

Sawing Sheet Metal Accurately with a Vertical Bandsaw, Version 1.0

By **R. G. Sparber**

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I needed to cut a series of test samples out of 26-gauge sheet metal. The size was not important, but it had to have straight, parallel sides and 90° corners.



My skill with tin snips was not good enough.



After trying to perform accurate cuts with power shears and a power nibbler, I settled on my bandsaw in the vertical position.

By using a fence and a “sled,” the coupons were fabricated.

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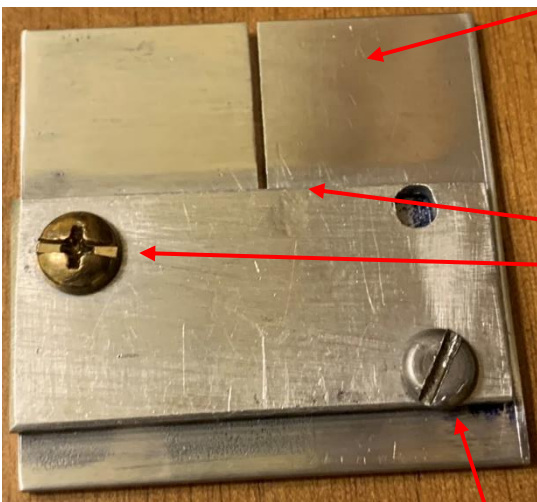
I started by using my tin snips to cut a rough strip. Then I used my belt sander to true up the edge. By pressing a parallel against the edge while looking at the gap with a strong light behind it, I can see gaps as small as 0.0001-inches.

This straight edge is my reference. I placed it against a fence I erected² on my bandsaw table.

Taking great care to *only* cut the sheet metal and not my fingers, I made a strip with parallel sides. I went back to my belt sander to deburr.

I used my reference edge and a machinist square to scribe cut lines. The piece was then roughly cut out with my tin snips.

I needed to make a side trip to fabricate the “sled.”



The **base plate** of the sled has straight, parallel sides and 90° corners. Using the fence as my guide, I sawed a slot.

Then I took a scrap of aluminum that had one straight edge and drilled an 8-32 tap hole through it and into the base plate. This scrap will be my **guide**. The plate was tapped, and the guide opened out to a clearance hole. After securing the two pieces with a screw, I used my square to set the top edge of the guide perpendicular to the right edge of the plate. Then I drilled a second tap

hole in the guide and through the plate. The plate was tapped, and the top hole opened out to a generous clearance hole. A second screw was installed. After again aligning the guide with my square, I tighten both screws.

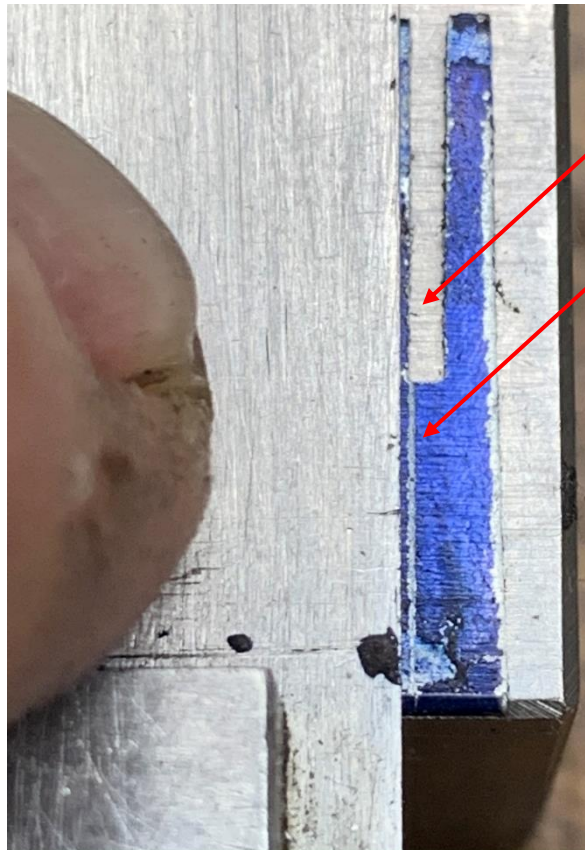
² See <https://rick.sparber.org/FenceAlignmentTool.pdf>.



With the reference edge against the guide, I can align my scribed line with the side of the slot and hold it in place with my fingers.



My fingers are at a safe distance from the blade. I pressed the sled against the fence and moved it along to cut the sheet metal.



In this magnified view, you can see a partial cut in the sheet metal and what is left of my scribed line.

As a point of reference, the cut is 0.038-inches wide.

I welcome your comments and questions.

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Rick Sparber

Rgsparber.ha@gmail.com

Rick.Sparber.org