

Small Plow Plane

U.S. Des. Pat. No. D591,579

The Veritas® Small Plow Plane is a joinery plane, perfect for cutting grooves, such as used for drawer and box bottoms, cabinet backs, and frame-and-panel construction. It is also capable of cutting small rabbets (grooves with one open side).

The ductile cast iron body is accurately machined with a 45° blade bed. The plane comes with a 1/4" wide lapped A2 tool steel blade. The fence has been sculpted to fit the hand for comfort and proper registration of the plane to the workpiece.

No tools are required for any of the settings – blade installation, fence or depth stop. The large brass knobs (with locking collets) make setting the fence fast and easy.

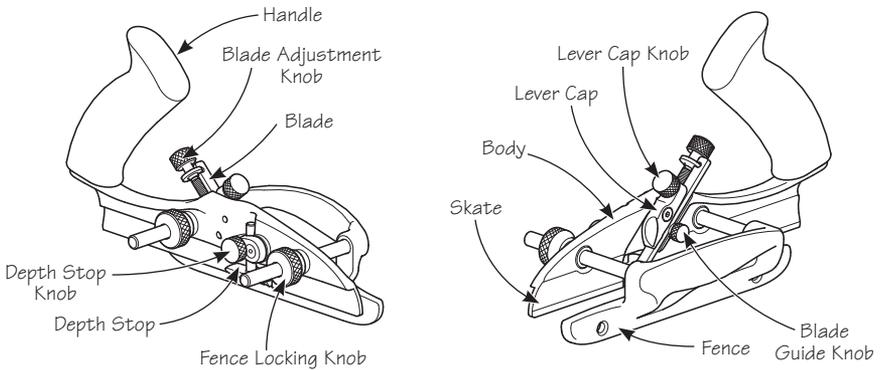


Figure 1: Plane components.

Blade Installation

⚠ Caution: Be aware that the blade is sharp; careless handling can result in serious injury.

To install a blade, back off the lever cap knob and the blade guide knob. Slide the blade (bevel down) into position on the machined bed such that the slot at the top engages the disc on the blade adjustment knob. Turn the blade guide knob in until it just contacts the side of the blade. (This will ensure that the blade is positioned against the machined bed side and properly aligned with the skate.) Lightly clamp the blade with the lever cap knob.

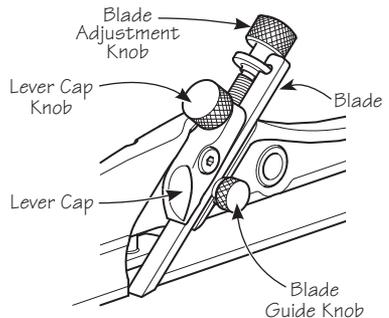


Figure 2: Blade installation.

Blade Sharpening

The plow plane blades come with the face lapped and are ground with a 35° bevel. Since the blade is installed bevel down, the cutting angle is determined by the bed angle, in this case, 45°. Additional sharpening need only involve honing a small micro-bevel.

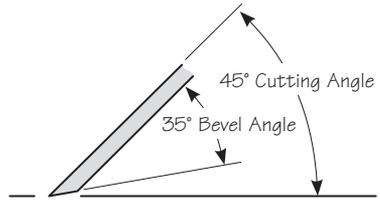


Figure 3: Blade geometry, as supplied.

Cutting Grooves

The small plow plane can control the width (A), depth (B) and position (C) of a groove. Groove width is determined by the blade used; groove depth, by the depth stop setting; and groove position, by the fence setting.

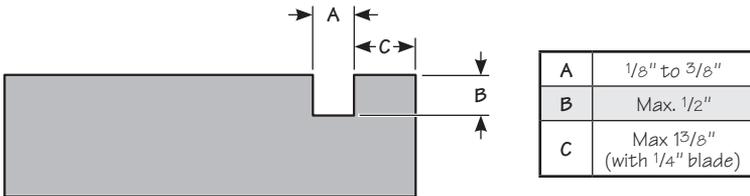


Figure 4: Groove dimensions.

Depth of Cut

The depth of cut is the amount of material that is removed with each pass of the plane, typically in the range from 0.005" to 0.020", depending on the hardness of the wood being cut. Flip the plane upside down and sight down the bottom of the skate to see how far the blade is protruding. Adjust accordingly, tighten the lever cap knob, and take a test cut in a piece of scrap wood to confirm setting.

Setting the Depth Stop

The depth of the groove is determined by the depth stop setting. To set the depth stop, loosen the depth stop knob, slide the depth stop to the desired position, and retighten the knob. Maximum groove depth: 1/2".

When cutting a groove, continue making passes with the plane until the depth stop contacts the workpiece and the blade is no longer cutting material.

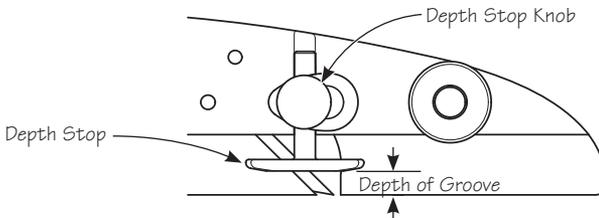


Figure 5: Depth of cut.

Setting the Fence

The position of the groove (i.e., the distance from the edge of the workpiece to the groove) is determined by the fence setting. Loosen the two fence locking knobs and slide the fence until the distance from the face of the fence to the outside edge of the blade is equal to the required groove position. Retighten the fence knobs. Maximum distance of $1\frac{3}{8}$ " when using the $\frac{1}{4}$ " blade.

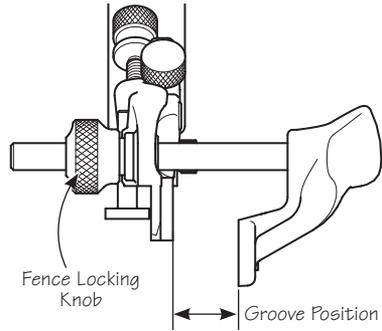


Figure 6: Setting the fence.

Cutting Small Rabbets

When using the small plow plane for cutting small rabbets, the outer edge of the blade is recessed in the pocket in the face of the fence and the width of the rabbet is determined by the distance from the fence to the inner edge of the blade. As such, the resultant rabbet is narrower than the width of the blade (e.g., the $\frac{1}{4}$ " blade yields a rabbet approximately $\frac{1}{32}$ " wide). As with cutting grooves, the depth is controlled by the depth stop setting.

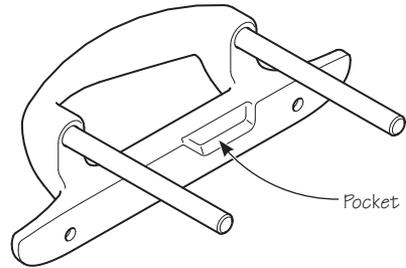


Figure 7: Fence rabbeting pocket.

Cutting Beads

Note: A $\frac{1}{16}$ " quirk is cut on either side of each bead.

1. Install the beading blade in the plane as you would a standard blade, with the depth of cut determined by the blade projection past the bottom edge of the skate.
2. Position the fence to locate the bead where desired on the workpiece. For an edge bead where you do not want the $\frac{1}{16}$ " quirk, position the fence tangent to the bead.
3. Set the depth stop such that the top of the resulting bead is just below the surface of the workpiece, as shown in **Figure 8**.

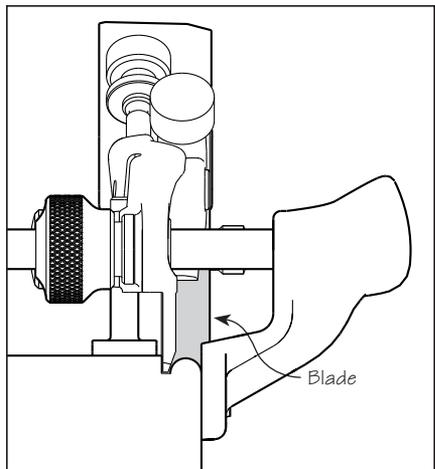


Figure 8: Cutting beads.

Auxiliary Fence

For cutting a groove in the edge of a wider board, you can add a larger auxiliary fence to better register the plane to the workpiece. Simply make a wooden fence, as plain or fancy as you wish, and attach it using wood screws through the holes in the existing fence. Be sure to use screws that are not so long that they break through the working face of the wooden fence.

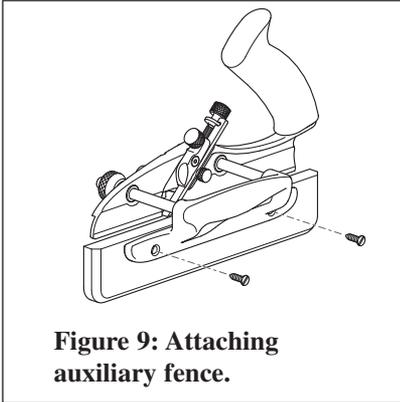


Figure 9: Attaching auxiliary fence.

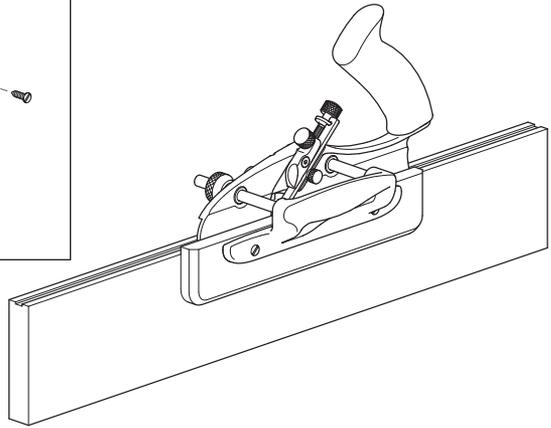


Figure 10: Auxiliary fence in use.

Care and Maintenance

The body of this plane is ductile cast iron and comes treated with rust preventative. Remove this using a rag dampened with mineral spirits. Clean all machined surfaces.

We recommend that you initially, then periodically, apply a light coat of silicone-free paste wax to seal out moisture and prevent rusting (as well as act as a lubricant for smoother planing). Wipe off any wood dust from the surfaces that you will be waxing, apply a light wax coating, let dry, then buff with a clean soft cloth. At the same time, the solvents in the wax will remove any harmful oils left from your fingers that can lead to corrosion.

***Note:** Since the face of the fence and the bottom of the depth stop will come in contact with the workpiece, it is important to keep these parts coated with paste wax to prevent marring the workpiece.*

If storage conditions are damp or humid, the plane should, in addition to the treatment outlined above, be wrapped in a cloth or stored in a plane sack. This precaution will also guard against dings and scratches.

Accessories

- 05P51.02** 1/8" A2 Blade, right*
- 05P51.03** 3/16" A2 Blade, right*
- 05P51.04** 1/4" A2 Blade, right
- 05P51.05** 5/16" A2 Blade, right*
- 05P51.06** 3/8" A2 Blade, right*
- 05P51.10** *Set of 4 Imperial A2 Blades, right
- 05P51.34** 4mm A2 Blade, right
- 05P51.35** 5mm A2 Blade, right
- 05P51.36** 6mm A2 Blade, right
- 05P51.37** 7mm A2 Blade, right
- 05P51.38** 8mm A2 Blade, right
- 05P51.40** 10mm A2 Blade, right
- 05P51.50** Set of 6 Metric A2 Blades, right

- 05P52.02** 1/8" A2 Blade, left*
- 05P52.03** 3/16" A2 Blade, left*
- 05P52.04** 1/4" A2 Blade, left
- 05P52.05** 5/16" A2 Blade, left*
- 05P52.06** 3/8" A2 Blade, left*
- 05P52.10** *Set of 4 Imperial A2 Blades, left
- 05P52.34** 4mm A2 Blade, left
- 05P52.35** 5mm A2 Blade, left
- 05P52.36** 6mm A2 Blade, left
- 05P52.37** 7mm A2 Blade, left
- 05P52.38** 8mm A2 Blade, left
- 05P52.40** 10mm A2 Blade, left
- 05P52.50** Set of 6 Metric A2 Blades, left

- 05P51.60** Wide-Blade Conversion Kit, right
- 05P52.60** Wide-Blade Conversion Kit, left

- 05P52.72** 1/8" PM-V11® Beading Blade, right
- 05P52.73** 3/16" PM-V11® Beading Blade, right
- 05P52.74** 1/4" PM-V11® Beading Blade, right
- 05P52.75** Set of 3 PM-V11® Beading Blades, right

- 05P52.76** 1/8" PM-V11® Beading Blade, left
- 05P52.77** 3/16" PM-V11® Beading Blade, left
- 05P52.78** 1/4" PM-V11® Beading Blade, left
- 05P52.79** Set of 3 PM-V11® Beading Blades, left