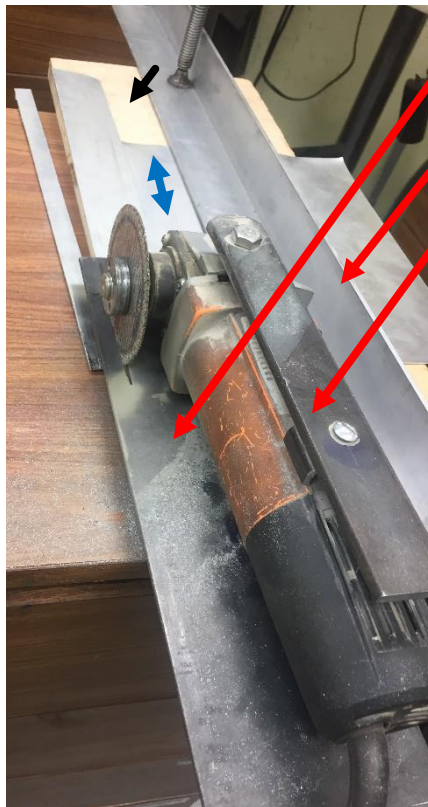


Cutting Sheet Stock with an Angle Grinder, version 1.1

By R. G. Sparber

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One way to cut sheet stock is with a Harbor Freight 4 ½ inch angle grinders along with a homemade attachment that secures it to a plate. See <http://rick.sparber.org/agts.pdf> for details. In this arrangement, sheet stock of narrow width can be cut. However, if the unit is flipped over, it can cut larger stock. Use a length of aluminum angle for a fence, some scrap wood to elevate the stock above the workbench, and a few C-clamps.



Here you see the angle grinder attached to its base plate. The plate is facing down on the sheet stock and is in contact with the fence. The grinder with plate is free to slide along the fence (blue arrow). The mounting bar is still attached but is not used in this application.

There is no means of controlling the depth of cut so the scrap wood (black arrow) is needed to prevent cutting the workbench.

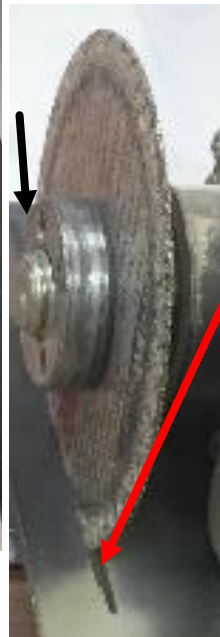
The trick is to make your cut such that the rotation of the grinding wheel *opposes* the saw's motion. This is done by starting at the distance end of the stock and pulling the grinder on its mounting plate towards you while staying in contact with the fence. This assumes the wheel is turning counterclockwise when viewed from the end of spindle.

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Do wear a full face shield since the swarf and sparks will be thrown towards you.



Before I clamp the fence, the ends of the line to be cut must be marked out.



Place the grinder at the nearer line and sight through the grinding wheel slot in the base plate.

You can see the back end of the slot here but need to sight through the front end of the slot (black arrow).

Adjust the side to side position of the grinder until you see the black

line. Then clamp one end of the fence. Measure the distance from fence to nearer line with an inside caliper. Then adjust the fence so the further line to fence distance matches the caliper. Recheck the first line to fence distance and then clamp both ends of the fence to the board. This insures the fence is at the correct distance from the marked line and it parallel to it.



Power up the grinder and slowly pull it *towards* you. This should be a smooth, controlled action. Be sure to keep the support plate in contact with the fence.

The resulting cut will have a fair amount of burr on it but a deburr tool or a belt sander can clean it up quickly.

Acknowledgement

Thanks to Chuck Peterson for collaborating on this article. Thanks to “bruce q” for reminding me about the full face mask.

I welcome your comments and questions.

If you wish to be contacted each time I publishes an article, email me with just "Article Alias" in the subject line.

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