Design for a Reasonably Storable FLL Table
Created by Anonymous FLL Coach/Mentor in Oregon
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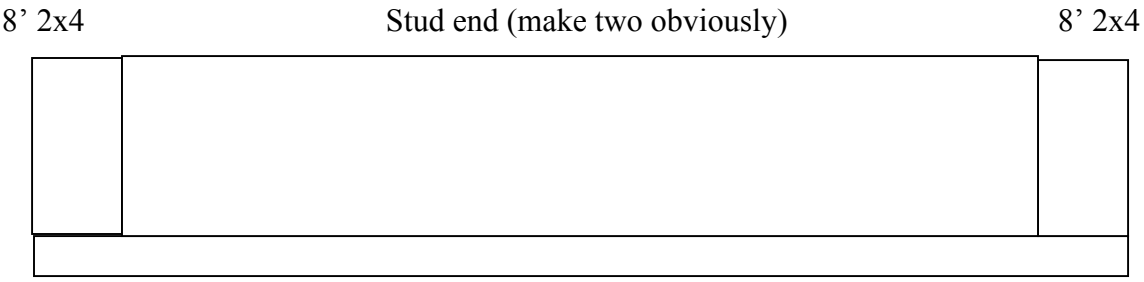
2 sheets 3/8 fir plywood (one with at least one that is nice and flat and has a smooth side)
10 8' 2x4 **OR**
    3 8 foot 2x4s (straight and flat) AND
    7 2x4 studs (these are usually cheaper and about 94" long)
2 saw horse kits (the cheap tin ones that have a rivet hinge)
    The hinge is very important for storage, so don't get creative or fancy on the saw horses. Get the cheap tin ones.
1 4' fluorescent light with as small a vertical dimension as you can find (1.5" is perfect, HAS to be less than 3.25").
    Make sure it has some kind of cover over the fluorescent tubes for the sake of safety, so if it is hit by an excited child or stray Lego projectile the cover will protect the tubes from breaking.
A cord for the lamp.
    Most of the fluorescent lamps we found needed a cord wired onto them. We just bought a nice extension cord and cut the female end off so we had a nice long cord to reach any plug in the room.
1.25" Drywall screws
2.5" Deck screws (or whatever)
2 cans Flat Black spray paint
    Or if you really want to do it right, one can primer and one can paint.

Lay out two of the 8' 2x4 on the smooth side of one of the sheets of plywood, and take one of the studs and mark it for the ends. For a finished result just like the FLL table, but without the silly braces on the bottom.

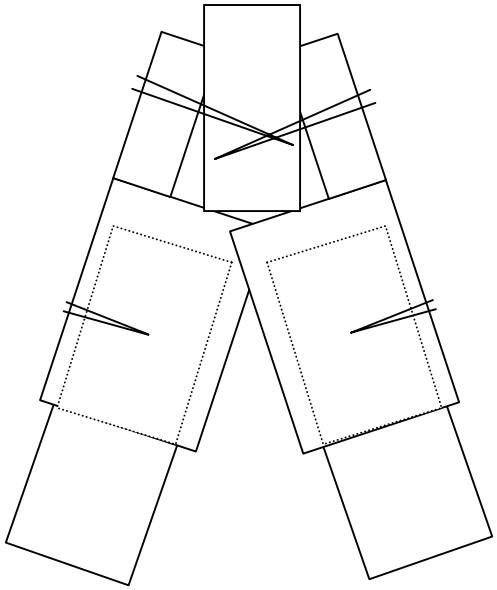


Flat Plywood with smooth side up

After the edge 2x4s have been marked and cut, paint them before you put them together.

While waiting for the paint to dry, build the sawhorses just like it says for the FLL table. This is important because you can assume this is how the tournament tables will be.

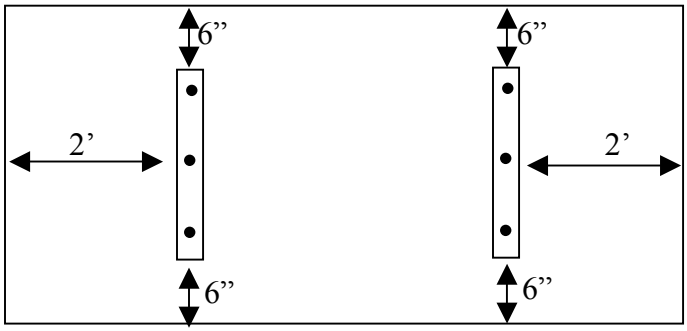
(They are not usually on saw horses, but the height is the same) The instructions for how to get the legs cut right are on the packaging for the saw horse kits.
For the width of the saw horses, I suggest 36 inches. This is a good dimension for when we go to store it. **Save any scrap from making the sawhorses.** We will need them later.
It is important when assembling the sawhorses to screw in the legs, even if it seems the are in tight on their own. It is also important to screw in the horizontal bar on both sides of each bracket. This prevents the sawhorse from accidental collapse.



Once the paint is dry on the sides, set the plywood up on the sawhorses and use it as a surface to assemble the edges. Put them together by pre-drilling the 8' sides at the ends and screwing through to the stud ends with the long screws. 2 screws per corner is enough.
Then go around the bottom of the plywood with the drywall screws and put in a screw every foot or so, plus one in each corner.

Now the basic table playing surface is done.
Take the second sheet of plywood and lay it on top like a crate lid. Take 16 drywall screws and fasten it down to the side rails just like a crate. The purpose of this step is to make the screw holes in the lid. Once that is done, remove the lid, and set the playing

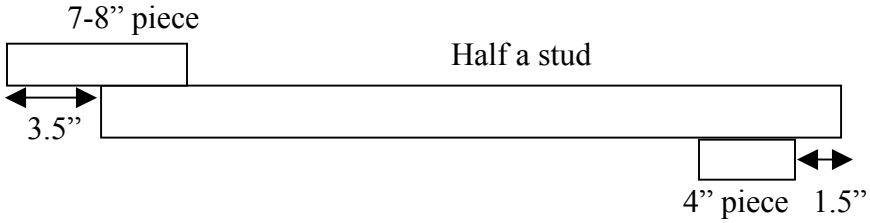
surface aside. Then take the lid and get it nice and centered on the sawhorses, and screw it in to sawhorses with three drywall screws each.



Now place the playing surface back on top of the sawhorse table you've just made. Get the edges nice and lined up and then take ten drywall screws and go around the edge and fasten them together through the holes you have already made in the lid. (There will be six holes without screws in them. Just evenly space the screws so the two sheets of plywood are firmly in contact with each other.)

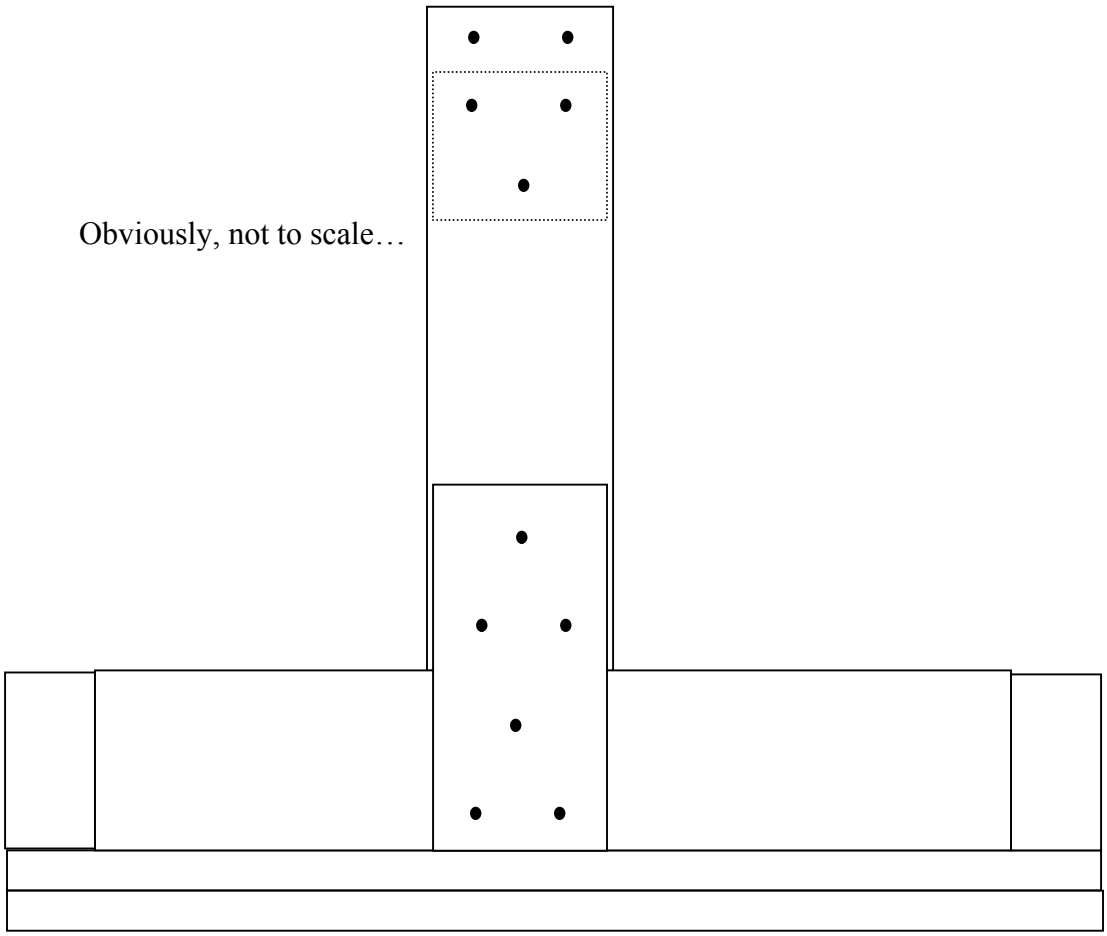
Now you have a playing surface with an effectively ¾” thick base firmly mounted to stable legs. It is this stacking step that allows us to have a crate, with thinner, lighter weight materials, without any braces.

Next we are ready for the light.
Take a stud and cut it directly in half.
Take the scraps from making the sawhorses and cut two pieces 7-8” long, and two pieces 4” long.
Now assemble the small pieces to the half a stud using long screws to make two brackets like so:

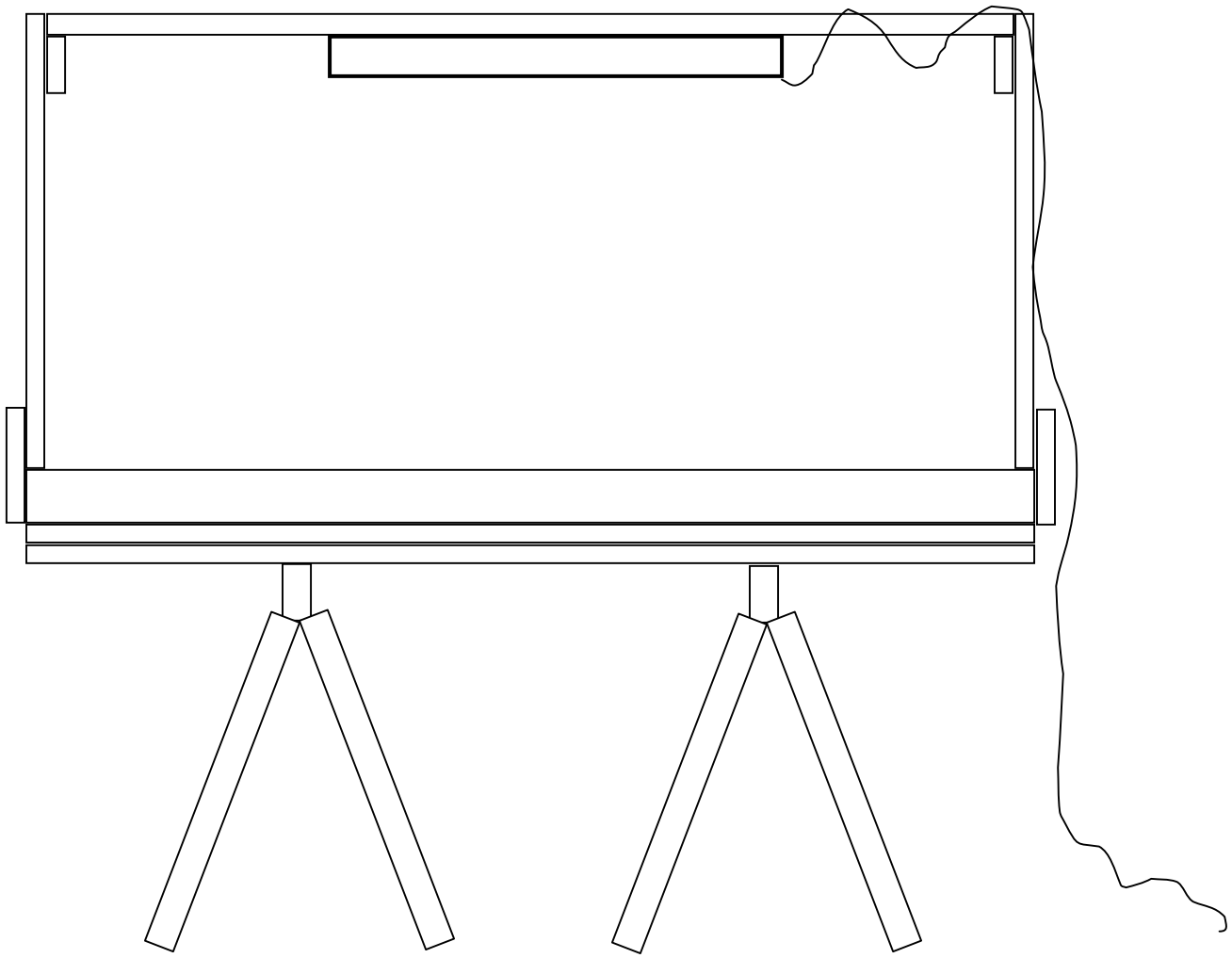


Pre-drill for the screws to avoid splitting. Three screws per piece arranged in a triangle is sufficient. Pre-drill another three screw holes in the part of the 7-8” piece that is hanging off the end of the half stud. Also drill two screw holes in the 1.5” area of the end of the half stud. Then assemble it to the short end of the table as shown:

Obviously, not to scale…



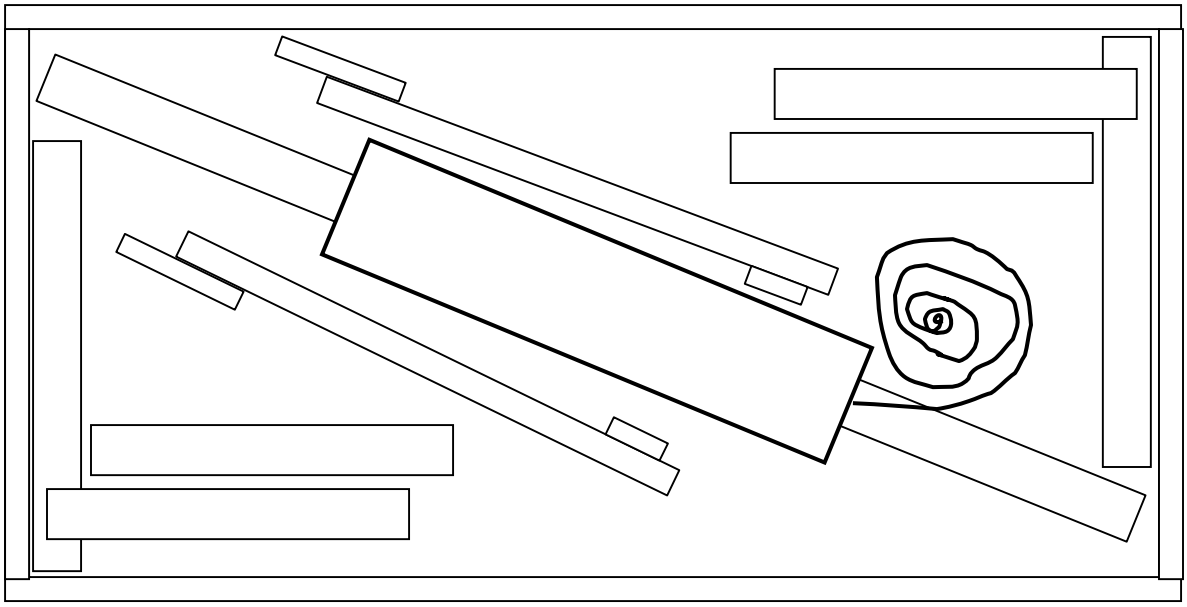
After you have assembled the power cord to the lamp, but before you put the lamp all back together, center it on the last 8’ 2x4 and attach it with a couple more drywall screws. Then this assembly sits on top of the 4” pieces between the two vertical half studs we just assembled. Attach it with two long screws through the pre-drilled holes at the top of the half stud.



OK. There is your table.

Now, when it is time to transport it, or put it away, there is just a few things to do.
It is very important to remove the 3M playing mat from inside the table before you put it away. It will get damaged if you leave it in.
Take the light bar off and the side half studs off in just the reverse order we put them on.
Leave the light attached to the 2x4 unless the total vertical dimension is more than about 3.75" with the 2x4 laying on its back.
Lay the light bar diagonally on the playing table inside the edge rails.
Lay the half studs on their sides inside the table too.
I suggest you leave the loosened screws in the studs for safekeeping. Or if you prefer you could put them in a ziplock bag.

Then remove the screws around the edge of the underside of the bottom sheet of plywood. (Keep these screws out for later)
Lift the playing table and its current contents off the sawhorses and set it on the floor.
Remove the six screws holding the plywood to the sawhorses (keep these too). Set the plywood aside.
Now this is the tricky part:
Take one leg completely off each saw horse, and then only one of the long screws out of each remaining leg so they fold.
These components now lay in the remaining available space inside the playing table and then place the lid on top and use the holes you already made to synch it down.
The sawhorses are a little taller than the sides of the crate when folded up, but the screws pull the lid down tight on them, and that pretty well keeps the contents of the crate from moving around during transport. You can use the six long screws removed from the sawhorses to tighten the corners of the lid down good.



I actually succeeded in transporting this package by myself. It's pretty heavy and it was probably a stupid thing to do, but the point is, it is a nice tight, sturdy package and takes up a minimum amount of space when not in use, and has no extra parts to get in the way when it's all set up, and it will fit in a full size truck bed.
It also has a minimum amount of scrap materials.

I hope this is helpful.
Best of luck to you, and your kids.