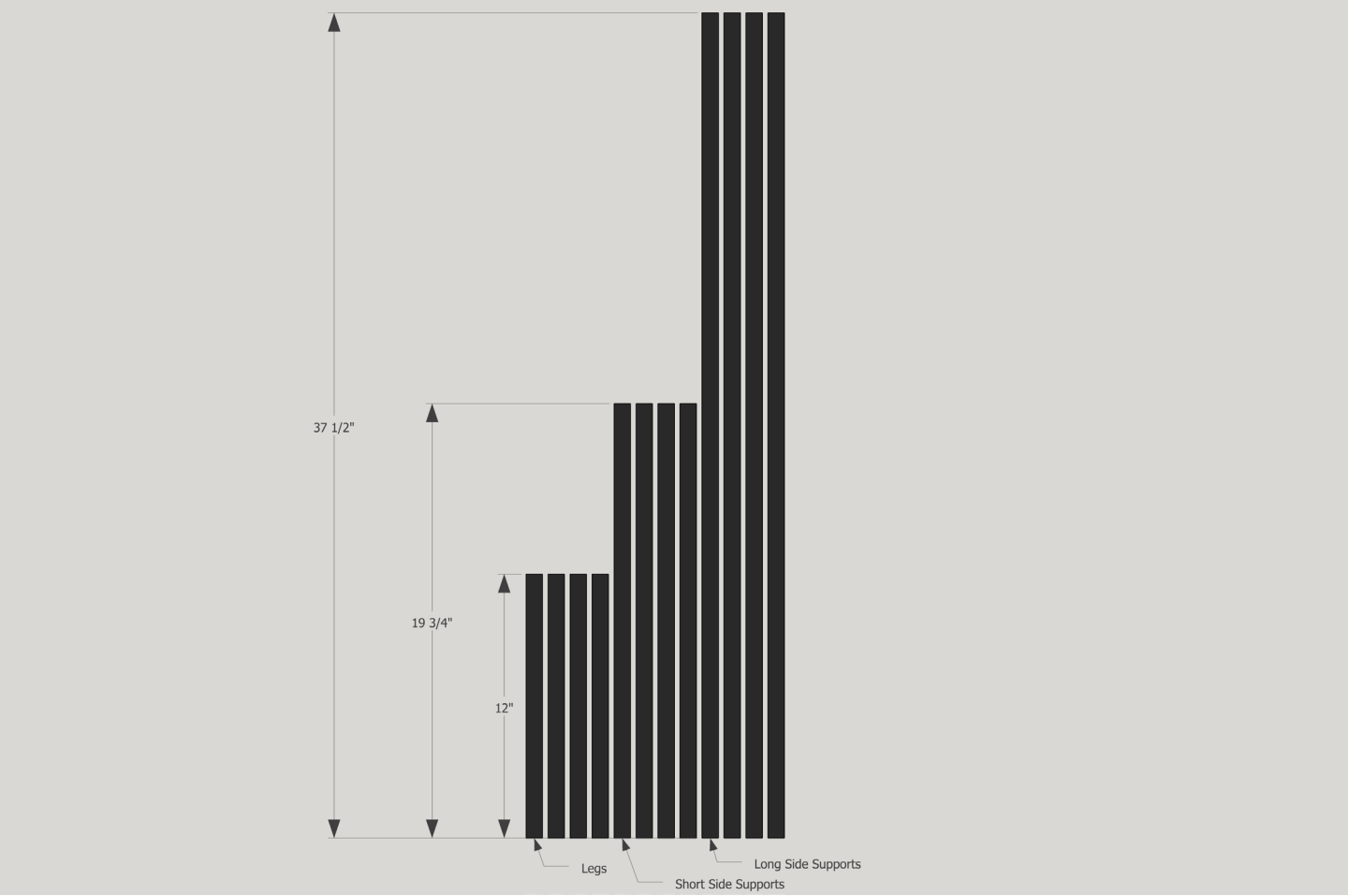
Coffee Table w/Lift Top

WATCH THE BUILD VIDEO:

MakeSomething.tv/CoffeeTable

Aluminum Legs



NOTE: I recommend the wood leg version for stability and longevity. Skip to page 6 for instructions.

All the legs are made from 3/4" square aluminum tubing. I purchased my tubing at Home Depot but you'll find much better deals at a local steel/aluminum shop and to purchase their cut offs.

(4) Legs - 12"
(4) Short Side Supports - 19 ¾"
(4) Long Side Supports - 37 ½"

Step 1

We'll begin by cutting all the tubing for the legs. The great thing about aluminum tubing is it's soft enough to use woodworking saw blades. Cut the following pieces:

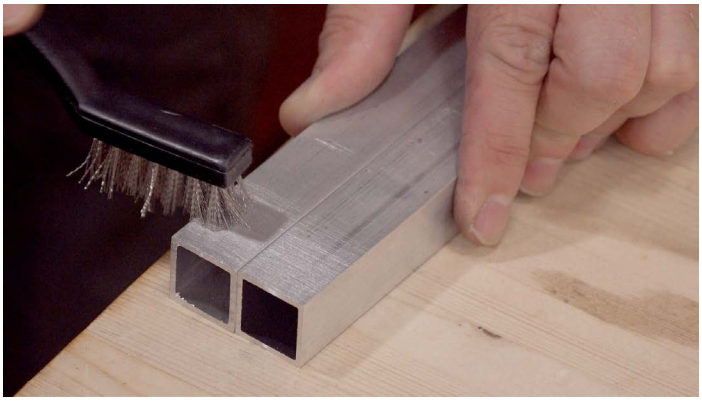
(4) Legs - 12"
(4) Short Side Supports - 19 ¾"
(4) Long Side Supports - 37 ½"

Step 2

Then you'll chamfer the edges to allow a channel for the brazing material to flow into and bond the two pieces.

Step 3

Next it's really important to clean the areas to be soldered with a wire brush. If there are any oils left on the surface the brazing materials will not bond properly.



Step 4

Clamp up the tubing and start heating the aluminum with a propane torch. Aluminum will start to melt at 1200° Fahrenheit but the brazing rod will melt at around 700° so we want to get the aluminum hot enough to melt the rod without melting the tubing. Getting the tubing hot enough may take 4 to 5 minutes. You'll know when it's hot enough when the rod starts to melt on contact.

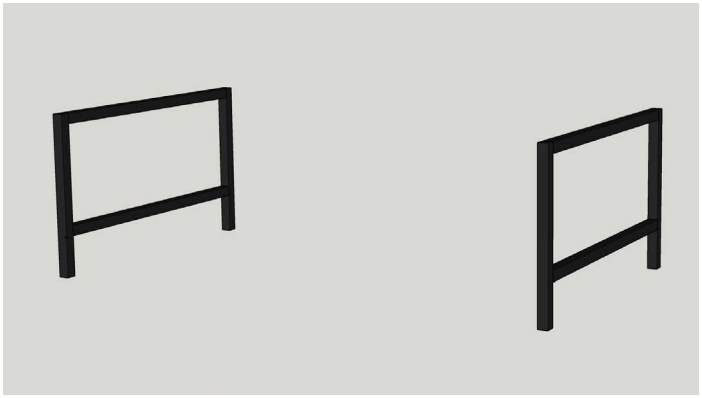
Rub the brazing rod along the channel until it's filled in and finish it off with some more heat. If you don't get the aluminum hot enough the brazing rod will just clump up and not stick to the tubing. This takes some patience and practice as my first few tries resulted in failures and ugly joints.

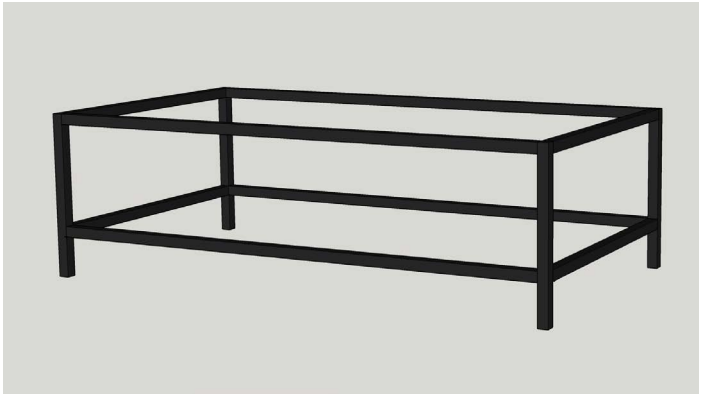
You'll want to repeat the process on all 4 sides of the tubing for a strong joint.

Watch the video to see this in action.

Step 5

Solder the two side assemblies first and then connect them with the 4 long supports. To see this in action check out the video.

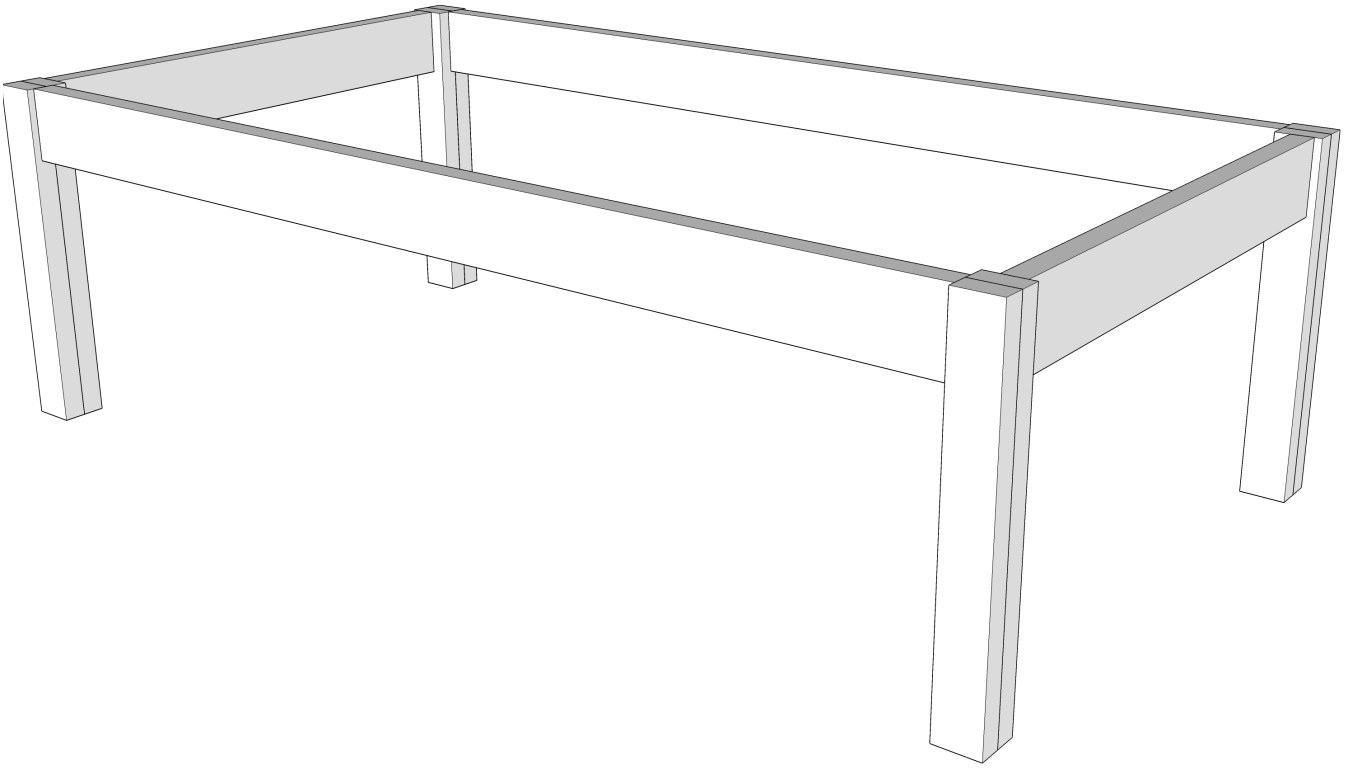




Step 6

Then I'll sand, primer and paint my legs flat black.

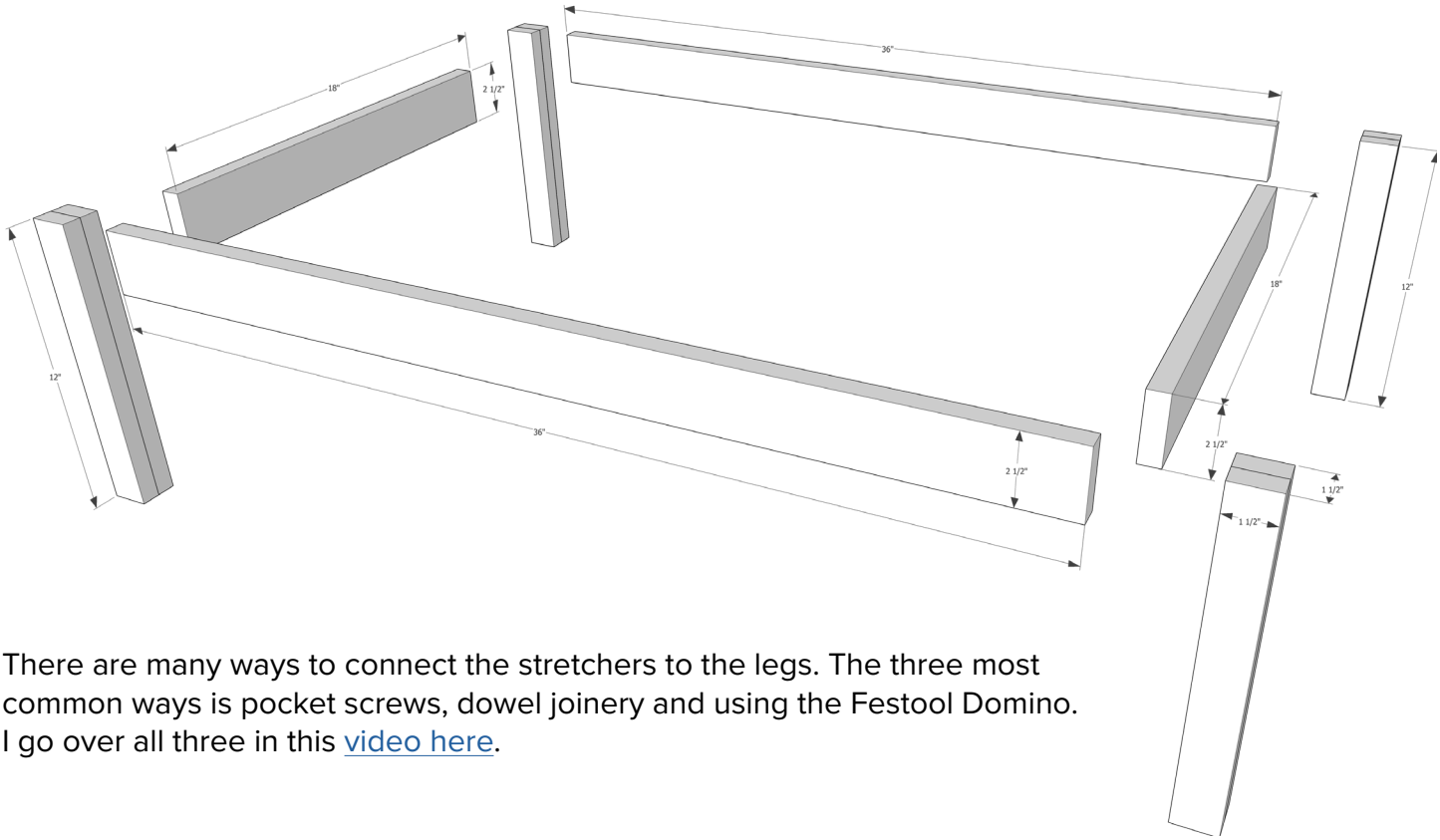
Solid Wood Legs



In this version I'm using solid ¾" walnut for the legs and stretchers. The legs are doubled up to create a 1 ½" x 1 ½" thick piece.

(8) Legs - 12" x 1 ½" x ¾"
(2) Short Stretchers - 18 x 2 ½" x ¾"
(4) Long Stretchers - 36 x 2 ½" x ¾"

Solid Wood Legs

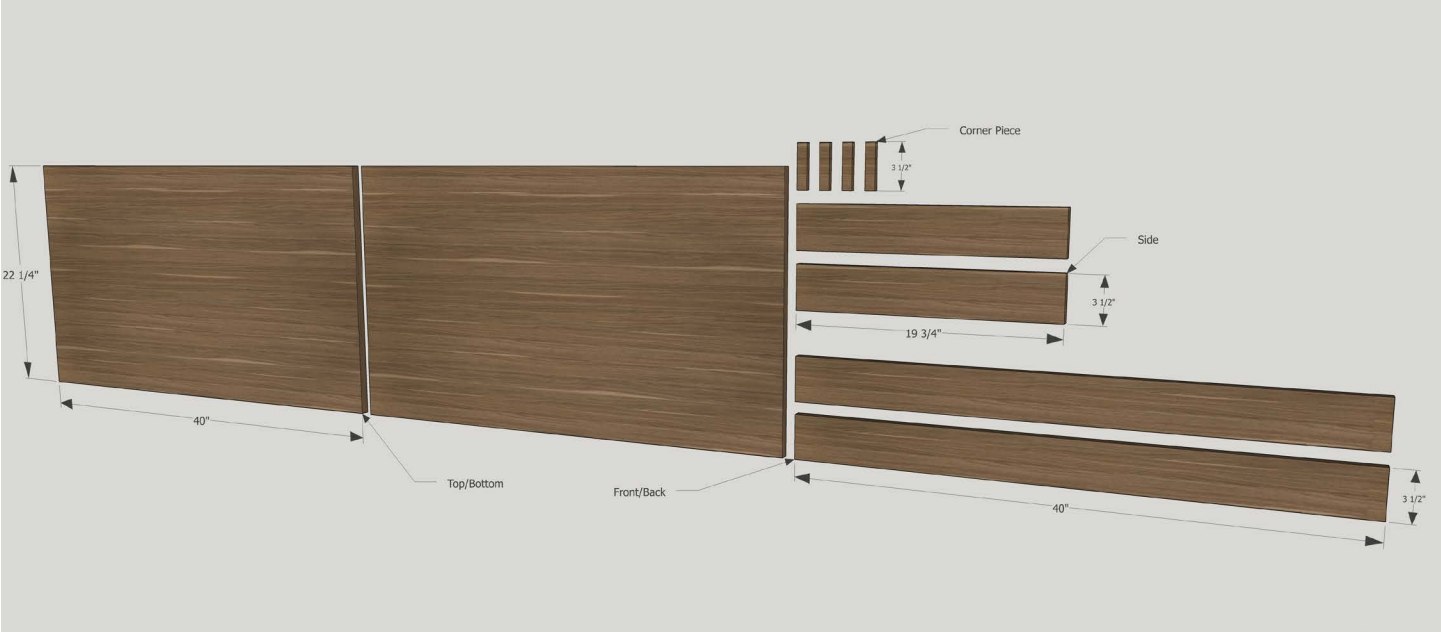


There are many ways to connect the stretchers to the legs. The three most common ways is pocket screws, dowel joinery and using the Festool Domino. I go over all three in this video here.

Top View

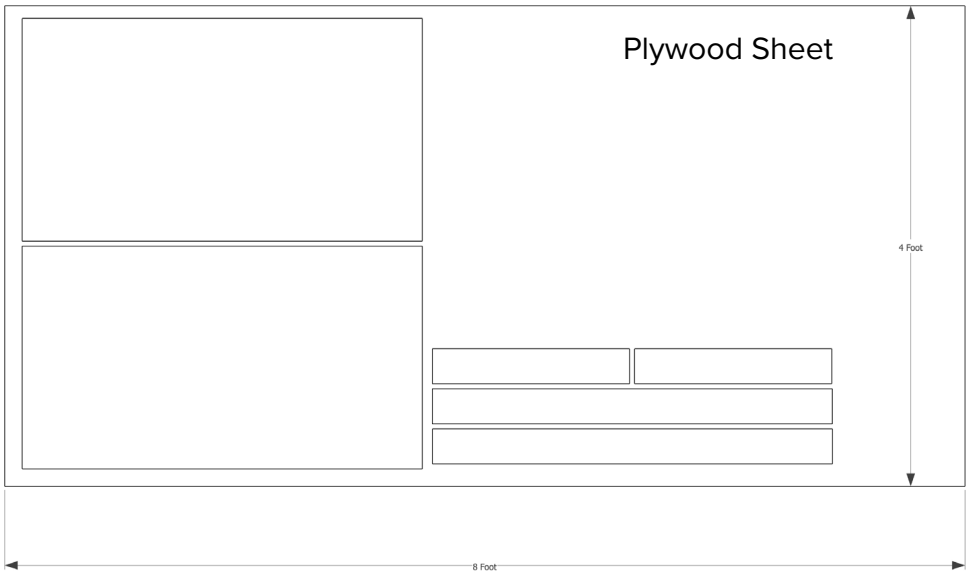
The legs are set back 1/4" from the stretchers. This is purely for aesthetics and would also work just fine sitting flush or even set back. It's a personal preference.

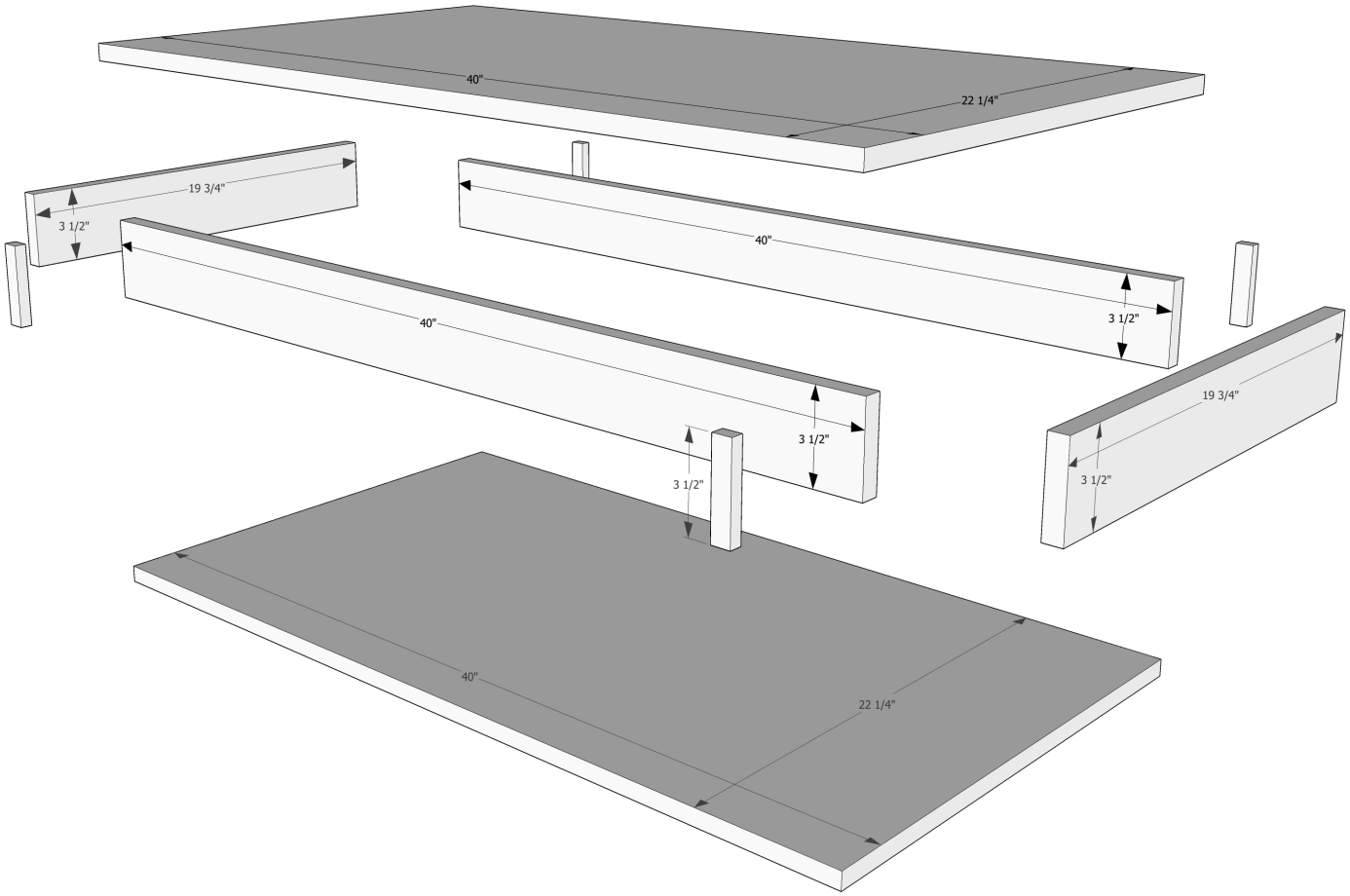
Walnut Top



Most of the wood pieces are cut from one full sheet of ¾" walnut plywood. The corner accents I prefer to cut from solid plywood. In a later step I'll also cut the edge banding from solid walnut

(2) Top / Bottom - 22 ¼" x 40"
(2) Front / Back - 40" x 3 ½"
(2) Sides - 19 ¾" x 3 ½"
(4) Corner Pieces - 3 ½" x ¾" x ½"





Step 7

Now you can cut all the plywood pieces to length. All the pieces except the corner accents are cut from one full sheet of walnut plywood.

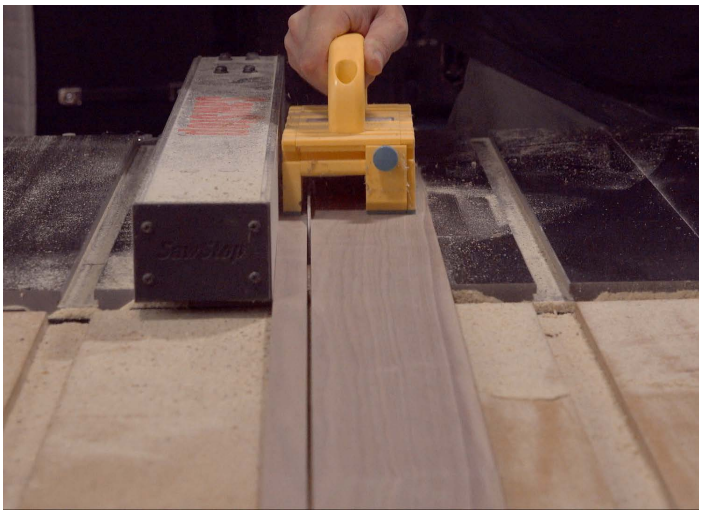
(2) Top / Bottom - 22 ¼" x 40"
(2) Front / Back - 40" x 3 ½"
(2) Sides - 19 ¾" x 3 ½"
(4) Corner Pieces - 3 ½" x ¾" x ½"

Step 8

A trick I like to use when crosscutting plywood is to cover the edge you're about to cut with painters tape. This will eliminate tear-out you get when crosscutting plywood with a combination blade. Watch the video to see this in action.

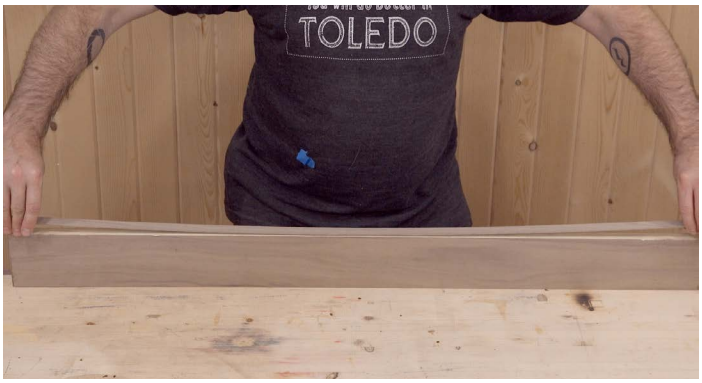
Step 9

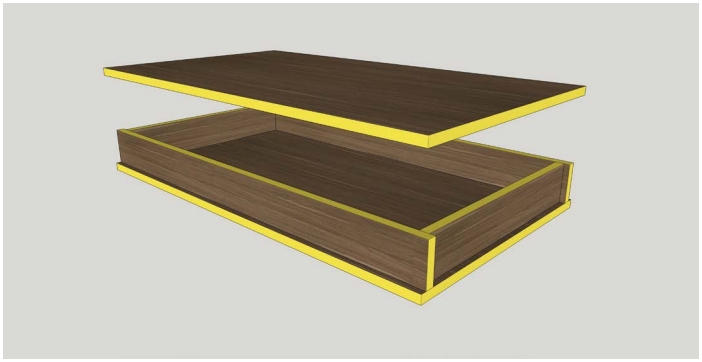
To cover up the exposed edges of the plywood you'll need to use thin strips of solid walnut. Here I have a 1/16" thick walnut where I'm ripping 3/4" strips. You can also take a 3/4" thick board and rip thin strips off of that or even purchase iron-on walnut edge banding.



Step 10

Now you can glue (or iron-on if you purchased iron-on edge banding) the thin strips to the parts of the plywood that will be exposed. This includes all the highlighted edges in the illustration to the bottom-right.





Step 11

Now I'll glue the two fronts and two sides onto the bottom. All the pieces are inset ½" from the edge with the two long sides extending the full length. See the images on the right for the correct orientation.

In the photo you'll see me using masking tape. This serves two purposes. It prevents glue squeeze out from getting onto the bottom and to help me align the boards ½" from the edge. Watch the video to see this in action.

Step 12

Once the glue has a chance to set, flip over the assembly and add screws to the bottom. This will reinforce all the pieces we just glued on.

Step 13

Now you can add the accent corner pieces to the fronts and backs. I prefer to just add glue and use painters tape to hold them in place until it dries.

(4) Corner Pieces - 3 ½" x ¾" x ½"

Step 14

Now you can screw the aluminum assembly right to the bottom of the top assembly. I like using 1¼" pocket hole screws as their large head sits well on the aluminum tubing.

Step 15

Next you can screw the Rockler Lift-up Table Mechanism right to the inside of the table. I'm using the same pocket hole screws as in step 14.

Step 16

The easiest way I found to attach the top is to set it in place and slowly lift it up and allow the mechanism to raise with it.

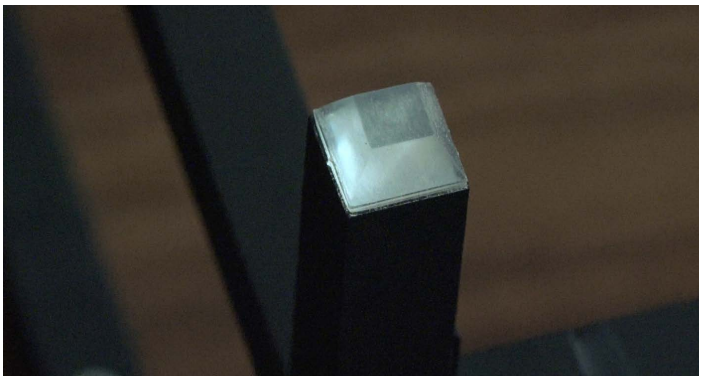
Make sure the wood doesn't slip, clamp it down and screw it in place. Watch the video to see this in action.

Step 17

Now you can take it apart and apply finish to all the wood pieces. For mine I'm using boiled linseed oil and a few coats of polyurethane.

Step 18

Add some adhesive backed rubber feet to the legs.



Step 19

And finally place a rubber bumper on the each corner of the table. This gives the table a nice soft landing when closing.