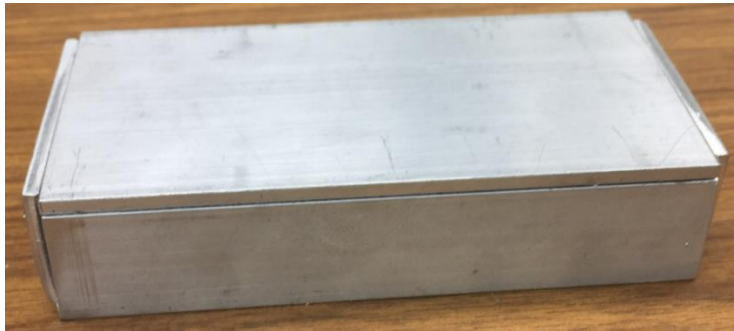


Making a Quick Yet Rugged Project Box, Version 1.1

By **R. G. Sparber**

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Kind of reminds me of the Three Bears Story. When I need a project box for my electronics, the ones on hand are either too small or too big. The odds of finding a "just right" are small.

It is far better to first build the electronics and then measure it for the needed enclosure. Most of the time, having the enclosure 7/8 inch tall and 2 1/4 inches wide on the inside is about right. The length varies.

My solution is to keep on hand 2 1/2 inch wide by 1 inch high extruded 6063 aluminum channel². It has a 1/8 inch wall thickness. The last "stick" I bought cost me around \$0.30 an inch. This stock is cut up and bent to the needed length. I avoid measuring and try to use common hand tools.

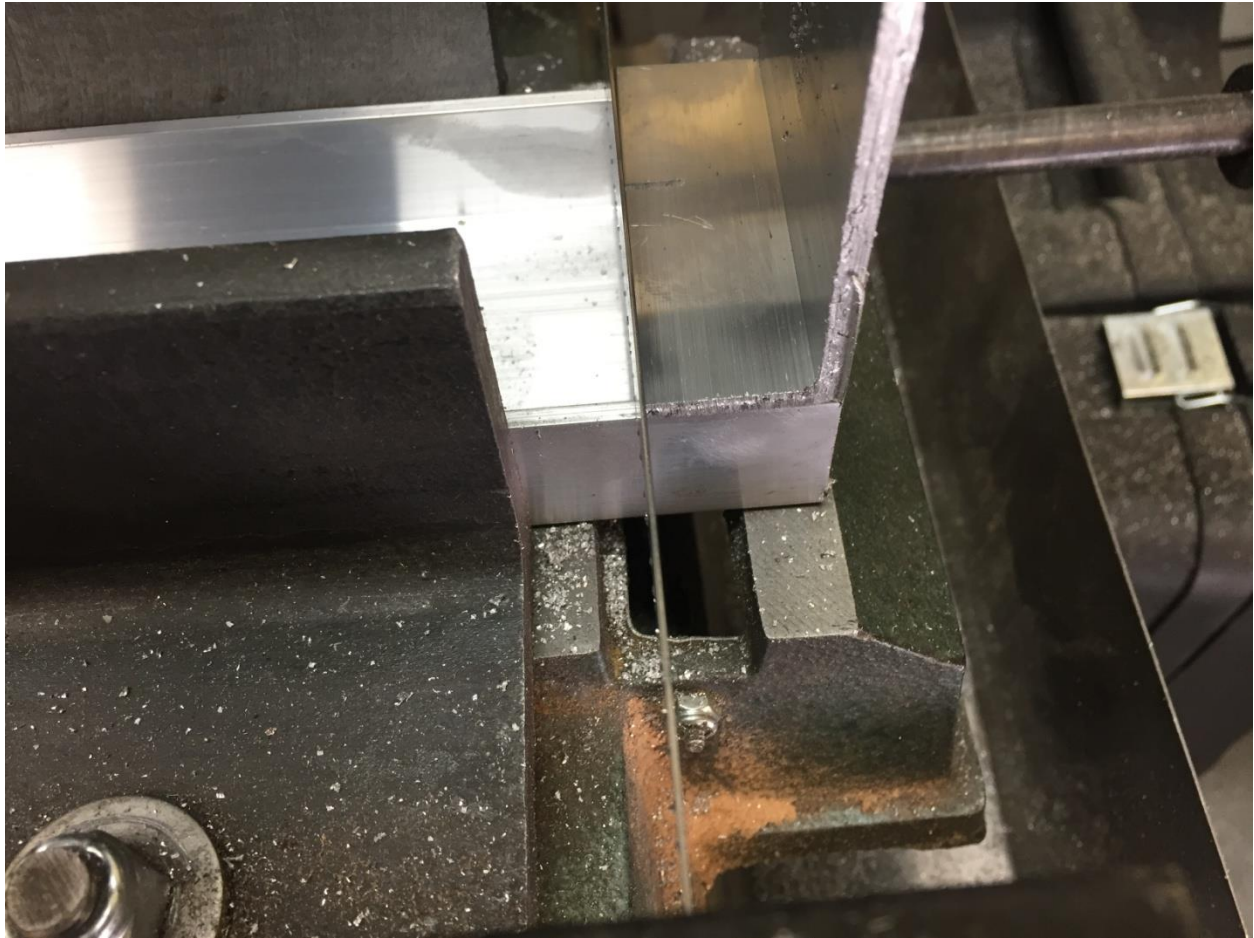


The resulting enclosure is not airtight but is very strong.

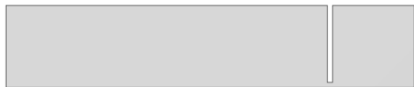
A lip exists on the ends to support a length of 2 1/2 inch wide by 1/8 inch thick plate.

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² My absolutely favorite supplier is Industrial Metal Supply in Phoenix, AZ:
<https://www.industrialmetalsupply.com/63c10025012>

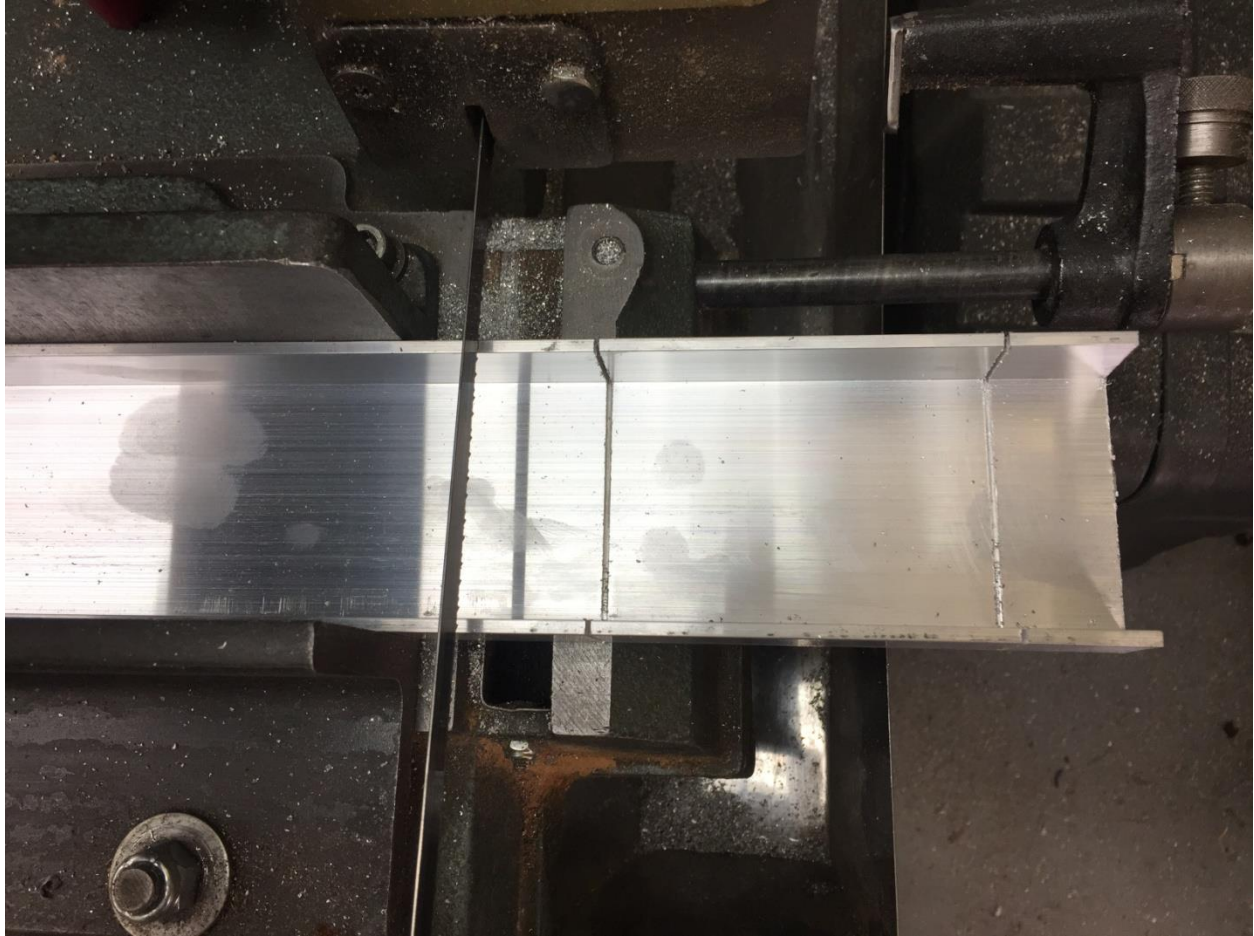


I'm using a piece of scrap channel as my 1-inch ruler. A length of the channel is clamped in my bandsaw with 1 inch beyond the right face of the blade.

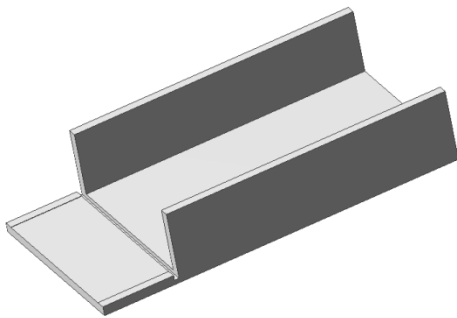


bend where I want it.

I slowly saw down until the blade is about halfway through the horizontal face of the channel. My depth stop is then set. This cut makes it easier to make the



I then slide the channel over by the length of my project and make another cut down to half the thickness. And finally, I slide over another inch. This last cut is all the way through the channel.

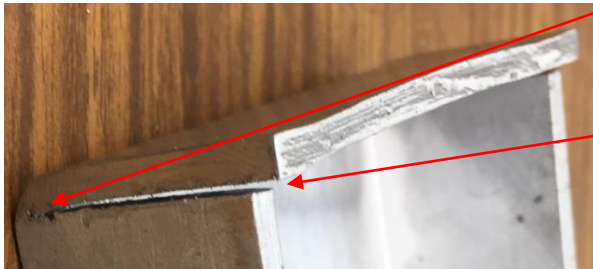


Next, I saw off the narrow verticals on each side.

Using my 3M wheel, I deburr all cut edges.



I place the cut piece in my bench vise with some packing over the jaws. Two adjustable wrenches are used to bend the end over. This is repeated on the other end.



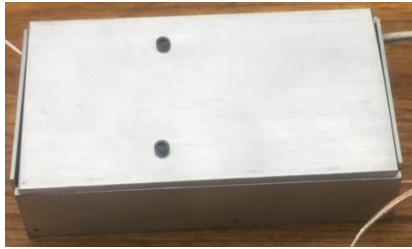
The saw cut has been closed by bending the end.

A small gap is left.



It is likely that removing a little bit more metal from the sides would let the ends close.

The lid is then cut to fit. To secure the lid, I try to piggyback on two screws already used to secure the electronics.



Using a similar enclosure fabrication technique, you can see the lid secured with two screws³.

3/18/2020

Recently I visited AZ Metals⁴ in Mesa, AZ. They had the most amazing selection of aluminum extrusion cut-offs. The prices were reasonable and the staff extremely helpful.



For \$100, I walked away with a wide selection.

Once I got home, it was time to mix and match as I found extrusions that fit together. With no specific project in mind, I decided to make a box:



It is 1" x 1" x 2 ½ ". Right now it is a friction fit but I will probably run a screw through it once I know what is going inside.

³ See <http://rick.sparber.org/HCBA.pdf>

⁴ <https://www.az-metals.net/>

I welcome your comments and questions.

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

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