



Build a Steel Wood Rack

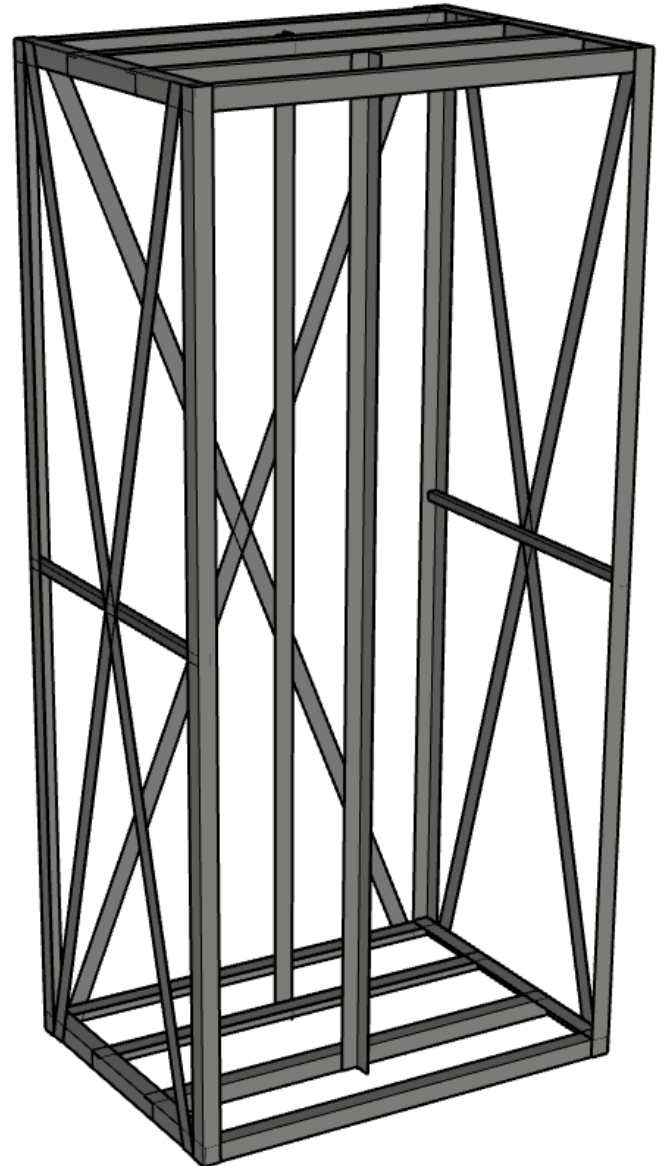
By George Vondriska

Need a place to store material? You can easily build a steel wood storage rack customized to your space. Diablo's Metal Demon blades and Steel Demon drill bits make machining metal a breeze.

My design

My rack is 34-1/4" x 50-5/8" x 108". Change the dimensions to accommodate your material and space.

It was built using 1/8" x 2" x 2" angle iron, 1/8" x 1-1/4" x 1-1/4" angle iron, 1" x 1" tube with a 1/8" wall thickness and 1/8" x 1-1/2" flat stock.



Cut list

Quant	Part	Dimensions	Notes
8	Top and bottom stretchers	2" x 2" x 50"	Angle iron. Grind ends to ease the corners
4	Top and bottom ends	2" x 2" x 34"	Angle iron
4	Verticals	2" x 2" x 108"	Angle iron
2	Horizontal supports	1" x 1" x 34"	Tube steel. Cut to fit
6	Diagonal bracing	1/8" x 108"	Flat stock. Mark and cut angles in place
2	Vertical dividers	1/8" x 1-1/4" x 1-1/4"	Angle iron. Cut to fit
100	Nuts and bolts	1/4"-20 x 1	

Layout and machining

Install a Metal Demon blade in your saw and grab your Steel Demon drill bits.



Measure and mark your pieces. Soapstone works great for marking metal. See Sources.



Cut your parts. Be sure to wear PPE.



Many of the hole locations are repetitive so it's handy to make a layout jig. A spring-loaded center punch, see Sources, makes short work of transferring layout.

The 2" angle iron is held together with two bolts at each joint, four at the top and bottom corners.



Drill the bolt holes. A pair of vise grips works great for holding the metal while you're drilling.



Assembly

As you're assembling the wood rack round over any corners that nest inside the angle iron. A flap disc on an angle grinder is perfect for this job.



You're going to tighten A LOT of bolts. Speed up your work by doing this with an impact driver.



Assemble the top and bottom first, then add the verticals.

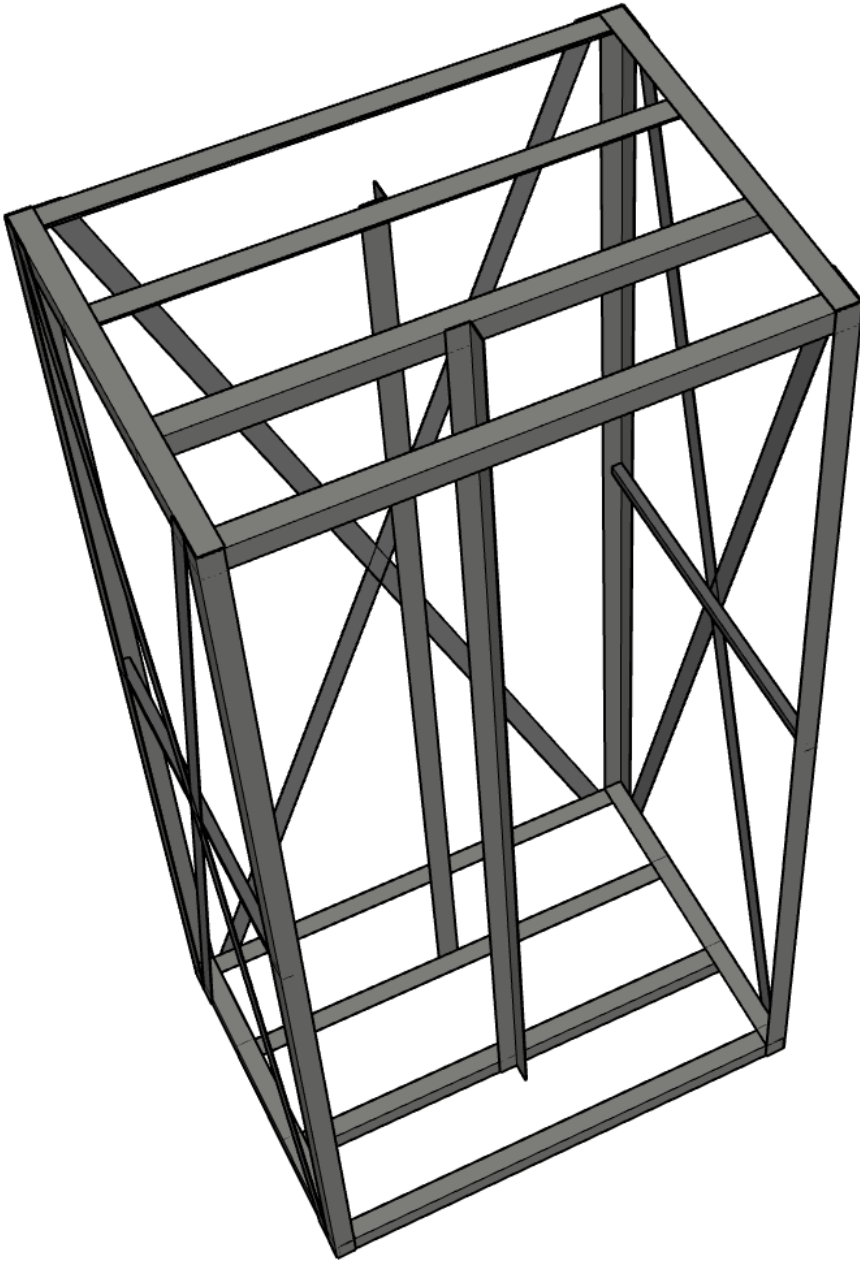


Position the diagonal bracing on the rack, mark and cut the top and bottom angles. The bracing gets one bolt at each end and one in the middle of the X.

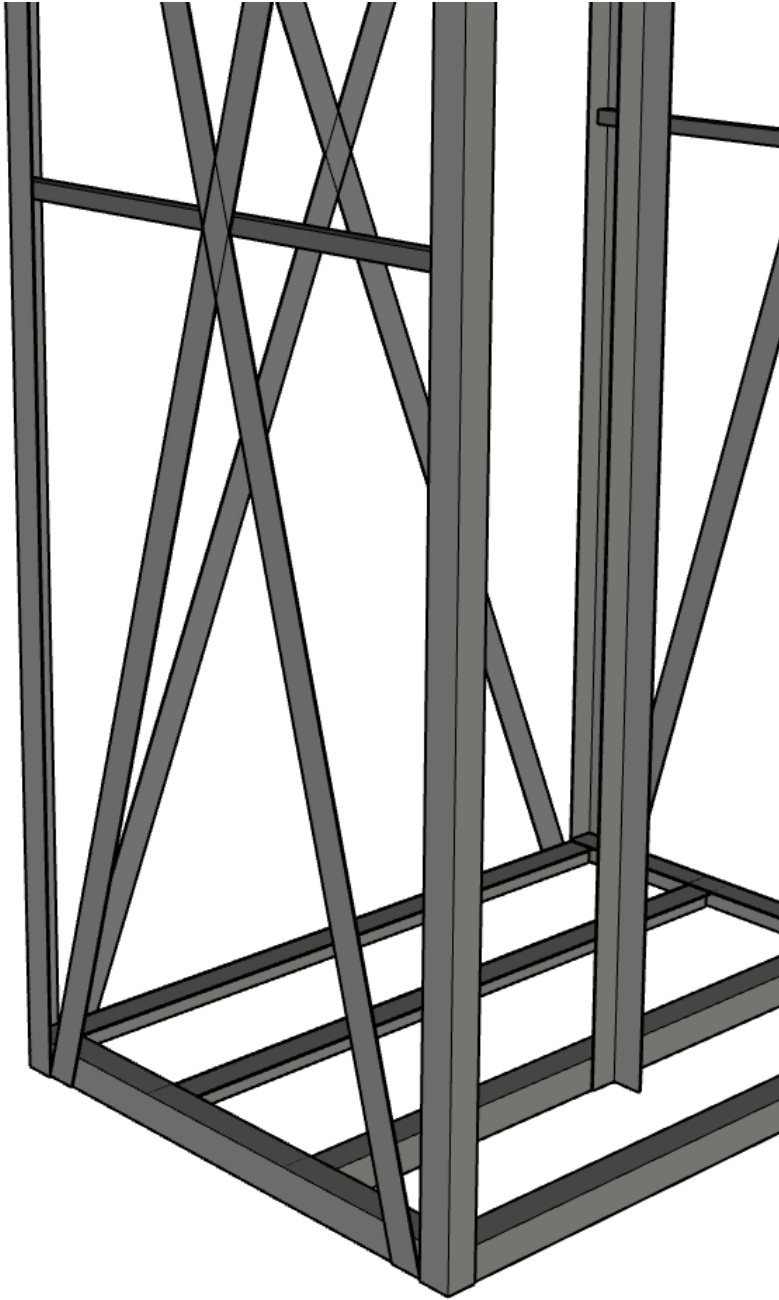


Use a rivet nut drill attachment, see Sources, on the tube steel. This leaves a threaded insert in the steel tube.





The vertical dividers are centered across the width of the rack. Use one bolt at each end.

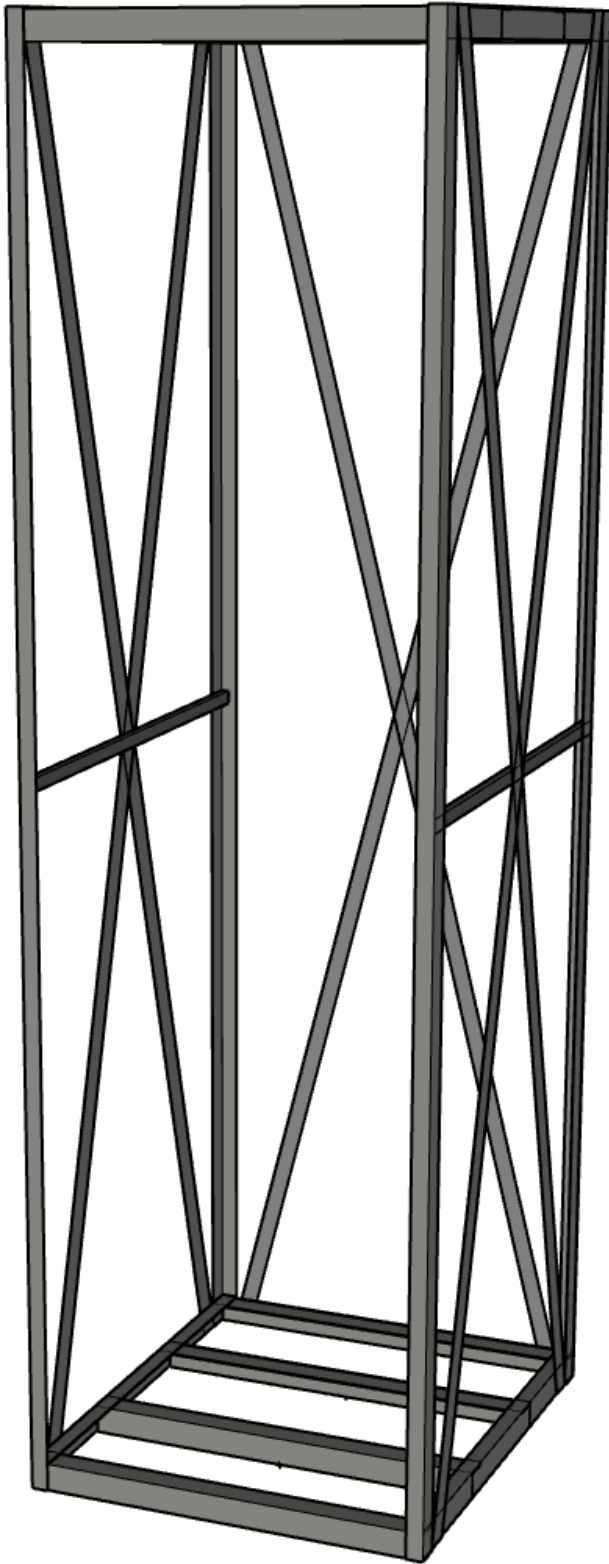


Center the horizontal supports vertically. Use one bolt at each end and one where the X meets in the middle.

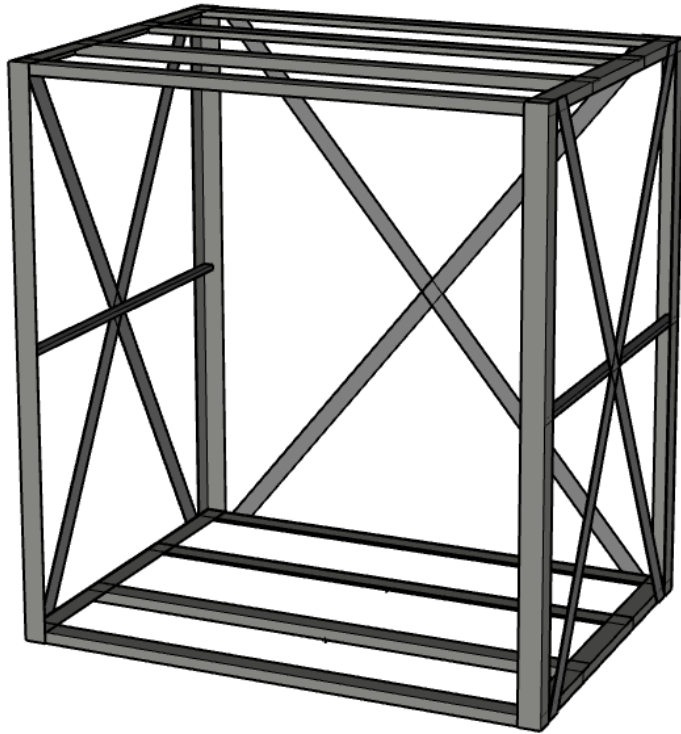


Lots of options

Store short pieces horizontally instead of long stuff vertically by building additional tops and bottoms and using them as shelves.



Change the scale. You can maintain the height and change the width, or....



...maintain the width and change the height. Or any combination of the two to fit your space and needs.

Grab a Metal Demon blade and a set of Steel Demon bits and get to work. You'll be amazed at how easy it is to cut and drill metal with these tools.

Sources

[Soapstone marker](#)

[Spring-loaded center punch](#)

[Rivet nut attachment](#)

[Diablo Steel Demon drill bits](#)

[Diablo Metal Demon blades](#)

[Diablo Flap Disc](#)

For more Information on Diablo Tools [visit their website](#).

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