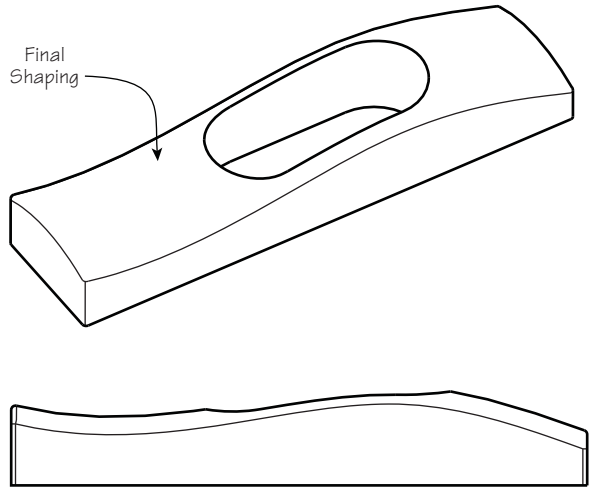

Figure 5: Final body shaping.

Installing the Inset Plane

Caution: *Blade is sharp.*

Remove the blade and the blade retention screw from the inset plane (note that the blade retention screw has a left-hand thread). Apply epoxy onto the sides of the inset plane body, where shown in **Figure 6**. (The notches along the sides of the body provide mechanical glue lock.) Locate the inset plane body into the wooden body, such that its sole is flush with the bottom of the wooden body. Be careful not to get any epoxy in the mouth opening. Wipe off any squeeze-out immediately.

Tip: *One method for protecting areas where you don't want epoxy is to coat that area with a silicone-free paste wax and glue release prior to applying adhesive.*

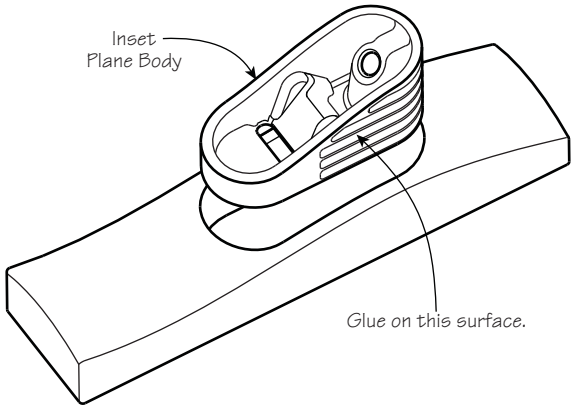

Figure 6: Installing the inset plane body.

After the epoxy has set, sand the bottom of the wooden body flush with the steel sole.

As is, the plane can be used as a small smoothing or trimming plane. Reinstall the blade and the blade retention screw, and adjust the blade as required. (See *Blade Adjustment*, below.)

Adding Chamfer Fences

To make a chamfer plane, you will need to make two fences, as shown in **Figure 7**.

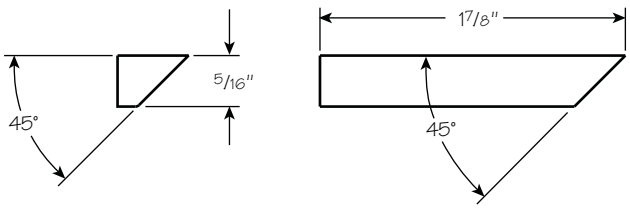

Figure 7: 45° chamfer fences.

The distance between the fences will determine the width of the chamfer (see **Figure 8**). To define the width of the desired chamfer, scribe two parallel lines on the bottom of the wooden body and centered on the mouth opening.

Glue the fences to the bottom of the wooden body, aligning them with the scribed lines. Make sure that the fences are parallel to each other and roughly square to the blade opening, and take care that the back edges of the fences **do not** cover the blade mouth.

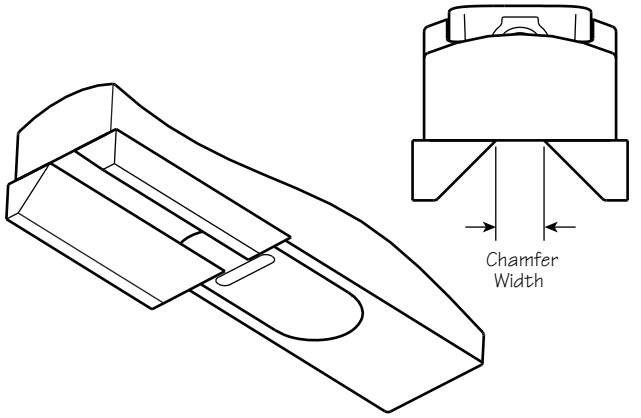

Figure 8: Glue the chamfer fences in place.

After the glue has set, plane the fences flush with the wooden body, as shown in **Figure 9**.

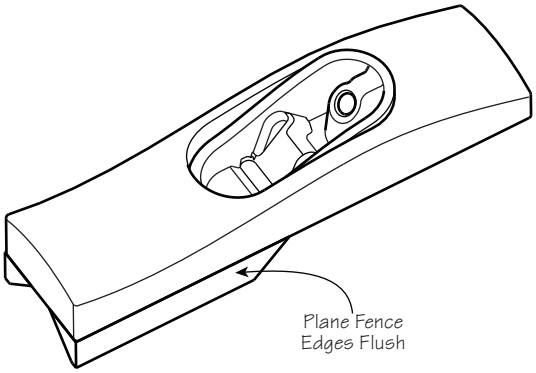

Figure 9: Final fence shaping.

Blade Adjustment

Caution: *Blade is sharp. The sides and top edges of the blade have been lightly deburred after lapping. Depending on how you grip the plane, you may find these edges uncomfortable. If desired, you can round over the square edges with a file.*

Slide the blade (bevel down) into the blade-bed slot and align the keyway hole in the blade with the threaded hole in the inset plane body (see **Figure 10**). Thread the blade retention screw* through the blade and into the body. Slide the blade into position such that the bottom surface of the blade rests on the shoulder of the blade retention screw. Turn the blade screw clockwise to clamp the blade in place.

****Note:*** *The screw has a left-hand thread, so turning it clockwise will secure the blade.*

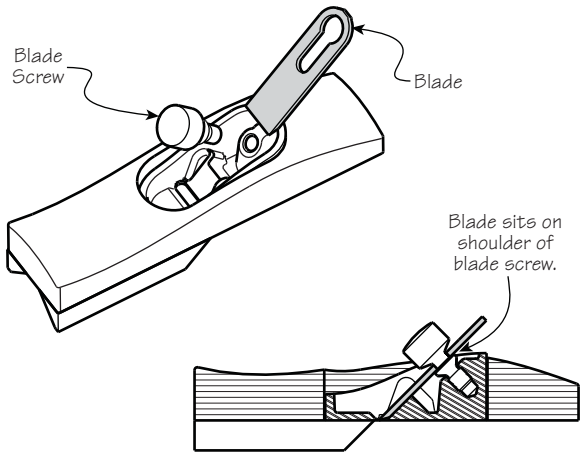

Figure 10: Installing the blade.

Sight down the sole of the plane. The blade edge should be parallel to the sole. Adjust as required.

To advance the blade, hold the plane firmly in one hand and tap the end of the blade with a small mallet or a plane hammer. To adjust the blade for even shaving thickness, tap either side of the blade until the edge is parallel to the sole.

Blade Sharpening

The 0.06″ thick by $^{15}/_{32}$″ wide A2 tool steel blade has the bevel ground at a 30° angle. As delivered, the blade is sharp enough to use immediately; however, it will eventually need sharpening. Remove the blade from the body and sharpen the blade as you would any other plane blade.

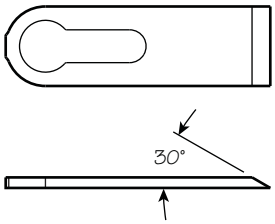

Figure 11: Blade geometry.

Care and Maintenance

- The body of the inset plane is cast stainless steel and corrosion resistant; however, the A2 tool steel blade will need to be protected from corrosion by applying a light coat of silicone-free paste wax.
- Store your custom-made wooden plane in a dry location.
- Periodically remove the blade and clean all parts using a cloth dampened with a dab of light machine or mineral oil.

Accessories

05P91.02 Replacement Blade

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