

## Making a polyethylene featherboard By Don Hart

You may have seen those plastic featherboards that are sold commercially at places like Woodworkers Warehouse or one of the online suppliers. They usually start at about \$15 and the prices just go up from there.

Well I was in one of the local closeout stores in my area and came across some cutting boards for \$2 and I said to myself this would make a great featherboard so I bought the cutting board and the experiment began

Here is the cutting board I started out with:



It is your basic 11" x 17" cutting board with a 1/2" wide "moat" around the outside edge and a handle at the top. I started by cutting off the moats and the handle. When I cut I was sure to cut at 1/8" inside the moat. I did this because I have a use for the moat but it will need to be in a piece 3/4" wide and the moat must be in the center.

After cutting I have a flat piece of polyethylene to work with:

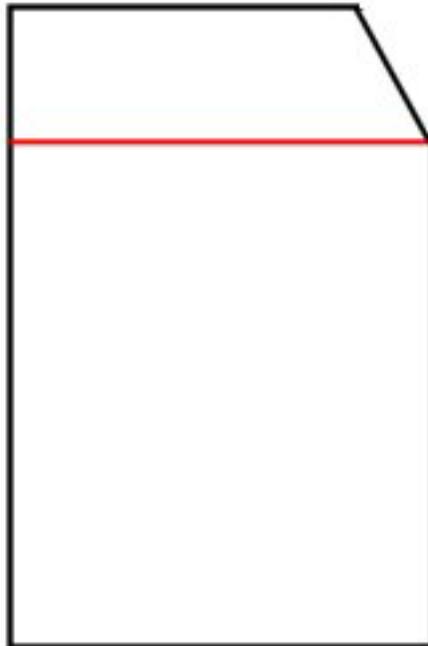


Now it is time to plan our cuts to make the featherboard. I did not take enough pictures during the process so the rest of the illustration until the final shots will be drawn.

The first thing to decide is how long you would like the fingers on your featherboard to be. If this board is to be used for holding pieces against the fence for ripping I would suggest a length of about 3". If this will be used for a different application you may wish to make the fingers shorter. After you have decided on the length of your fingers mark the board that far down from the edge like so.



Now it is time to make the first cut. You will need to make a 30° miter cut starting at your line going towards the closest edge. You will end up with a board that looks like this:



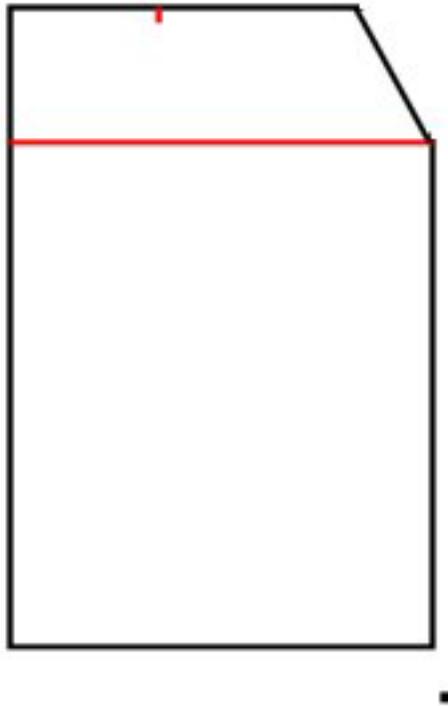
Now you must decide how wide the featherboard should be. If you are mounting it to the SMT you can take a measurement from the front edge of the blade at full extension to the front edge of the SMT when it is locked down to get an idea of the size you could use. Remember you should not use a “hold in” featherboard anywhere but before that the blade as using one next to the blade of after the blade can cause the work piece to bind and kick back. You will also want to make one other calculation when considering width of you featherboard. You will want to make sure that the width is divisible by the width of you fingers and the kerf of your blade. I have found that a finger width of  $3/16$ ” works well in most applications but you may want to cut them at  $1/8$ ” for lighter applications. If you are using the stock blade is  $1/8$ ” for a total of  $5/16$ ” for  $3/16$ ” fingers. Some of the possible sizes are:

$2\ 1/2$ ” for 8 fingers.

$3\ 3/4$ ” for 12 fingers.

5” for 16 fingers.

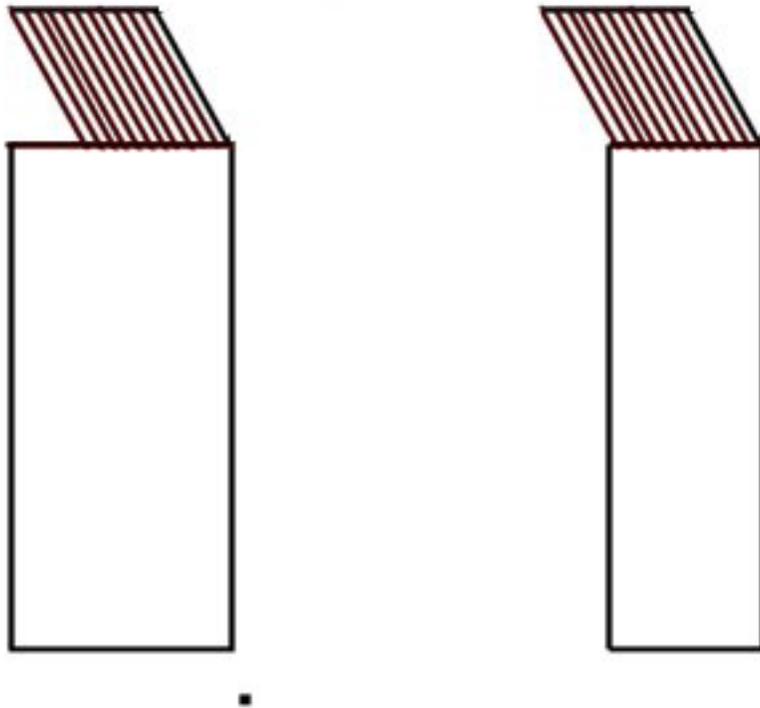
After you have decided one the size of you featherboard you will want to mark the end of the board with this measurement like so:



This is where you will make your next cut. This cut will also be at  $30^\circ$  but we will not be using the SMT we will use the rip fence and the  $30^\circ$  we made the first time. We do this so that we will have uniformity in the width of the fingers. So make your first cut starting at the mark you made and cut to the first line you drew. Then stop the saw move you rip fence over by  $5/16$ ” (finger width and  $1/8$ ” kerf). Continue cutting and moving your fence until you have cut the first finger. You should end up with something that looks like this:

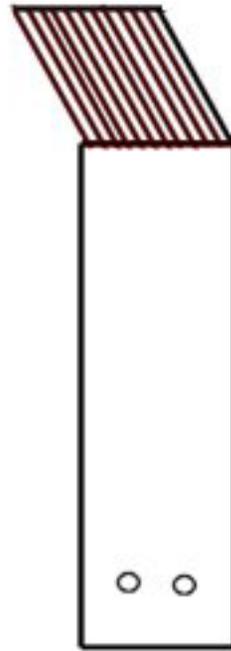


You will then decide how you want to shape the body of your featherboard and cut it out. The two possibilities are as follows:

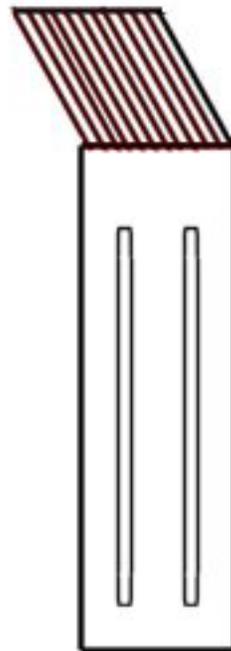
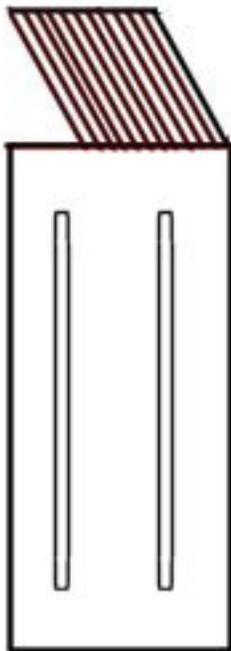


One uses less of your polyethylene cutting board and gives you wider body. The choice is yours.

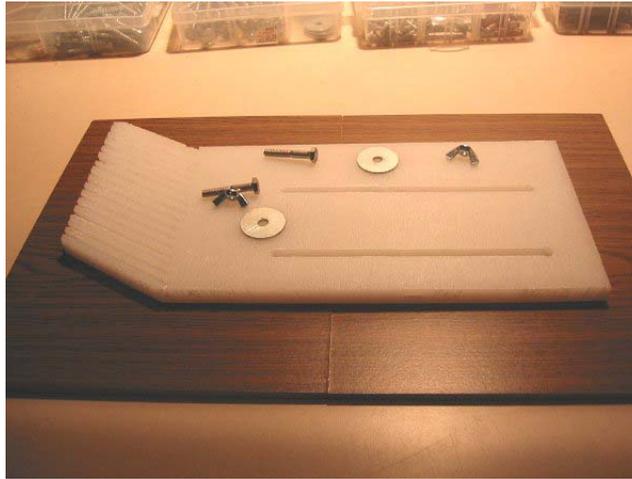
The next step is to drill two holes in the body of the featherboard where you would like the mounting slots to start. Be sure to size the hole slightly larger than the router bit you will be cutting the slot with and size the slot slightly larger than your mounting bolts or screws. So you should end up with something like this:



Now using a router cut a slot starting at each hole you drilled running down the length of the body to get something like this:



Now you are ready to mount the board to the saw. I chose to mount my first one to the SMT. To do this you will need 2 bolts 2 fender washers and two wingnuts or knobs. This is my finished board and the hardware I used.



Now just run the bolts through the board put on the fender washers and just start the wingnuts. Take the board and put the head of the bolts through the hole in the SMT slot one at a time adjust the placement of the board and tighten down. Her is a couple of pictures of mine mounted on the saw.



That is all there is too it. I will be doing up another set of instructions for what to do with the moat we cut off in the beginning of this project. If you have any questions just post a message in the forums at [www.bt3central.com](http://www.bt3central.com) and I will try to answer them.

Thanks to Sam Conder for running BT3Central one heck of a good site and thanks to all of the guys and gals there for their inspiration.