How to build you own octagonal poker table (ver 1)

# How to build your own octagonal poker table (ver 1)

Step by step

If you have looked around eBay recently you will see there are allot of people making and selling poker tables and table tops. I was originally just going to buy one, but the quality tables are 1000+. So I though it would be cheaper and more fun to build my own table. There's nothing like the satisfaction of doing it yourself. After seeing the tables others people built it was time to get started. I decided that I wanted to build a table top that I could set on top of my kitchen table, since that is where we play currently. I also wanted the table to easily slip into 2 pieces so I could store it. First step was the design.
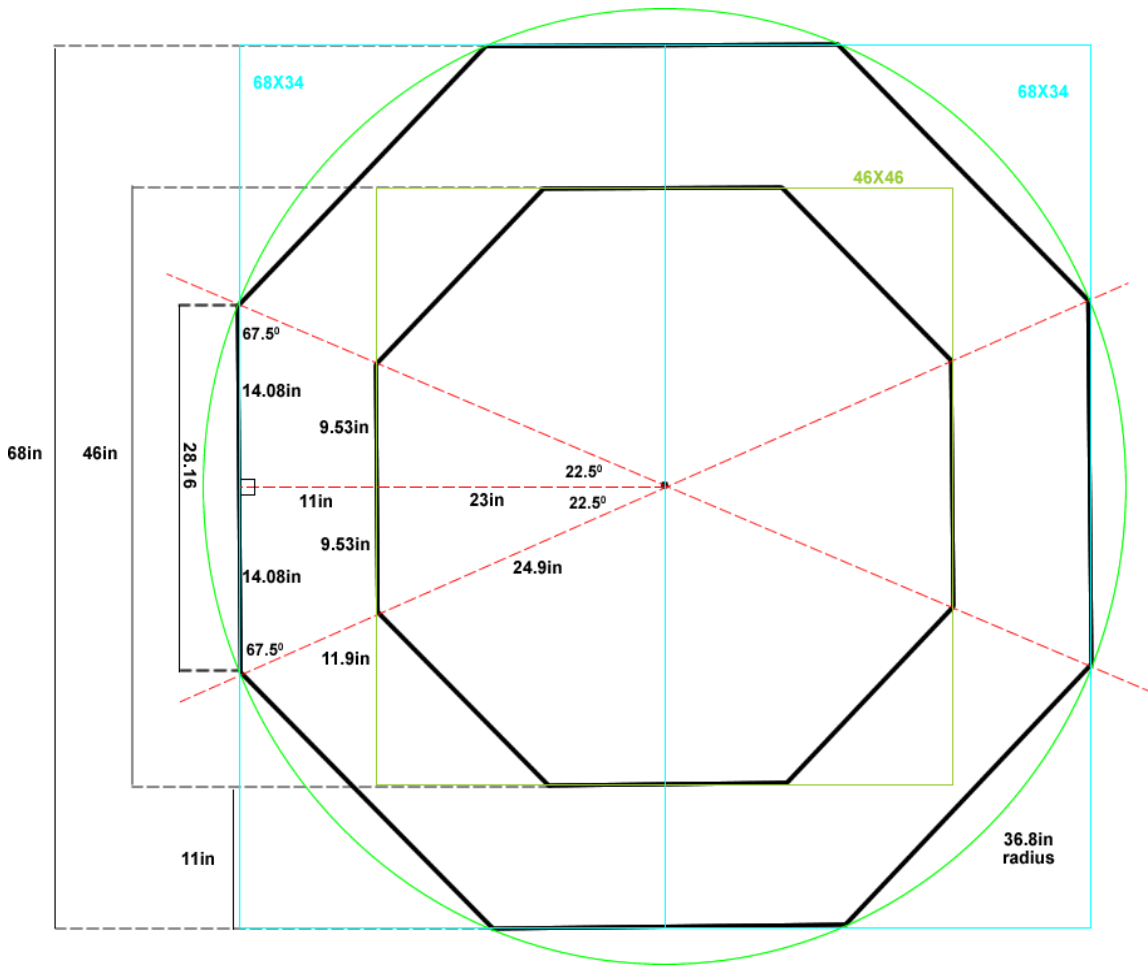
I know I wanted a large octagon so I decided it would have to be made out of 2 4X8 sheets of plywood. After measuring the kitchen table I decided the octagon would be 68"X68". In the drawling you will see the 2 sheets of plywood.
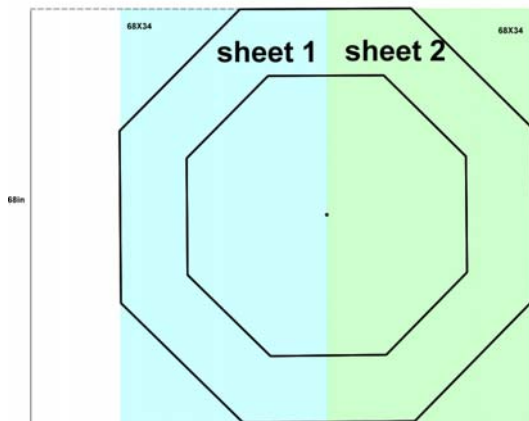
Next I decided that I wanted the race track to be 11" wide. Now remember some of that area will be covered by the padded rail and the trim around the playing area. This worked out nicely because it made the center piece 46" x 46" and it could be made out of a single piece of plywood.
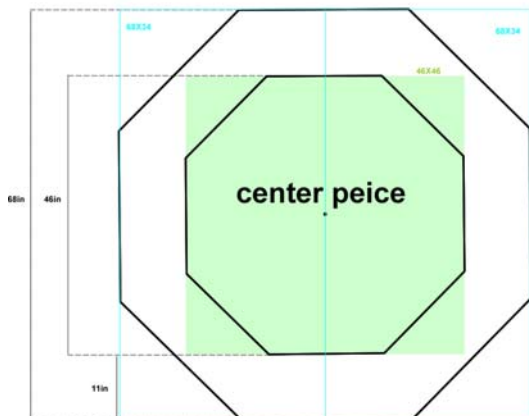

Now that I have my over all dimensions it was time to break out the calc and find all the measurements I needed. To make life easier just visit **http://www.csgnetwork.com/righttricalc.html**

68X34 68X34

46X46

67.5° 14.08in 9.53in 22.5° 11in 23in 22.5° 9.53in 24.9in 14.08in 67.5° 11.9in

68in 46in 28.16 36.8in radius 11in

With all the measurements it's off to home depot to by some plywood. I purchased

- **2 4 x 8 sheets of 3/4 oak laminated plywood (87.98)**
- **1 4 x 4 sheet of 1/2 plywood (15.99)**
- **pint can of stain (5.87)**
- **pint can of clear polyurethane (8.97)**
- **can of mineral spirits, because I am using oil based products (3.37)**
- **76 ft of quarter round (42.98)**
- **foam brush for the stain (.57)**
- **8 thumb screws 1/4 by 1.5 (10.16)**
- **5 packs of self stick felt pads (7.75)**
- **2 10' 2 x 4 (7.98)**

I got the guy at home depot to cut the oak plywood into 68 x 34 squares. If you look at the above diagram this means I only need to cut off 2 corners on each sheet when I get home. I don't have a table saw but using a circular saw I feel pretty comfortable making these cuts. They don't have to be perfect because the outer edge will be covered in padded rail anyway. I had home depot cut the plywood into a 46 x 46 square, again so I would only have to cut the corners off. Once I got the wood home I put the 2 large pieces of plywood next to each other and drew a circle with a 36.8in radius. To draw this I took a large level / ruler and drilled a small hole in one end. I put a nail through the hole and had my friend hold the nail in the center of the 2 pieces of wood while I held a pencil at 36.8 inches out and walked around the table. Again you only need to be close.
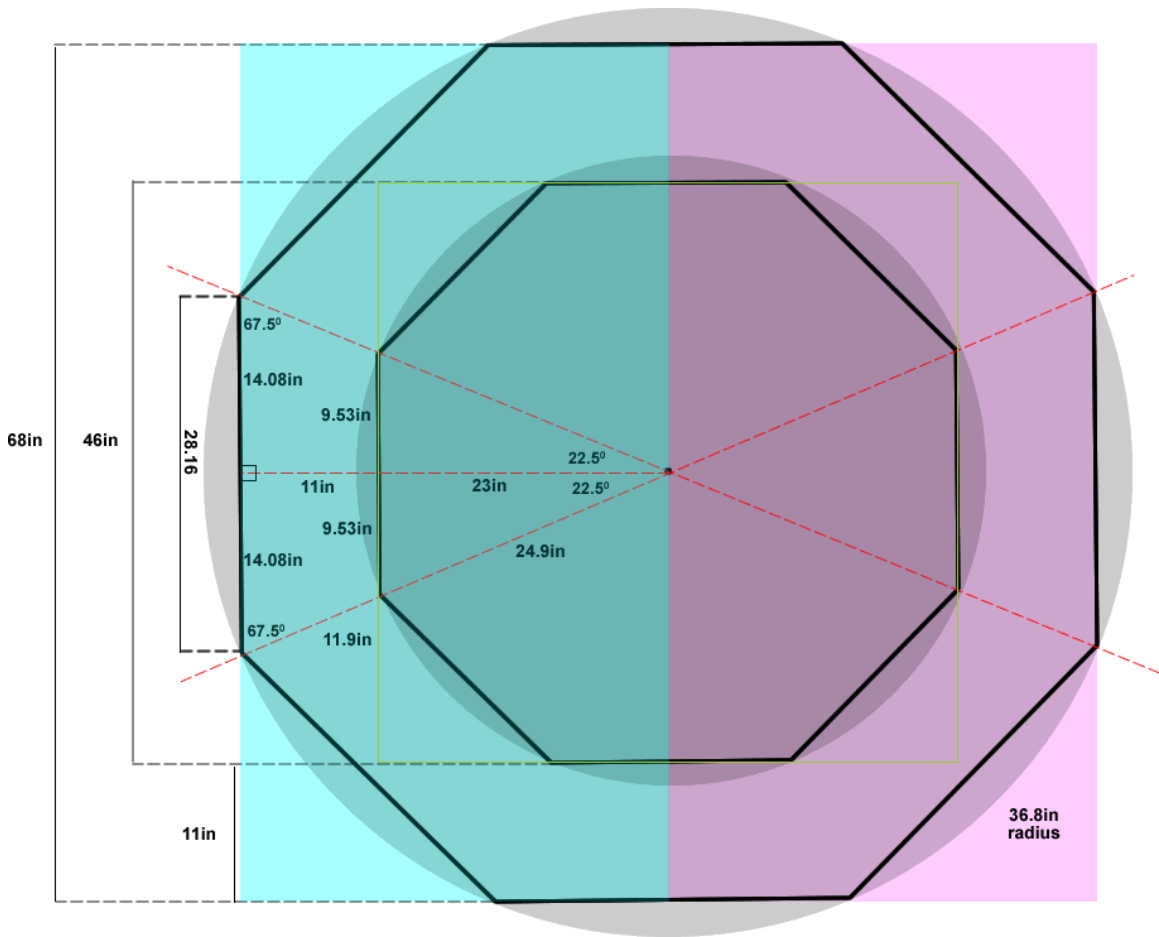
You will notice that with the circle drawn every time the circle leaves or comes back over the board it intersects with the corners of the octagon. All I had to do was drawl lines between the intersections. I used the same process on the inner octagon, only I used a circle with a 24.9in radius. Look at the above picture and it will make more sense. With my lines draw I took the plywood out side and cut it with the circular saw.

To center the little octagon on the big one I snapped chalk lines between all the corners. To double check it's placement you can also measure to be sure the race track is approx 11" all the way around. Next up was laying out the location of the cup and chip holders. I decided to put the cup holders on the left hand side of the player because most people are right handed and I didn't want

people having to reach over or around their beer everything they need to pick up their card or chips. Before marking the locations I temporarily installed the padded rail from casino supply and the trim around the center octagon. This allowed me to determine where the center of the race track would be. I marked the locations of the parts and took the pieces down stairs to cut. The cup holders where also from casino supply (Black Drop in Jumbo 3 1/2 Inch Diameter). For those holes I used a 3 5/8 inch hole saw on my drill press. For the chip trays I just used a jig saw and cut a square out about 1/2 smaller on all side than the square I traced around the chip holder itself. You want to make sure the hole you cut isn't too big or the chip tray will fall right throw the table. Can't be too small of the tray won't fit. You want the hole to be a little larger the indents for the chips this way you can move the tray around some to try to get it parallel with the edge of the center octagon.

With the holes cut it was time to stain the wood. Before staining I sanded the wood down with 220 grit sand paper. This makes the wood smooth but it also remove the chalk lines I snapped earlier. I let the stain sit for 40 minutes and the whipped the excess off.

With the stain drying I started to work on the center octagon. First step was gluing on the padding. I bought the padding from a local fabric shop, it's 1/4 headliner foam (2 yard 17.94) To secure the foam I sprayed both the board and the foam with 3m high strength adhesive spray. I had it in the garage but I am pretty sure it's available at home depot for a couple of bucks. After letting the glue dry for about 2 minutes I carefully laid the board down on the foam. I then stapled the foam every few inches to the board. I used an air powered stapler and 1/2 staples.
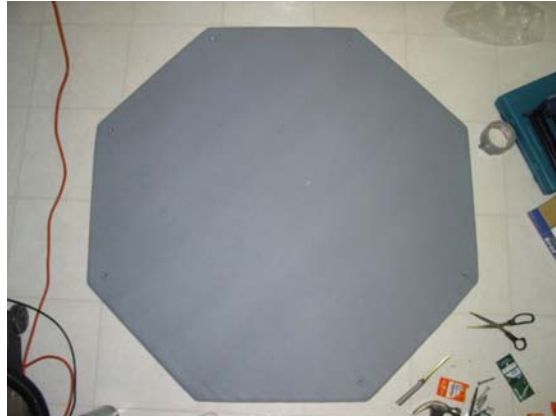
Being a little over excited to glue the foam down I forgot to install the tee nuts in the board. In the 3rd picture above you will see little slits in the foam. If you're following my page, before you install the foam install the tee bolts. They are available from home depot. I used 8 1/4 by 5/16 tee bolts. I put one in each corner of the octagon.

The right way to do it is before you install the foam put the small octagon in place on the larger octagon and drill a hole through both boards at the same time. Do your self a favor and mark how the 2 octagons are situated. If you're like me you forgot to do that and the first time you go to assemble it you have to try 8 different times to get the holes to line up. Once the holes are drilled, use a hammer to set the tee nut into the top side of the smaller octagon. Go back using a larger drill bit and bore out the holes in the larger octagon. This will allow you to fine tune the placement of the little octagon. Now that the tee nuts are in place glue and staple your foam down.

While the glue dried I went back and worked on the large octagon. Here I attached two pieces of quarter round side by side to make a large piece of half round trim. I couldn't find half round large enough so this was my only option. The trim is attached with small nails and glue. Having a air powered nailer is helpful. This trim serves two purposes one it will give the foam padded rail more support, and 2 it will help hold the foam in place. I got this brain storm from other people's pages who complained about installing the foam rail. They mention that it was a pain to make sure the foam stayed in place on the top of the table while trying to staple it from underneath. With the half round in place the foam stays in place nicely, in fact the first time we played on my table I hadn't even stapled the foam rail in place and it didn't move the whole game. Before the table is 100% done I plan on not only stapling it to the larger octagon from underneath but I am also going to lay a bead of glue along the half round to hold the top in place.

Since my large octagon is 2 pieces I need a way to hold them together during game play. My solution was to install 3 latches to hold the boards together. The first latch is in the center of the 2 half's. First thing I did was cut a square out of the center of the 2 pieces, then I mounted 2, 2 x 4's one along the inside edge of both pieces The 2 x 4's stop before the chip tray, although they didn't have to because the chip trays are not that deep. For the 2 outside latches I mounted those directly to the underside of the larger octagon. Care should be taken to mount them inward enough so they do not interfere with the foam pad that will be wrapping around the side of the table. With the latches in place I can easily connect the 2 pieces together without the use on any tools.

Since I am building a table top that is going to hang over the edges of my table I wanted to give the boards more support so it wouldn't bend over time. Simple solution was to screw 2X4s to the bottom of the large octagon. When placing them, be sure to avoid the cup holders and the holes you drilled for the tee nuts. Also be sure you don't put any screws in the race track area or they will be visible.

Finally be sure you stop the 2X4s short of the edge to allow room for the foam rail. Once the 2X4's where in place I put little pieces self adhesive felt all over the 2X4s to keep them from scratching the kitchen table.

Now that the glue on the smaller octagon is dry its time for the felt to be applied. One thing I did before applying the felt was to spray the foam with a fabric water replier. I got an aerosol can of the stuff at the same fabric store that I bought the foam at. My thinking was the foam is glued down so it can't be easily replaced. If someone spills bear on the table it will soak into the felt and not the foam. The felt is just stapled in place so it can be replaced when it gets old. You could probably spray the felt also but I wasn't sure if the spray would effect the way the felt looked or felt. I didn't want felt to discolor or looked as though someone sprayed clear spray paint on it, or have it be clumpy. The spray didn't seem to affect the foam at all so you would probably be fine spraying the felt, just test it out to be sure.

Attaching the felt was just a matter of stapling to the back side of the little octagon again using and air stapler and 1/2 staples. Be sure to pull the felt some what tight to avoid wrinkles but not tight enough to compress the foam around the edges of the octagon. Once the foam was stapled in place I put duct tape around it just to help hold it in place.

Now it's time to attach the little octagon to the large octagon. Simply place the smaller one on the center of the large one lining up the marks you made so the tee nut holes line up correctly. If you forgot to mark the octagons just keep rotating the smaller octagon around until the holes line up. It's a 1 - 8 shot that of course took me 6 tries. With the holes lined up I took 8 thumb screws from underneath and screwed down the small octagon. You will notice in the pictures I have 2 washers on each thumb screw, the first one was to keep the head of the thumb screws from going into the larger hole I drilled. The second washer was because the thumb screws were just a little to long and were causing a small bump in the felt above. The second washer made it so when you tightened down the thumb screws hand tight the top of the thumb screw was just barley below the top of the tee nut. I went with thumb screws to allow the table to be completely assembled without any tools. With the thumb screws in place and the latches shut the 2 larger octagons are actually held together so well you can pick up the whole table from one side. I don't recommend carrying it this way has you are putting a far amount of stress on the 1/2 plywood. Don't want that snapping.

While the little octagon is in place, mark off the edge of the little octagon using a pencil. Remove the little octagon and place some blue painters tape inside the pencil line. You have masked off the race track area and it's time to apply the clear polyurethane.

You could apply poly to the whole larger octagon but why only the race track will be exposed. I applied the first light coat of ploy with a good brush and let it dry 6 hours. I then sanded the poly with 220 grit sand paper and applied another light coat. After 2 light coats I decided this is going to take for ever to build up and applied a heavy coat of poly. Big mistake when it dried I ended up with

air bubbles all over the place. I spend a lot time sanding down poly and had it pretty flat. A quick call to my local hardware and they advised me it was much better to spray the poly on. Now I have a HVLP paint gun that I use for automotive painting and there was no way in hell I was pouring anything oil based into my gun. I would be plagued with fish eye's for ever. Luckily I had a spare cheap paint gun in the garage that was available and has become my office oil based poly spray gun. All I can say is wow, spraying that stuff is 100 times better, it goes on just like automotive clear coat. Smooth as glass, no air bubbles, no brush marks and it takes 1/10 the time. I sprayed the pieces 3 times allowing 30 minutes in between coats. The end result was great but I can still see some low spots in the poly where the air bubbles where before. That okay because I will need to spray it again after I add the trim around the playing area anyway.

With the smaller octagon bolted to the larger octagon it was time to add the trim. Nothing special here, only a matter of measuring the trim and cutting the correct angles. I just guessed 22.5 degrees and it work great. Before attaching the trim you need to do 2 things first stain the trim and second go ahead and sand around the edge of the little octagon where the trim will be. Remember in order for the poly to stick it must be sanded but you don't want to try sanding right next to the trim and risk sanding off the stain. I sanded the edge and stained the trim. Once the stain was dry I used the air nailer + glue to attach the trim to the larger octagon. With the trim attached I went back and put a little stainable wood filler in all the holes left by the nails. Once that was try I used a small brush to dab stain on each spot. It took a few coats because the wood filler kept soaking up the stain. Eventually it stopped and the wood filler blended in very well.

At this point it was mid day Saturday and I though hell the table is almost done I am going to use it tonight for our weekly game. All that was left was installing the cup holders, chip trays, and foam rail. Like I mentioned earlier with the half around along the outside edge of the table the foam rail is held in place nicely. Here are some pictures of the table 90% done.

The table was a big hit at the poker game, had two people ask me how much I would charge to build them a table. It's been several weeks since I did anymore work to the table, been to busy using the table to get any work done on it. Last night I had some time so I figured I permanently attach the foam rails and the chip trays. To attach the foam rails I used an air stapler and 1/4 wide 1 in long staples along the bottom edge. I placed the poker table on top of the kitchen table with the edges hanging off the table and stapled it from underneath. This way I could make sure the rail stayed in place on the top of the table while I was stapling it from the bottom. Once all the staples where in place I went back and carefully lifted up the foam along the top of the table and put some polyurethane glue on the wooden rail support. The glue will hold the top part of the foam rail in place. I used duct tape to hold the foam in place while the glue dried. I used the same glue to glue the chip trays in place. For obvious reasons I didn't put any glue on the 2 trays that sit on the line where the table splits in 2. I would say were about 98% done now. Once the glue is dry I'll flip the table over and put more glue on the chip trays from underneath.

Last night while taking apart the table I weighted it, the table is heavier than I though. Center octagon weights 15 lbs, each half of the large octagon weights 45 lbs. Total weight is about 105 pounds. In pieces it's not bad for one person to move around. I store it behind a couch in the basement and carry it up stairs into the kitchen when we play.

I finally got around to taking some almost complete photos. I still need to make little cover pieces that will go over the gaps in the foam rail.