

# Milky's 3x2 Board Building Instructions



Supplied by [www.CornholePlayers.net](http://www.CornholePlayers.net)

## Materials list:

- 2 qty---3' x 2' foot pieces of plywood, preferably 1/2" thick or greater.
- 2 qty---2" x 4" x 96" pine boards(commonly know as two-by-fours)
- 1 qty---2" x 3" x 8' pine board
- 4 qty---3/8" carriage bolts(zinc, galvanized or stainless steel)
- 8 qty---3/8" flat washers(zinc, galvanized or stainless steel)
- 56 qty---3" exterior coarse thread decking screws, phillips head
- 4 qty---3/8" wing nuts
- 1 qty---1/8" wood drill bit
- 1 qty---drill driver bit, Phillips head
- 1 qty---4 ounce bottle of Gorilla Glue
- 1 qty---flat table that is at least 4' long by 3' wide

## Tools list:

- 1 qty---drill
- 1 qty---3/8" drill bit(wood or bi-metal is fine)
- 1 qty---6" hole saw, Dremel tool, jig, or preferred tool for cutting a 6" in diameter hole in 1/2" plywood
- 1 qty---tape measure
- 1 qty---carpenters pencil or pen(pencil preferred)
- 1 qty---miter saw, circular saw, jig saw, or table saw
- 1 qty---small container of sandable, stainable, paintable wood filler
- 1 qty---putty knife(plastic or metal)
- 2 qty---sheets of 100 grit sandpaper
- 2 qty---sheets of 220 grit sandpaper

\*\*\*Optional tools\*\*\* Belt sander or palm sander

\*\*\*A little note about 2' x 3' sized Cornhole boards.\*\*\*

Tailgate-sized boards are shorter than regulation boards by a whole foot in length. To keep game play in accordance with regulation standards, tailgate sized boards still need to keep the same angle of slant as regulation boards. Tailgate sized boards are basically just the top  $\frac{3}{4}$  of regulation boards. So, you need to have the same specs as the top  $\frac{3}{4}$  of regulation boards. To accomplish this, you must raise the front edge up to higher than 4". The front side of tailgate sized boards would be exactly 36" down on a regulation set of boards. Measuring 36" down on a set of regulation boards, you will find that the height at that point is 6". This is the magic

number, or measurement, that you need to use as the height for the front of our tailgate boards. This specific process is explained in the instructions below.\*\*\*

## Directions:

**1.** First, you have to prepare your materials. If you didn't have the lumber store cut down the plywood for you, obviously you have to cut it down yourself. Cut two pieces to the exact measurements of 24" wide by 36" long. Now you must assemble your first frame. Ideally, in a perfect world, your long sides would measure 33" and your short sides would measure 24" and you should just be able to cut them to that size and attach them to your decks. However, in the real world, your deck is very rarely exactly 24" x 36", for many different reasons. So, with these instructions, we build your frame to be a custom match to your deck, and your finished product will come out looking so much better. Lay down your piece of plywood (referred to as the "deck"). Take a 2 x 4 and lay it along one of the 24" sides (referred to as the "short side"). Mark with a pencil where the deck ends. Cut this 2 x 4 with your saw right where your mark ends. Take your 2" x 3" piece of lumber, lay it next to the 2 x 4 you just cut, mark it with your pencil, and cut it down to the same length as the short side you just cut. Apply a little bit of glue to the 2" side of the 2 x 4 and press it firmly in its place on the deck. Repeat this process for the opposite end. Now take another 2 x 4 and lay it next to the 36" side (referred to as the "long side") of the board, beginning with where one short side 2 x 4 ends. Mark off with your pencil where the other 2 x 4 ends on the long side 2 x 4. Cut this piece with your saw, apply glue to not only the long side that will contact the deck, but also to the ends of the long side that will make contact with the short sides you've already glued, and attach it to the deck. Repeat this step for the opposite long side.

This is where the special step comes in to ensure the boards sit at the proper angle. Take your 2" x 3" x 8' piece of lumber. You've already cut it to match the length of the front of your frame (should be 24"). Apply a little glue to it, and attach it to the underside of the front side. This will



raise the height of the front of your board to 6". Wait for the glue to dry at least a little bit. Drill four screws into the bottom of the 2" x 3" piece, one hole every 5 inches or so, attaching the 2" x 3" piece to your existing 2" x 4" piece of the frame. The trick here is that "2 x 4's" actually measure 1 1/2" x 3 1/2" inches. 2 x 3's actually measure 1 1/2 inches by 2 1/2 inches. When you attach your 2 x 3 to your 2 x 4, you will have a front end of the board frame that now measures 6" high. This means you now have one complete frame built and attached to your deck.

Making sure your glue and frame are intact, and gently flip the whole thing over to sit on the frame you just built. Grab your drill and the 1/8" drill bit. You want to drill pilot holes everywhere you are going to put a screw. Your hole pattern should resemble the picture below.

**2.** When you are done drilling your pilot holes, you want to switch out your drill bit to the driver bit, and start sinking your screws. Countersink your screws about 1/8" using a countersink or just adding a little extra squeeze on the drill to sink the heads. Now your first board is built.

**3.** Next you need to measure and cut the hole. Take your tape measure and find the exact middle of the board, from side to side. (if your measurements and cutting were correct, it should be right at the 12" line.) and make a small mark. Measure down 9" from the top center of your

board, and make a little mark. Where these two marks intersect, you want to scribble a little circle. This is the center of your hole. Use whatever tool you prefer to cut your hole with.

4. Along the underside of your frame, at the side where the hole is, measure down  $4\frac{1}{4}$ " from the top of the outside of the frame. Make a mark. Repeat for the opposite side. This is where you're going to drill the hole for your carriage bolts. Drill the hole using your  $\frac{3}{8}$ " drill bit, and be sure to enter the frame straight.

5. Now it's time to build and attach your legs. Cut two 16" pieces of 2 x 4. At one end of the pieces you just cut, cut them on a 45 degree angle so they resemble a stake. On the stake shaped side of the leg, you want to make a mark about  $1\frac{1}{2}$ " down from the top of the stake on each leg. Then you need to find the center of the 4" side. A 2 x 4 is actually  $1\frac{1}{2}$ " x  $3\frac{1}{2}$ ", so your center should be at  $1\frac{3}{4}$ ". Measure and make your mark. Being sure to drill in straight, drill your hole in your leg. Flip the board over so the deck is on bottom, and the frame is facing you. Lay the leg pieces along the frame on the inside of the board. Line up the mark you made on the leg with the hole you've drilled in the frame. Repeat this process for the other leg and side.

6. Firmly holding the leg in place where you set it, and being sure not to drill into your hand, drill the hole from the inside, through the hole in your leg, and into the frame. Make sure you go in straight. Run the drill back and forth a few times to make sure the hole is drilled clean and any debris is removed. Repeat this process for the opposite side. When you are done, attach the legs to the frame using your hardware. You want a washer on the outside of the frame, and on the inside, in between the leg and the board. Tighten it with the wing nut.

7. Now it's time to make sure the back of your boards sit at exactly 12" high. Many people use different methods for this, but I feel that my method accounts for variances in the wood, variances in the accuracy of the builders measurements, and little differences in drill hole placements that can affect a board that uses bulk manufactured legs. This method makes the legs custom to your boards, and assures that there will be no wobble, both leg bottoms will sit perfectly flush with the ground, and your boards will be at exactly 12" high in the back.

Once you have your legs attached, flip the board back over so it's sitting in the correct position. This is where your flat surfaced table comes in handy. First you need to raise the back edge up to 12" high. To do this, you can use 5 pieces of scrap 2 x 4, and maybe add a piece of cardboard. You can use books, or a case of beer, or whatever you have to make the top of the back edge exactly at 12".



You want to place the board with one long side hanging over the side of the table, and the leg fully extended and tightened in place. Take your pencil, lay it flat on the table, and run it across the inside of the leg so that it marks a straight line. Lift that leg up, slide the board over to the other side of the table, and repeat this process. It is important to make sure your legs are fully extended and the pencil is flat on the table when you make your line. Stand your board up so the underside is facing you. Take your pencil and mark a small letter O and number 1 on the left side leg and left side frame. On the right side, mark a small letter X and number 1 on both. This is critical to help you remove and replace the legs to the correct sides, and the correct boards.(if you're making multiple sets at one time, or even both boards at one time).

Remove your legs. Get your saw and when you make your cut, be sure to cut 1/8" lower than the lines you drew. This 1/8" accounts for the fact that the pencil lead is in the middle of the pencil, not the bottom. When you're done cutting, reattach your legs in the proper place, find a flat surface, and set up your board. If by some chance the board wobbles a little bit, or doesn't sit flat, remove the leg that is too tall, and shave about 1/16" off of it. Reattach and try again. Repeat if necessary. You should not have this problem if you measured and cut accurately.

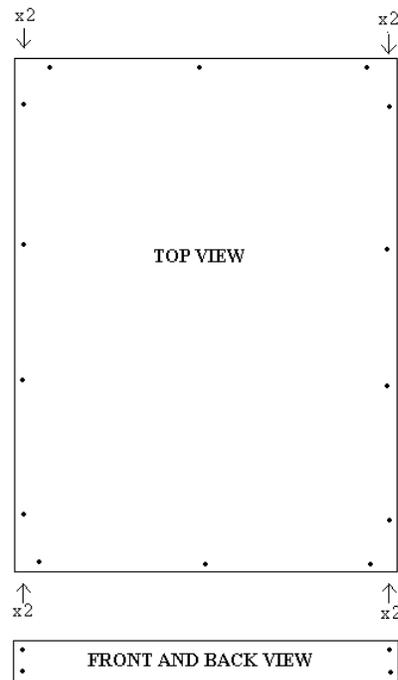
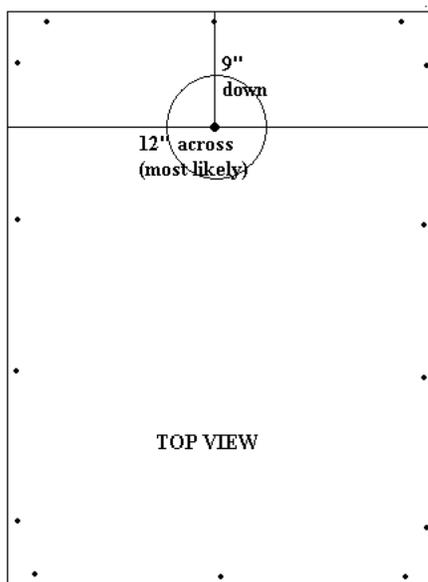
Repeat all of these steps for your second board.

Congratulations! You have just constructed a perfect set of 2' x 3' Cornhole Boards!

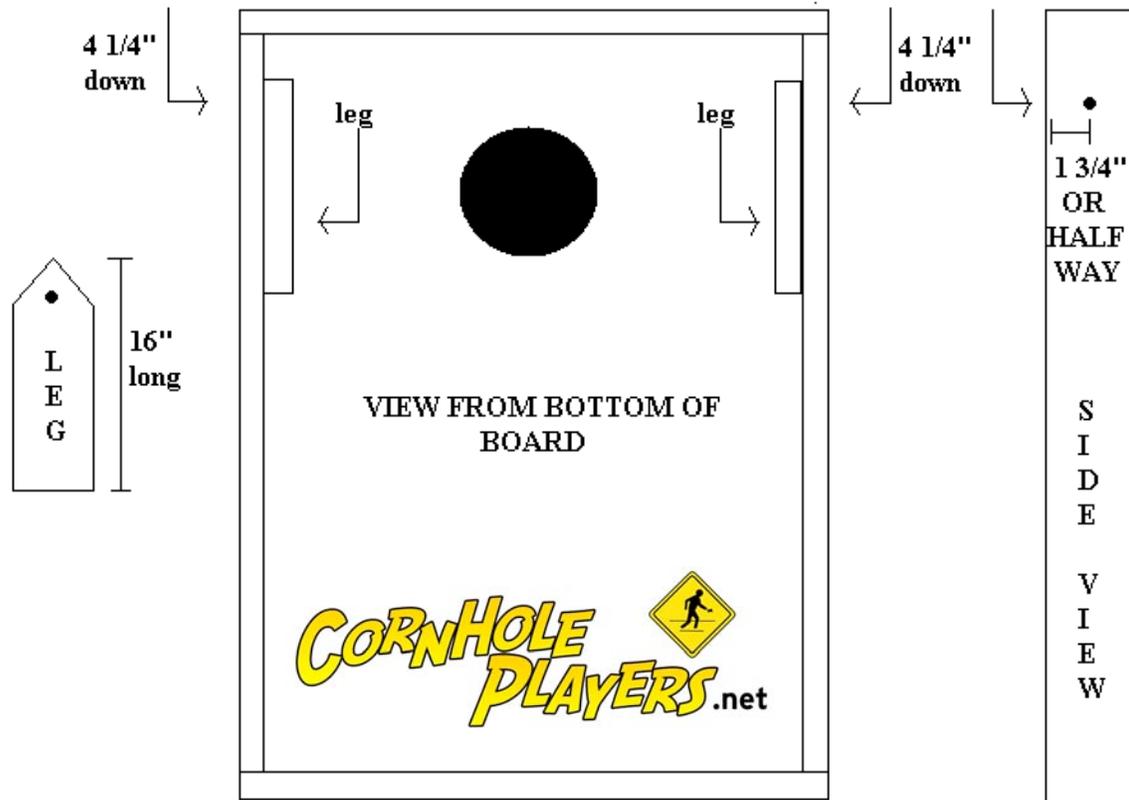
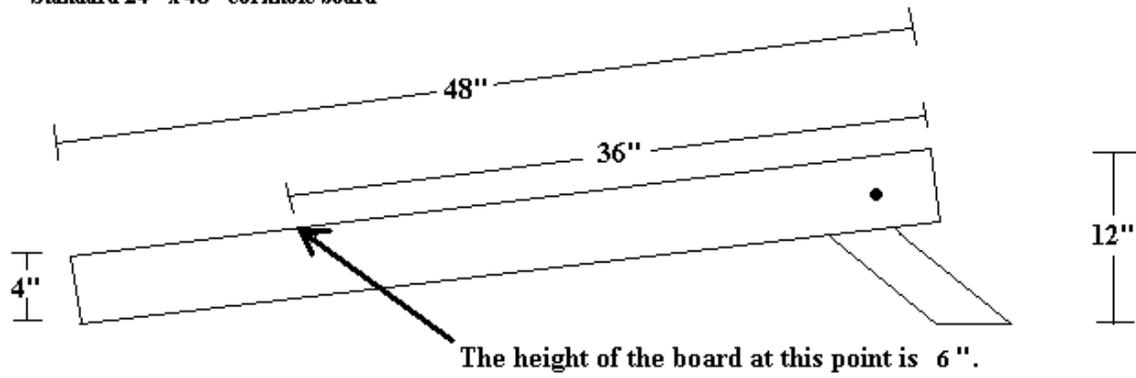
### Board Surface Prep:

Now that you have your boards built, you have to get them ready to paint, stain, or whatever you have in mind for them. This is fairly simple. Take your wood filler and your putty knife and fill each screw hole, being careful not to get the wood filler all over the boards. Wait the recommended time for the wood filler to dry, then sand them down with the 100 grit sandpaper. Be sure to sand the topside, underside, and side if the ring of the hole, too. You want the hole to have no splinters, no debris, and no rough spots. Go over the entire board, tops and sides. Remove the dust you just created, and repeat this step using the 220 grit sandpaper. This will smooth everything down perfectly. Please note that some wood fillers shrink a lot after they cure, and you may have to repeat the filling/sanding steps to ensure that the screw holes are smooth and flush with the deck of your boards. When done, use a wet towel or tack cloth to remove all the dust, and your boards are 100% ready for your design!

- <http://www.youtube.com/watch?v=MVuINfgd5ss>
- [http://www.youtube.com/watch?v=7\\_mZjIHLlGA](http://www.youtube.com/watch?v=7_mZjIHLlGA)
- <http://www.youtube.com/watch?v=iUOI8t-f-OI>



Standard 24" x 48" cornhole board



36" x 24" Cornhole board

