

Chamfer Plane

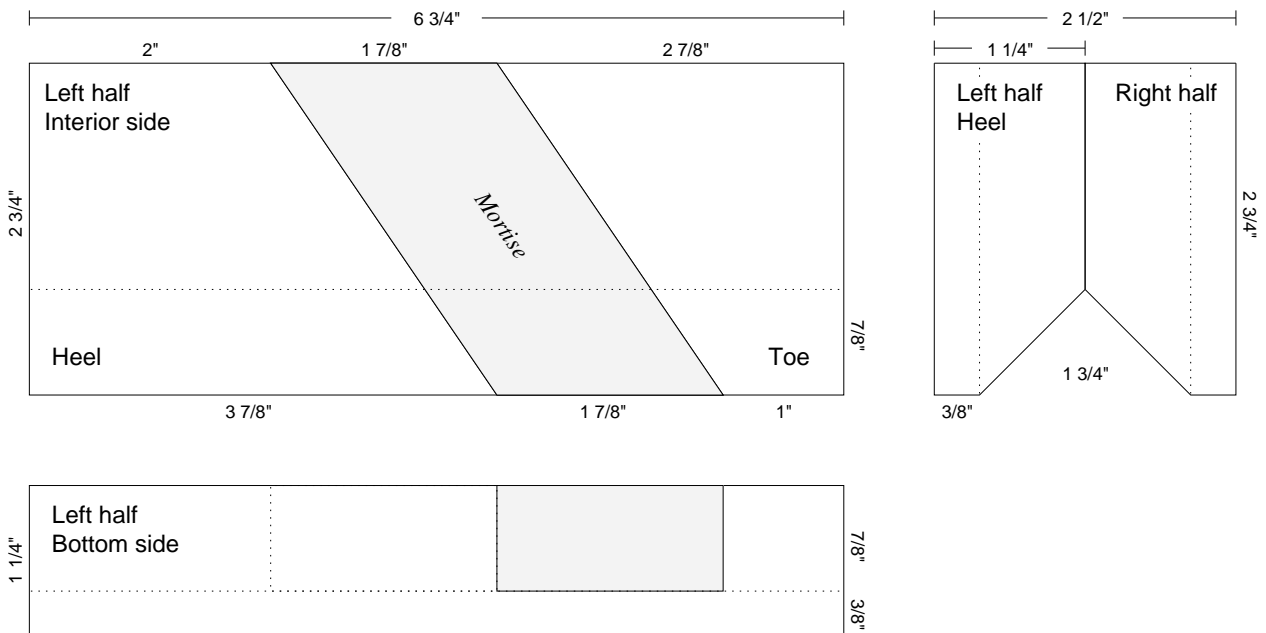
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Introduction

These plans are for a wooden chamfer plane modelled after the chamfer plane shown in *Making Traditional Wooden Planes* by John M. Whelan. My plans differ slightly because I used a two piece laminated plane body instead of the single block used by Whelan. My plane iron is a bit wider than his, so my plane body is also slightly larger. Detailed instructions on plane making appear in Whelan's book and should be consulted as a supplement to these plans.

Plans

The first set of plans show the body of the plane. Two pegs through the body will strengthen the connection between the halves of the body. Constructing the plane this way is much easier because we can saw and chisel the mortise.



The following diagrams show the dimensions of the stop that forms the throat in front of the iron. It rests at the front of the mortise in the body, in front of the wedge, and iron.

(Insert figure here)

Construction Notes

*Construction begins by sawing the two halves of the plane body to size. Next, the interior surfaces need

* Some images appear at <http://www.frontier.iarc.uaf.edu/~cswingle/woodworking/jigs.phtml>

Cut List

Qty	Description	T	W	L	Notes
2	Plane body halves	1 1/4	2 3/4	6 3/4	Mortise cut 7/8 inches deep, bottom inner edge planed to 45°.
1	Stop and Wedge	1 1/2	1 3/4	4	Thickness and length are approximate.

All dimensions are in inches.

Tools Used

Tool	Uses	Substitutes
Saws		
Disston D-23, 8 tpi	· Cutting plane body to size	Crosscut handsaw
H. Peace, 5 1/2 tpi rip	· Cutting plane body to size	Rip handsaw
Disston #4 backsaw	· Cutting sides of mortise	Backsaw, filed crosscut
Handplanes		
Stanley #3	· Smoothing all surfaces	
Stanley #6C	· Truing the halves	
Stanley #7	· Jointing angled sole	Your longest plane set for a fine cut
Stanley #60 1/2	· Smoothing the end grain	Finely set jack plane
Stanley #92	· Flattening mortise bottom	Chisels
Veritas spokeshave	· Forming pegs from square stock	Sharp knife
Chisels		
Marples Blue chisels	· Squaring mortise walls	Large bevel edge or mortise chisel
Boring Tools		
Stanley breast drill	· Boring holes for pegs in body	
Miscellaneous		
Starrett folding rule	· All measurements	Your favorite measuring tool
Farrier's rasp	· Smoothing, trueing mortise walls	Wide, flat rasp or file

to be planed flat and square to the sole so they will mate perfectly when they are glued together. If the two halves are much thicker than required, it may be easier to saw or plane them to close the the final thickness now. Make sure that the grain on both halves is oriented in the same direction so it will be easier to plane the body smooth.

Lay out the cut lines for the mortise on all three sides (interior, top, bottom). Also lay out the edges of the angled sole on the side and the bottom. At this point on each half you should have a line running along the bottom indicating where the angled sole starts, a line on the end grain that marks the angle of the sole, diagonal lines running along the interior side that mark the edges of the mortise, and lines that show the edge and depth of the mortise on the top and bottom.

Next, form the 45° angles on the interior edges of the blanks, being sure that you are planing at exactly 45°, and that the sole is the same thickness down the length of the body. Any irregularities here will be obvious when the halves are glued together, and will be hard to repair. Stop planing when you have reached the layout lines on the bottom and side.

Saw along the mortise cut lines to the depth indicated. After the two sides are cut, cut several kerfs in the middle of the mortise to make it easier to chisel out the waste. Finally chisel out the waste, finishing the bottom of the mortise with a wide chisel and a shoulder plane.

Test the fit by placing the two halves together. Correct any gross errors in the mortise, and make sure that the sole fits perfectly. Minor adjustments in the mortise will be done once the plane has been glued together.

Clamp the two halves together so they match exactly, and bore a hole through the sides at the heel and toe of the body for pegs to keep the pieces aligned during and after glue-up. Make sure the halves don't move while boring or they will never match. I made my pegs by whittling a square peg round using a spokeshave.

Finally, put glue on the pegs, drive them through one half until they just protrude into the inside, glue the interior surfaces with a good quality glue, clamp the halves together and drive the pegs home.

Once the glue dries, trim the pegs using a flush cutting saw or a sharp chisel, and plane the exterior sides smooth. If the halves of the mortise don't match exactly, use a sharp chisel riding on the lower half to trim the protruding half until it is even. The final flattening is done with a fine rasp or cabinetmaker's file until the toe and heel sides of the mortise are perfectly flat. The iron and stop will ride on these surfaces, and any irregularities will result in chatter and a poor chamfer.

To cut the wedge and block, plane a long rectangular section of wood so that it fits into the mortise in the body with the iron inserted. The tighter this block slides through the mortise, the easier it will be to fit the wedge and block.

Mark an 8° line on the side of the rectangle and cut the block along this line. Make sure that you cut the two pieces apart square to each other, otherwise the stop and wedge won't fit together properly.

To cut off the stop block, fit the block and wedge into the mortise and mark the cut for the bottom by tracing around the block on the top of the plane body. Flip the two pieces over and mark the top of the stop block in the same way. I made the block long enough that it would extend past the top of the plane body when it was set most of the way down.

Notes

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