
Balsa Triangle Cutter

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When building model airplanes, we use a variety of balsa pieces of different dimensions. My experience, as well as the experience of many others, is that you may need a particular balsa piece at a critical point in the assembly of your plane. You could order the necessary piece by mail or search local balsa outlets but often they have just major sheet dimensions locally. A selection of triangles is usually harder to find.

This article presents a balsa triangle cutter that takes square dimension stock and splits it diagonally to produce two pieces of triangle stock. This tool is quite easy to make and quite easy to use. I make my tool out of hard maple because it is hard, fine grained, and stands up well to use as a tool.



Figure 1, Balsa triangle cutter showing the two parts

It is made up of two pieces, a base that holds the balsa stock on edge and a cutter that holds a utility knife blade to make the diagonal cut. I have used the tool shown in Figure 1 to cut $\frac{1}{4}$ " to $\frac{3}{4}$ " stock. One would have to adjust the dimension to cut smaller stock. A short piece of $\frac{1}{2}$ " by $\frac{1}{2}$ " balsa stock is sitting in the "v" groove to illustrate the use of the tool.

The base can be made any length that is convenient for your workbench. The base has a 90° “v” groove, 45° to the surface, cut into the top of the base. Additionally a saw cut (width of the saw blade) extends below the “v” groove at 90° to the top. This allows for clearance for the utility blade tip. Use glue and counter sunk wood screws to attach the feet.

The cutter is simply two ¾” by ¾” blocks with one corner chamfered on each and the chamfered corners oriented to the inside joint creating a 90° “v” groove, 45° to the surface. The two blocks are bolted together with 1 ¼” by ¼” flat head bolts counter sunk on both ends. The utility blade is simply slipped between the blocks and can be adjusted, as you like. The blade is held in place by tightening the bolts. Figure 2 illustrates the cutter in position to be pulled through the stock. I used an oil finish because it is simple and works well on wooden tools.

The tool is very simple but there are some features worth noting. The wide flat feet on the balsa triangle base are to allow clamping to the workbench. Another tip I found is that it is better to make the “v” grooves smaller than you would expect, as they are only to hold the stock in place. If the stock is smaller than the internal square created by the two “v” grooves, the cutter may not cut straight.

I have found this an extremely useful tool and recommend you make one if you need triangle stock regularly.

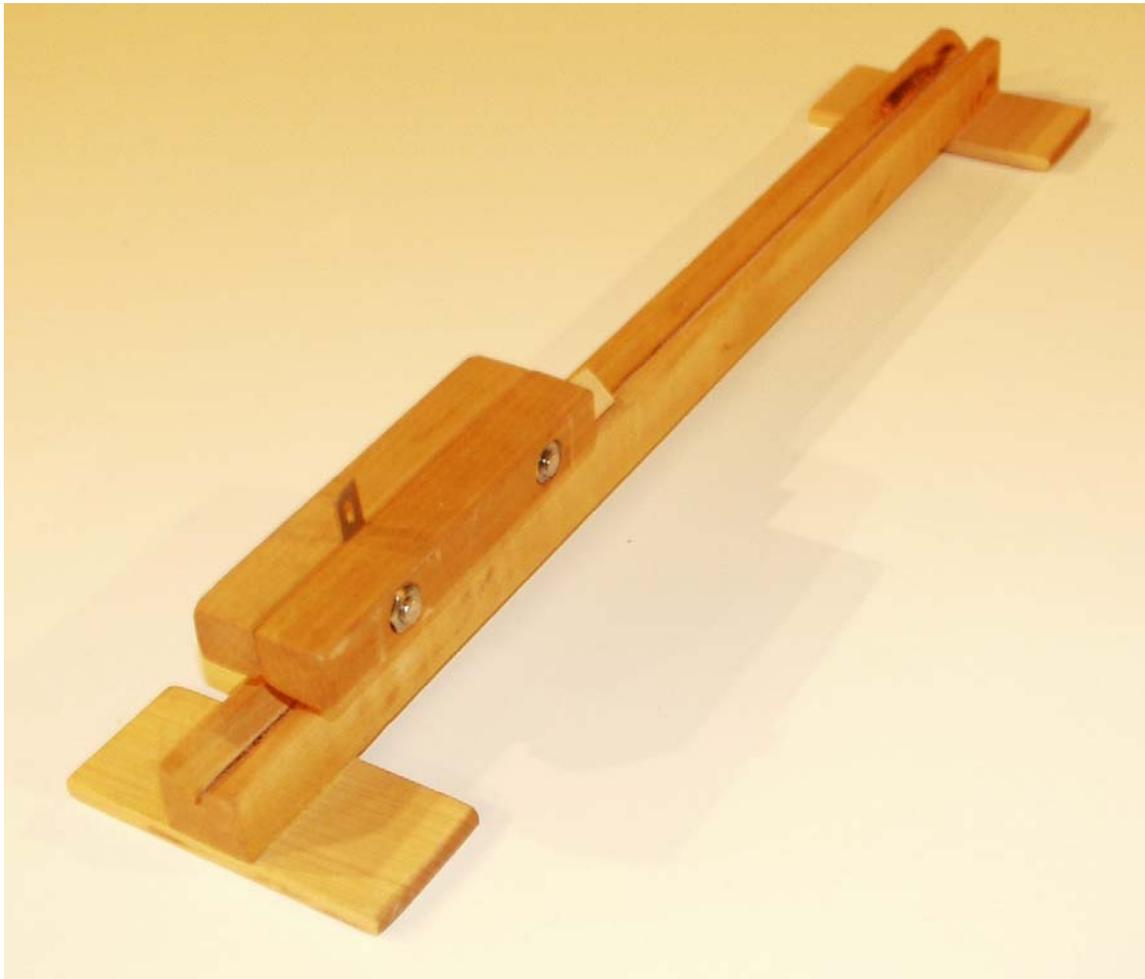


Figure 2, Balsa triangle cutter set for cutting

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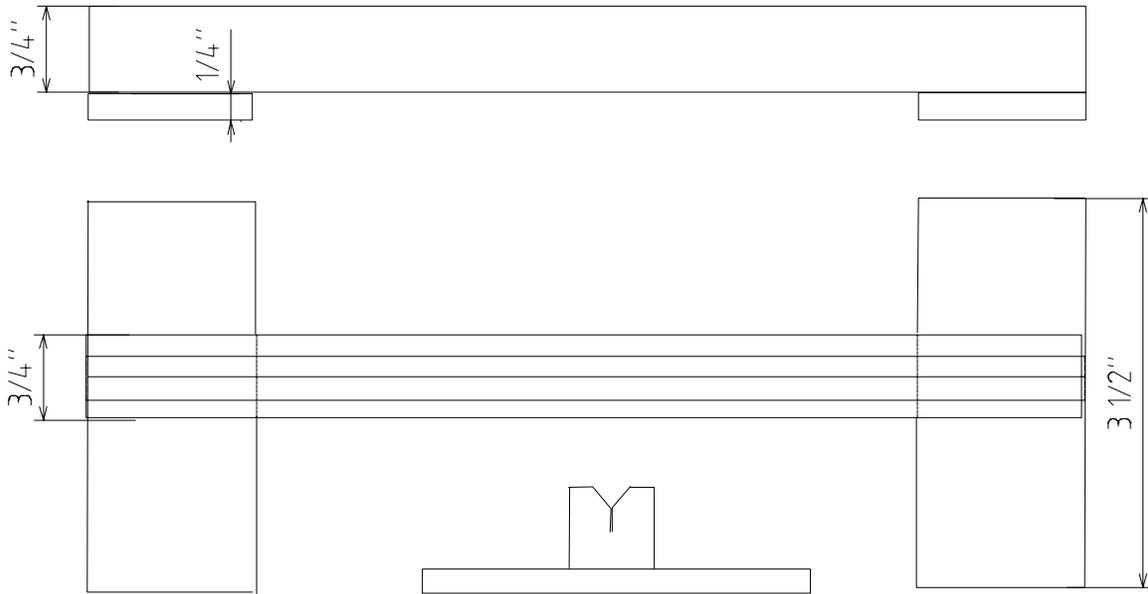


Figure 3, Balsa triangle cutter base, Base length can be as long as you like.

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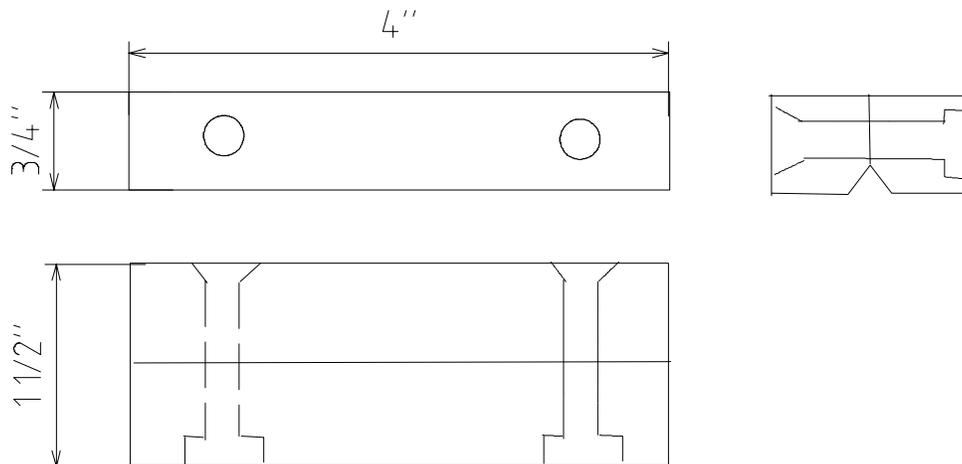


Figure 4, Balsa triangle cutter