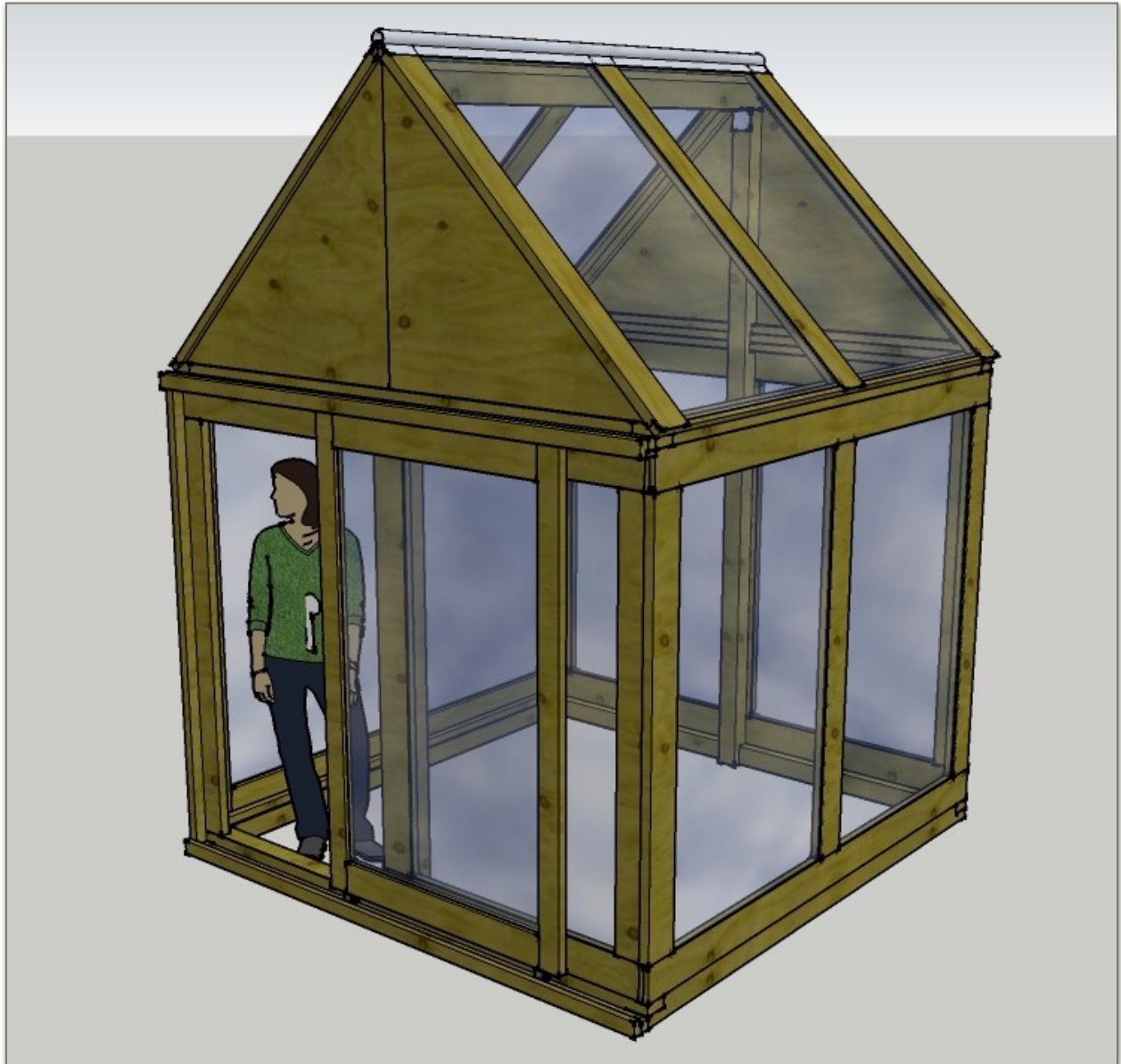


The RE Store Greenhouse



Illustrated Construction Guide

The Greenhouse Story

The RE Store Greenhouse is made possible due to a consistent supply of tempered glass panels from local Bellingham Solar Cell manufacturer Itek Energy. These high strength panels all have a minor flaw which makes them unusable in solar cells but perfectly serviceable otherwise. The RE Store is saving this glass from the landfill and making it available to customers for use in their own projects. We are also researching various ways this glass can be used in construction. One such example is this Greenhouse, which uses 12 sheets of glass. Other possible uses include; cold frames, partitions, solariums, fencing etc.

Addendum:

This guide was designed with solar glass panels in mind. The exact size of the solar glass has changed since the writing of this guide. The original size was 38 15/16" wide by 64 3/4" tall. The glass has changed in size many times, so you will need to make slight modifications to the plan in order to make your materials fit properly. The dado cuts in the edges of the boards you mill to create the top and bottom horizontal rails for the walls will need to be adjusted. The dado cuts in the edges of the boards which will be the vertical rails of the wall panels will need also need to be adjusted. Similar modifications will need to be made to the boards created for the sliding door as well as the roof panels. If you have any questions regarding these changes, please stop by the Revision Division shop.

Happy building,
The RE Store

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Section 1

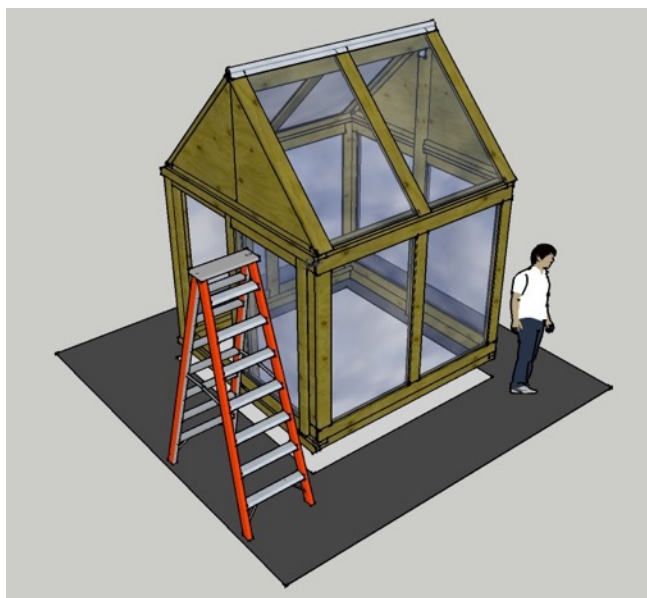
Introduction

The RE Store Greenhouse is built from twelve sheets of tempered glass that have been framed in wood. Four of these panels make up the roof, seven more for the walls and one of them becomes the sliding door. Various other pieces of lumber are used to join these together into a structure. This building guide will take you through the process of preparing the ground for your greenhouse, cutting each piece and how to assemble these pieces into wall panels. You will then learn how to connect these panels together to make a greenhouse. You will need access to a table saw, chop saw and circular saw as well as various hand tools. Please refer to section twelve for detailed information on the dimensions of any component.

Section 2

Preparing the Ground

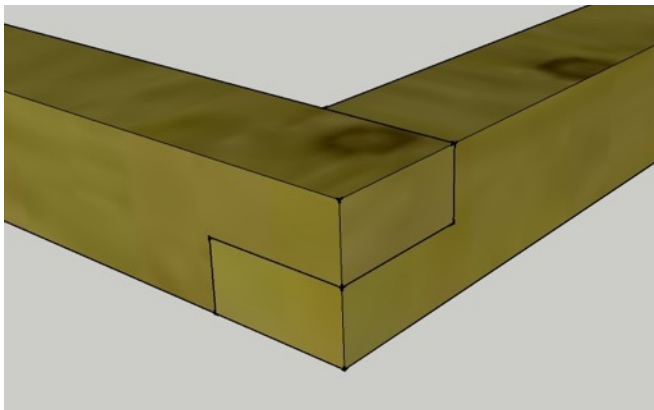
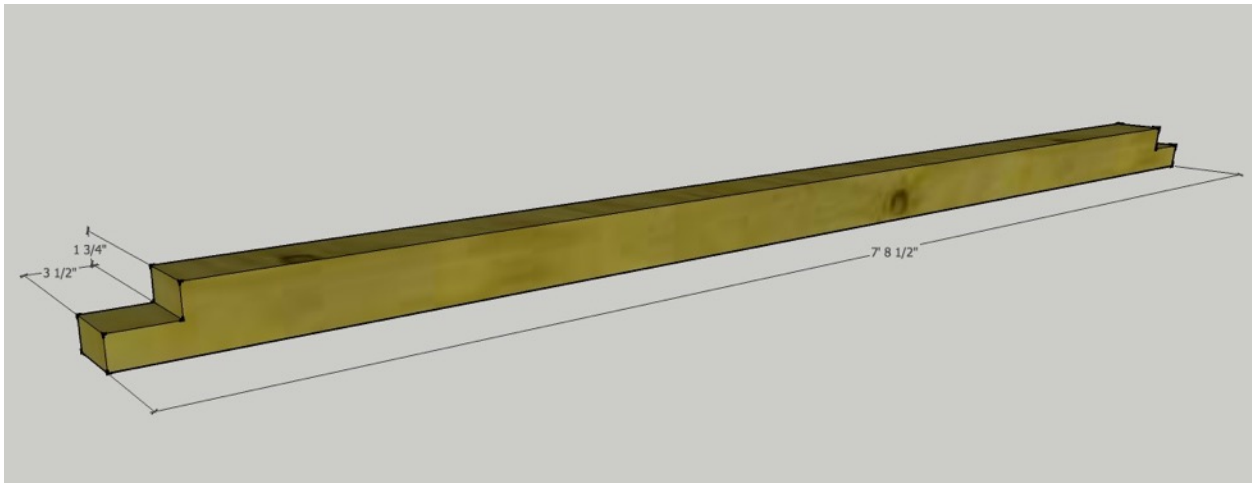
To begin preparing your patch of ground for building the greenhouse start by carefully leveling a square area which measures 96" on each side. You will also want to ensure in the area you have selected you have at least 12' of clearance for the peak of the roof. Try to choose ground that has good drainage and good exposure to sunlight. Ground that is frequently saturated would be a poor location for building. Tree roots and large rocks will also make leveling this area more difficult. You will also want to ensure you have some space around the greenhouse for working on it as you go. A border a minimum of 3' wide gives you room for a ladder.



Section 3

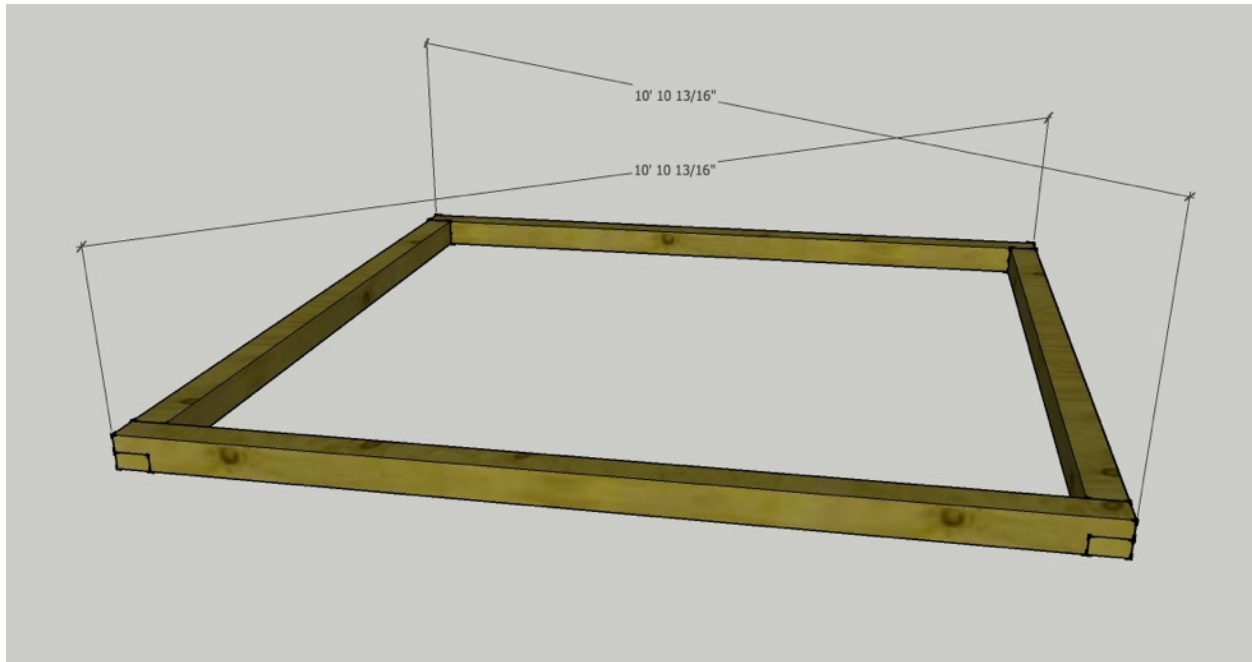
Assembling the Sill Plate

The sill plate will create a base for the Greenhouse which will help buffer it from ground moisture and the subsequent potential for rot. This base is constructed from four identically cut pieces of pressure treated lumber which are screwed together at each corner.

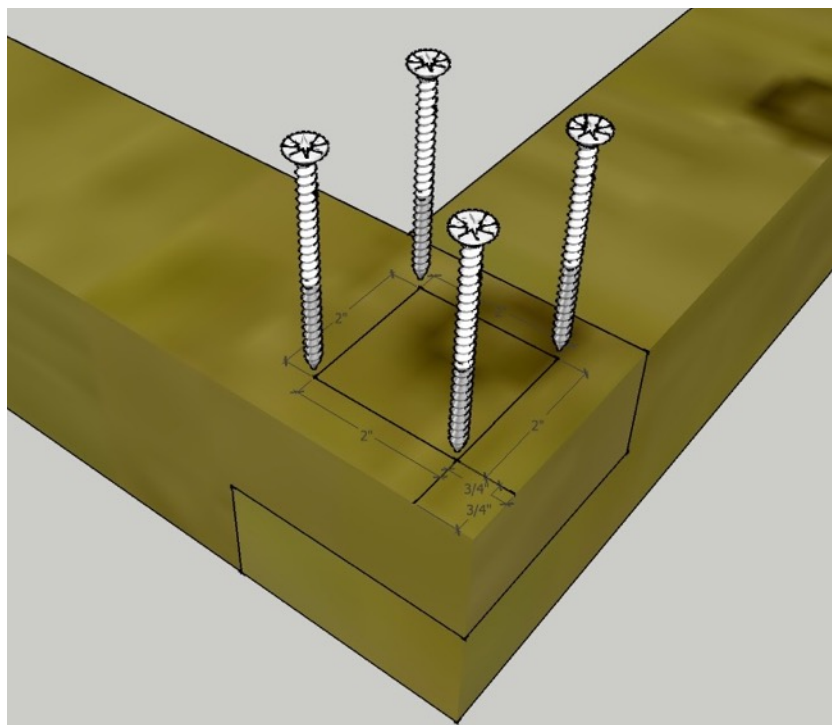


Lay each of the four pieces in a square so the ends overlap each other.

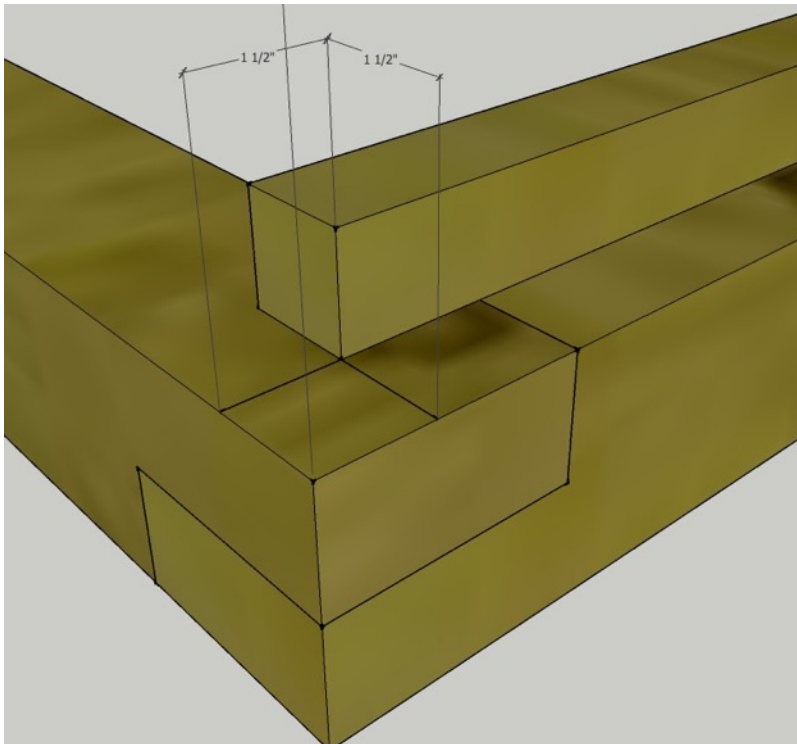
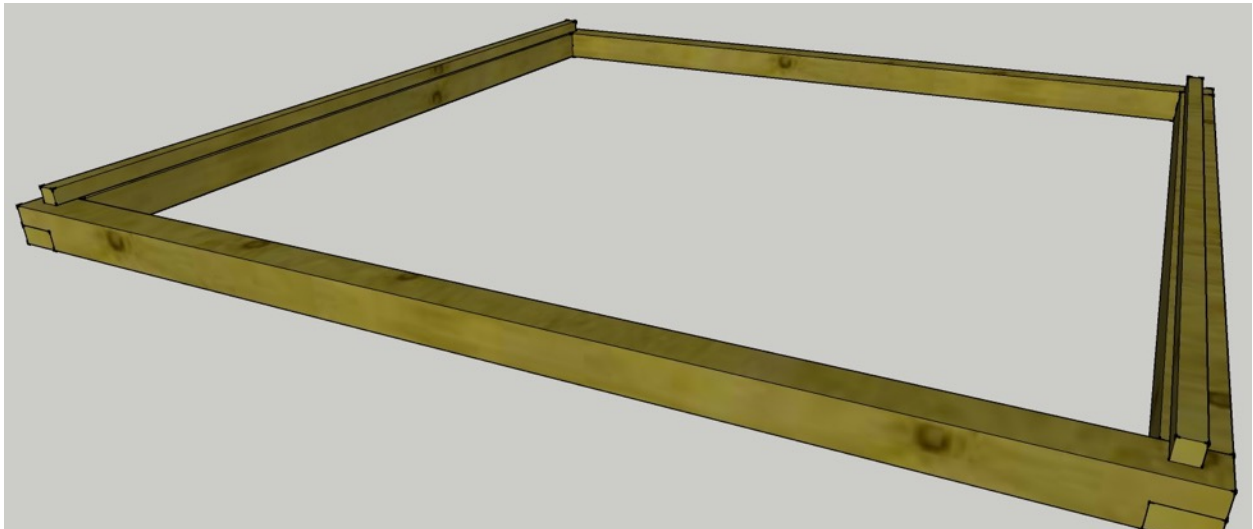
At this point you can take a measurement of the diagonal distances. For the base to be square these should be equal and measure 10' 10 13/16". You can install one 3" deck screw in each corner and tap the sill plate as needed until the base is square.



Once your base is square lock it in place by installing the remaining screws.



The last step in preparing the sill plate is to install the sill cleats. These will give you a surface to screw to when you attach your side walls. These cleats are installed along each side sill plate 1 1/2" from each edge. When you attach your side walls this will bring the exterior of the walls even with the outside of the sill plate.



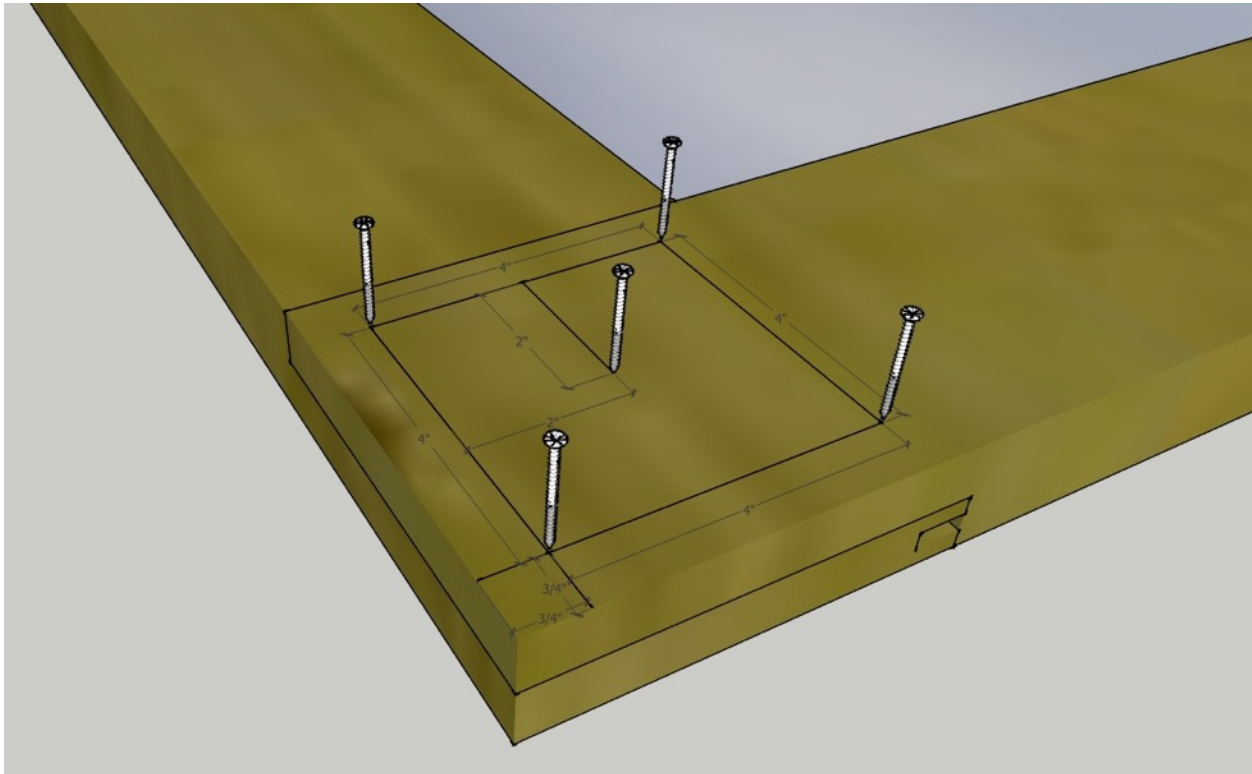
The spacing of the sill cleat from each edge. Attach cleat to the sill plate by installing a 3" deck screw every 6" starting 2" from the end of the cleat.

Section 4

Assembling the Wall Panels

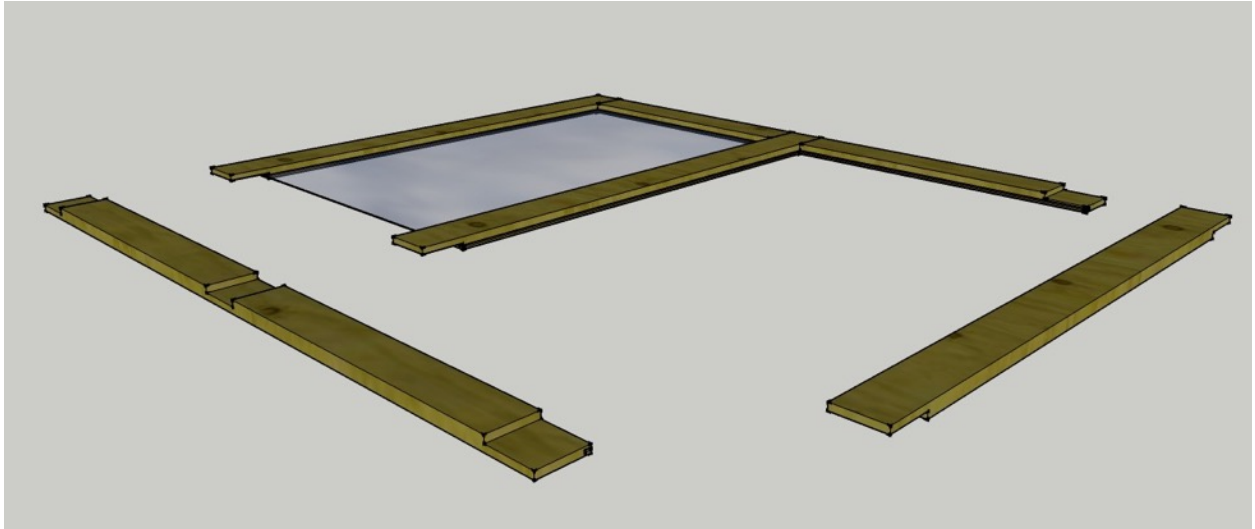
This section will detail the construction of the two side walls as well as the front and back walls. The two side walls are identical so construction will only be covered once. It is important to have a large flat surface available when building these. A clean garage floor would be perfect. Like the sill plate each of these panels is joined together with lap joints. All of these joints should be glued as well as screwed for maximum rigidity. 1 1/4" deck screws work perfectly for this application. Use the exterior grade wood glue of your choice. You will have also cut a slot into various frames to accept the glass panel edges. Pay careful attention when assembling all of these panels to ensure your slot in the frame for the glass is oriented properly. When assembling any of these panels it is a good idea to start with a single screw in each corner. Once you have determined that the panel is square you can go back and install the other screws at each joint to lock it in position. The overall accuracy of these panels will depend heavily on the accuracy of the cuts you have made on the individual pieces.

Begin by constructing one of the side walls. Each of the joints in the side walls is a lap joint and will be glued and screwed together as you go. Apply an exterior grade wood glue to each mating face of the lap joint and follow this screw pattern with 1 1/4" deck screws.

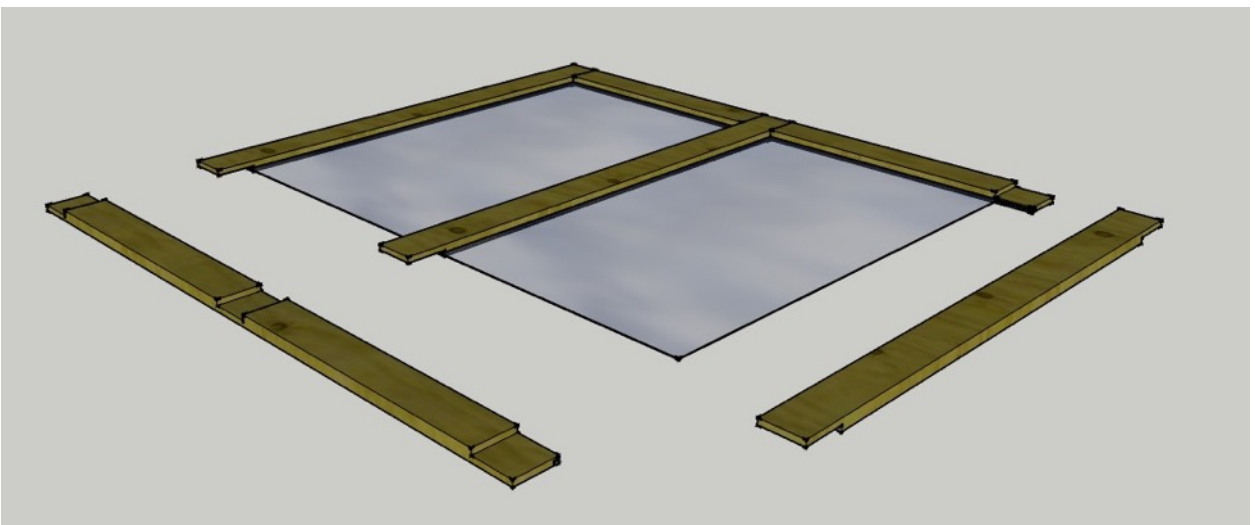


Using a carpenter's square check for the squareness of each of these frame members as you build them.

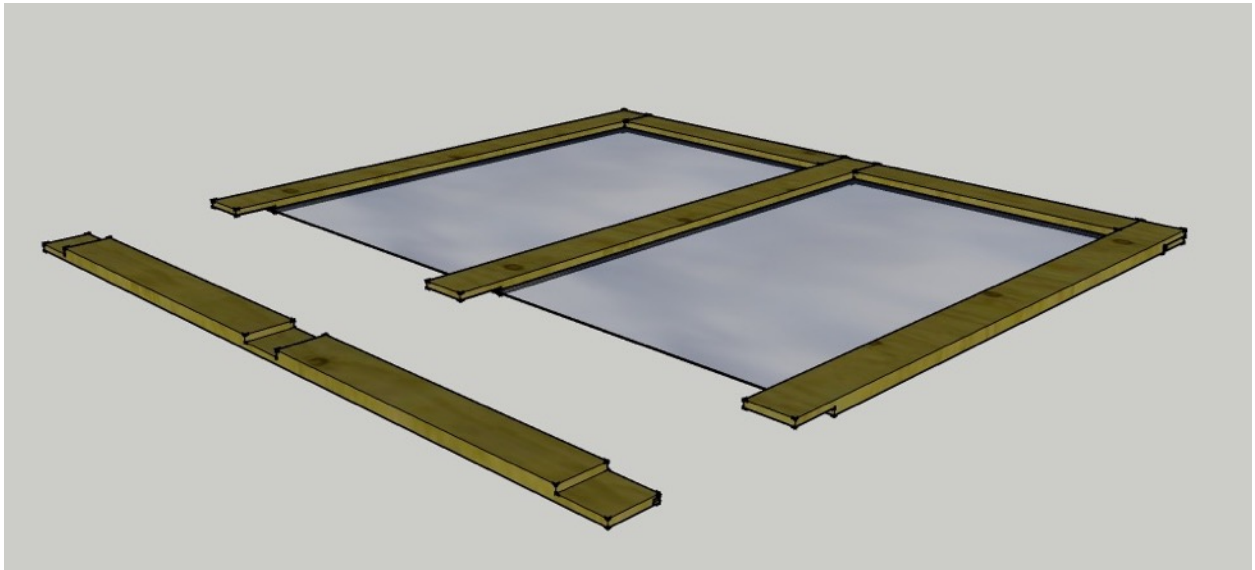
Start with a top frame and left frame and create a corner. You can then install a middle frame and slide the first sheet of glass into place in the slot you have created.



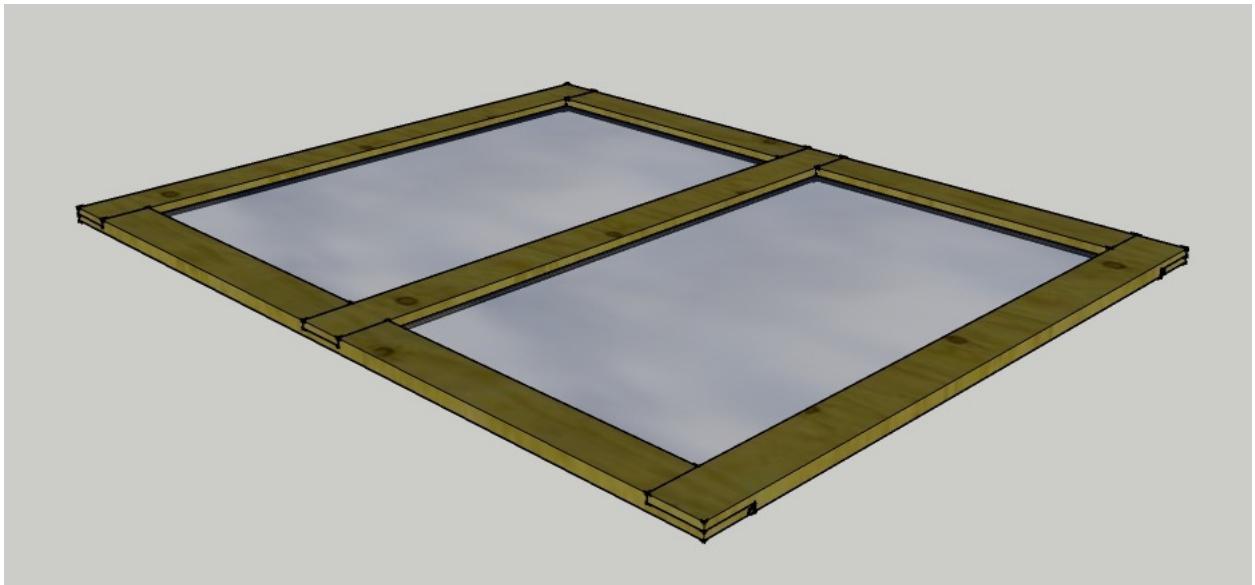
Inset the second sheet of glass into the channel in the top frame and middle frame.



Glue and screw right frame to top frame.

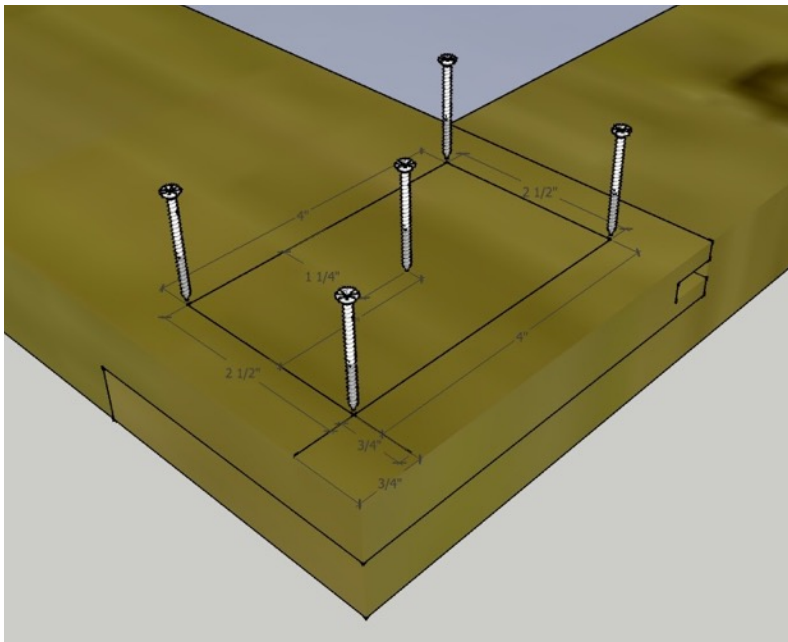
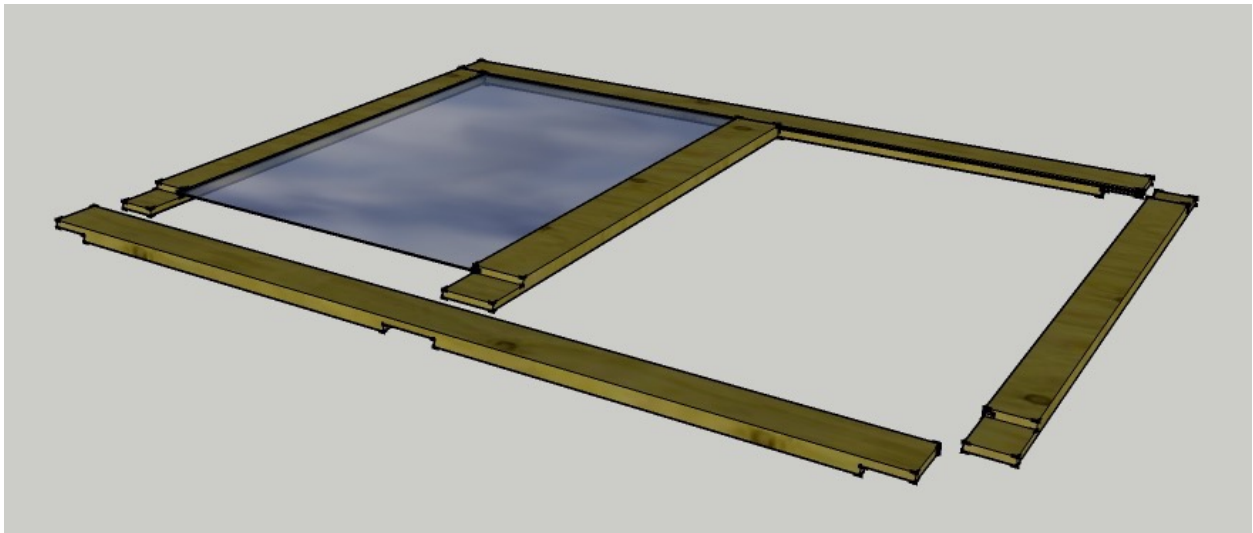


Finish side wall by gluing and screwing bottom frame.



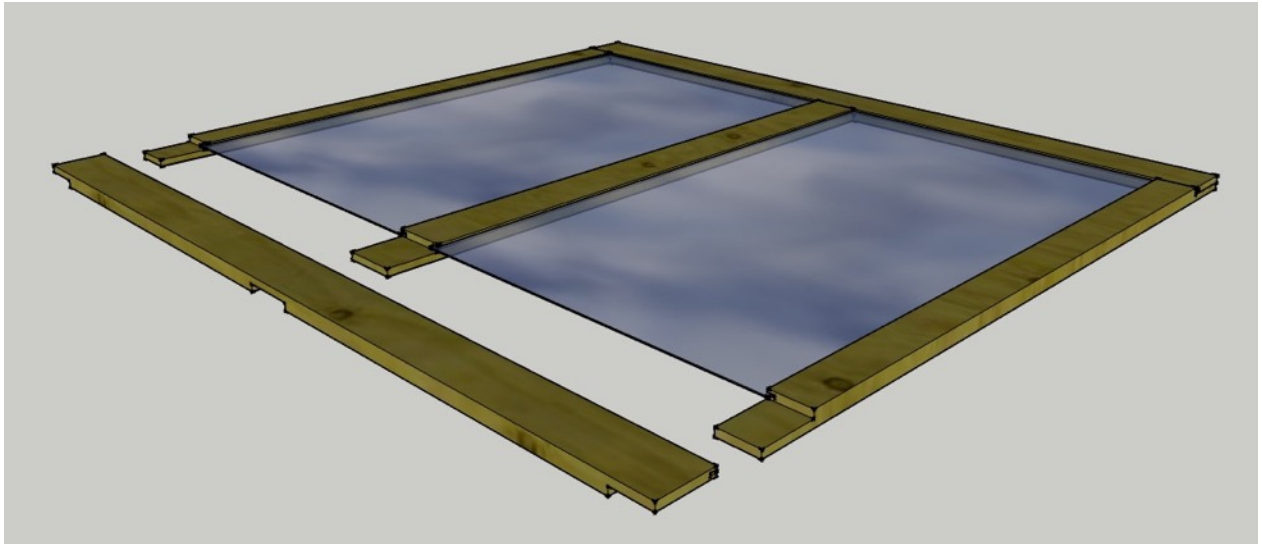
Now that you have completed construction of one of the side panels you can build the other side in exactly the same way.

Next build the rear wall. The rear wall is almost identical to the two side walls except it is 3" shorter in length than the sides. Construction method is the same. Begin by making a corner with the left frame and top frame. Then install the middle frame and slide the first sheet of glass into place.

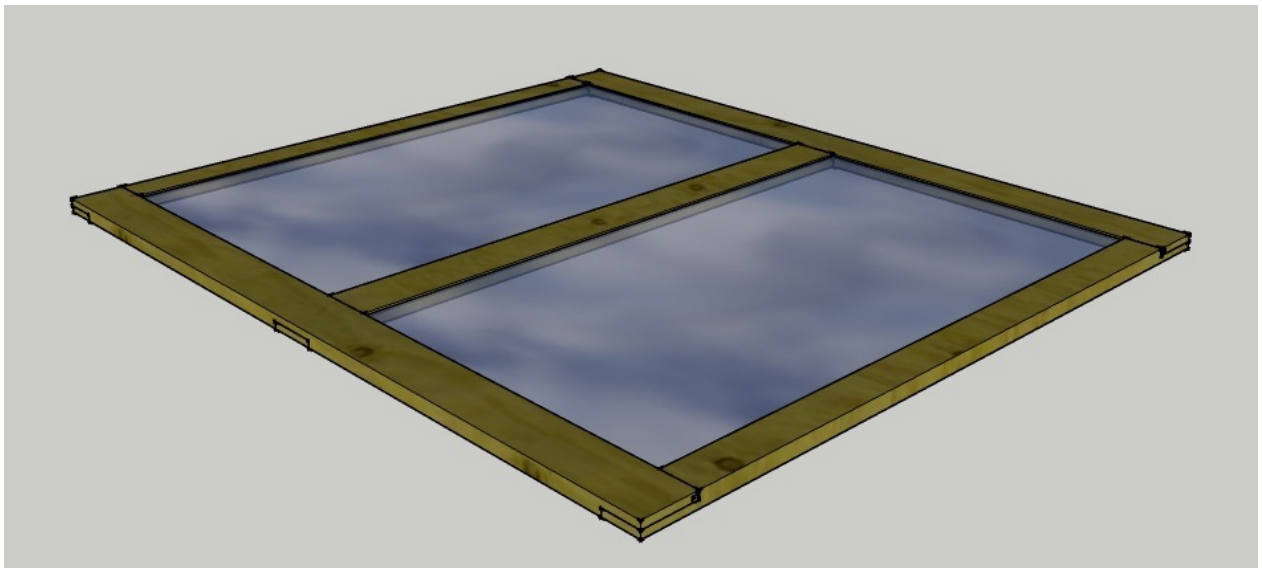


Use this screw pattern for each of the corner lap joints in the rear wall. The center laps joints use the same screw pattern as the side wall joints.

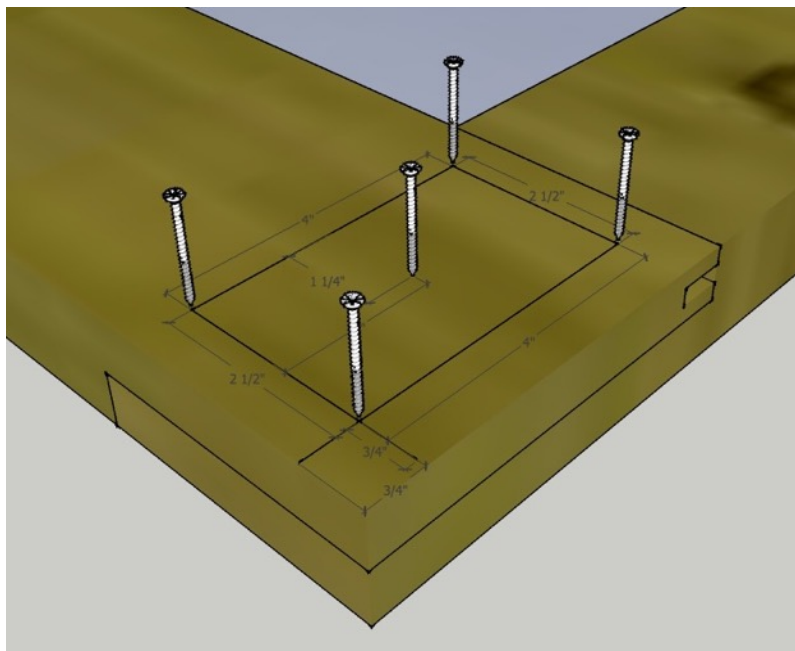
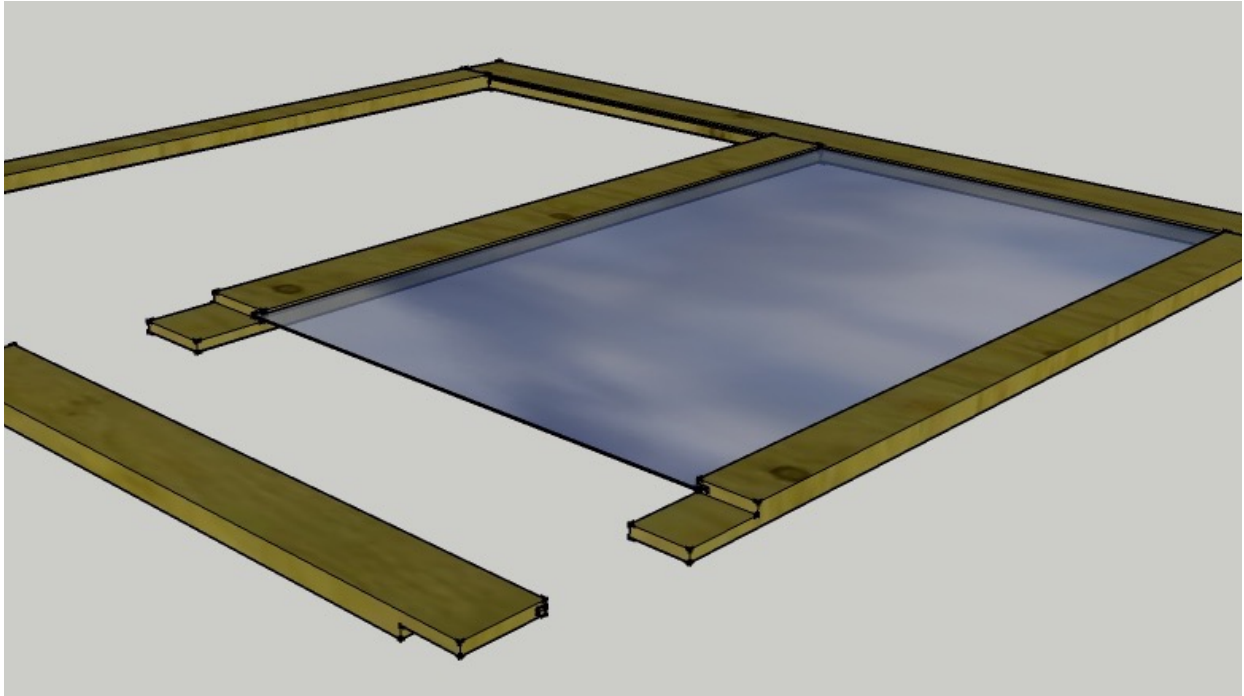
Next you can install the second sheet of glass and the right frame. As with the side walls check for squareness of these components as you go.



Now attach the bottom frame.

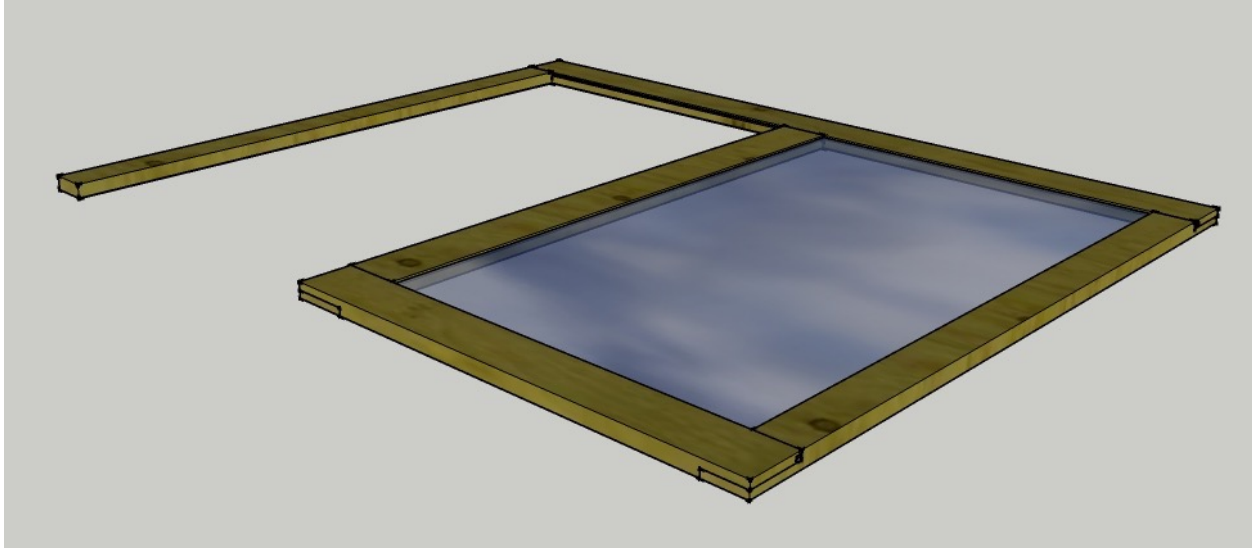


The last wall to build is the front wall. Start with the left, top and right frames and glue and screw together. It is very important that these be as square as you can make them. Now install the middle frame and slide the glass into position.



Screw spacing on the corners is the same as the spacing used on the corners of the back wall. Middle frame joints can use the same spacing as used on the side walls.

The last piece to install on the front wall is the bottom frame. Glue and screw as directed.

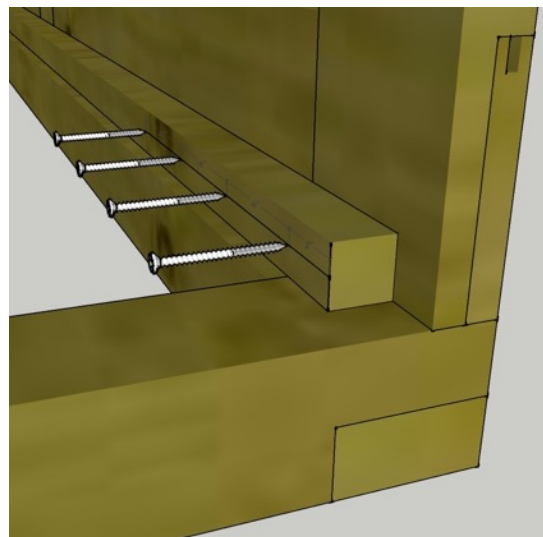


You have almost completed the four walls of your greenhouse. The last step is to apply a bead of silicone around the perimeter of each sheet of glass where it meets the frame. If you have never done this before you will want to practice to insure you can create a neat, consistent bead. This will help weatherproof the greenhouse as well as make the walls more rigid. As you apply the silicone to each panel lay the next panel on top of it so that all may cure in a flat position for a minimum of 24 hours before moving. Make sure there isn't any silicone residue on the faces of the panels that would adhere them together. If the panels don't seem to be lying flat use something heavy, like concrete blocks, to hold them down during the 24 hour cure cycle of the silicone.

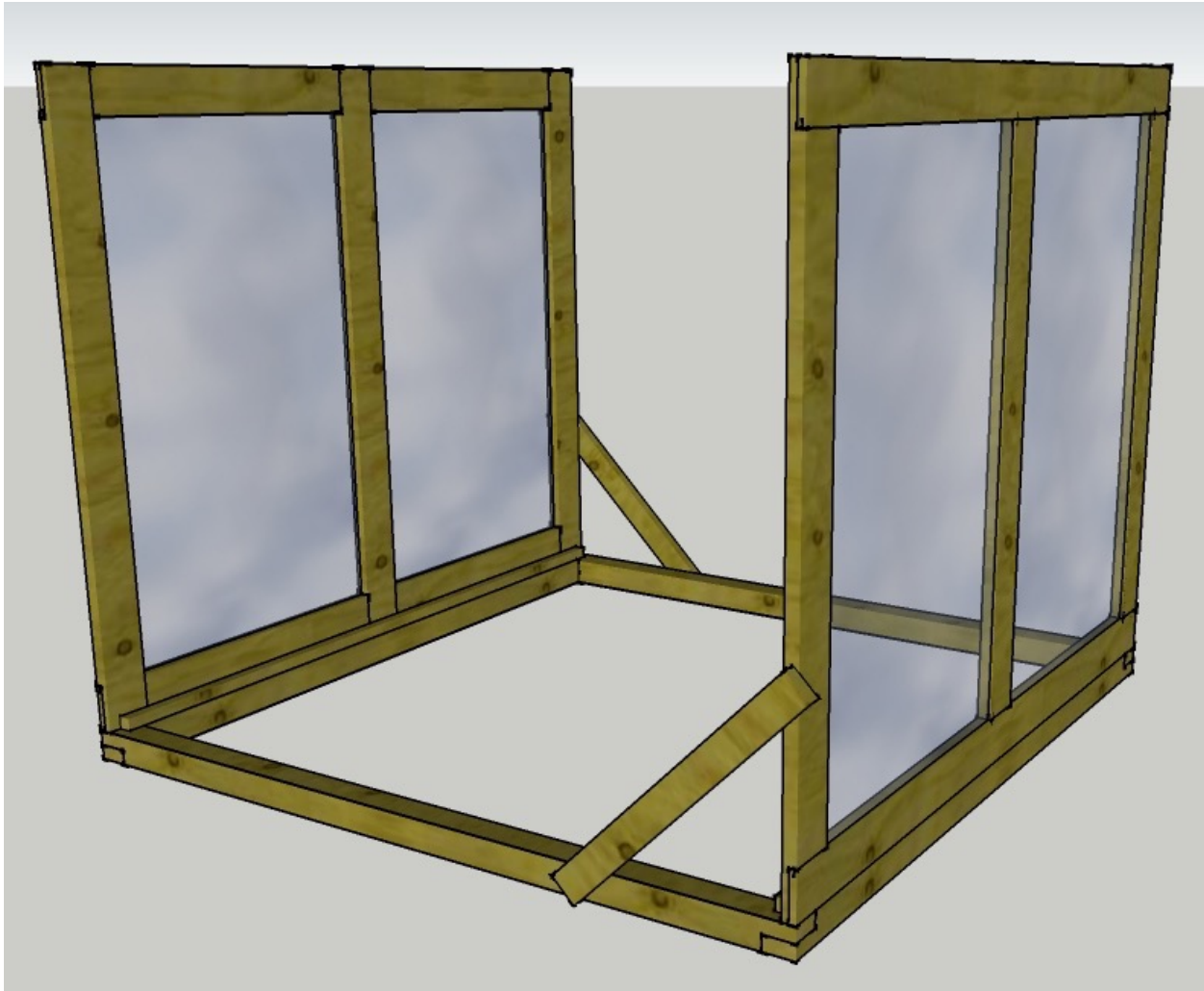
Section 5

Erecting the Wall Panels

Now that you have prepared the sill plate and built your four wall panels you can start installing them. Find a couple of 2"x4" scraps at least 36" long to act as temporary support braces for the side walls while you are squaring them up. Please invite a friend over to help you tilt these walls into place. Lean the right side wall into place and screw to the sill cleat. You can then ensure your wall is plumb and install the temporary support brace. Screw through the sill cleat into the inside face of the side wall to attach.

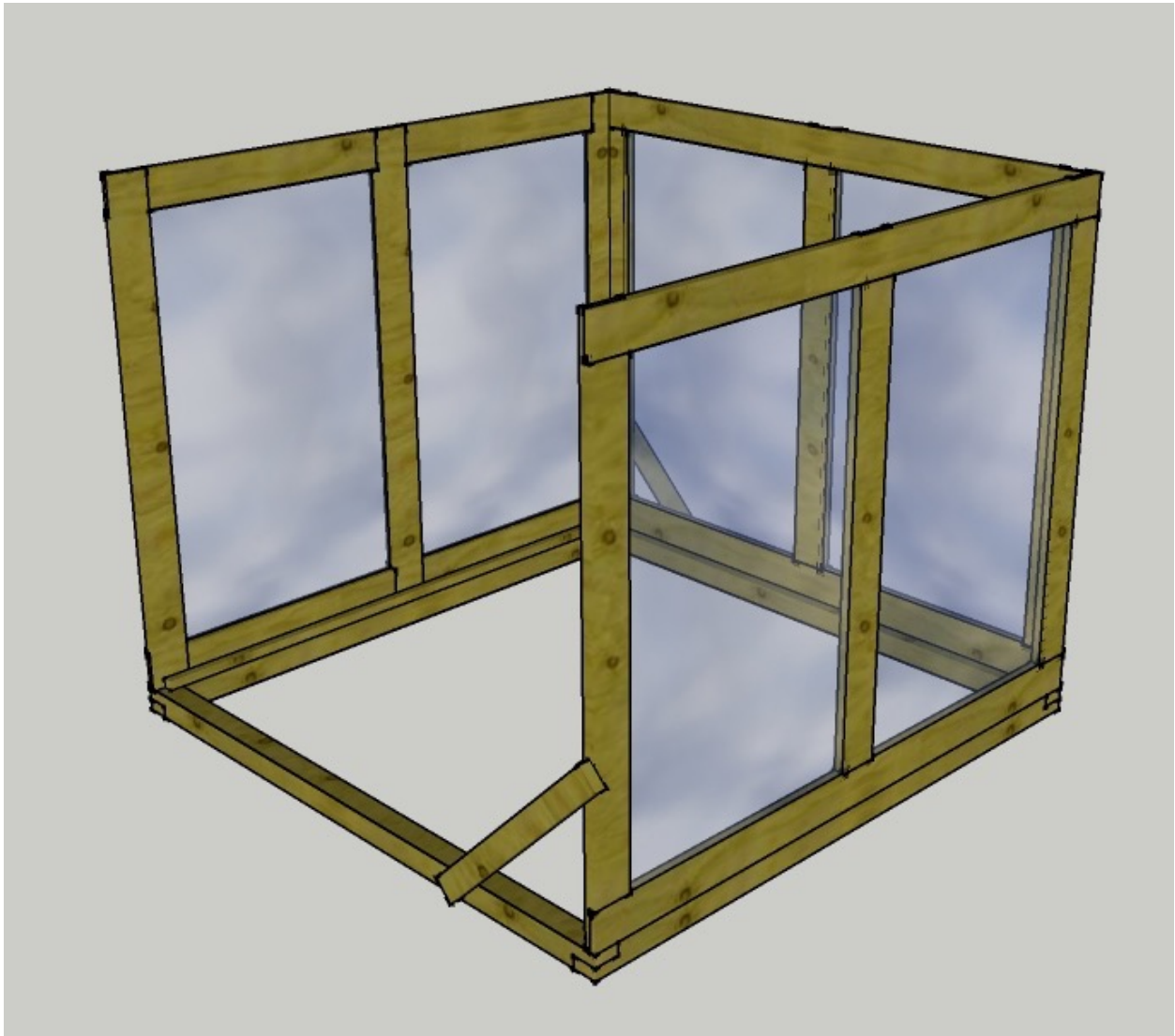
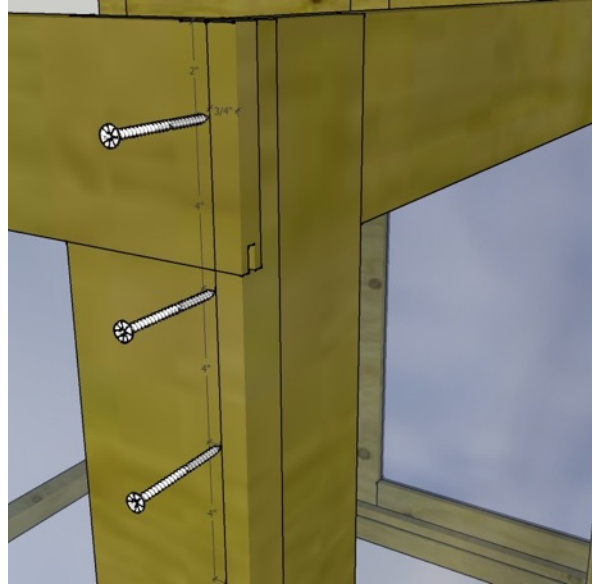


Now erect the left wall in the same way. In this state the two side walls are somewhat vulnerable. Try to get the front and back walls in as quickly as possible.

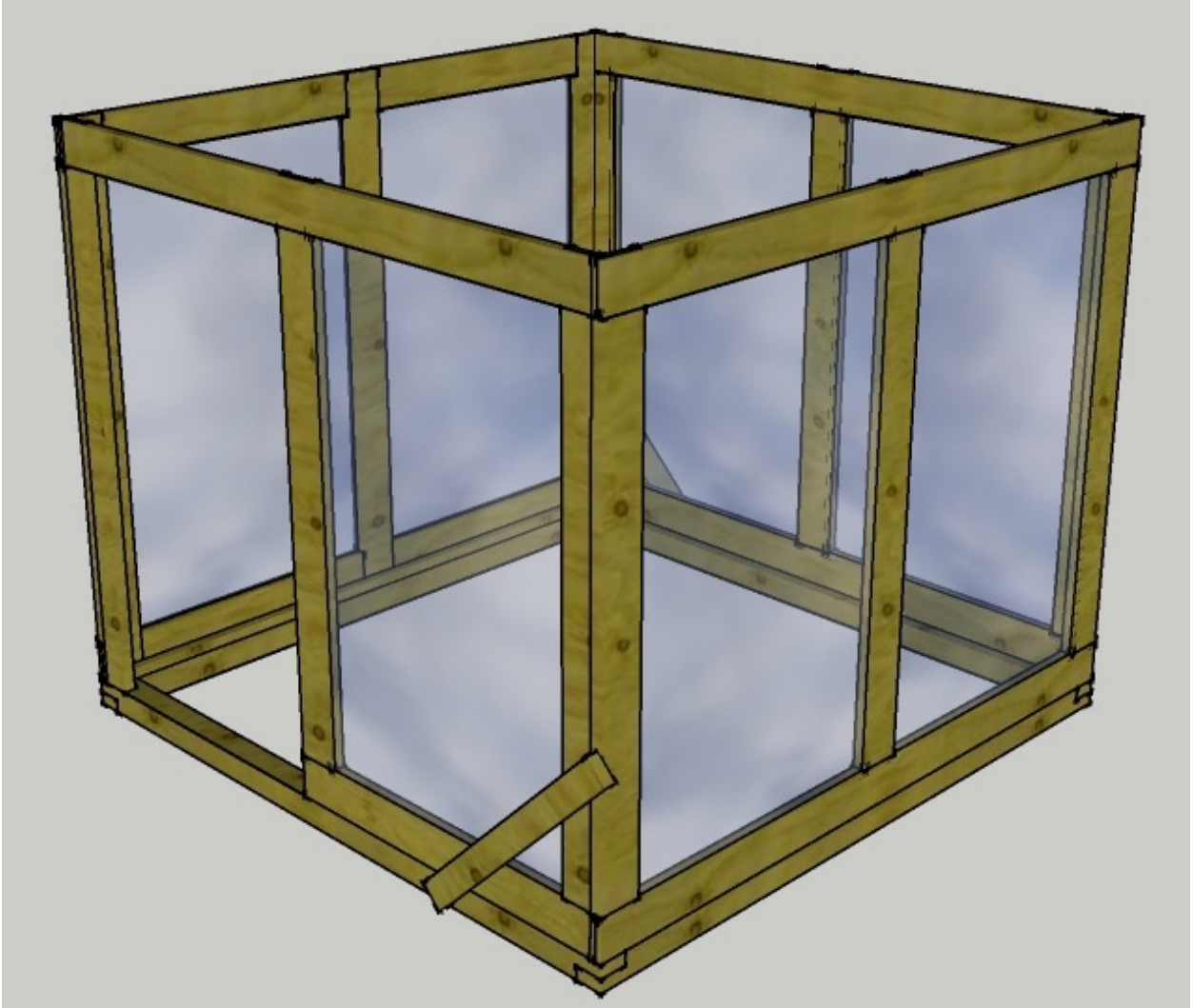


Double check at this point that your internal measurement between the two side walls is 89.5". If it isn't you will need to trim or plane your front and back walls so that they fit.

Now you can tilt the back wall into position. Starting 2" from the top place a 3" deck screw every 4" through the face of the side wall into the edge of the back wall along the entire length. Do this on both sides.



Finish by installing the Front Wall in the same way. Screw through the Side Wall into the edge of the Front Wall about every 4" with a 3" deck screw.



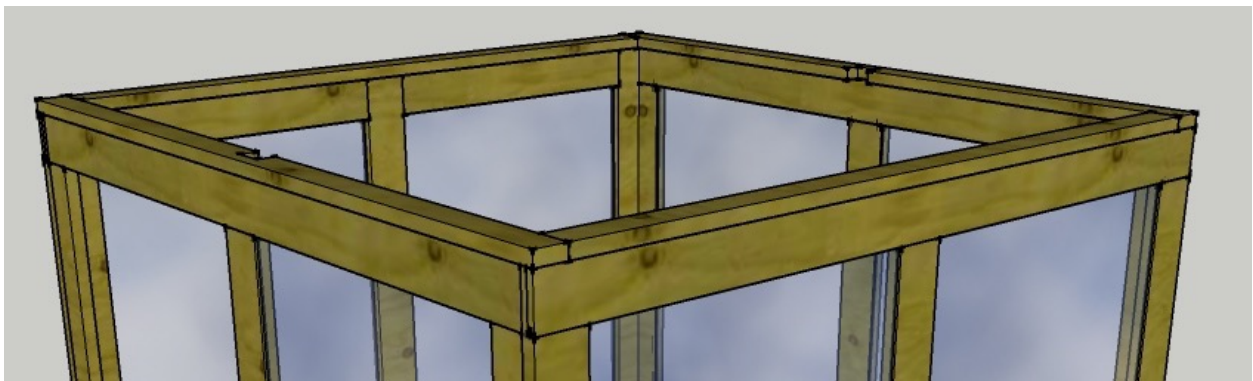
Now that you have completed erecting your walls you can begin installing the components which will support the greenhouse roof.

Section 6

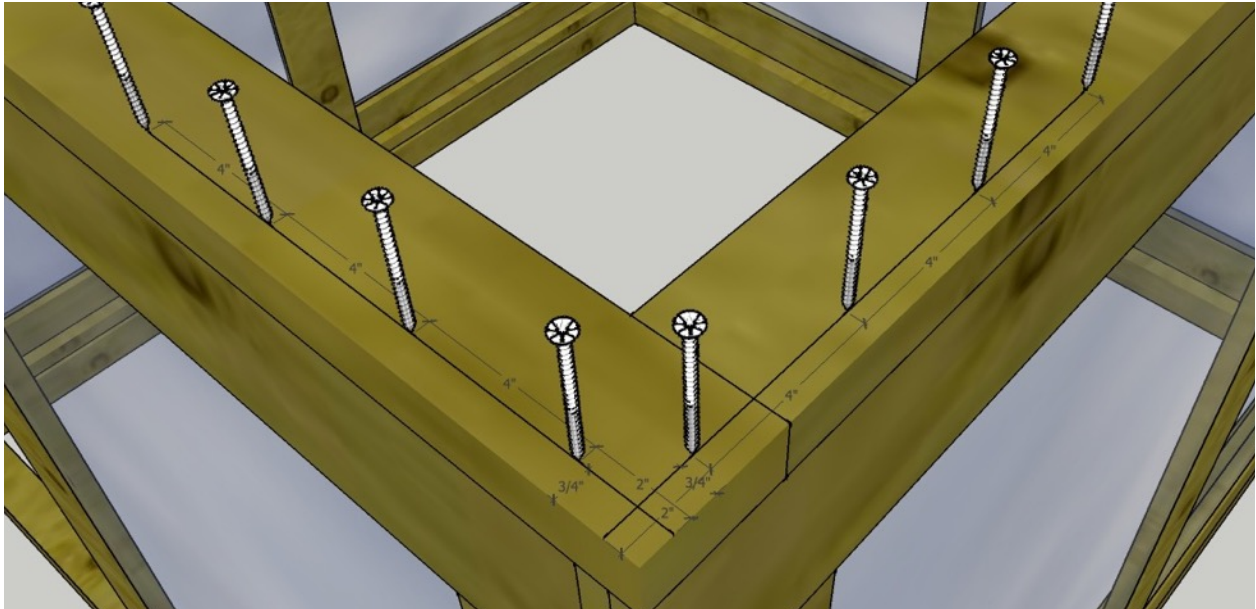
Installing Top Plates, Center Posts and Ridge Beam

The first task in Section 5 is to install the eight top plates in order. These top plates will provide a joining surface for attaching the roof as well as serve to stiffen the walls.

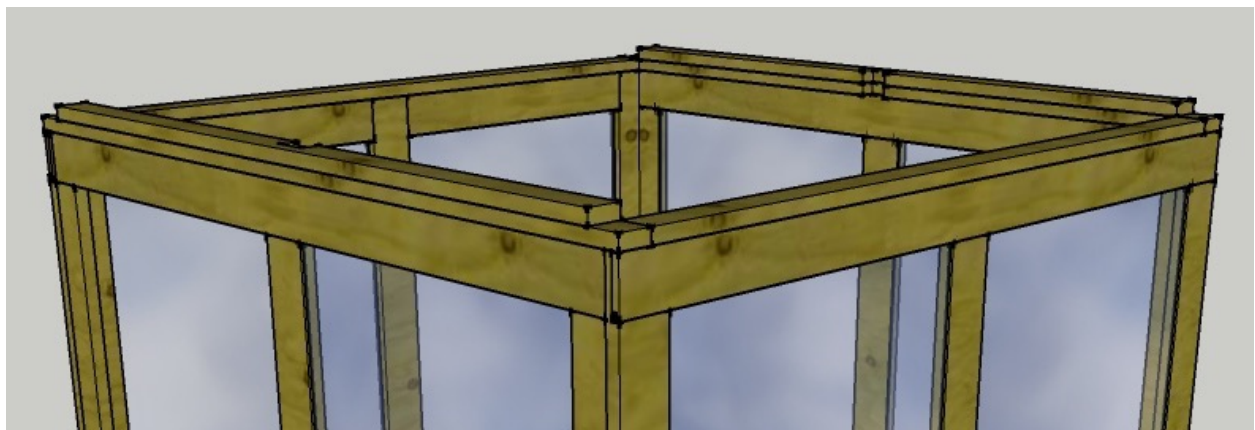
Start with the two 92.5" notched top plates by laying them along the top edges of the front and back wall. Make sure you have them oriented so the notches are facing the inside of the greenhouse. The ends of these plates should be even with the faces of the side walls. Screw down through the plate into the top edge of the front and back wall about every 4" with a 3" deck screw. To finish the first layer of plates install the two 85.5" top plates along the top edges of the two side walls, attaching in the same way as the 92.5" top plates.



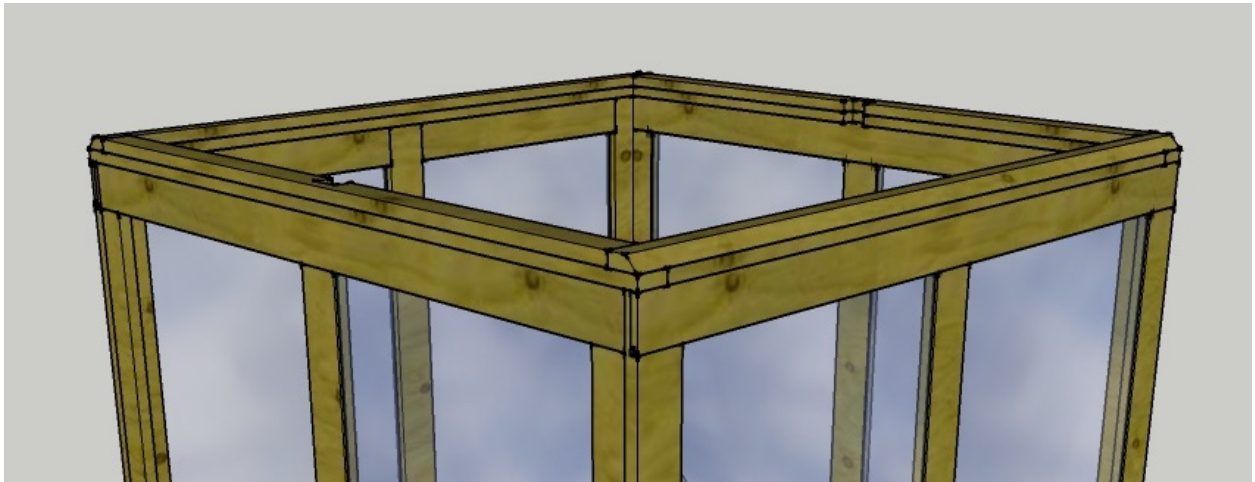
When attaching the first layer of top plates start 2" from each corner and place a 3" deck screw every 4" for the entire length.



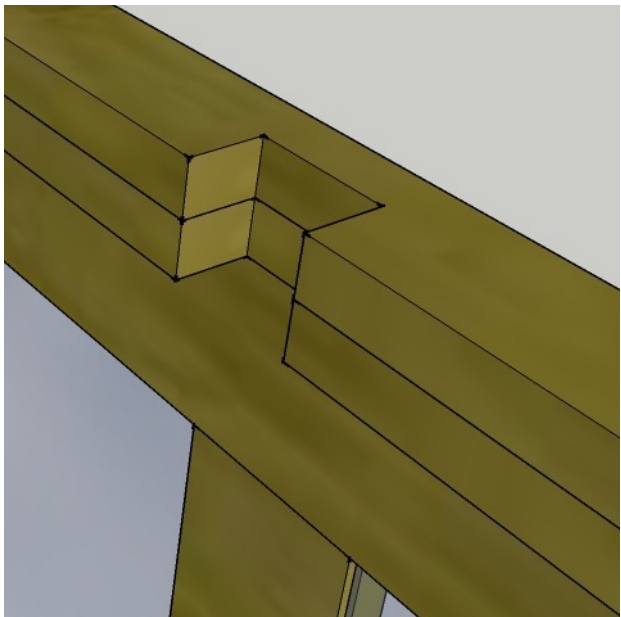
Now the two 85.5" notched top plates and lay them along the two 92.5" notched top plates so that the notches in the two boards are in alignment and facing the inside of the greenhouse. The ends should be 3.5" short of the faces of the two side walls on each end.



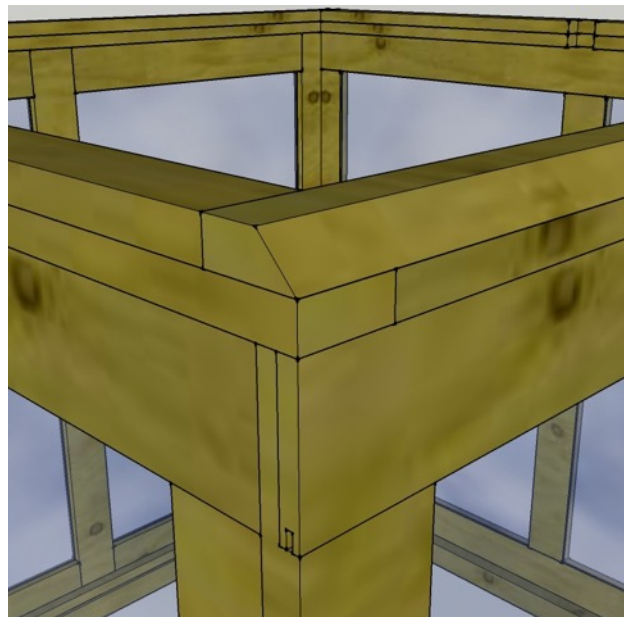
The last two plates to attach are the angled top plates. These create an angled surface along the tops of the two side walls for attaching the roof. Follow the same screw pattern you used to attach the previous top plates.



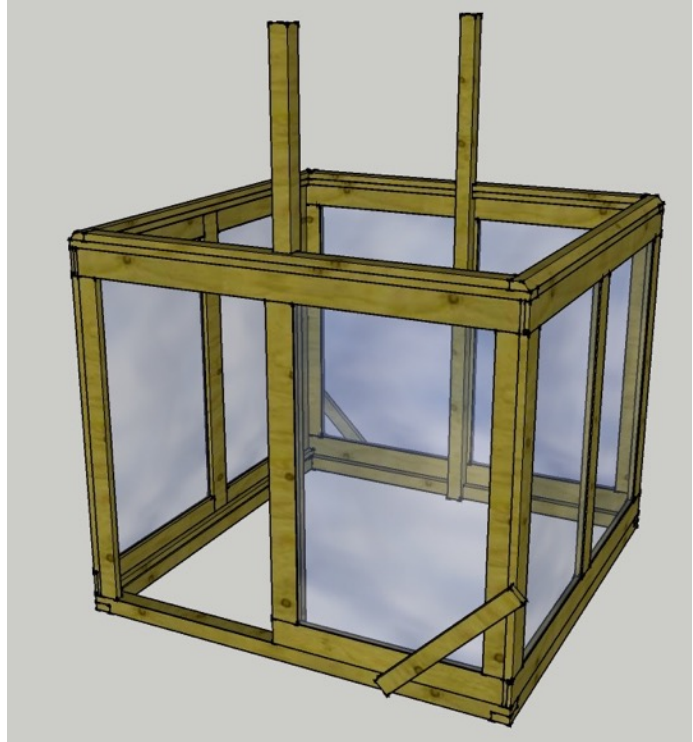
Alignment of notches on both layers of top plates



Top plates overlap at the corners and are screwed together.

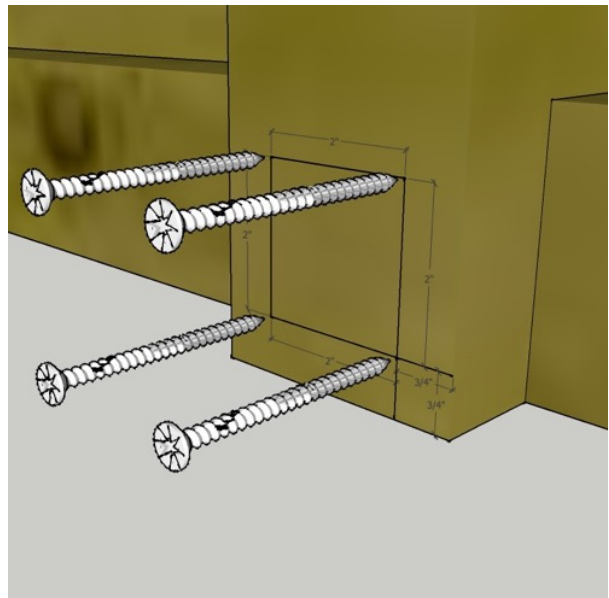
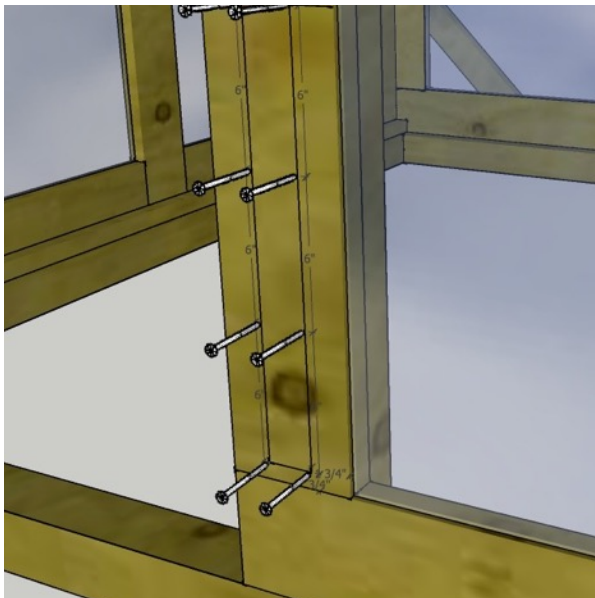


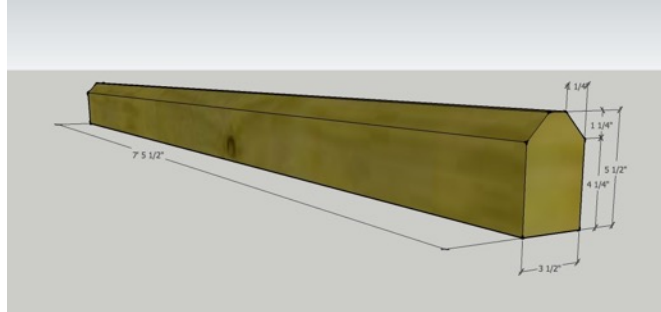
Now you can tilt your center posts into position. The lap you cut into the end of center post will overlap the sill plate at the bottom. The center post will rest in the notches you have prepared in the top plates.



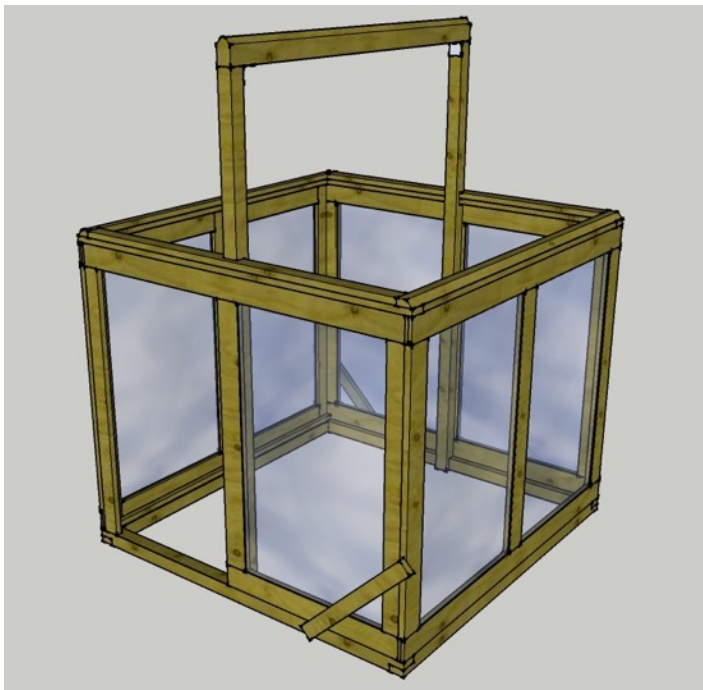
Securely attach center posts by screwing through the front and back middle frames with 3" deck screws.

Use 3" deck screws to attach center post where it overlaps the sill plate.

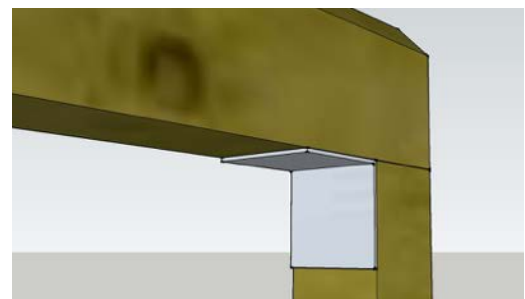




The last step in Section 5 is to attach the ridge beam. This is a heavy item so you should invite a friend over, and tell them to bring a ladder. The ridge beam should be carefully lifted into place so that each end of the beam is even with the outside faces of the center posts. Attach by installing an appropriate angled steel bracket to the top inside edges of the center posts and the underside of the ridge beam. There is some room for creativity with the bracket but it should be heavy duty and screw or bolt to the center posts and ridge beam.



Ends of ridge beam should be even on both ends with the outside faces of the center posts.

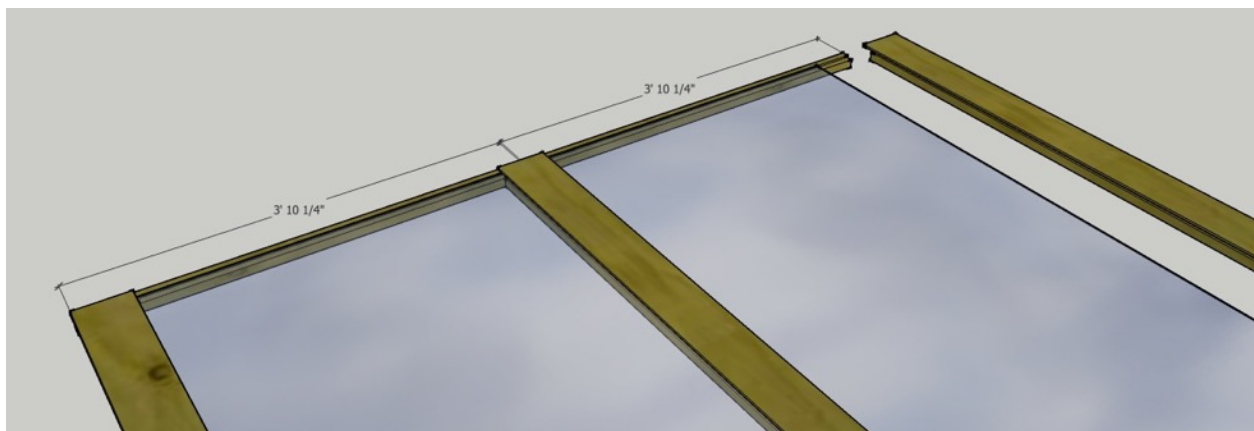


Section 7

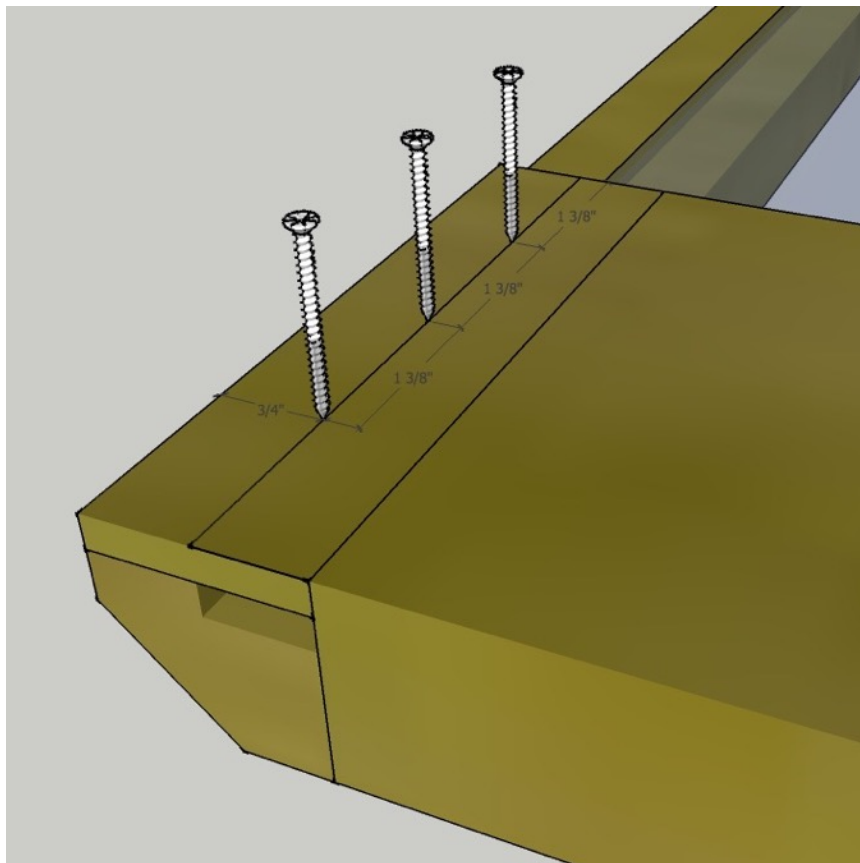
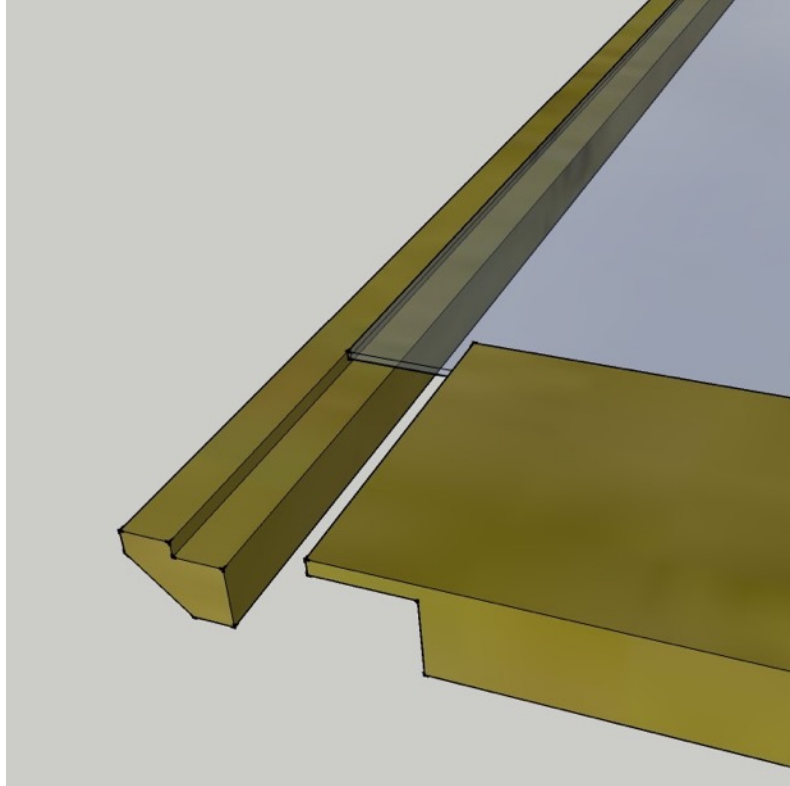
Assembling the Roof Panels

Now that you have built the structure to support the roof it is time to build the roof panels. These are constructed in a very similar fashion to the wall panels. Both roof panels are identical so once you have finished one build the other exactly the same. As before when you were building the walls a large flat area like a garage floor is going to be indispensable during construction.

Begin by taking your top frame and left frame and screw them together. Center the middle frame on the top frame and once you have insured they are square screw together. Please note there is nothing physical to center the middle frame in relationship to the top frame so you will have to measure it. The center of the middle frame should measure 3' 10 1/4" from each side.

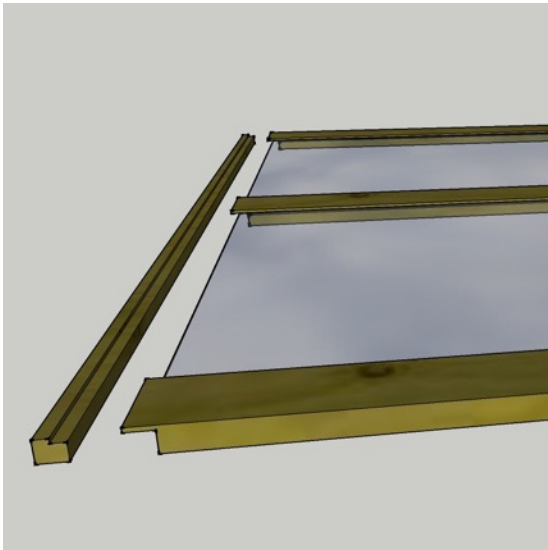
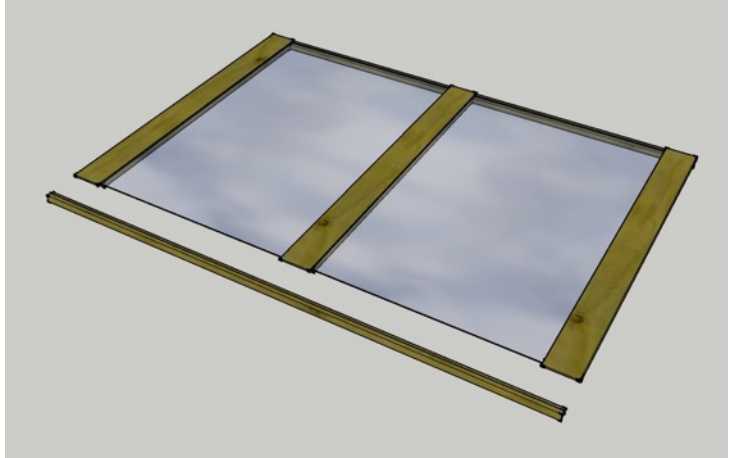


Apply a thin bead of silicone to the rabbit cut into the top frame.



Install 3 1 1/4" deck screws 3/4" from the top edge and spaced 1 3/8" apart. You can use the same screw pattern on left, middle and right frames where they meet the top frame.

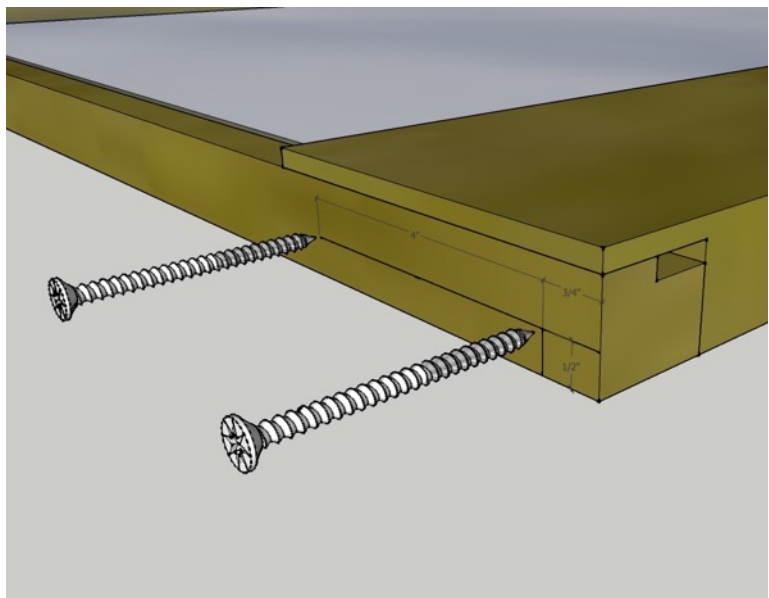
The last piece to install on the roof panel is the bottom frame.



Begin by applying a bead of silicone along the rabbit you have cut in the bottom frame. Spring clamps will be useful for holding the frame in place while it is being screwed.

Now apply exterior grade wood glue to three bottom joints and clamp in place.

Once clamped in place you can install two 3" deck screws in each joint 2" apart.

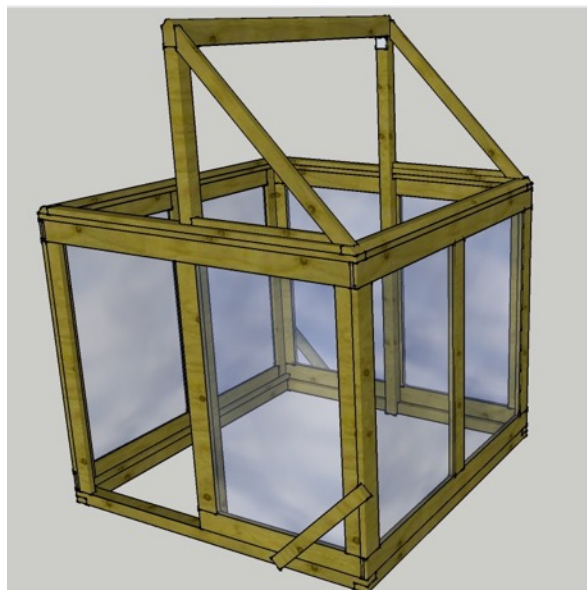


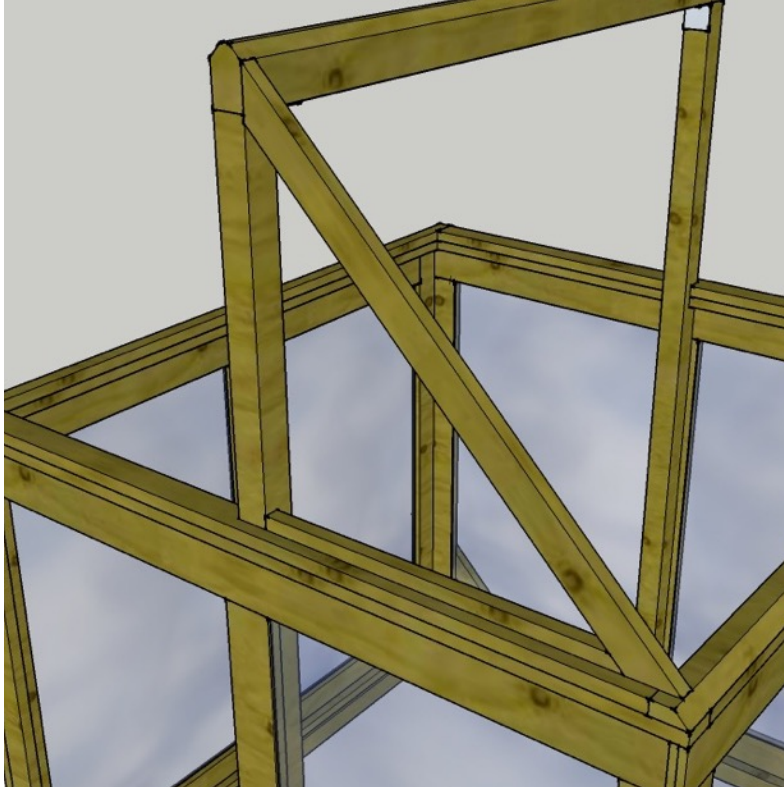
Section 8

Installing the Roof Panels

Give your newly constructed roof panels 24 hours to allow your glue and silicone bonds to set. As before with the wall panels it is important that they be held flat while the glue is setting. Once that has happened you can begin the process of installing them. You will need some help lifting these roof panels into position.

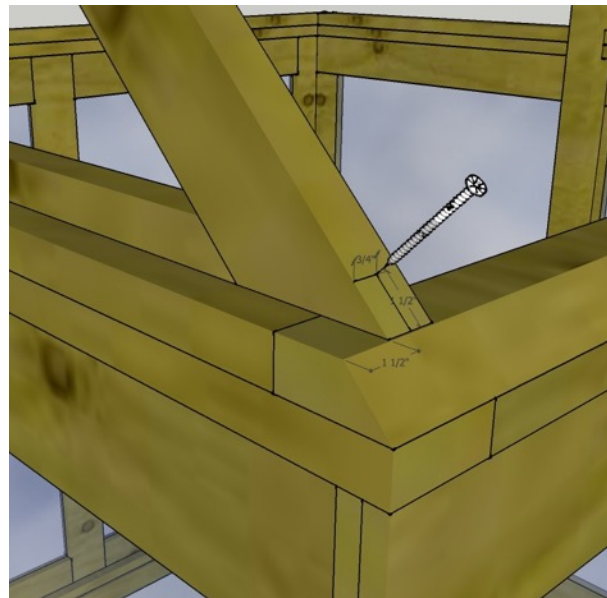
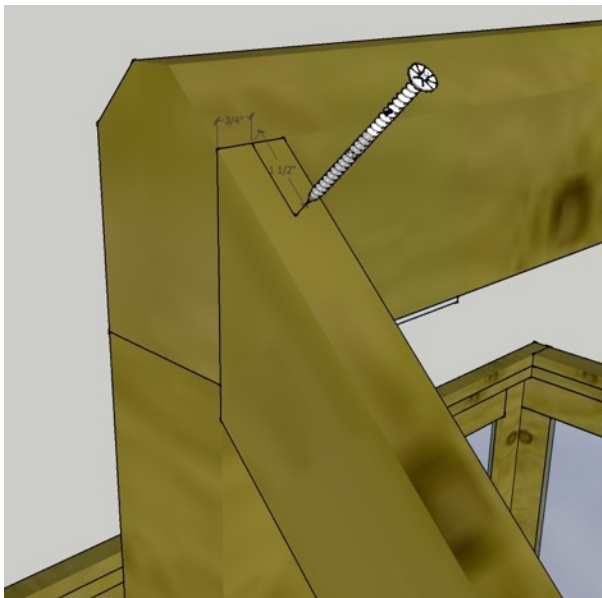
The first step in installing the roof panels is to attach the gable cleats. These provide a surface to attach the gable paneling to once the roof is installed. The top cleat also serves as a rail to slide the roof panel up during installation.



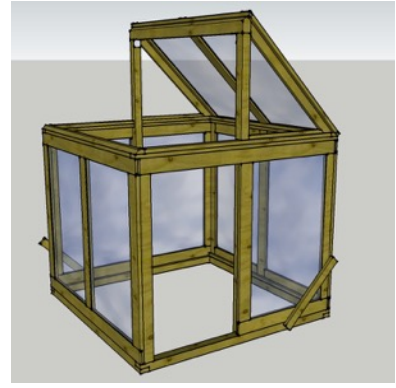
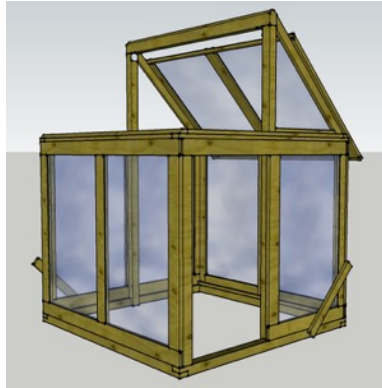
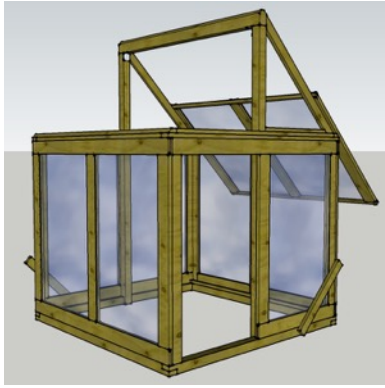


Begin by installing the top and bottom gable cleats on one side of the roof. The top (angled) cleats will serve as a rail to push the roof panel up during installation.

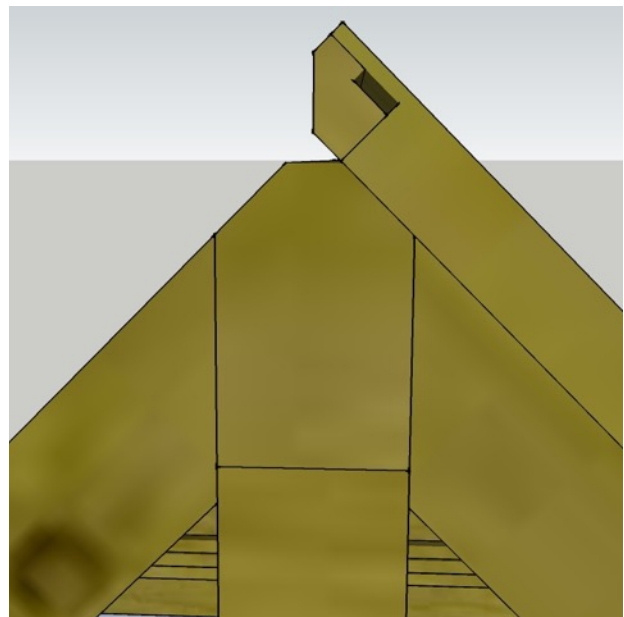
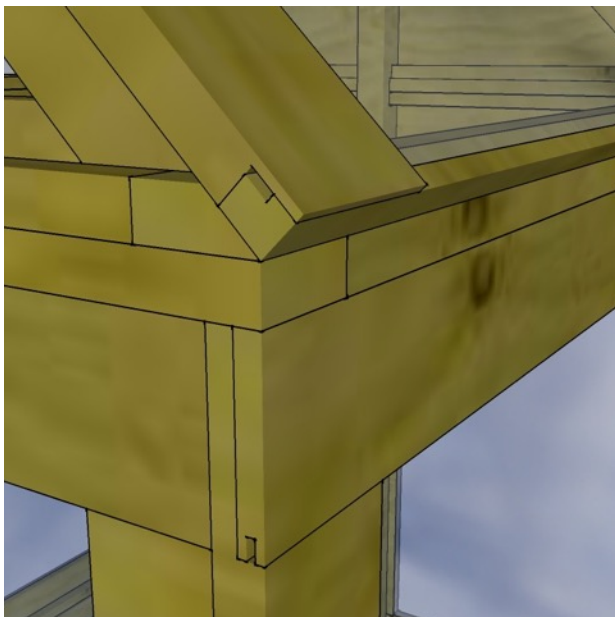
Please note the spacing from the edge of the top plate. The gable cleats should be set back 1 1/2" from the front of the top plate and even with the face of the center post. Install top gable cleat with 3" deck screws.



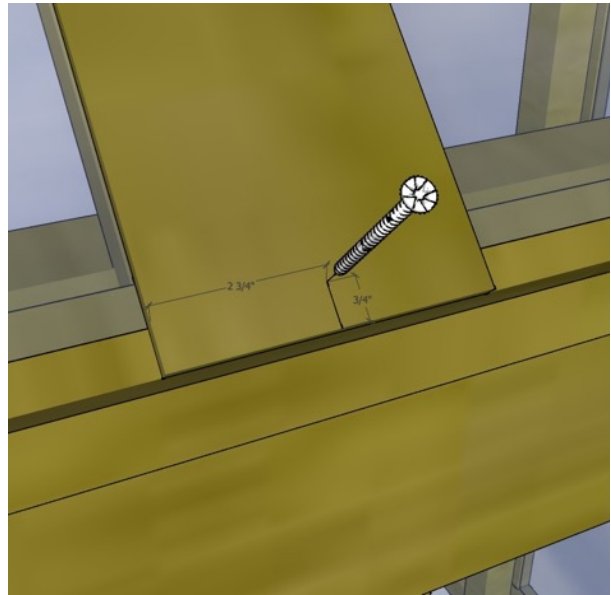
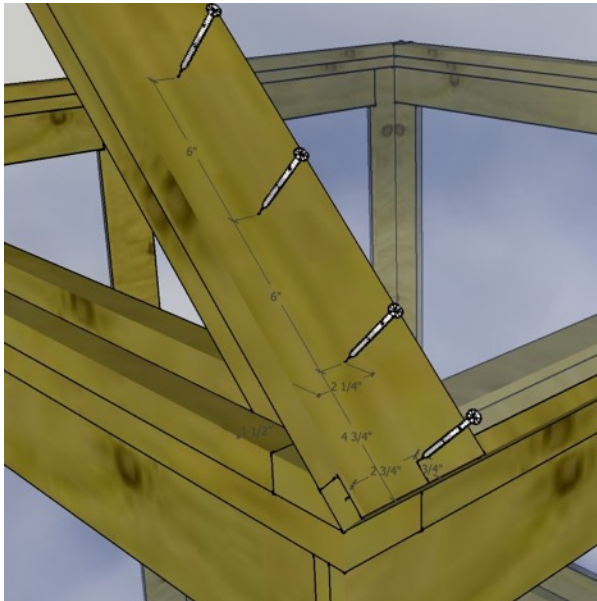
Now that you have the gable cleats installed on one side of your greenhouse you can use these to slide your roof panel into position.



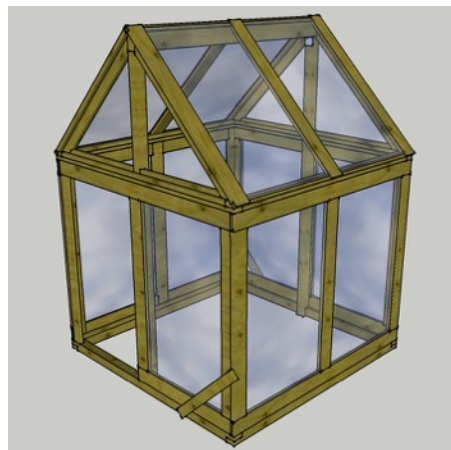
Slide roof panel up until the bottom edge of the bottom frame on the roof is even with the bottom of the angled cut on the top plate. The ends of your roof panel should be even with the face of the building and overhang the gable cleats 1 1/2"



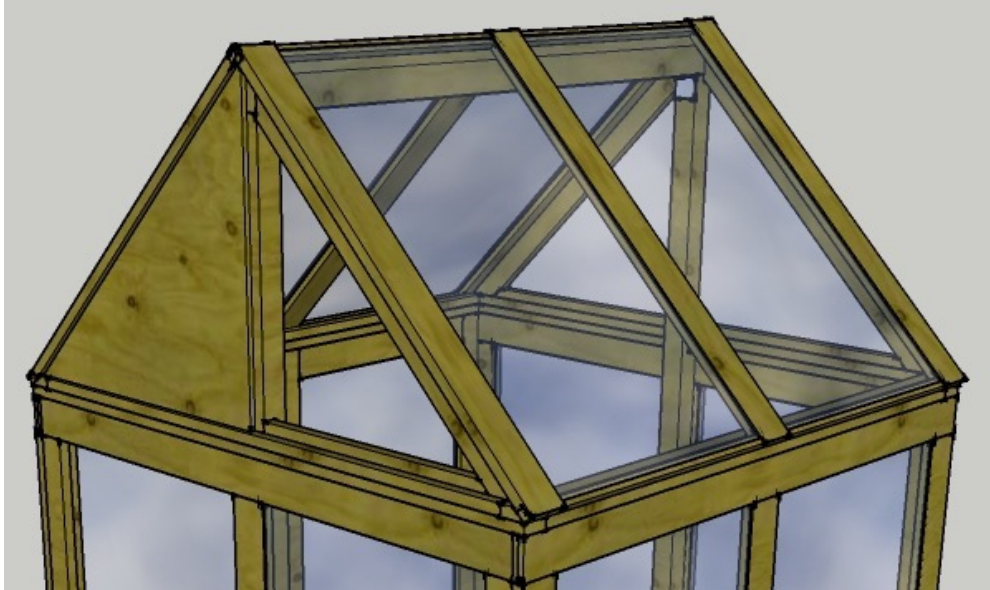
When you have your roof panel placed correctly you can begin screwing it to the structure. Start by placing a 3" deck screw in the middle of the left, middle and right frames. These should be 1/2" from the edge and angle down into the top plates. This will keep the roof panel in place while you install the rest of the screws. Now, starting 4" from the bottom install a 3" deck screw through the tops of the left and right frames down into the edges of the gable cleats. Install one 3" deck screw through the top and bottom middle frames as well.



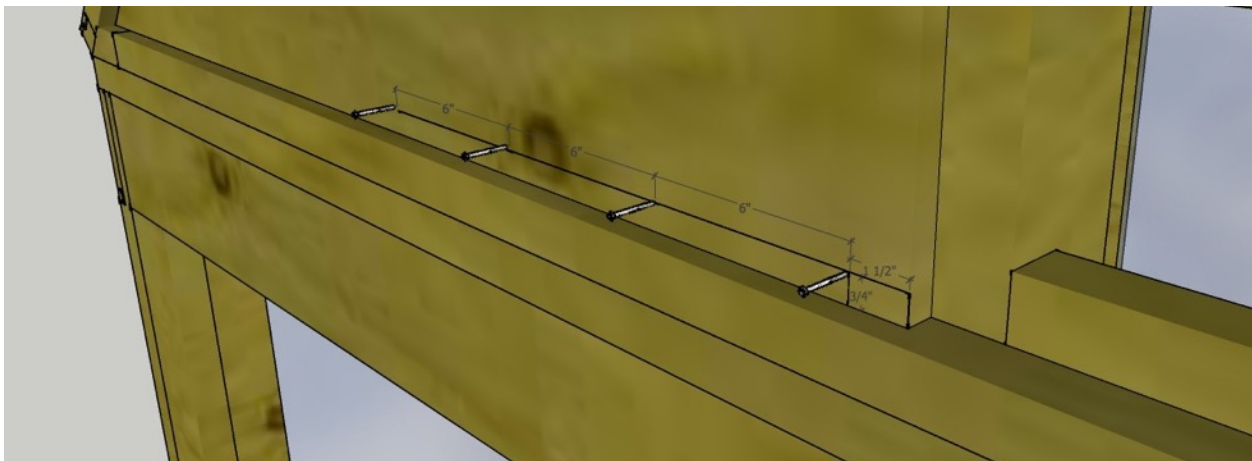
Once you have finished installing the roof panel on one side the other side can be done exactly the same.



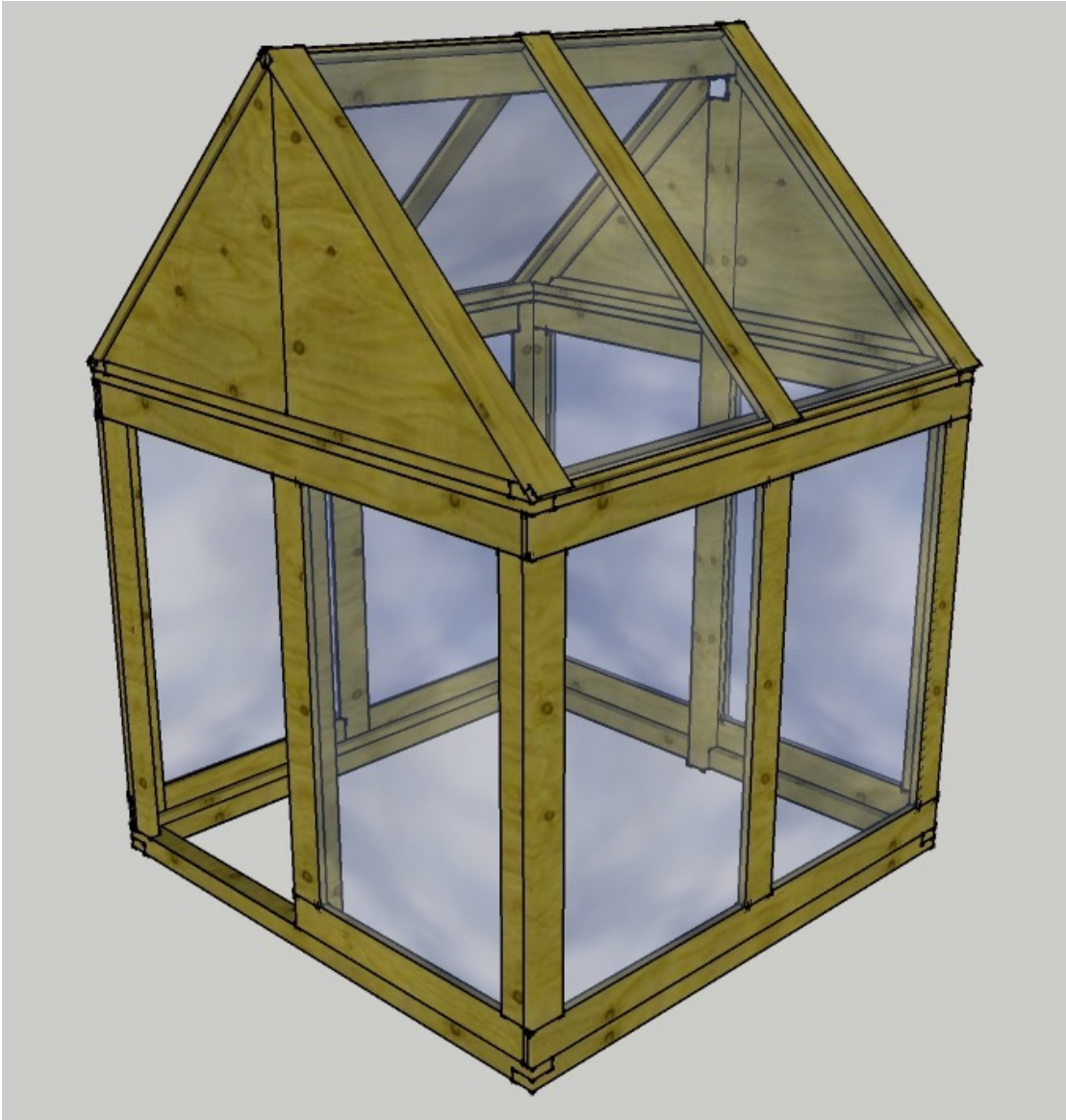
Now that the roof panels are in place you can finish the roof construction by installing the gable end panels.



Begin with one of the gable end panels you have cut. Start by applying a bead of construction adhesive around the face of the gable cleats and center post where the panel will rest. Place the panel and screw through the face about every size 6" into the gable cleats and center post. Do this around the entire perimeter of each gable panel you install.



The rest of the gable end panels can be installed in the same way.

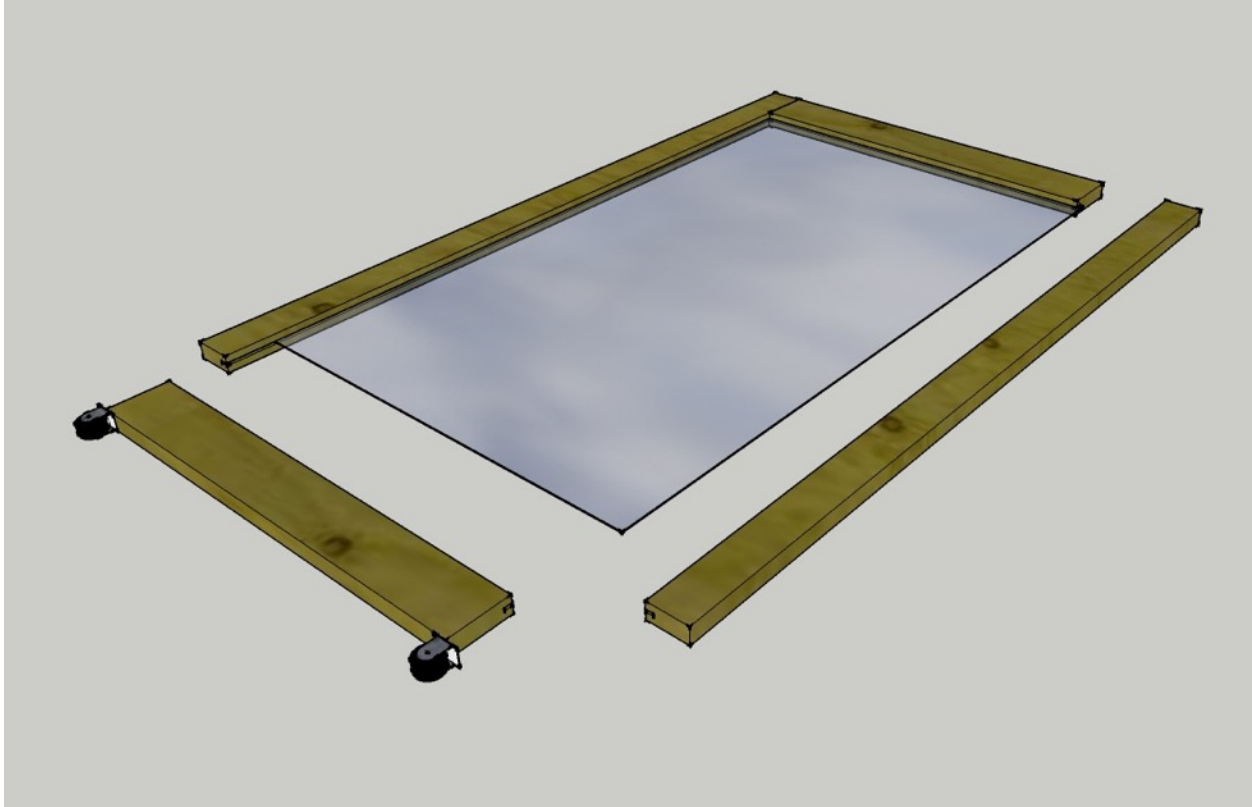


Once the construction adhesive has set on the gable panels the structure is very strong and it is safe to remove the temporary angle braces you installed before.

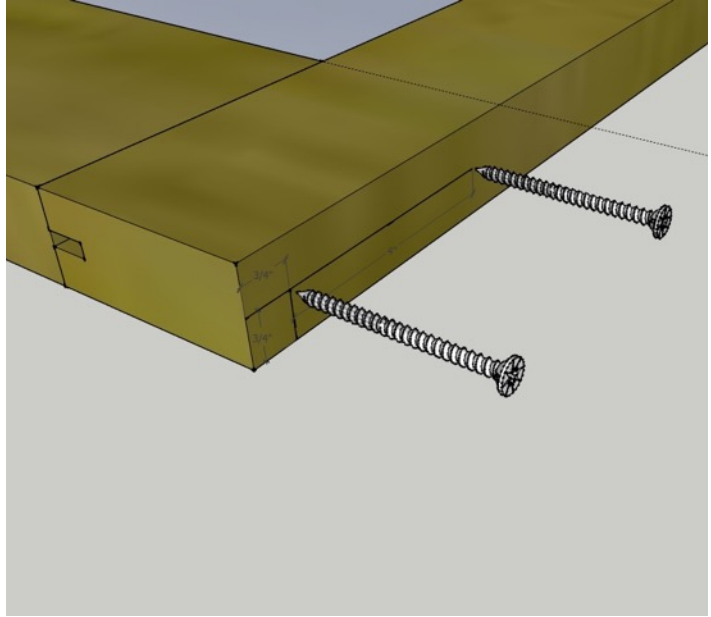
Section 9

Assembling the Sliding Door

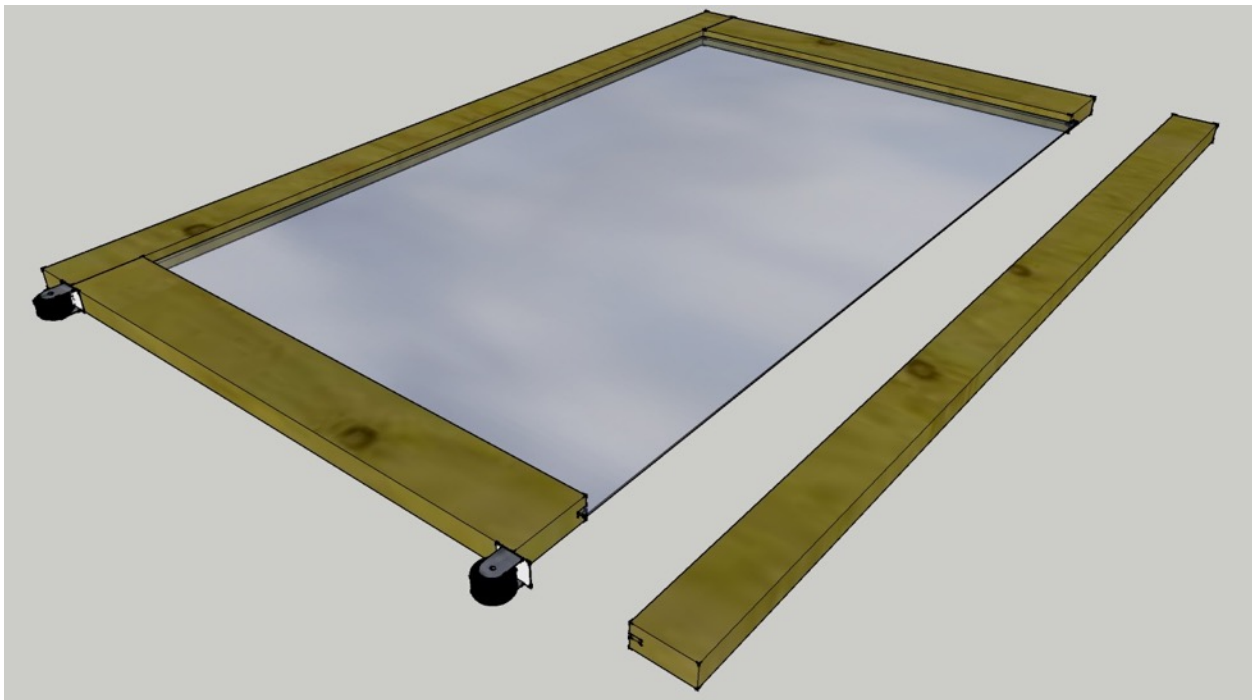
The last component to build is the sliding door. Start with the left frame and attach top frame . Apply exterior grade wood glue to mating faces and screw together. Make sure these two pieces are square and apply a thin bead of silicone in the glass slot on each of them. Push the glass pane into place and proceed with the bottom frame.



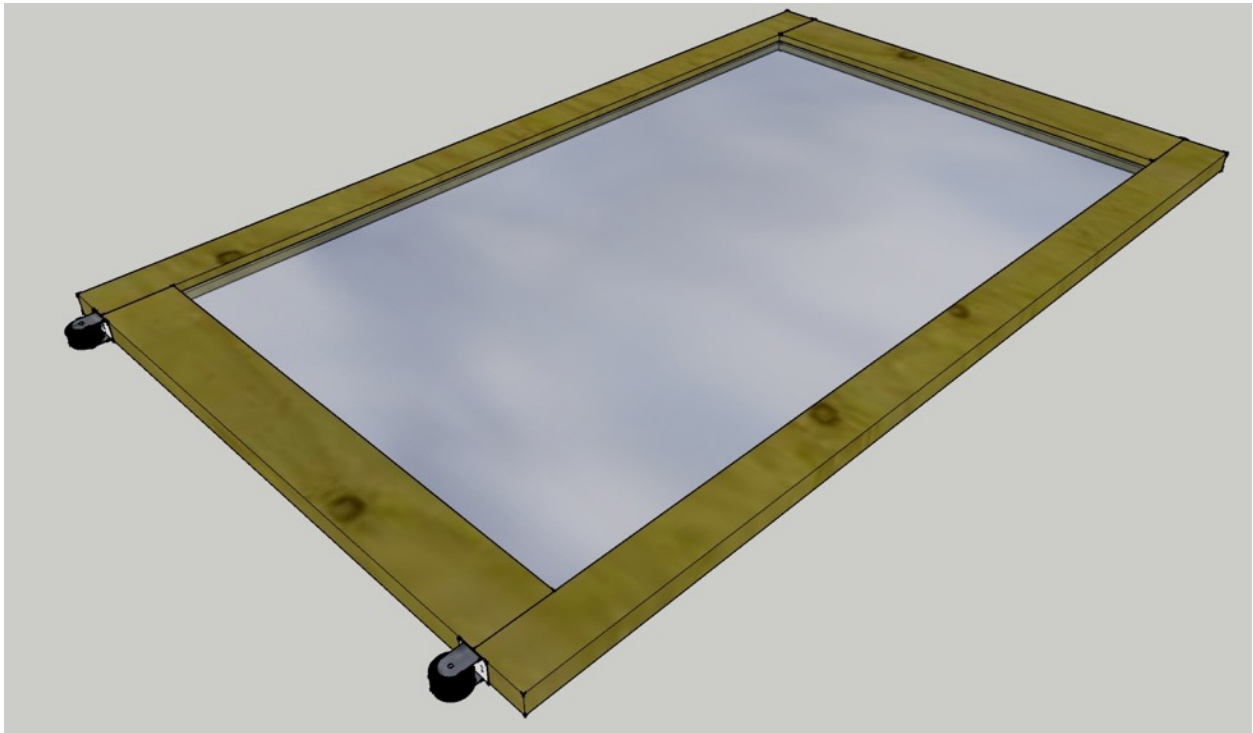
Screw through the side frame into the top and bottom frames. You should pre drill the side frames and use a 5" screw to attach to the top and bottom frames.



Now attach the bottom frame in the same way. Pre drill your holes in the sides for 5" screws and apply a thin bead of silicone into the glass slot then press into place. The two 2" castors will span the joint created by the bottom and side frames on each side.



Install the right side of the frame in the same way as the left. Pre drill the holes for your 5" screws. Apply exterior wood glue to the mating wood faces and a thin bead of silicone into the glass slot. Press the right frame into place and once your position is set screw down.



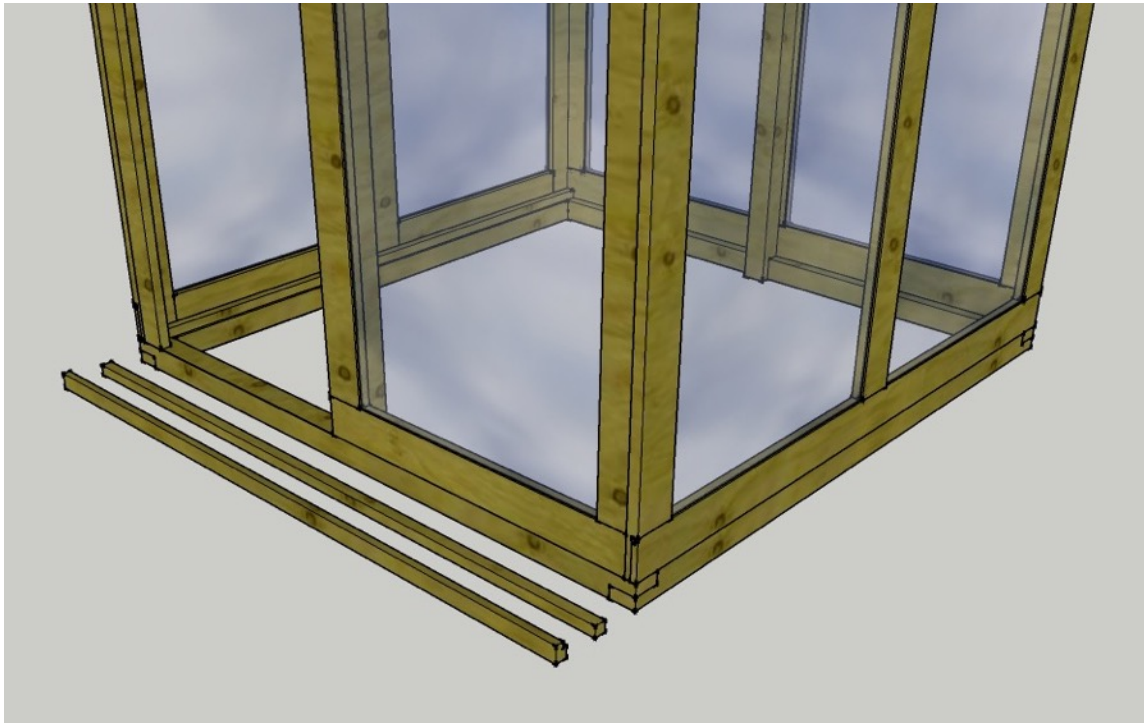
Like the other panels you have made make sure you have a flat place you can store this for 24 hours while the glue and silicone cures. This will ensure that the panel stays flat and rigid.

Section 10

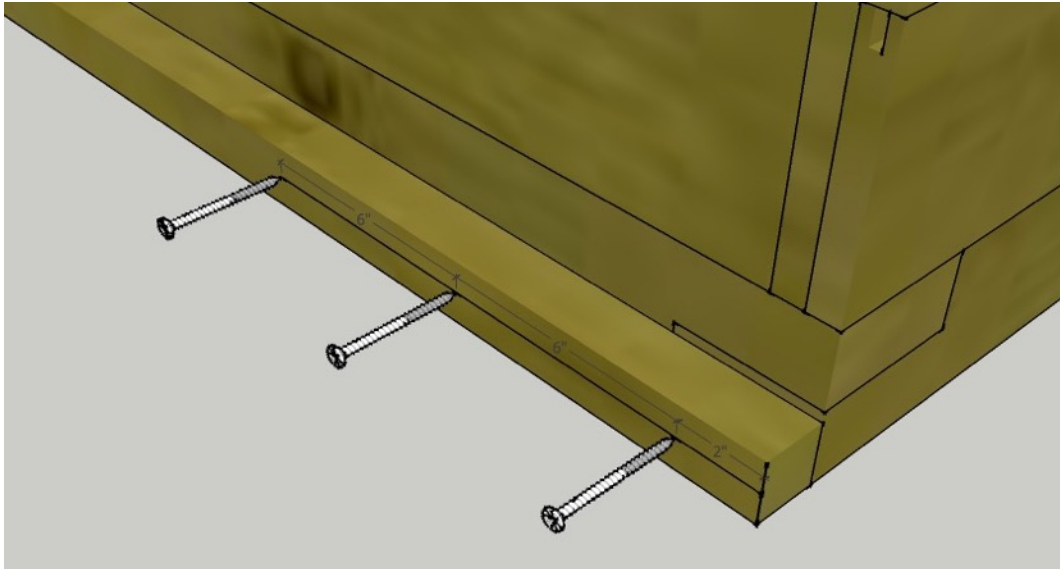
Installing the Door Track

While you are waiting for the silicone and glue to cure on your newly assembled door you can begin attaching the door track. The door track is simply a wood channel that will allow the door to slide back and forth. It also features stops that limit its range of motion.

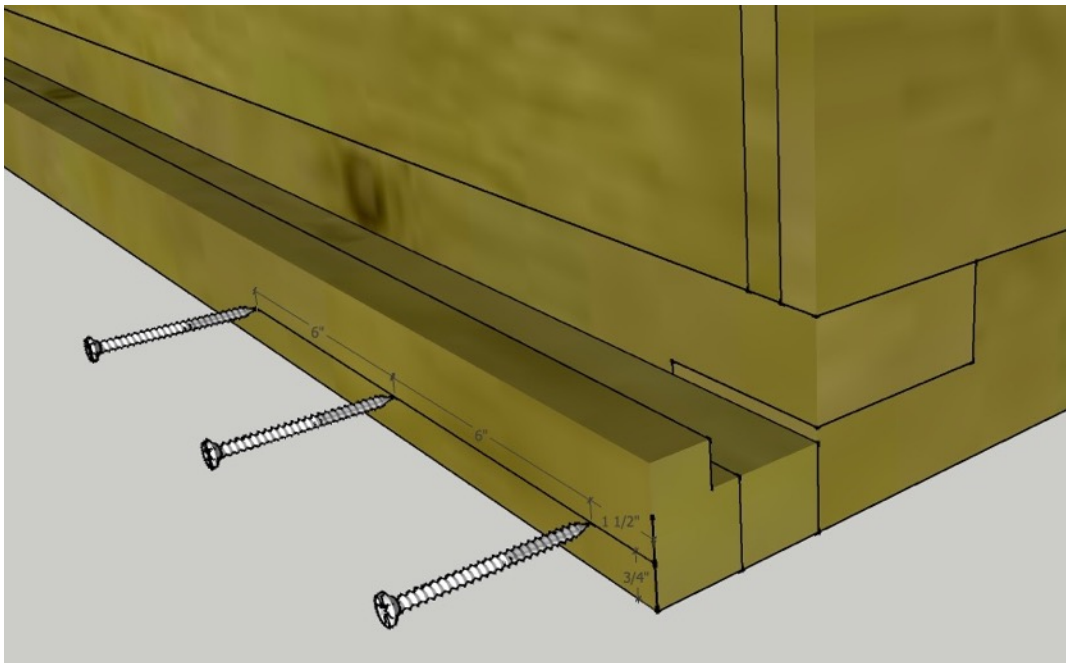
Begin with the two pieces of pressure treated door track you have prepared for the bottom.



Using 3" deck screws place a screw every 6" starting 2" from the end of the rail. These screws should be centered top to bottom on the face of the rail.



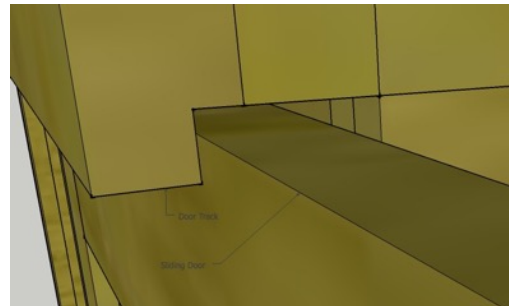
The next rail can now be screwed into place with 3" deck screws. This time start 1 1/2" from the end of the rail so that the screws are staggered.



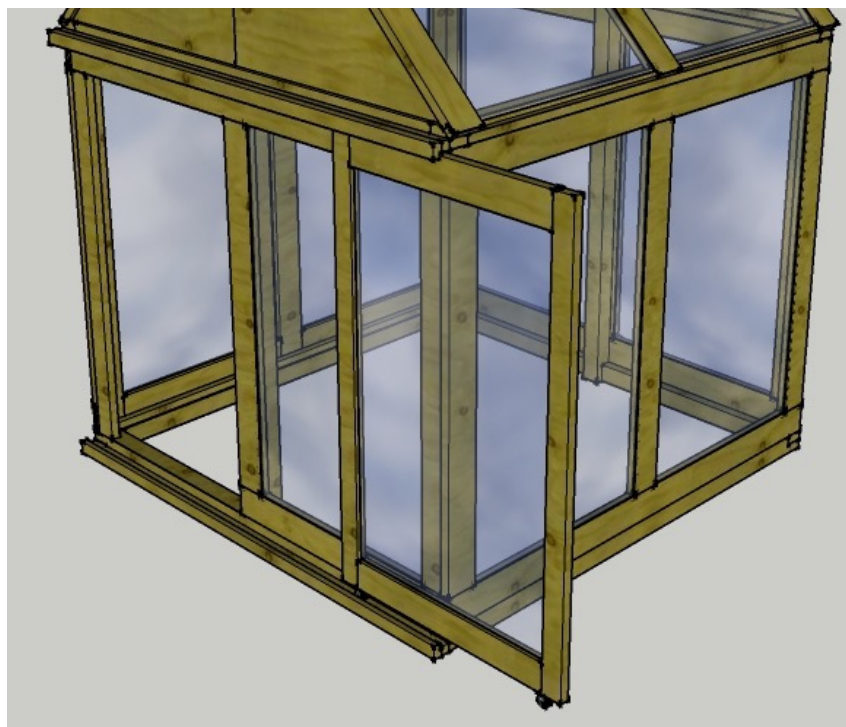
The top rail parts are identical to the bottom but are installed inverted. These two rails will create a channel that the door can roll in.



Fine tune your sliding door by installing glides on the top edge. These will allow the door to slide smoothly in the wood channel.

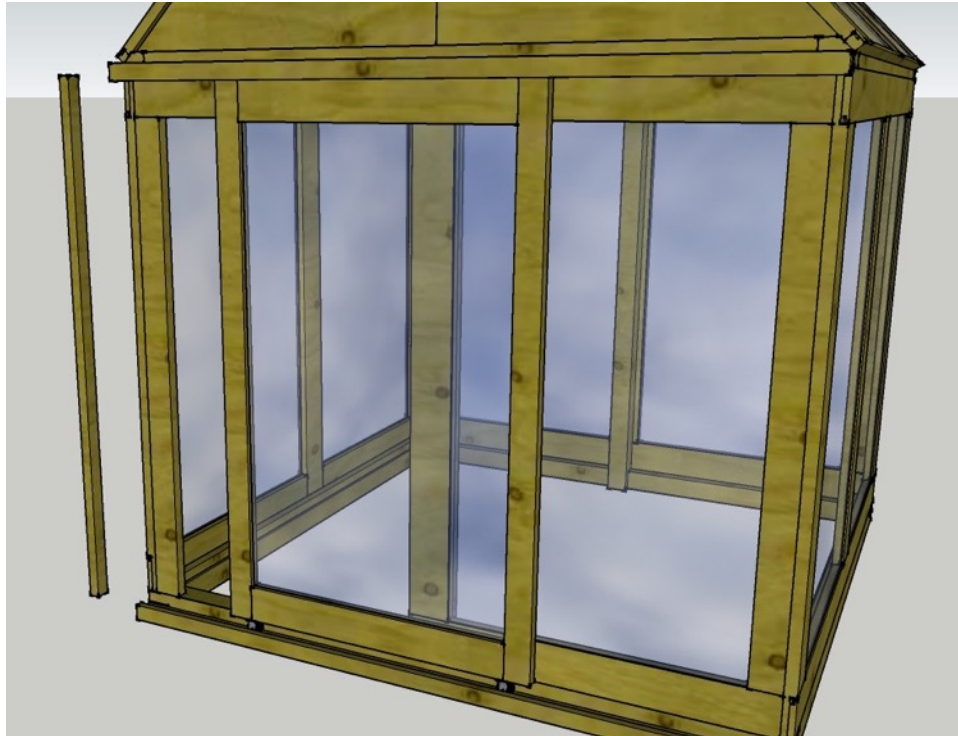


Once you have installed the top and bottom door track and installed glides on the top edge of your door you can slide it in into position.

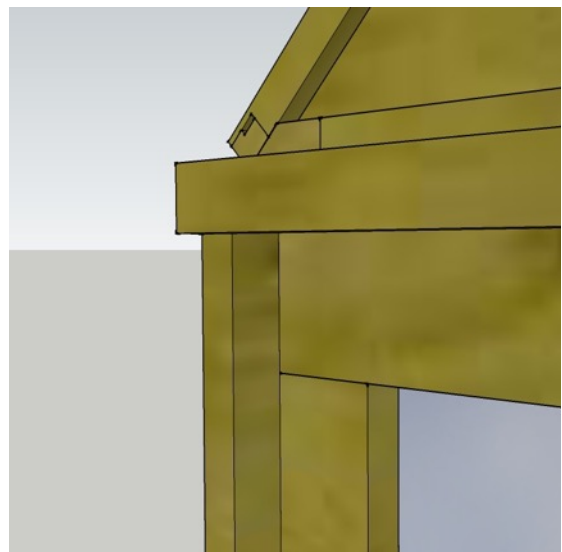
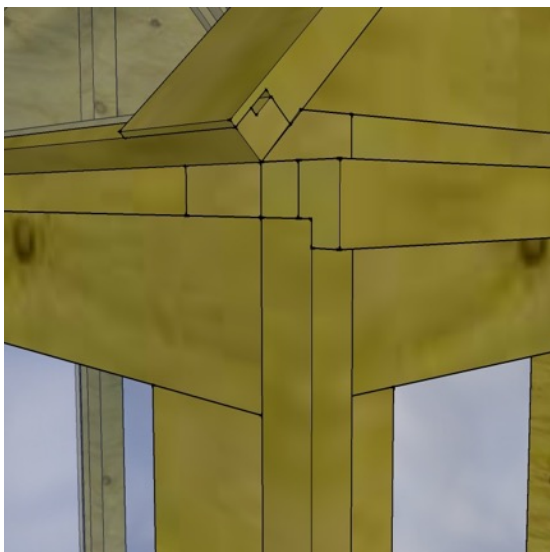


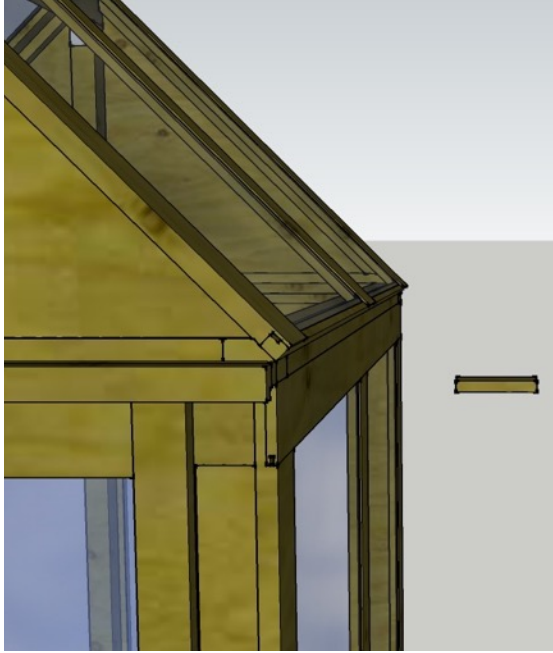
To limit the range of motion to the left is a full length stop.

This will not only stop the door from rolling out of the track it will provide a secure face to install a hasp or lock to should you choose.



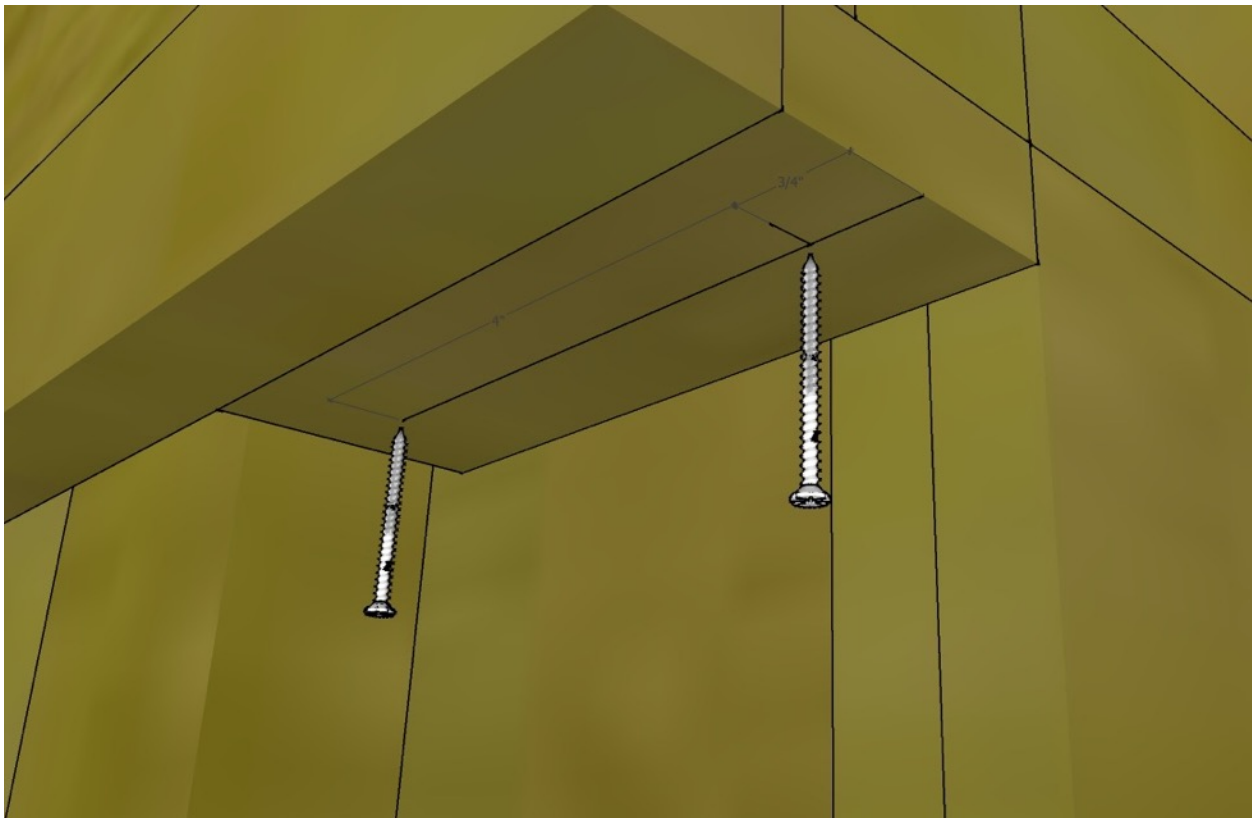
The left stop should be attached to the structure with a 3" deck screw every 6".





The door stop on the right side is a small block of wood which slips into the track and is screwed in place. This block limits the range of motion of the door to the right. Should you need to make any adjustments to the door you can simply remove this block and roll the door out the right side.

The right stop block should be installed with two 2" screws spaced 4" apart.



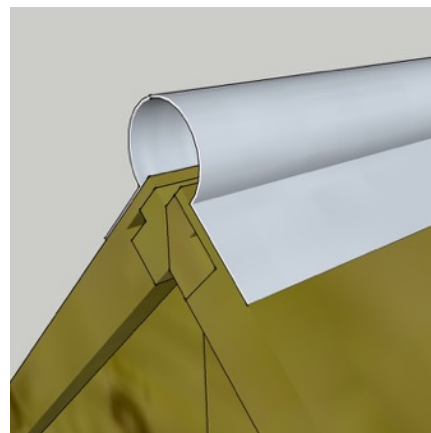
Section 11

Finishing Touches

Now that you have the basic structure finished you can add your own finishing touches. You will definitely want to add a ridge cap of your choice.



A ridge cap will help the greenhouse shed water.



If you live in an area with heavy snowfall you should add a center strut (shown in white) to the roof system. This will increase the overall rigidity and prevent damage.



That finishes the basic structure of the greenhouse. You can use it as is or apply your own paint, handle or other finishing touches.

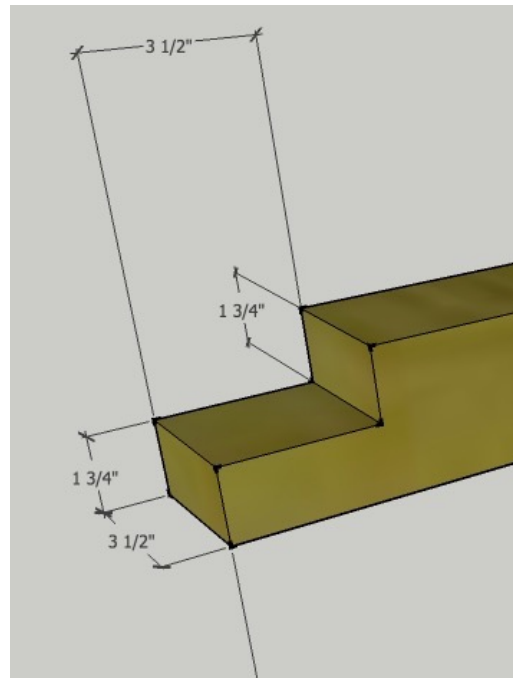
Section 12

Master Cut list

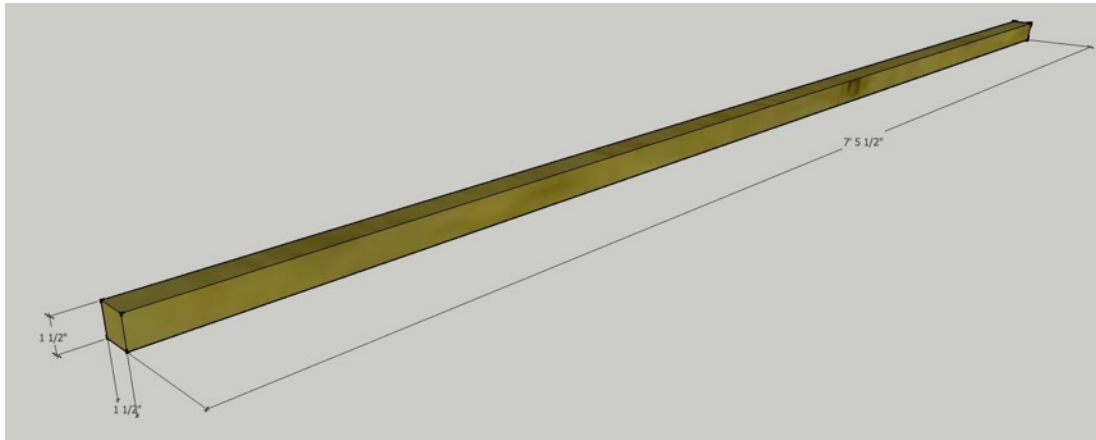
The master cut list will show you exact dimensions of each of the pieces in the greenhouse. The description of each piece will occur in the order it is installed. Unless you plan on painting the greenhouse or weatherproofing it in some other way I'd highly recommend finishing each one of these pieces before hand. Just use a sealant of your choice, ensuring you don't coat the glass slots or lap joints where you will be apply silicone and glue later. The part being described in each case will be in **bold print**.

1. The first parts you will create are the **sill plates**.

Start with four 8'x4"x4" pieces of pressure treated lumber and cut them down to 92 1/2" long. Cut a lap in each end as shown. Treat the end cuts to reseal the wood and prevent rot.



2. For the **sill cleats** select two straight 8'x2"x2" pieces of lumber and cut them both to 89 1/2" long.

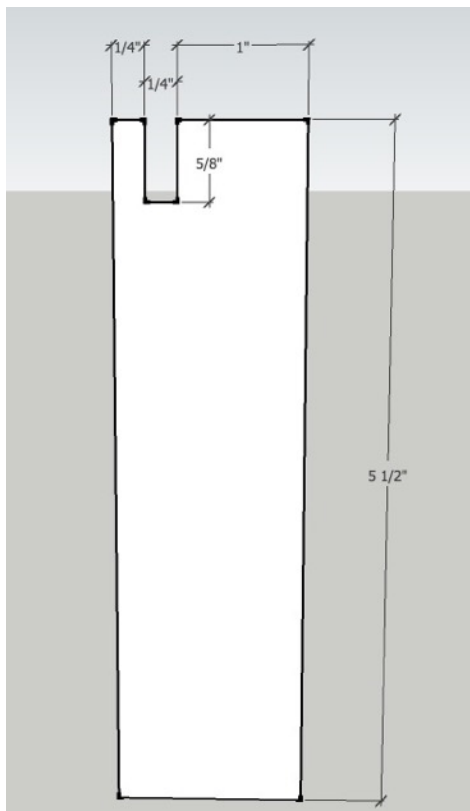


3. You can now begin cutting the lumber which will create the **frames** for the glass on the **wall panels** and **roof panels**. Please pay careful attention to the position of the slot created for the glass in regard to the lap you will make. It will be easiest to cut the slot for the glass in all of these pieces before cutting the lap. Start by carefully selecting your 2"x6" lumber. Try to pick out the straightest lumber with the fewest knots. This will make it much easier to cut the joints you need to create to as well as ensure flatter panels. You will need a total of 30 pieces of 2"x6" lumber 8' long. The first step is to cut each of these pieces to length.

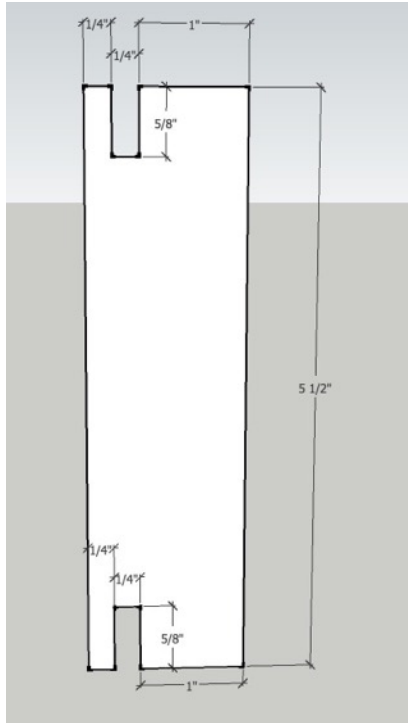
Cut the following lengths from the 2"x6"x8' lumber you have acquired.

4 pieces at 92 1/2"
3 pieces at 89 1/2"
12 pieces at 74 3/4"
6 pieces at 66 1/4"
1 piece at 47 1/2"
2 pieces at 38"

All of these, with the exception of one of the 74 3/4" pieces, will have a slot cut into one or both edges to accept the glass panels.

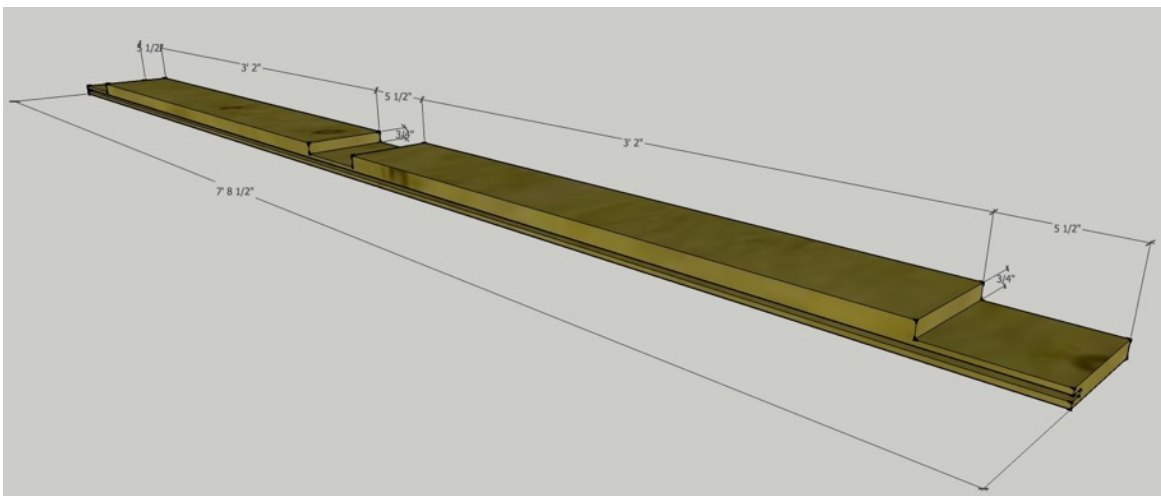


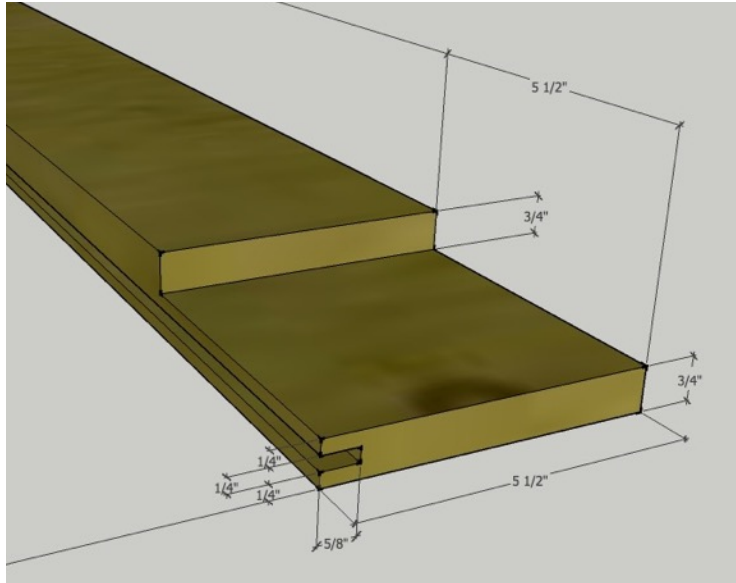
Cut a 1/4" wide slot 5/8" deep 1" from the edge of each of these boards. As mentioned before leave one of the 74 3/4" boards as it will be creating the left side of the door frame and does not require a glass slot.



Cut this second glass slot on 3 of the 74 3/4" pieces and 2 of the 66 1/4" pieces. These pieces will be the middle frames for the roof and wall panels.

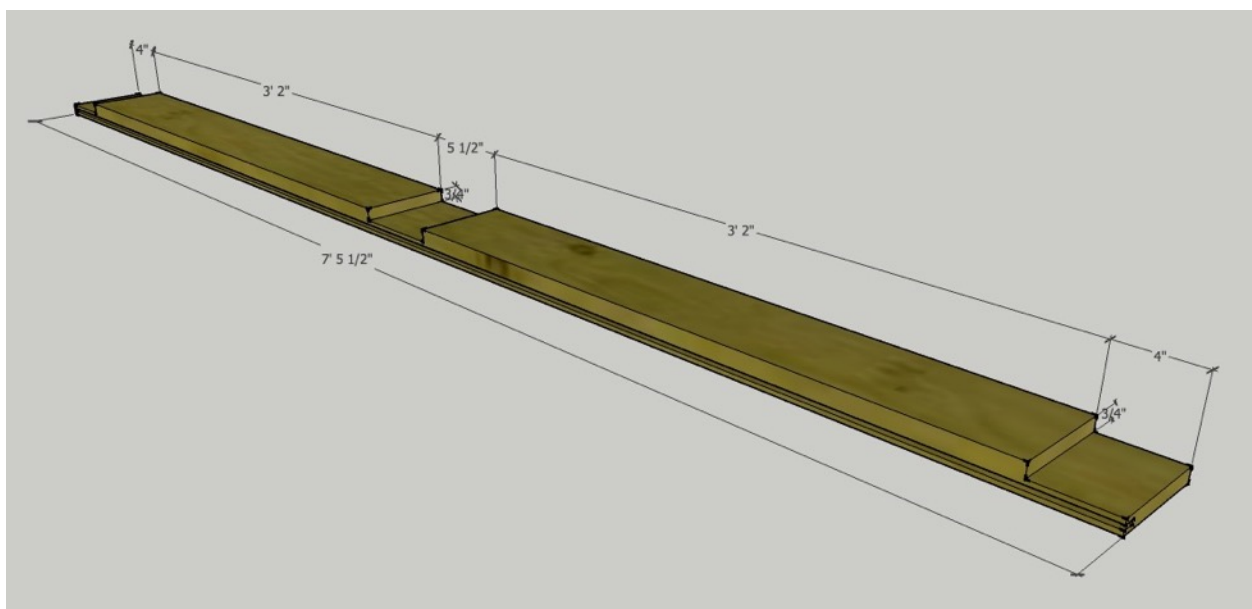
You have cut all the slots that you will need to for the wall panels and roof panels. Next you will create the lap joints that you will use to join these frame pieces together into panels. Start with the four 92 1/2" long pieces you have prepared. Cut a lap on each end 3/4" deep. These should be 5 1/2" wide. Cut another lap in the center of the board 5 1/2" wide and 3/4" deep.



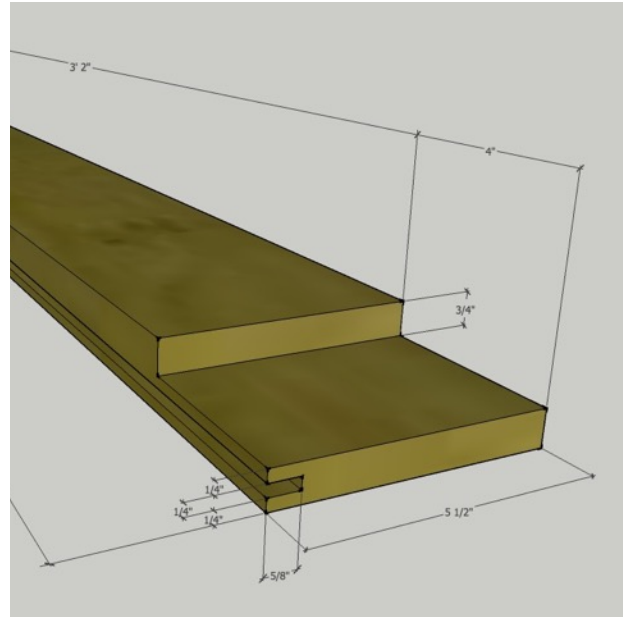


Please note the orientation of the glass slot. These four pieces will make the **top** and **bottom frames** of your **side walls**.

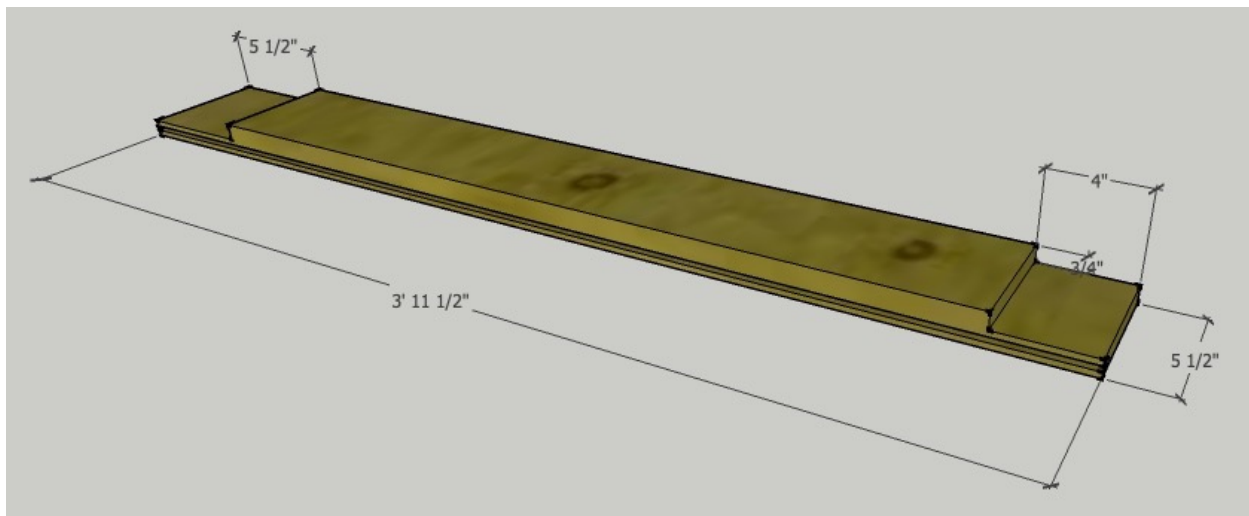
Now find the three 89 1/2" long pieces you cut. These will make up the **front wall top frame** and the **back wall top** and **bottom frames**. Cut a 4" wide lap in each end 3/4" deep. Cut another lap centered on the same face 5 1/2" wide and 3/4" deep.



Again note the placement of the glass slot on the opposite edge of the frame.

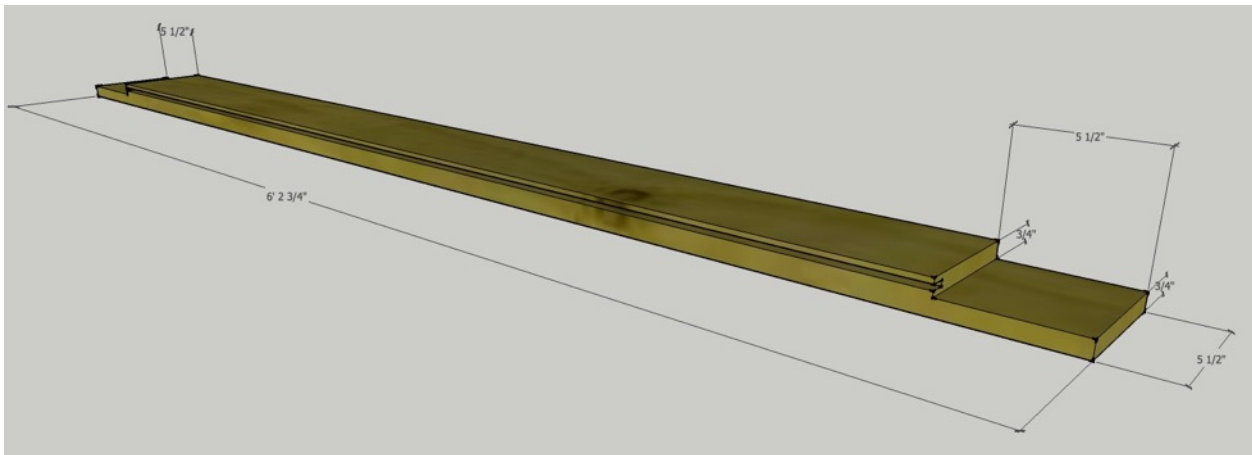


Next piece will be the **bottom frame** for the **front wall**. This will be made from the 47 1/2" long piece you have prepared. It has a 5 1/2" wide and 3/4" deep lap on its left end and a 4" wide and 3/4" deep lap on the right.

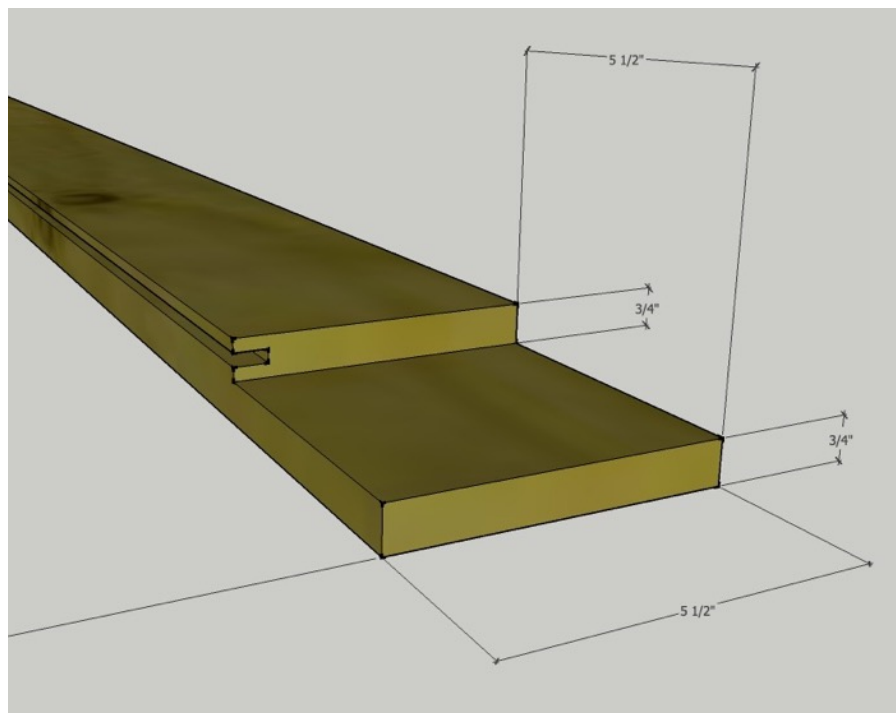


That completes all of the horizontal frame pieces for the wall panels. Now you can start cutting the vertical frame pieces.

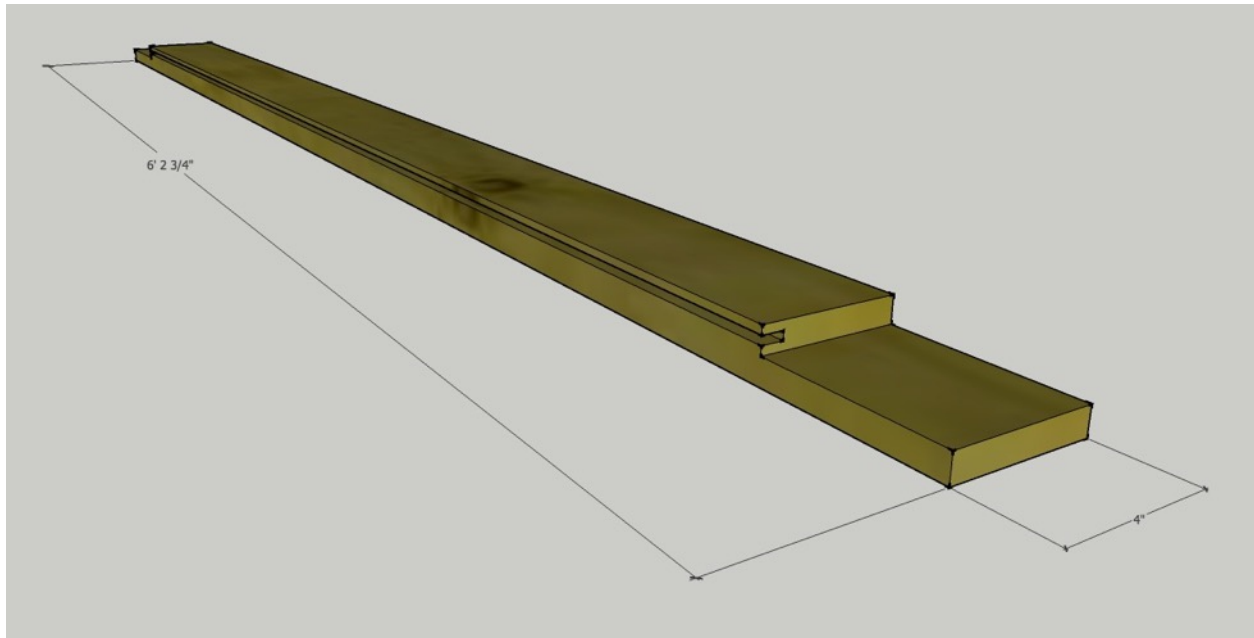
You will now need the 12 74 1/4" long pieces, including the one you did not cut a slot into. These will create the **left, right** and **middle frames** for the wall panels. Please note that the glass slot is now on the same side as the lap. When you overlap the horizontal and vertical elements of the frame the glass slots will align. Cut a lap in each end 5 1/2" wide and 3/4" deep.



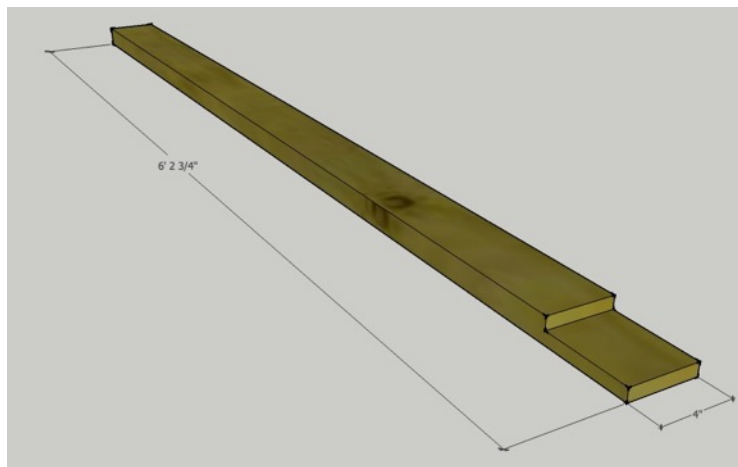
The glass slot is on the same side as the lap on the vertical wall frame pieces.



Next take 3 of these 74 3/4" pieces you just finished which only have a slot on one edge. Rip the edge without a slot off to a width of 4". These pieces will make up the **right frame** for the **front wall** as well as the **left** and **right frames** for the **back wall**.

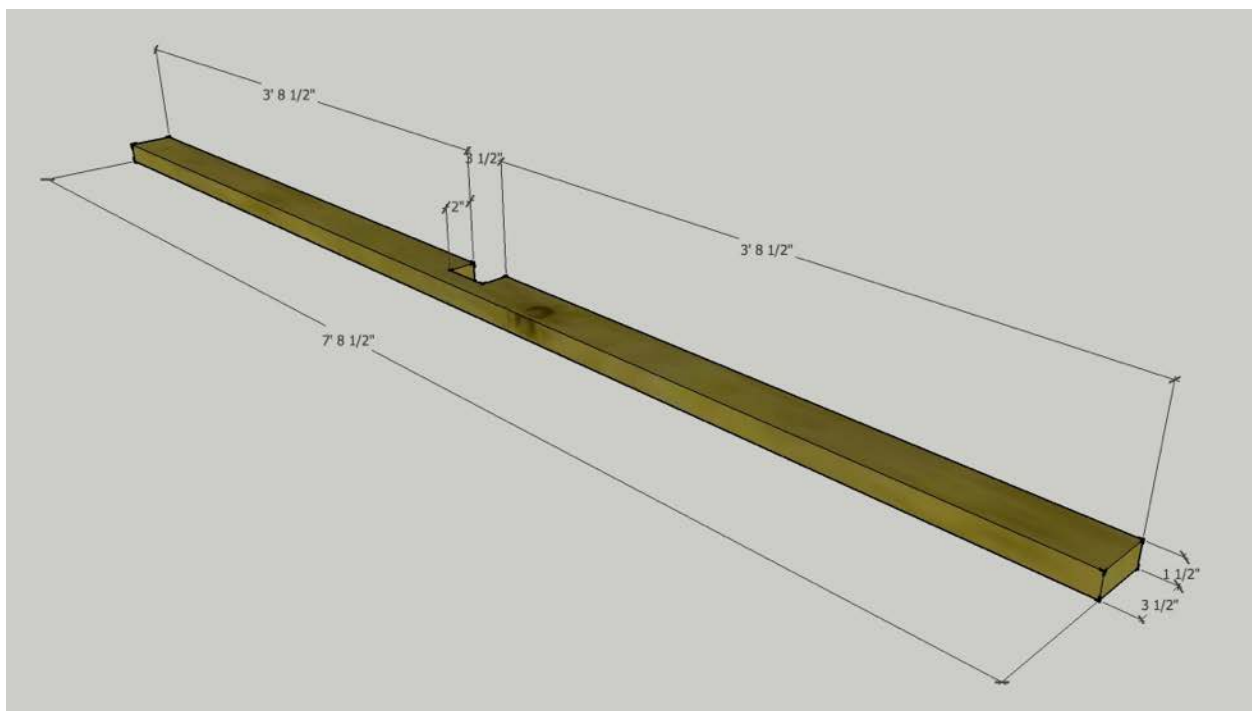


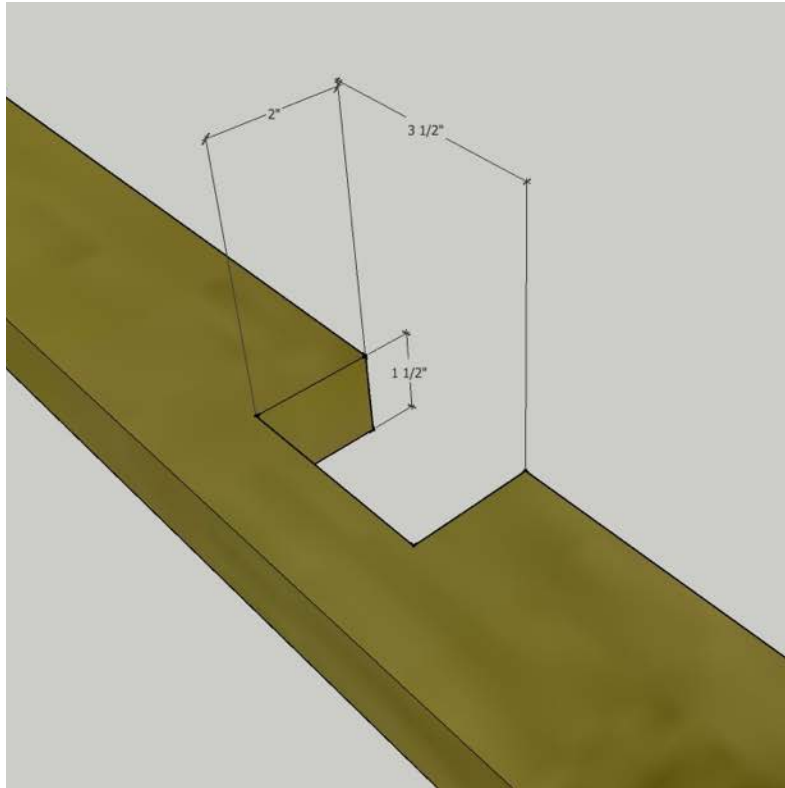
Now get the 74 1/4" long piece with no slot and rip it down to 4" wide as well. This piece will make the **left frame** on the **front wall**.



That completes all of the frame pieces needed to build the wall panels. Now would be a good time to give them a coat or two of your preferred sealant so that they resist rot. Try to keep the sealant off of the faces of the lap joints as well as out of the glass slot as you will be applying glue and silicone to these later during assembly.

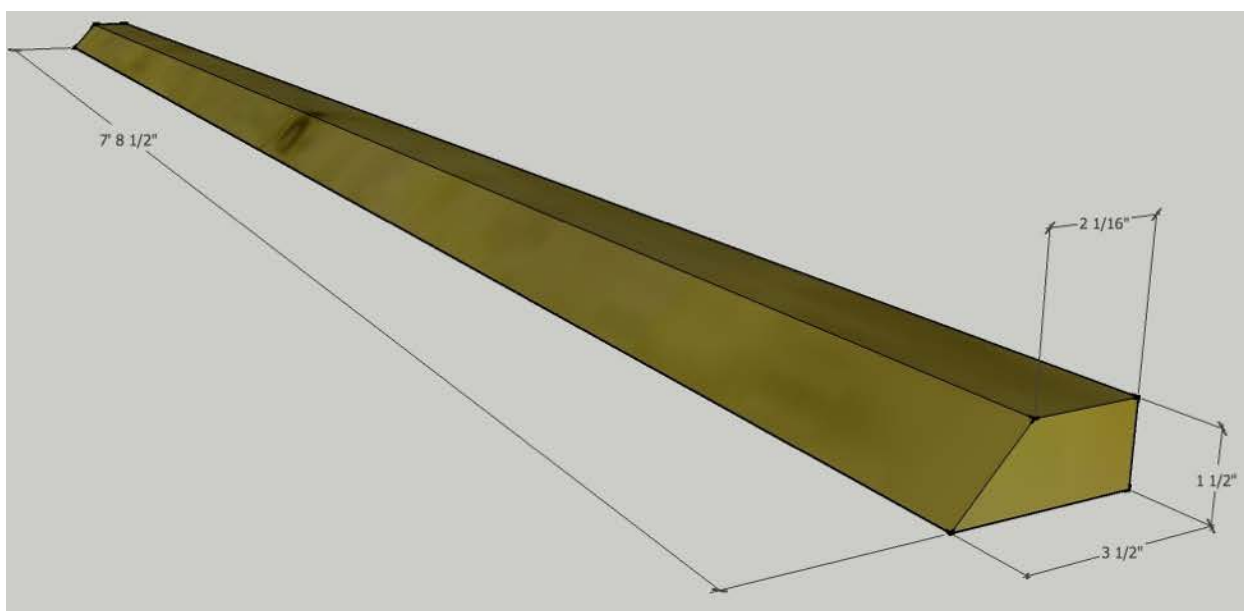
4. Next you can cut the 8 pieces that will make up your **top plates**. For this you will need 8 straight 2"x4"x8' pieces of lumber. Cut four of these to 85 1/2" long and four to 92 1/2" long. Centered on the edge of two of the 85 1/2" pieces and two of the 92 1/2" pieces cut a notch that is 3 1/2" wide 2" deep.



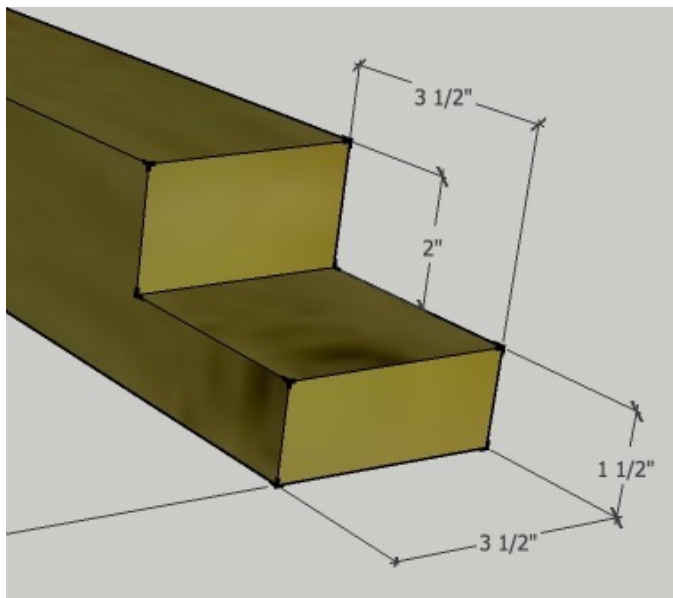
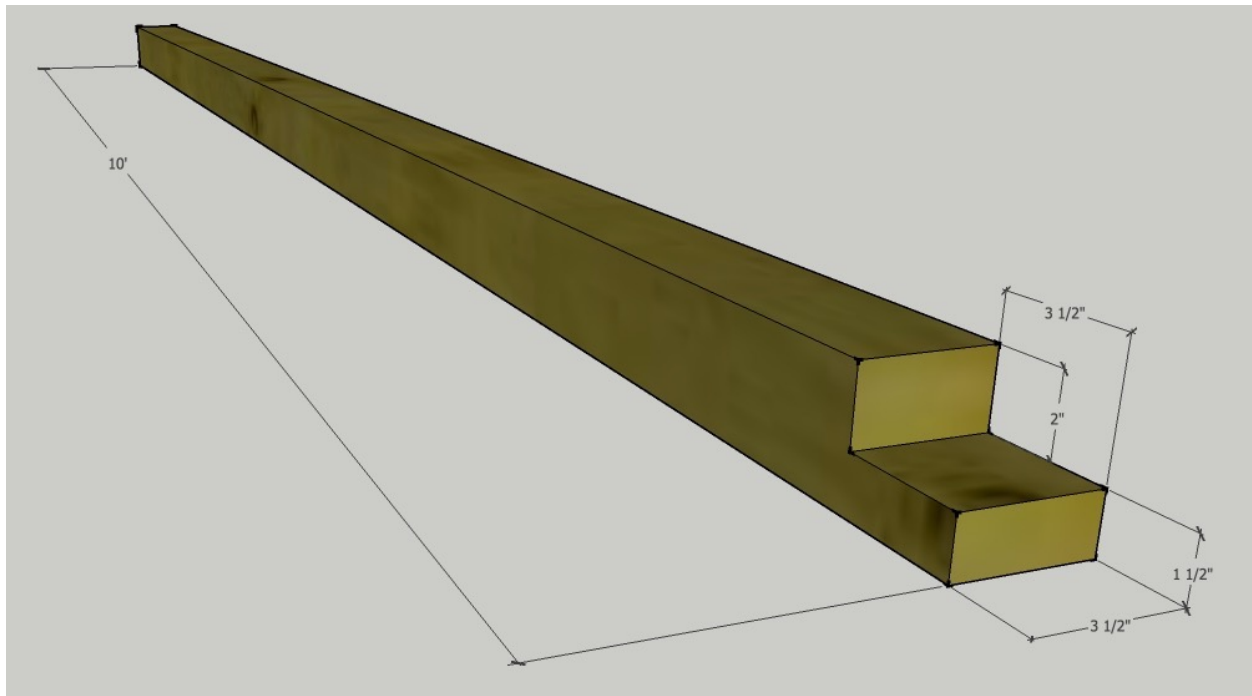


Cut the notch the same on the two 92 1/2" plates as on the two 89 1/2" plates. Take care when measuring and cutting that these notches are centered on the boards.

The last top plates to finish are the **angled top plates**. Take the two 92 1/2" top plates without notches and rip down with a 45 degree angle to the dimensions shown.

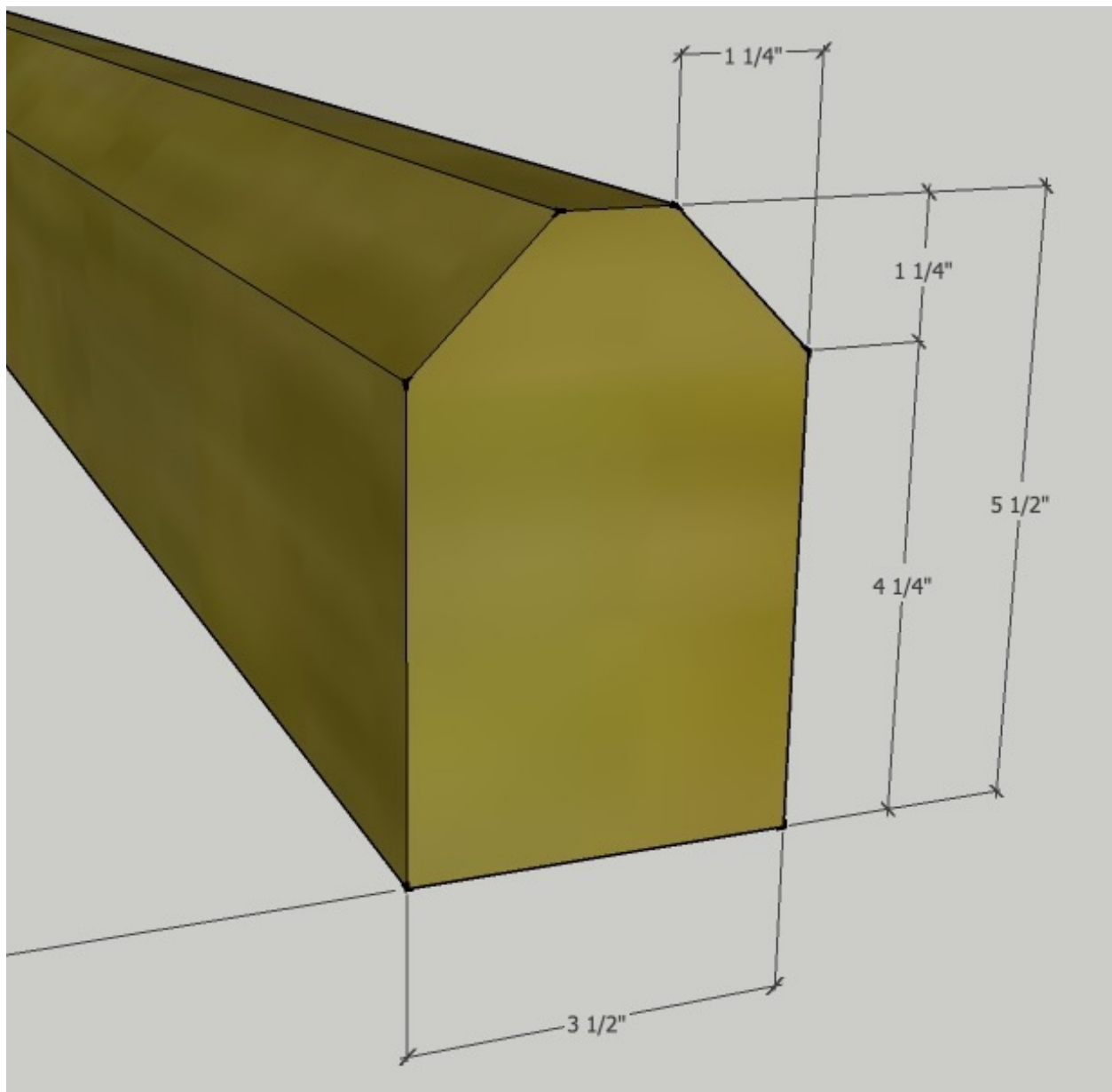


5. In step five you will be preparing the two **center posts**. Choose two of the straightest 4"x4"x10' pieces of lumber you can find. The only thing you will be doing to these is cutting a lap on one end that is 3 1/2" wide and 2" deep. This end will lap over the sill plate during assembly.

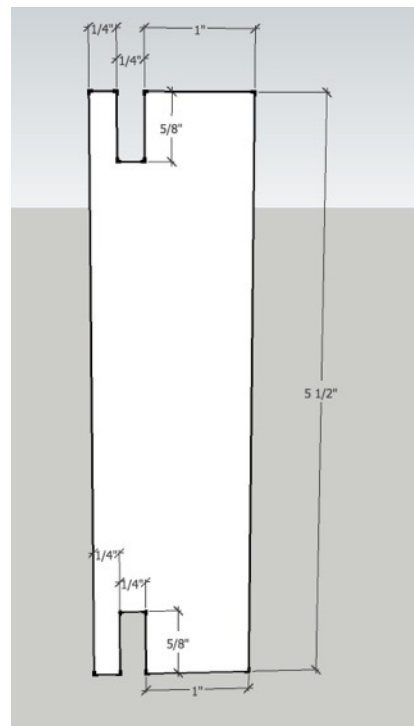
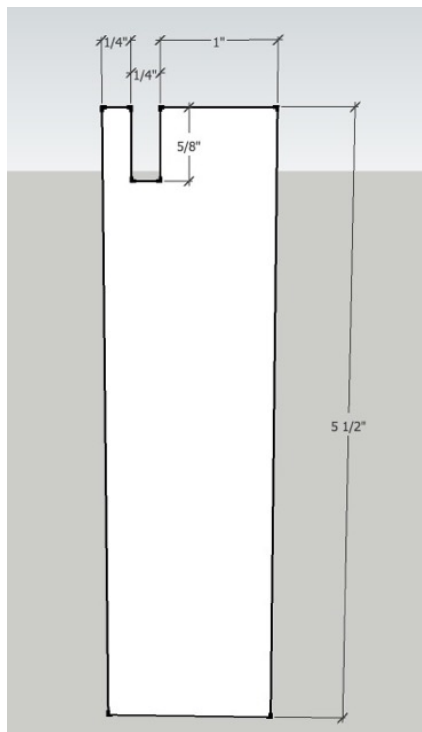


The end of the center post with the lap will be making contact with the ground when installed. You should treat it with a sealant/preservative now to prevent rot.

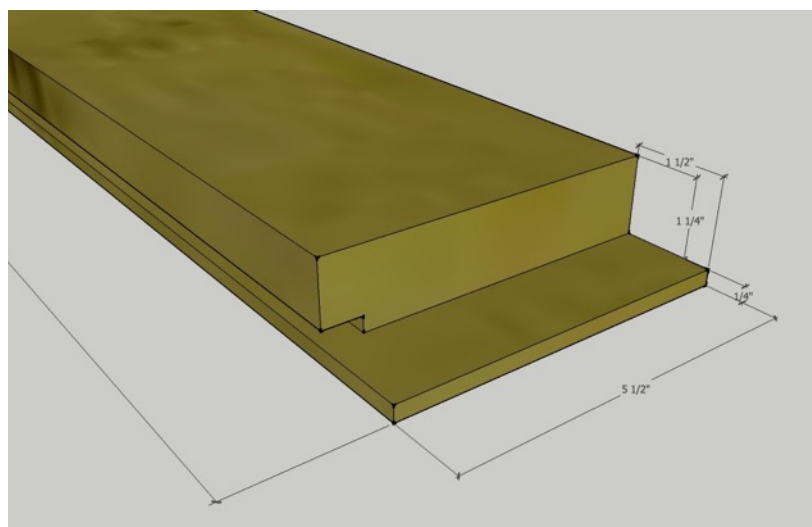
6. The **ridge beam** is next and will be cut from a straight piece of 4"x6"x8' lumber. The first step is to cut it down to 92 1/2" long. You will need to set your table saw to 45 degrees and rip off the two top edges. These angle faces on the ridge beam will provide a surface to attach your roof panels to later.



7. You will now be cutting all of the pieces to frame the **roof panels**. You have already prepared the six **left**, **right** and **middle frame** pieces by cutting them to $66\frac{1}{4}"$. Now, using the dimensions you used earlier, you will cut a glass slot in one edge of four of the pieces and a glass slot in both edges of two of the pieces.

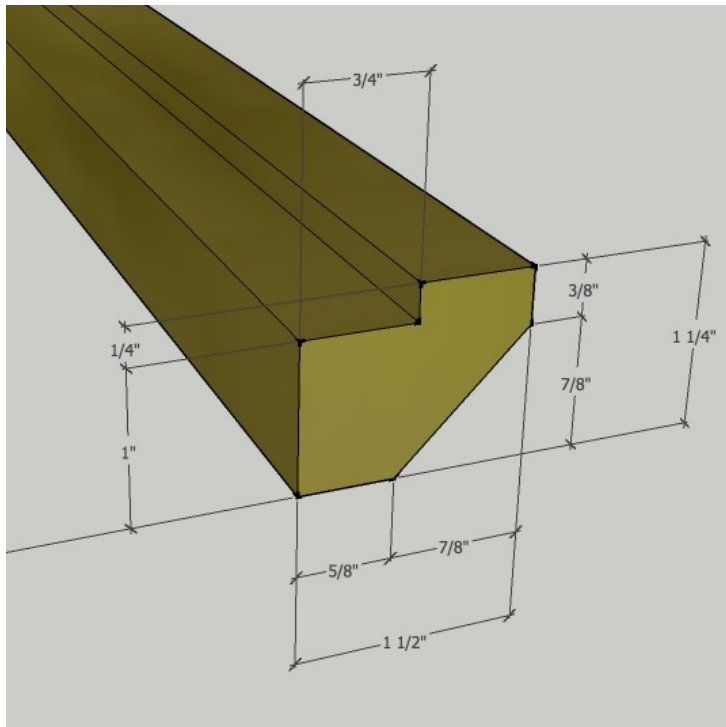
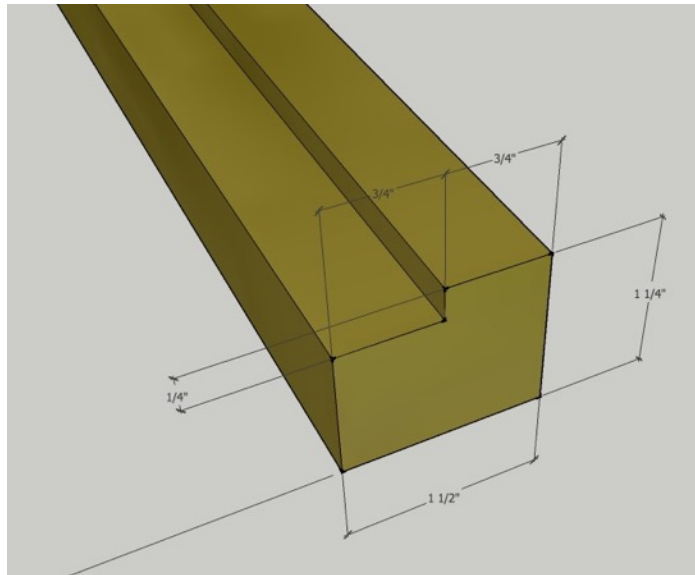


Now cut a lap into each end of these six $66\frac{1}{4}"$ pieces that is $1\frac{1}{4}"$ deep and $1\frac{1}{2}"$ wide. Note location of slot.



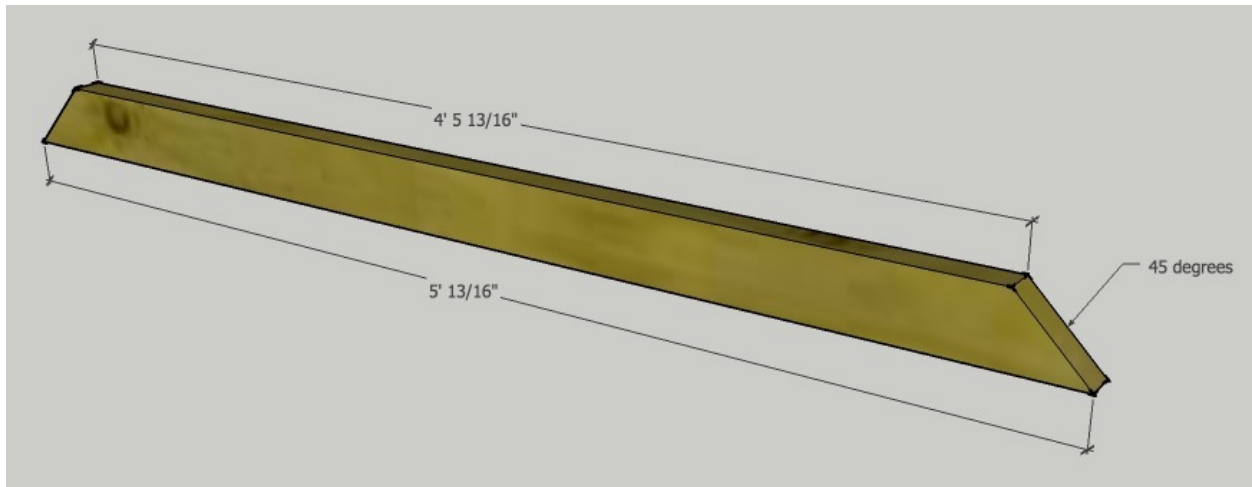
Now you can cut the **top** and **bottom frames** for the **roof panels**. Spend some time finding the clearest, straightest lumber you can for these pieces. The top and bottom frame pieces are 1 1/2" x 1 1/4" in cross section and should be cut to 92 1/2" long.

Start by cutting a rabbit into one edge of all four pieces that is 3/4" wide and 1/4" deep. This rabbit will provide a place to apply silicon during assembly.

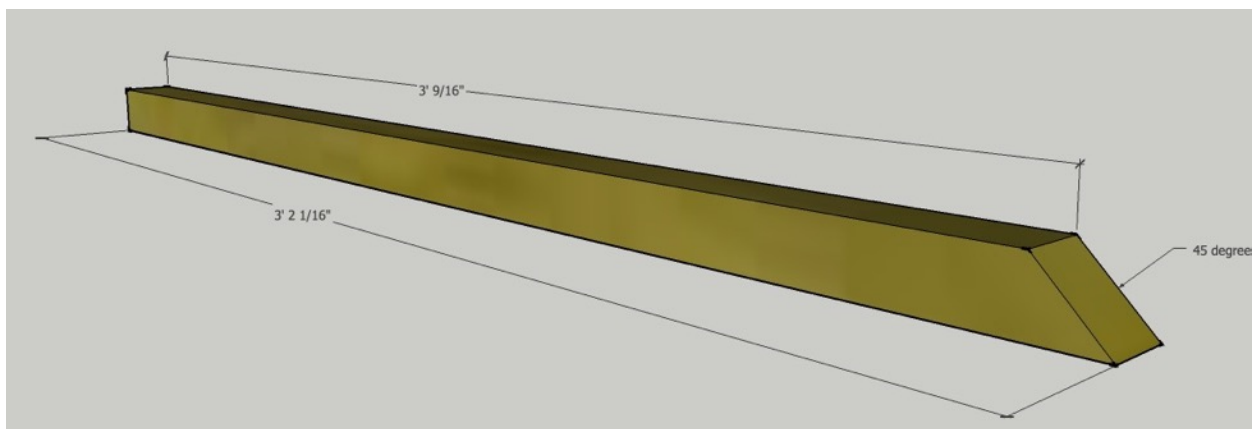


Take two of the pieces you cut a rabbit on and cut the back bottom edge at a 45 degree angle as shown. These two pieces will be the top frames of the two roof panels.

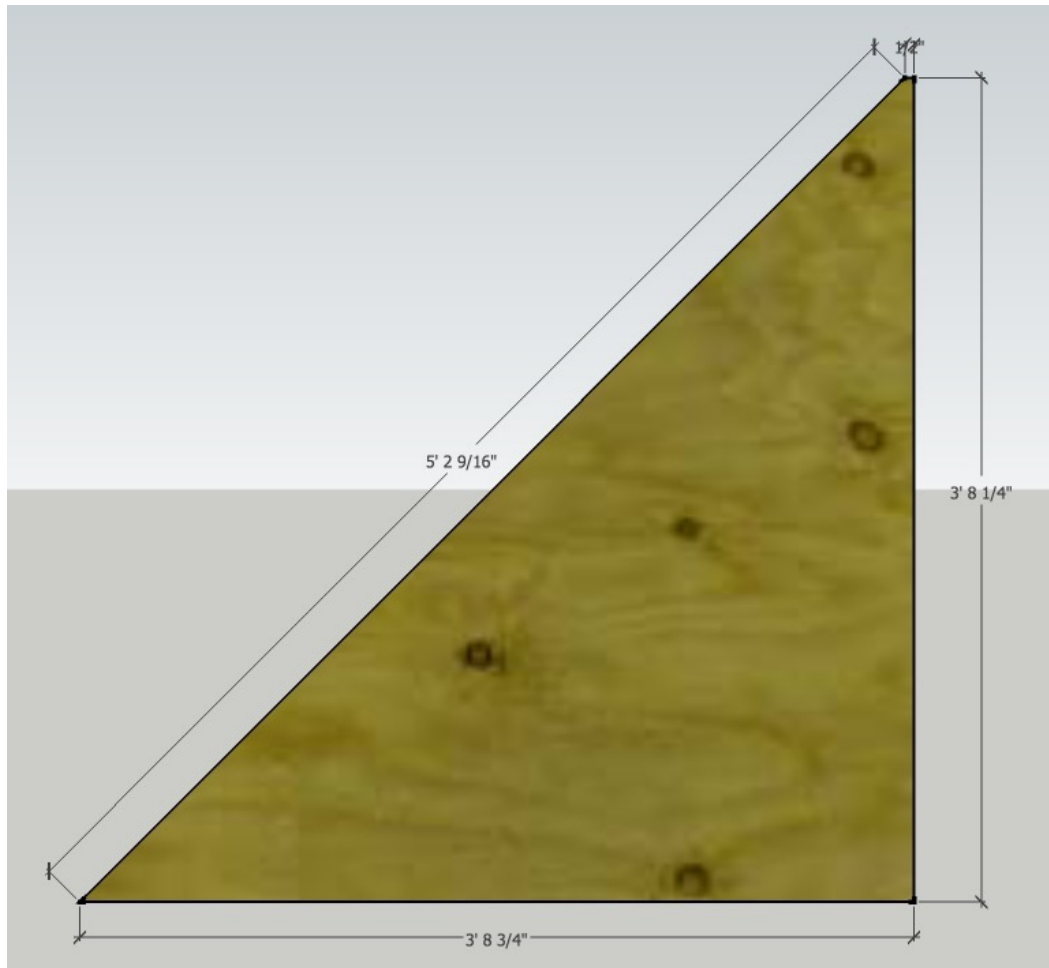
8. In step eight you will be preparing the **gable cleats** and **gable panels**. Begin by selecting four straight pieces of 2"x4" lumber that are at least 6' long. These will be the **top gable cleats**. Cut these with a 45 degree angle on each end so that the long ends measure 5' $\frac{13}{16}$ ".



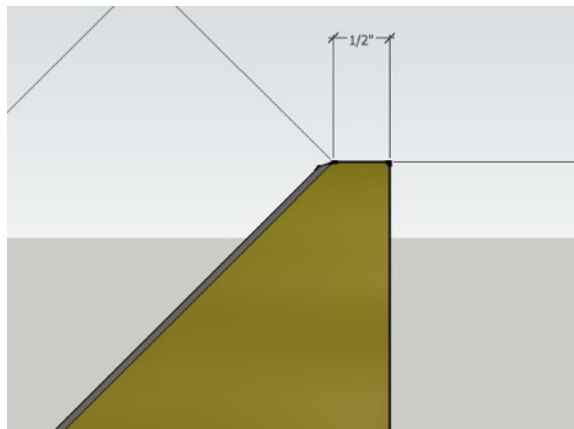
Next are the **bottom gable cleats**. For these four cleats you will need two straight 2"x2"x8' pieces of lumber. Cut each piece with a 45 degree angle on one end so that the long end measures 3' $\frac{2}{16}$ ".



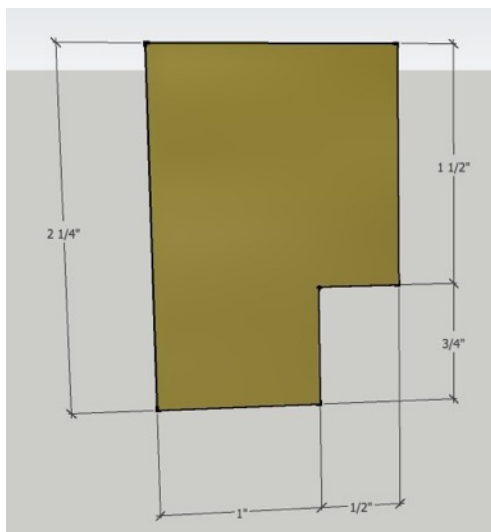
The last parts to make for step eight are the four triangular pieces of plywood which will cover the gable ends. The **gable end panels** are cut from one sheet of 3/4" plywood and are all identical.



Note the top corner is truncated and measures $\frac{1}{2}"$ across.



9. For the **door tracks** you will need two straight 2"x4"x8' pieces of lumber. One of these should be pressure treated as it will be making the bottom rail on the door track. The other piece can be standard fir or hemlock. Each of these will be cut to 92 1/2" long and ripped to 2 1/4" wide. Once this is done you can cut a rabbit in one edge of both pieces that is 3/4" wide and 1/2" deep. These two tracks will create the outside faces on the door tracks.



Once you have made your cuts on the piece of pressure treated lumber go back and treat them with a preservative to prevent rot.

The next pieces of door track are the spacers. You will need two 2"x2"x8' pieces and as before one should be pressure treated for use on the bottom track. The only cut you will make is to cut both to 92 1/2" long. Treat the end cut on the piece of pressure treated wood to prevent rot.

