

Studio 1A Bookshelf, Design and Construction by Mark Langlois



About the man behind the design and creation of the Studio Bookshelf.

Name: Mark Bradford Langlois

Status: Married with Children, Grandchildren

Education: B.S. Liberal Arts, Central Michigan University
Sociology, Industrial Technology, Computer Science

Career: Design, Engineering, Product Life Cycle
Management, IT Consultant, Software Development

Music: J.J. Cale, Jackson Brown, Mark Knopfler, Snowy
White, Jazz, Classical

Favorite Book: Catcher in the Rye, by J.D. Salinger

Drink: Oban Single Malt Scotch, Jack Daniels or
whatever you have

Cigar: Rocky Patel Vintage 1990, 1992, Undercrown
Maduro Robosto

Hobbies: Travel, Photography, Music, Art, Creative
Design and Engineering

Book Photography by Mark Langlois

Book Completion Date: November, 2021



Certification of Authentication and Registration Of Ownership

Studio Book Shelf- 1"x 1" Steel Tube And .120" Steel Plate
Original Design By Mark Langlois, Created By Mark Langlois

Purchased By Gifted To The ISC Studio, Studio A, Mark Langlois

Date October 10, 2021

Color Soft Rubbed Bronze UMB 1326

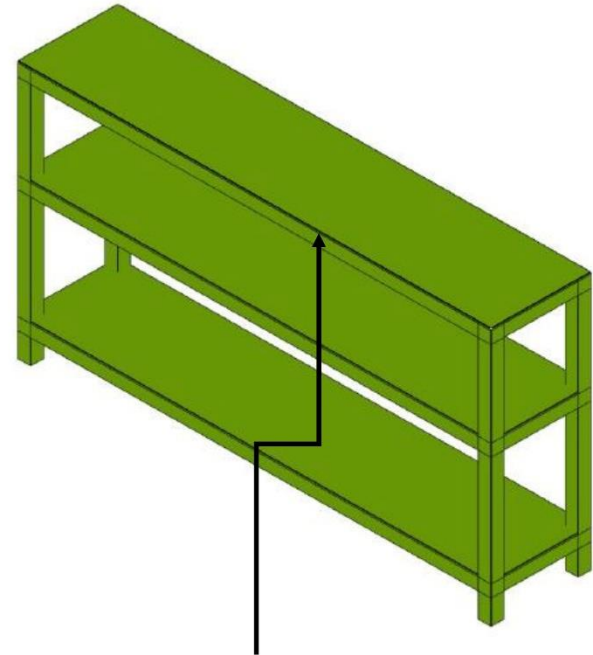
Design Iteration Number: 121775-2A

Registration Number: ML-ISC-2A-00001



SOFT RUBBED BRONZE

UMB-1326



Signature Plate Located
Under Top Plate In Back Center



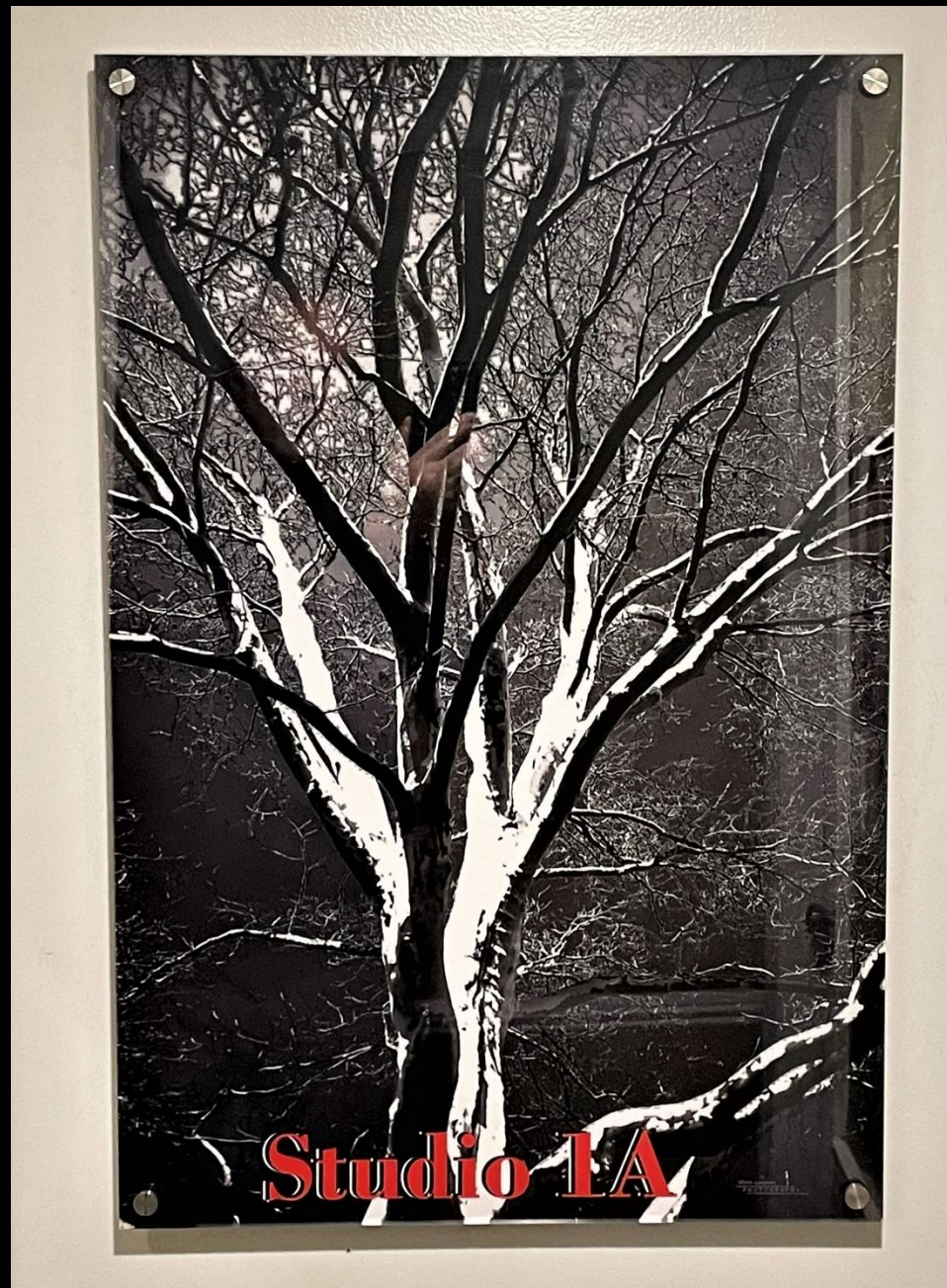
Introduction:

In late 2018, I completed my current working career that spanned some 50 years. The children were grown and living on their own. We had three empty bedrooms in the house and I asked my wife if I could take one of the small bedrooms and turn it into my "Studio". Studio 1A to be precise. I was given the green light to go ahead and I proceeded to transform this small bedroom into a place where I could work on the many projects that I enjoy.

ISC Studio 1A, accommodates a number of my passions; CAD Design & Engineering, Photography, Art, Graphic Design, Playing & Recording Music, Software Design & Development, Research & Writing.

The development and design of the Studio 1A Bookshelf came about due to the relatively small space that is Studio 1A. It is a 10' x 10' room that has a lot going on in it. The Studio 1A bookshelf was designed to help absorb some of the output from my design projects. It was designed specifically for the studio to fit the space and not be all that noticeable.

The ISC Studio 1A Bookshelf is part of a catalog of my other designs. The ISC Studio 1A Bookshelf is Design Iteration Number: ML-ISC-121775-2A.



ISC Studio 1A, Entry Door, Photograph 1, 2021



ISC Studio 1A, Photograph 2, 2021



ISC Studio 1A, Photograph 3, 2021



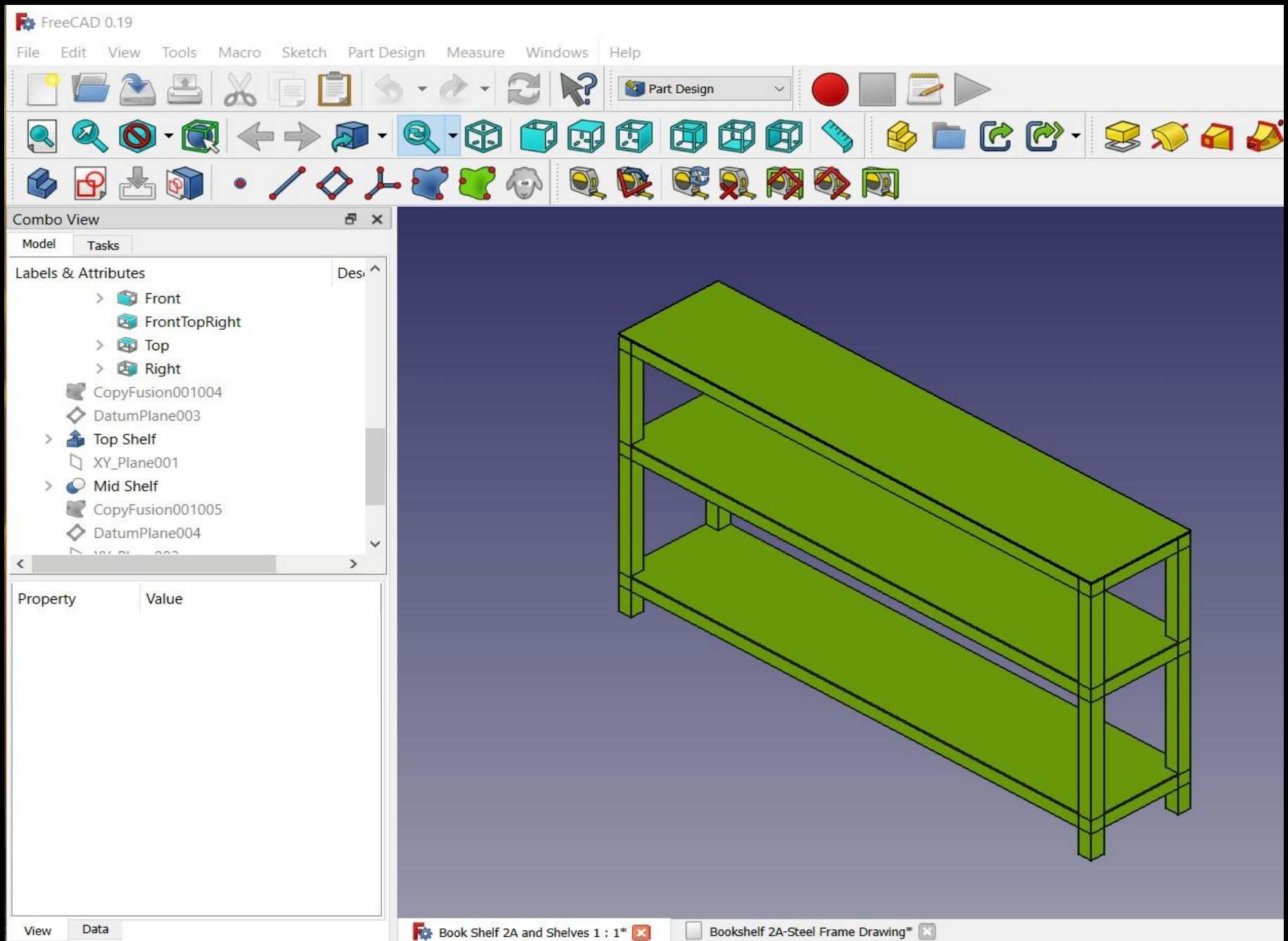
ISC Studio 1A, Photograph 4, 2021



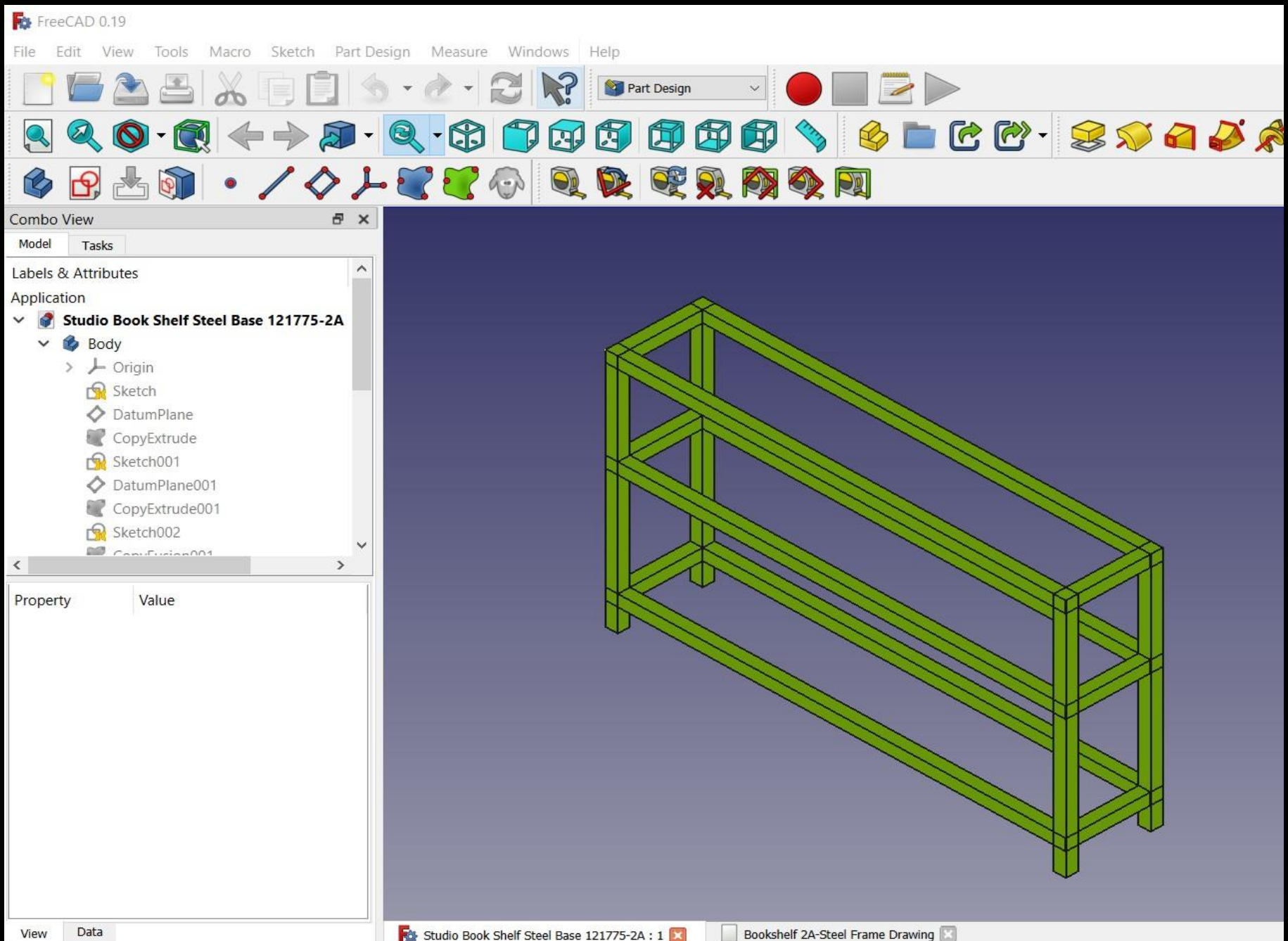
ISC Studio 1A, Photograph 5, 2021



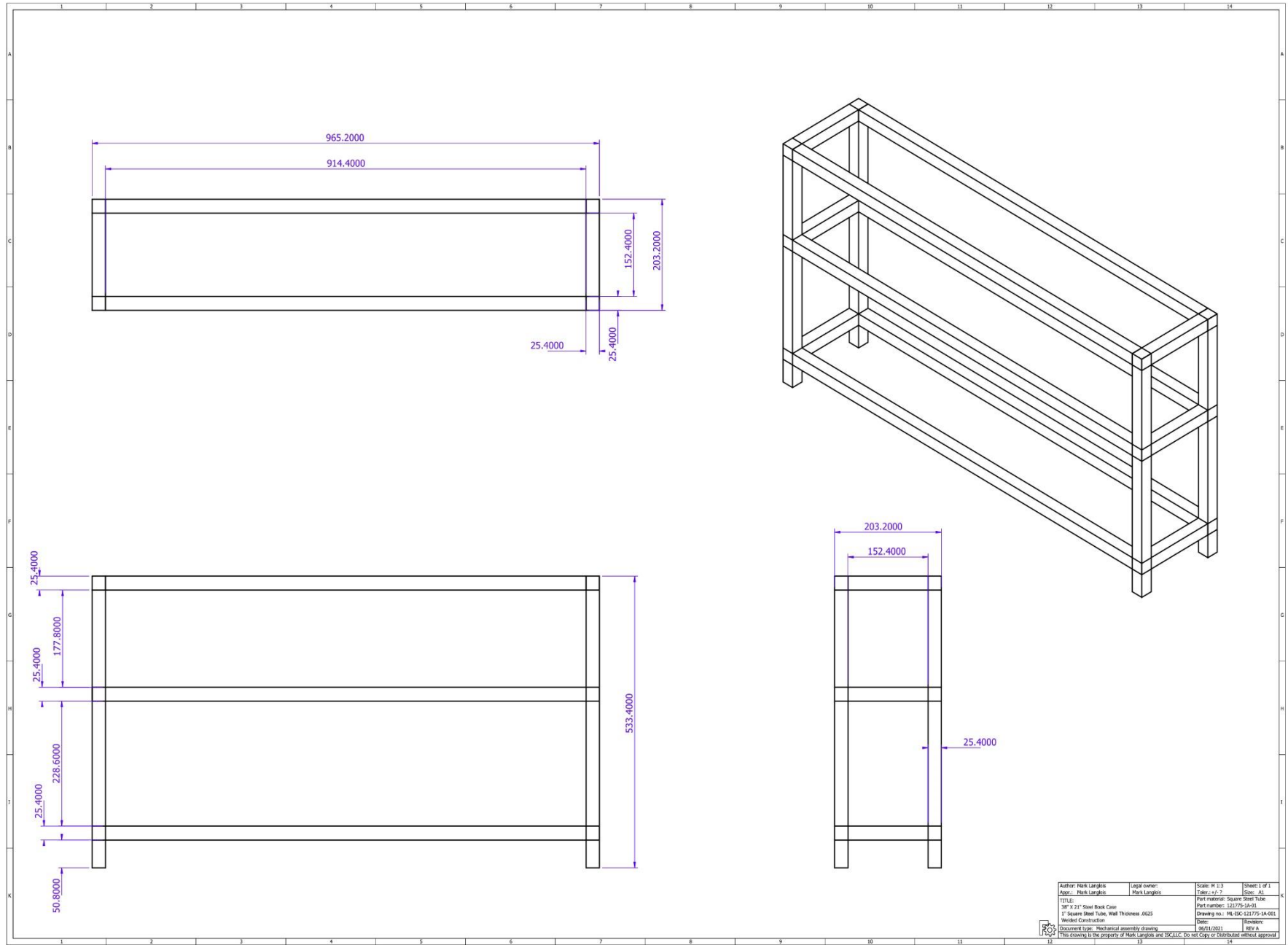
ISC Studio 1A, Studio Bookshelf Installed, Photograph 6, 2021



Parametric solid model of the studio bookshelf: Designed using FreeCAD.

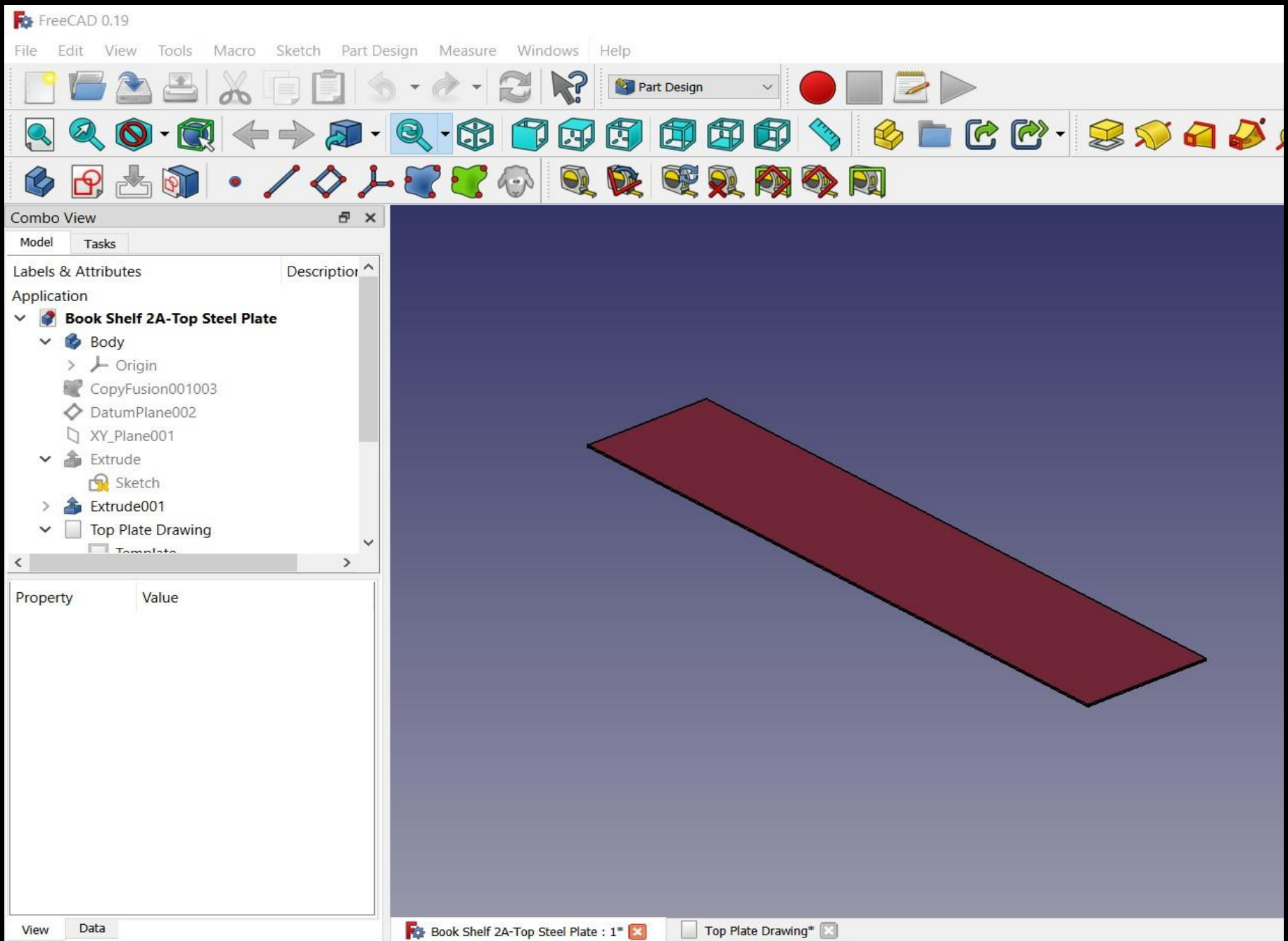


Parametric solid model of studio bookshelf steel frame: Designed using FreeCAD.

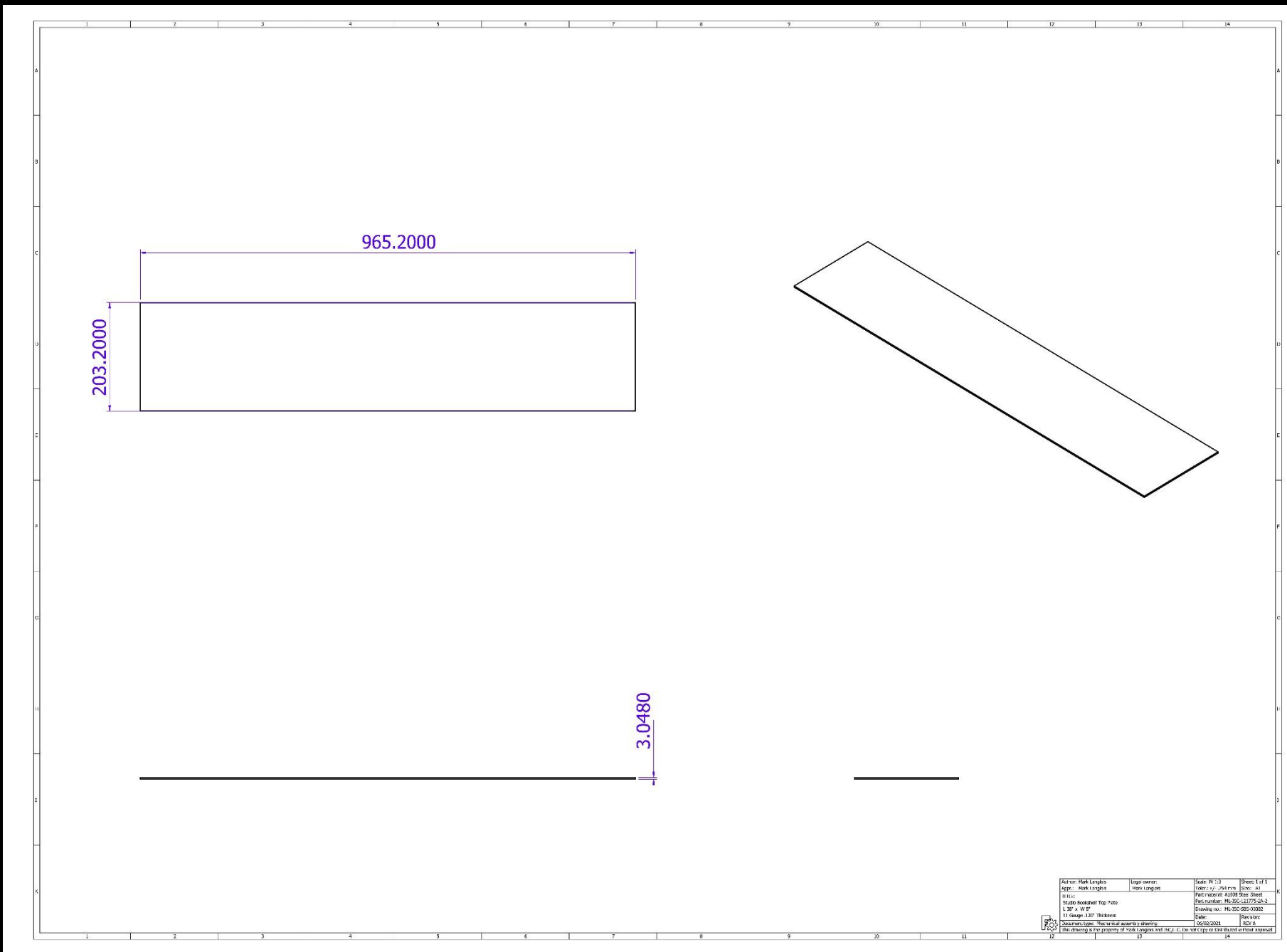


Author: Mark Langlois	Legal owner: Mark Langlois	Scale: 1:1	Sheet: 1 of 1
Appr.: Mark Langlois		Drawn: 07/2021	Size: A1
Title: 30" x 21" Steel Book Case		Part material: Square Steel Tube	Part number: 121775-1A-01
1" Square Steel Tube, Wall Thickness .0625		Drawing no.: HL-30C-121775-1A-001	Issue: 1
Welded Construction		Date: 06/01/2021	Revision: 1
Document type: Mechanical assembly drawing		REV A	
This drawing is the property of Mark Langlois and 30C LLC. Do not Copy or Distribute without approval.			

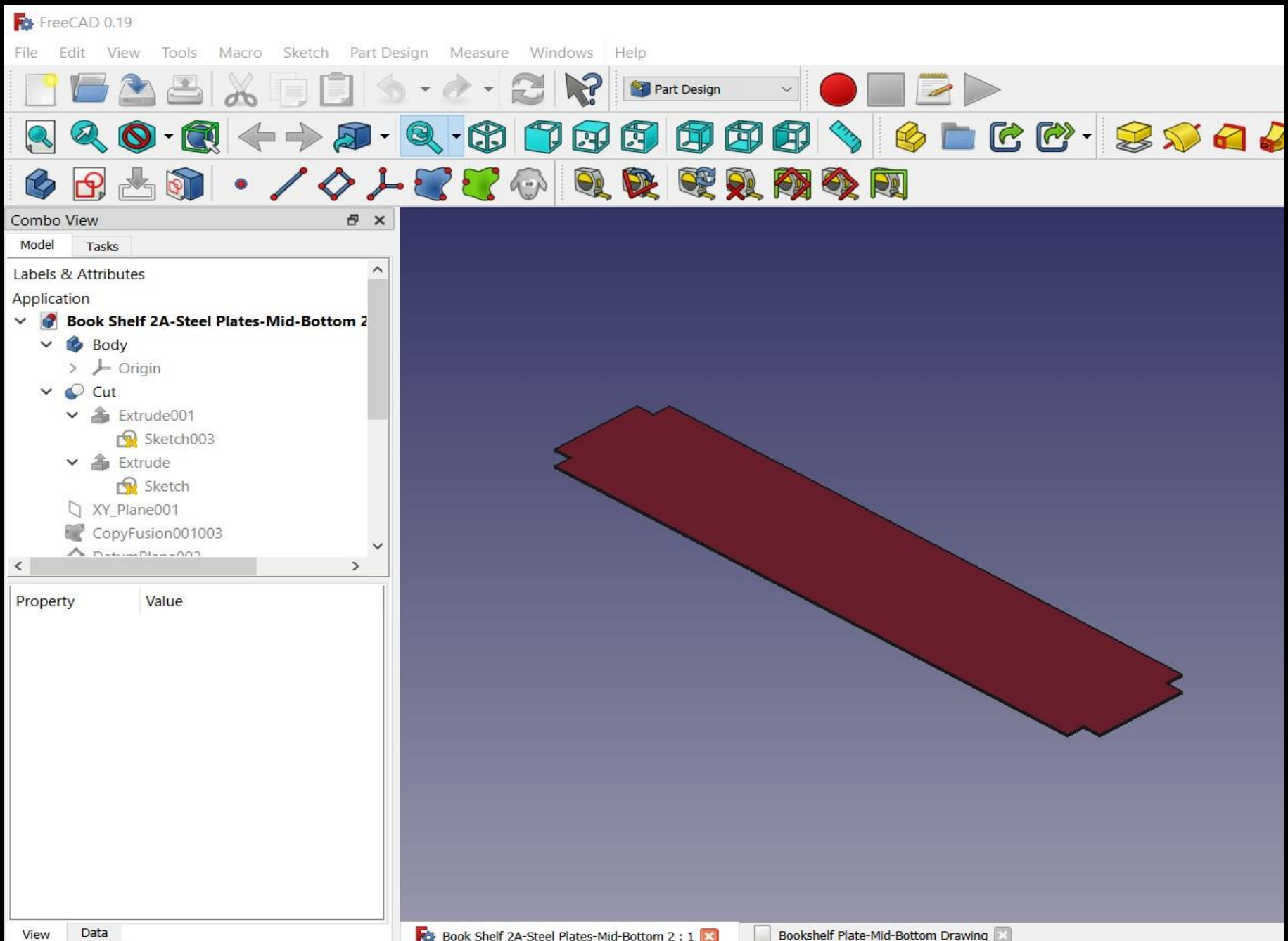
Drawing of studio bookshelf steel frame: Designed using FreeCAD.



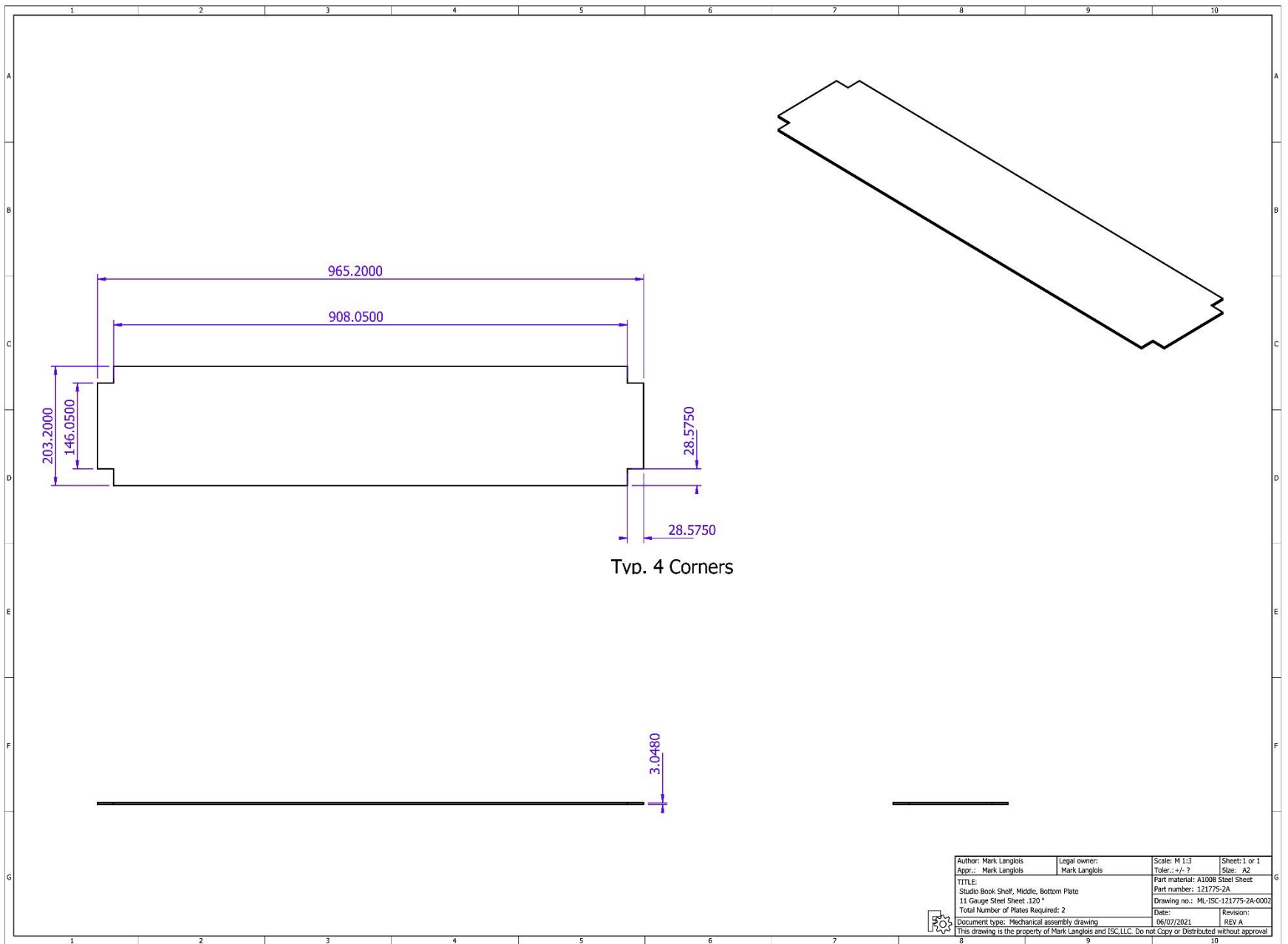
Parametric solid model of studio bookshelf, top plate: Designed using FreeCAD.



Drawing of studio bookshelf, top plate: Designed using FreeCAD.



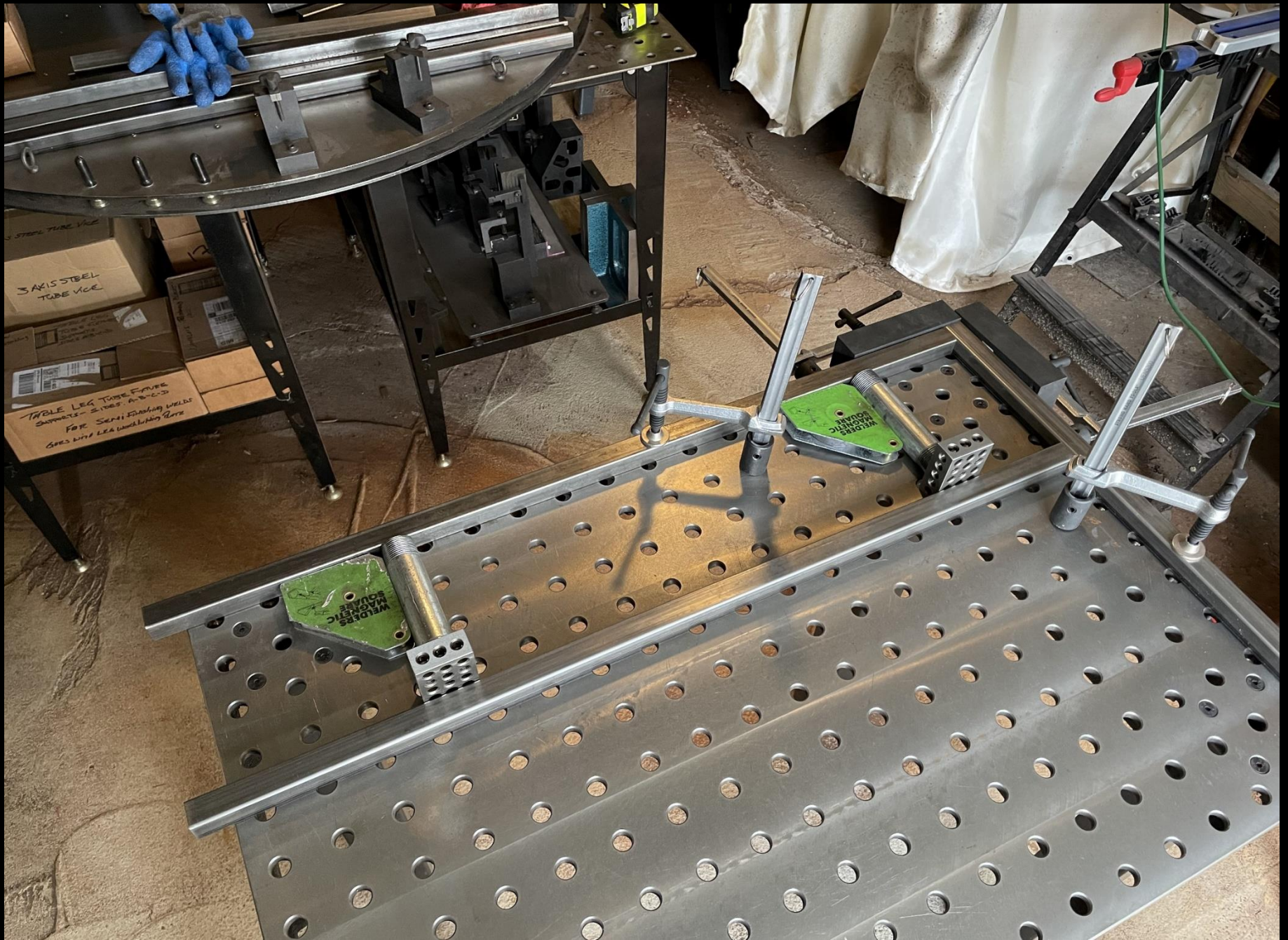
Parametric solid model of studio bookshelf, mid-bottom plate: Designed using FreeCAD.



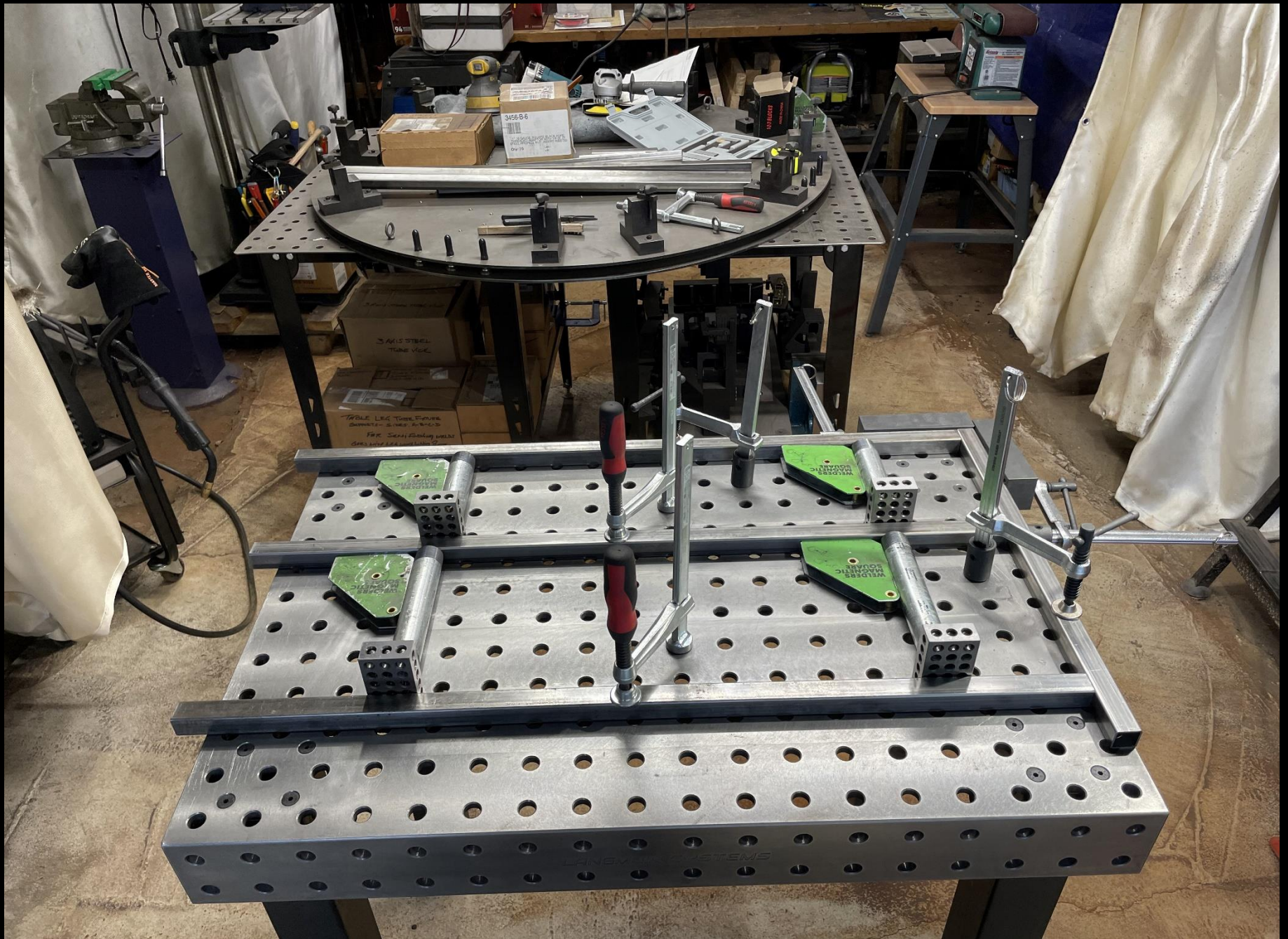
Drawing of studio bookshelf, mid-bottom plate: Designed sing FreeCAD.



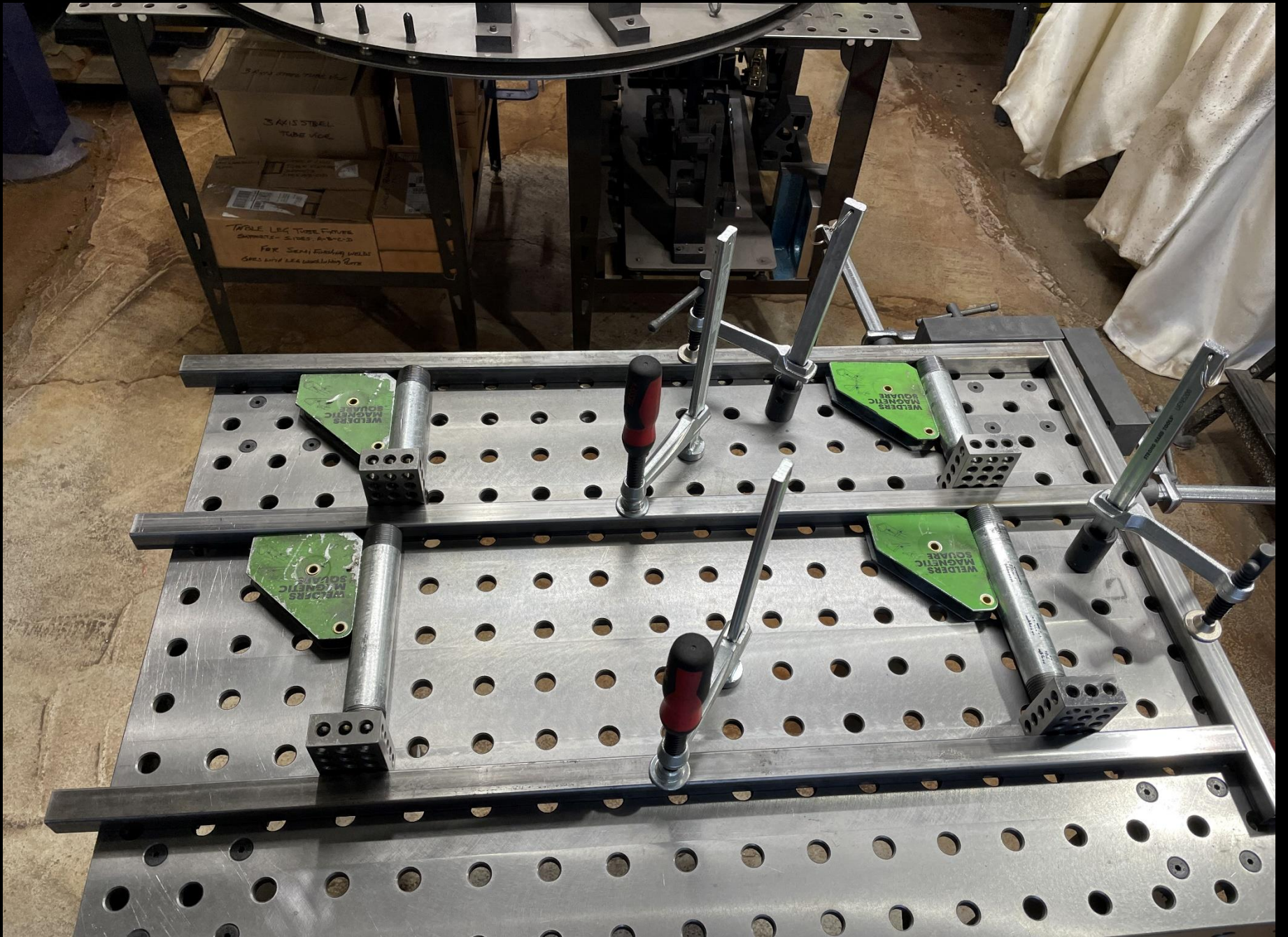
ISC Studio 1A Bookshelf Construction.



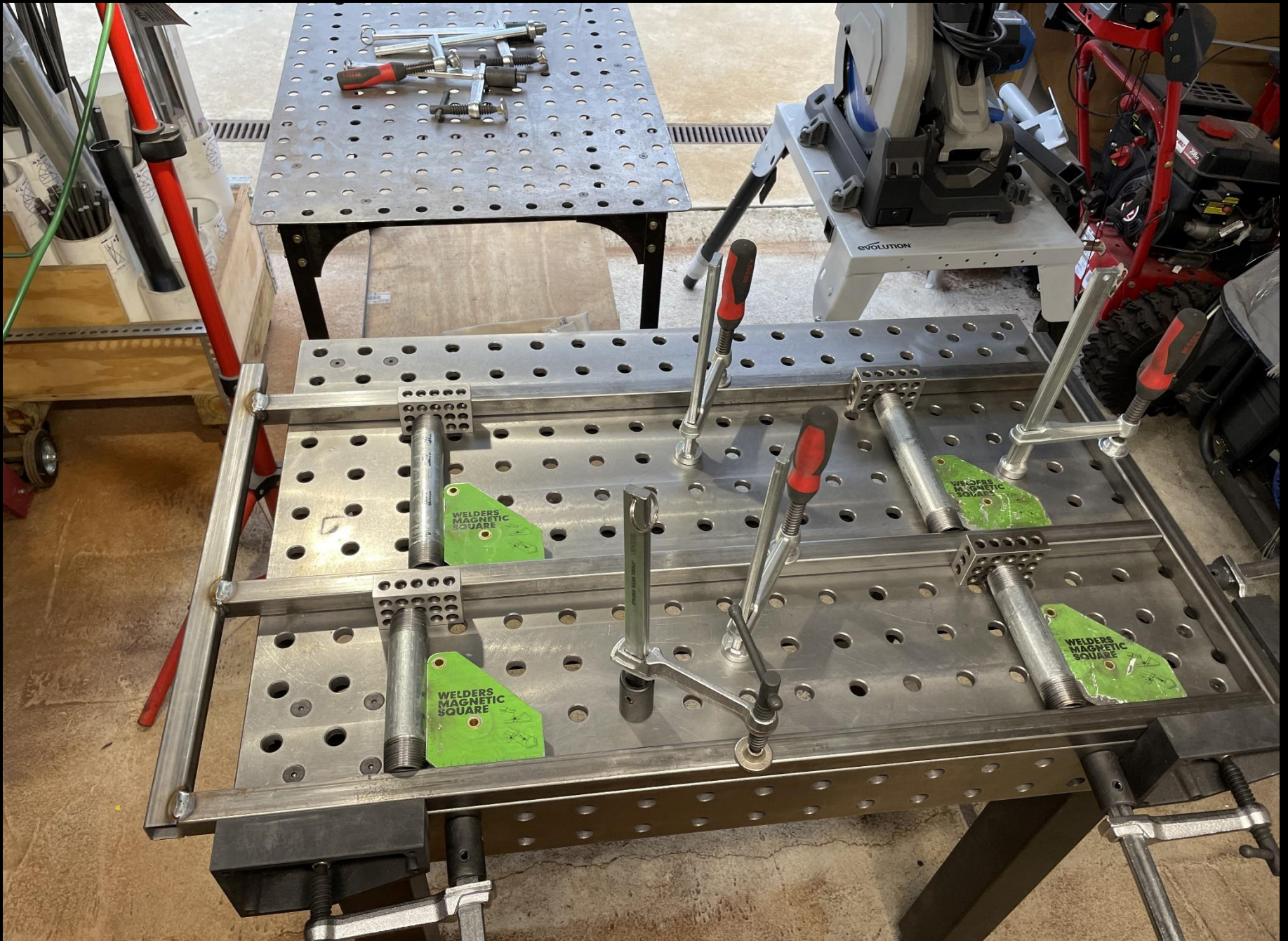
Fabrication Sequence: 1 The bookshelf is constructed from 1" x 1" x .060" Steel Tube.



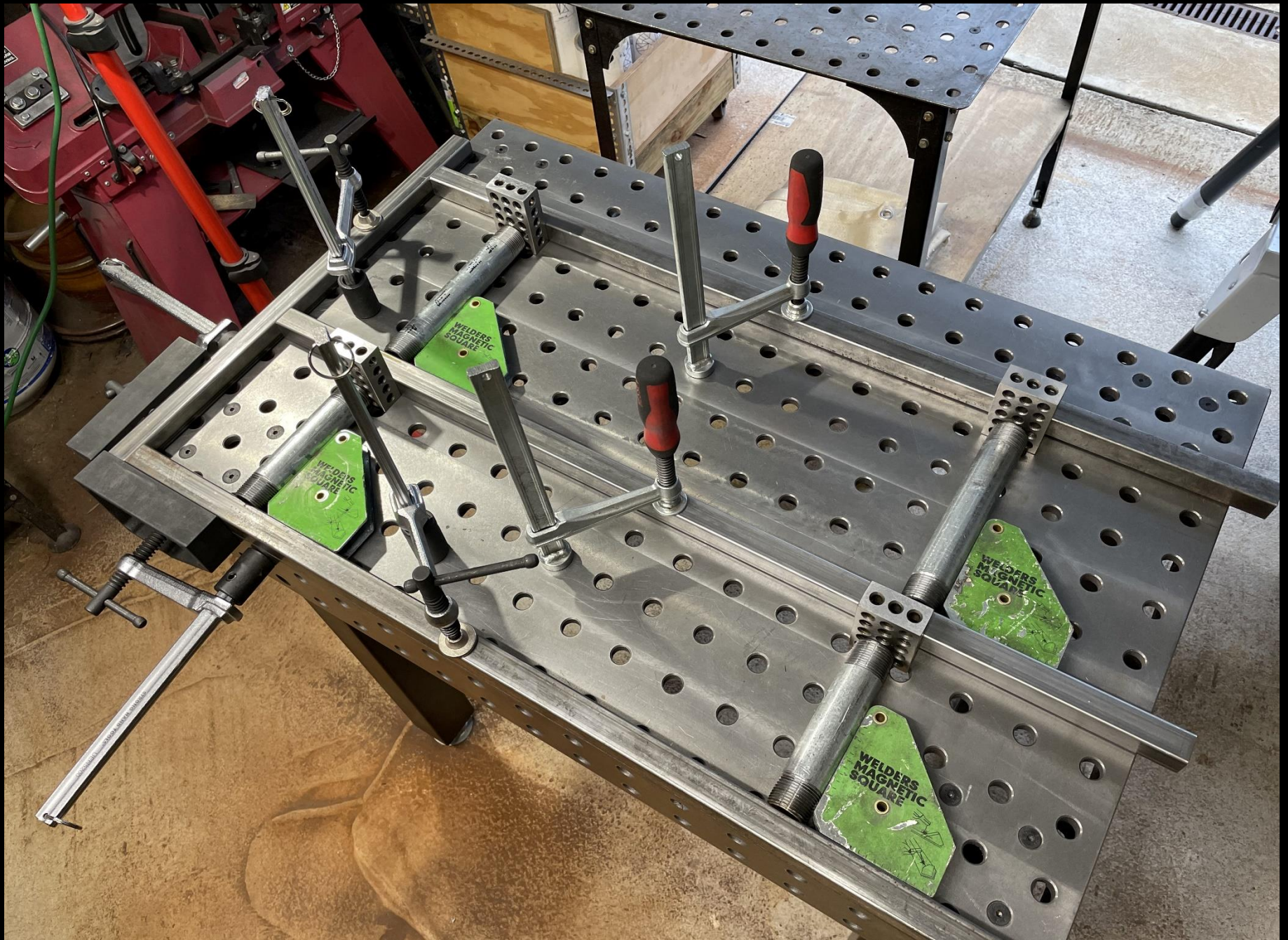
Fabrication Sequence: 2 The studio bookshelf dimensions: L 38" x H 21" x D 8"



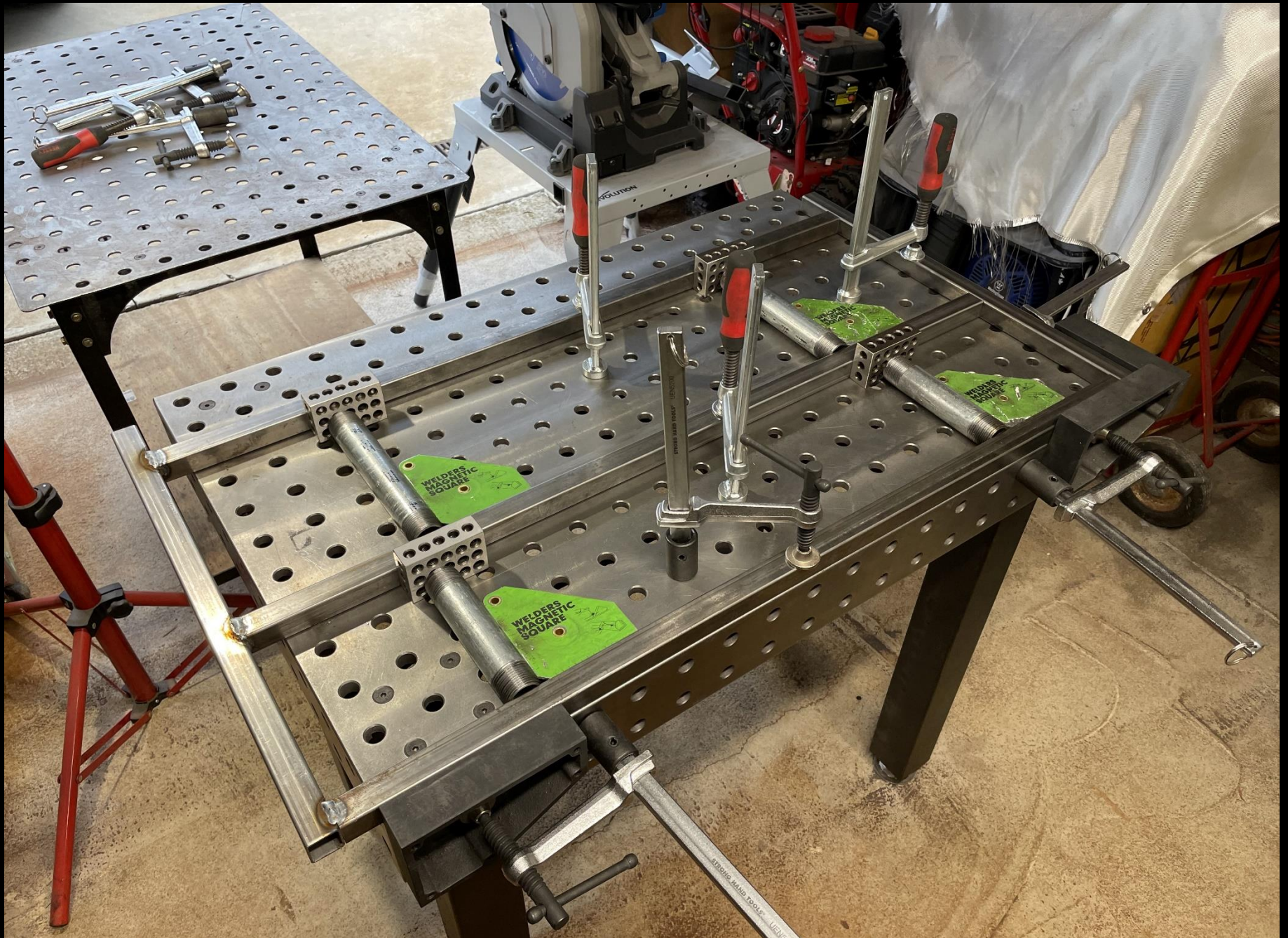
Fabrication Sequence: 3 Shelf Spacing, Height Top Shelf: 7", Height Bottom Shelf: 9".



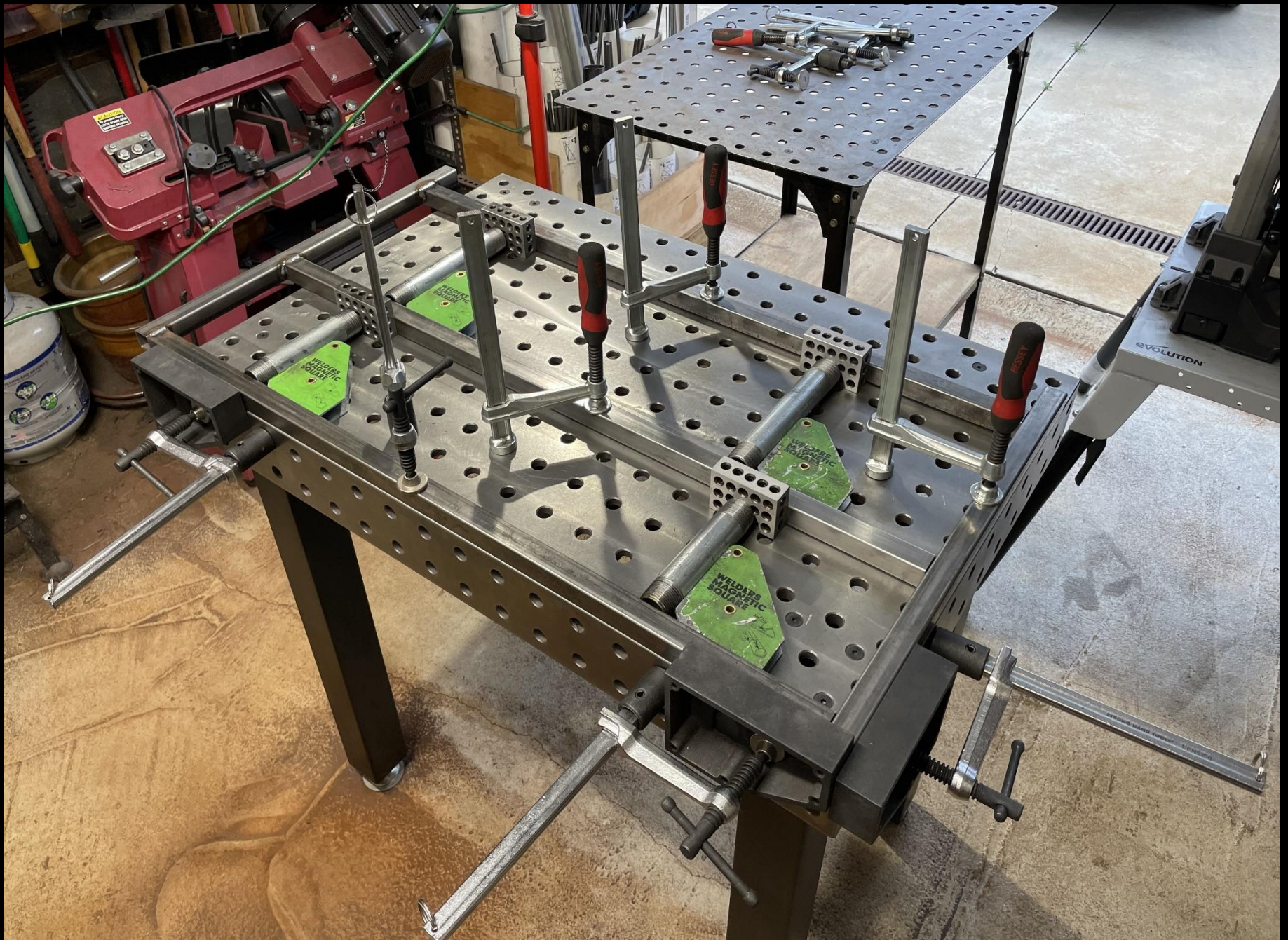
Fabrication Sequence: 4 The first panel is welded in each corner, on the top and bottom.



Fabrication Sequence: 5 Layout of the second panel for welding.



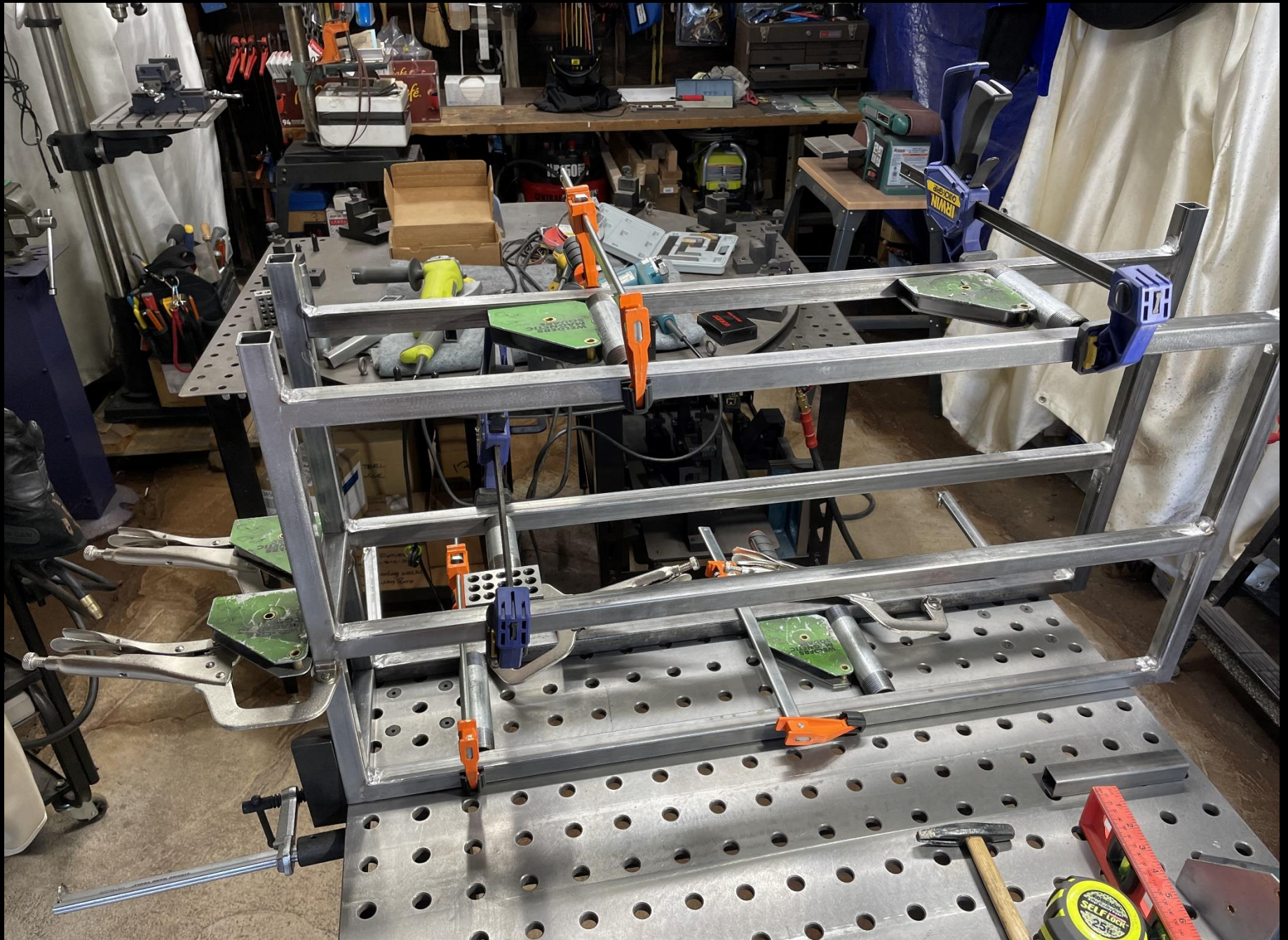
Fabrication Sequence: 6 The second panel is welded together in the same way as the first.



Fabrication Sequence: 7 It is important to keep the same spacing between each panel.



Fabrication Sequence: 8 After welding the panels, the welds need to be ground & finished.



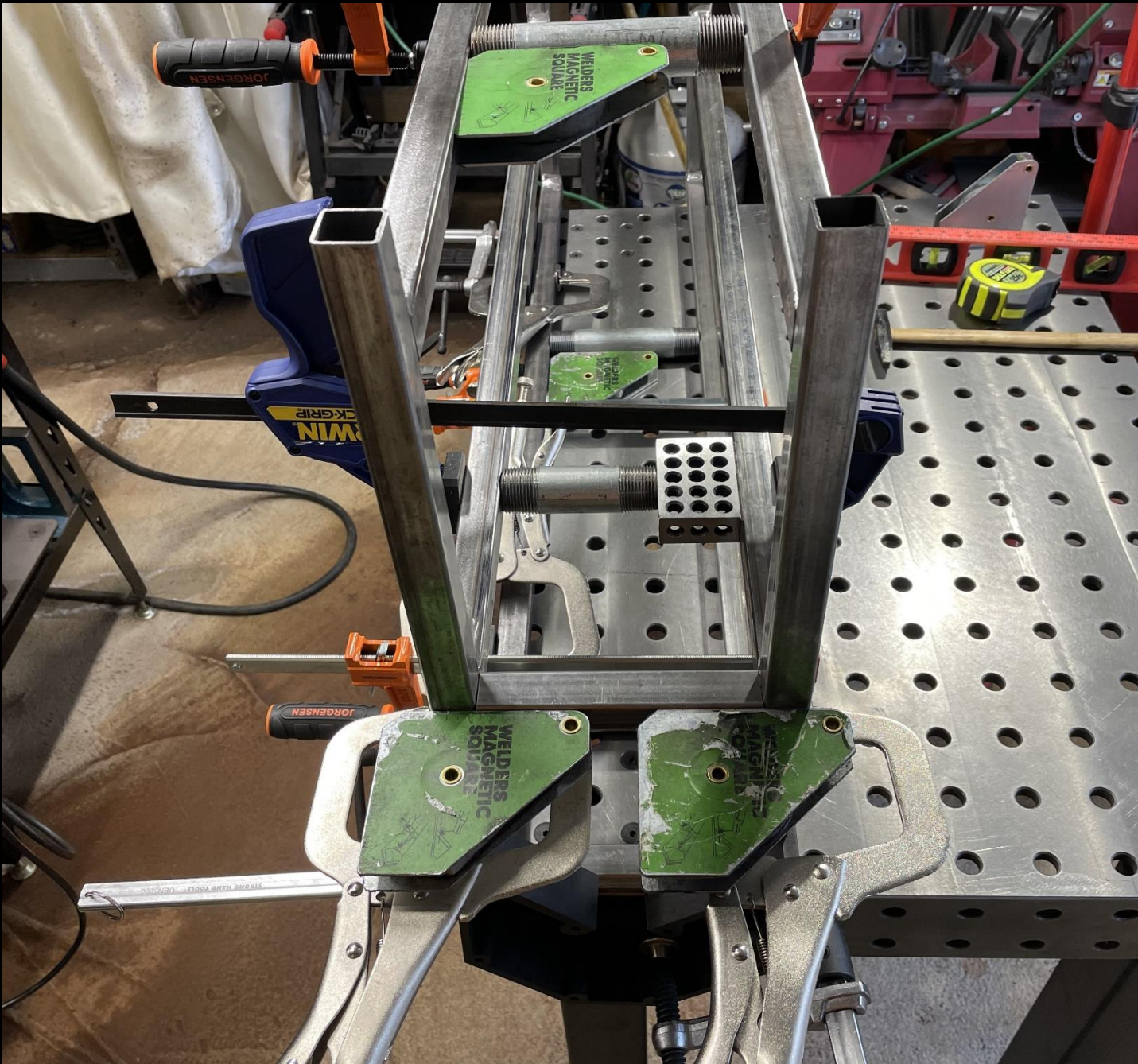
Fabrication Sequence: 9 Aligning the two panels & cross rails, the shelf is welded top down.



Fabrication Sequence: 10 A number of clamps & spacers are required to align the panels.



Fabrication Sequence: 11 The upper cross rails on both sides are welded first.



Fabrication Sequence: 12 Welding magnets and clamps locate & hold the cross rails.



Fabrication Sequence: 13 Welding the upper cross rails locks in the panels alignment.



Fabrication Sequence: 14 The clamps remain in place & the lower cross rails are welded.



Fabrication Sequence: 15 Studio Bookshelf steel frame is welded.



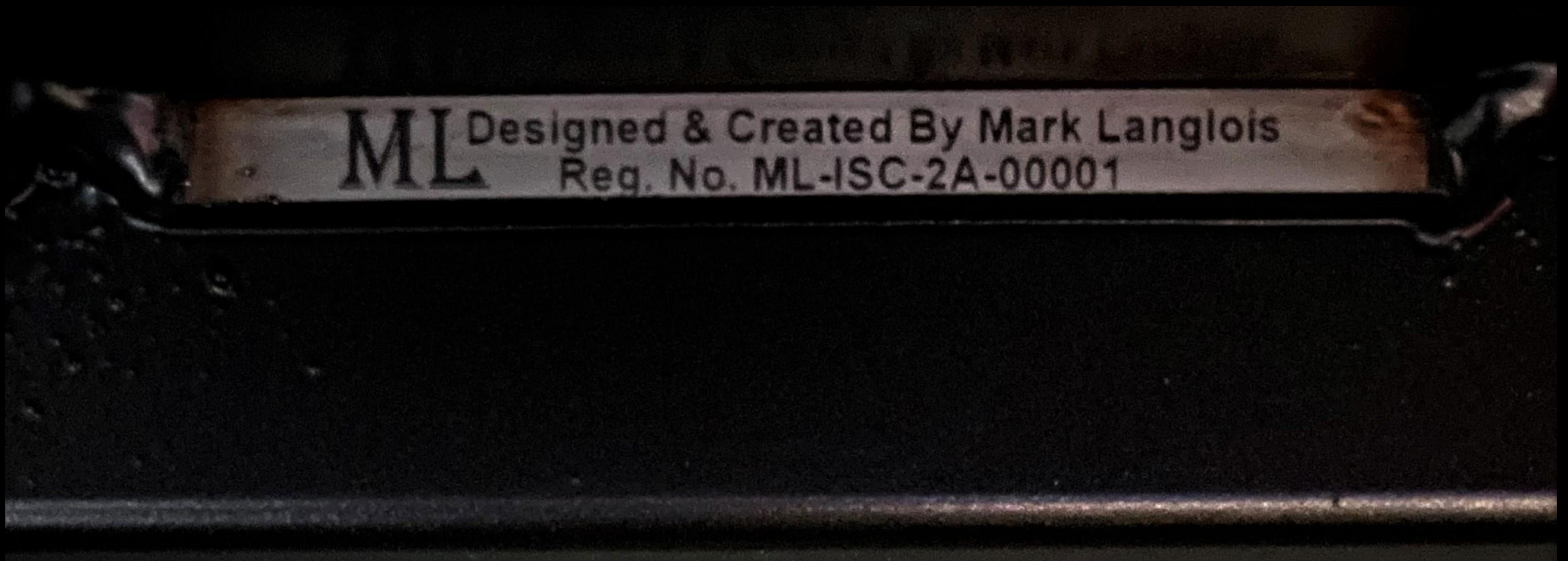
Fabrication Sequence: 16 All of the cross rail welds need to be ground and finished.



Fabrication Sequence: 17 Position & test fit the top, mid & bottom plates before welding.



Fabrication Sequence: 18 Top, mid & bottom plates are clamped and welded to the frame.



Fabrication Sequence: 19 My signature plate is welded on the frame under the top plate.



Fabrication Sequence: 20 Plate welds are ground and the steel plates sanded.



Fabrication Sequence: 21 Studio 1A Bookshelf sanding is complete.



Fabrication Sequence: 22 The Studio 1A Bookshelf in raw steel



Fabrication Sequence: 23 The Studio 1A Bookshelf is ready for powder coating.



Fabrication Sequence: 24 Custom Color, Soft Rubbed Bronze Chosen For The Bookshelf.



Fabrication Sequence: 25 Studio 1A Bookshelf after powder coating.



ISC Studio 1A Bookshelf installed in the studio.

Studio Bookshelf Construction Data	
Design Iteration Number	ML-ISC-121775-2A
Size	L 38" x H 21" x D 8"
Material	1"x 1" Steel Tube, .120" Steel Plate
Construction	Welded Construction
Steel Base: Linear Feet	28 Linear Feet 1" x 1" x 1/16" Steel Tube
Steel Plate: Square Feet	6.33 Square Feet, .120" Steel Plate L 38" x H 8"
Steel Base: Weight	22.2863 lbs.
Steel Plate: Weight	15.282 lbs.
Studio Bookshelf Total Weight	37.5683 lbs.
Steel Cost: Steel Tube	\$112.00
Steel Cost: Steel Plate	\$81.90
Studio Bookshelf Total Steel Cost	\$193.90
Total Number of Welds	144
Finish: Powder Coat	Soft Rubbed Bronze UMB 1326
Powder Coat Cost	\$80.00
Studio Bookshelf Plastic Hole Covers	4 Black Plastic Square Plugs
Studio Bookshelf Total Cost	\$273.90
Approximate Man Hours To Construct	80