

Wooden Beer Bottle Crate

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Intro: Wooden Beer Bottle Crate

We travel all over the United States to play paintball and have traveled to Scotland and England for events. In order to keep up our supply of beverages and meet the demands of the team several members have begun home brewing beer. Naturally bringing a full keg setup for after the game isn't always a reality, and sometimes I just want to have a few beers put in long term storage to try my hand at aging them. Though mostly aging beers is more a matter of testing my patience.

What I really wanted was something that was fully enclosed and wouldn't have a lid that would come open if tipped over or rolled around in the back of a truck or trailer without anyone noticing. Also it had to have dividers for the bottles and I didn't want it to weight a ton or cost an arm and a leg.

I looked around for plans to make wooden bottle crates to hold beer and couldn't really find what I was after. So I incorporated a few of the best ideas that met my needs from all of them and this is what I came up with.

Tools:

Table Saw (though a radial arm saw or skill saw could do it too)

Drill

Material:

1- 1"x12"x8' Pine Board \$10

2- 2'x2'x 1/4" birch panel \$10

Glue

Screws

3/8" Hemp Rope

Assuming you have some rope, glue and screws on hand \$20 is enough to make two crates with very little waste wood left over. These crates each hold 12 bottles and are sturdy enough to take a beating yet aren't so heavy that one person can't carry two of them at the same time. I will also add that I am not where near good enough a woodworker to make anything super precise like cabinets or 90 degree angles. So if I can make these crates so can you. It took me about 3 hours to make two crates including the time it took to take all these pictures too. I'm sure someone who has even the slightest clue on what they are doing could make them even faster.

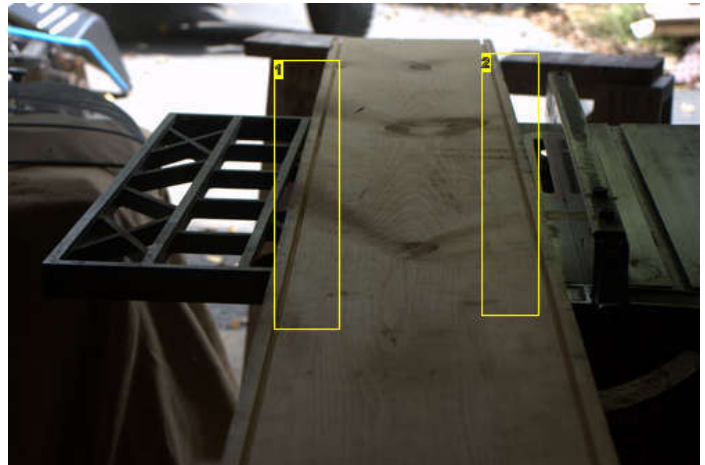


Image Notes

1. Grooves cut 1/4" deep and 1/2" from the edge.
2. Same as on the left side

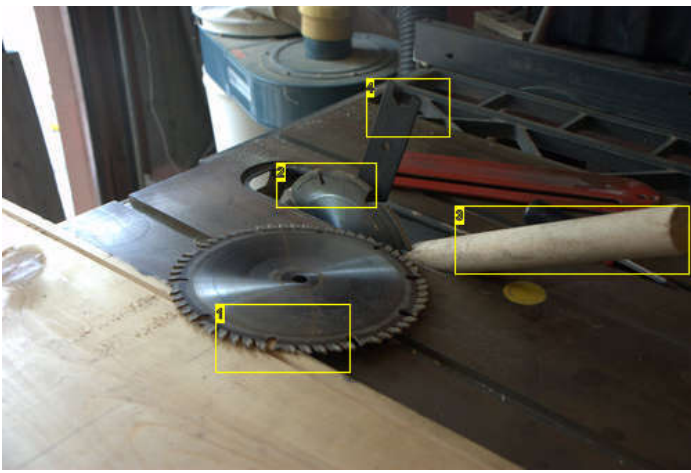


Image Notes

1. Carbide Combo blade
2. Dado Blade
3. Blade holder
4. Special blade wrench



Image Notes

1. Cut pretty much in half... mostly...

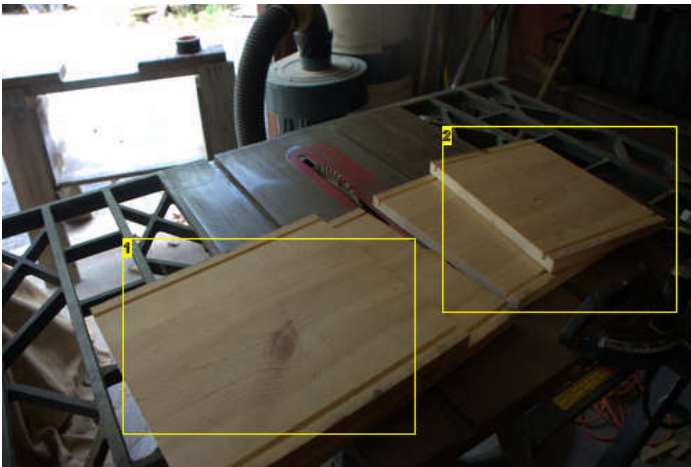


Image Notes

1. Long sides
2. Short sides



Image Notes

1. Box #1
2. Box #2

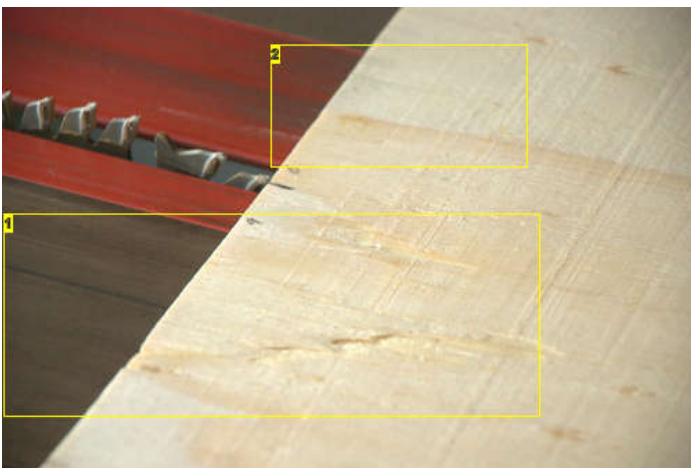


Image Notes

1. This is the bottom half
2. This scrap will be used later.

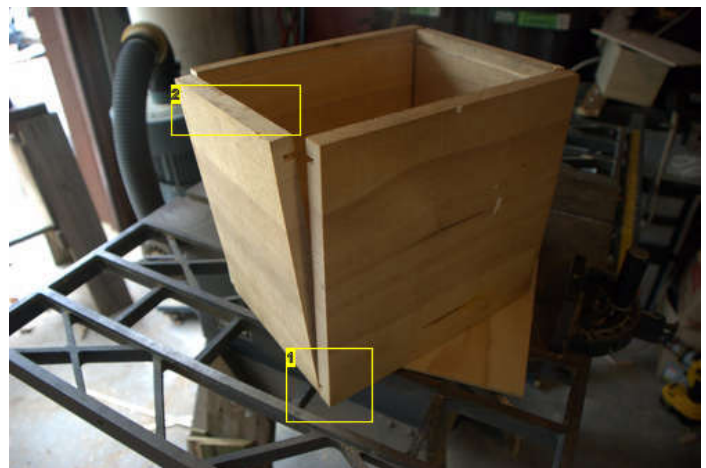


Image Notes

1. Pretty close fit, almost perfect.
2. Need to cut this part off for the top to slide through.

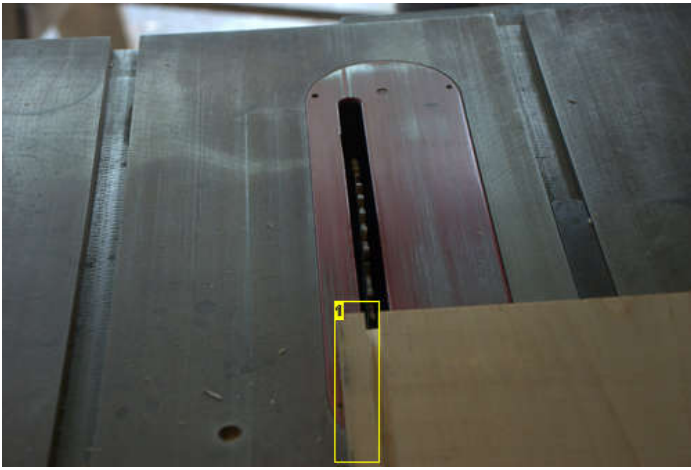


Image Notes

1. Remove all of this and the groove as well.

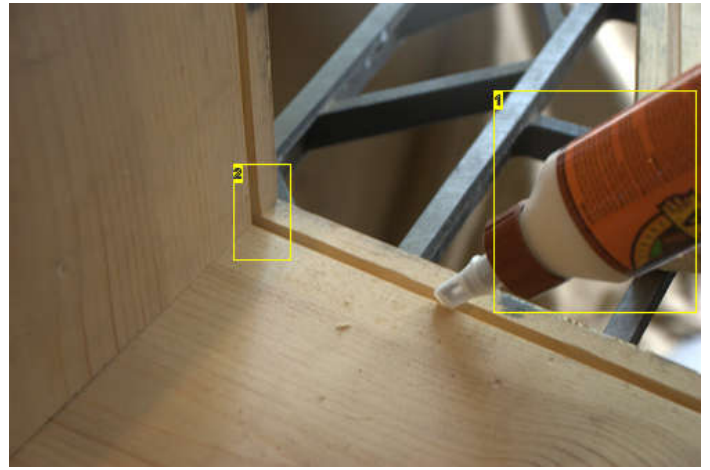


Image Notes

1. Gorilla glue FTW! Actually this is really good wood glue.
2. See how well the dado groove lines up when you cut the entire board all at once.

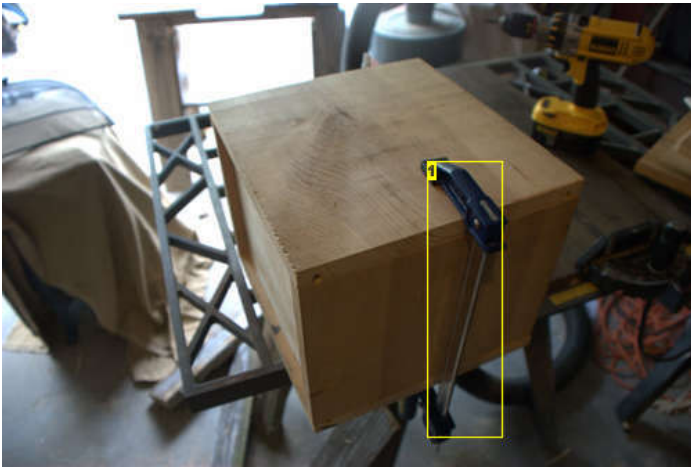


Image Notes

1. Clamp it all to hold it in place while the glue dries.



Image Notes

1. 6 short dividers.
2. Four long dividers.

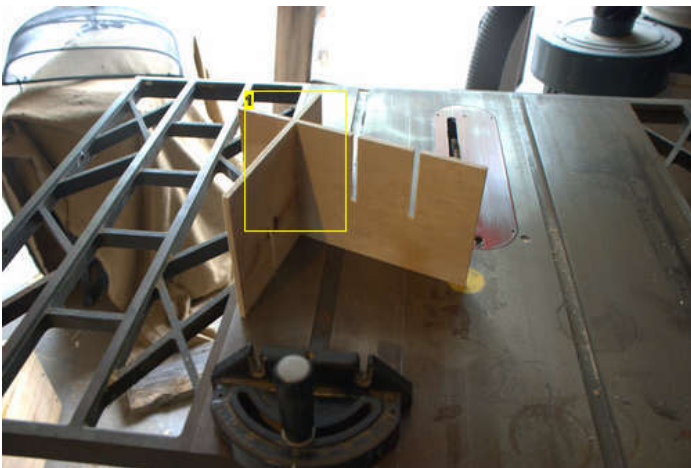


Image Notes

1. Test fit, just about perfect.

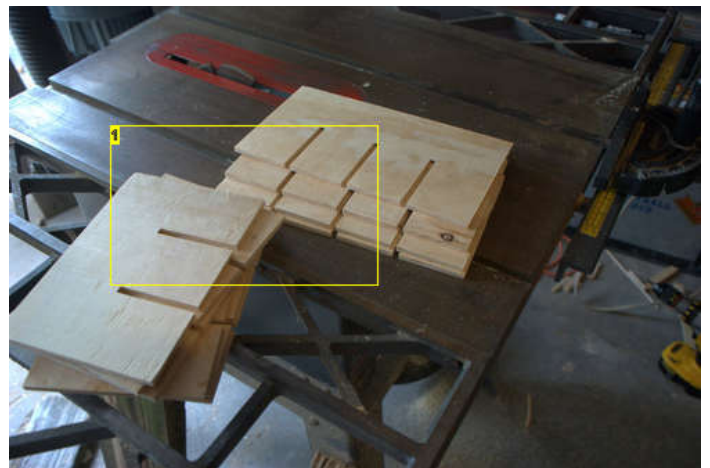


Image Notes

1. Dividers for two crates

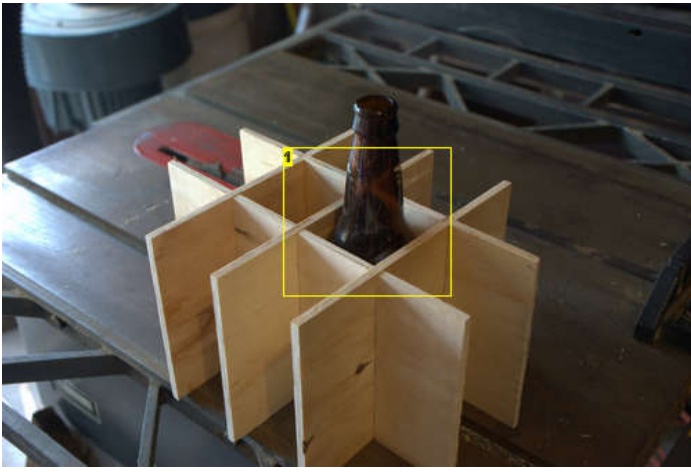


Image Notes
1. A little tight, but it fits.



Image Notes
1. See how we cut that part off.
2. The beer must have fallen out of these bottles.

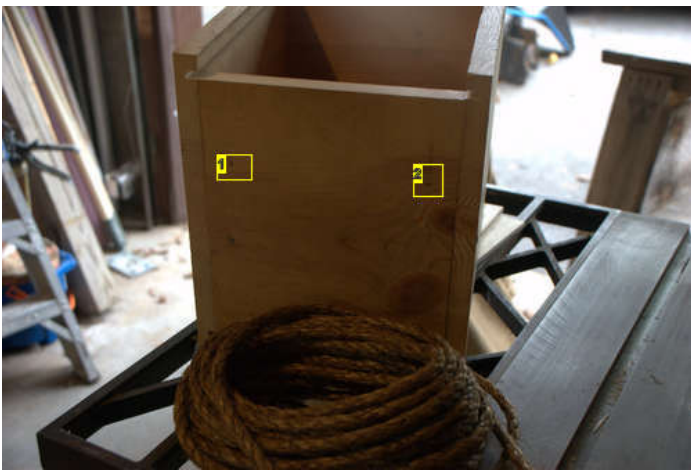


Image Notes
1. Mark for hole.
2. Mark for hole.

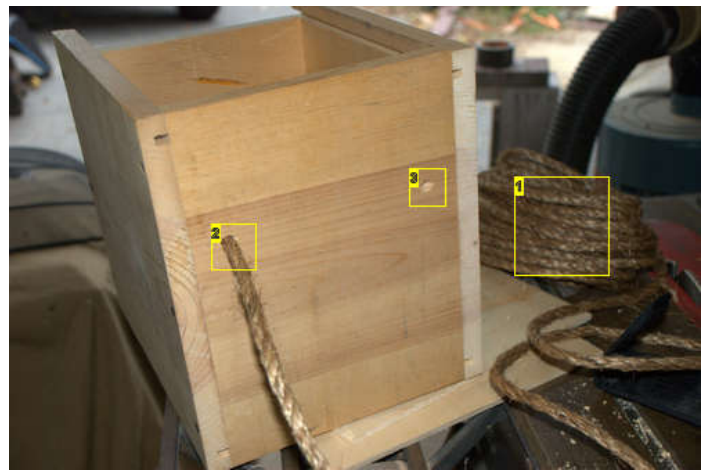


Image Notes
1. 3/8" hemp rope
2. 3/8" hemp rope barely fits in a 3/8" hole.
3. 3/8" hole.

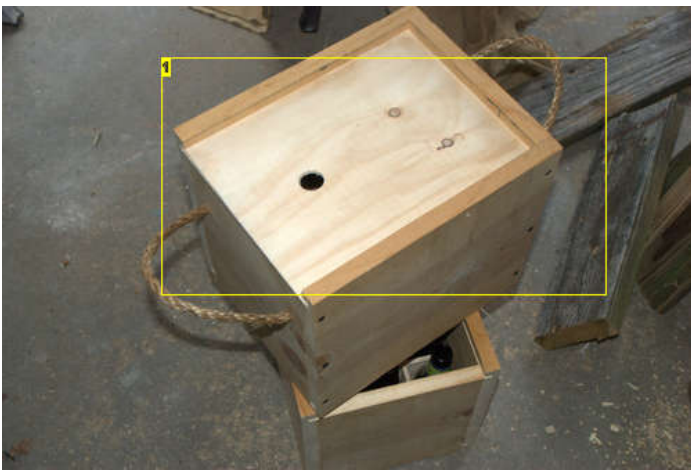


Image Notes
1. Completed crate ready for stain or beer... or beer stains...

Step 1: Cutting grooves for top and bottom

The first step is to cut the grooves for the top and bottom panels. Using a dado blade in my table saw I set the groove to start at a 1/2" from the edge of the board and to be roughly 1/4" deep. I ran the board through twice so that there was a groove for both the tops and bottoms. I actually chose to use the nicer side of the board as the inside and used the really knotted, pitted and banged up side as the outside. People spend a lot of time trying to stress a board to make it look rustic, I chose boards that were pre-rusticed.

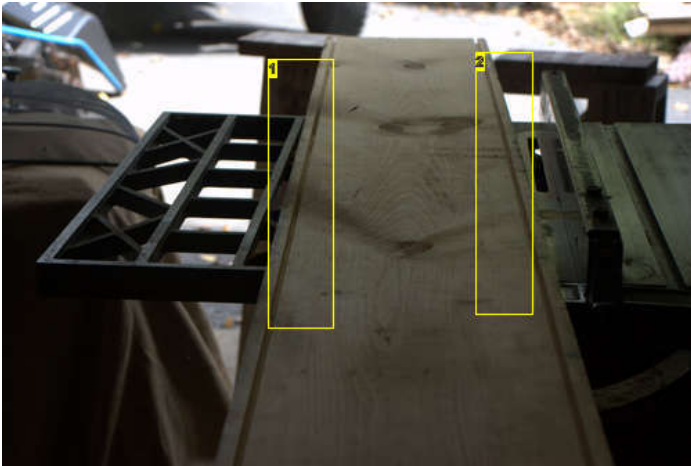


Image Notes

1. Grooves cut 1/4" deep and 1/2" from the edge.
2. Same as on the left side

Step 2: Change blades

Now take out the dado blade set and swap over to a standard combination blade, rip/cross blade or cross cut blade. Just a small segway on blades, but spend the extra \$5 to get a carbide tipped blade. They last so much longer than a plane steel blade that you'll make that \$5 back in no time. A good combination blade really is worth the extra couple of dollars.

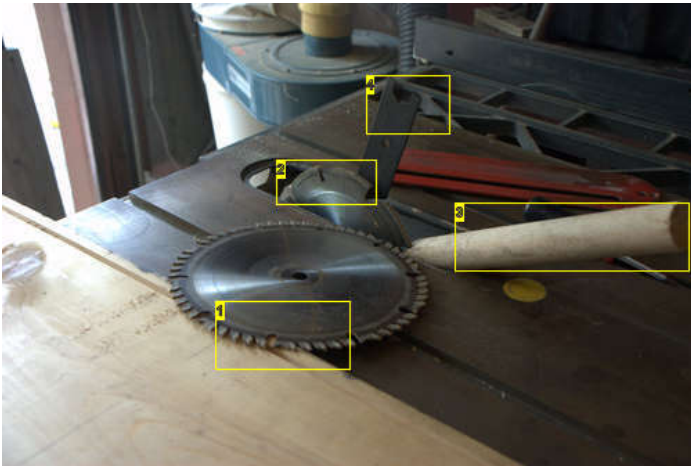


Image Notes

1. Carbide Combo blade
2. Dado Blade
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4. Special blade wrench

Step 3: Cut the board in half

Cut the board roughly in half. Remember I said that this project has enough materials to make two crates. Cutting the board in half will just make it easier to wield and to make our cuts later. I actually cut this board about 9" shorter than half but I knew my overall dimensions were not more than 42" long.

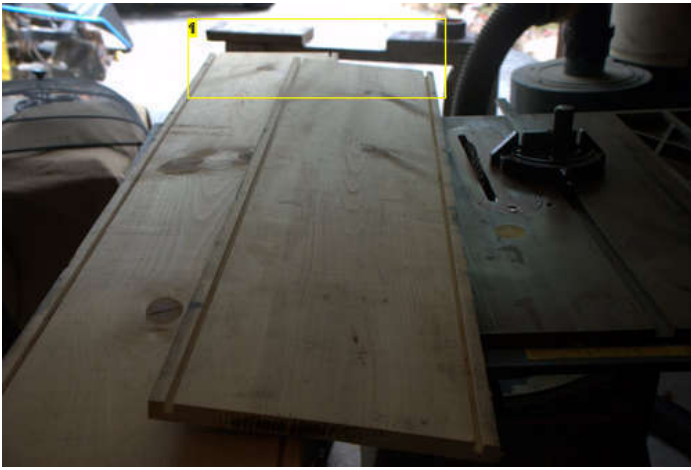


Image Notes

1. Cut pretty much in half... mostly...

Step 4: Cut the sides

Now we need to cut the sides. First make four boards that are 12" long, these are the long sides. Then cut 4 boards that are 8 3/8", these are the short sides. There should be about a 10" or so piece of scrap left if you cut the board all at once. This could in theory be used for a third box depending on how much lumber you have.

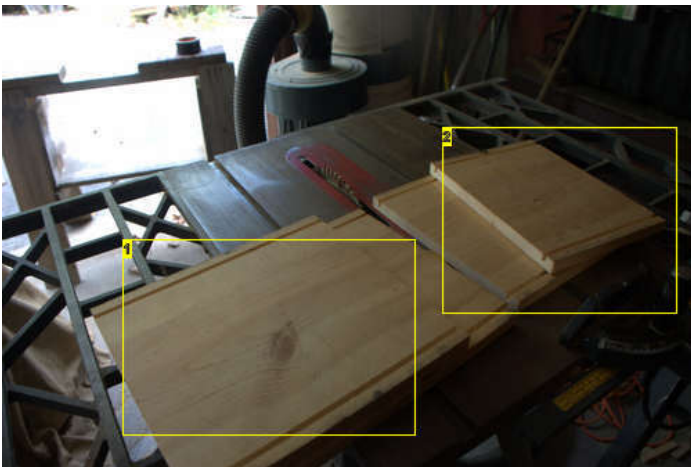


Image Notes

1. Long sides
2. Short sides



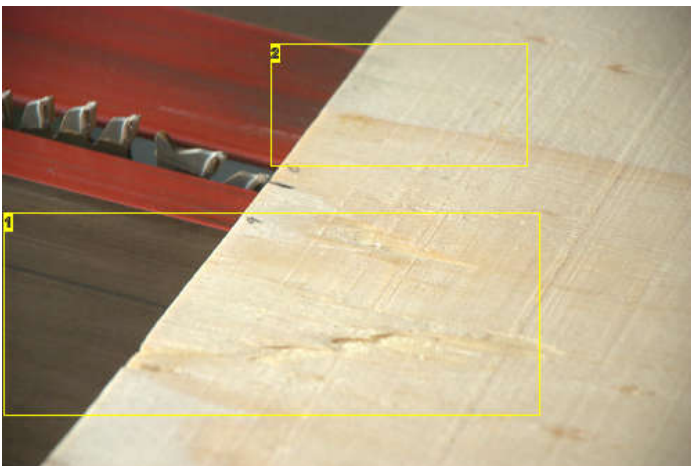
Image Notes

1. Box #1
2. Box #2

Step 5: Cutting the tops and bottom

Now take a piece of the 1/4" panel and cut it 9" wide. Do this twice so that you have two strips of panel that are 9" wide by 24" long. This will leave you with one strip that is roughly 6 inches wide, hang on to this piece of scrap for later.

Take the two 9" wide sections and cut a piece that is 11 1/2" long out of each of them. The 11 1/2" piece is the bottom of your box and the 12 1/2" piece is the top.



1. This is the bottom half
2. This scrap will be used later.

Step 6: Dry fit

This is a good time to take the panel and do a dry fit to make sure everything works right. You can trim up any pieces that weren't cut deep enough or aren't quite square before adding glue. Once you glue it together there isn't any going back so test fitting makes sense.

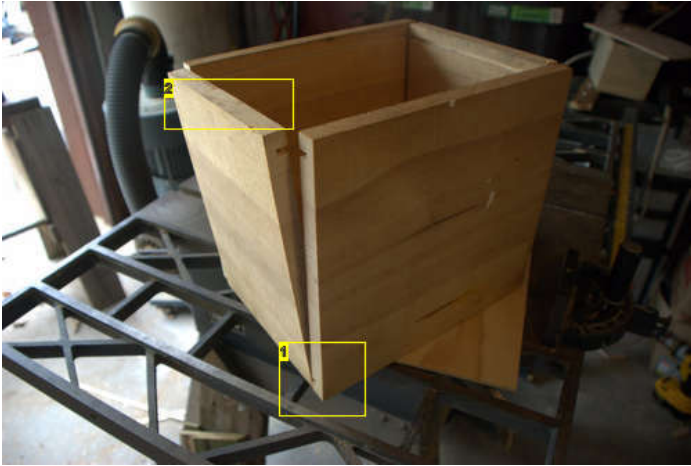


Image Notes

1. Pretty close fit, almost perfect.
2. Need to cut this part off for the top to slide through.

Step 7: Cut the door slide

The top door of the box slides in the grooves at the top of the box. In order to do this you need to cut the dado groove off from one side of the short wall section. This will leave the perfect spacing for the top to slide in and provide a bit of friction to stop it from sliding out on its own.



Image Notes

1. Remove all of this and the groove as well.

Step 8: Glue and clamp

Add some glue to the bottom grooves only and put the box together. Hold everything in place with a clamp or two until the glue dries. I put a couple of screws in the box to help hold it in place. I like to pre-drill the screw holes when they are close to the edge to stop the wood from splitting.

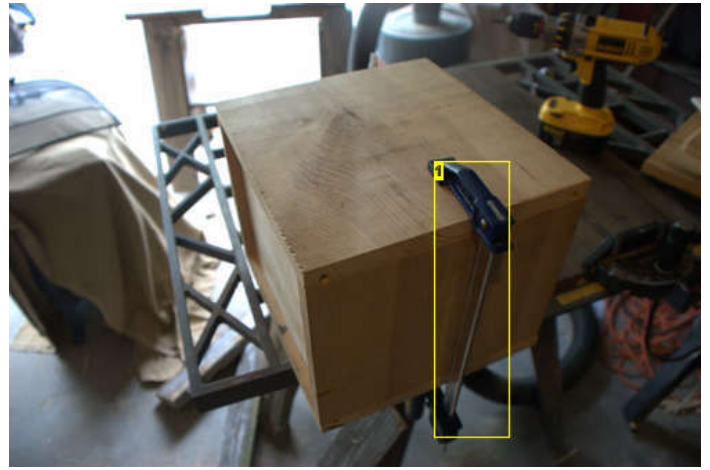
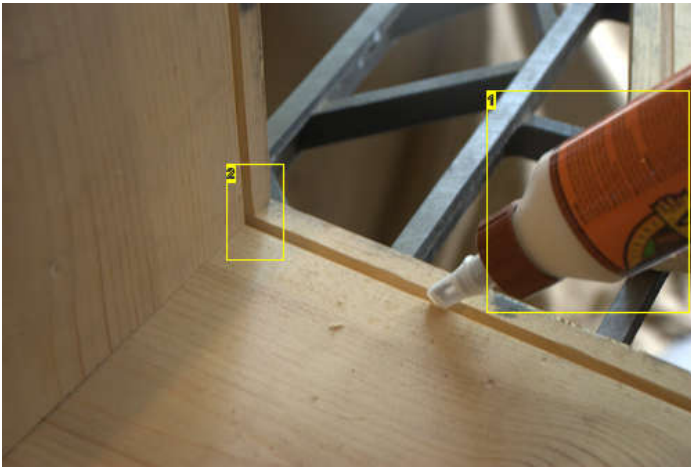


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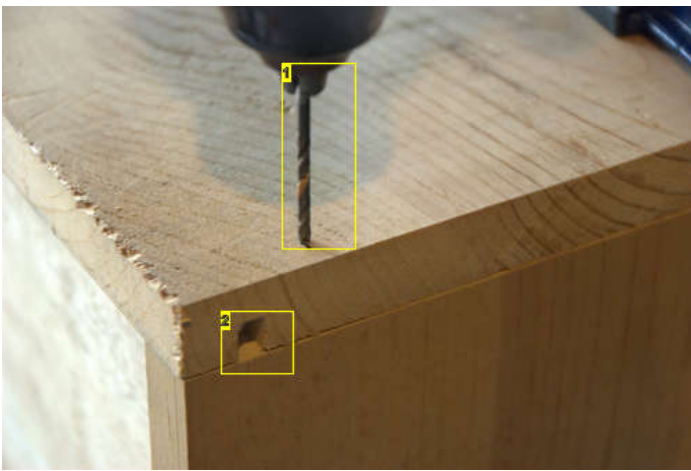


Image Notes

1. Pre-Drill a couple or screw holes. I put 6 on each long side, 3 per edge, evenly spaced.
2. You could cut a wood plug to fit these holes if you wanted to. I left them.

Step 9: Cut the inserts

While the glue is drying it is a good time to cut the inserts to separate the bottles. Take the 6" piece of left over panel and cut it into two pieces that are 10 1/2" long. Now take the second piece of 2'x2' panel and cut it into strips that are 6" wide, or equal to the width of the piece of scrap panel. Odds are that it isn't exactly 6" depending on the kerf width of your blade it could be as narrow as 5 1/4". Just measure the scrap and make strips from the full panel the same width.

After you have your strips of panel cut make two more of them 10 1/2" long. Cut the remainder of the strips so that they are 8 3/8" long. These may need to be a tad short at 8 5/16" depending on kerf width and exact internal dimensions of your box.

In the end you should have 4 pieces that are roughly 6" x 10 1/2" and 6 pieces that are 6" x 8 3/8".

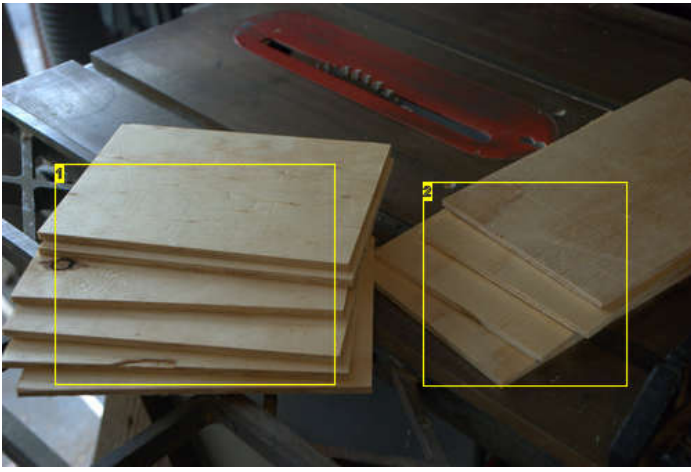


Image Notes

- 1. 6 short dividers.
- 2. Four long dividers.

Step 10: Cut the tabs

Now you need to cut the tabs. These will interlock and create the pockets to hold each bottle.

To do this quickly and easily put the dado set back on the table saw.

The 10 1/2" sections will need three cuts. The first cut is in the center of the piece, the other two cuts are centered between that cut and each end of the board. This means a cut roughly every 2 3/4" depending on the overall length.

The shorter 8 3/8" pieces only need two cuts. Each cut will be roughly 2 3/4" from the end.

There is a little bit of play room in this as the thickness of the board and the overall internal dimensions of your box could vary depending how precise you are. Your kerf width comes into play a lot here as well.

Each cut will be just slightly more than half the depth of the board. In this example each cut is just over 3" long. You can test out if your cut is deep enough by interlocking the pieces to see if they fit flush. If they aren't flush you need to cut them a bit longer.

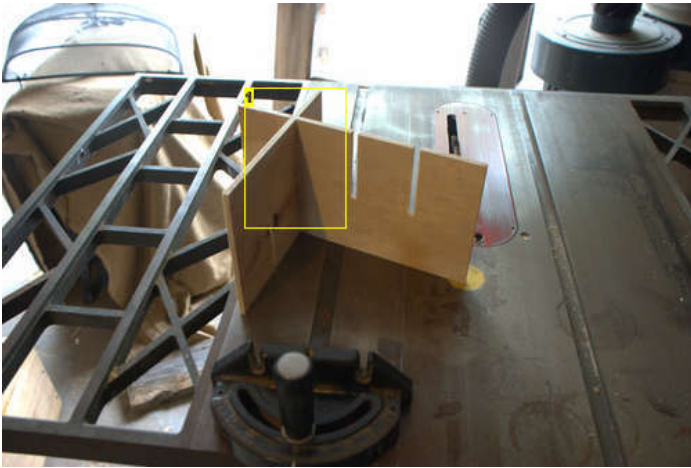


Image Notes

- 1. Test fit, just about perfect.

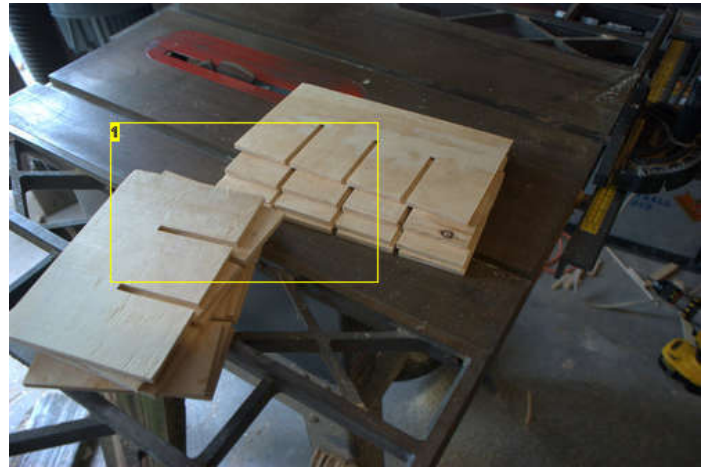


Image Notes

- 1. Dividers for two crates

Step 11: Dry fit the divider

Now assemble the divider by interlocking the tabs. If everything lined up right you should be able to put a beer bottle into any section and it will slide right in. Don't worry if one or two of them are a little tight.

Now put the dividers into the box and fill all of the spots. If a couple of the spots are too tight to fit a bottle do not try to force it. Instead take the divider out and widen the interlocking slot a little bit. This should give the dividers just enough play to snugly hold the bottles.

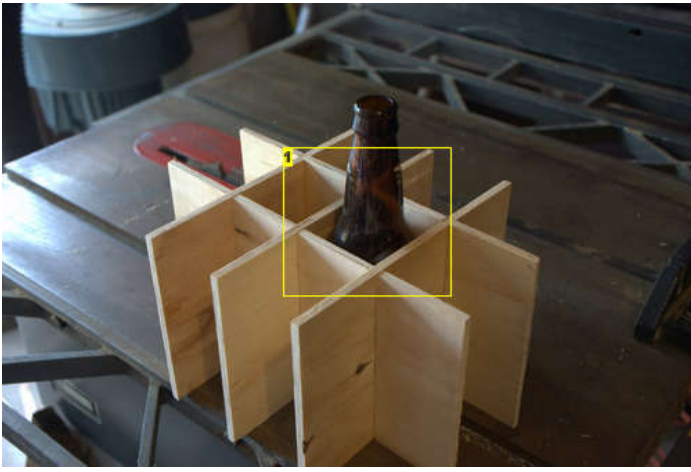


Image Notes
1. A little tight, but it fits.



Image Notes
1. See how we cut that part off.
2. The beer must have fallen out of these bottles.

Step 12: Drill Cover

Take the cover pieces and drill a finger hole in them. Anything larger than a 1" hole should do. Try to line the hole up over the dividers, this will stop a beer bottle from trying to fit through the hole should the crate get overturned.



Step 13: Add rope handles

Now take your drill and make two holes on either side of the short sides of the box. I used a 3/8" drill and made the holes 3 3/4" from the top and 1 3/4" from the side of the box.

Now take about 20" of the rope and put it through the holes, tie a knot on either end and pull it tight. These are now the handles for the crate.



Image Notes
1. Mark for hole.
2. Mark for hole.

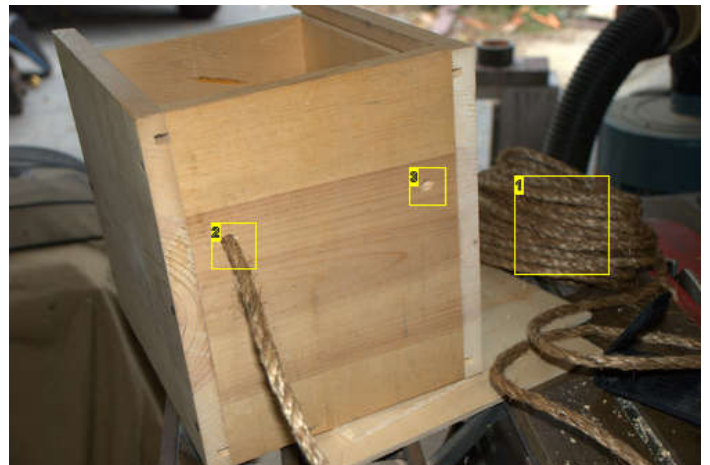


Image Notes
1. 3/8" hemp rope
2. 3/8" hemp rope barely fits in a 3/8" hole.
3. 3/8" hole.



Step 14: Add beer and store

You should now have two wooden crates to store 24 bottles of beer in. You can also stain/paint/laser engrave/carve whatever you want into these boxes.

We hope you enjoyed this instructable and we all look forward to sharing a cold beer with you in the future.

From your Friends at Pub Crawling <http://www.pubcrawling.org>

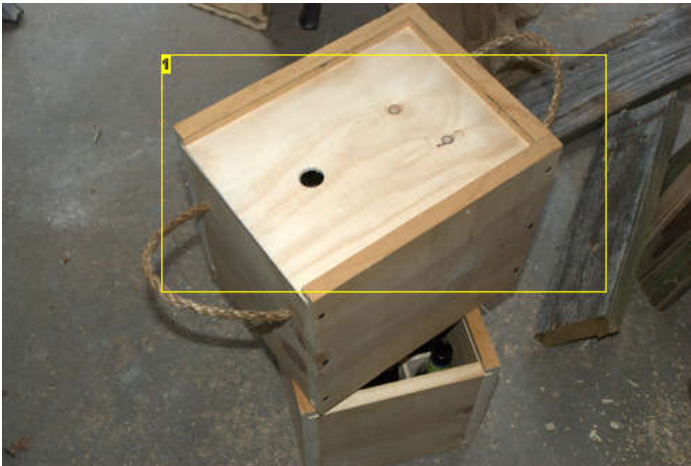


Image Notes

1. Completed crate ready for stain or beer... or beer stains...