

Monaco High Top Patio Table, Designed and Constructed by Mark Langlois



About the man behind the design of the Monaco High Top Patio Table and its construction.

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, Buddy Miller, 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, Metalworking.

*Author: Mark Langlois*

*Photography: Mark Langlois*

*Book Completion Date: July 7, 2024*



# Certification of Authentication and Registration Of Ownership

## Monaco High Top Patio Table Set-2 Tables

Monaco High Top Patio Table: From the Mark Langlois Catalog of Designs, Iteration Number 121775-8A. Construction: 1.5"x 1.5" Steel Tube, Wall Thickness .120", 32" Glass Top, 1/2" thick, 1" Bevel, Welded Construction, Design Creation Date, March, 2024.

Original Design By Mark Langlois, Fabricated By Mark Langlois

Purchased By Gifted To: Mark & Marianne Langlois

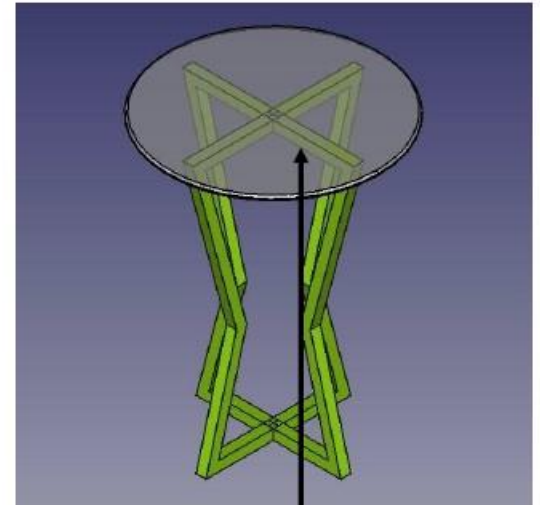
Date June 5, 2024

Color Prismatic Color: Illusion Sour Apple, PMB6913, Clear Vision-PPS 2974

Design Iteration Number: **121775-8A**

Registration Number: **ML-ISC-8A-00001**

Registration Number: **ML-ISC-8A-00002**



Signature Plate Located Under Top Rail



## Introduction:

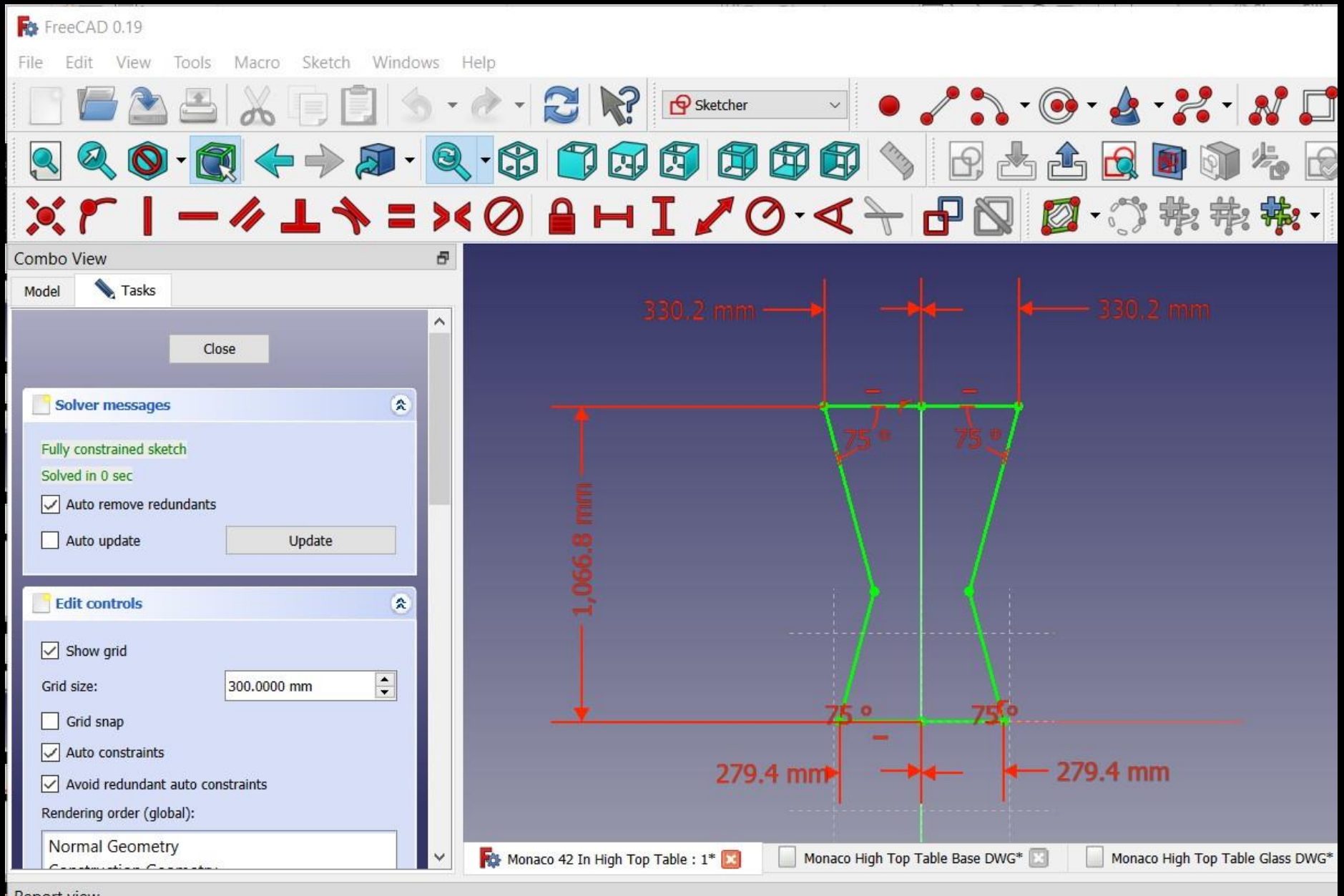
The creation of the Monaco High Top Patio Table was due to a need to provide some additional functional space for guests to place a glass of wine or plate of food on during social gatherings. We had an event planned in the near term to serve approximately 40 people and needed some additional surface space on the patio to accommodate them.

The design concept was to create a table that would allow 4 to 5 guests to stand around and place their drinks or food on it, allowing them to be part of the collective gathering without the need for additional chairs.

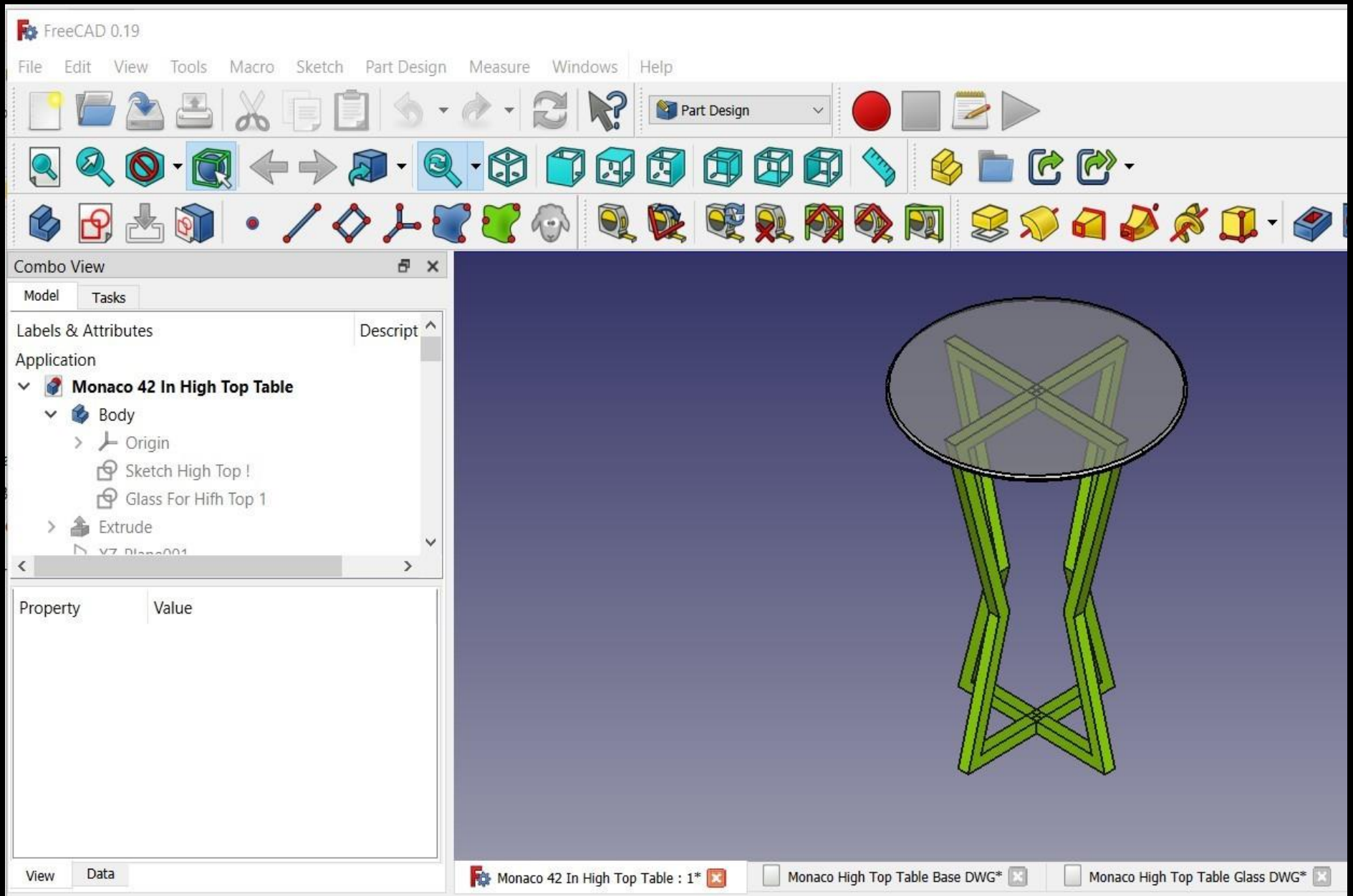
The high top table concept allowed for a narrow footprint and a functional interchange allowing guests to easily rotate in and out of that space with minimal effort. High top chairs could be utilized when not under load. However, sometimes standing is a preferred choice.

The high top table height is 42" which is a general standard and the glass diameter of 32" provides enough surface area and weight to make the table functional, steady and compact.

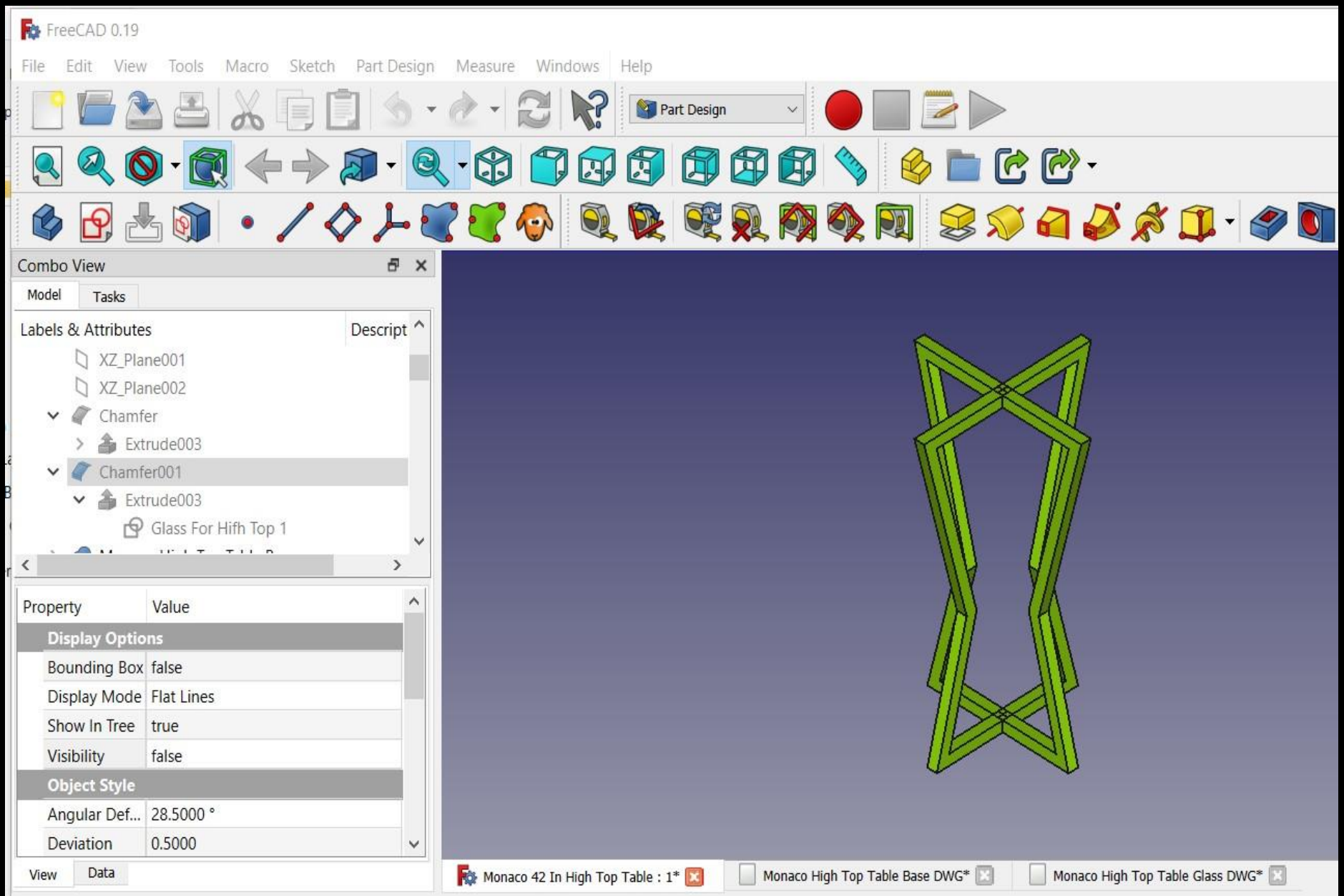
The Monaco High Top Patio Table is part of a catalog of my other designs. The Monaco High Top Patio Table is design iteration number ML-ISC-121775-8A-00001



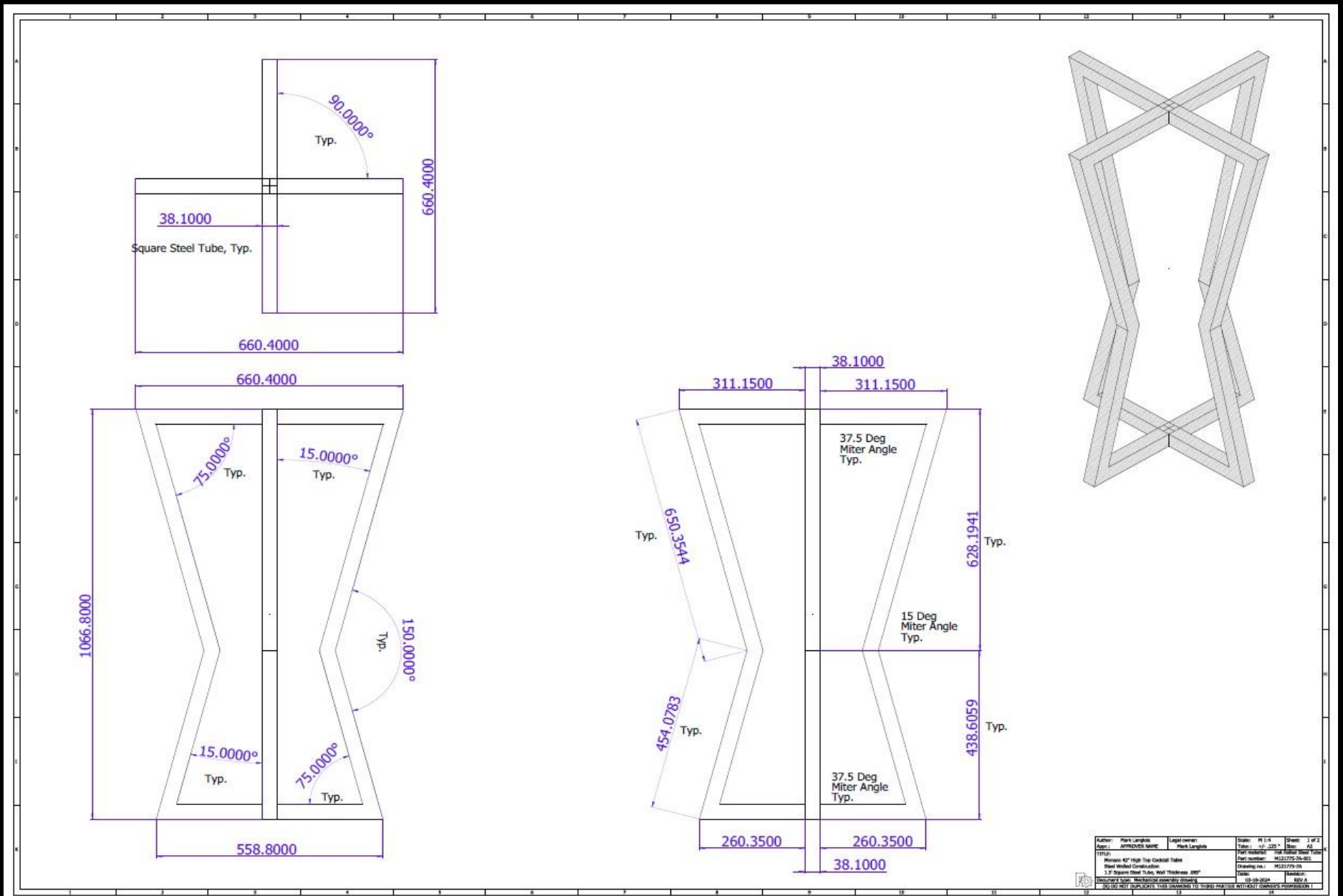
Parametric Sketch Of Monaco High Top Patio Table Base Profile In FreeCAD



Parametric Solid Model of Monaco High Top Patio Table In FreeCAD.

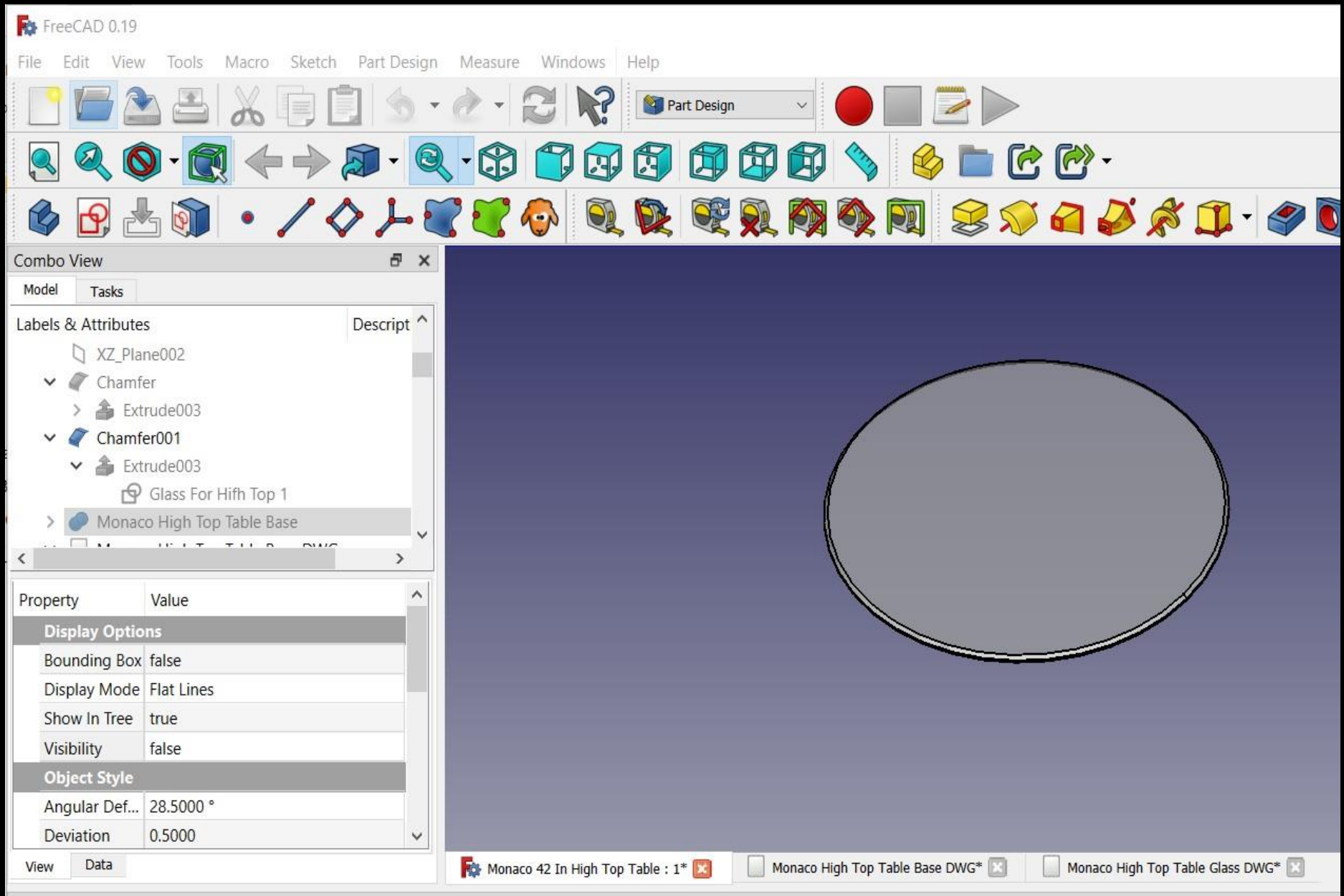


Solid Model of Monaco High Top Patio Table Base In FreeCAD.

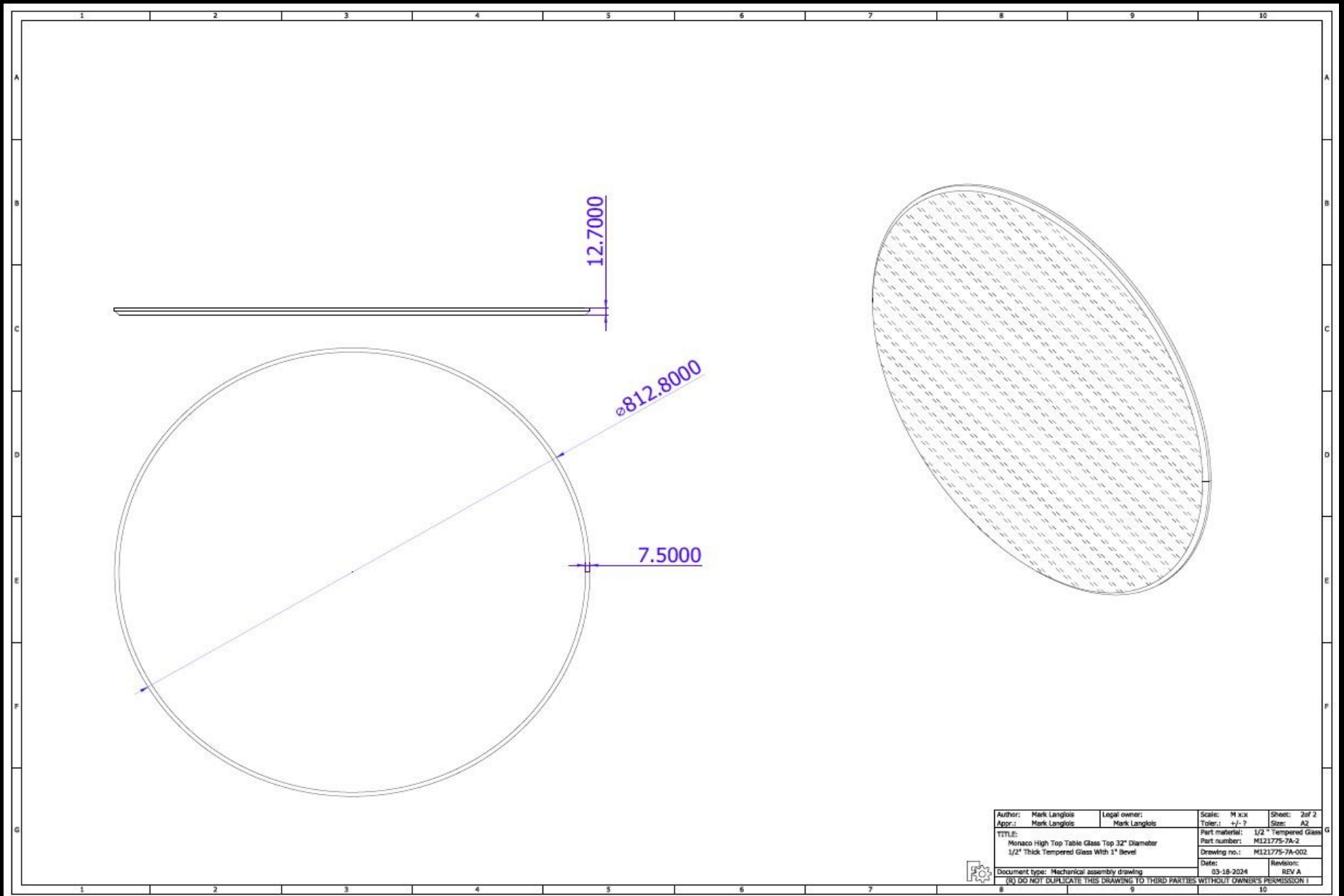


Drawing of Monaco High Top Patio Table Base In FreeCAD.





Solid Model of Monaco High Top Patio Table Glass In FreeCAD.



Drawing of Monaco High Top Patio Table Glass In FreeCAD.



Prototype Mockup of Monaco Table Base Miter Cuts: Miter saw setup requires 35.5 degree mating angles on the top and bottom and 15 degree mating angles in the center.



I ordered 1.5" x 1.5" x .120 thick steel tube in lengths that will produced the most consumption to make two tables. All of the cuts to make these tables will be miter cuts.



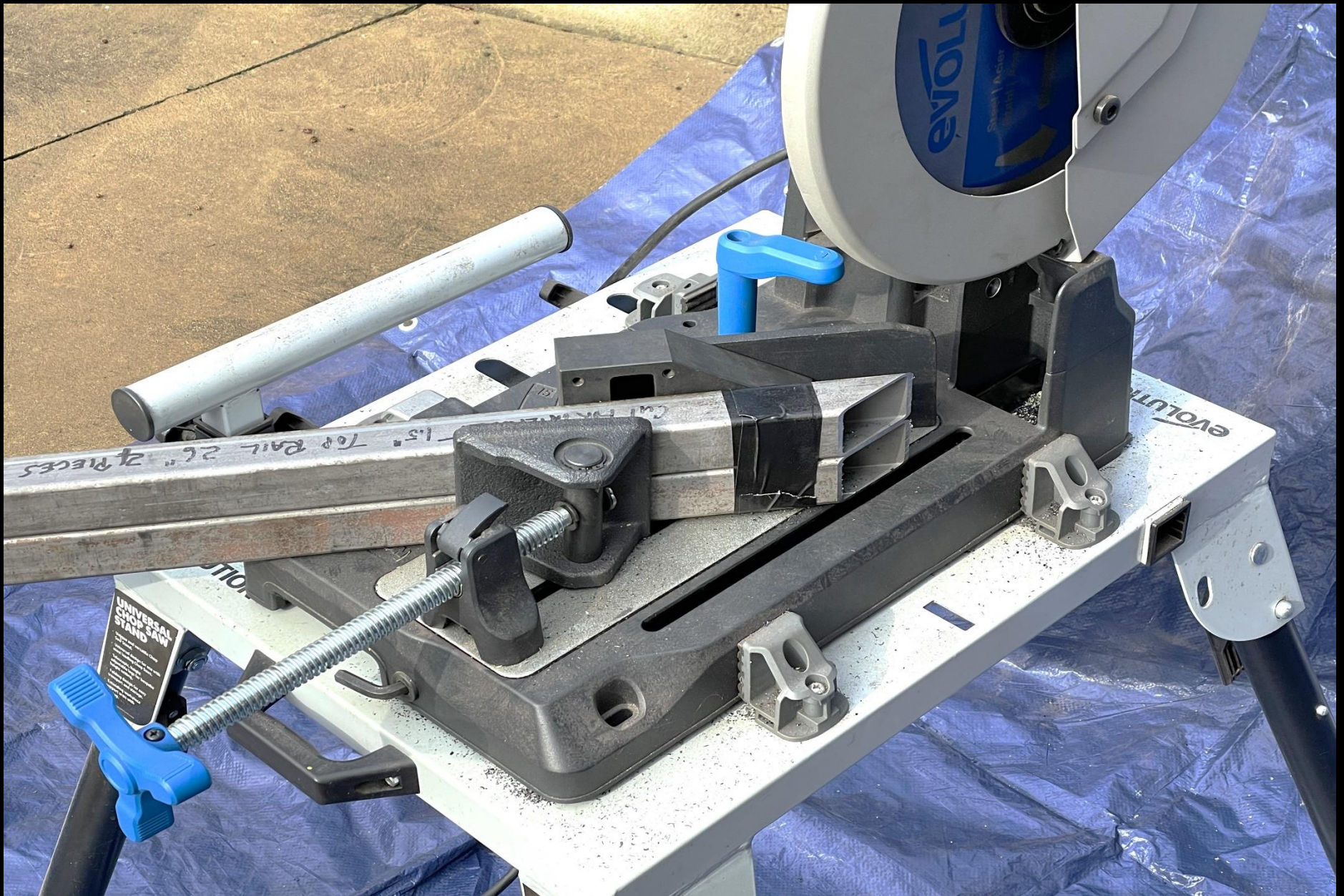
I organize and tape the common steel components together. I cut as many pieces as I can at the same time to minimize cutting these components on the steel chop saw.



I lay out the angle and label each component prior to making the miter cuts. I will cut all of the 35.5 degree miter cuts first. I will have two drops that will be used for the splits.



Making miter cuts can be a challenge in both visualizing the angles and in making sure the cut in the correct direction; some bars will need to be flipped when cut.

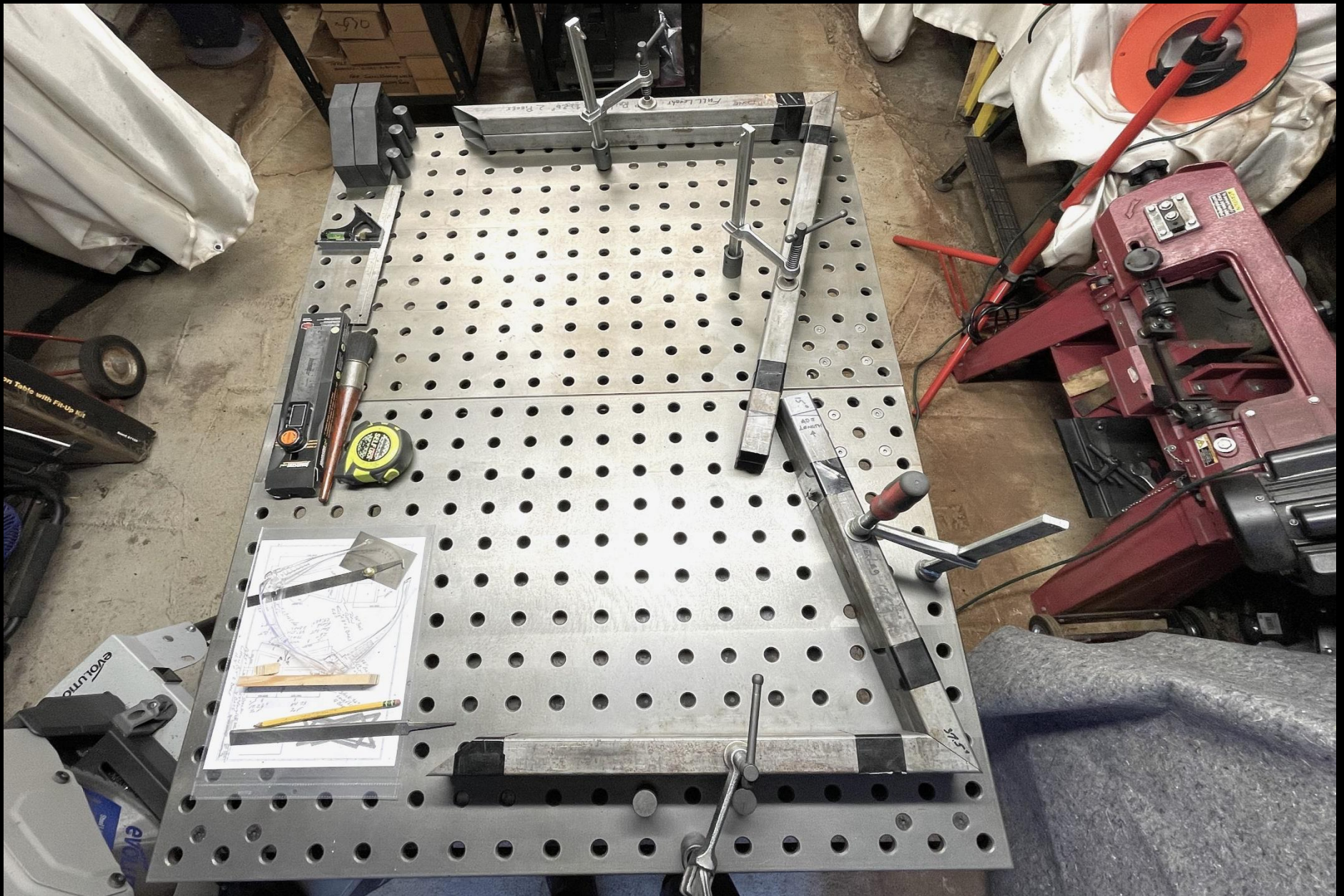


Setting up the chop saw to cut the 35.5 degree angle took some time to get correct. Cutting multiple pieces and all of the 35.5 degree miters first, maximizes the setup.

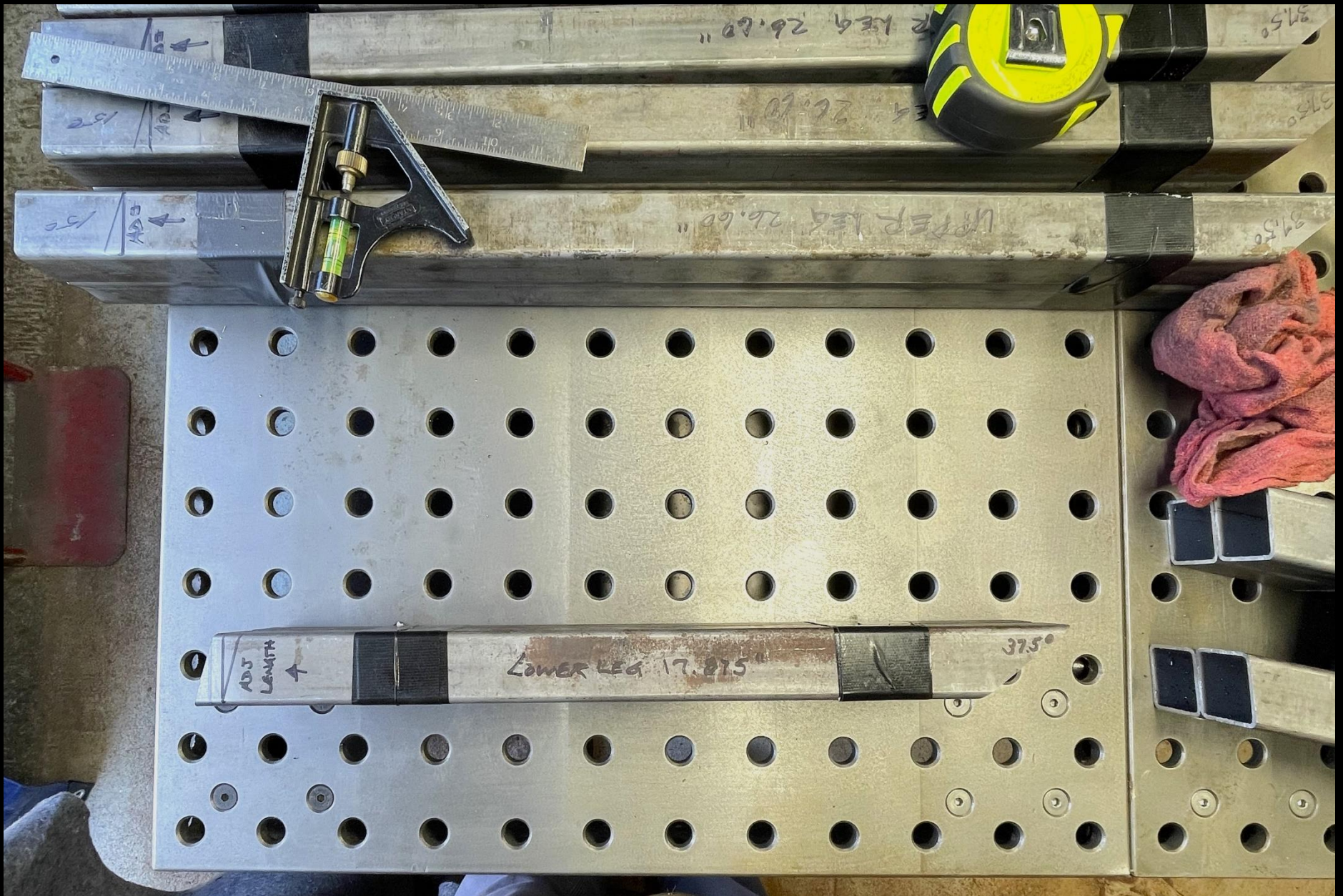




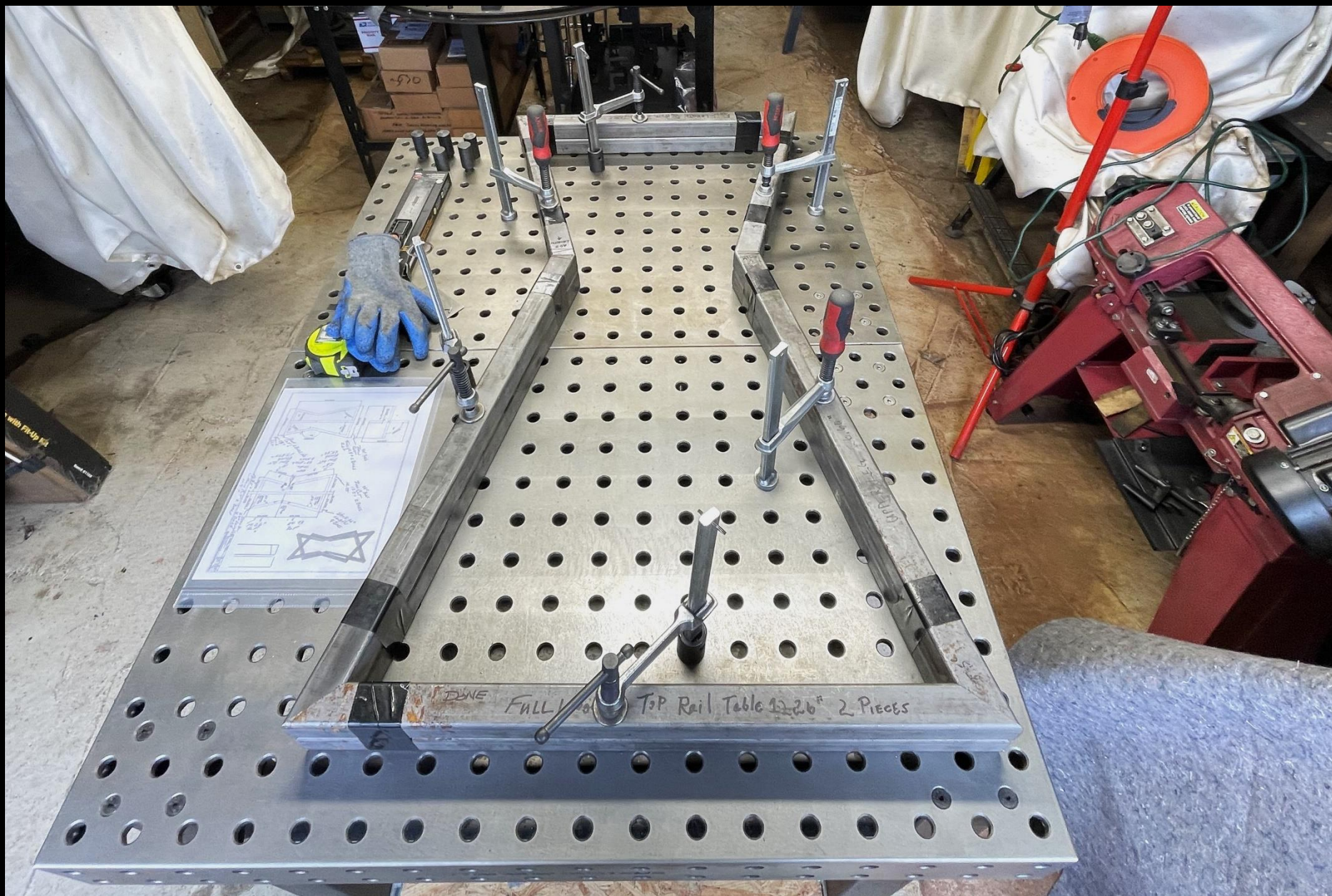
All of the 35.5 degree miter cuts are completed to make the two tables.



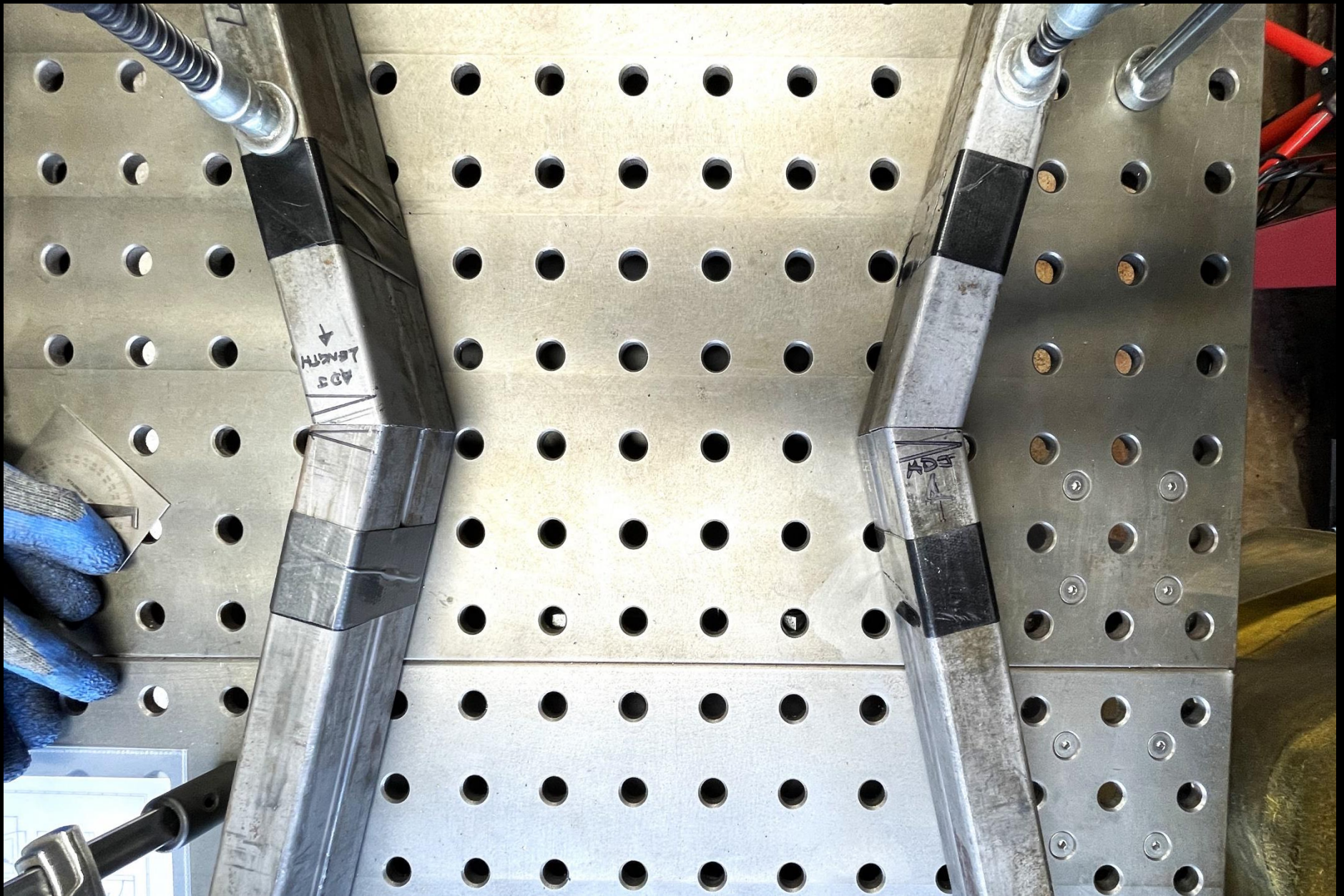
I created a rough setup to see how accurate the 35.5 degree miter cuts mate together and complement the 15 degree mating angles in the center of the table.



The 35.5 degree angles mate well. I have set up the chop saw to cut all of the 15 degree miter cuts for the rest of the bars for the two tables.



Each table has one complete base, with two splits on either side. The base components were taped together when I cut the miters, Now let's see how well all the miter cuts line up.



Center 15 degree angle miter cut mating components, with 35.5 degree mating angles at both ends in place.

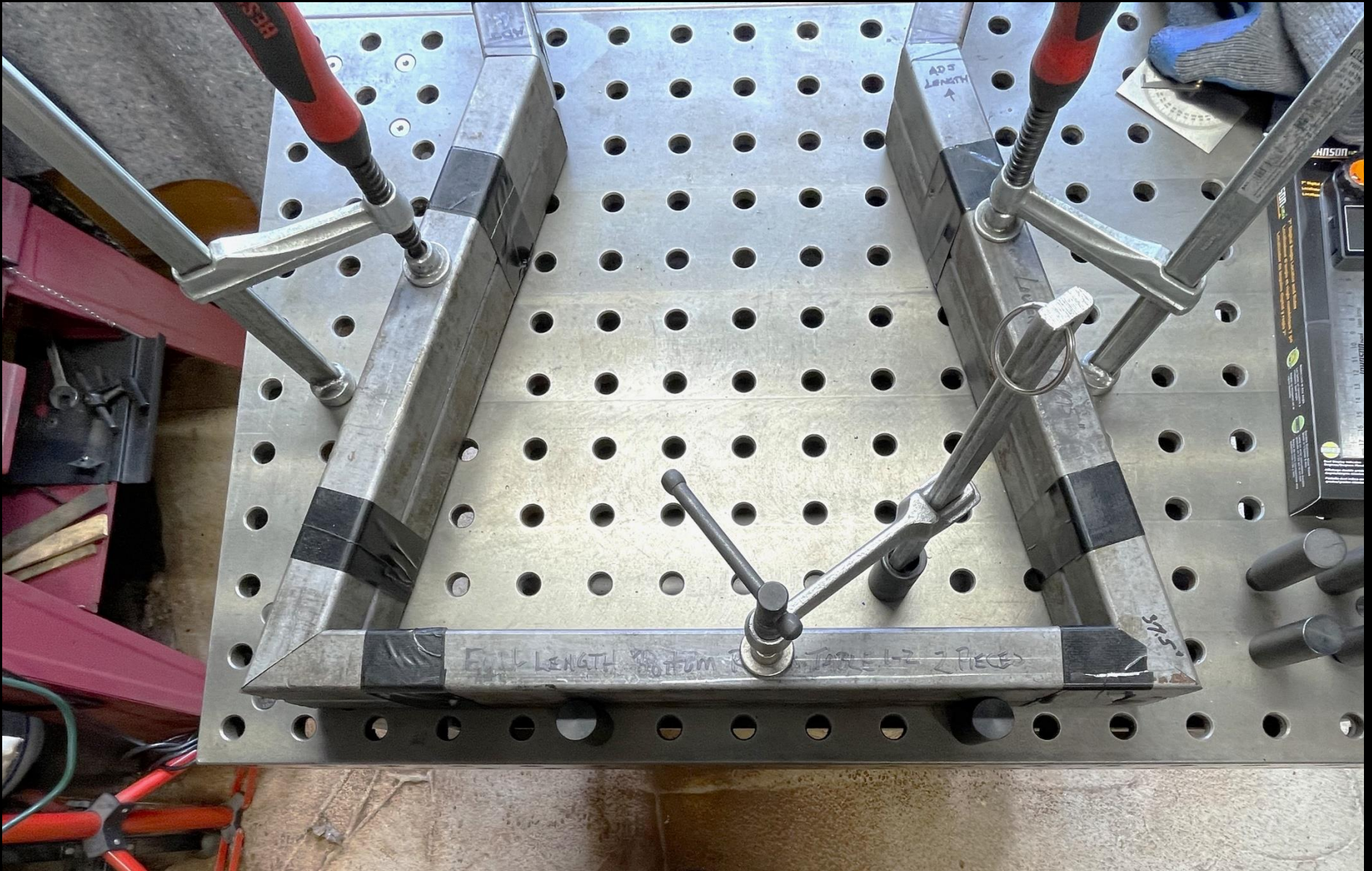


Table base 35.5 degree mating angles in place at the table top & bottom look good as well.



After reviewing the setup, I cleaned & sanded all of the steel components for the two tables before I began welding. This makes the job a lot easier to do with better results.



My next step in the fabrication process is to drill holes in the components that will have leveling feet. I need to drill a 1/2" hole in the ends of each and add a 3/8-16 weld nut.

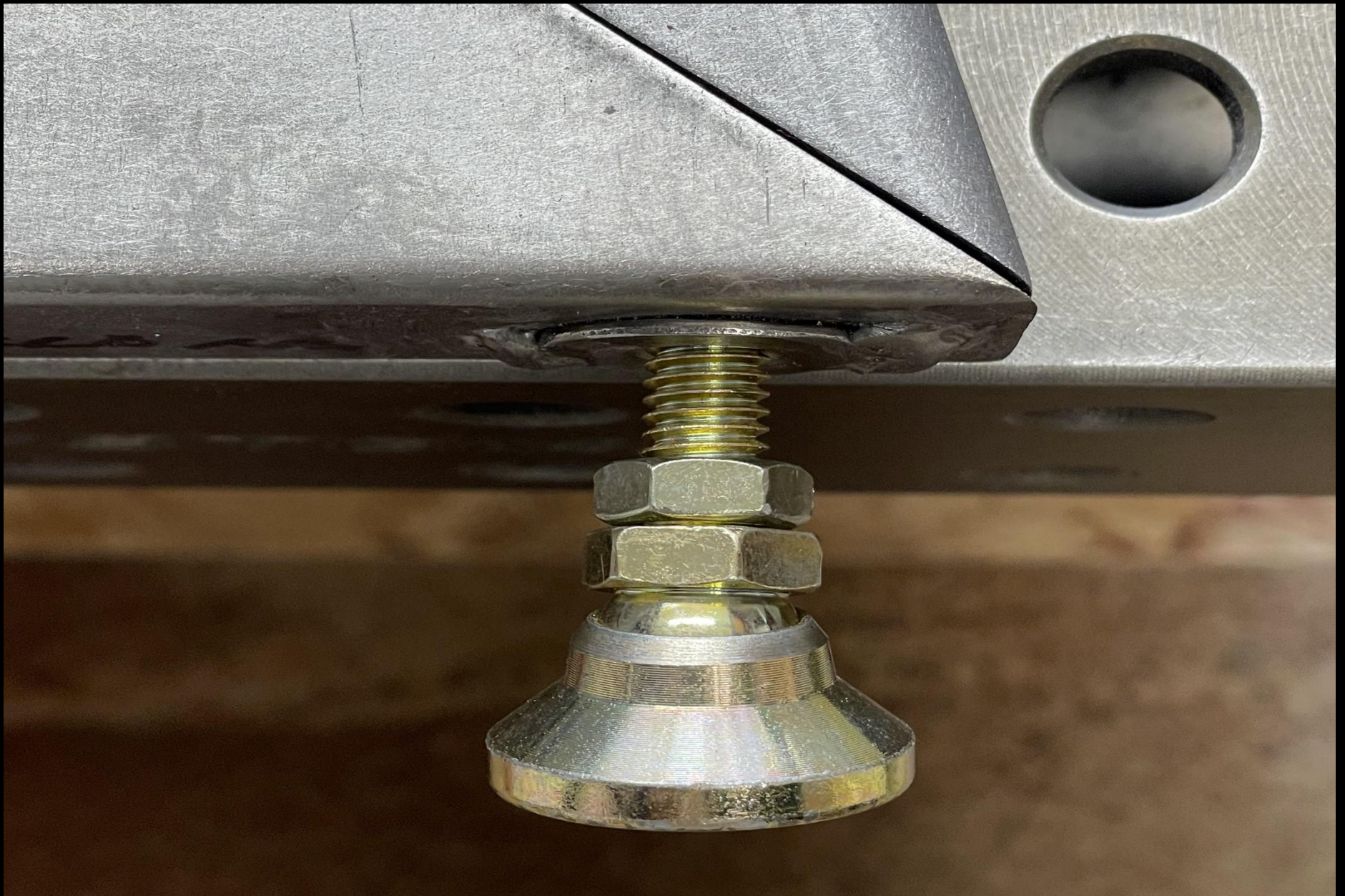




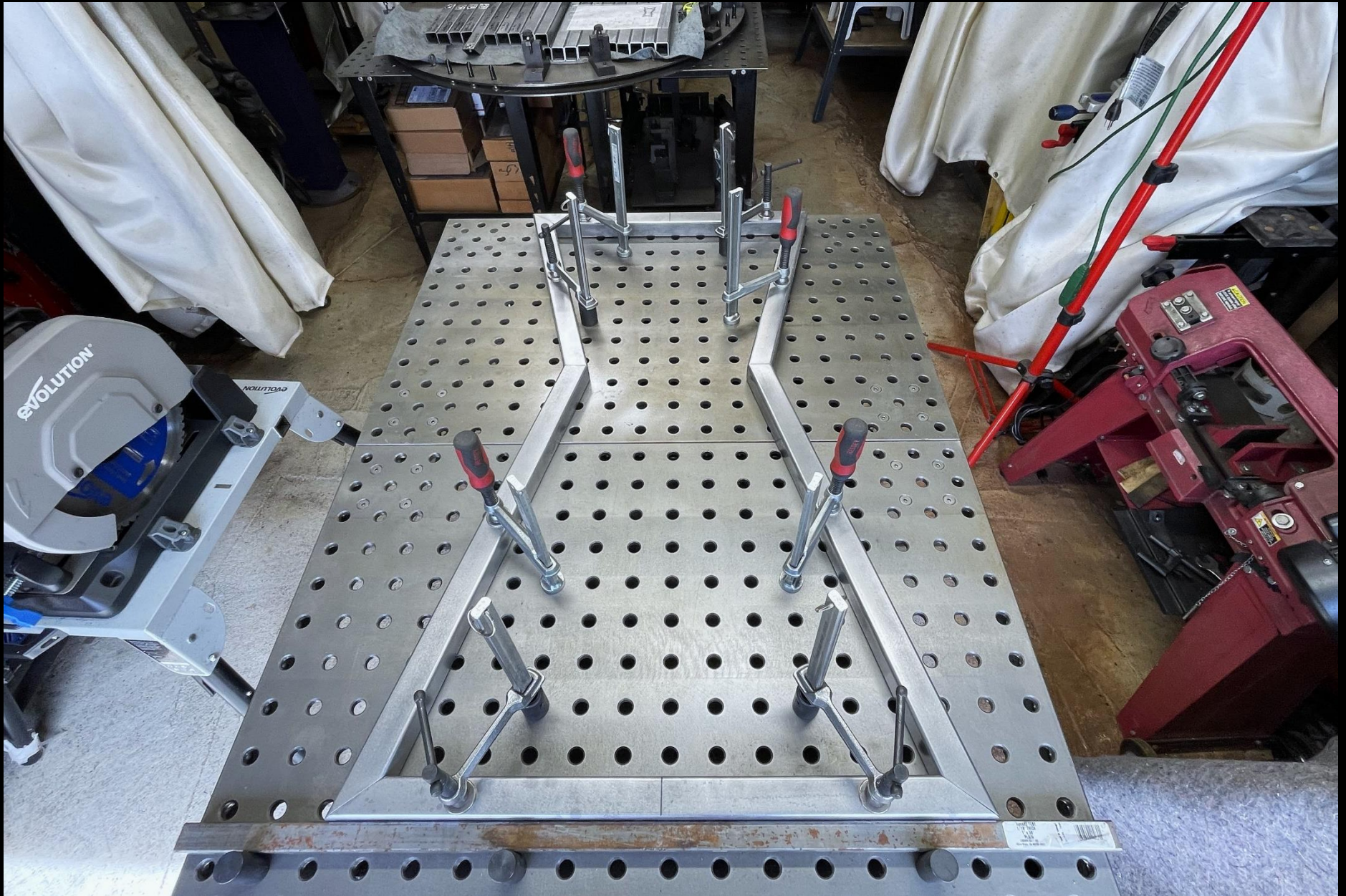
The weld nuts go into the 1/2" hole and get tack welded to the bottom of all the base components for these two tables.



The bottom two base rails and the half split components all have the weld nuts in place.



Checking clearance on the length of thread for the leveling feet inside the tube on the 35.5 degree miter joints.



Setting up the base frame for the 'A' side welds on Table 1. Checking the overall height and mid-length of the table centers and getting miter joints inline.



Base for Table 1, 'A' side welds on miter joints complete.



Welds on Table 1, 'A' side, run across and down each side of the 15 degree miter joints. On the base, the welds run down the inside angle, across and down the outside nose of the 35.5 degree miters.



For Table 1, 'B' side welds, I need to get the base off the welding table by using some parallels, so the 'A' welds are not in contact.



Table 1, component base welding is complete.



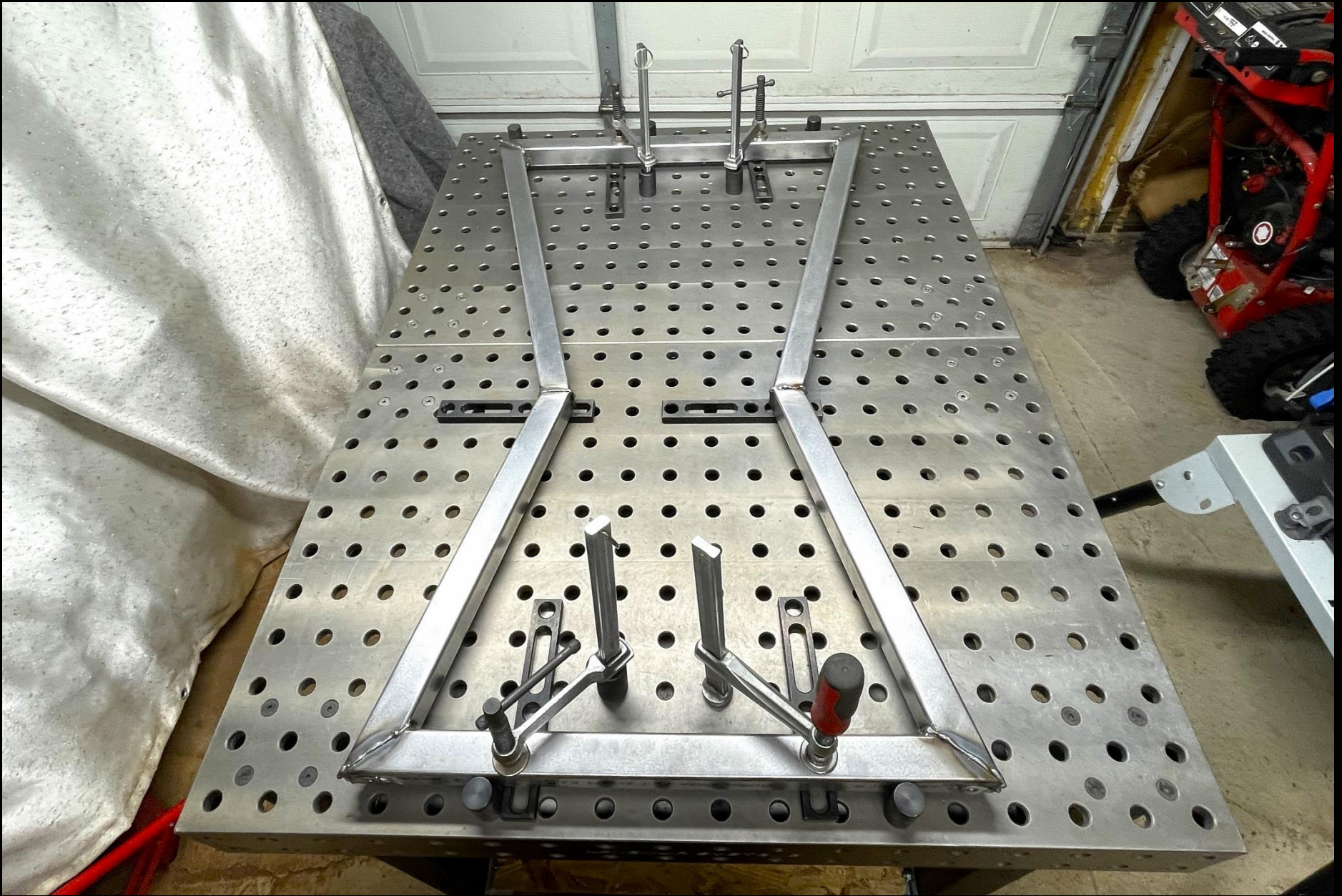
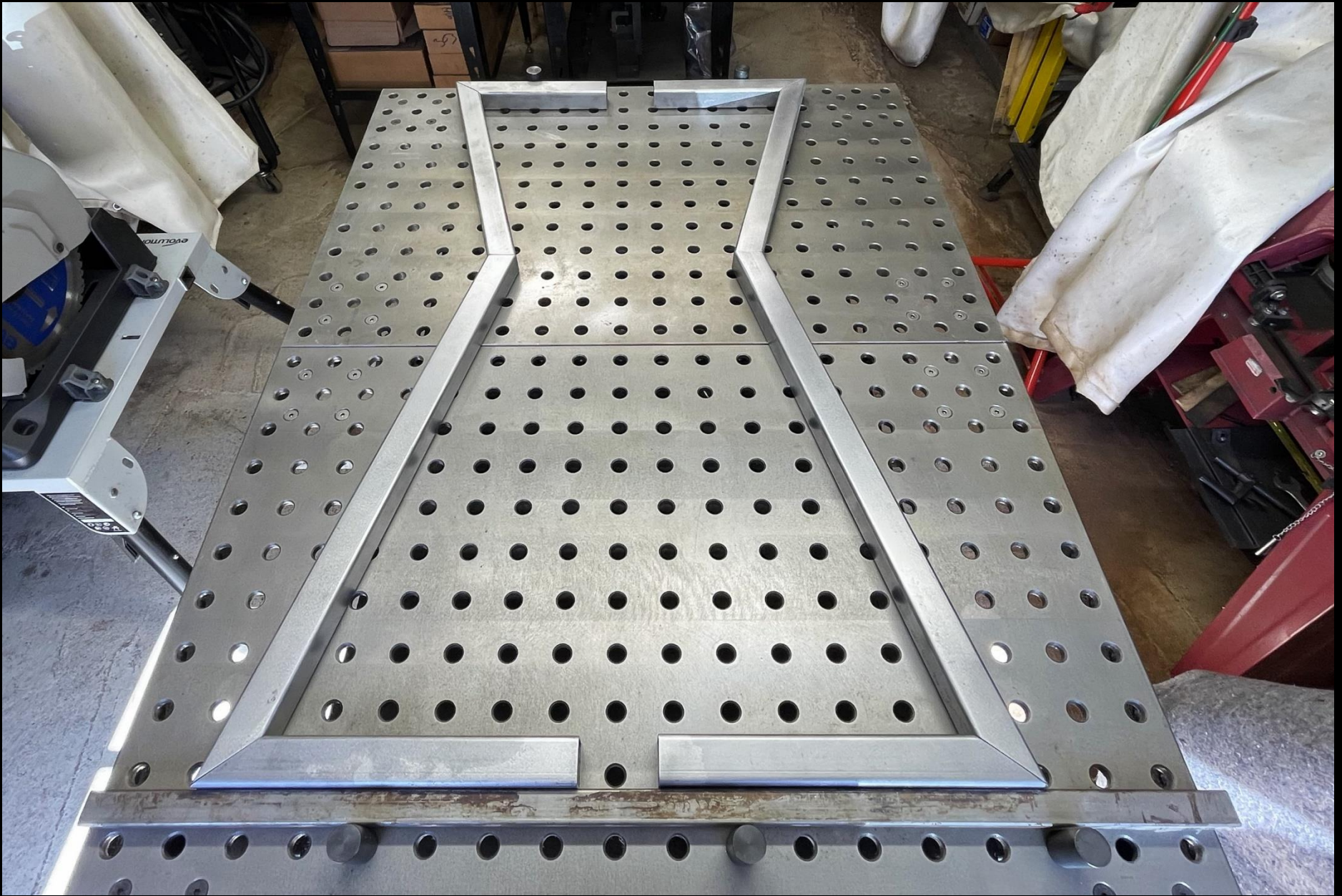


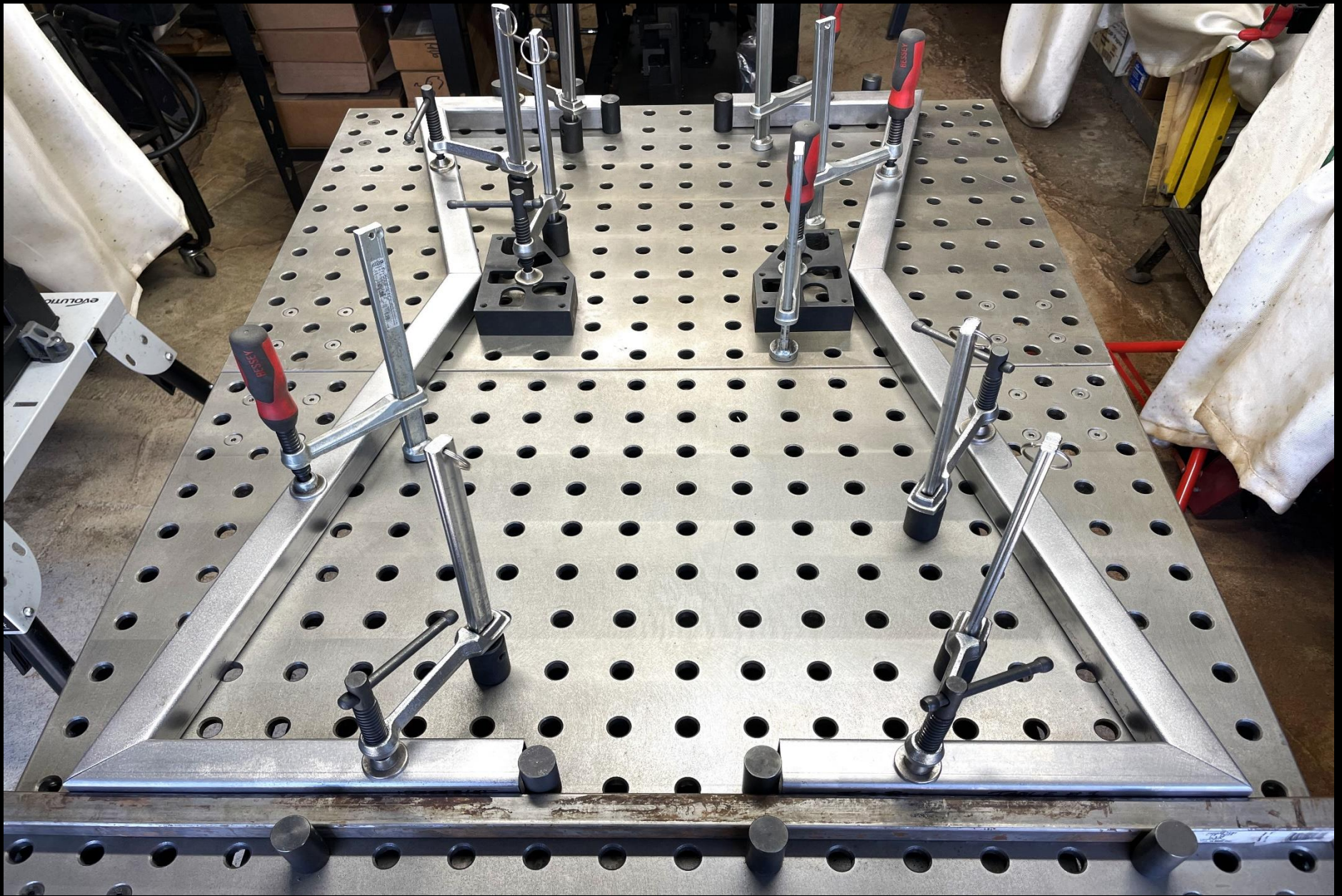
Table Base 2, Completing 'A' & 'B' welds.



Both table bases are welded. The splits for each side are next.



Checking on the fit and layout for the splits required for each table.



Creating the setup for the splits required some careful consideration to get these components put together correctly for the 'A' side welds, doing two at a time.



Table1 splits, 'A' side welding is complete.

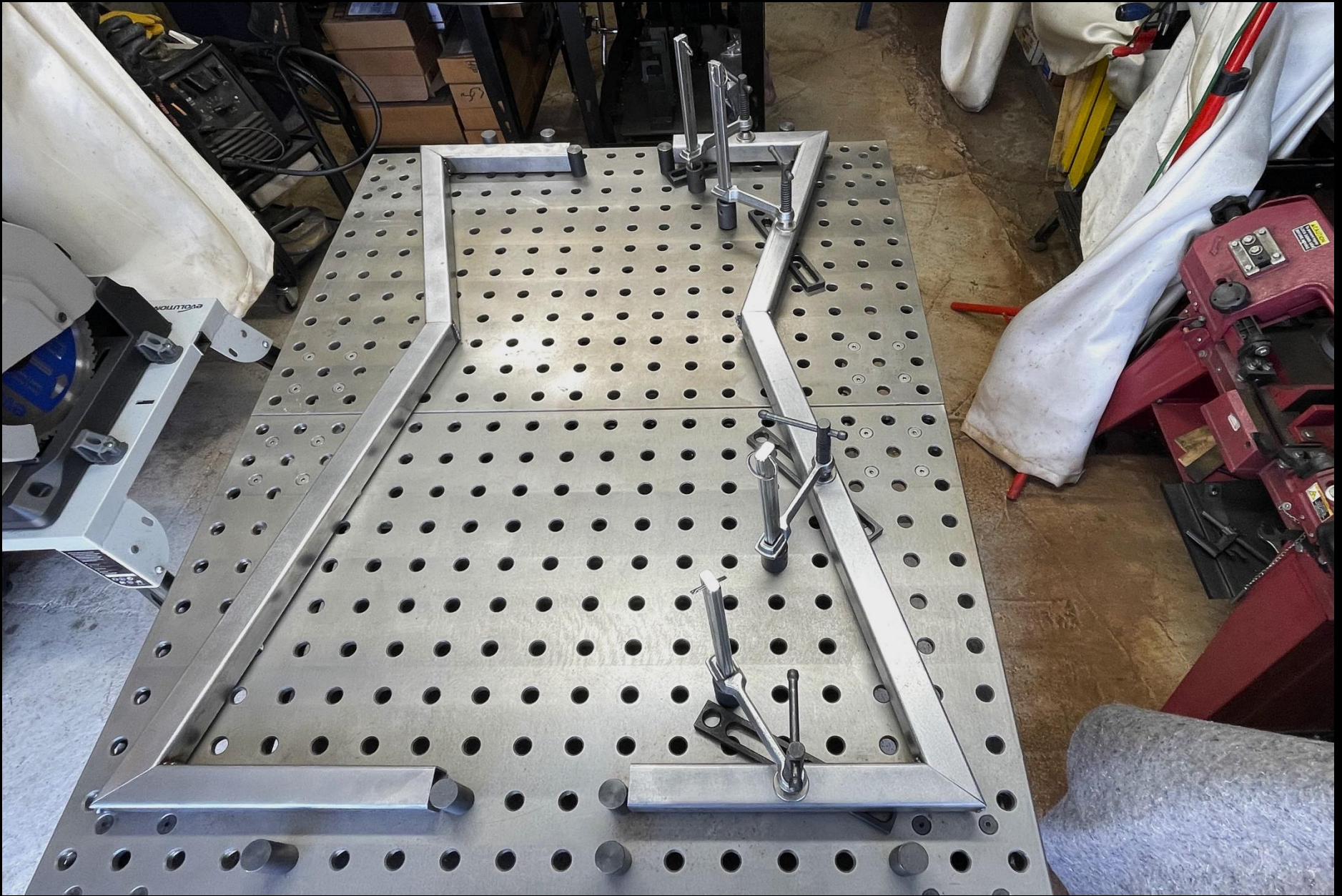
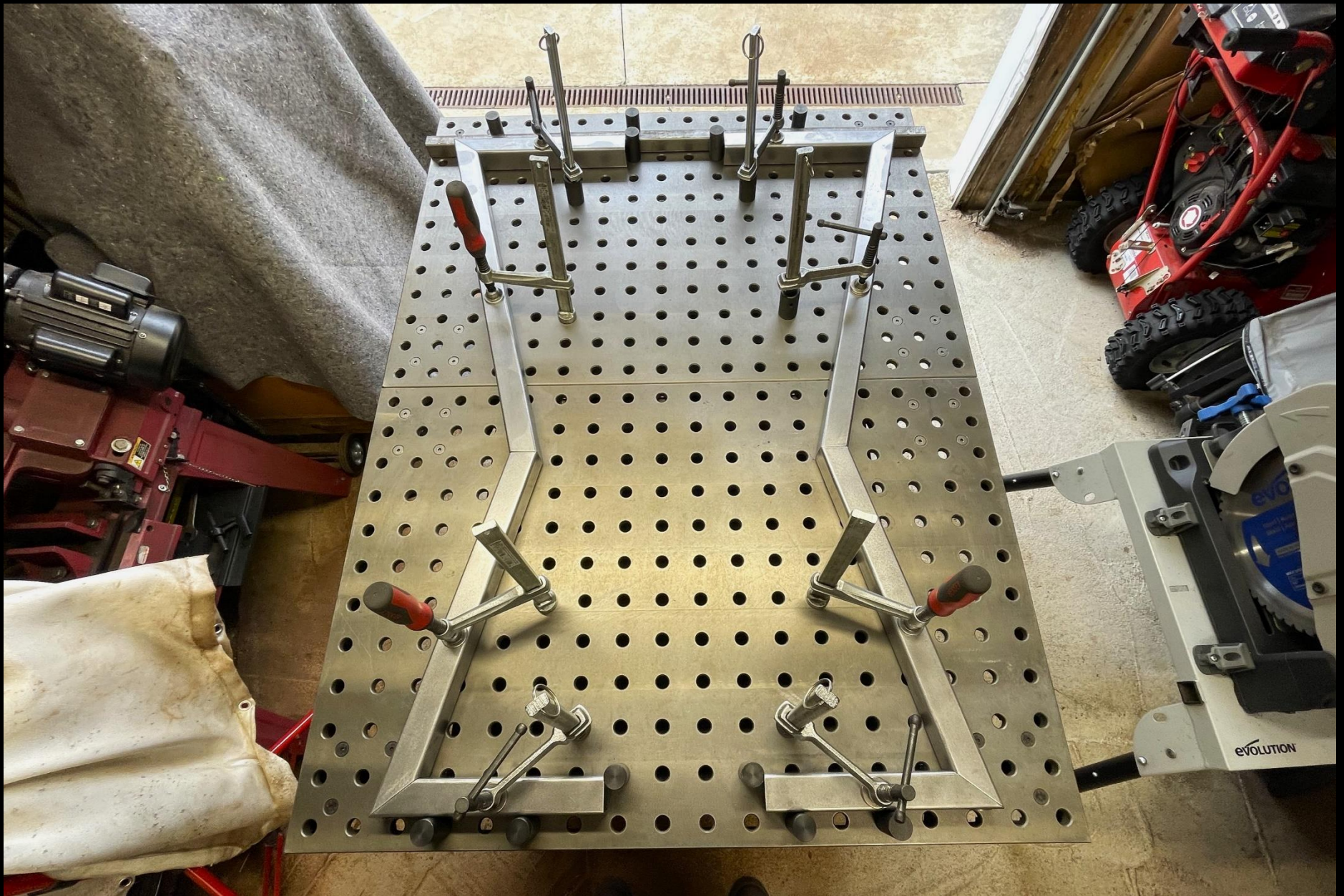


Table 1, splits 'B' sides. I needed to use parallels to get the splits off the weld table like I did the bases to do the 'B' side welds



Component Splits for Table 1 are welded.

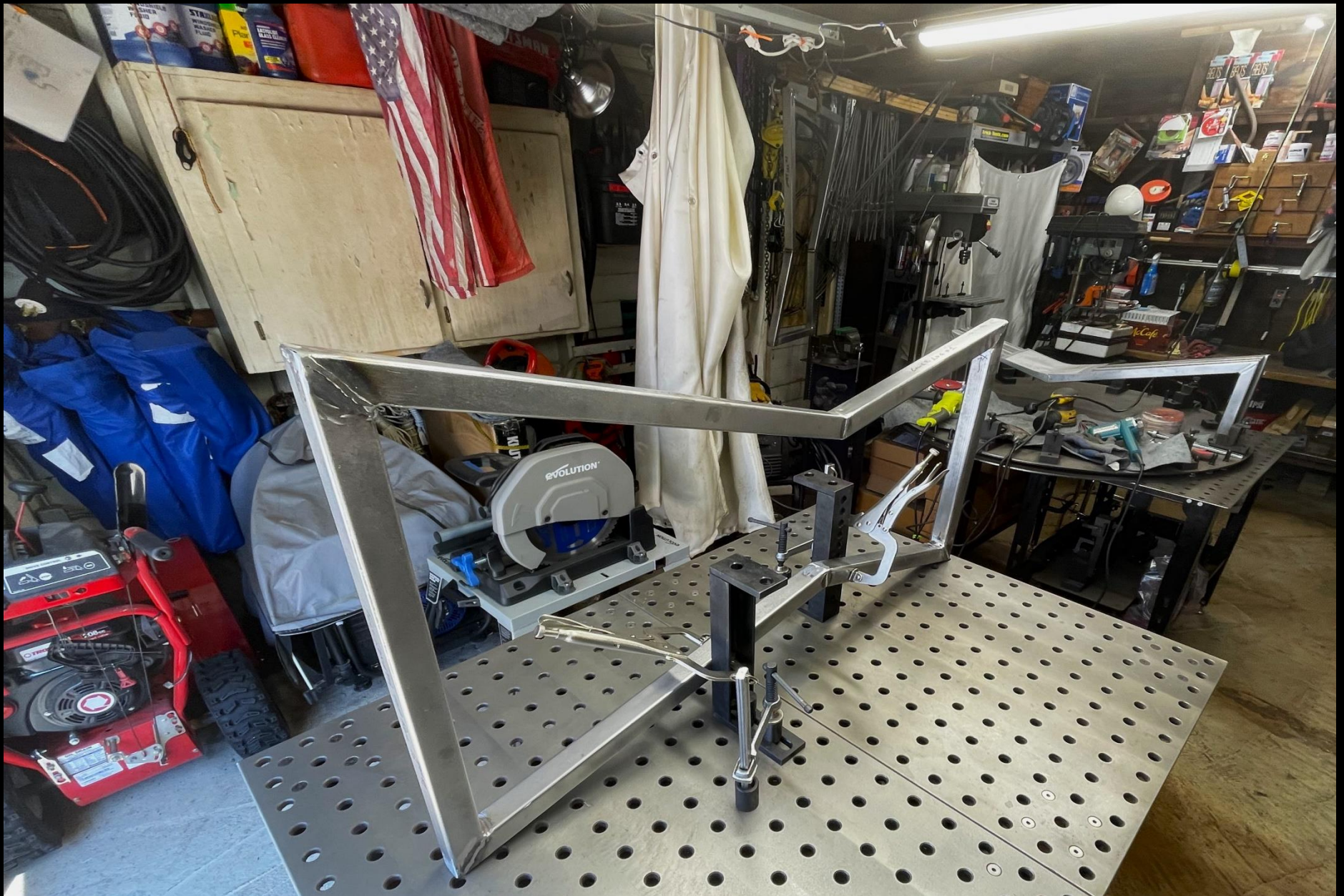


Using the same setup, I complete welding the 'A' & 'B' side splits for table 2.





The two component bases and four splits are welded.



My next step is to create a setup to hold both the bases and the splits so that I can grind each of the welds and rough sand all of the surfaces.



This is the setup that I used to attach the first split to each of my tables, making sure the split is on center, top to top and base to base.



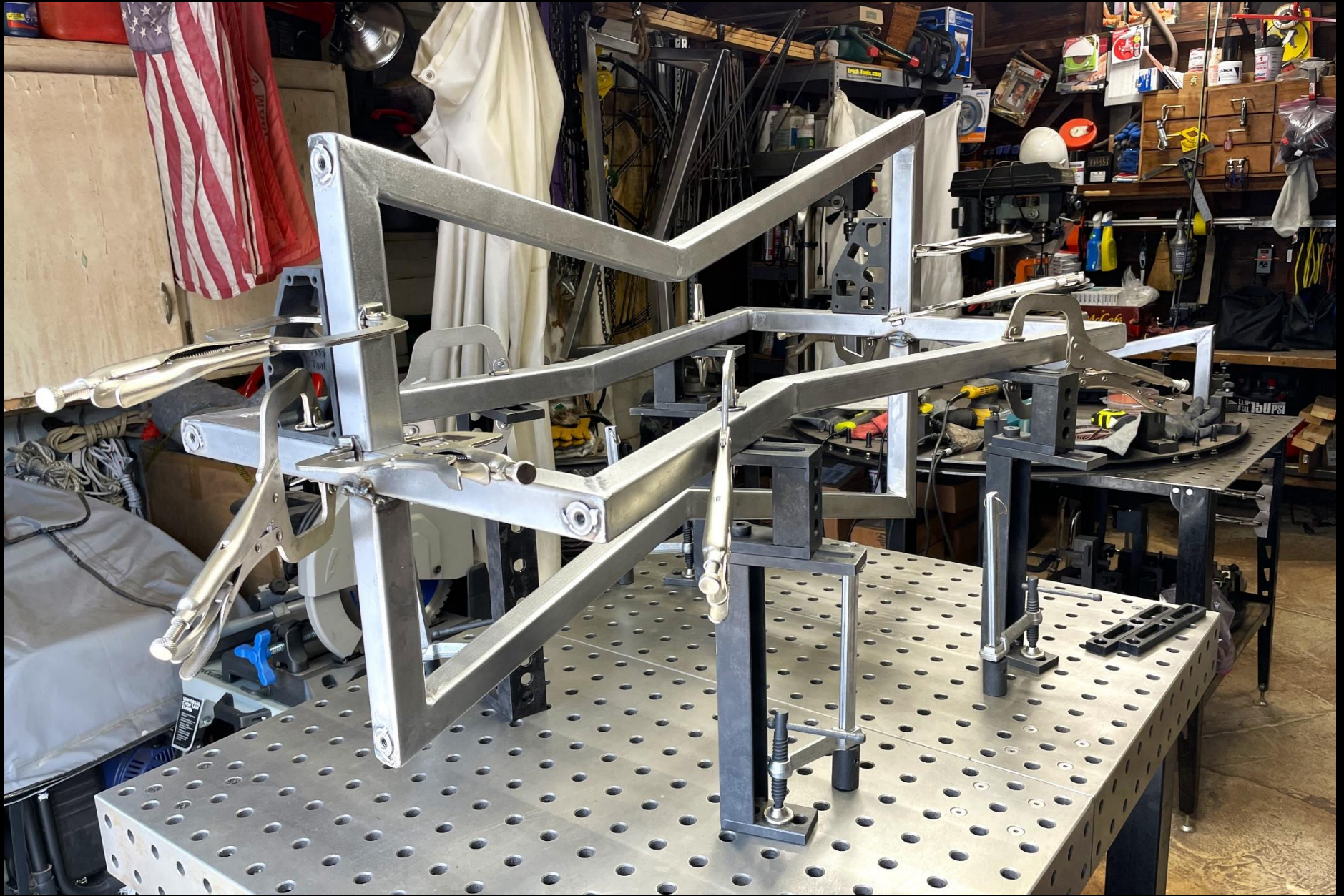
Table 1, the first split welded in place.



Repeating the setup and process for welding the split onto table 2.



Tables 1 & 2 now have the first split welded.



I had to come up with a new setup that clears the first split off the welding table in order to weld on the complementary second split.



Table 1, second split, first gets some tack welds to keep it in position. Then the clamps come off and the rest of the welding is completed.





My stainless steel signature plate is located and welded to the underside of the table's cross bar.



The splits for table 1 & 2 are now welded to complete the assembly. Now the joining welds for the splits on both tables need to be ground and finish sanded.



The Monaco High Top Patio Tables are now ready to send to the power coater.

**Bill To:**  
**MBL Creations**  
**Mark Langlois**  
**Date: May 16, 2024**

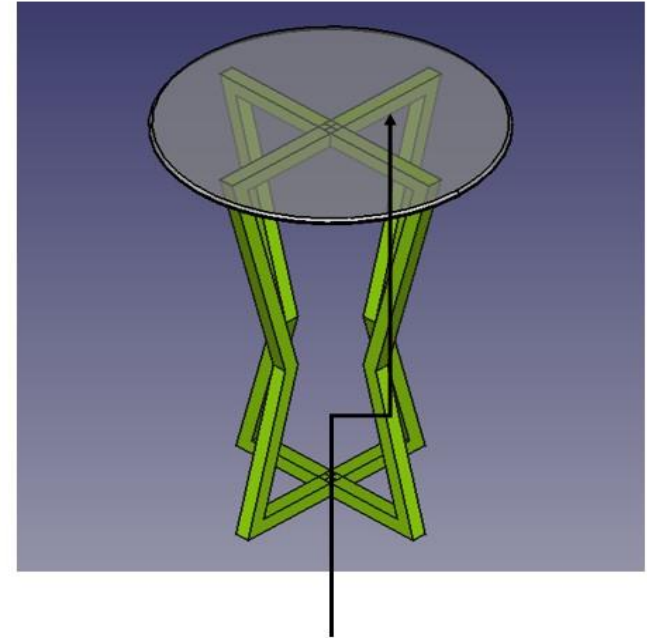
**Customer: 7**  
**Coffee Table ML-ISC-8A-00001**  
**Prismatic Color: Illusion Sour Apple**  
**Color Number: PMB 6913**  
**Top Coat: Clear Vision PPS 2974**

- 1) Mask off Signature Plate on High Top Table Before Sand Blasting If Required
- 2) Sand Blast High Top Table If Required
- 3) Mask off Signature Plates on High Top Table Before Powder Coat
- 4) Powder Coat High Top Table Colors must match registration Numbers On Coffee Table

\*Note: 3/8-16 Threaded Weld Nuts Are Located On The Bottom X-Bars For Hanging



 Designed & Created By Mark Langlois  
Reg. No. ML-ISC-8A-00001



 Designed & Created By Mark Langlois  
Reg. No. ML-ISC-8A-00001

Signature Plate Located  
Under Top Cross Bar



Monaco High Top Patio Table: Assembly Complete—Powder Coated, Leveling Feet Installed, Glass Buttons Installed, Glass (1/2" Plate, 32" Diameter, 1" Bevel)



Monaco High Top Patio Tables Installed On The Patio

**Monaco High Top Table Construction Data**

Design Iteration Number	ML-ISC-121775-8A
Size	B 22" x H 42" x T 26"
Glass	32" Dia, 1/2" Thick, 1" Bevel
Quantity	2 Complete Tables Constructed
Material	1.5"x 1.5" Steel Tube, .120" Wall Thickness
Construction	Welded Construction
Steel Base, Linear Feet, Two Tables	52 Linear Feet 1.5" x 1.5" x .120" Steel Tube
Steel Base, Weight	46.6 lbs. Per Table
Glass Weight	38 .0 lbs. Each
Monaco High Top Table Total Weight	84.6 lbs. Per Table
Steel Cost, Steel Tube, 2 Tables	\$371.15
Glass Cost, 2 Tops	\$310.11
Monaco High Top Table Cost	\$681.26
Total Number of Welds, 2 Tables	136
Finish: Powder Coat	Illusion Sour Apple PMB 6913, PPS 2974
Powder Coat Cost	\$184.00
Weld Nuts for Leveling Feet	3/8-16 Weld Nuts
Leveling Feet	8, 3/8-16 Leveling Feet
Weld Nuts Cost	\$13.62
Leveling Feet Cost	\$61.36
Monaco High Top Table Total Cost, 2 Tables	\$940.24
MIG Welded	.035 Wire
Voltage-Hobart Welder	Setting #2
Wire Speed	Setting #2
Apprximate Man Hours To Construct	120

**Monaco High Top Patio Table Construction Data**