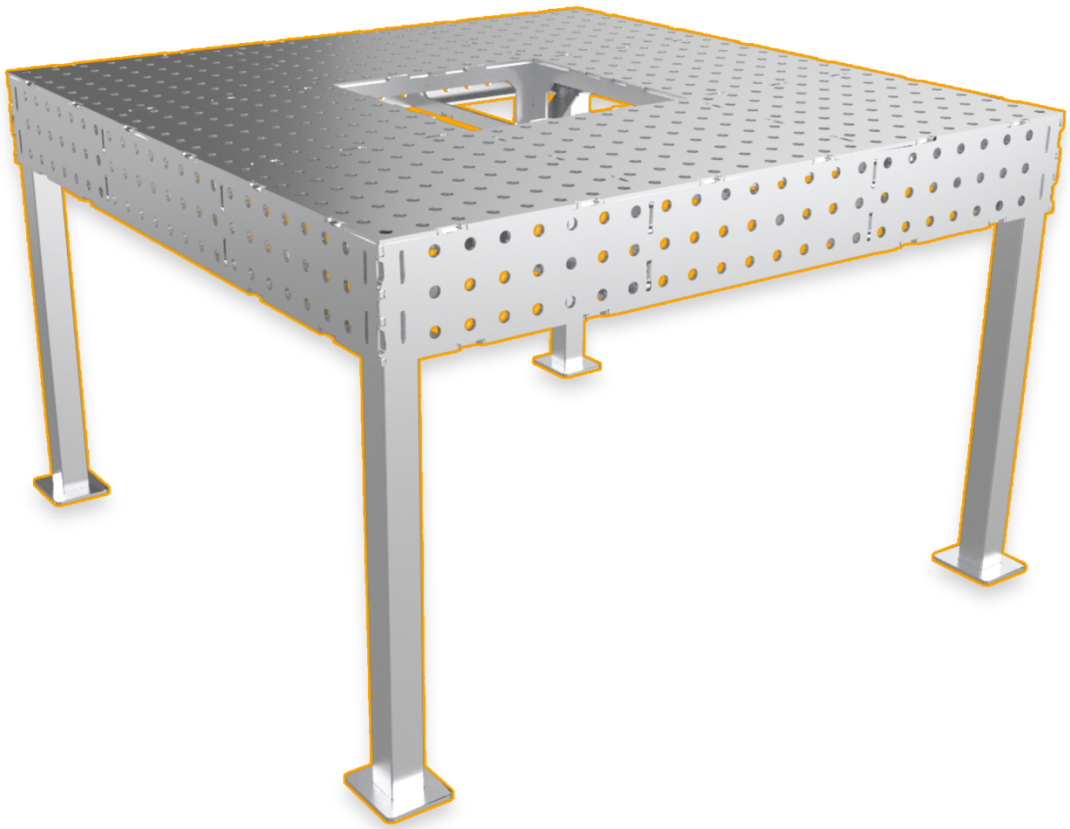
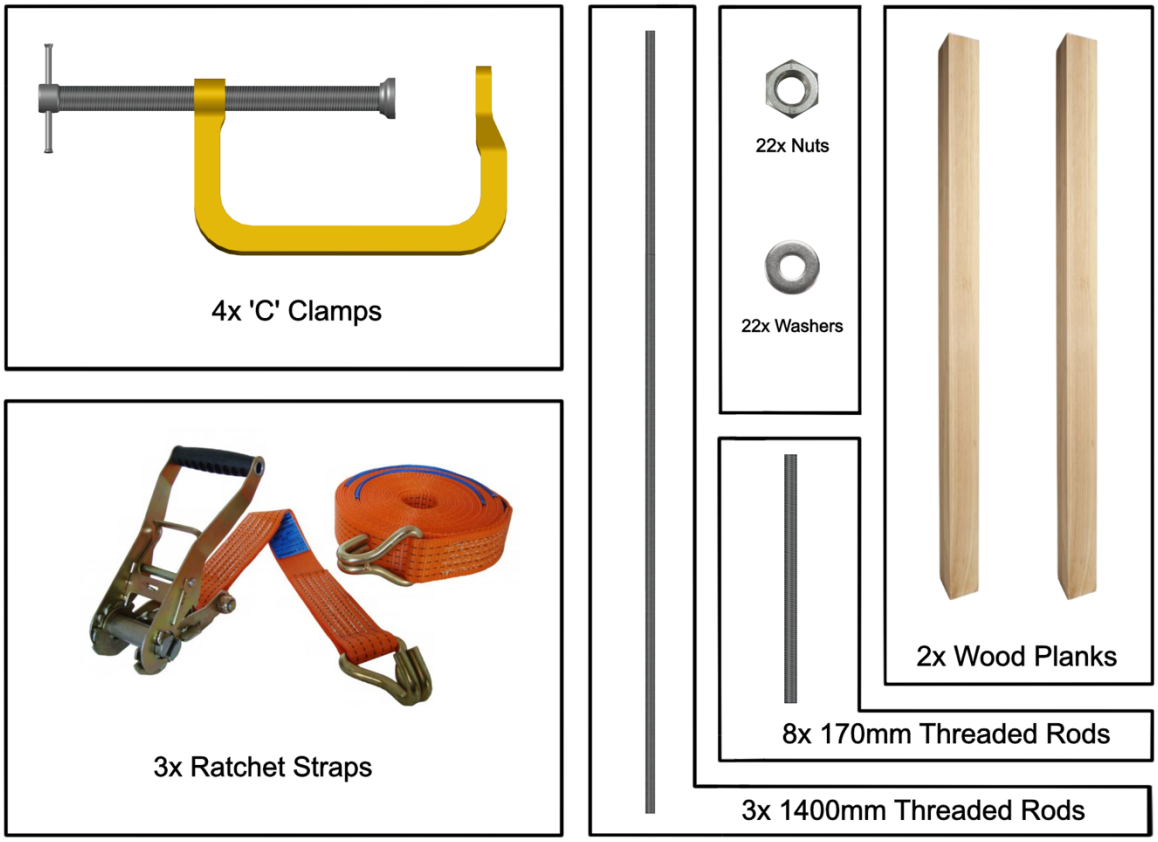
GC

WELDING TABLES

1200 x 1200mm
Table Construction Guide



What You Will Need:



- ‘C’ Clamp (or alternative) should not be made of plastic and the jaws must open up to at least 100mm in order to secure the legs to the table securely.
- Ratchet Straps must be durable and somewhat heat resistant.
- Threaded rods can be any size (<16mm diameter)
- Nuts and Washers must be the corresponding size for the threaded rod.
- Wooden Planks are used to separate the table from the floor and to leave a void in the center of the table to allow for ratchet straps to pass through. It also allows for much easier rotation of the table.

(Please note: The 1400mm threaded rod can be substituted for Ratchet straps or even multiple sash clamps, however, using threaded rod has been found to be the most effective option. The 170mm threaded rods are highly recommended as it makes the separation of the table top during the rotation highly unlikely and also allows for a much more accurate fit.

(Also note: The Wood planks can be substituted for sawhorses.

Disclaimer: It is highly recommended that you have a second or even a third person helping you build the table, they are very heavy and can easily cause strain and injuries. Always remember to wear the appropriate protective equipment when working with metal and welding equipment. This is a dangerous task, remember to treat it as such.

Before You Start:

Before you start the construction process it is important to test your equipment and make sure you are wearing the appropriate Safety and Welding equipment. In order to safely construct the table and avoid serious injury you must wear steel cap work boots, work gloves, a long sleeve cotton shirt and long leg pants (either denim or cotton), it is also recommended that you wear safety glasses and a respirator when working with chemicals or fumes.

In order to safely construct the table you must wear the previously mentioned safety equipment as well as an appropriately rated welding helmet, a welding cap, welding gloves and a welding jacket and/or apron.

Wipe Down the Welding Areas:

It is important to remember that the table has a thin layer of oil coating the table in order to protect it from rust, however, it can affect the quality of the welds if it isn't removed. Before you start assembling the table, remember to wipe the individual pieces down with a known oil/grease remover i.e. acetone, paint thinner, methylated spirits etc.

Check for Burrs:

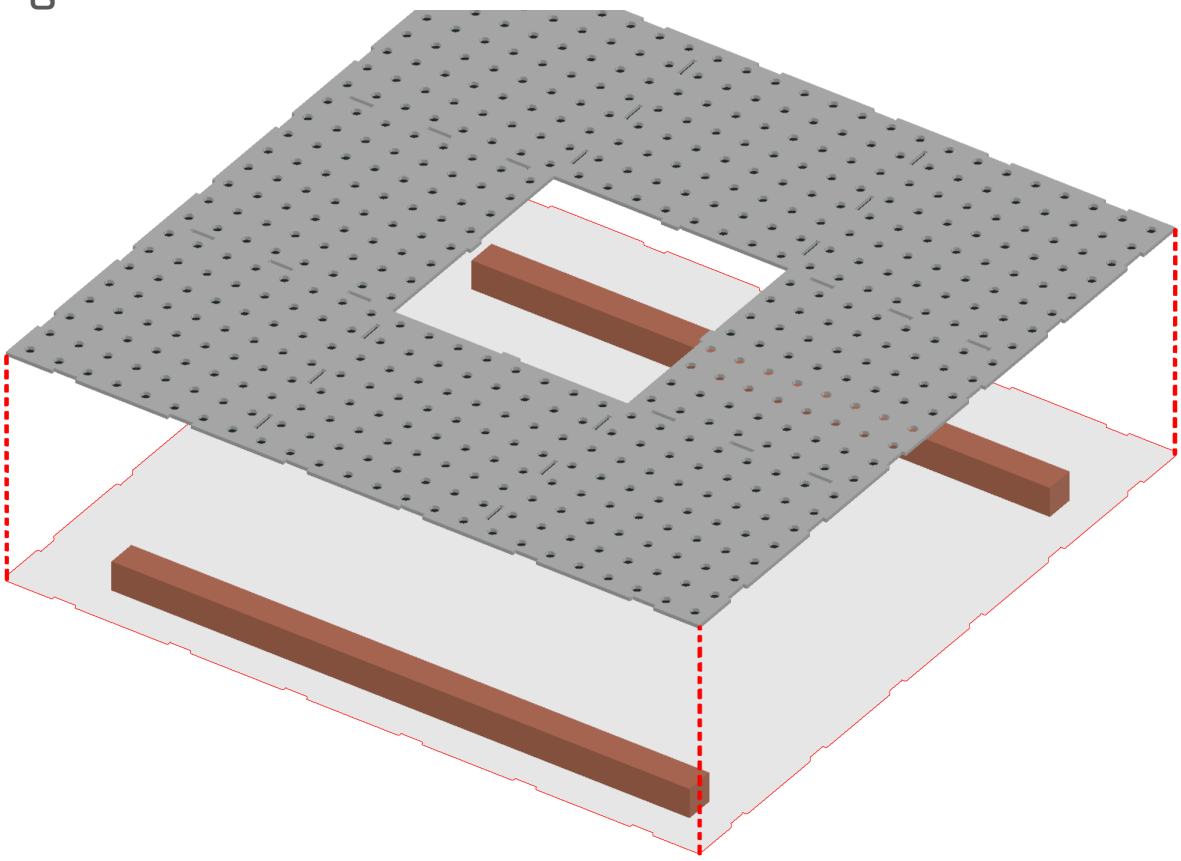
It is necessary to check for any burrs or defects made during the laser cutting process. While wearing a pair of metalworking gloves, run your finger along the edge of the individual pieces and visually inspect them to make sure there aren't any burrs. If you do happen to find one, use a file to remove it, being careful not to remove too much excess material as it may affect the end result.

Please Note: this guide is merely a recommendation and should not be followed blindly, if you do not have the equipment or the experience necessary to complete this project you should consider hiring a professional.

Refer to your welder's manual to find the appropriate settings for your welder.

Now You're Ready...

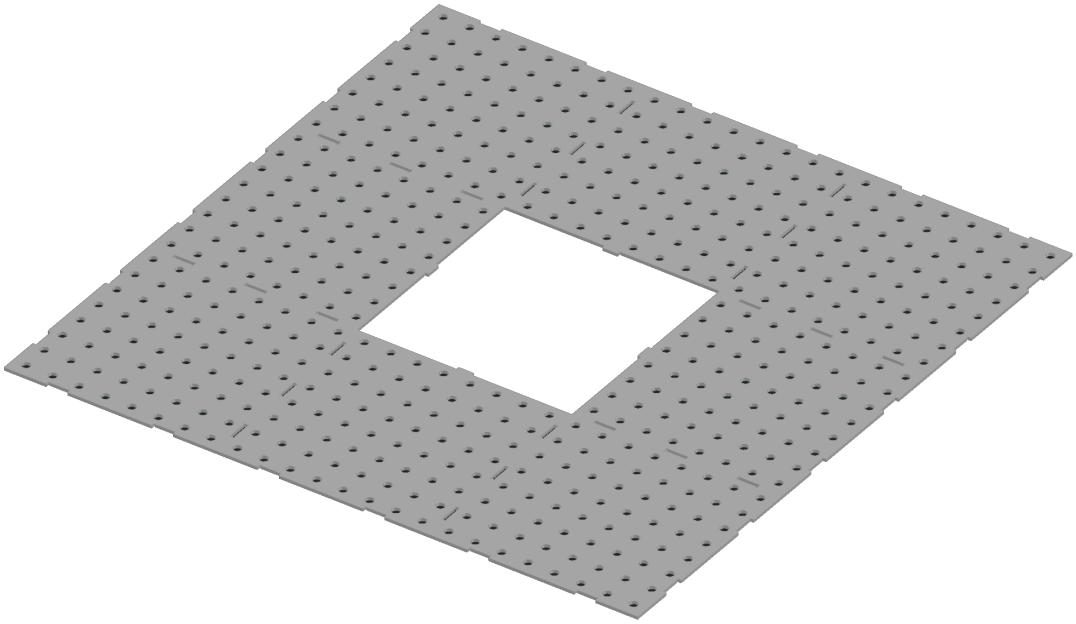
Fig. 1



Place the table top on top of the wooden planks or saw horses, it is ideal to have the wooden planks closer to the center as opposed to the outside as it will distribute the weight better and reduce distortion.

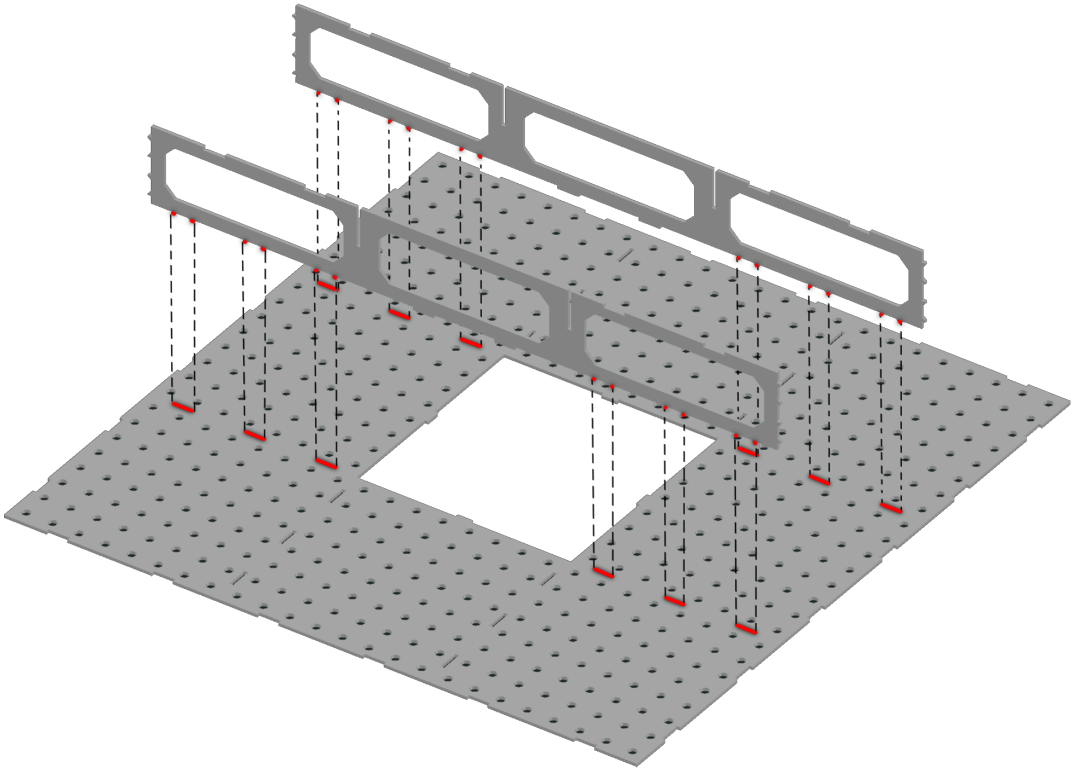
Tip: Laying your ratchet straps across the wooden planks before laying the table top on top will make it a lot easier to secure the side plates (See Fig. 12)

Fig. 2



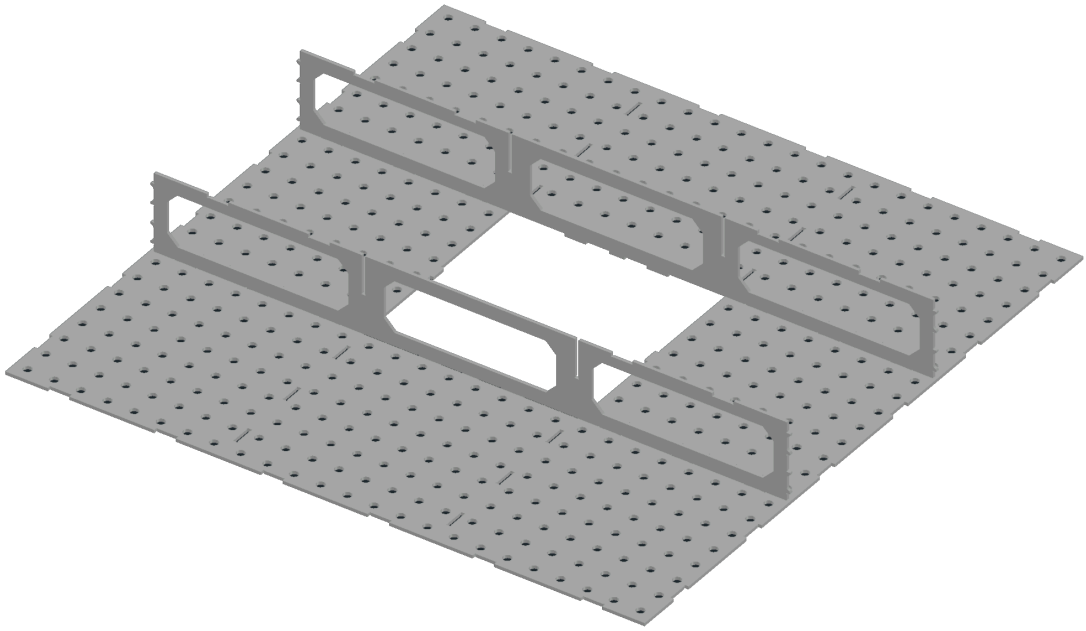
Make sure the table top is level and isn't able to rock from side to side, this will ensure that all the parts fit together perfectly.

Fig. 3



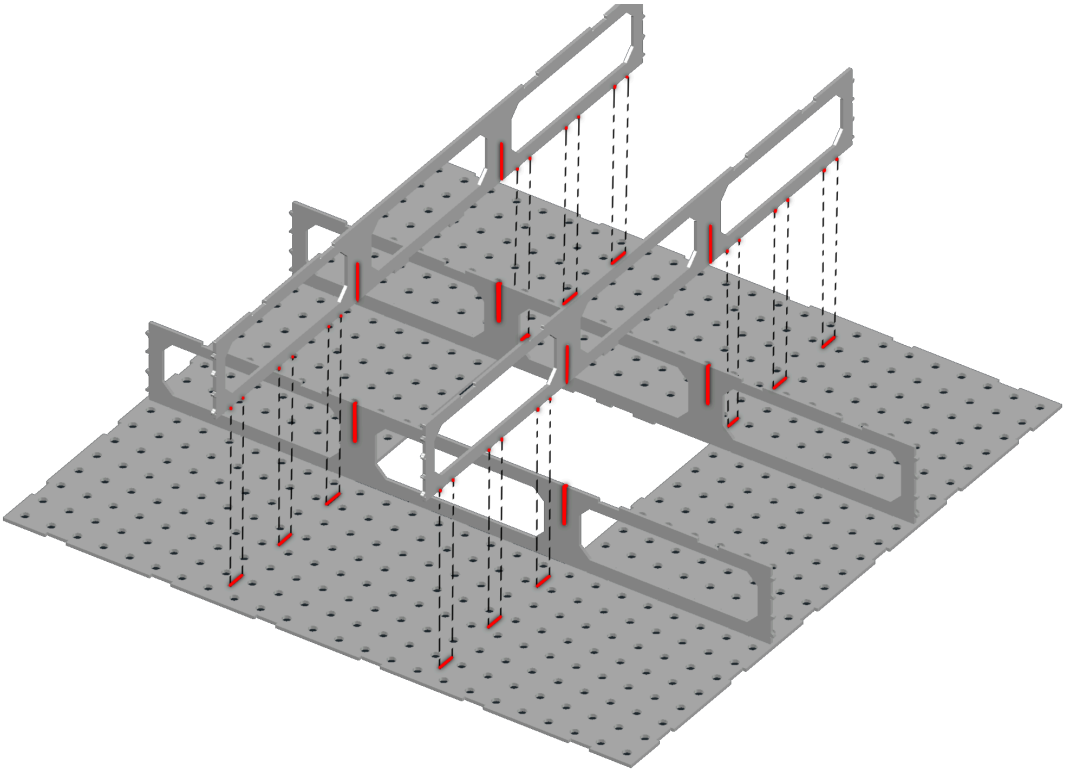
Insert the pieces shown above in the table top.

Fig. 4



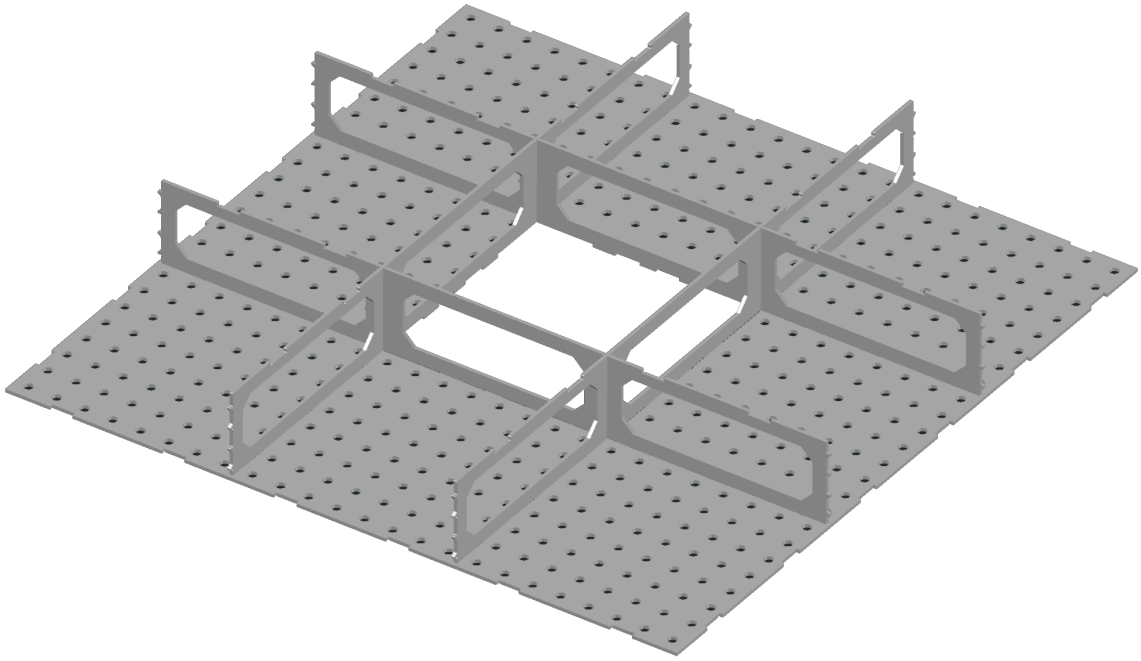
They should fit together tightly with very little wiggle room.

Fig. 5



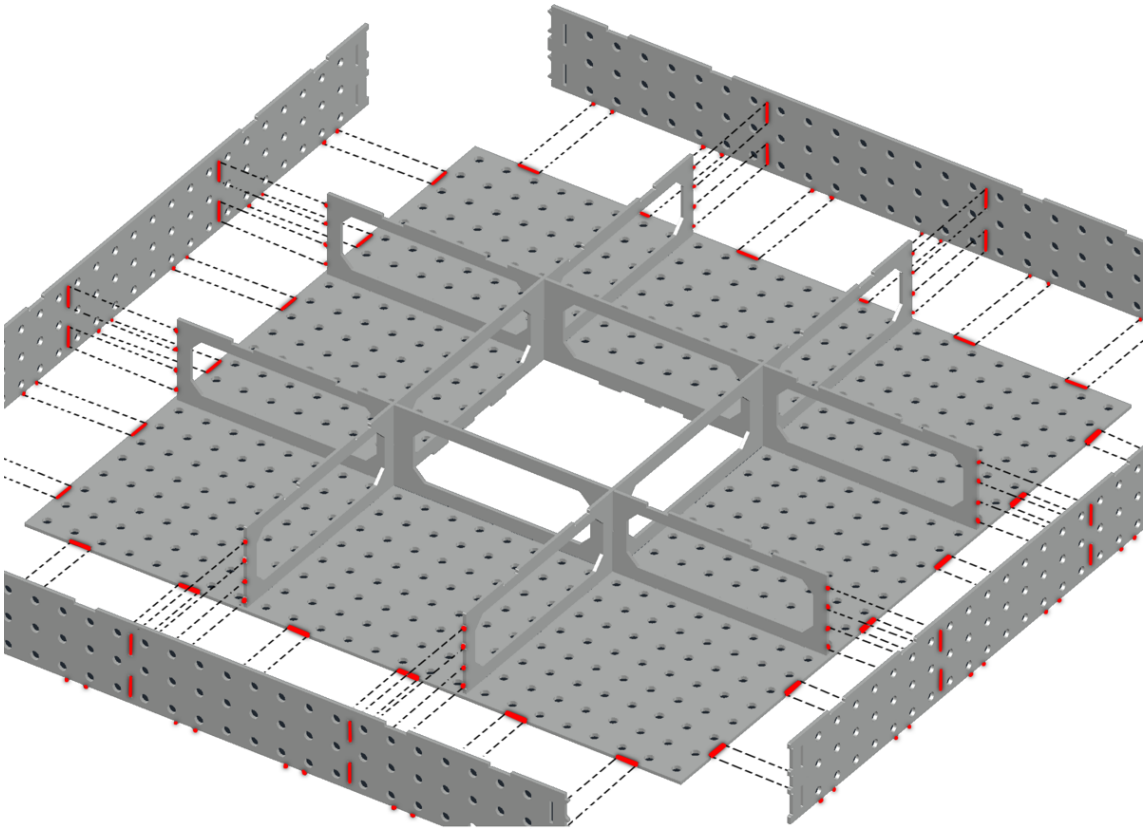
Insert the pieces shown above in the table top so they interlock with the pieces previously inserted.

Fig. 6



Use a rubber mallet or a hammer to lightly tap the pieces into place. If they do not fit correctly the first time, be sure to check for burrs and then try again.

Fig. 7



This step may require some temporary clamps or tie downs in order to hold all of the pieces in place, this will make it much easier to correctly position and fit the sides of the table.

Fig. 8

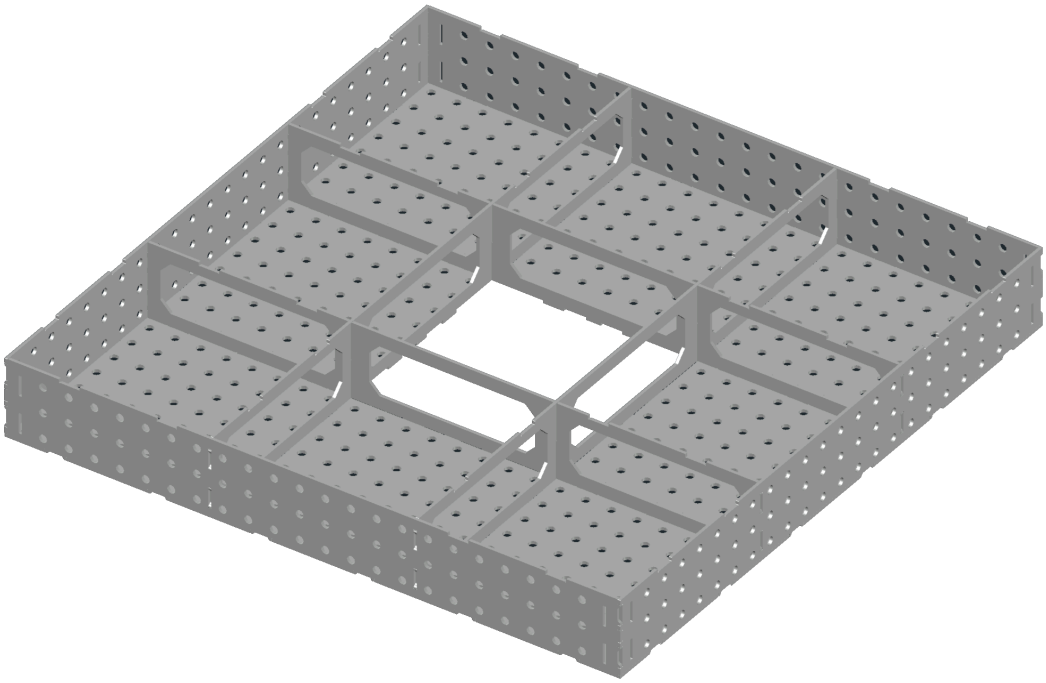
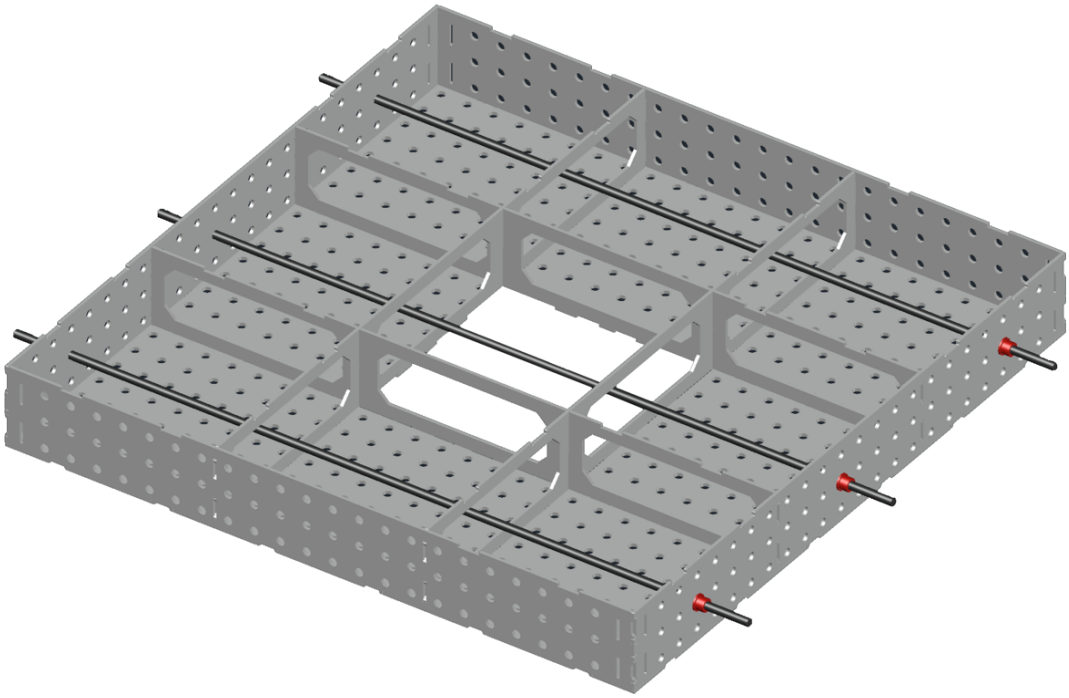


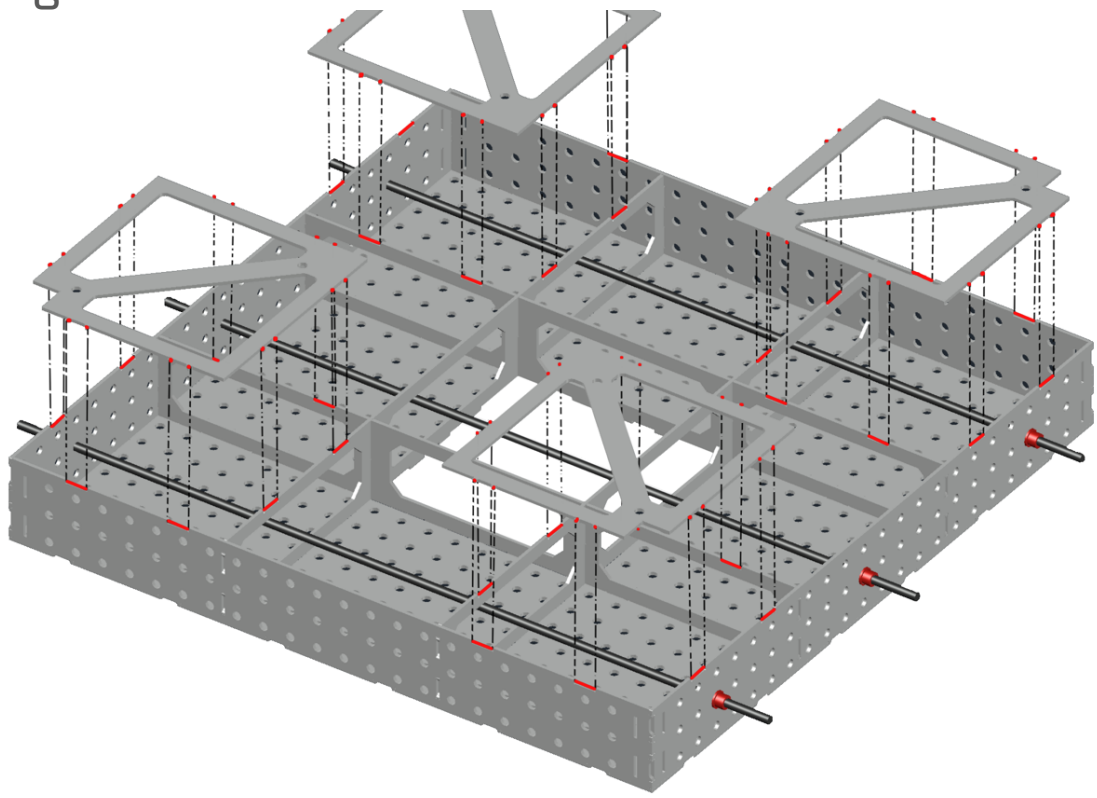
Fig. 9



Use your 1400mm threaded rods to fasten the sides of the table securely. Alternatively, you can use ratchet straps or sash clamps to achieve a similar result, however, using threaded rod tends to distribute the load more evenly. Do not tighten the threaded rod completely until all parts of the table top have been added.

(Make sure to place a washer in between the nut and the table to protect the metal from scratches.)

Fig. 10



Once the threaded rod has been attached, attach the leg plates.

Fig. 11

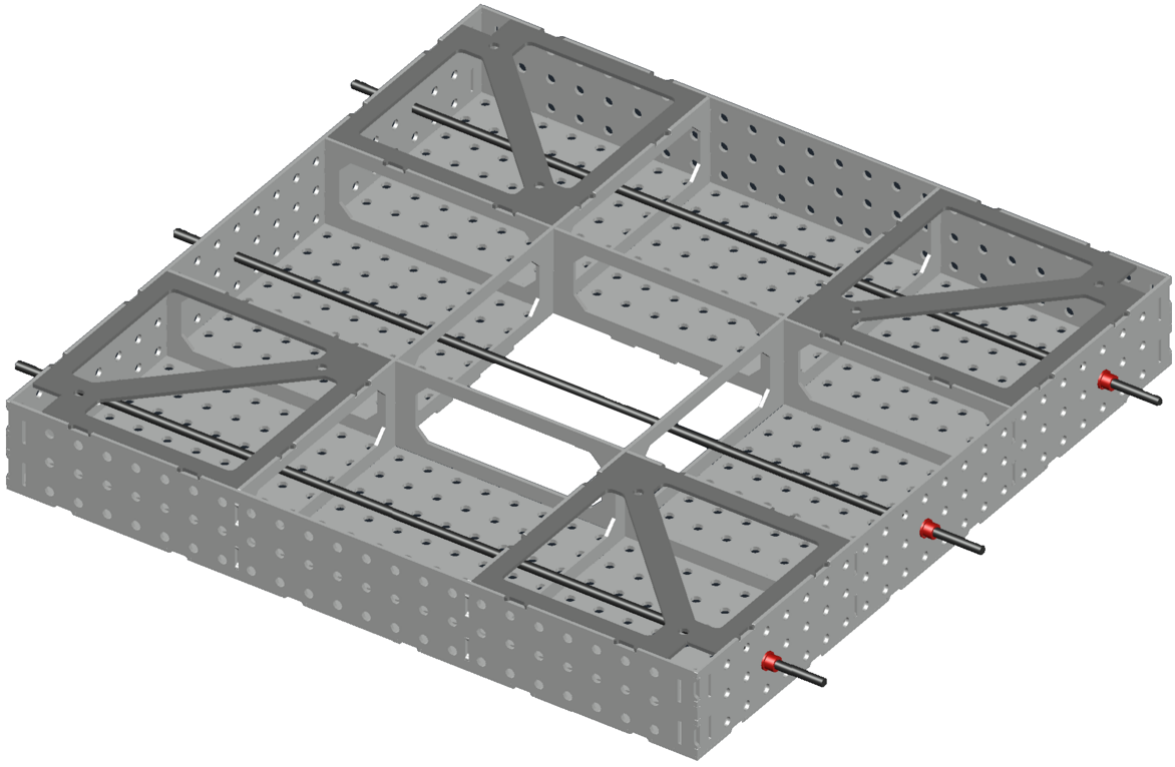
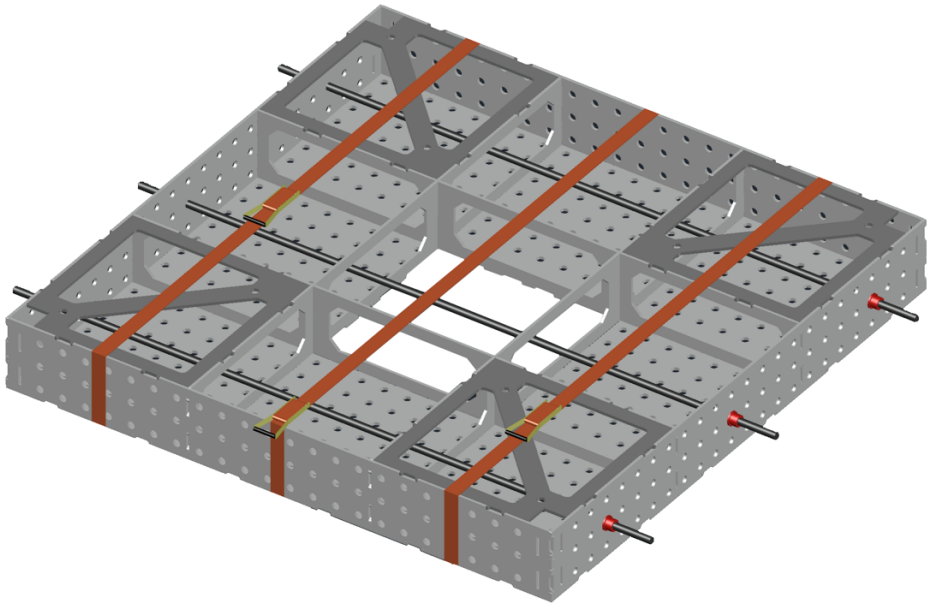
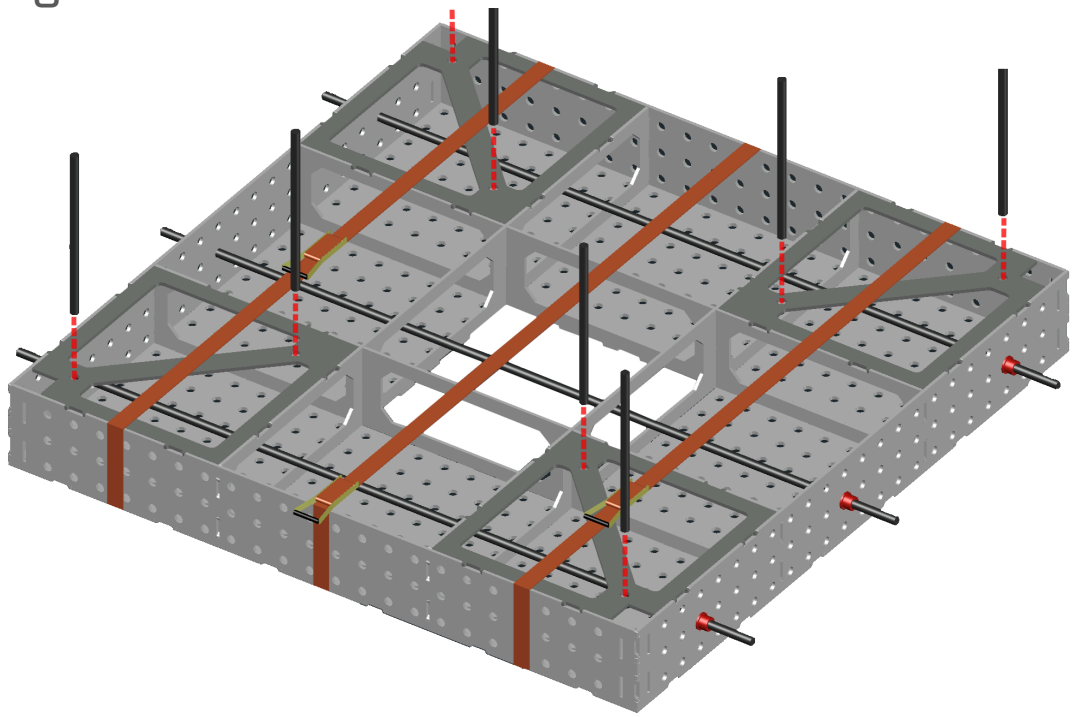


Fig. 12



Once the leg plates have been attached, connect your ratchet straps and tighten them fully. You can now tighten your threaded rods fully.

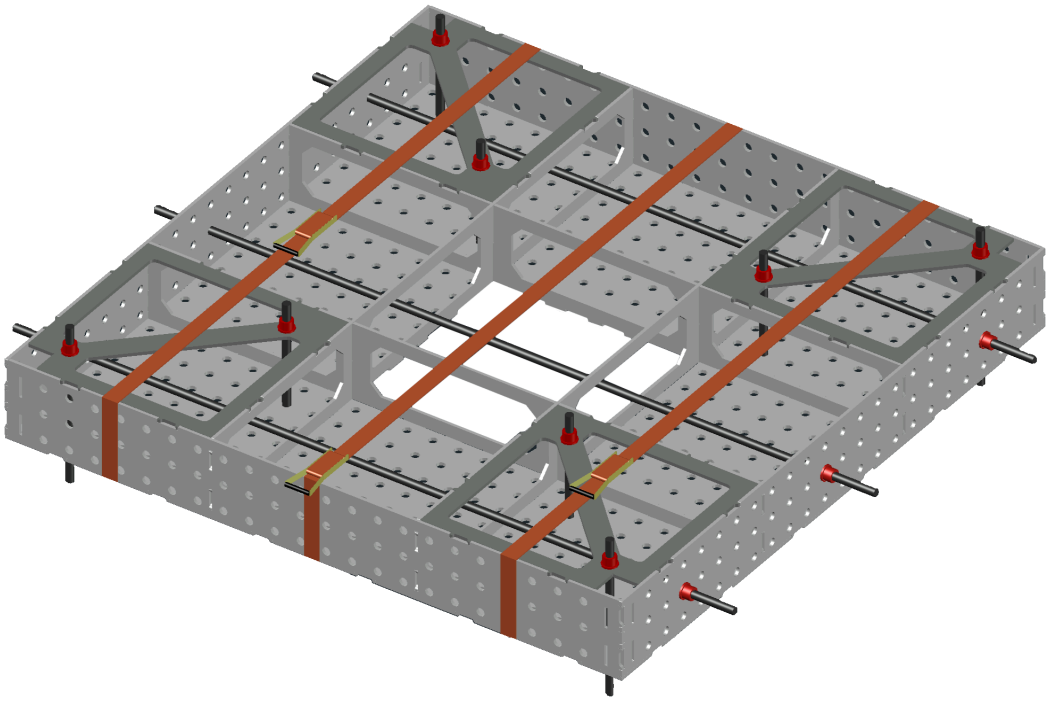
Fig. 13



insert the the 170mm threaded rods into the table in both holes of the leg plates and make sure they line up with the corresponding hole on the table top. This is perhaps the most crucial step of the construction, this will make sure the table is perfectly square and also secure when rotating the table.

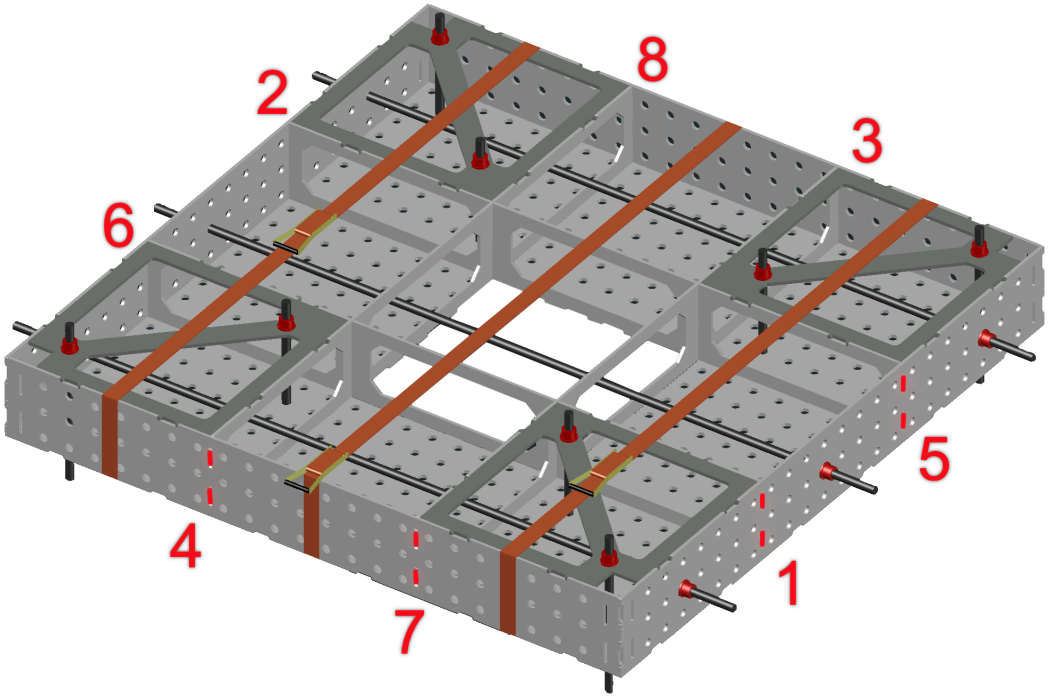
(Make sure to place a washer in between the nut and the table to protect the metal from scratches.)

Fig. 14



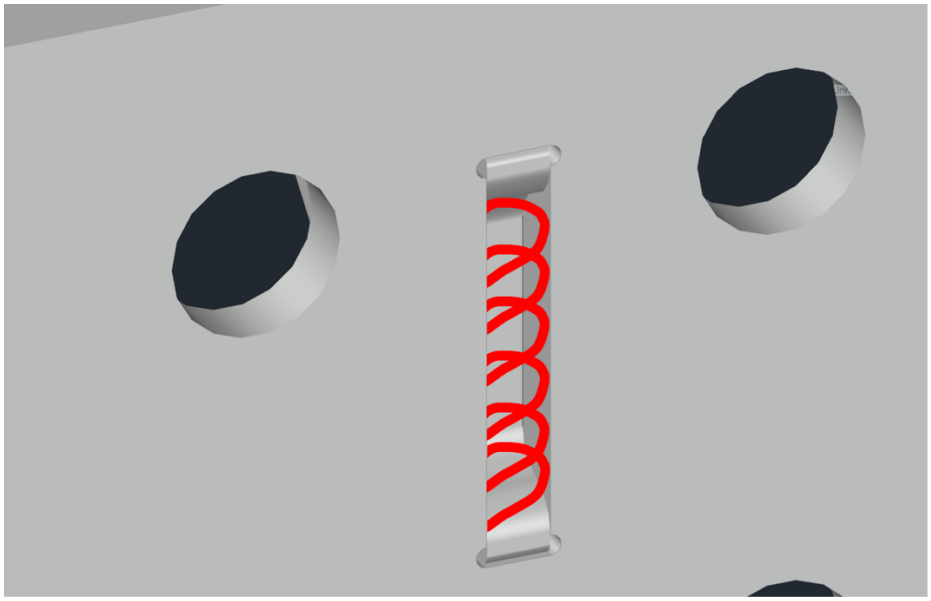
Make sure to tighten the nuts and ratchet straps tightly. A good way to know if the support plates are secured tightly is there should be no gaps between the table top and the support plates, you can check this by shining a flashlight on the opposite side of the support plate and if any light is visible between the table top and the support there is most likely a small burr or the bolts have not been tightened correctly

Fig. 15



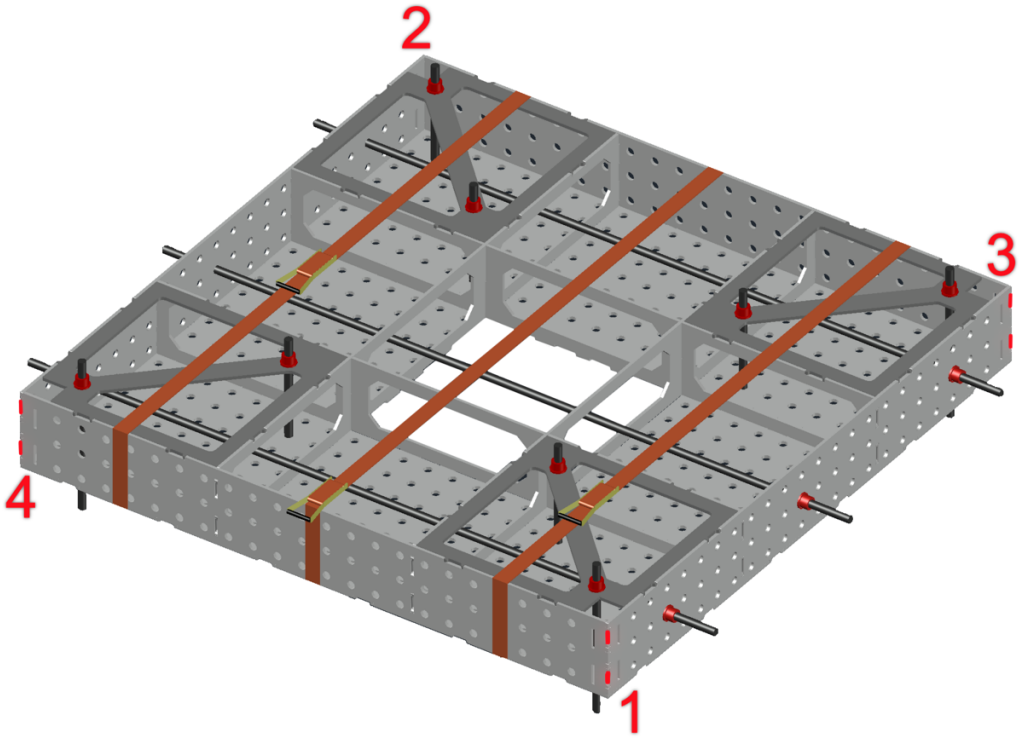
Weld the areas highlighted in red in the order indicated above, make sure to cover as much surface area as you can when welding so the two pieces fuse together correctly.

Fig. 15 (A)



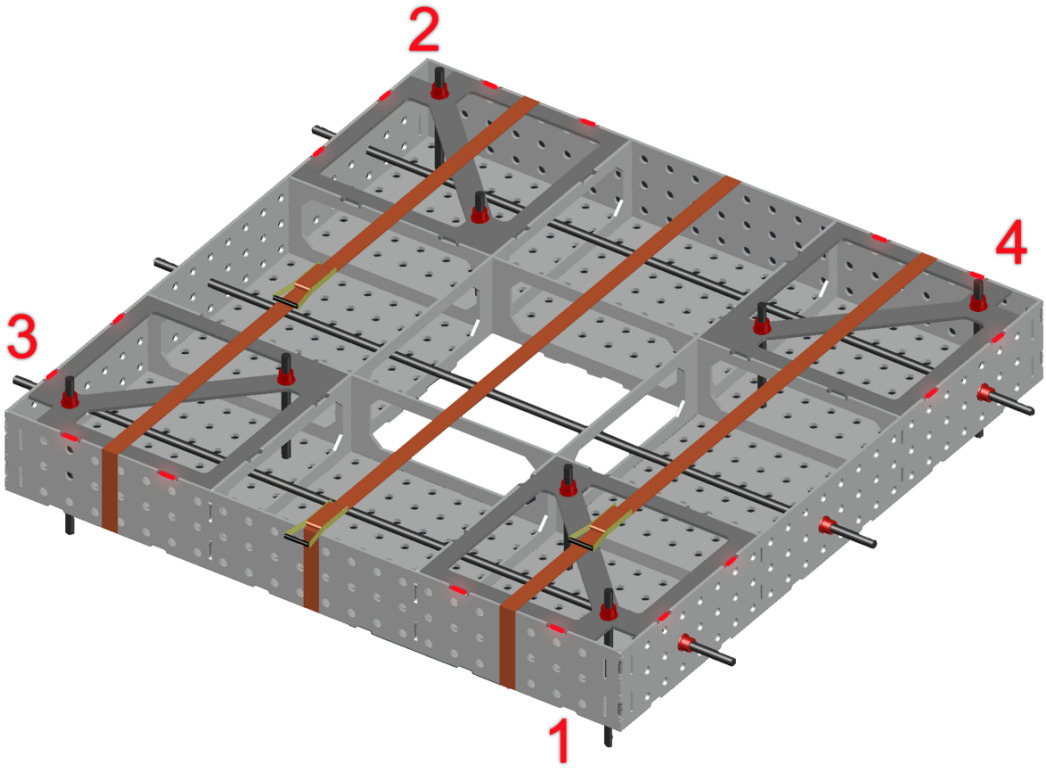
Follow this pattern when welding the slots together. Make sure to make contact with both plates to get a strong weld.

Fig. 16



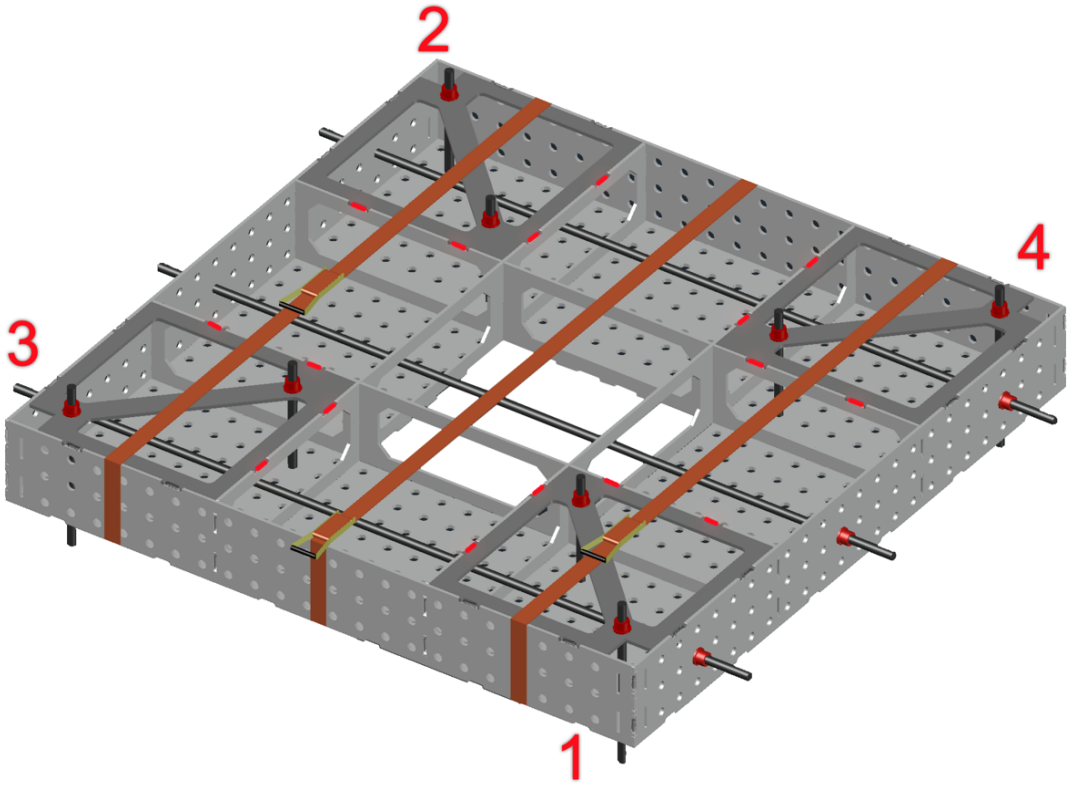
Similar to the above diagram, weld both slots together, making sure to evenly weld both plates together. Weld the highlighted (red) slots together.

Fig. 17



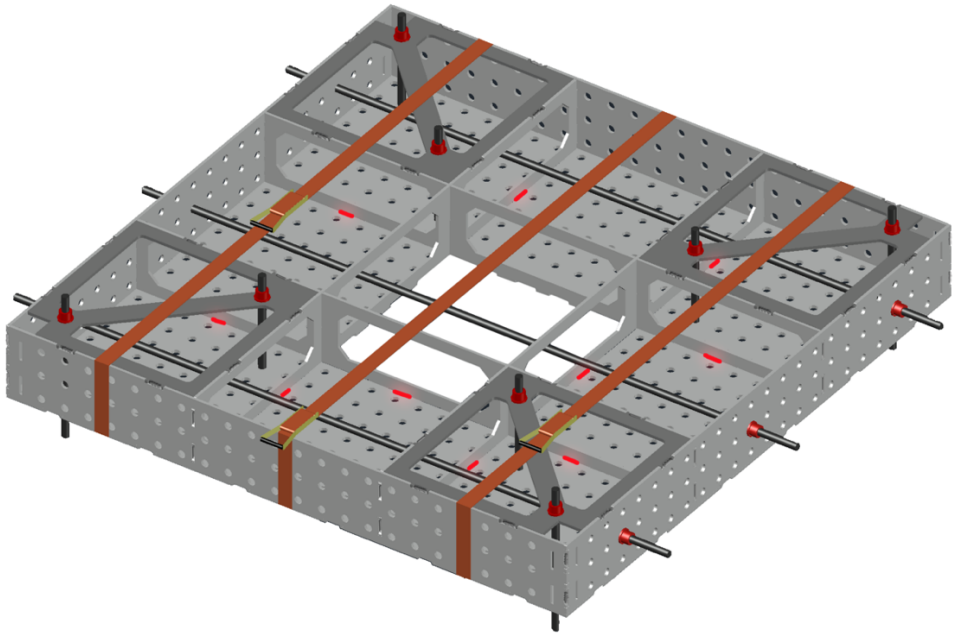
Weld the highlighted areas as shown above.

Fig.18



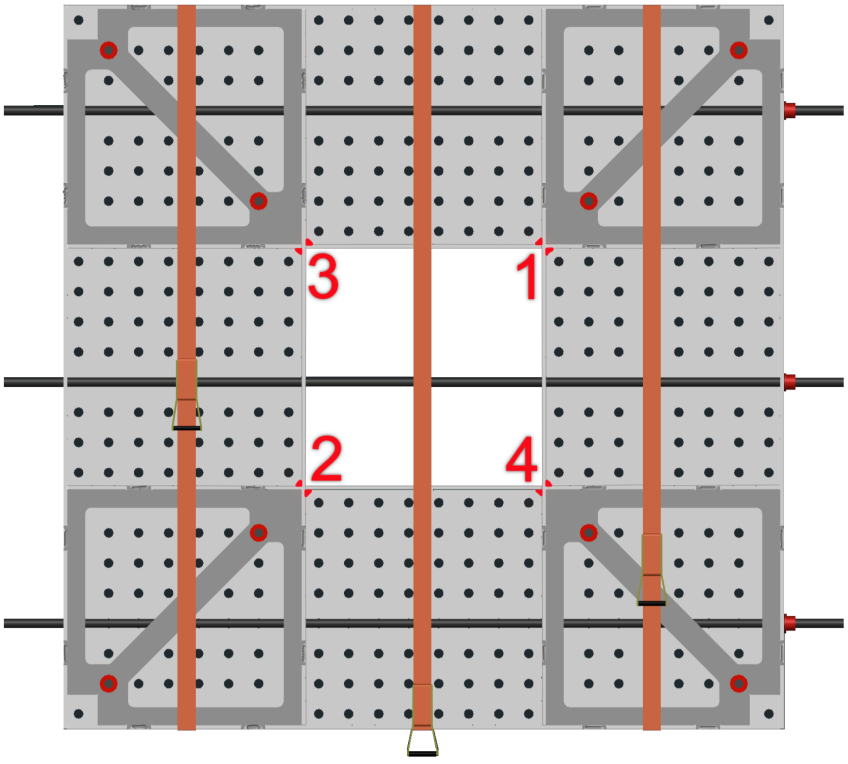
Weld the highlighted areas as shown above.

Fig. 19



Double check the support plate are completely flush with the table top before you start welding to ensure a perfectly flat table top.

Fig. 20



Quickly weld either side of the intersecting support plates to entire they cool at the same rate to avoid distortion. (refer to Fig. 21 for alternate Angle)

Fig. 21

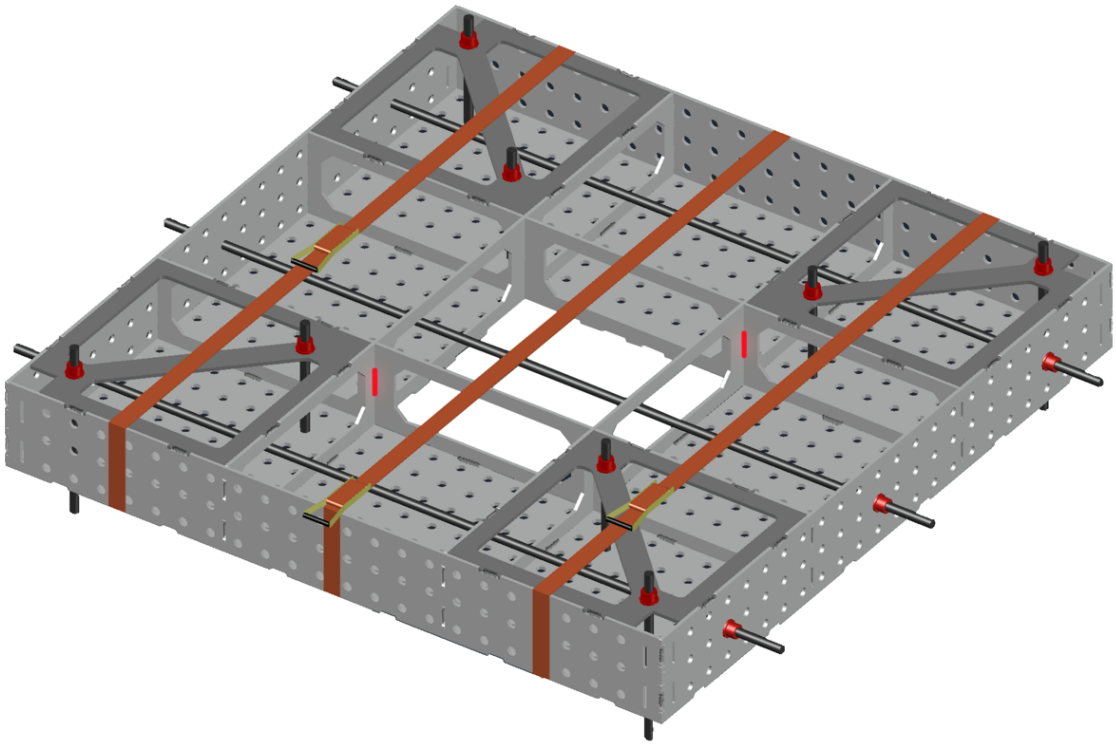
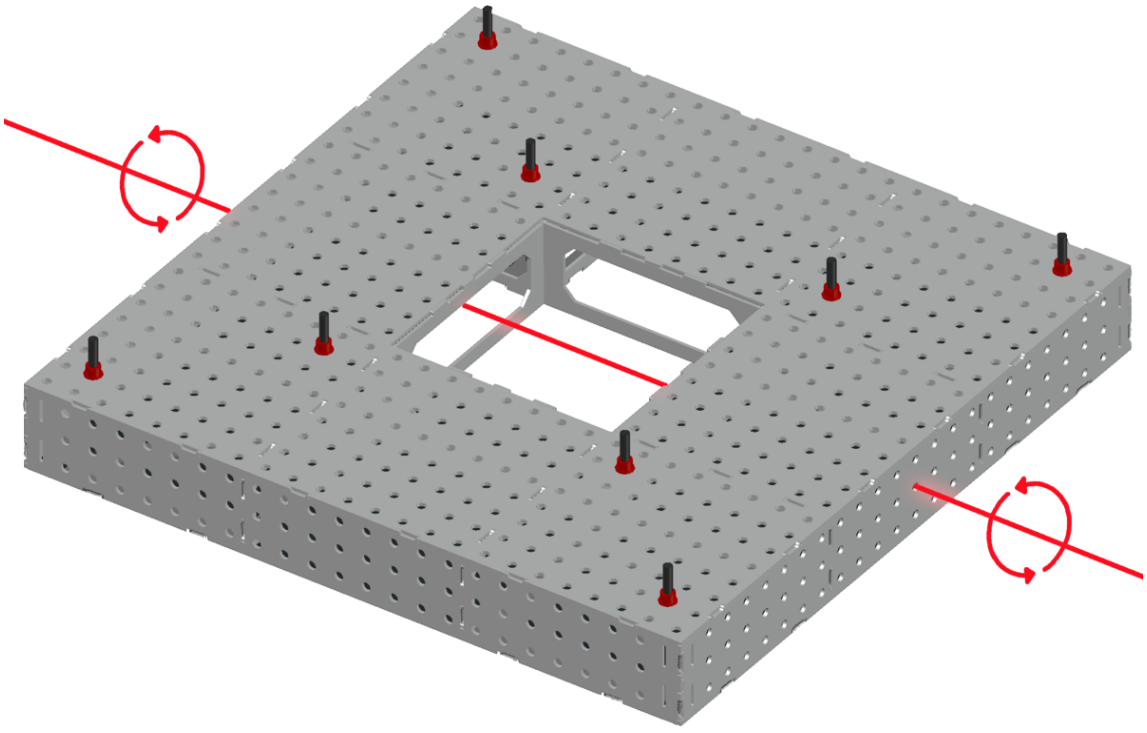
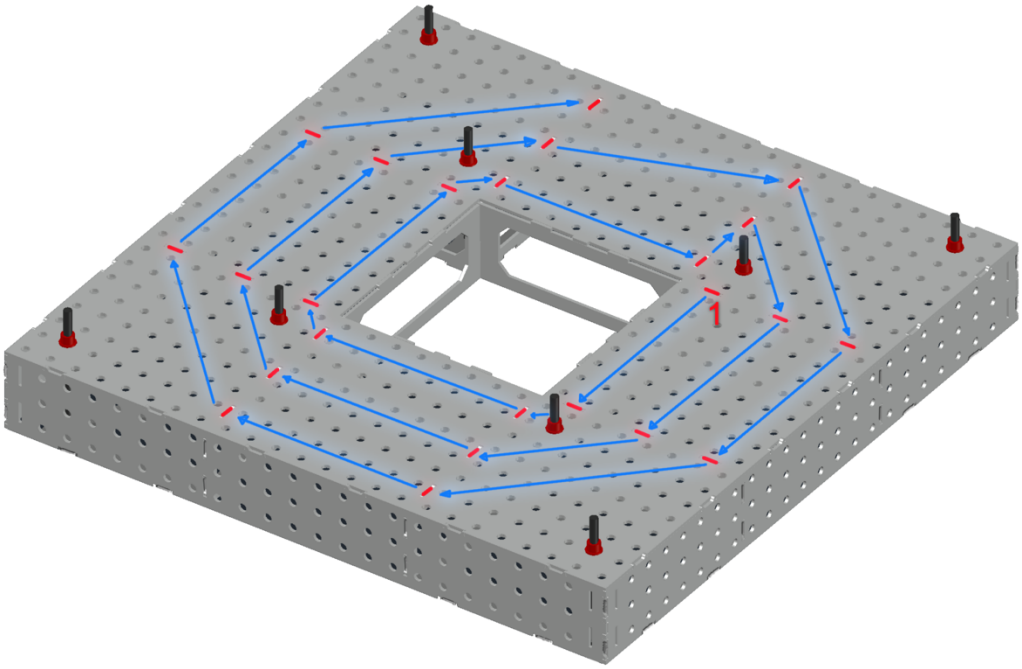


Fig. 22



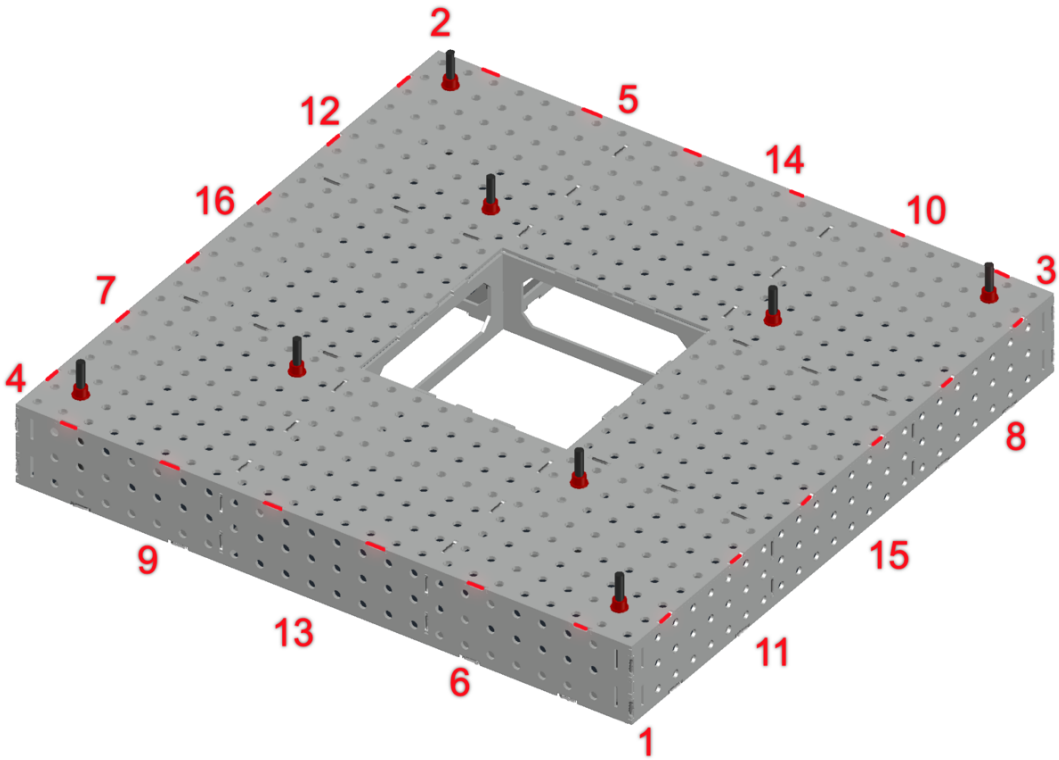
Rotate the table, you may need a second or even third person helping you with this step as it is very cumbersome to maneuver it by yourself and it will most likely lead to injury or damage.

Fig. 23



Start at the center [1] and work your way towards the outside of the table.

Fig. 24



Start at the corner [1] and then weld the opposite side of the table following the diagram above.

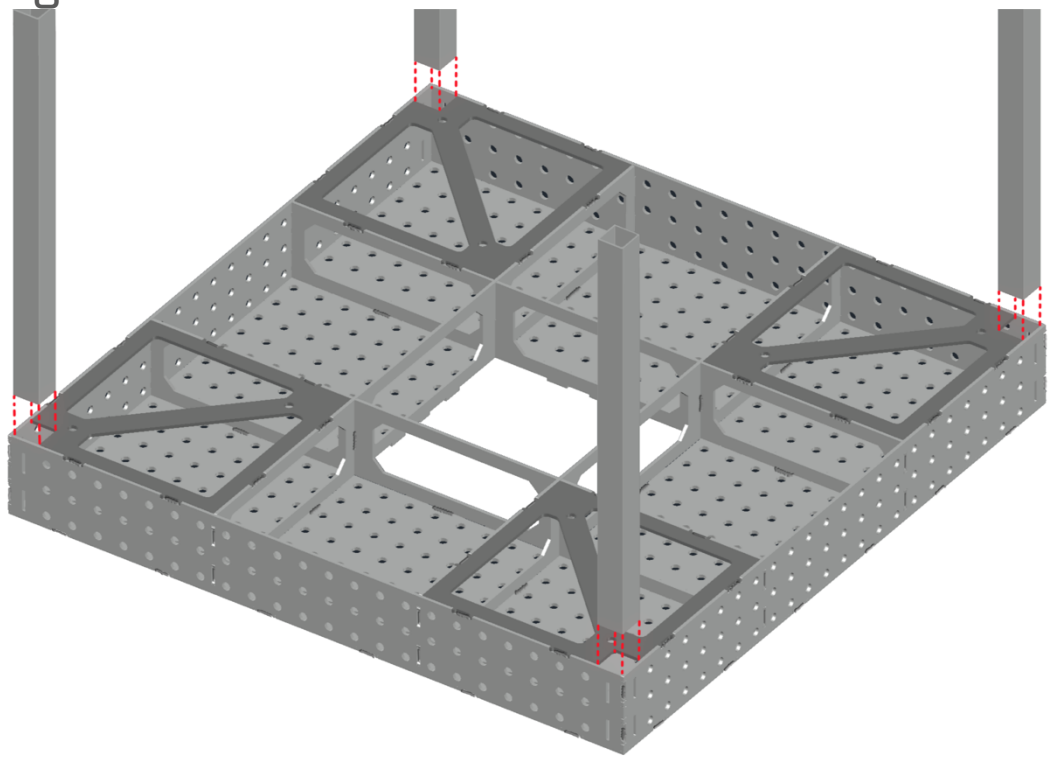
Legs:

The legs must be 50 x 50mm square hollow section (SHS), however, the wall thickness is up to you, the thicker the walls are the less likely you are to cause a blowout when welding the legs to the frame, however, having the walls too thick will cause the table to be even heavier, just keep that in mind.

The leg height is also entirely up to you, but remember that a tall table is more likely to wobble if you do not cut the legs to the same size. Shorter legs will reduce any rocking and will reduce the price and weight of the overall table.

We recommend getting legs that are no shorter than 900mm tall and no less than 400mm, however this is entirely up to you and your needs as a welder.

Fig. 25



Position the legs into the leg plates (see above).

Fig. 26

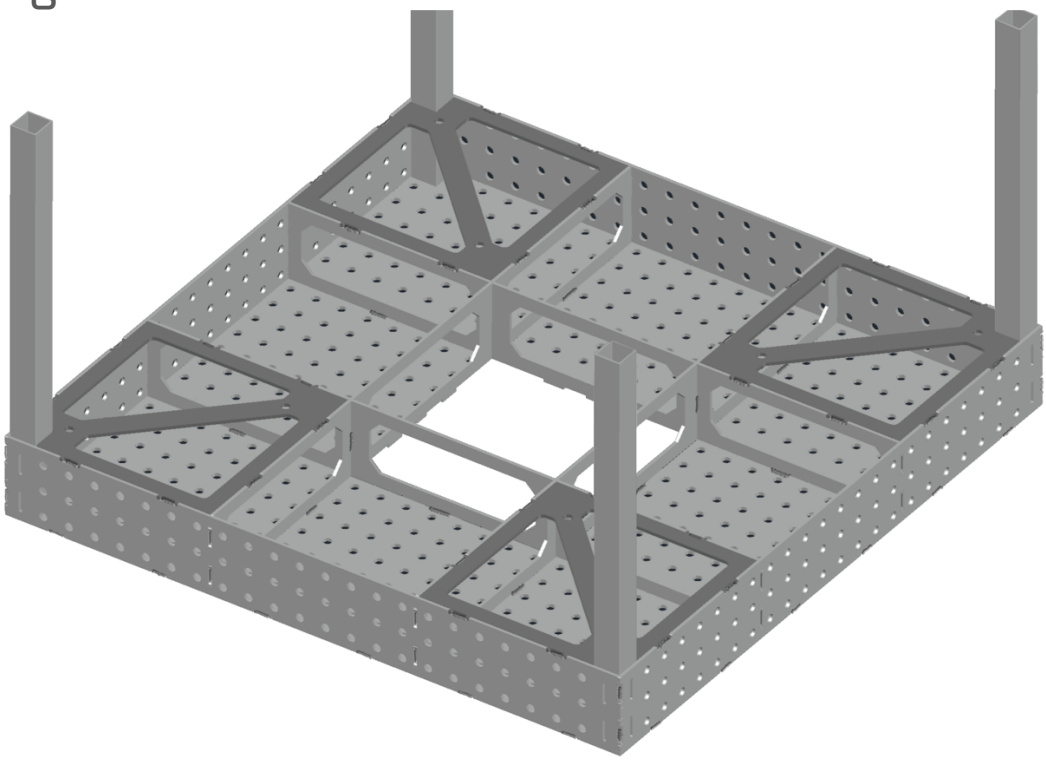
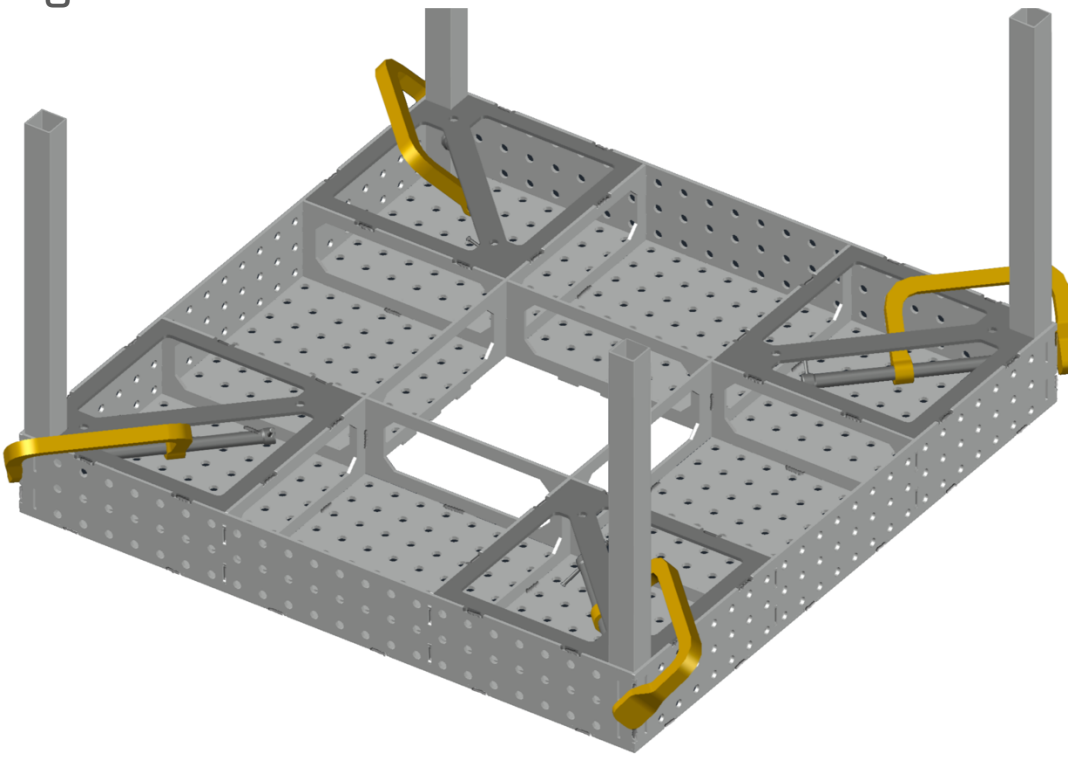
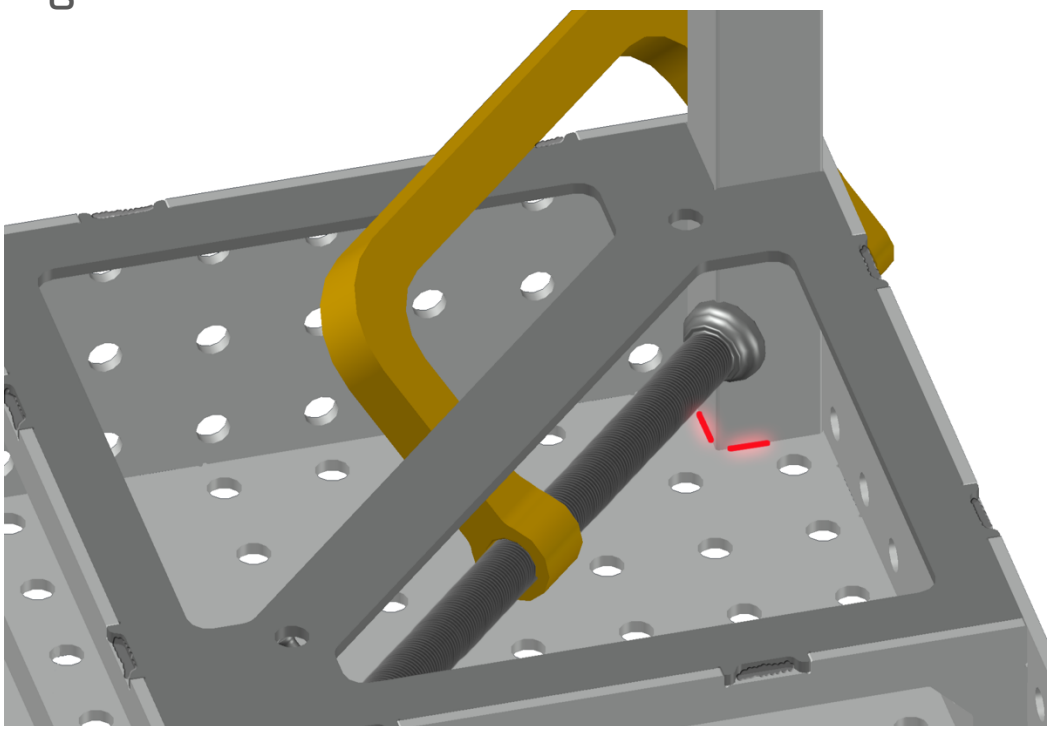


Fig. 27



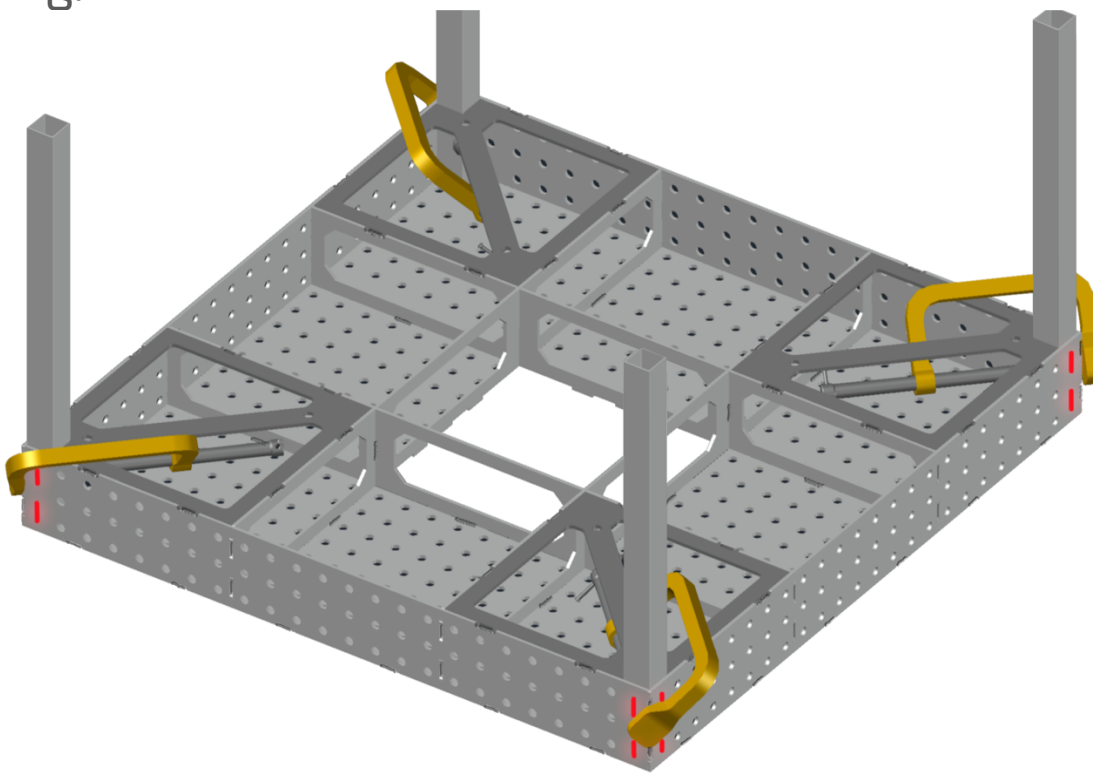
Once the legs have been positioned, clamp them to the table with a (metal) clamp that will fit under the leg plates. Make sure the legs are completely square with the table.

Fig. 28



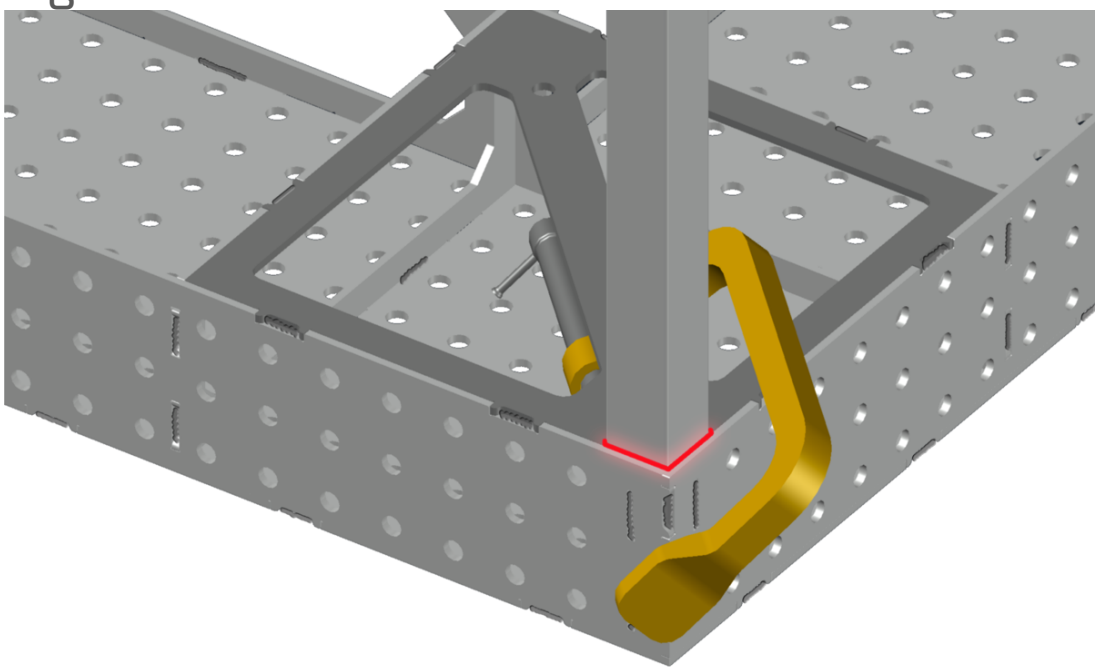
Welding the legs to the under side of the table top will make sure the legs stay exactly where they are when you remove the clamp.

Fig. 29



Make sure when welding the side outside plates to the legs that you to not have the welder hot enough to blow through the legs, doing tack welds and taking short breaks on each slot will help the legs cool down the legs so they don't heat up too much.

Fig. 30



Welding the leg to the outside of the leg plate / side plate will make sure the leg is completely attached to the table and will stiffen the legs.

Fig. 31

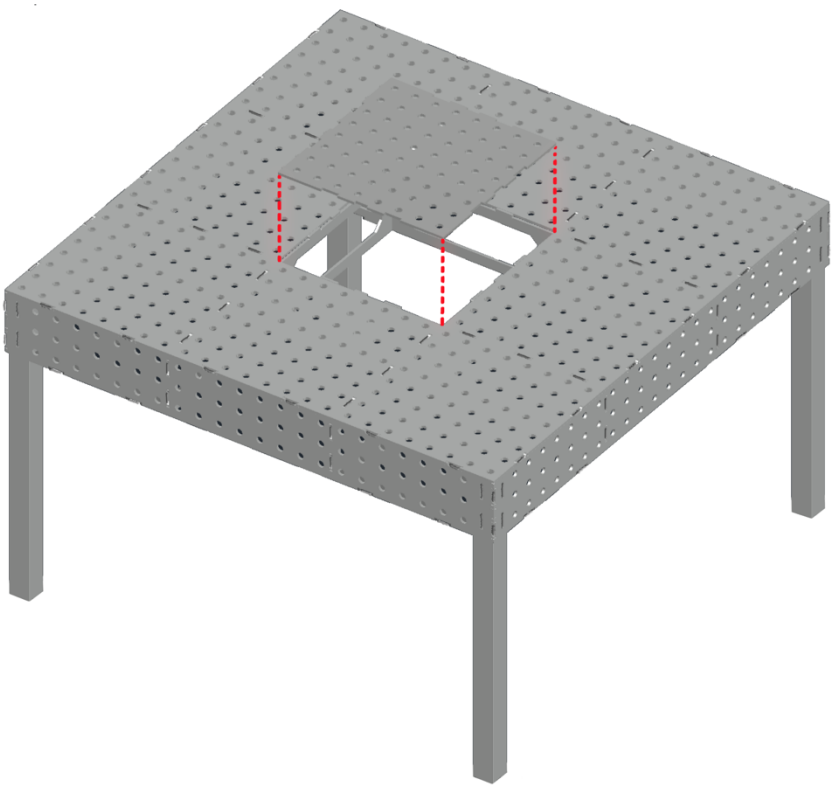


Fig. 32

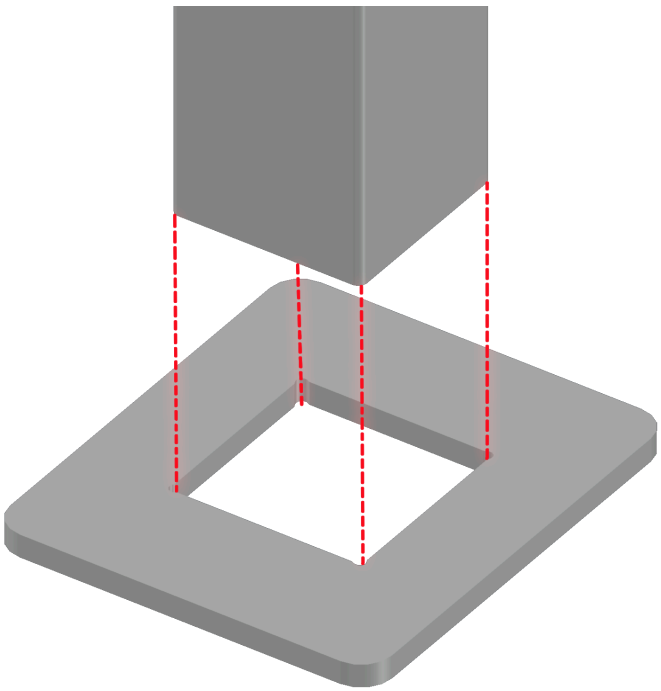
You can now rotate the table and check the sturdiness of the legs, if your table is rocking slightly, use a spirit level to check the level of your table and figure out which leg/s are too long and use an angle grinder to take any excess material off the end of the legs until it is sitting perfectly flat on the floor.

Caster Plates:

Please note: if you intend to attach castor wheels, please drill the holes in the castor plates before you start welding them. We have chosen to not laser cut holes into the castor plates so you can choose whichever castors you desire and can drill the holes to match them.

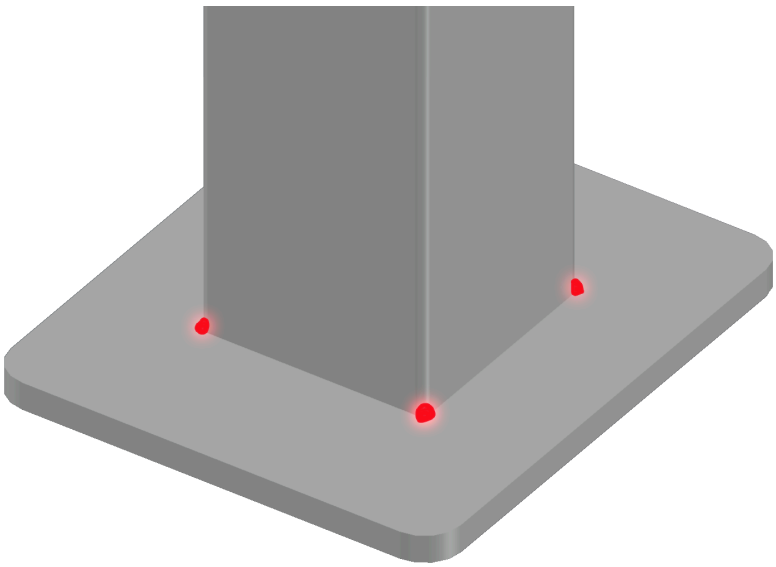
If you do not wish to add castors to your table, it is recommended that you put plastic end caps in the legs instead of welding the castor plates on. This will also give you the option to weld castors on at a later point if you change your mind.

Fig. 33



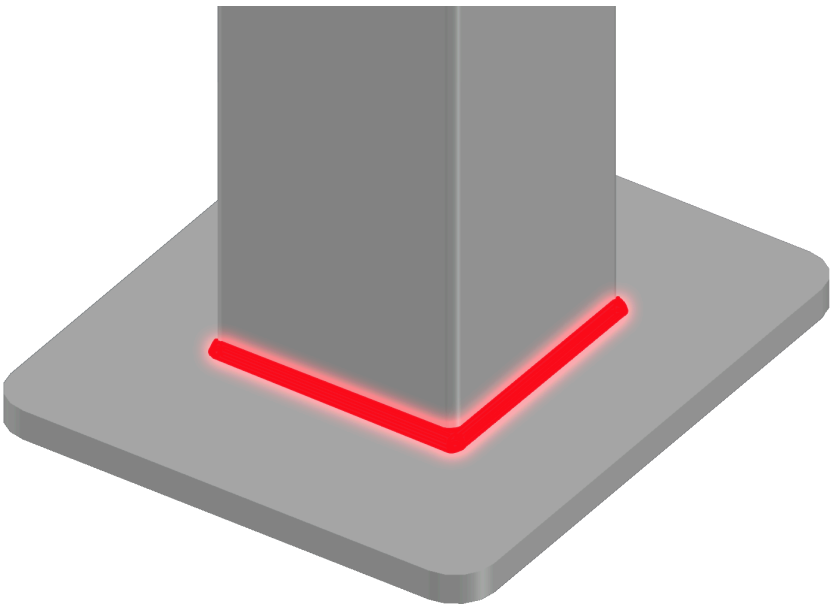
Attach the castors to the legs making sure that the castor plate sits perfectly flat on the floor.

Fig. 34



Once you are happy with the alignment of your castor plates, tack weld all four corners of the SHS to the plate and then continue to weld the leg to the castor plate (See Fig. 35).

Fig. 35



Weld the castor plate to the leg and make sure you don’t blow through the SHS

How to Take Care of Your Table:

Once you have completely assembled your table you don’t need to do too much to keep It in good condition.

Before you rust proof your table it is recommended that you use a wire wheel attachment on an angle grinder to remove any mill scale and reveal the raw steel underneath. Use a clean rag and WD-40 (or any other anti-corrosive), generously spray the surface of the table top and lightly rub it into the table and then let it set for several hours. It is recommended that you do this properly every 1 – 2 months before any rust sets in.

It is also recommended that you use an angle grinder to grind off any splatter after you finish welding, this will make sure your table stays perfectly flat, apply a layer of WD-40 afterwards so the table doesn’t rust.