

# *Small Starter Loft*

*I have often wondered how inexpensively I could build a good functional flying loft. Something everyone could afford. Or a loft a club could build quickly and loan to new members. Or even build and sell as fund raisers. This small loft can be built for less than \$500, can be moved by 4 men, and will fit in the back of a full sized pick up. It can be set up with perches for Young Birds, or up to 16 nest boxes for racing or breeding pairs. Any one person with basic carpentry skills can build it in a weekend. Or a club could hold a club "Loft Raising" like we did and build one in a day.*



*The Loft measures 4 by 8 feet with a 3 foot Aviary. It is constructed from 7/16s OSB board attached to the floor joists with out any inside framing. I seal the OSB joints from the outside with 1 by 4 utility fir. This also acts as trim. I install all four sides then cut out the door and windows. The front roofing is standard 2 foot wide metal ordered 48 inches long. The rear roofing is ordered 42 inches long. The front roof extends above the rear roof to act as a fence to prevent the birds from sitting on the roof.*



*This picture shows how the Aviary front hinges down when flying the birds. Everything in this loft is made from either 7/16s OSB board or 1x4 utility fir. With the exception of the floor joists and roof rafters which are 2x4s and the flooring which is 3/4 OSB. The aviary floor is framed from 1x4s and the aviary front is made from 1x4s ripped in half. Two of these 1x2s are screwed together with the half inch square mesh in between to make the hinged aviary front. I use 1x1 welded steel wire for the aviary floor.*



*Trap open*

*Trap in the race position*

*My trapping is very simple. Just a hole with a hinged door. This can be locked open, closed, or set open about 4 inches for trapping race birds.*



*This view shows the inside of the roof. Note no conventional "Rafters", but just 2x4s run length ways that the roofing is attached to. Also note the 4 inch gap at the roof peak. This is my vent for air to go out. This vent is covered with the half by half screen to keep "Tweet Birds" out. The front roof extension extends up enough to keep rain out.*

*For window material I just use half by half screen, or you could use clear vinyl and install vents at the floor level.*

*This basic loft design can also be built in sections and joined together as was my new 16 foot Widowhood loft.*



# *Bill of Materials*

*4-concrete corner blocks*

*11--8' 2x4s*

*1 sheet 3/4 T&G OSB*

*7 sheets 7/16 OSB*

*25--8' 1x4 utility*

*1--lb 2" sheet rock screws*

*5--lbs 1 1/4" sheet rock screws*

*5--pair assorted hinges*

*1--metal door handle*

*1--screen door lock set*

*4--26" metal roofing 48" long*

*4--26" metal roofing 42" long*

*2--10' metal corner trim roofing pieces*

*1--3x4 foot 1x1 welded wire*

*25 feet 1/2 by 1/2 welded screen*

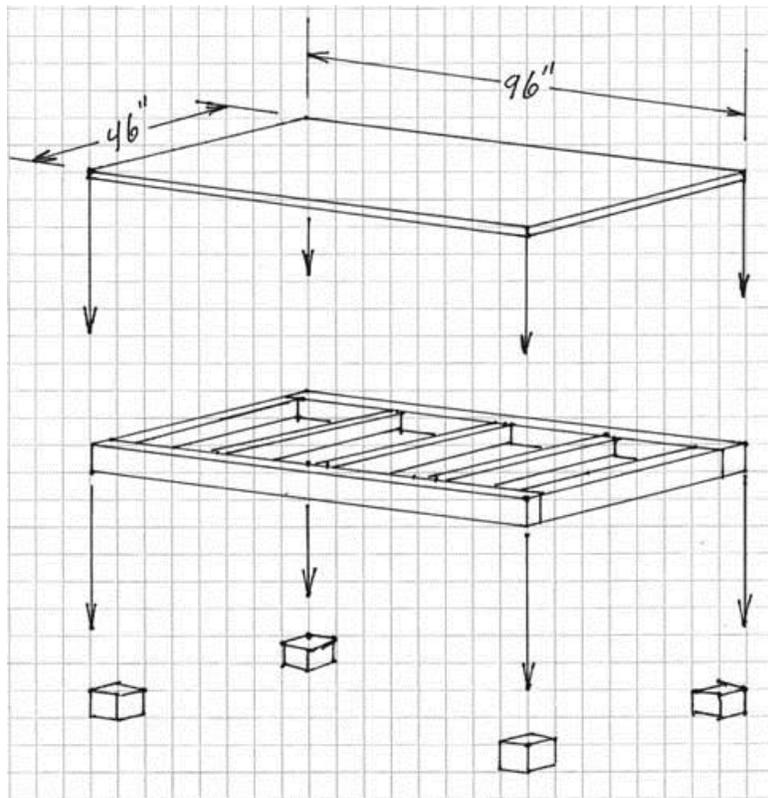
*window material*

*paint*

# Step One

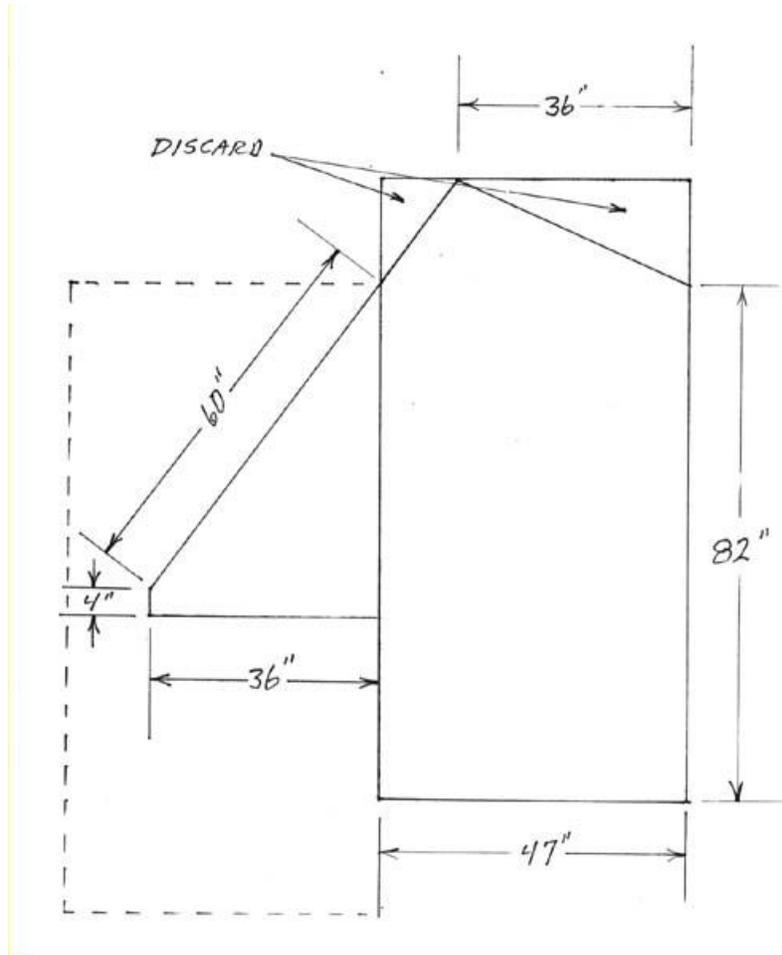
Lay out where your new loft will go using four pillar blocks or four concrete blocks. You can stack additional blocks on after to raise loft height above the ground but for now just start with four. Measure from opposite corner to opposite corner to get your blocks square. The blocks are square when the two distances are the same. Now using a 4 foot level and an 8 foot straight edge level all four blocks. Once your base blocks are square and level you can add additional blocks if wanted to raise the loft height above the ground.

Build your floor joists using 2X4s on 24" centers, using 16 penny framing nails or 4" sheet rock screws. Make your floor a full 8 foot long but only 46" wide, otherwise the finished loft will exceed 48" and might not fit into the back of a pick up. Attach your floor, once again 46" by 96". I use 3/4 OSB tong and groove sub flooring but 3/4 plywood can also be used. Use 2" sheet rock screws every 6" or you can use flooring nails but just make sure they are sunk below the flooring so your scraper will not catch on them.

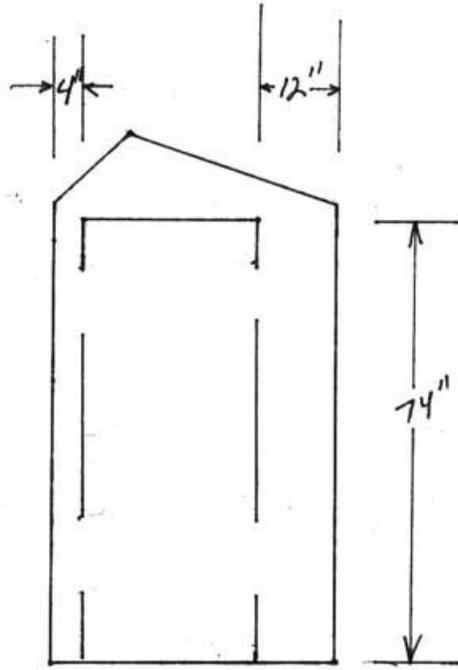


## Step Two

As per the drawing below lay two sheets of 7/16th OSB on the ground and lay out the ends of the loft for cutting. The two triangle pieces from the top of the sides can be discarded as they are scrap. You need to cut two end pieces and two aviary side pieces. The two aviary side pieces can be cut from one sheet of OSB so you will need a total of three pieces of 7/16th OSB for this step. Next take two more pieces of 7/16th OSB and cut them 82" long. leave them a full 48" wide. These two pieces will be for the back of the loft. You are going to need one more additional piece of 7/16th OSB for the front of the loft for a total of 6 sheets of 7/16th OSB.

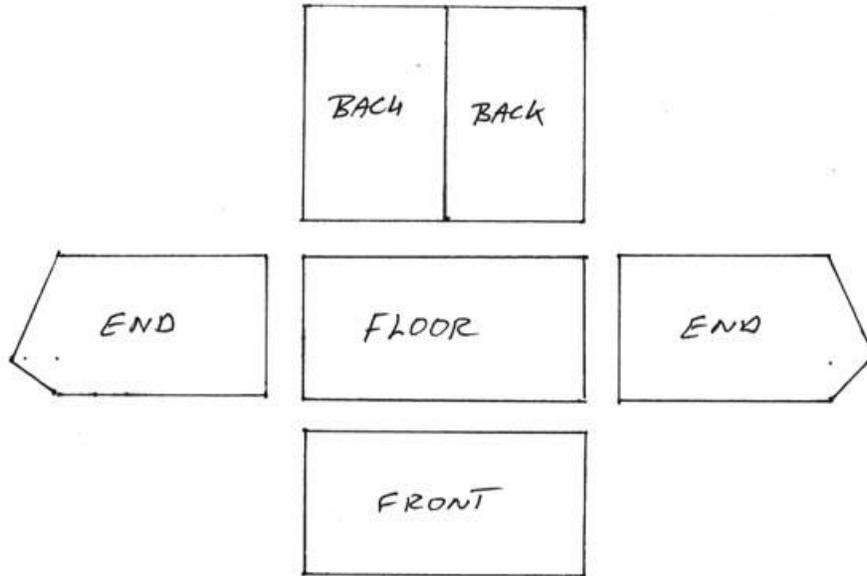


Now is a good time to cut your door out. Decide which end you want your door and cut it out as below. Do not cut it completely out as you still need it attached to add strength to the end when you attach it to the floor. Once this end is attached to the floor and back you can install your hinges and finish cutting out the door.

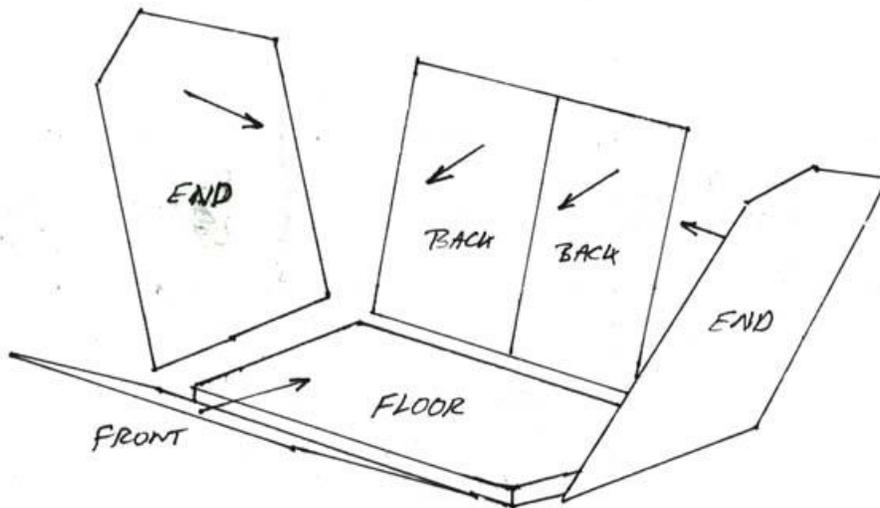


## Step Three

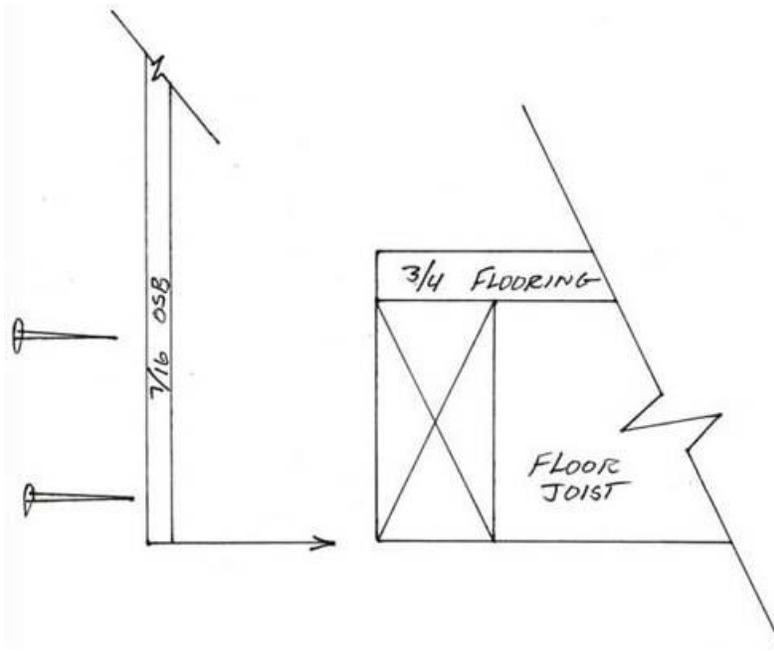
*OK, here's where the fun begins. Following the drawing below attach all four sides and ends to the loft floor using 2" sheet rock screws or flooring nails. Be very careful to ensure your sides and ends go on square, level, or what ever you want to call it. A second person comes in handy here.*



*Lay the front, ends, and back pieces on the ground as shown.*



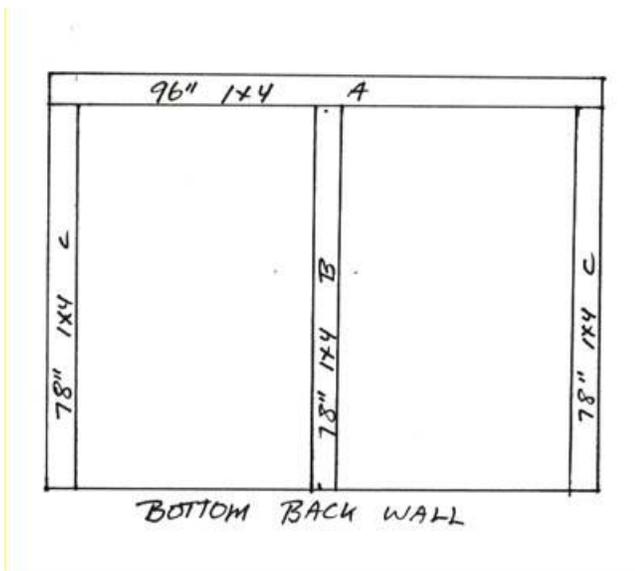
*I like to start with the two back pieces first, then the two ends, and then the front. The best thing to do is to hold off on the front for a while until you finish off the back corners and cut your door. Also, DO NOT screw or nail the bottom of the door permanently. You can put a few screws in to help hold the end but these screws will need to come out later.*



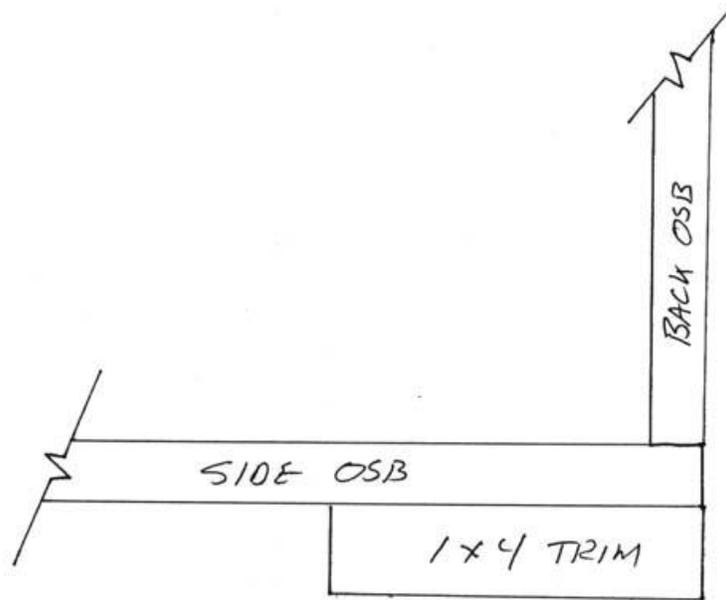
***This drawing shows how to attach the ends and sides to the floor joist's. Make sure the pieces are square and level and even with the bottom of the floor joists. Use 2" sheet rock screws or flooring nails about every 6".***

## Step Four

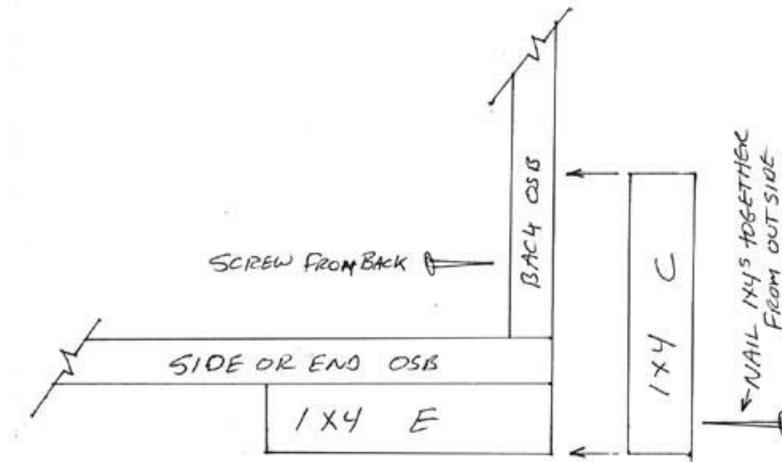
In this step we will screw the two back pieces of OSB together, attach the two back corners, and add some trim. I use 1X4 fir utility I get for a dollar each. But you can use any kind of 1X4 material. Before you start this step go out and buy 5 lbs of 1-1/4" x 6 sheet rock screws as we will be using them for almost every thing to come. Be careful when screwing in the screws, if you go too deep with them they will penetrate the back side of the boards. Look at the left drawing below. Clamp a 1X4 (A) along the top edge (but down about 1/4 inch from the edge) of the two back pieces of OSB and from the inside of the loft screw the OSB to the 1X4. I use 6" spacing for these screws. Next from the outside of the loft screw one of the 78" 1X4s (B) up the center of the back wall dividing the two pieces of OSB evenly. Just attach this using only a couple of screws. Now go inside and screw the two edges of the OSB to the 1X4 using one row of screws in each piece on 6" spacing. We will come back to the back pieces later. Now look at the right drawing and let's work on the ends.



Cut a 1X4 (D) to fit along the top edge from the peak back. Clamp and screw the OSB to it from the inside. Do the same to the other end. Now cut a 1X4 (E) and attach it once again with screws from the inside along the back edge, making sure the edge of the 1X4 is even with the edge of the OSB. Do the same to the other corner. If you looked at the corner from the top it should now look like this.



*Now your going to attach the two last pieces if 1X4 trim (C) to the two back corners like this.*

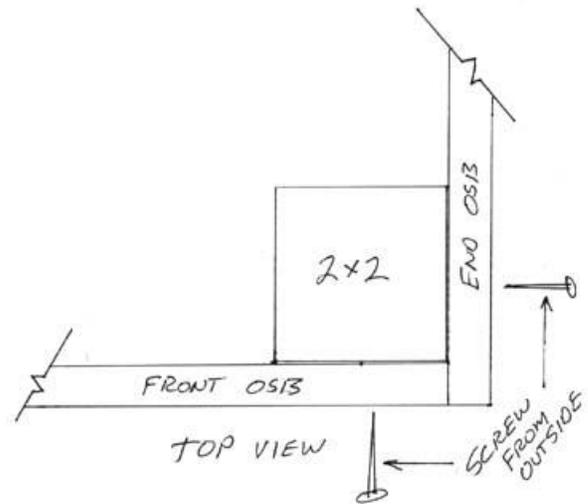
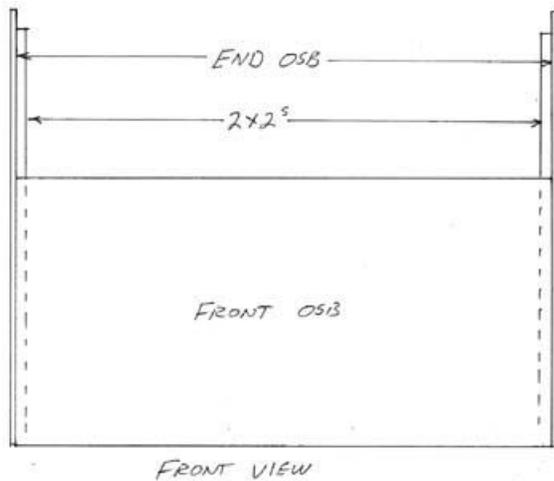


*Use your screws from the inside and some 2" finishing nails from the out side going through piece C into piece E. Do the same to the other side. You now have your two back corners done. They should be nice and solid and hopefully straight.*

## Step Five

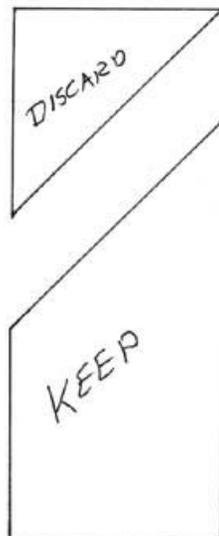
*Well by now we're all proficient carpenters, Right? The next steps will become a little more tricky. I hope I can explain them well enough to follow.*

*OK, go ahead and attach the front piece of 7/16th OSB to the floor, just like you did the back and ends. Now get your self a couple of 2X2s, or rip a 2X4 in half. You are going to use them to connect the front to the two ends FROM THE INSIDE! This is different. Cut both of them 74" long. Stand one up in the inside of one corner and screw the end to the front into the 2X2 FROM THE OUTSIDE. Like this.*

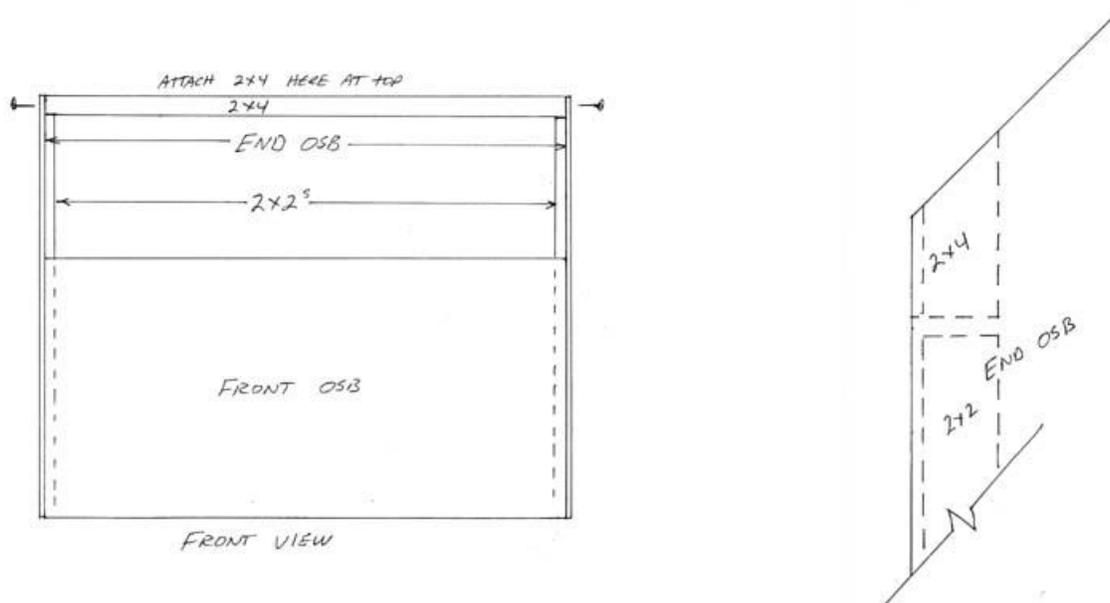


*Go ahead and screw the end OSB all the up to the 2X2 making sure to keep it straight.*

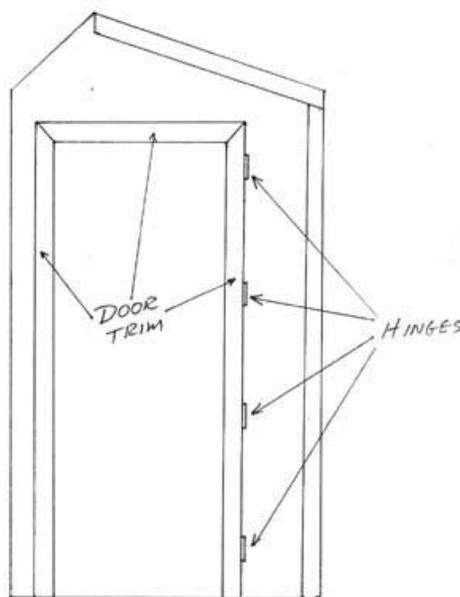
*Now, take an 8 foot 2X4 and rip a 45 degree corner off of it, like this.*



***Now attach the 2X4 from top front corner to top front corner with the flat side of the 2X4 facing out, use some longer screws, I use 3" sheet rock screws, three in each end. Like this.***



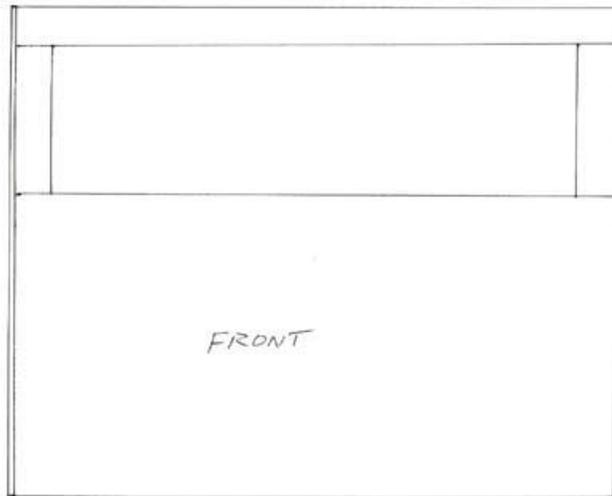
***OK, now you have all four sides firmly attached to each other. Go ahead and install four hinges to the door and then finish cutting it out. Remove the temporary screws from the bottom and your door should now be working. Cut three pieces of 1X4 to attach around the out side of the door for trim. Start with the hinge side piece first. But this piece tight against and over the hinges. Screw all the pieces of 1X4 trim to the OSB once again from the inside. Allow the top 1X4 and the 1X4 opposite the hinge side to extend 1/2" beyond the door. This makes for a door stop and covers the saw cut when the door is finished. Like this.***



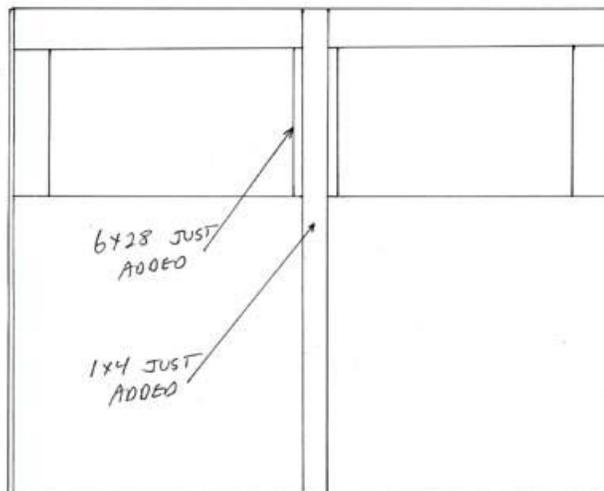
## Step Six

Now we're going to finish the front. Take a new sheet of 7/16th OSB and rip a 6" slice off it, do this again, so you have two pieces 6 X 96 inches. From the outside, screw one of the pieces on to the front at the top along the roof line. Screw the OSB into the 2X4 once again about every 6".

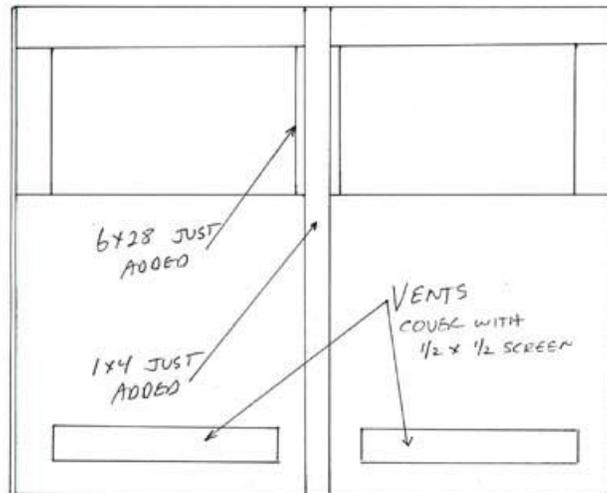
Now measure the distance between the front full sheet at the bottom to the 6" strip you just installed at the top. This should be about 28". Cut three pieces of OSB 6X28 inches, or what your measurement was. Attach one to the left side of the loft by screwing into the 2X2, and one to the right side. You now have a big picture window, like this.



Now take a 1X4 and cut it 81" long. Mark the center of your loft on the outside top and bottom and install this 1X4 centered on the outside running up and down. This piece is 1 inch shorter than the front to allow room for roofing so when you install it place it even with the bottom of the loft. Now take your third piece of 6X28" OSB and install it centered on the inside of the 1X4 you just installed. Your big picture window just became two windows. Like this.



*For Window material you can use screen like 1/2 by 1/2 which we will be using for the Aviary. Or I like soft heavy duty vinyl, like what is used for storm windows. This flexible material will not hurt your birds if they fly into it like glass would. Or for a widowhood loft you can use translucent roofing that allows light to come in but the birds can't see out. If you use a solid material you will need to cut vents in the front of your loft. If you want to cut vents just measure and draw on the outside where you want them and cut them out. I make mine 6 by 40 inches about 4" above the floor, like this.*

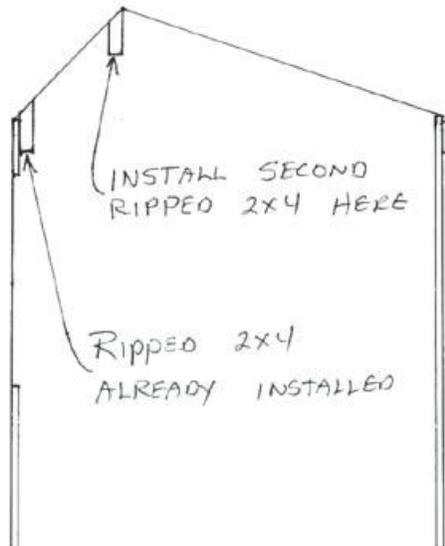


*Cover your vents with 1/2 by 1/2 screen. This will keep mice out. OK, here's a neat trick. Cut a couple of pieces of 7/16th OSB some what bigger than your vents. In my case that would be 10 by 44 inches. Attach these vent doors with hinges from the top so you can open or close them as much as you want. I use a rope from the vent door up to the front of the aviary to open and close these doors. Now for a Young Bird loft you can pinch the doors down when you darken the loft if your raising your YBs on the darkening system. For a widowhood loft maintaining a stable temperature is important so you can open the vent doors during the day and close them at night. How bout that? Pretty neat! uh? Don't worry bout me, I'm just getting tired.*

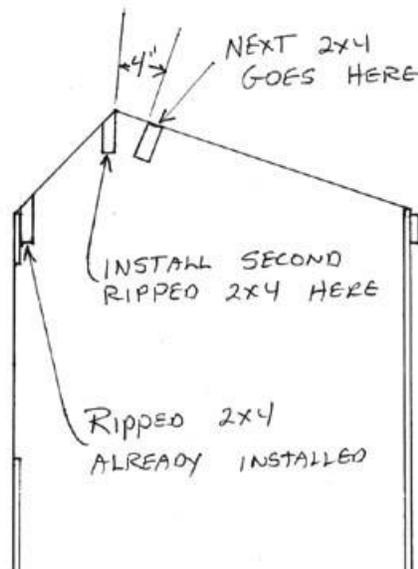
# Step Seven

*OK, before it rains, let's put a roof on. If you haven't ordered your roofing yet you need to do so now. You will need 4 pieces of two foot metal roofing for the front, 48" long, 4 pieces 42" long for the back, and two 10 foot long trim pieces for the edges. And 200 screws, your choice of color. Also you are going to need a 25 foot roll of 1/2 by 1/2 galvanized wire screen for your Aviary front, vents, and roof vent so if you haven't got that yet go ahead and get it now also. OK, let's do it!*

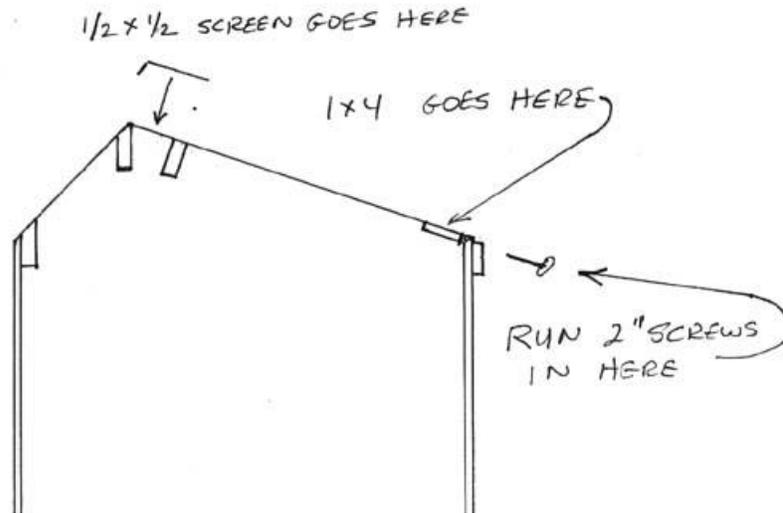
*Take an 8 foot 2X4 and rip the corner off at a 45 like you did before. Install this 2x4 at the front peak of the roof, like this.*



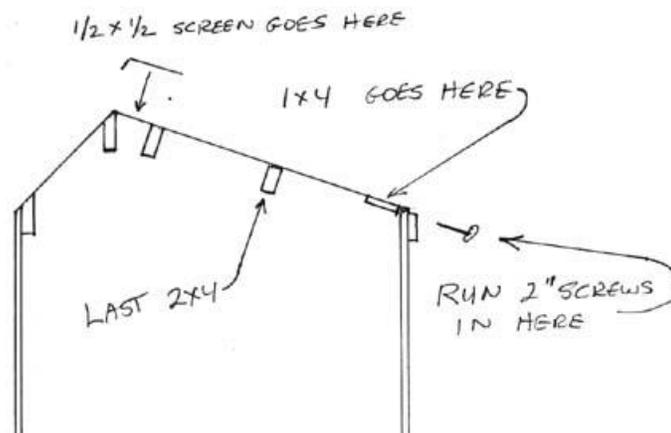
*Now take another 2X4 and install it 4" down from the one you just installed, this will leave your 4" gape for the roof vent. Like this.*



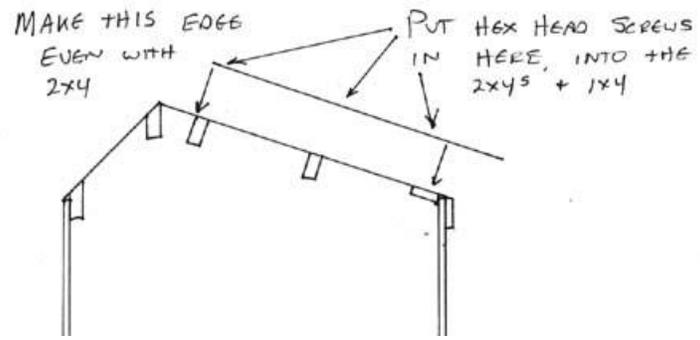
Now, while you have a nice big opening cover your just created vent with the 1/2 by 1/2 screen. Cut 4 pieces 6" wide off the end of your roll, so you have 4 pieces 6X24 inches. Staple these pieces on top of the 2X4s to cover your vent. Now take a 8 foot 1X4 and install it along the back wall at the roof line. Screw the OSB sides into the 1X4 like you did with the 2X4s but also screw the back wall of the loft to the 1X4 using 2" sheet rock screws from outside going through your outside 1X4 trim board, through the OSB, into the 1X4 being installed, like this.



Now measure the distance between the 1X4 you just installed and the 2X4, divide this in half, and mark each end of the loft. Install another 2X4 here.



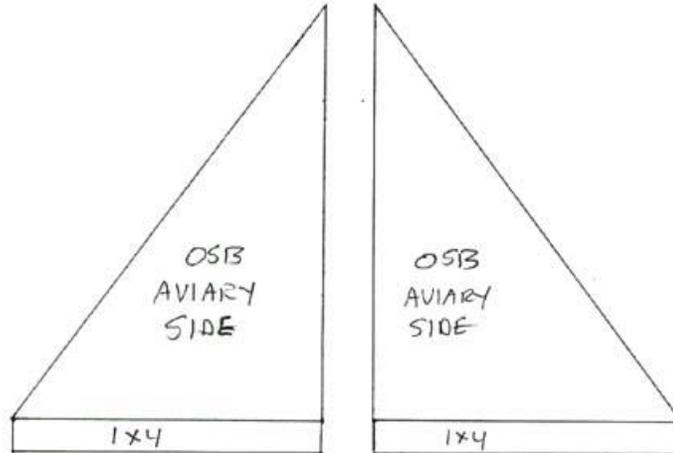
OK, lets put some roofing on. I am not going to go into how to install metal roofing. If you haven't done this before ask at the lumber store where you bought it. Take your 4 pieces 42" long, start at one end, and install them from the top of the vent 2X4, like this.



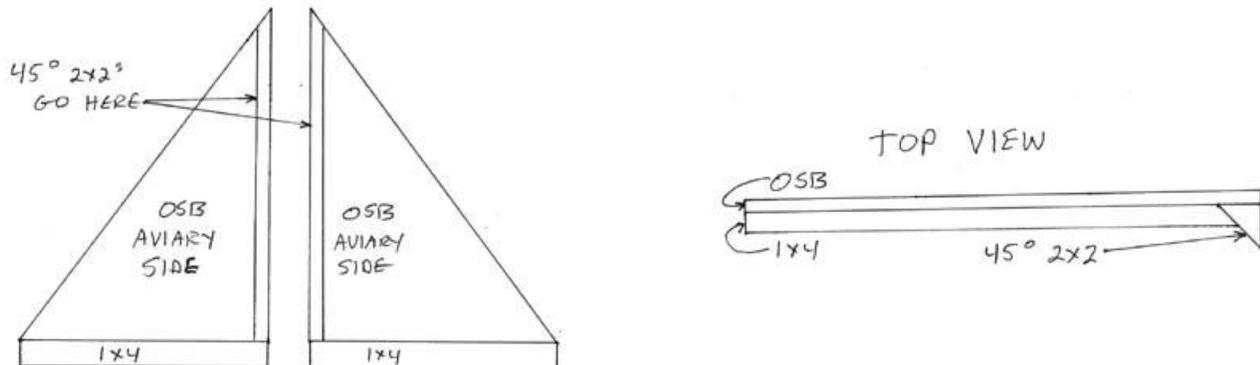
*Well, the back of your roof is now done. We will add the trim later.*

# Step Eight

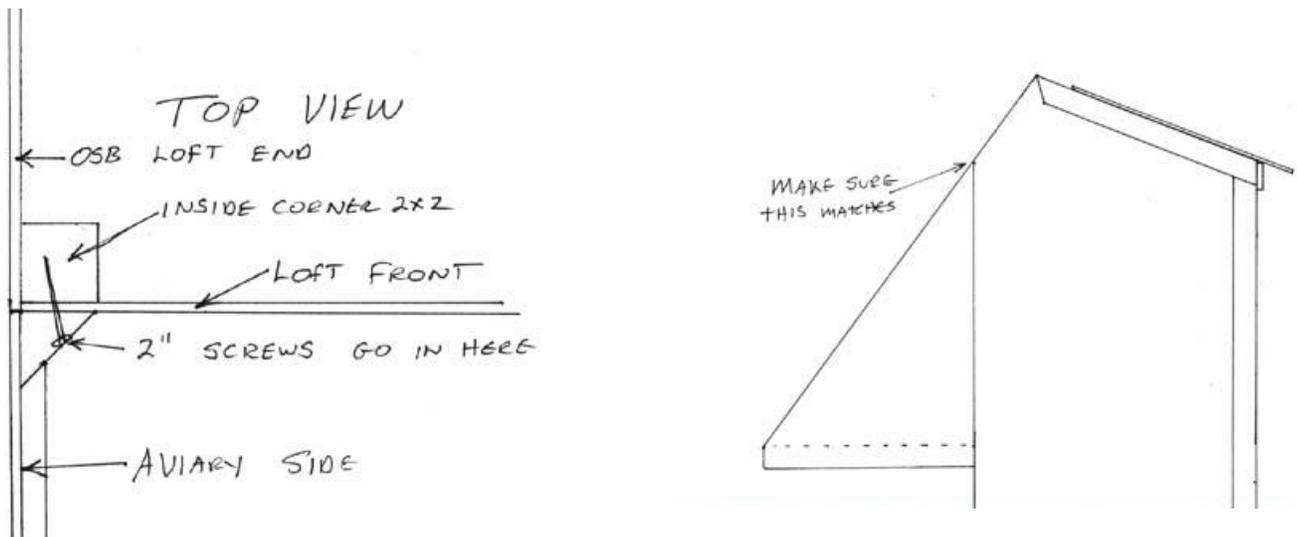
Before we can install the front roofing we need to build most of the Aviary. So that is what this step is. Remember that corner you cut off the 2X4s at a 45 that I said to discard, un-discard it. Sorry. Take the two aviary sides you cut back in step two and lay them on the ground with the long sides facing each other. Then add a 1X4 to the bottom of each side using your short sheet rock screws from the OSB into the 1X4. Like this.



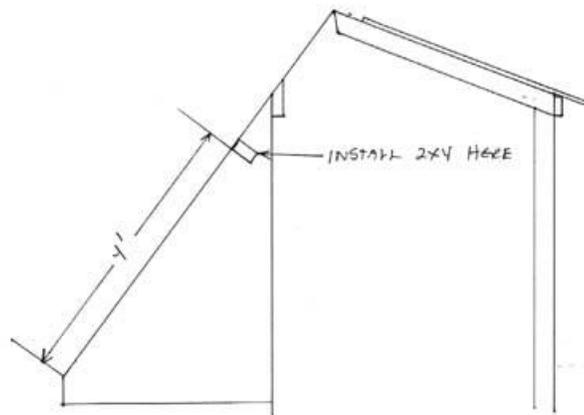
Now take your un-discarded 45 and install a piece of it to each aviary side, once again screwing from the OSB into the 45 degree 2X2. be careful to ensure no screw tips protrude from the 45s as this could harm your birds. This goes on the same side as the 1X4s did.



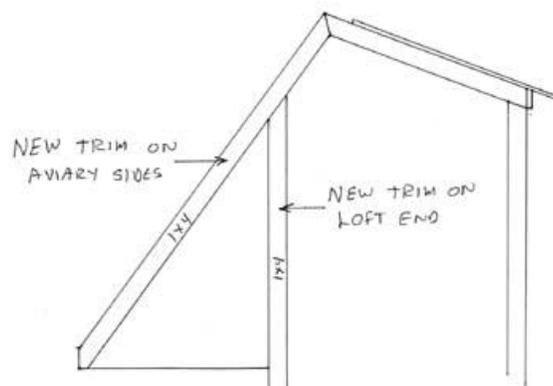
Attaching the aviary sides is easiest with a helper but can be done by one person. Take some 2" sheet rock screws and on 6" spacing start them into the 45 degree 2x2s, so when you attach the aviary side the 2" screws will screw into the square 2X2 inside the loft corner. Take the left aviary side in your left hand and your screw gun in your right hand, hold the aviary side in place making sure the top tip aligns with the roof pitch and screw it in place. Reverse hands and install the right side. It should now look like this.



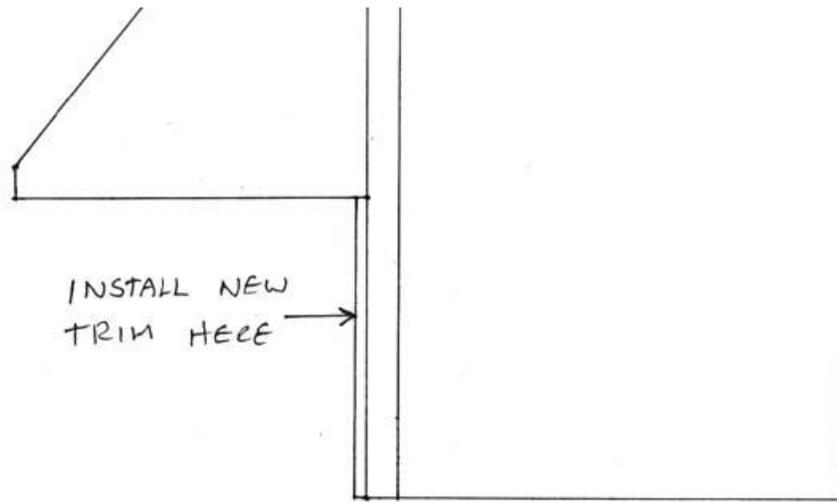
**Measure from the bottom of the Aviary top corner up the side 4 feet and install a 2X4 there. Like this. Then rip a 1X4 and add a 1X2 piece to the bottom half of the 2X4 you just installed. This becomes the stop for the hinged aviary front.**



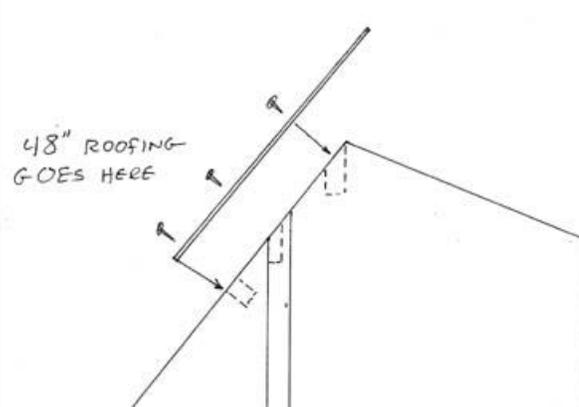
**Using 1X4 cut and install a trim piece to each side of the aviary and then down the side of the loft. The vertical side piece needs to run parallel with the edge of the loft end OSB. Like this**



**Now add two pieces of 1X4 trim to the front corners of the loft, the same way you did the back corners. Only go from the aviary bottom down, like this.**



*Now lets finish off the roof. Using the four 48" pieces of metal roofing install them on the front of the loft from the aviary 2X4 up.*

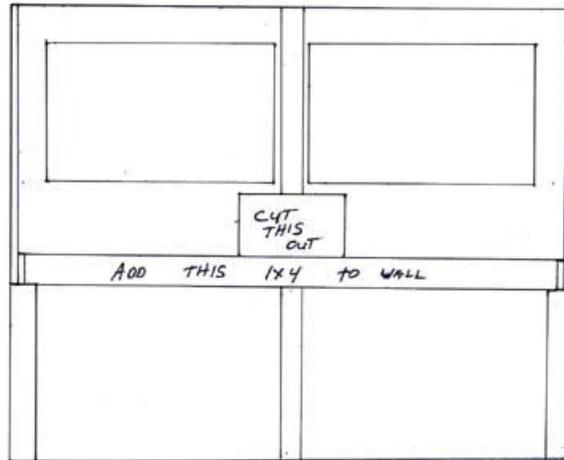


*Now cut and install the two back pieces of metal roofing trim, and then the two front pieces. Then sit back and admire your work.*

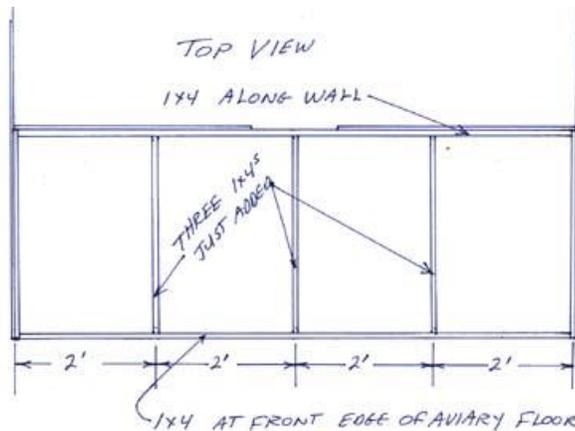


## Step Nine

Now lets finish off the aviary. First install a 1X4 along the loft front from the 1X4s you installed on the aviary sides, once again by screwing through the OSB from the inside into the 1X4. Cut out the vertical trim all ready installed. After you have done this cut a hole in the wall for your trap. The size is up to you. I make mine 19 by 12 inches because that is the size of my electronic sensors for my clock. see below.



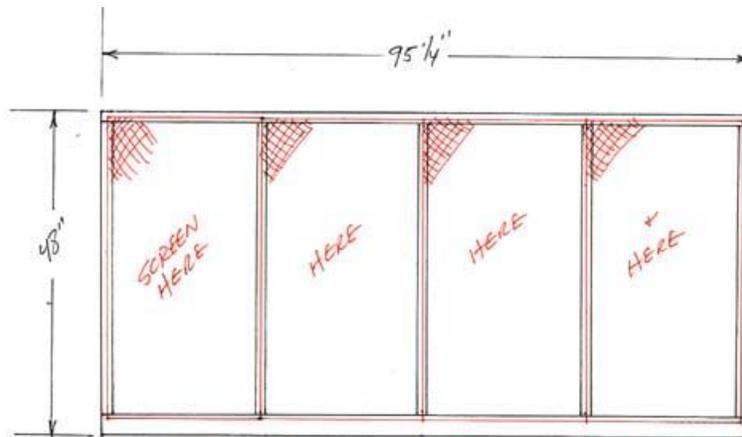
Now add a second 1X4 to the front of the aviary floor. Measure the distance between the front 1X4 you just installed and the back 1X4 installed on the wall and cut three pieces of 1X4 this length. Install them front to back between the two long 1X4s on two foot centers. Like this.



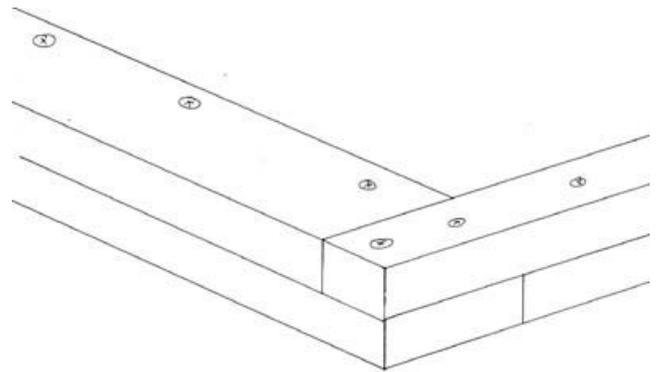
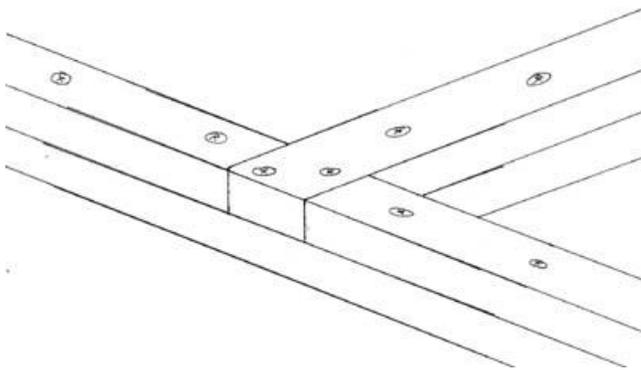
Now all you need to do here is add your wire to the 1X4s. I like using 1X1 inch welded wire. At a lot of hardware stores or farm stores you can buy it in 3 foot wide rolls or by the foot. Be sure and triangle late from opposite corners to square up your framing before stapling on the wire. OK, now lets build the aviary front.

Start by ripping 3 or 4 1X4s in half. Take a 1X4 and lay it on the aviary floor, it will need to be cut. You need space for it to open and close. You will need to cut about 1/2 to 3/4 off all the long pieces for the aviary front. When this front is finished you want about 3/8 inch gap on each side. After cutting your long pieces lay out one 1X4 and one 1X2 crossways on a flat surface with five 1X2s running up and down like the drawing below. Outside width about 95 and 1/4

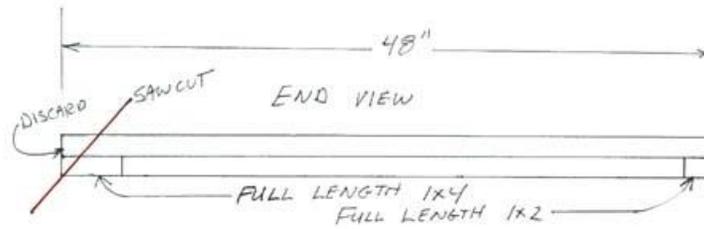
*inches, outside height 48 inches. Measure corner to corner to square it up. Then from your 24" wide roll of 1/2 by 1/2 screen cut four pieces 46" long. Staple each piece in position on the aviary front. Be careful as these pieces are not held together by anything yet. If you have a wooden deck or an extra piece of OSB this frame can be temporary screwed to it to hold it in place as your stapling on the screen.*



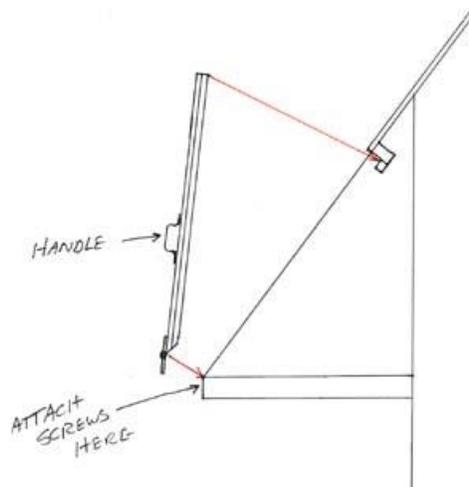
*Once you have all four pieces of screen stapled onto your aviary frame attach a second layer of the 1X2s and 1X4s on top of the first layer. Screw this second layer to the first with your short sheet rock screws every 6 inches. Be sure and remove your temporary hold down screws as you go. And make the joints of the second layer opposite the joints of the first layer, like this. Also when you screw the two 1X4 pieces together put all the screws along the inside edge of the 1X4 as we will be cutting this end at a 45 and you don't want any screws in the blade path.*



*Once this done flip your aviary front over and screw it together from the other side, 6" spacing again. And you thought 5lbs of screws were to much. Have you bought your second box yet? When that is done make a 45 degree saw cut from the bottom corner of the 1X4 side the full length of the aviary front. Watch out for screws. Cut it like this.*



***Now attach 4 hinges to the bottom of the aviary front, set the aviary front in place and finish attaching the hinges. Put a metal gate handle on the center 1X2 and your ready to go.***



***The aviary front should rest on the ground at about a 45 degree angle when open. If yours does not hit the ground you can set a couple of blocks under the corners to support the front when open.***

# *Finishing Touches*

*Most of you will want to paint your new loft now, before you start adding perches or nest boxes. The OSB will not stand up to a lot of bad weather. I hate painting, so what I do is put on my coveralls, put a paper bag on my head with two eye holes, wear a respirator, fire up my airless sprayer, and anything that doesn't move gets it! It usually takes two coats. You can use paint or just a good water proofing like "Thompson's".*

*Also you still need to add a door handle. I use a screen door handle. You can get them from the hardware store for about \$6 or \$9 for one with a lock set.*



*Outside of Screen Door handle*



*Inside of Screen Door Handle*

*And you need to add a door for your trap. make the door some what bigger than the hole. There are all sorts of ways to latch the door up or slightly open. This is how I do it.*



*Trap latched open*



*Trap set in Race position*



*Trap closed*

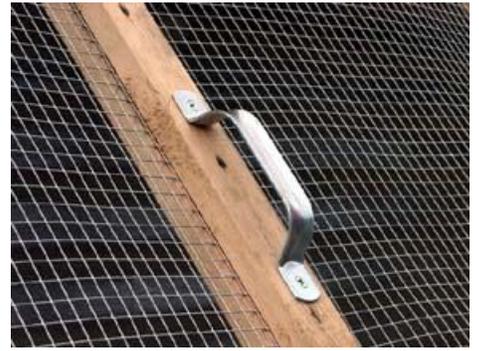
*And here are some assorted pictures of my loft.*



*Aviary front showing saw cut and joint*



*Aviary front hinge placement*



*Handle on Aviary front*



*This photo shows the roof trim*



*Door trim installed against the hinge*



*This is the stop for the Aviary front*



*My adjustable vent doors*



*Note rope going up to aviary bottom*



*Happy Birds*