Adaptive Plastics, Inc. the makers of SOLEXX™ GREENHOUSES 1-877-476-5399

ASSEMBLY INSTRUCTIONS

8’ X 16’ X 9 ½’ Conservatory Stand Alone

G-308

This kit includes (2) hinged doors, (1) center double-tiered bench frame and (2) single tiered side bench frames, (2) hanging rods, and (1) Louver. (Assembly required).

All pipe has been precut - no cutting is required.

It is important to panel the greenhouse frame once it is completed and before it is rained on. The protective coating on the fittings is to protect the fittings from rust due to moisture or condensation. The protective coating was not designed for the volume of water produced when the fittings are rained on for a period of time with out the paneling on the greenhouse.

TOOLS PROVIDED:

A. ¼” nut driver

TOOLS NEEDED:

A. VARIABLE SPEED DRILL
B. SCREWDRIVER
C. LONG SHARP KNIFE
D. TAPE MEASURE
E. STEP LADDER
F. PLIERS
G. 2-3 tubes “Clear” SILICONE SEALANT (We recommend IS800 Silcone rubber adhesive sealant) & a Caulking Gun
H. 8 oz. can of “Clear” PVC CEMENT (Available at a hardware store). **

**Follow the instructions on the glue can. Do not apply glue if it is colder than the instructions indicate for proper use.

▶ NOTE: GLUE DRYS VERY QUICKLY! Hold pipe into fitting for 30 seconds until the glue has set.

Please read instructions carefully and refer to the diagrams.

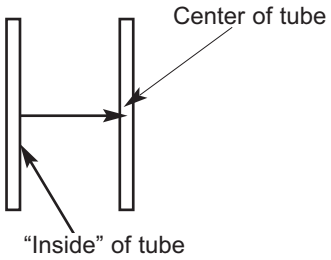
▶▶Attention:

There are two types of frame tubing in your kit. The Composite Tubing is a heavier thick-walled tubing that has a gray fiber weave throughout (looks like a fiber texture) while the PVC tubing is a thin-walled tubing. The super strong Composite Tubing will be used for the structural areas of the greenhouse frame. The PVC is used in areas where the pipe needs to be flexible to bend or in non-structural areas.

Hints for Preassembly

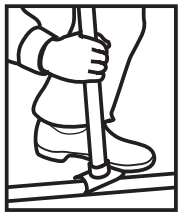
A.

Note: All measurements are taken from inside one tube to the center of the other tube so one person can easily take the measurement by her/himself.



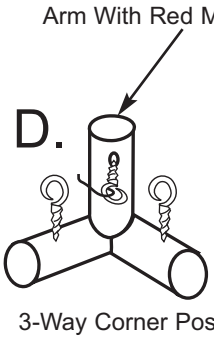
B.

NOTE: Attaching Snap T's this way prevents pinched fingers! Use a small pipe and step on the Snap T.



C.

Note: Tubes that are double-slotted have slots in both ends. Slotted Tubes only have slots on 1 end. All Slotted ends attach to Snap-T's except for some of the 22" composite tubes - white (double-slotted).



D.

3-Way Corner Post

Note: The 3-Way Metal Corner posts have a red mark on the "dead end" arm. In order for all measurements to be correct, the 3-Way Metal Corner Posts must be oriented correctly on the Base Frame and on the End Wall Frames. Follow Ithe directions carefully about where the red arm is pointing. Please look at these fittings and check out the arm with the red marking.

E.

▶▶PVC Pipe is White and Composite Pipe is white with small gray fibers throughout and will not bend.

F.

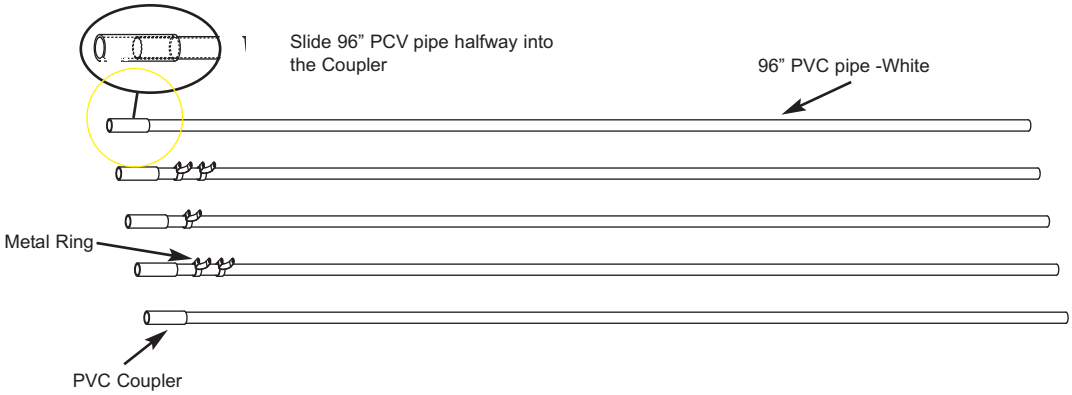
Very Important!! NEVER glue the underside of the Snap T. You need to be able to slide the Snap T along the pipe. You only glue tubes into the enclosed arm

PRE-ASSEMBLY

Pieces Required

10 96" PVC Pipes WHITE (single slotted)
10 4" x 1" PVC Couplers
10 Metal Rings

MAKE 2 SETS



Top Rib Pipes

1. Glue a coupler on the slotted end of each 96" Pipe. Apply glue on about 2" of the 96" Pipe and about 2" into the inside of the coupler. Slide the Pipe into the coupler about 2" (to the end of the glue site).

2. Slide two Metal Rings onto four 96" PVC pipes. Slide one Metal Ring onto two 96" PVC pipes

These are the Top Rib Pipes to be used in Step V.

I. TOP RIDGE FRAME & BASE RODS

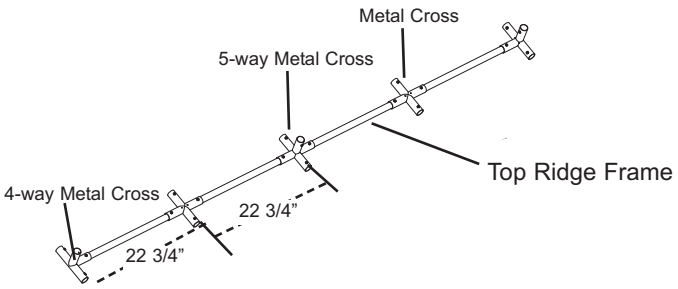
Pieces Required:

2	Metal Crosses
2	4 Way Metal T
1	5 Way Metal Crosses
7	92” Composite Tubing - RED
16	Snap T’s

Top Ridge Frame

Complete on a level surface so the Top Ridge Frame will be flat and not twisted.
The Top Ridge Frame is used in Step **V**,

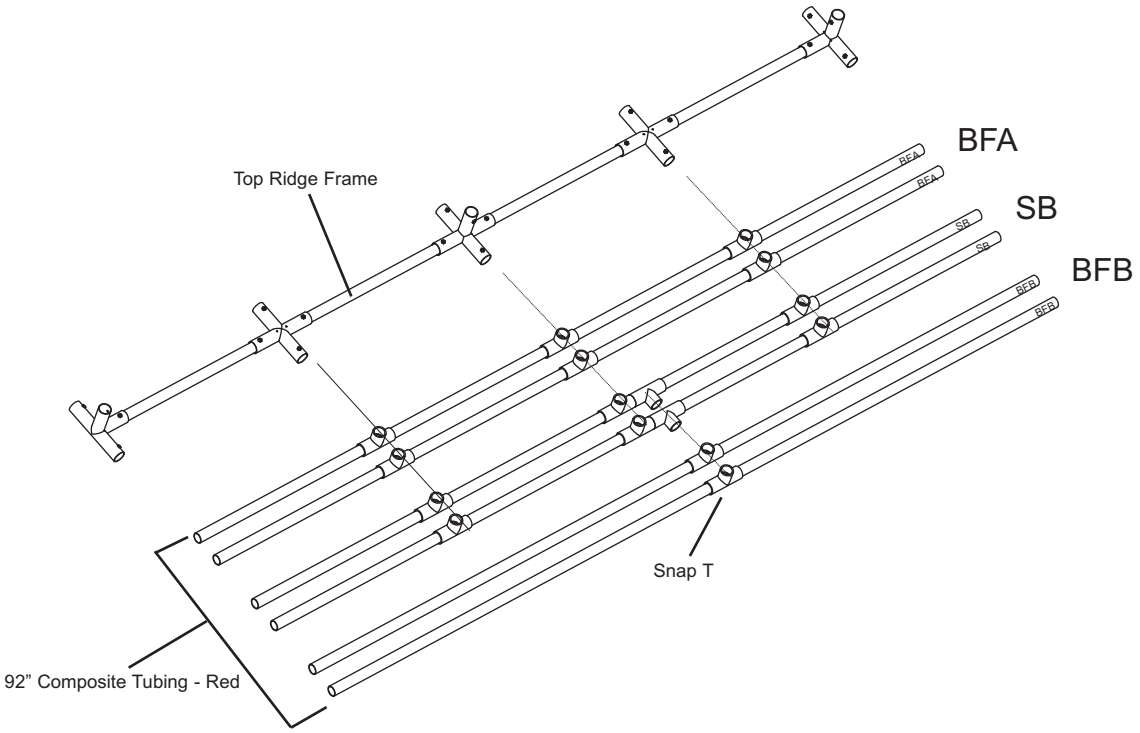
1. Insert a 92” Composite Tube into the Metal Fittings in the following order: 4-Way Metal T, Metal Cross, 5-Way Metal Cross, Metal Cross, and 4-Way Metal Cross.



2. Carefully measure and set the fittings 22 3/4” apart from inside one fitting to the center of the next fitting. The overall measurement is 92 3/4”. **This Top Ridge Frame will be used as a measuring device throughout construction.**

Making the Base Rods

3. Attach Snap T’s to the remaining 92” Composite Tubes using the Top Ridge Frame as a guide. Line up the Snap T’s with the Metal Fittings on the Top Ridge Frame as shown. Label the tubes for reference; BFA, SB, BFB.

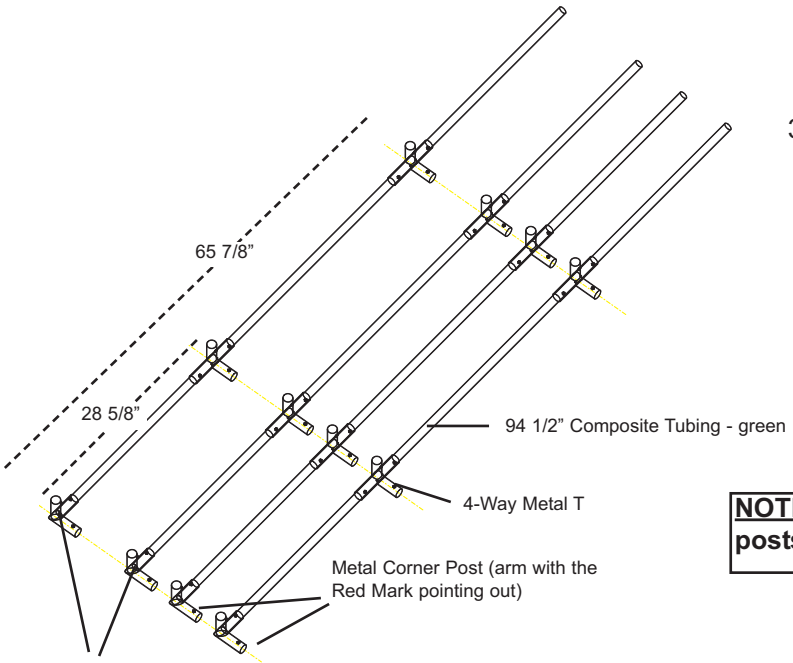


FRAME ASSEMBLY

II. BASE FRAME Make sure working surface is clean and level.

Pieces required:

4	Metal Corner Posts
10	4-way Metal T's
4	94 ½ " Composite Tubing - GREEN
2	Metal T's
2	92" Composite Tubing - RED
1	57 1/2" Composite Tubing - WHITE
1	Snap T
2	**BFA** - 92" Composite Tubing - RED (from Step I)
2	**BFB**- 92" Composite Tubing - RED (Step I)



Front Base Assembly

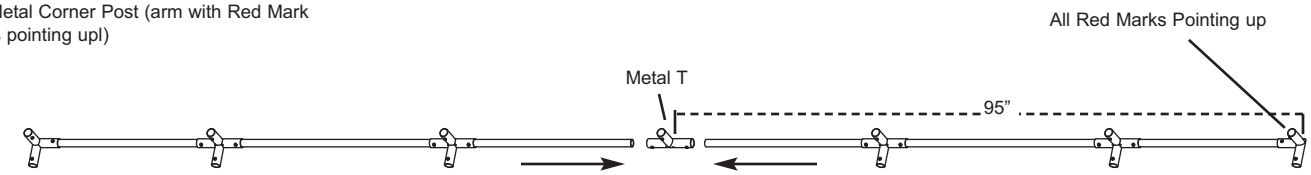
1. On each 94 1/2" Composite Tube, make a mark with a pen 2 7/8" from each end.

2. Slide two **4-way Metal T's** onto a **94 ½"** Composite Tube. Attach a **Metal Corner Post** (arm withr Red Mark is pointing up) to the end so the arm of the Corner Post post just touches the mark on the 94 1/2" Tube. Tighten the eyebolts. Adjust fittings so the measurement from inside of the Corner Post to the middle of the 1st 4-Way Metal T is 28 5/8", the measurement from the Corner Post to the 2nd 4-Way Metal T is 65 7/8". **Make 4**

3. Construct the Front Base Assembly by inserting each open tube end of two of the assemblies in step 2 into a Metal T. Insert the tube so the pen marking just touches the arm of the Metal T. Make sure that the measurements form the inside of each Corner Post to the center of the Metal T is 95".

Repeat this step to make the Back Base Assembly

NOTE: It is important that the corner posts are installed correctly.

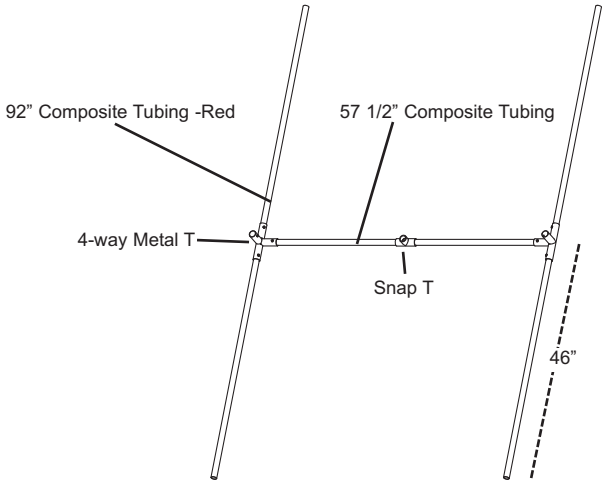


Front and Back Base Assembly

Center Bench Base Assembly

5. Slide a **4-Way Metal T** to the center (46") of a **92" Composite Tube**. Make 2.

6. Attach a **Snap T** to the center (28 ¾") of the **57 ½" Composite Tube**. Slide 57 ½" tube into the 4-Way Metal T's on the 92" Tubes. Tighten eyebolts.



Center Bench Base Assembly

BASE FRAME ASSEMBLY

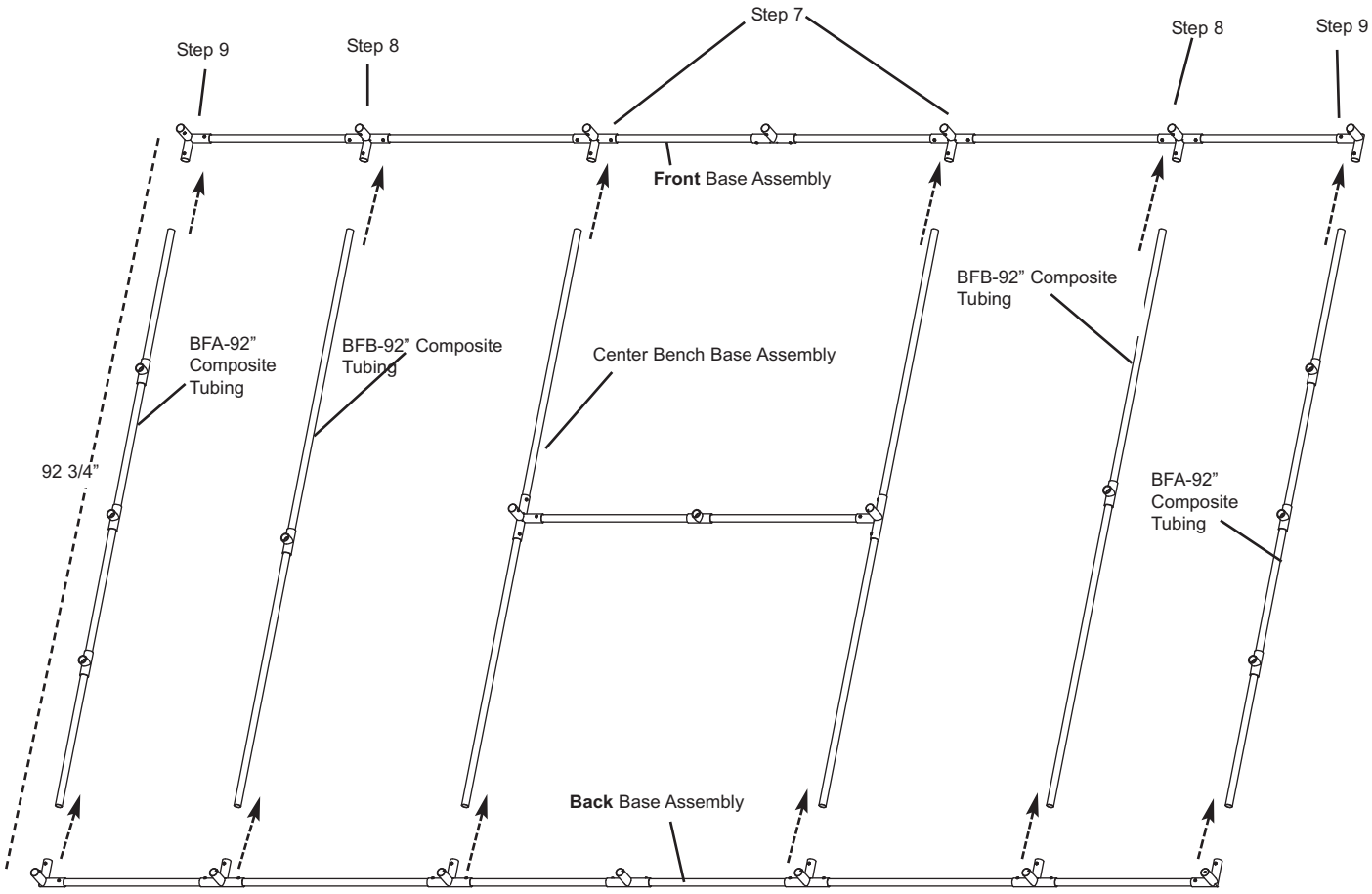
7. Insert the 92” tubes of the **Center Bench Base Assembly** into the 4-Way Metal T’s on either side of the Metal T on the Front Base Assembly.

8. Attach the **BFB**- 92” Composite Tube (from Step I, 3) into the open 4-Way Metal T’s on the Front Base Assembly.

9. Insert the **BFA**-92” Composite Tubes (from Step I, 3) into the Corner Posts.

10. Slide Back Base Frame fittings over the open ends of the 92” Tubes to complete the Base Frame. Measurements from Front to Back is 92 3/4” on all 92” tubes.

11. Tighten all the eyebolts



III. CENTER BENCH FRAMES

A. Vertical Bench Supports

Assemble on a clean and level working surface.

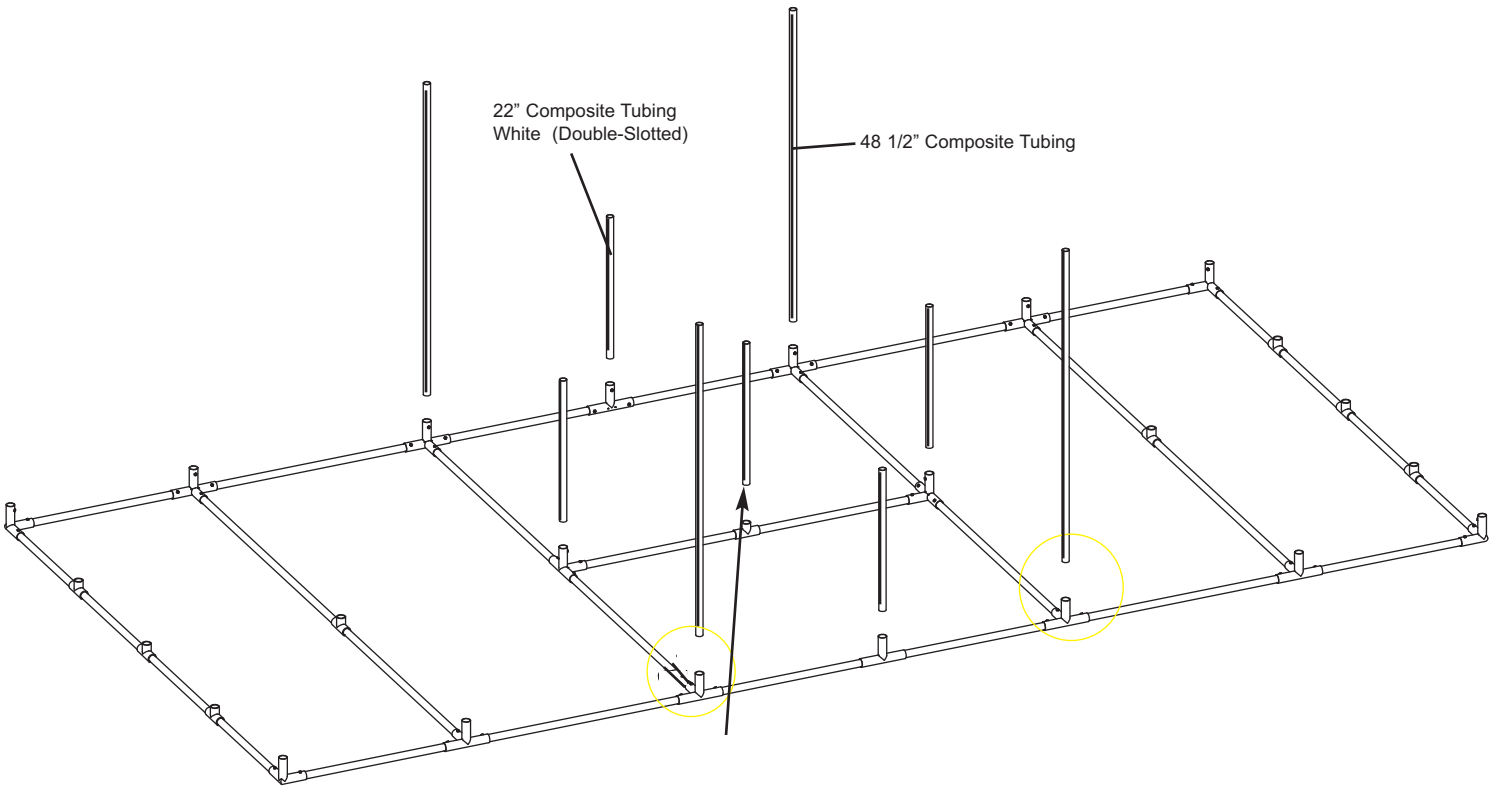
Pieces required:

4 48 1/2" Composite Tubing - Red
5 22" Composite Tubing - White (**Double-Slotted**)
1 1" Screw

NOTE: To enable the Composite tube to fit easier into the Snap T, apply glue around the Slotted End of the tube and also to the inside of the closed arm of the Snap- T fitting. This makes it easier for the Tube to slide into the Snap- T.

1. Insert all the **48 ½" Composite Tubing** into the **4-way Metal T's** on the corners of the **Center Bench Base Assembly**. Tighten bolts.

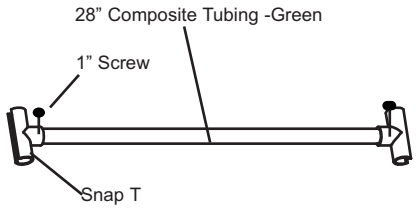
2. Slide four of the **22" Composite Tubes - White (Double-Slotted)** in the remaining metal fittings on the center bench base assembly. Tighten the eyebolts. Attach the 5th 22" Composite Tube - White (Double-Slotted) to the Snap T on the 57 ½" Composite Tube. **NOTE: Apply glue around the outer end of the tube and inside the Snap T fitting hole for lubrication so the tubing will be easier to slide into the Snap T's.** The glue does not adhere to the Composite Tubing, so you will have to secure the tubing by drilling a **1" Screw** through the top of the Snap-T and into the 22" Composite Tube.



B. 28” Supports

Pieces required:

8 28” Composite Tubing - GREEN (Double Slotted)
16 PVC Snap T’s
16 1” Screws



28” SUPPORTS

1. On a flat surface, attach a Snap T to each end of eight 28” Tubes, making sure the Snap T’s are parallel to each other. Remember, the glue only makes it easier to attach the tube to the Snap T, so you will have to secure the tubing by drilling a **1” Screw** through the top of the Snap T and into the 28” Composite Tube.

C. Bench Rods

Pieces required:

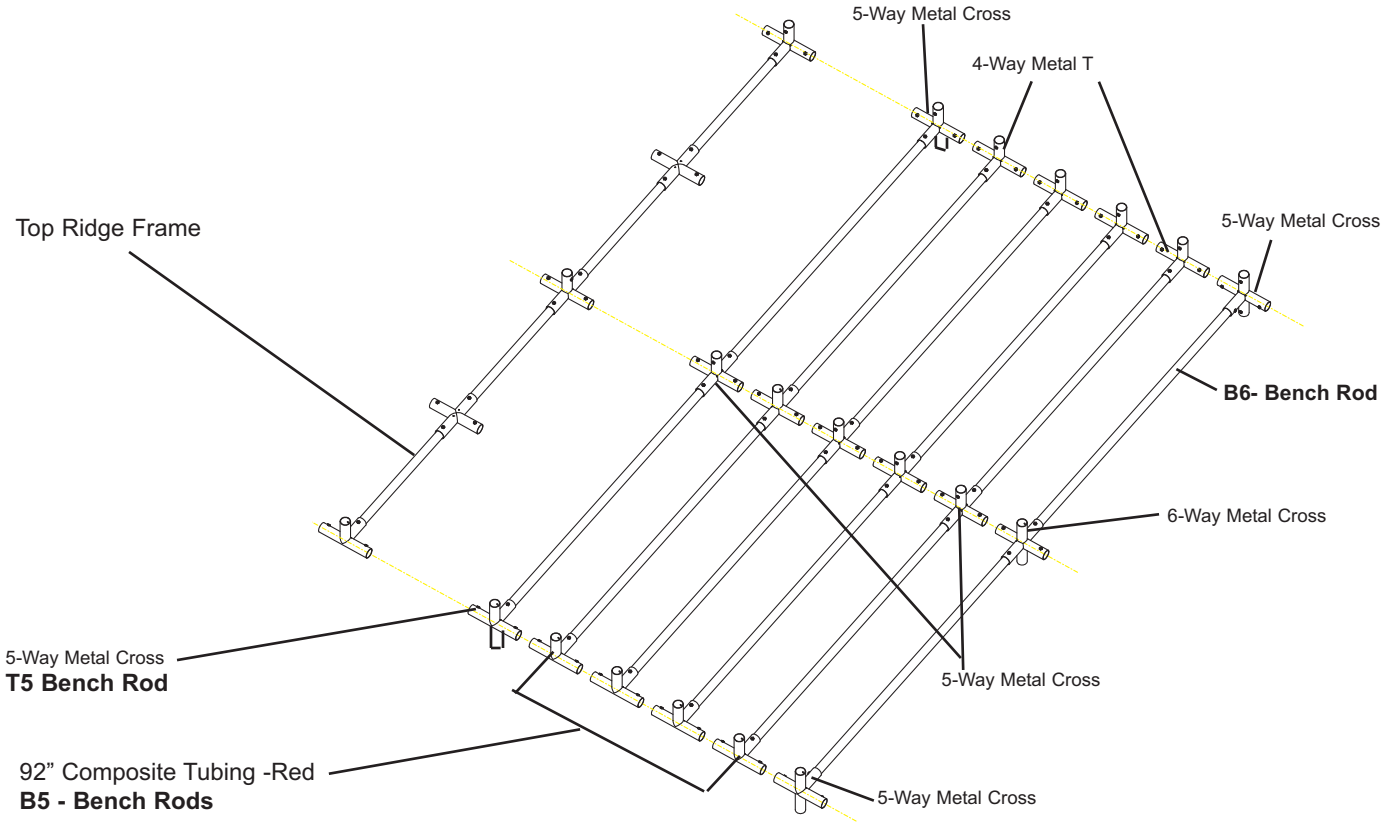
6 92” Composite Tubing- RED
8 4-Way Metal T’s
9 5-Way Metal Crosses
1 6-Way Metal Crosses

Use the Top Ridge Frame (Step I, 1) as a measuring device:

1. Make the T5 Bench Rod as Follows: On one 92” Composite Tube, slide a 5-Way Metal Cross to the center (46”). Attach a 5-Way Metal Cross to both ends.

2. Make the B6-Bench Rod as follows: On one 92” Composite Tubes, slide a 6-way Metal Cross to the center (46”). Attach 5-way Metal Crosses on both ends.

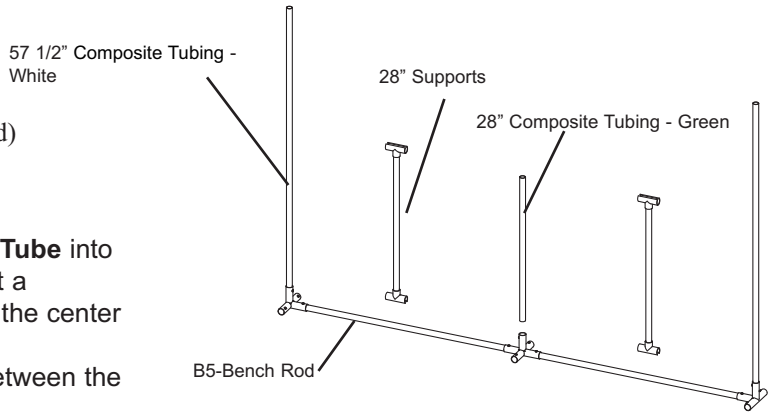
3. Make four B5- Bench Rods as follows: On four 92” Composite Tubes, slide a 5-way Metal Cross to the center (46”). Attach 4-way Metal T’s on both ends.



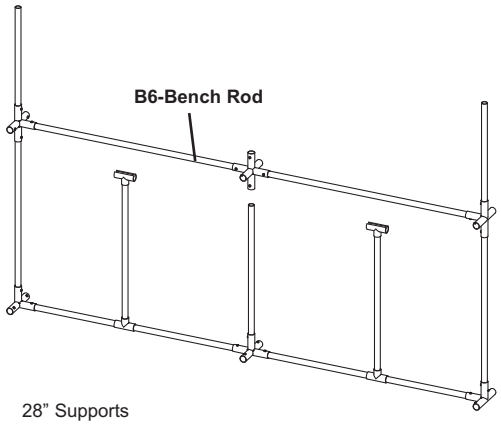
D. Bottom Bench Frames

Pieces required:

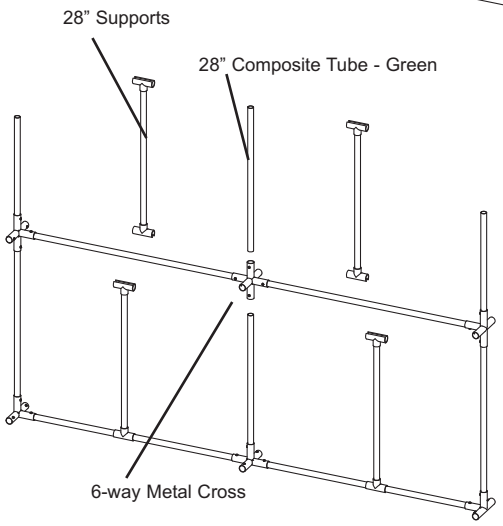
2 B5-Bench Rods (Step III, C, 1)
1 B6-Bench Rod (Step III, C, 2)
2 57 1/2" Composite Tubing -White
2 28" Composite Tubing - GREEN (Double-Slotted)
4 28" Supports (Step III, B)



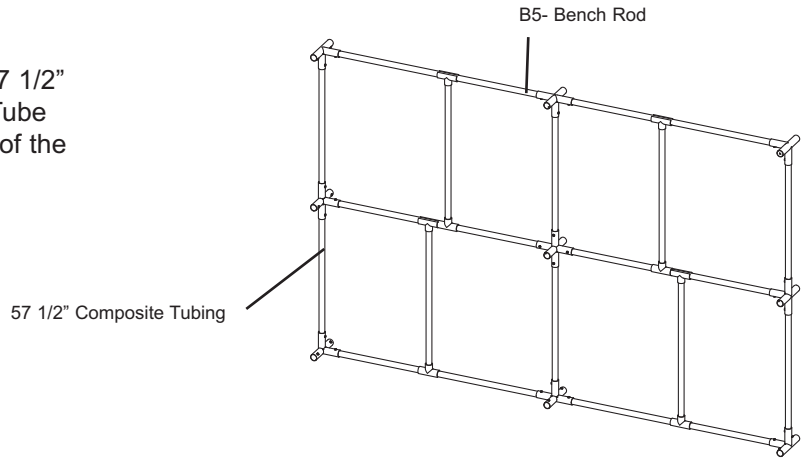
1. Using a B5-Bench Rod, insert a **57 1/2" Composite Tube** into 4-Way Metal T on each end. Tighten eyebolts. Insert a **28" Composite Tube** into the 5-Way Metal Cross in the center of the Bench Rod - tighten eyebolts. Next snap two **28" Supports** onto the bench rod, centering them between the steel fittings.



2. Slide the B-6 Bench Rod onto the 57 1/2" Pipes until the 6-way Metal Cross rests on the center 28" Composite Tube. Pop the snap T's of the 28" Supports onto the B6-Bench Rod. Tighten eyebolts.

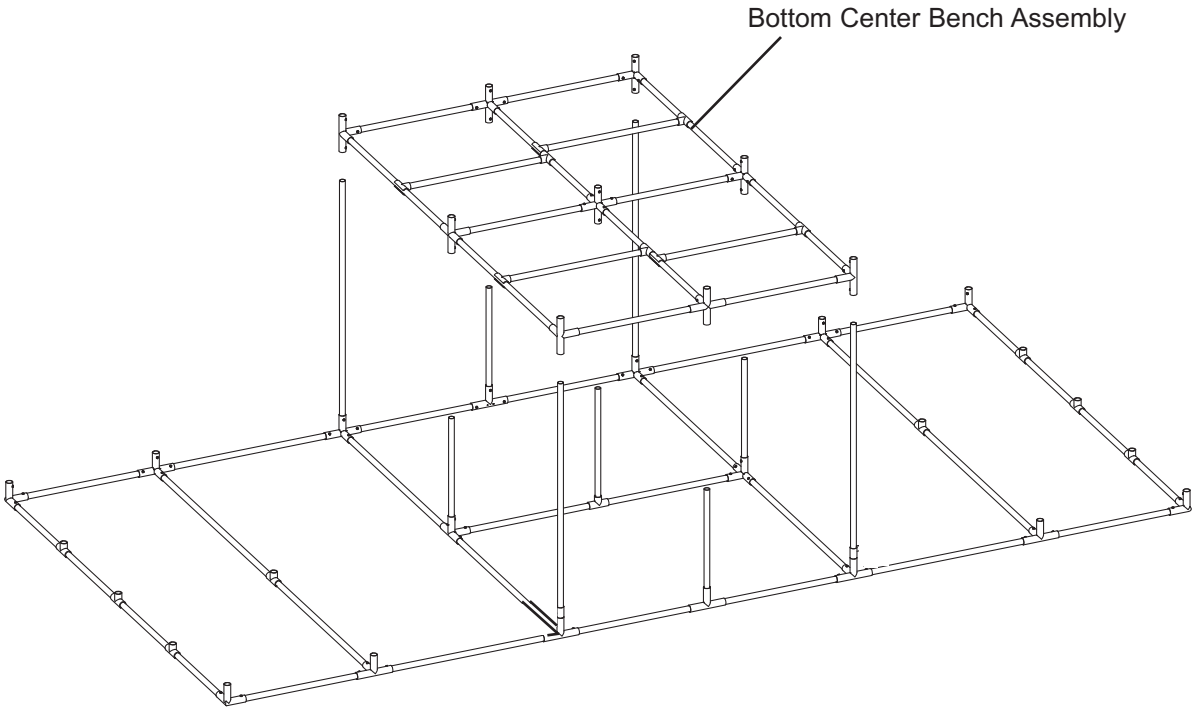


3. Insert a **28" Composite Tube** into the 6 Way Metal Cross - tighten eyebolt. Snap the remaining 28" Supports next to the Snap T's on the B6-Bench Rod.



4. Position the second B5-Bench Rod onto the 57 1/2" Composite Tubes and on the 28" Composite Tube in the 6-way Cross and snap on the Snap T's of the 28" Supports. Tighten the eyebolts.

5. You have now completed the Bottom Center Bench Assembly. Turn this assembly so it is horizontal and slide it down over the 48 1/2" Vertical Bench supports until the Metal Fittings rest on the 22" Composite Tubes. Adjust fittings so the measurement from the top of the Base Frame pipe to the middle of the Bottom Center Bench assembly is 22 5/8". Tighten the eyebolts.



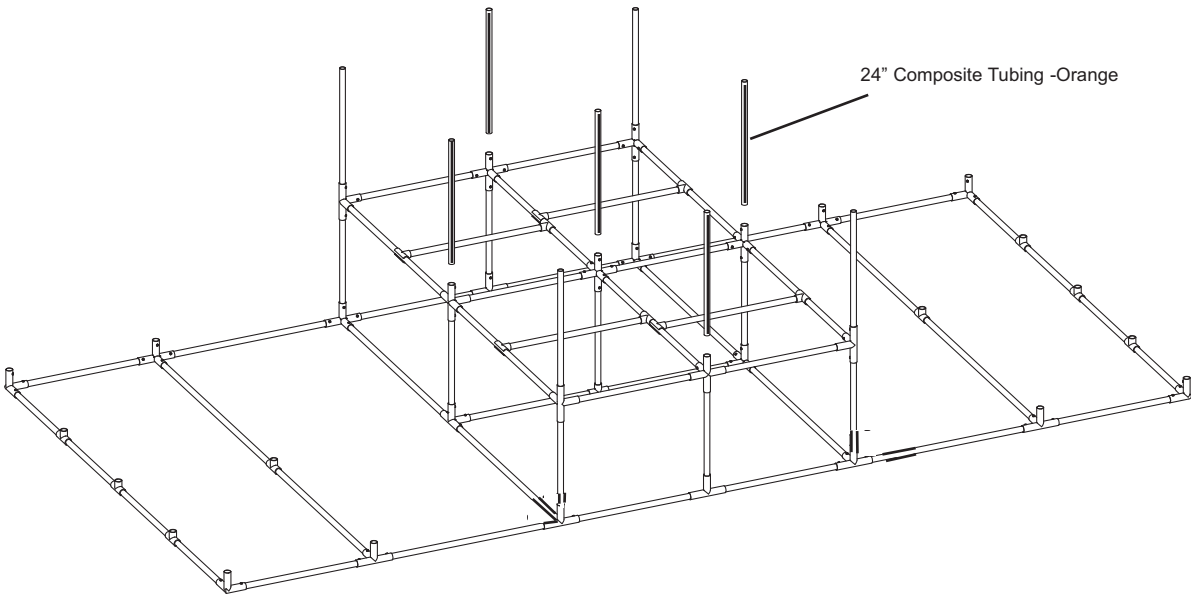
E. Top Bench Supports

Pieces required:

5 24" Composite Tubing - ORANGE

Vertical Bench Supports

1. Slide 24" Composite Tubes into the open fittings of the bottom center bench. Tighten eyebolts.



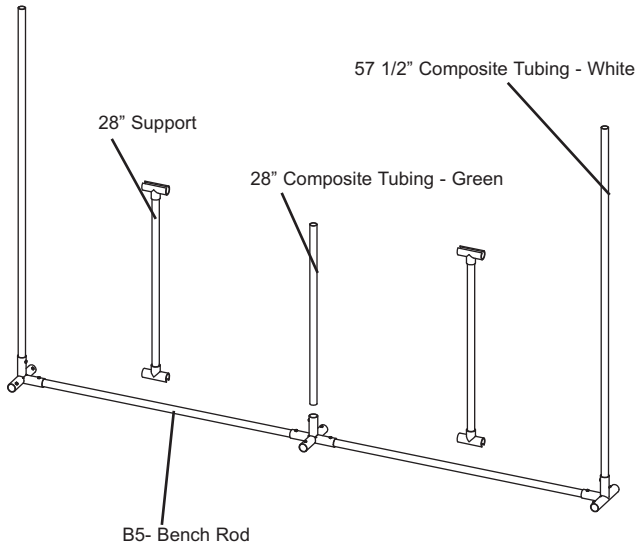
Make sure working surface is clean and level.

F. Top Bench Frames

Pieces required:

2 B5-Bench Rods (Step C-1)
1 T5 Bench Rod (Step C-3)
2 57 1/2" Composite Tubing - WHITE
2 28" Composite Tubing- GREEN (Double Slotted)
4 28" Supports (from Step III, B)

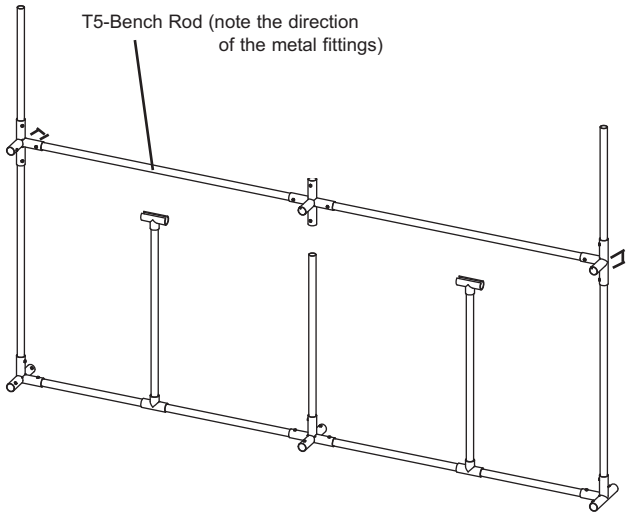
The same basic process is used in the Top Bench Frame as the Bottom Bench Frame, except that all the Bench Rods are the same.



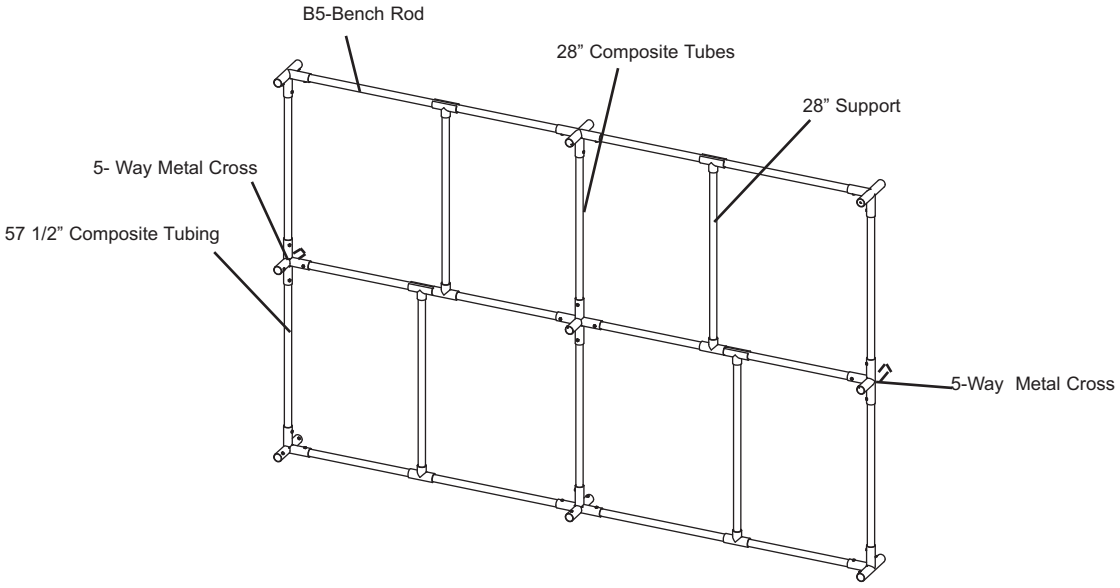
You will complete **steps 2-6 on a level floor and then lift the assembly up on the vertical pipes in step1.**

1. Using a B5- Bench Rod, insert a **57 1/2" Composite Tube** into 4-Way Metal T on each end. Insert a **28" Composite Tubing** into the 5-Way Metal Cross in the center of the pipe. Next snap two **28" Supports**, centered between the metal fittings. Tighten eye bolts.

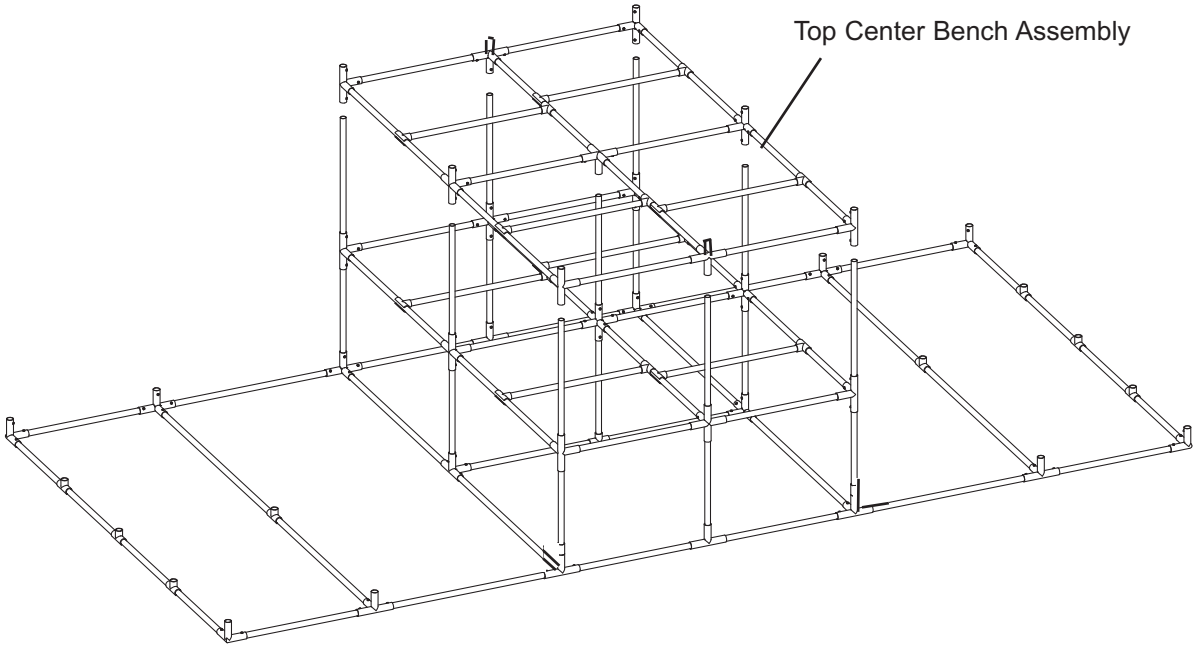
2. Slide the T5 Bench Rod over the 57 1/2" tubes until the middle 5-way Metal Cross rests on the center 28" Composite Tubes. Note the direction of the metal fittings. Pop the Snap T's onto the Bench rod. Tighten the eyebolts.



3. Insert a **28" Composite Tube** into the 5-Way Cross and snap the remaining 28" Supports next to the Snap T's on the Bench Rod. Set the last B5- Bench Rod onto the 57 1/2" Composite Tubes and 28" tubes. Snap on the Snap T's of the 28" tubes. Tighten the eyebolts



4. You have now completed the Top Center Bench Assembly. Turn the assembly so it is horizontal and set it on the Top Bench Supports. Adjust fittings so the measurement from the top of the Base Frame pipe to the middle of the Top Center Bench assembly is 48 1/4". Tighten the eyebolts.



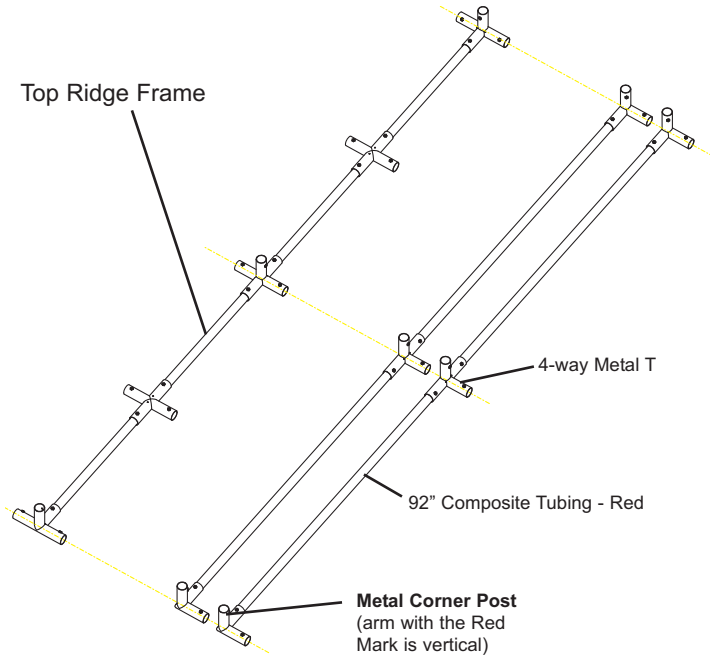
IV. UPPER HANGING RODS AND END SUPPORTS

** This section will be assembled upside down and will be turned over in Step V.

A. Hanging Rods **Make 2**

Pieces required:

4 Metal Corner Posts
2 4-way Metal T's
2 92" Composite Tubing - RED



Hanging Rods

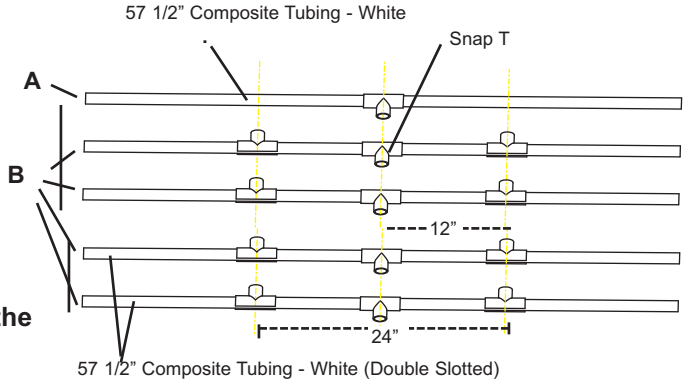
1. Draw a line 2 3/4" from each end of a 92" Composite Tube. Slide a **Metal Corner Post** on one end so the post is even with the drawn line (arm with the Red Mark is pointing up).

2. Slide on a **4-Way Metal T**, and attach to the center of the tube, 46" from the inside to the Corner Post to the Center of Metal T. Attach another Corner Post to the other end, so the total length is 92 3/4". Check that the measurements match the Top Ridge Frame. Tighten the eyebolts.

B. Connecting Supports

Pieces required:

3 57 1/2" Composite Tubing - WHITE
2 57 1/2" Composite Tubing - WHITE (Double Slotted)
13 Snap T's
2 Hanging Rods (from previous Step IV-A)



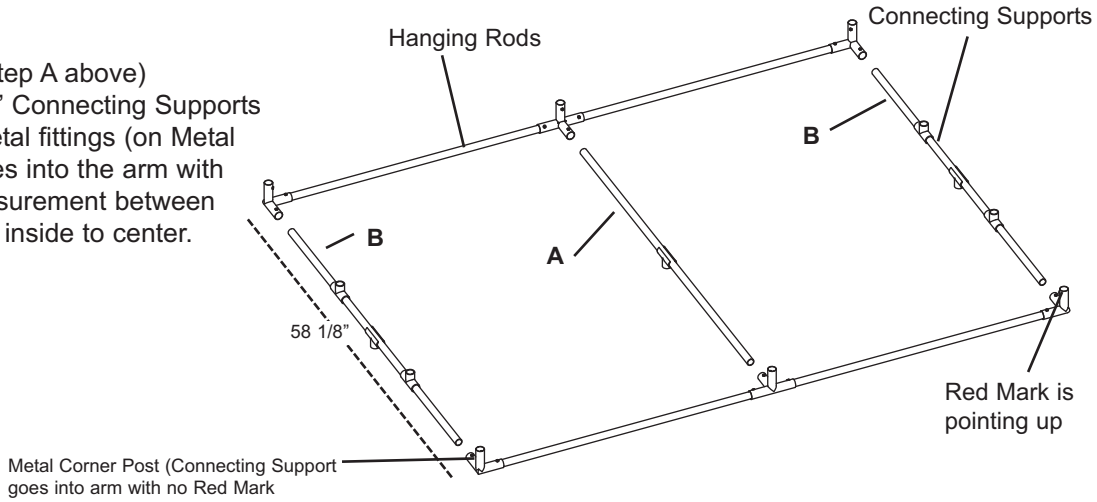
Connecting Supports

Snap T's will be facing up, you will rotate them as shown in the drawing in later steps.

1. Make the "A" Connecting Support by attaching a **Snap T** to the center (28 3/4") of one **57 1/2" Composite Tubes**. (no Slots)

2. Make 4 "B" Connecting Supports by attaching 1 Snap-T to the center of each remaining 57 1/2" Tubes, and additional Snap-Ts about 12" on each side of the center Snap-Ts. The slotted connecting supports will be used in Step D.

2. Join the Hanging Rods (from Step A above) together by inserting the 57 1/2" Connecting Supports from the step above into the metal fittings (on Metal Corner Posts insert 57 1/2" tubes into the arm with no Red Mark). Make sure measurement between the corner posts is 58 1/8" from inside to center.



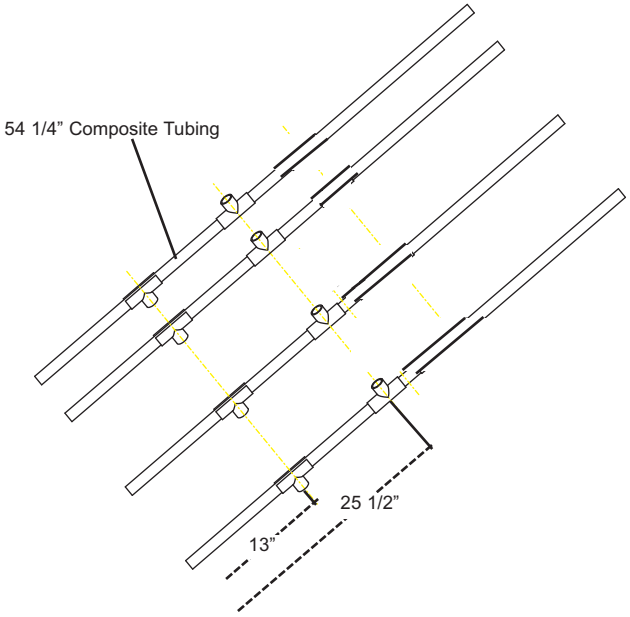
C. Attaching Vertical Pipes

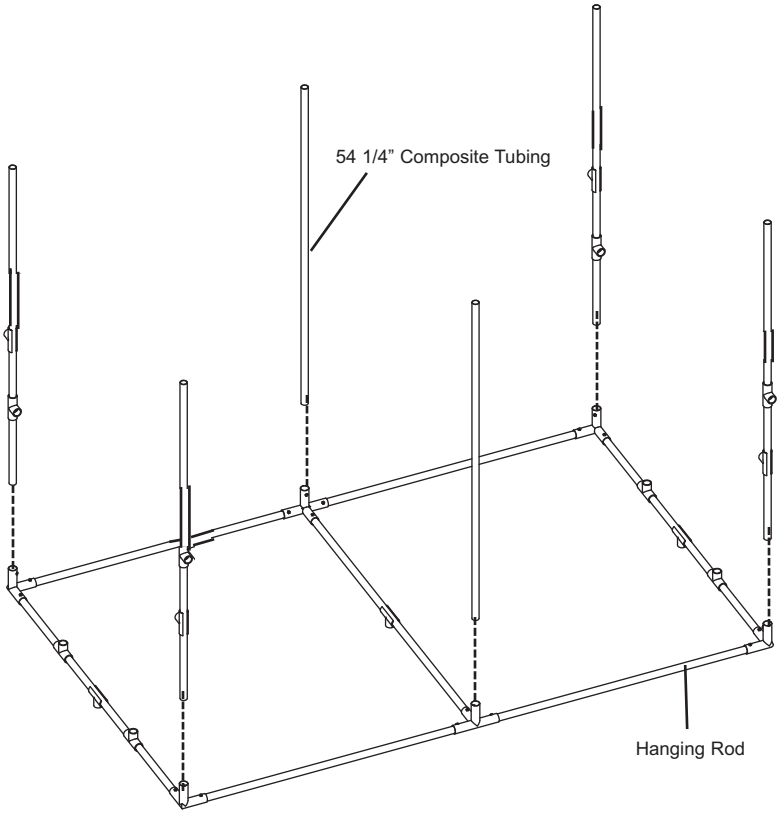
Pieces Required

6 54 1/4" Composite Tubing - YELLOW
8 Snap T's

1. Attach two Snap T's to four 54 1/4" Composite Tubes in the following order: Snap T at 13", Snap T at 25 1/2".

2. Insert these four tubes into the four Corner Posts of the Hanging Rods (bottom is end with the Snap T at 13"). Insert the remaining 54 1/4" Composite Tubes into the 4-Way Metal fittings of the Hanging Rods. Tighten the eyebolts.





Note: Your assembly will still be upside down as in above step.

D. Attaching End Supports

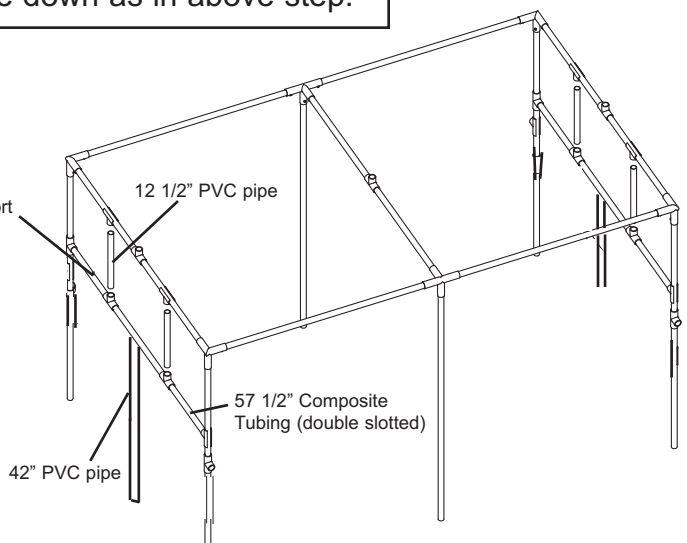
Pieces Required

2 57 1/2" Composite Tubing (Double Slotted, from Step IV, B)
4 12 1/2" PVC pipes
2 42" PVC Pipe - Red
4 1" Screws

1. Insert the 57 1/2" Composite Tube (double slotted) into the upper Snap T's on the vertical pipes. Remember to use the glue to make the tubes slilde into the Snap T's more easily. Attach the 1" Screws through the Snap T and into the 57 ½" Composite tube. **Make sure tubes are seated all the way into the Snap T's.**

2. Glue two 12 1/2" pipes into the Snap T's between the two 57 1/2" tubes. If you are using a fan larger than 12", you will have longer pipes in your fan box and will not use the 12 1/2" pipes.

3. If you are using a larger than 12" fan, you will need to shorten the 42" PVC pipe according to the size of fan. (ex. a 16" fan would require you to cut off 4" and a 20" fan would require 8" to be cut off). Insert this pipe into the Snap T on the 57" connecting Support.



Louvers

Your greenhouse includes 2 louvers, 1 at the peak on each end. The following instructions are for a louver at each end. However, if you are installing a fan on one end, please refer to your fan installation instructions. If you have a 16" fan or larger, you will will use longer pipes in place of the 12 1/2" pipes included in the Fan Kit

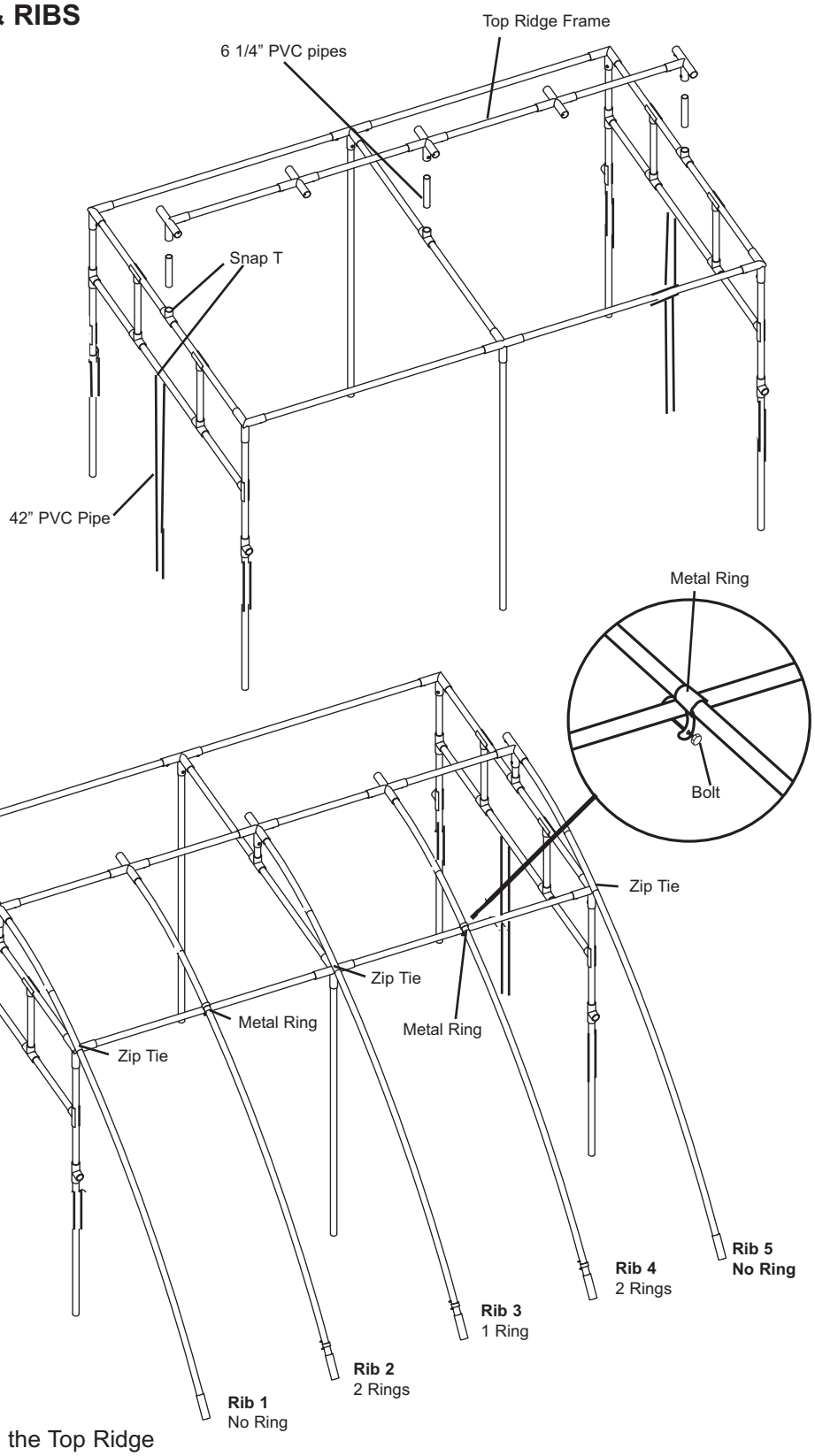
V. ATTACHING TOP RIDGE ASSEMBLY & RIBS

Pieces required:

3 6 1/4" PVC Pipes- White
1 Top Ridge Frame (from Step I)
10 Top Rib Pipes (From Preassembly
4 Nuts & Bolts
6 Black Zip Ties

1. Turn the Hanging Rod Assembly over. Place a Louver (boxed separately) in the opening formed by the 12 1/2" pipes and 57 1/2" tubing. Adjust 12 1/2" pipes to fit around Louver Repeat on the opposite end. If you are installing a fan, fit the fan in the same way. Remove Louver/fan once adjustment is made.

2. Cut the 42" PVC pipe (if necessary) so that all the pipes are touching the ground (same length).



Top Ridge Placement

3. Glue 6 1/4" pipes into the center Snap T's on the Connecting Supports.

4. Attach the Top Ridge Frame to the 6 1/4" pipes. Tighten Eye bolts.

Insertion of Ribs

5. Insert the Top Rib Pipes into the Metal Fittings on the Top Ridge Frame.

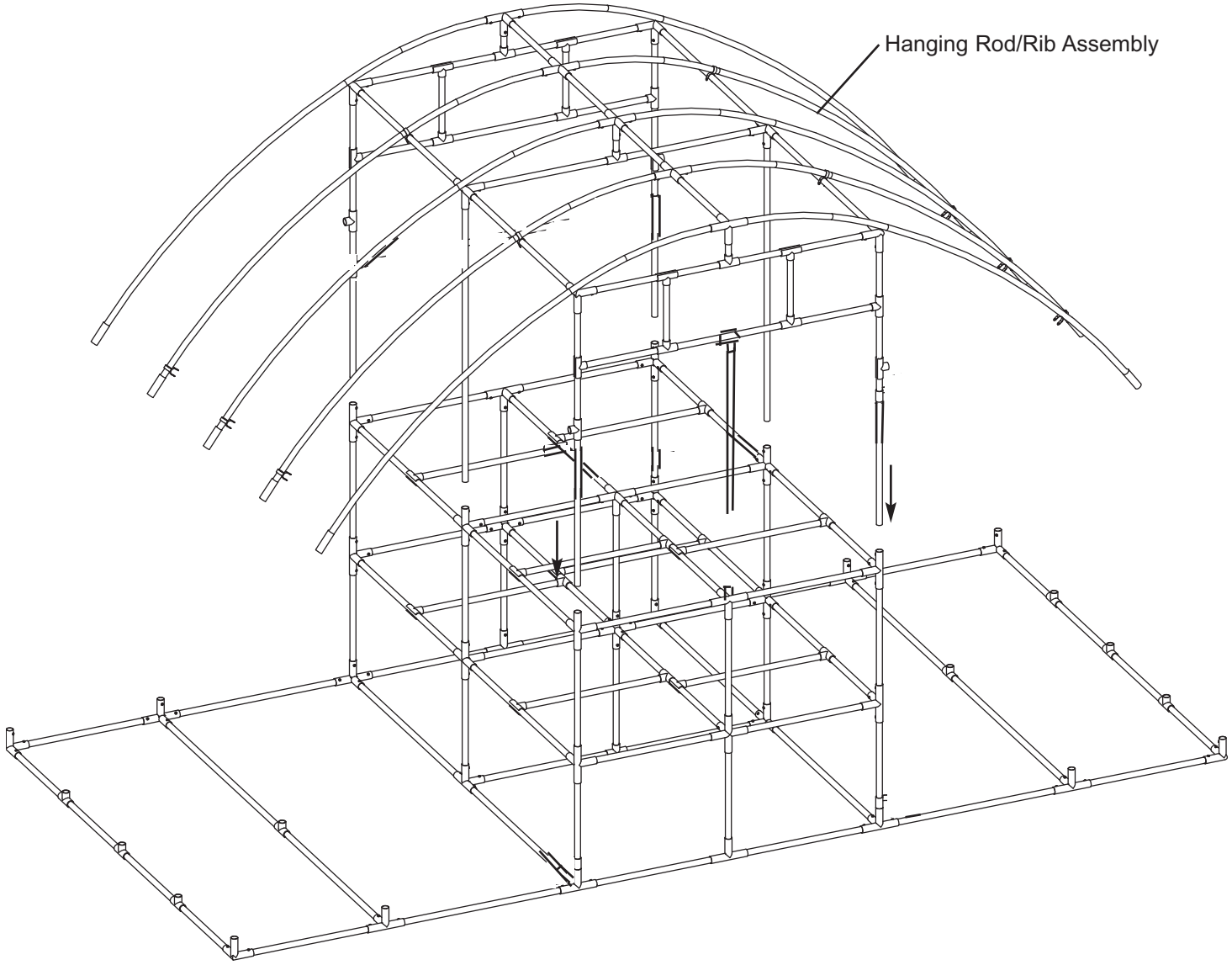
6. Slide a Metal Ring on ribs 2 & 4 up to the Hanging Rods and adjust the "U" of the Metal Ring onto the Hanging Rod. Secure with a nut & bolt.

7. Attach Ribs 1, 3, and 5 to the hanging rods using a Zip Tie. Wrap the Zip Tie around the rib and the Metal fitting so the Rib won't slip sideways. (Make sure the head of the Zip Tie is facing inside the greenhouse.

8. Repeat steps 5-7 on the other side of the Greenhouse.

Placement of Hanging Rod/Rib Assembly

8. Pick up the Hanging Rod/ Rib Assembly and place on top of the Top Bench Frame by inserting the 54 1/4” tubes into the Metal Fittings on The Top Bench Frame. It helps to have 3 or 4 people helping with this step. Tighten eyebolts .

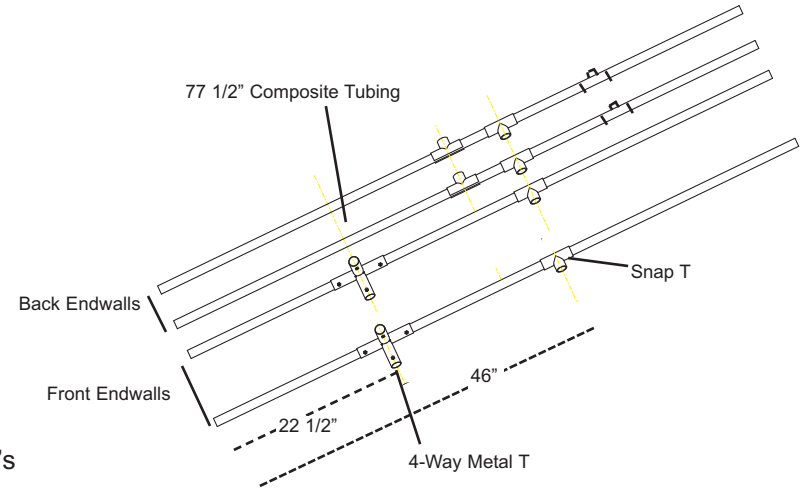


VI. ENDWALLS, LOWER HANGING RODS, & SIDE BENCH FRAMES

Pieces required:

2 92” Composite Tubing - RED
2 SB-92” Composite Tubing (from Step I)
4 77 1/2” Composite Tubing -BLACK
4 35 3/4” Composite Tubing -WHITE (single slotted)
4 35 3/4” PVC pipe -WHITE
2 22” Composite Tubing -WHITE (double slotted)
4 4-way Metal T’s
4 Metal Corner Posts
10 PVC Snap T’s
12 1” Screws

▶▶Be sure to get the 35 3/4” composite tubing and the 35 3/5” PVC pipe in the right spots. Composite tubing has a gray fibers.

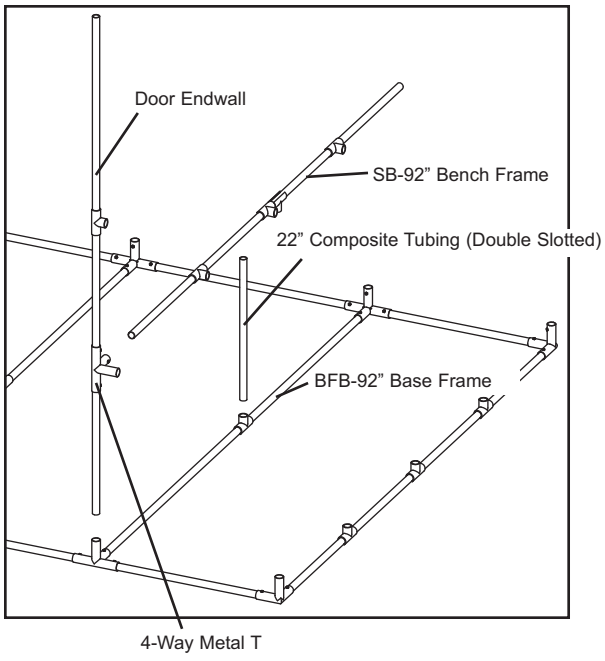


Vertical Endwall Pipes

1. Slide a **4-way Metal T** onto a **77 1/2” Composite Tube** - 22 1/2” from the end. Attach a **Snap T** at 46” from the same end. Make two. These are the Door Endwalls.

2. On the remaining two 77 1/2” tubes attach a Snap T’s at 46” from the end and another Snap T just below the first. Attach a third Snap T about a foot above the first Snap T. These are the Back Endwalls.

The next 10 steps will be performed on both sides of your greenhouse. You may complete one side, following the steps below, and then repeat on the other side, or you may make each side simultaneously.



Side Bench Frame.

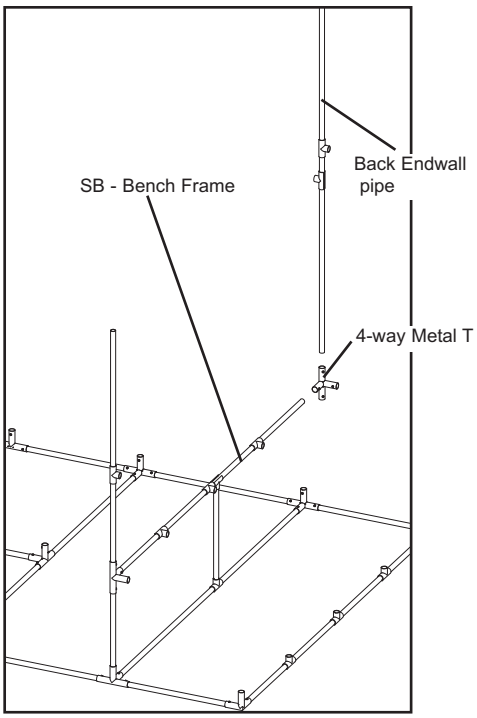
3. Insert the Door Endwall tube into the remaining 4-Way Metal T on the Door End of the Base Frame.

4. Attach a **22” Composite Tub**e into the Snap T on the BFB- 92” Base Frame and secure with 1” Screw.

5. Slide SB 92” Bench Frame into the 4-Way Metal T on the Door Endwall. Attach the open end of the 22” Composite Tube into the Snap T (next to center) on the SB 92” Bench Frame (slide the Snap T over if necessary) and secure with 1” Screw.

6. Slide a **4-way Metal T** onto the end of the SB 92” Bench Frame so that it bottoms out. One arm should point toward what will be the the curved wall of the greenhouse. Tighten eyebolts.

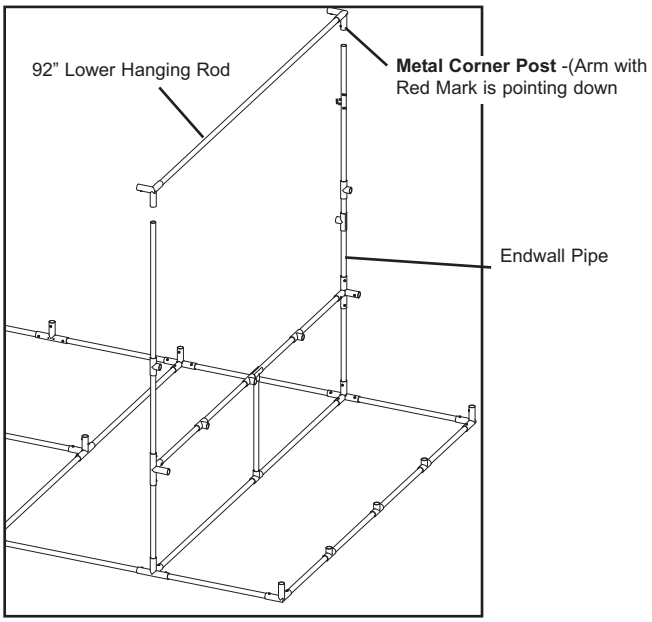
7. Slide the **77 1/2” Back Endwall** through the 4-way Metal T on the SB - Bench Frame and down into the 4-Way Metal T on the Base Frame. Tighten eyebolts. Adjust the height of the SB 92” Bench Frame to 22 3/4” from the top of the base frame to the center of the 4-Way Metal T and tighten the eyebolts.



<u>Lower Hanging Rod</u>

8. On a 92” Composite Tube, attach a **Metal Corner Post** (arm with the Red Mark is pointing down). Adjust Corner Posts so the measurement from inside to center is 92 3/4”. Tighten the eyebolts.

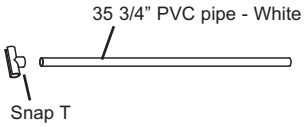
9. Slide the Metal fittings of this pipe onto the 77 1/2” Endwalls, making sure that the arm with the Red Mark is vertical (pointing down) and the remaining post points into the **center** of the greenhouse. Tighten the eyebolts.



Endwall Frames

10. On the Door End, insert a **35 3/4" Composite Tube - single slotted** (make sure it is composite!) into the Metal Fitting on the Lower Hanging Rod. Insert the slotted end of the 35 3/4" tube into the Snap T on the opposite pipe and secure tube into Snap T by attaching a 1" Screw through the Snap T and into the tube. (Adjust Snap T if necessary). Adjust the tube in the fitting so the measurement from inside to center is 36 7/8". Tighten the eyebolt. Make sure the 35 3/4" Composite Tube is **level** and attach a 1" screw through the Snap T to keep to Snap T from sliding on the vertical tube. Repeat on the Back End of the greenhouse.

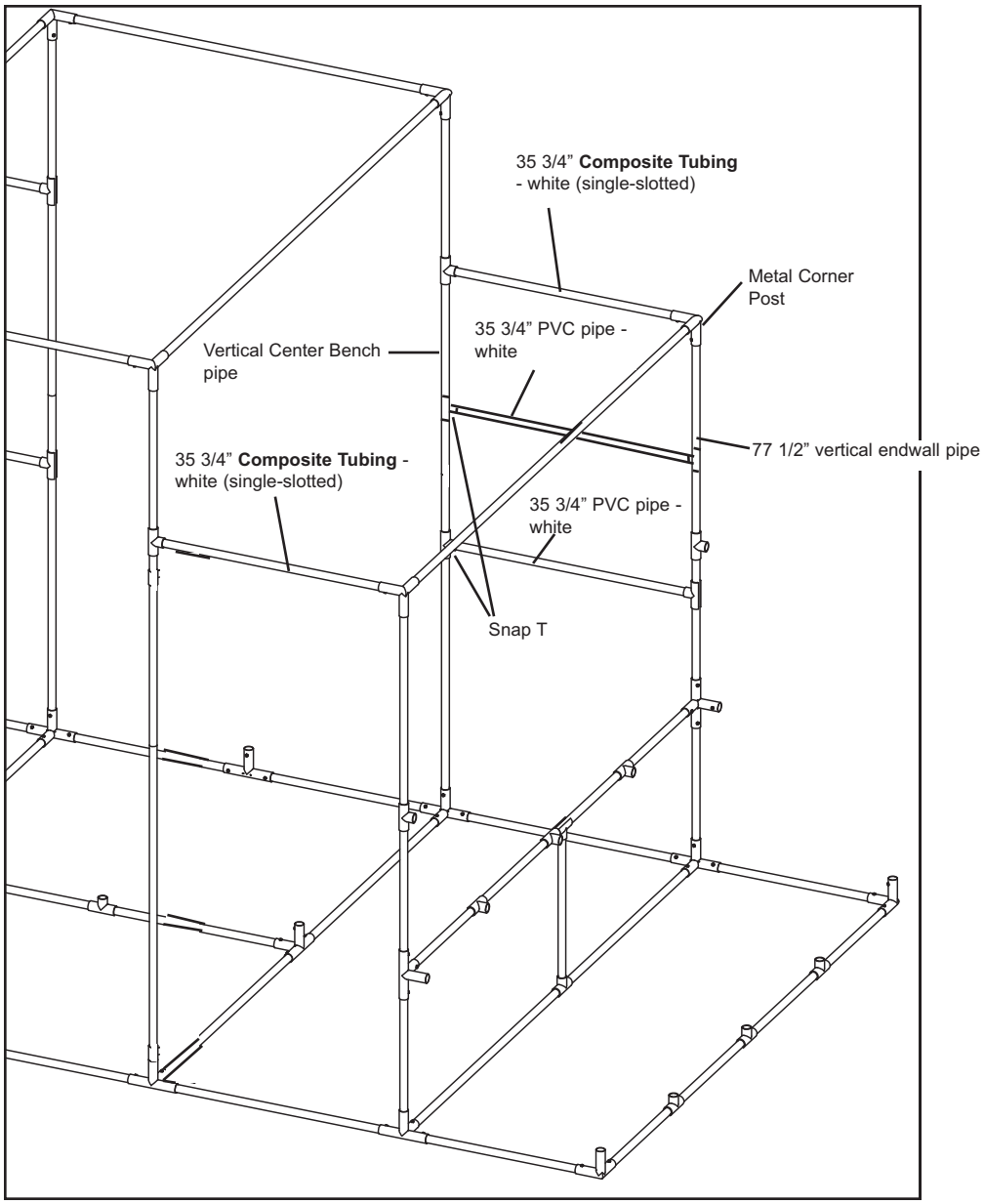
11. Glue a Snap T to one end of four 35 3/4" PVC Pipes.



Make 4

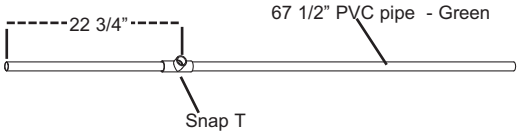
12. On the Back End of the Greenhouse, Snap this Snap T with the 35 3/4" Pipe to the vertical Center Bench Pipe across from the bottom Snap T on the 77 1/2" vertical endwall pipe. Glue the opposite end of the 35 3/4" pipe into the Snap T on the 77 1/2 Endwall. Repeat for the bottom Snap T on the 77 1/2" vertical endwall.

▶▶Be sure to get the 35 3/4" Composite tubing and the PVC pipe in the right spots.



VII. LOWER RIB ATTACHMENTS:

Again, you can complete the steps for one side at a time or you can do both sides simultaneously



Pieces Required:

10 67 1/2" PVC Pipes- Green
10 Snap T's
4 18" PVC pipe (1/2" diameter)

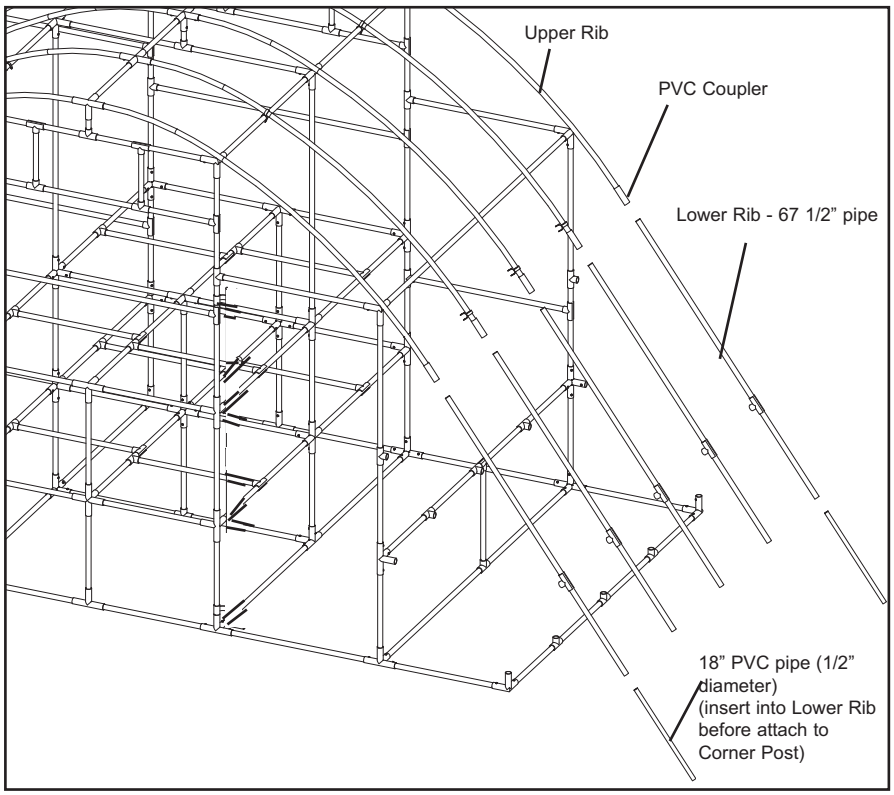
1. **Lower Ribs:** Attach a Snap T to each 67 1/2" PVC Pipe- Green about 22 3/4" from 1 end.

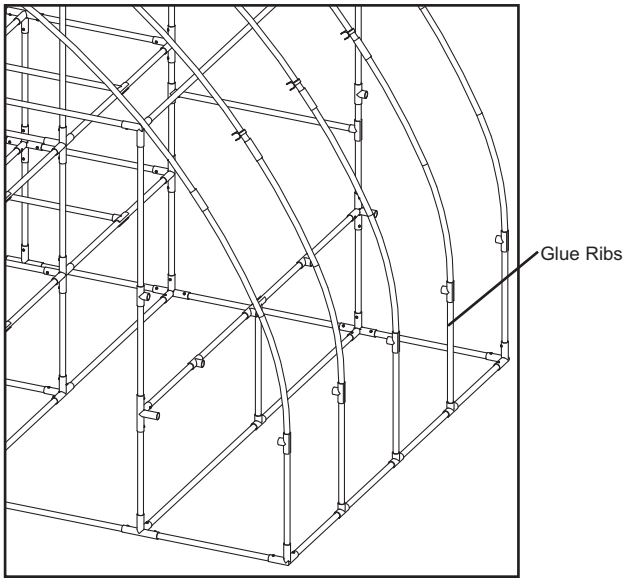
2. Glue a 671/2" Lower Rib pipe into each Coupler on the ends of the Upper Ribs. Push Lower Rib in until it hits the Upper Rib pipe. Hold in place about 20 Seconds to make sure the glue sets and the pipe is seated in completely. **Let these pipes set for 15 minutes or so to completely cure.**

3. Insert an 18" PVC pipe (1/2" diameter) into the ends of Ribs #1 & 5, and then insert these Ribs into the Metal Corner Posts. Tighten the eyebolts.

4. Glue Ribs # 2,3, & 4 to the Snap T's on the Base Frame. Seat in and hold for 20 Seconds.

NOTE: Push Lower Ribs all the way into the Coupler. Let glue in Lower Ribs set for at least 15 minutes before attaching them to the base frame.

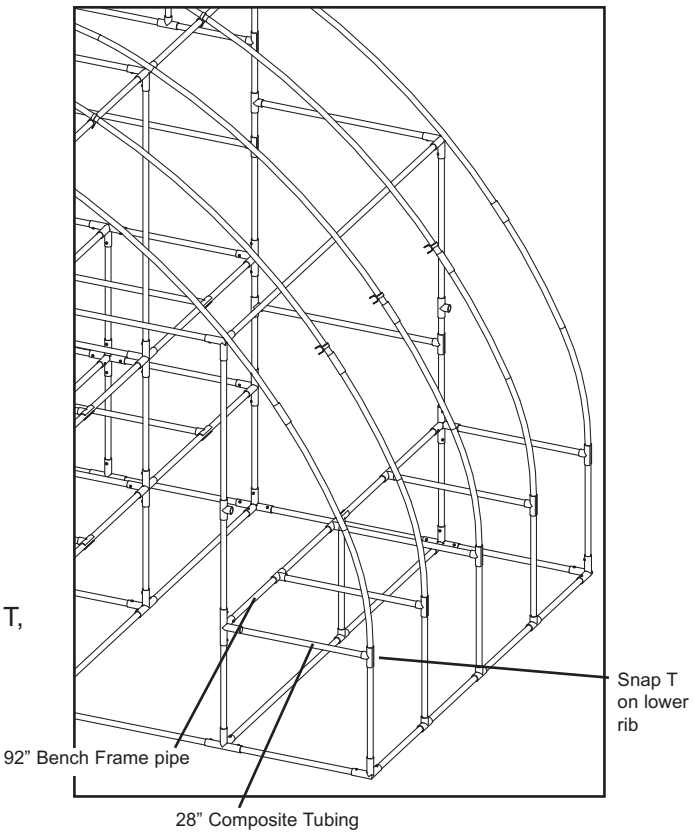




VIII. SIDE BENCHES AND SIDE SUPPORTS

Pieces required:

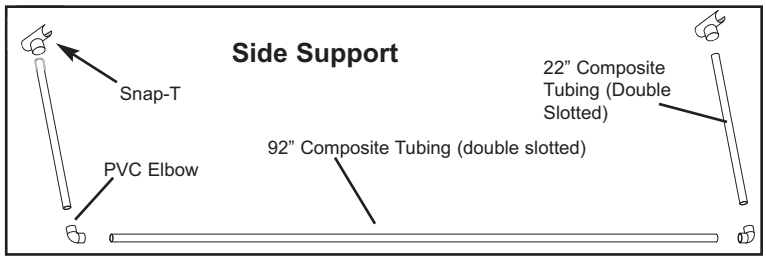
10 28” Composite Tubing - Green (Double Slotted)
4 22” Composite Tubing- WHITE (Double Slotted)
2 92” Composite Tubing- Red (Double Slotted)
4 90° PVC Elbows
50 1” Screws
6 “U” Brackets
8 Black Zip Ties
6 Nuts and Bolts



1. On Ribs # 2,3, &4, attach 28” Composite Tubes between the Snap T ‘s on the 67 1/2” Lower Ribs and the Snap T’s on the SB 92” Bench Frame tube, secure with 1” Screws. On Ribs #1 & 5, insert the 28” Composite Tubes into the metal fittings and attach the opposite end into the Snap T, secure with 1” Screws. Tighten eyebolts on the fittings.

2. Adjust the Snap T’s on the Ribs so the bench pipes are **level**. Drive a 1” screw into the top of the Snap T on the 67 1/2” Lower Rib to lock bench in place.

Side Support:

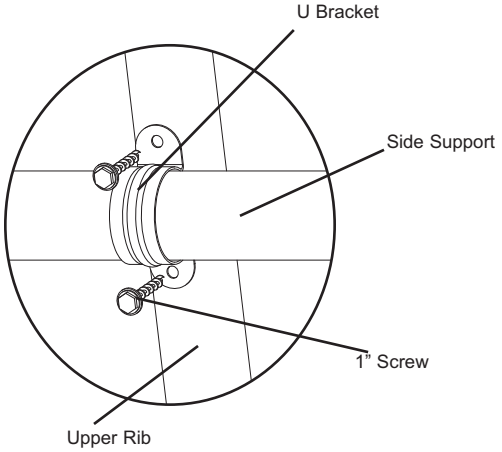


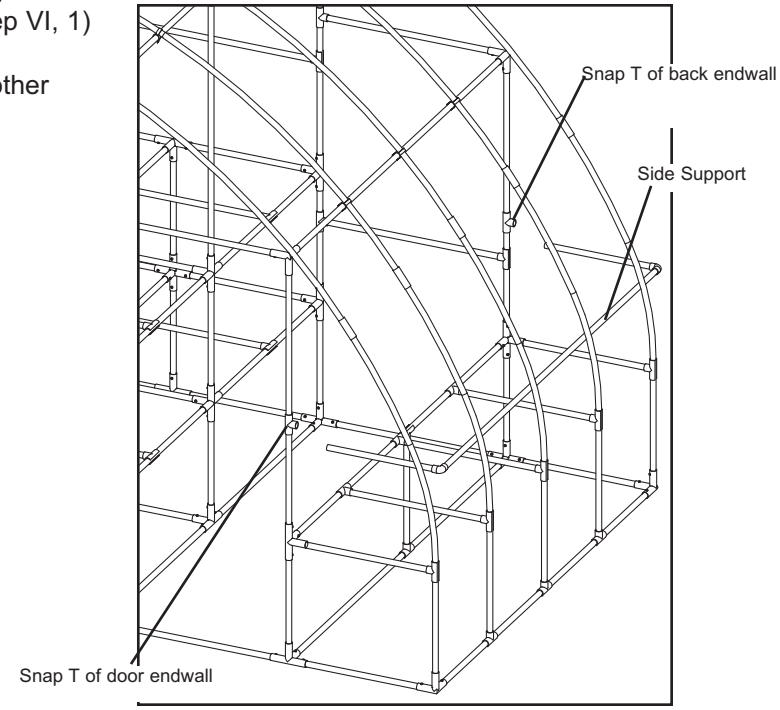
3. Attach a PVC Elbow and a PVC T on each end of a 92” Composite Tubing (Double Slotted) using a 1” Screw. Attach on a flat surface so elbows and T’s are parallel with each other (make 2).

4. Attach a 22” Composite Tube (Double Slotted) into the open end of each elbow and T and secure with 1” Screws. This is the Side Support.

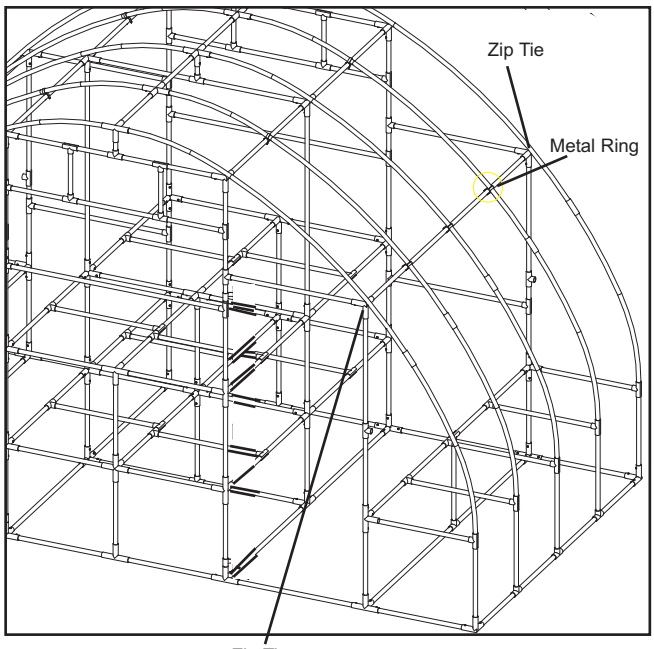
5. Attach the Side Supports into the Snap T’s at the 46” height on the 77 1/2” Door End wall and the Back Endwall (See Step VI, 1)

6. Zip Tie the Side Support to the 1st and 5th ribs. On the other 3 ribs, fasten the Side Support to each Rib with a “U” Bracket. Attach U Bracket with two 1” Screws.





7. On Ribs # 2,3, & 4, slide the Metal Rings up the Ribs to the lower Hanging Rod. Place “U” portion of the Metal Ring over the Hanging Rod and secure with nuts and bolts. Attach Ribs #1 & 5 to the Metal Fittings on the ends of the Hanging rods using Zip Ties.



Tie Down Kit Instructions for 4 or 6 Anchor kit

Disclaimer: While these ties down augers are effective in most situations, proper conditions are required to prevent failure. Improperly tightened or loose anchors, high winds, loose or sandy soil, waterlogged or flooded soil, or extremely rocky soil can contribute to anchors pulling out of the ground. You will need to determine the best means to anchor the kit for your unique situation. If you have concerns about your conditions, a concreate perimeter, concrete slab, or corner holes are good alternatives to anchoring into soil.

Parts Needed: (4 anchor)

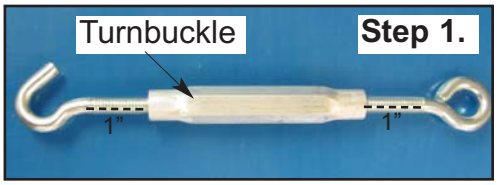
4 - 15” or 30”Steel Anchors
4 - Turnbuckles
4 - Metal Hooks
8 - 1 ½ x ¼” bolts
8 - ¼” locknuts
8 - Washers

(You need a ¼” drill bit to predrill for the bolt holes)

Parts Needed: (6 anchor)

6 - 15” or 30” Steel Anchors
6 - Turnbuckles
6 - Metal Hooks
12 - 1 ½ x ¼” bolts
12 - ¼” locknuts
12 - Washers

(You need a ¼” drill bit to predrill for the bolt holes)



1. Loosen **turnbuckles** so the bolts of the turnbuckle are out about 1” on each side.

2. Screw one 15” or 30” **steel anchor** into the ground using a screwdriver, rod, or pipe inserted throught the eyelet of the anchor. This will act as a handle for you to twist the anchor into the ground. The eyelet should be just showing above ground. This will prevent the greenhouse from shifting. Also, make sure the anchor is as close to the greenhouse as possible for the most secure pull. Place 1 anchor at each corner of the greenhouse. For units longer then 8’, place one anchor in the middle of the each sidewall or every 8’ along the sidewall plus the corners of the greenhouse.

3. Slide the hook of one turnbuckle onto the eyelet of a ground anchor. Slide a **Metal hook** through the eyelet of a turnbuckle.

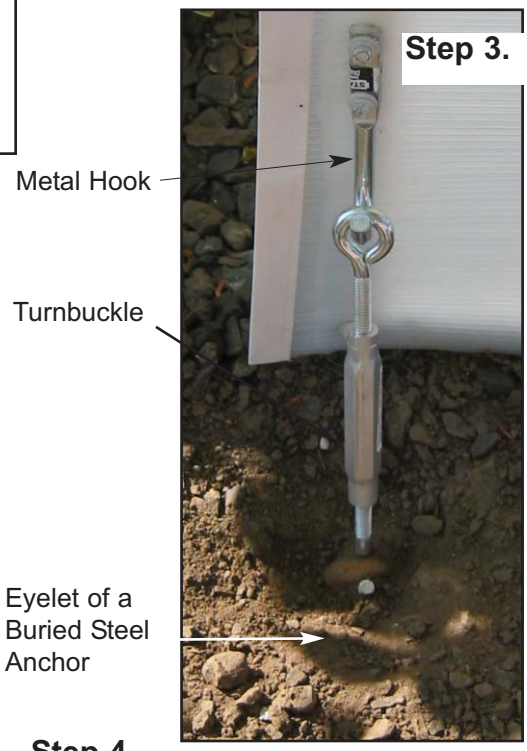
4. Hold the flat part of the hook up tight against a corner rib outside the greenhouse. Using a ¼” drill bit, drill a hole through each of the holes in the **metal Hook,** clear through the Solexx and the rib including the ½” PVC pipe inside the rib.

5. From outside the greenhouse push a **bolt** through each hole in the **metal hook** and through the rib.

6. From inside the greenhouse, slide a **washer** over each bolt and secure it with a **lock nut.** Tighten the locknuts.

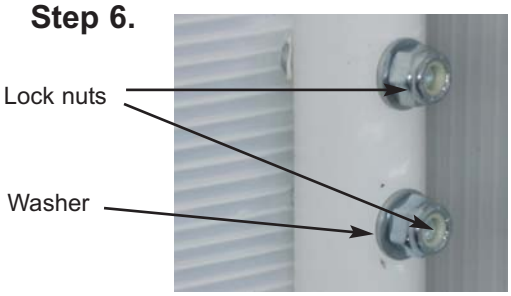
7. Repeat this process on each of the other corners.

8. Tighten the turnbuckles to remove any slack.



Step 4.

Step 6.



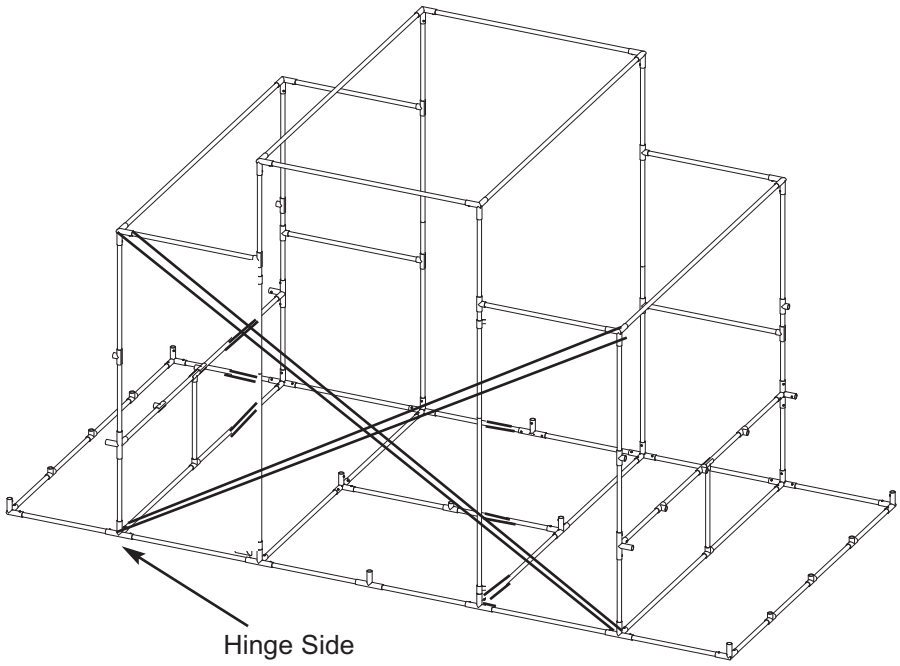
Questions? Contact Adapt8 at 1-877-476-5399

IX A. Squaring

Pieces Required:

4 Yellow Banding
4 Metal Banding Clips
4 77 1/2” Side Door Casing
2 38” Top Door Casing
6 1” Screw

The greenhouses tend to be close to square when assembled on a level surface. There are certain areas that you should measure to assure your greenhouse is square (see below). The more care you take in squaring your greenhouse, the better the greenhouse covering will fit over the frame.



1. On the front side of the greenhouse, loop a piece of Banding through the eyebolt on the Metal Corner Post on the 35 3/4” Composite Tubing above the door and around the Metal 4-way T at the bottom corner of the other door.

2. Thread banding to the metal buckle as shown.

3. Repeat starting at the top of the other door using 2nd piece of Banding.

4. Measure each yellow band. If the measurements are within 1/4”, then the front endwall is square. If not, tighten the banding that is longer until the lengths are equal.

IX B. Sizing Door Frame for Door Casing (Repeat for each door)

1. Using the Top Door Casing as a measuring device, check to make sure the door opening is 36 7/8” at both the top and bottom from inside to center of the pipes. (The Top Door Casing fits between the 90” Tubes.

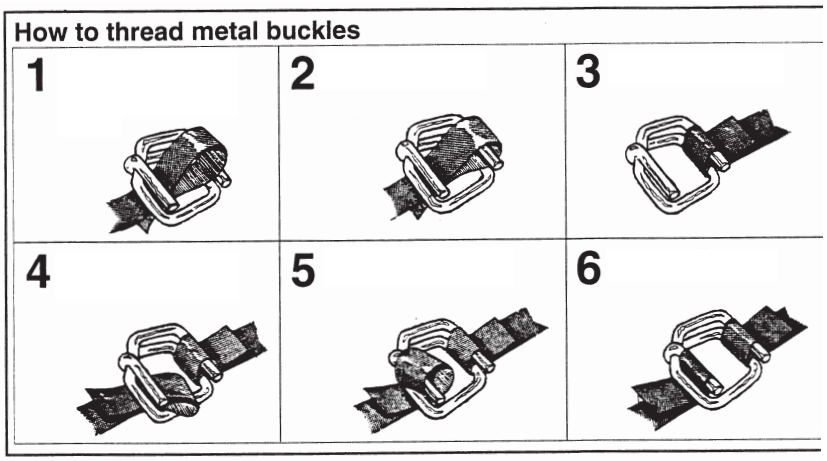
2. Make sure the door openings are square by measuring diagonally from corner to to corner and making sure the measurements are the same.

3. Again place the Top Door Casing over the 35 3/4” tube. Hold temporarily in place with one screw inserted from the front and into the tube.

4. Temporarily place the side Door Casing with the hinge pieces attached on whichever side you want your door to hinge.

5. Place the other Side Door Casing on the opposite side of door opening. All three Door Casing pieces should fit snugly.

6. Remove the Door Casing Pieces. They will be used in the Door Assembly **STEP XIV.** Proceed with paneling.



1. Form a 3” loop by folding banding away from you (short end of banding needs to be on top). With buckle tines facing upright, pass loop up through center of buckle.

2. Slip the loop over the tine (farthest from you).

3. Pull banding down and away.

4. Place banding around specified frame area. Fold a new loop by folding banding toward you.

5. Slip new loop over other tine.

6. Tension by pulling banding coming from coil

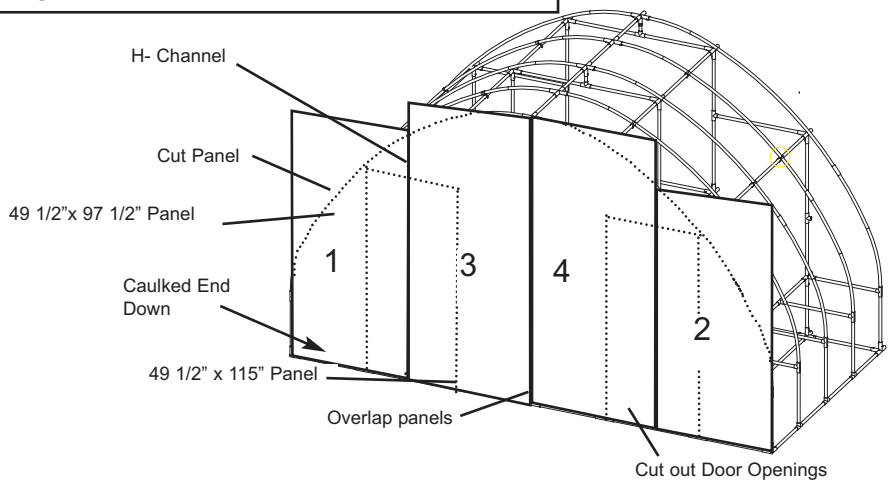
To loosen banding, grasp coil with pliers and twist your wrist so banding slides loose from tine.

X. FRONT END WALL PANELING

Don't forget to secure your greenhouse. The panels create wind resistance.

Parts Required:

2	49 1/2" x 97 1/2" Panels
2	49 1/2" x 115" Panels
2	17" H Channel
120	1" Screws



1. Caulk into <u>one</u> end of each panel.

2. **Note: The short panels (97 1/2") are panels #1 & 2 and the long panels (115") are # 3 & 4.** Hold panel #1 (Caulked end on the ground) in place on the left side so it covers the outside rib pipe. The opposite side of Panel #1 goes approximately to the center of the door opening. Attach with screws. Place screws 6-9" apart on the rib. Use only 2 screws on door side frame and 1 screw on top door frame (these screws will be removed later.) Trim panel by <u>carefully</u> following the Ribs and the door frame using a sharp knife. Cut out the door opening. Use the top of the rib pipes and the bottom of door opening pipes as guides, making sure the pipes are covered with plastic.

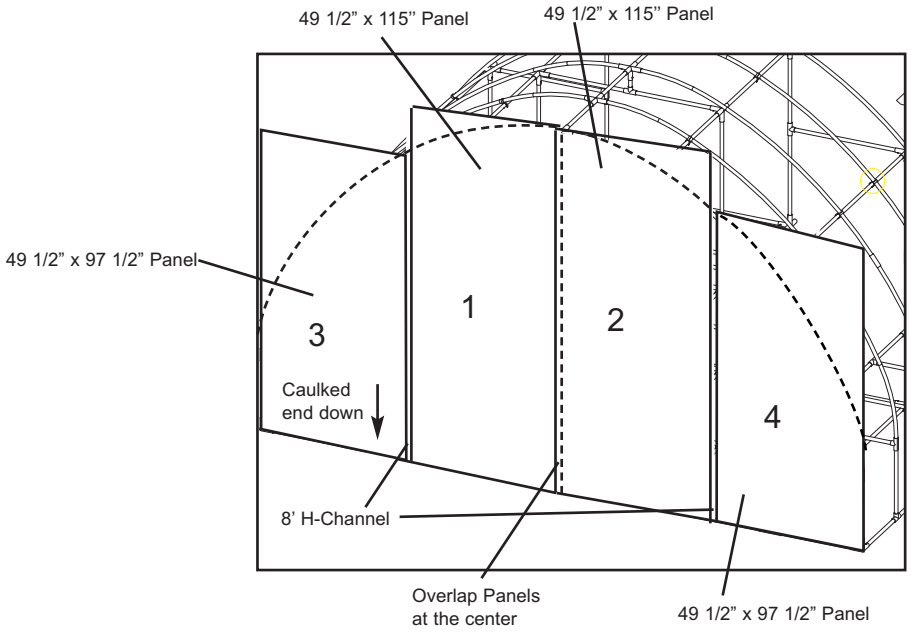
3. Attach panel #3 (49 1/2" x 115" panel) so it almost butts up to Panel #1 above the door on 1 side (leave about 1/4" between the 2 panels), and overlaps the pipes in the center of the greenhouse on the other side. Attach with screws an all sides except on the side that overlaps the center pipe and the door endwall pipe. Carefully trim the panel on the top and around the door opening as in step #2. Slide a 17" H Channel between the 2 panels above the door. Trim H-Channel so it curves along with the top pipe.

4. Repeat steps 2 & 3 in applying Panels 2 & 4. Panels #3 and 4 will overlap in the center. Put screws through both panels and into the center pipes. Caulk all the cut edges along the ribs.

XI. BACK END WALL PANELING

Parts Required:

2	49 1/2” x 97 1/2” Panels
2	49 1/2” x 115” Panels
2	8’ H-Channel
120	1” Screws



1. Caulk the flutes on one end of each of the panels. The caulked end will be the bottom end of the panels.

2. Attach panel #1 (49 1/2” x 115”) so that the edge just covers the vertical pipes at the center of the greenhouse. Don’t put any screws through the panel on the center pipe yet. Attach screws 2 inches away from the left edge of the panel to leave room for H-Channel.

3. Attach panel #2 (49 1/2” x 115”) so that the edge just covers the vertical pipes at the center of the greenhouse overlapping panel #1. Attach screws through both layers of paneling on the center pipe. Attach screws 2 inches away from the right edge of the panel to leave room for H-Channel.

4. Cut glazing by carefully following the Ribs using a sharp knife, (using the top of the pipes as a guide).

5. Attach panel #3 (49 1/2” x 97 1/2”) leaving 1/4” space between panel #3 and panel #1 to slide in H-Channel. Attach screws 2 inches away from the right edge of the panel to leave room for H-Channel. Slide in 8’ H-Channel between the panels.

6. Repeat step 4 for panel #4.

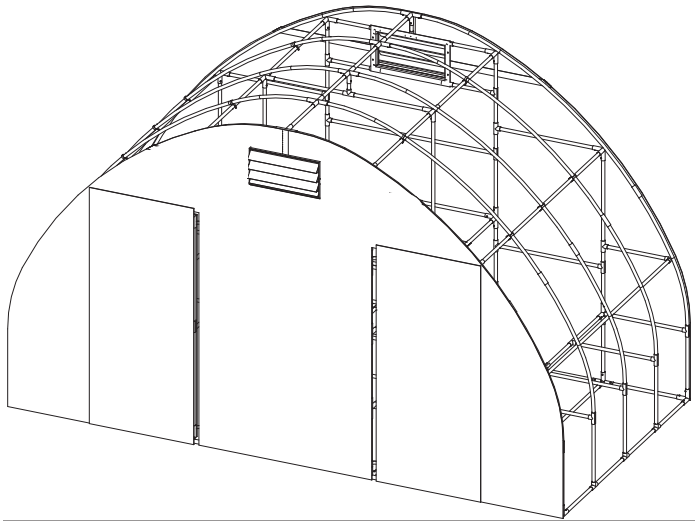
7. Cut glazing by carefully following the Ribs using a sharp knife, (using the top of the pipes as a guide).

8. Caulk exposed flutes.

9. If installing a fan, refer to the fan installation instructions and call us if you need assistance. Otherwise, you can install your second Louver on the back endwall in the same area as you installed the Louver on the front endwall.

XII. Louver

Parts required:
2 Louver Box



Note: You need to decide if you are going to install a fan/fans, and the placement of them. Also, you need to decide where you will be placing the 2 louvers that are included in the kit. Putting a fan at one end and a louver at the other end is probably the most likely choice. The remaining louver can then be used as a base vent at the opposite end from the fan.

1. Follow Louver Installation Instructions located in the louver box.

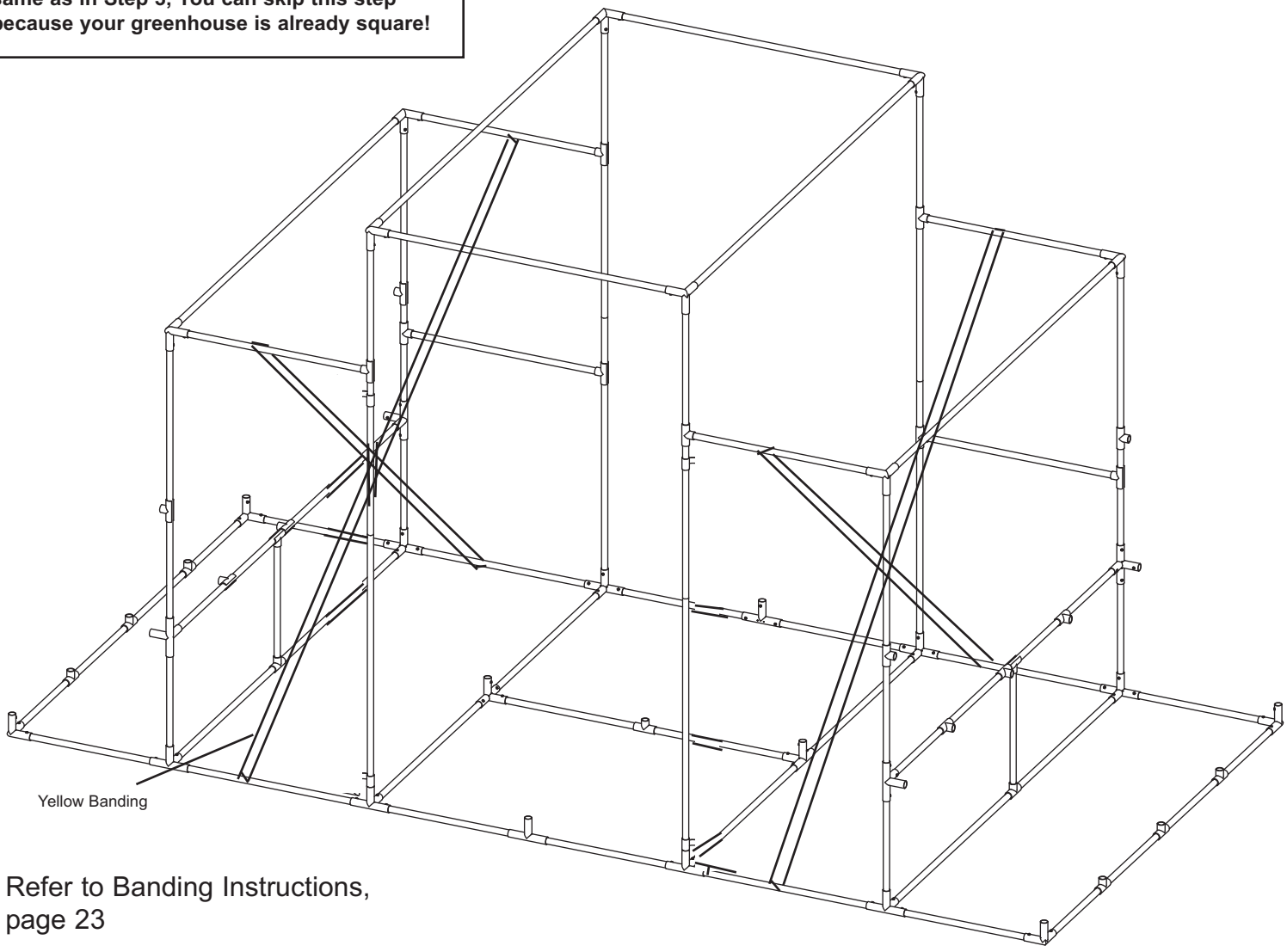
XII Squaring

Pieces Required:

4 Yellow Banding (from back endwall)

4 Metal Banding Clips (from back endwall)

Note: Measure the distance in steps 2 & 3 below and if the measure ment in step 2 is the same as in Step 3, You can skip this step because your greenhouse is already square!



Refer to Banding Instructions, page 23

1. Remove Yellow Banding from the Back Endwall.
2. Attach a Yellow Banding between the 35 3/4” tube above the Front Left Door and the Base Frame on the back side of the greenhouse.
3. Repeat starting at the 35 3/4” tube on the back end of the Base Frame on the front side of the greenhouse.
4. Repeat steps 2-3 on the right door.
5. Check that the diagonals are equal. Tighten or loosen the bands to make them equal.

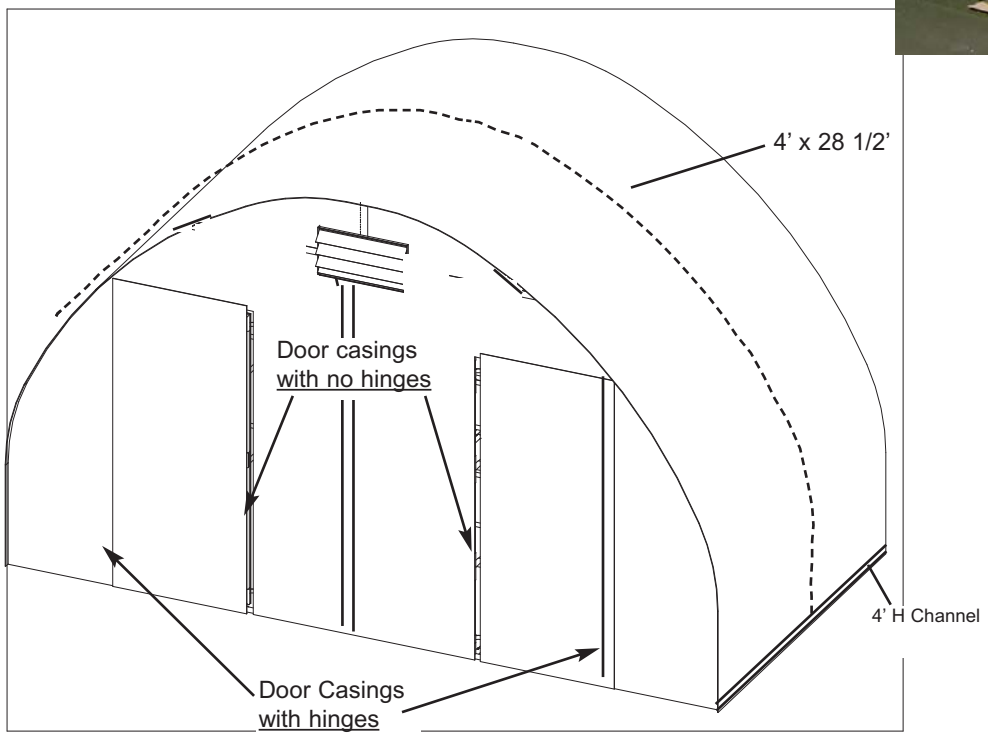
XIII. TOP PANELING

Pieces Required:

2	49 1/2" x 28 1/2' Solexx Rolls
2	4' H Channel
2	49 1/2" U-Trim
6	97" U-Trim
34	Small screws
280	1" Screws
10	3/4" Drill Screws

▶NOTE: Center the 1st roll panels so you have **1 -1 1/2" of overhang** on the front of the greenhouse. **Do not cut off the overhang. It will help keep water out of the endwall panels.**

Note: Measure your greenhouse frame before you cut the roll.



1. Caulk one end of each piece of Solexx and let dry.

2. Position 1 piece of paneling with the caulked end touching the ground on 1 side of the greenhouse. Pull the roll up and over the top to the opposite side of the greenhouse. **Hint: If you attach vice grips to the end of the roll and tie a rope to the vice grips, you can throw the rope over the greenhouse and pull the rope and the roll over the top of the greenhouse. One person can stand inside the greenhouse and help guide the plastic over while the other person pulls the rope.** Place the panel over the ribs so it overhangs equally on the 1st and 3rd ribs. On the 1st and 2nd ribs attach screws. Position screws about 6" to 8" apart on the first rib and about 3 feet apart on the second rib. At ground level on the side opposite the caulked side, trim the paneling so it is just off the ground.

3. Repeat step #2 to attach the remaining 28 1/2' panel The two panels will overlap on the center rib. Attach screws every 6" to 8" where the panels overlap. Slide a piece of 4' H-Channel over the uncaulked end of the panel. The H Channel will just touch the ground. On all sides except the side with H-Channel, be sure and screw the plastic to the Base Frame.

Note: To attach the screws to the top of the greenhouse, use a tall ladder and lean it on the frame. You probably can put most or all of your weight on the frame to attach screws.

4. Attach U-Trim to the curved edges of the top paneling on the front and back of the greenhouse. (See Step 2 on "Hints for Paneling", page 22)

▶Have you installed your tie down kit? - Do it now if you have purchased the anchor kit. If not, secure it to the ground.

Tie Down Kit Instructions for 4 Anchors

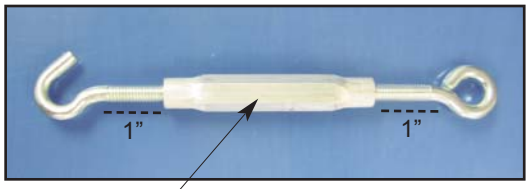
(HN-10 Purchased separately)

Parts Needed:

15” or 30” Steel Anchors
Turnbuckles
Metal Hooks
1 ½ x ¼” bolts
¼” locknuts
Washers
(Qty varies based on unit size)

(You need a ¼” drill bit to predrill for the bolt)

Step 1.



1. Loosen **turnbuckles** so the bolts of the turnbuckle are out about 1” on each side.

2. Screw one 15” **steel anchor** into the ground using a screwdriver, rod, or pipe. The eyelet should be just showing above ground. This will prevent the greenhouse from shifting. Also, make sure the anchor is as close to the greenhouse as possible for the most secure pull. Place 1 anchor at each of the remaining corners of the greenhouse.

3. Slide the hook of one turnbuckle onto the eyelet of a ground anchor. Slide a **Metal hook** through the eyelet of a turnbuckle.

4. Hold the flat part of the hook up tight against a corner rib outside the greenhouse. Using a ¼” drill bit, drill a hole through each of the holes in the **metal Hook,** clear through the Solexx and the rib including the ½” PVC pipe inside the rib.

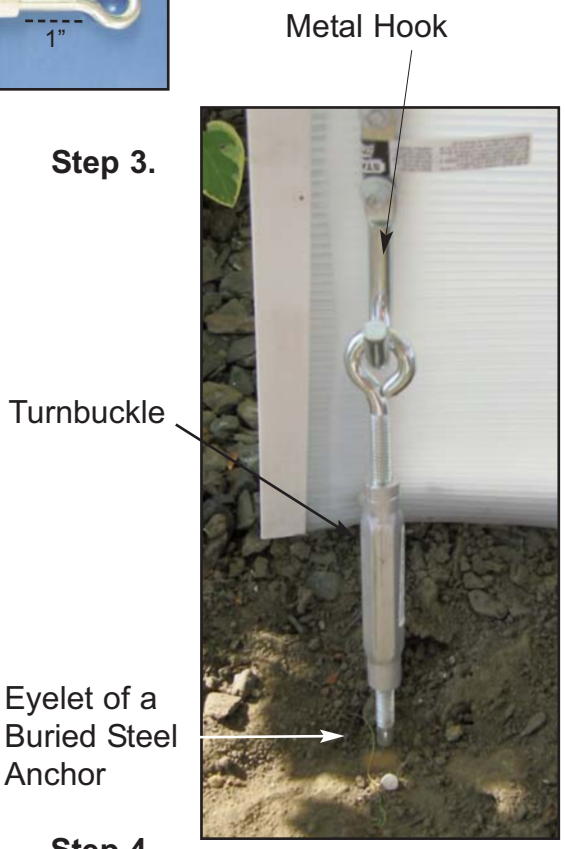
5. From outside the greenhouse push a **bolt** through each hole in the **metal hook** and through the rib.

6. From inside the greenhouse, slide a **washer** over each bolt and secure it with a **lock nut.** Tighten the locknuts.

7. Repeat this process on each of the other corners.

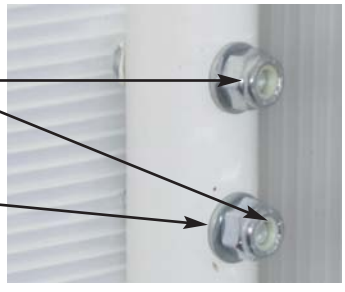
8. Tighten the turnbuckles to remove any slack.

Step 3.



Step 4.

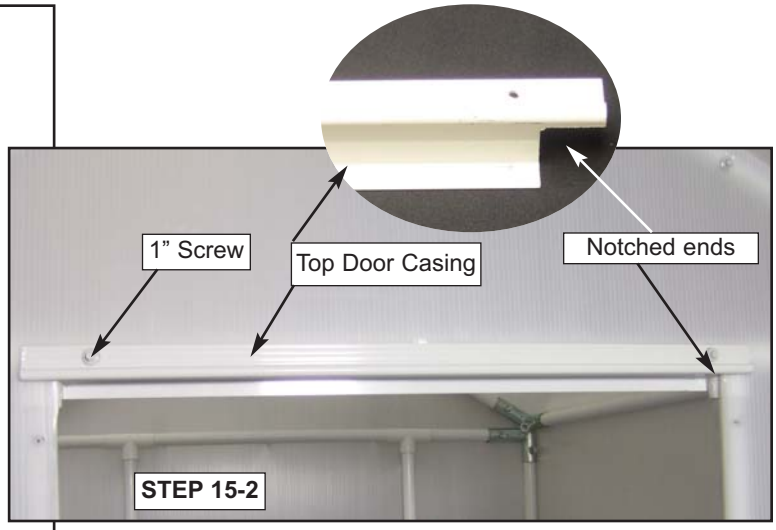
Step 6.

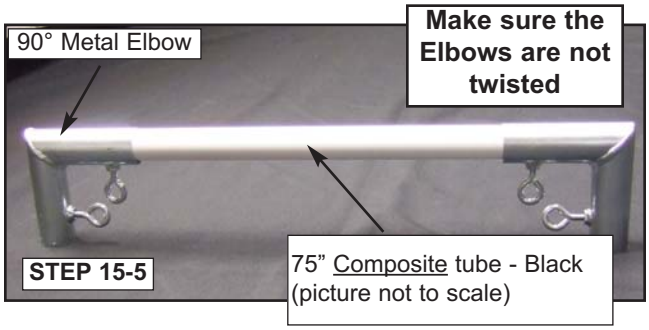


XIV. Door

Pieces Required:

1	36 ½" x 80" Door Panel
1	77 ½" Side Door Casing (**Used in Step 13b**)
1	77 ½" Side Door Casing with Hinges (**Step 13b**)
1	75" Composite Tubing- BLACK (**with holes for Hinges**)
1	75" Composite Tubing- BLACK
1	38" Top Door Casing (**Used in step 13b**)
2	33" Composite Tubes- BLACK
1	36" U-Trim
4	90° Metal Elbows
1	Snap-T's
49	1" Screws
3	Small phillips Screws
1	33" Composite Cross Bar with Snap T (for door) - slotted
1	**Door Parts Bag**: Outside Handle, Inside Handle, 3-point Cam Hinge Bag: 1/4" x 1-3/4" Bolts (4), Lock Nuts (4), Hinge halves and pins (2), Flat Washers (2) Door Parts Bag: 8/32 Hex Lock Nut, 3/8" Lock Nut, 32 x 1-3/4" Machine Screw, 1" Metal Screw, 4mm Allen Wrench Door Cable Bag: Turnbuckle, 76" Wire Cable, 1/16" Wire Cable Clamps (2)





1. Remove the temporary screws from around the Door opening.

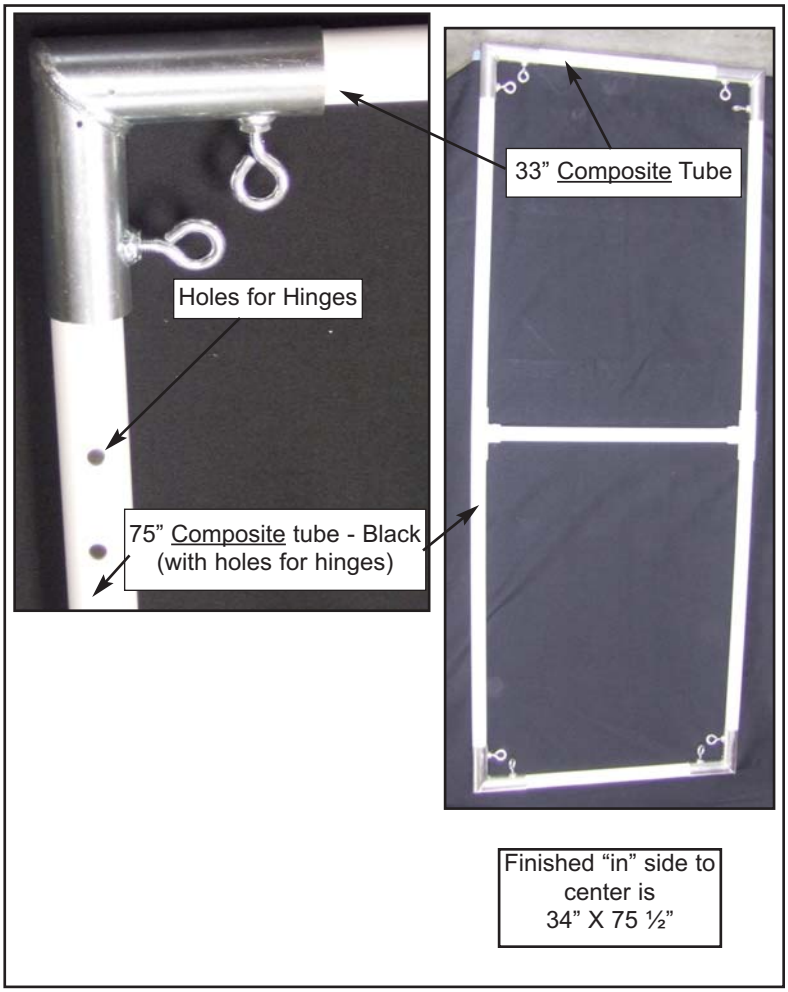
2. Attach the Top Door Casing to the Tube above door with 1" Screws. Make sure it is level.

3. **Decide which side you want your door to open (as you face the door) and attach the 77" Side Door Casing with hinge halves attached on the side you want the door to hinge.** Attach to the 90" Composite Tube with 1" Screws. Making sure casing is straight up and down.

4. Attach the **Side Door Casing** with no hinges to the opposite side of the door opening with 1" Screws. Making sure casing is straight up and down.

5. Assemble the door frame on a flat surface by attaching one **90° Metal Elbow** to both ends of both **75" Composite Tubes.** Tap the tubing so that it is completely seated into the elbow. Make sure the pre-drilled holes in the 75" tube with holes are facing up as the frame lays on the ground. You will be attaching hinge halves using those holes in a later step. Connect these 2 assemblies using the **33" Composite Tubes.**

Hints: It is important to attach the 75" tubes into the elbows first, followed by the 33" tubes. Line up the holes on the hinge side so they are centered on top. The door frame should measure 34" x 75 ½" ("In" side to center). Tighten the eyebolts. You will adjust this frame when you hang the door so the measurements don't need to be exact at this time.



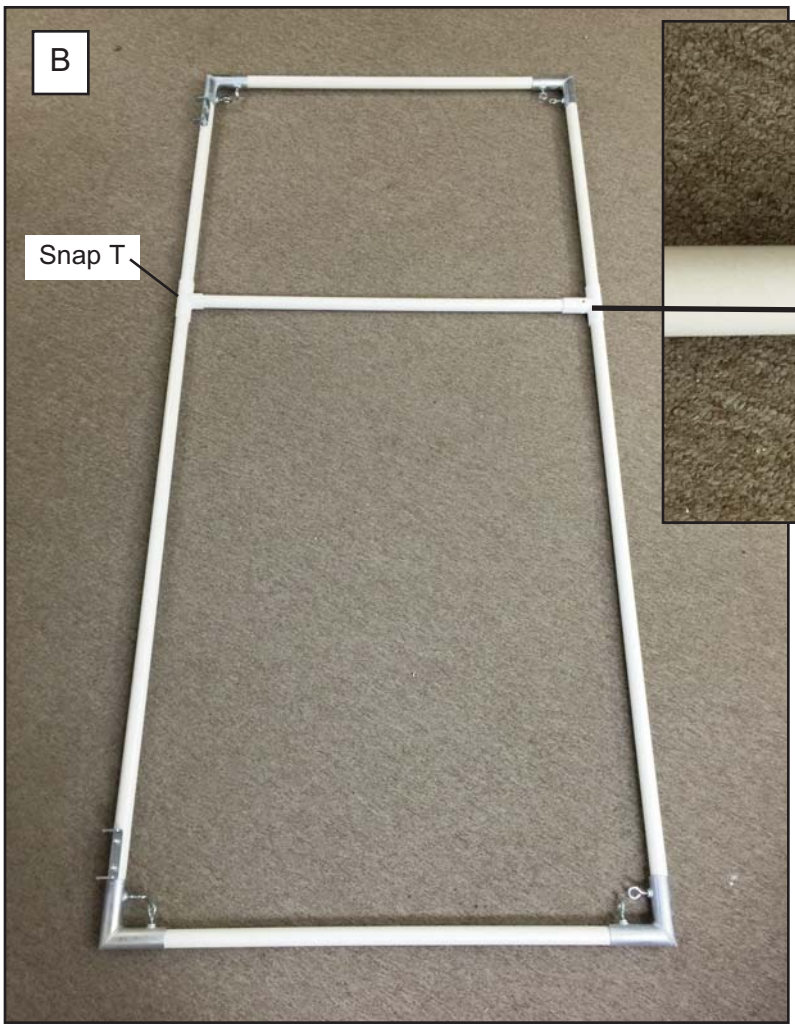
6. Attach the snap T end of the 33” PVC Cross bar to the side door tube **WITHOUT drill holes. Attach near the center of the tube (you can adjust it up and down later)**. **Make sure the holes in the crossbar are facing up and looks like picture A.**

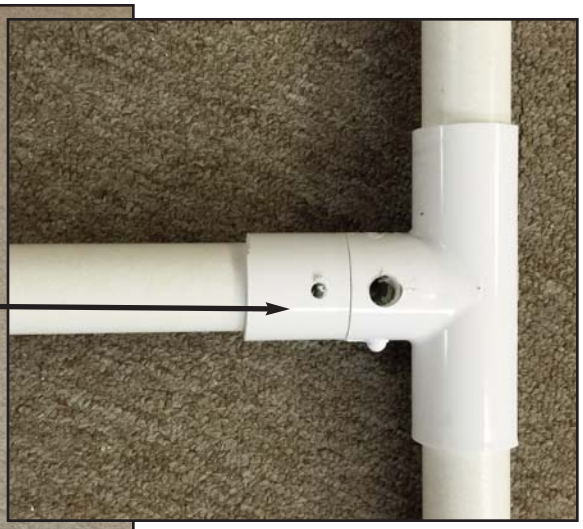
Attach a snap-T to the center of the opposite door tube and then slide the Cross Bar into this snap-T. See picture “B” below. Make sure that this cross bar is not causing the frame to be bowed out in the middle, if so, try compressing the snap-t on the end of the cross bar. If that doesn’t work, separate the snap-T from the end of the cross bar and use a hack saw to trim that tube down a little bit. Then insert the end of the cross bar back into the snap-T.

This side of the cross bar for the door faces up (While assembling the door frame or towards the outside of the greenhouse when the door is hung

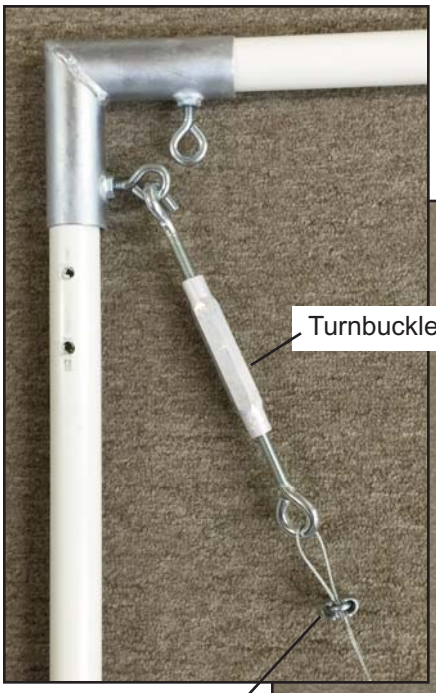
Make sure that the big hole and little hole remain lined up. If they are not aligned, then use the shaft of a screw driver inserted into the large hole and push or pull on the screw driver to move the snap-T on the tube. Once the large hole in the snap-T is aligned, you can use your hand to move and line up the smaller hole. You will insert the lock through the larger hole in a later step. Aligning these holes now will make that easier.

7. **Attaching the cross cable door support.** See Picture “C” next page.You will be using two cable clamps, a turnbuckle and the 76” long - 1/16” diameter cable. These are all grouped together in the door kit bag. Start at the metal elbow that is on top of the side door tube holes. Place the Hook of the turnbuckle through the eye bolt that is pinching the metal elbow fitting onto the side door frame tube, not the eye bolt that goes to the upper tube. Then run the cable through the cable clamp, through the eye bolt of the turnbuckle and back through the cable clamp. Using a pair of Pliers or a socket, tighten the two nuts on the cable clamp so that it pinches the two sections of the cable together creating a loop that is going through the eye bolt of the turnbuckle.

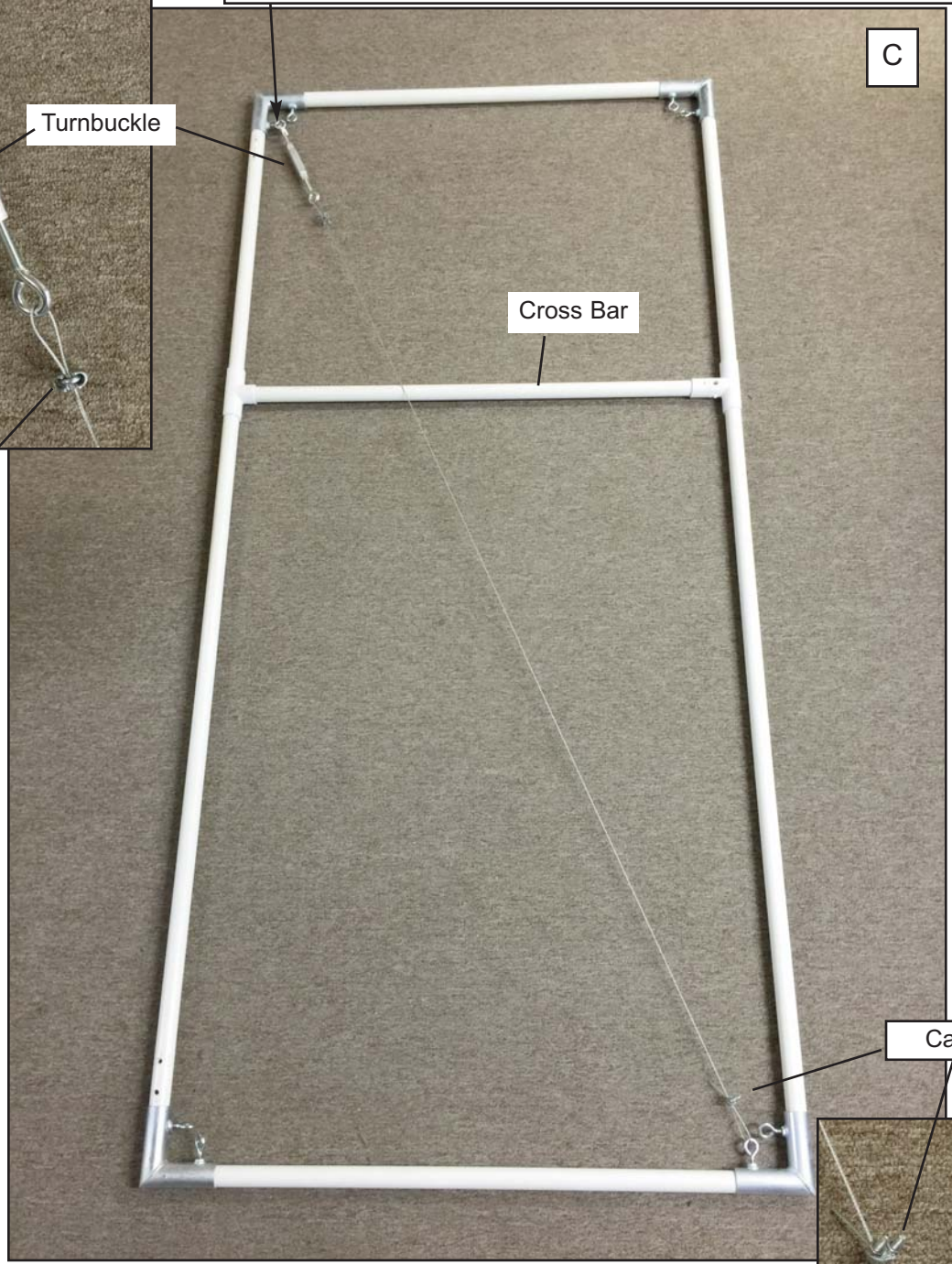




Cross Cable Door Support (Installed on Door frame)



Turnbuckle is mounted to this eye bolt on this fitting for a door that opens from the right side (as you face the door). For a door opening from the left (As you face the door) you would have the turnbuckle mounted on the upper elbow on the right side, to the eye bolt that pinches the side door tube.

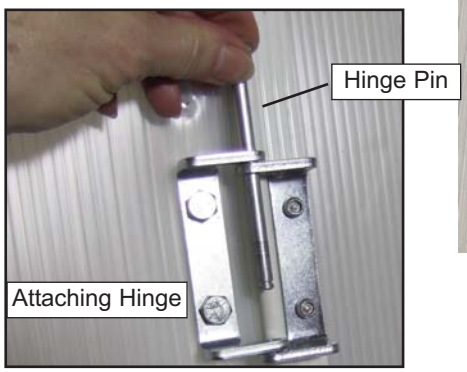


You will now connect the other end of this cable. **<u>The cable will pass over the top of the cross bar of the door</u>**. Run the cable through the 2nd cable clamp, through the eye bolt and then back through the cable clamp. Using a pair of Pliers, tighten the two nuts on the cable clamp so that it pinches the two sections of the cable together creating a loop that is going through the eye bolt of the metal elbow. See picture to the right.

8. Place the **36 1/2" x 80" Door Panel with holes** on the Door Frame, aligning the holes in the Panel with the holes in the **75"** Tube. Measure in from one of the two ends to the first predrilled hole. The side that is 7" from the first predrilled hole is the top of the door panel. If needed, flip this panel over so that this end of the panel is the top of the door.

Once the panel is positioned, attach the **hinge halves** using two **¼" x 1 ¾" Bolts**, **two lock nuts and one flat washer** for each hinge. **<u>See next page for washer placement and hinge attachment.</u>** From the underside, Insert a bolt through the door frame, through the washer (The washer is only used on one of the two bolts for the hinge half), through the door panel and then put the hinge half on top and attach the nut. Repeat this for the 2nd bolt and 2nd hinge. The nut will be on the side that the hinge half is on. Once all 4 bolts are put in place, they will be holding the door panel to the door frame. **<u>Do not screw the rest of the Panel to the Door Frame yet.</u>**

9. Position the Door into the door opening and align the hinge halves up as shown on next page. The upper hinge half will sit on top of the hinge half on the door casing and it will be opposite for the lower hinge. Once aligned connect the hinge halves on the Door to the hinge halves on the Door Casing using the 2 hinge pins. They are inserted from the top of the hinge for both hinges.



10. Now that the door is hung, close and open the door several times to make sure that none of the metal elbows of the door frame are hitting the metal casings of the door opening. If needed, adjust the door frame so that it fits within the door opening and is not touching the metal casings of the door opening. Make sure the top door tube is approx. 1/8" below the Top Door Casing. Very rarely would you need to trim a tube in the door frame but if trimming is needed, use a hack saw.

11. Tighten the cross cable door support a little bit by rotating the turnbuckle. Be careful not to lift the door very much - you just want to support the door. Verify that the lower tube of the door frame is not hitting the tube under it and that it is parallel with the tube below it. After doing this, repeat step 10 again and make sure that the adjustment on the cross cable door support didn't cause one of the door fittings to now touch the metal casings of the door opening. Once the door opens and closes freely, the fittings are not touching the metal casings of the door opening, and the cable has been snugged up, attach the door panel to the door frame using 1" screws. **<u>Do not put any screws into the cross bar of the door, you will adjust this tube in a step below.</u>**

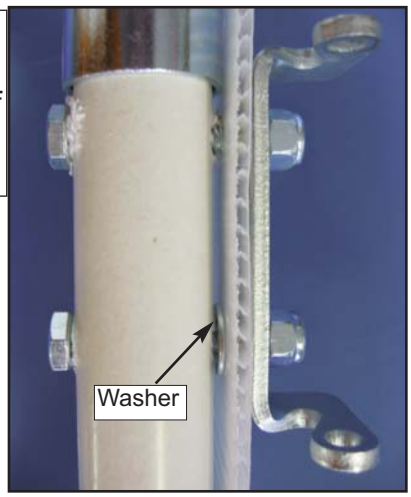
12. You can leave the door panel oversized or you can trim the panel down so that it fits within the door casings. We prefer to leave the door panel oversized to help keep wind from blowing in around the door. *If you like the look of the door panel snugged into the opening of the door casings, then with the door shut, look through the door panel and mark the corners of the door opening on the door panel from the outside of the house.* ***(keep in mind that you still want to keep the bottom of the door panel down at ground level)*** *and then remove the door and lay it back down on a flat surface. Using a straight edge as a guide and the marks you made on the door panel, cut the top and only the one side (The side opposite of the hinged side of the door) of the door panel down to fit just inside of the door casings.*

13. Caulk the open flutes on the top and bottom of the door panel and reattach the door to the Hinges. Caulking the bottom of the door panel is easiest when the door is removed from the greenhouse.

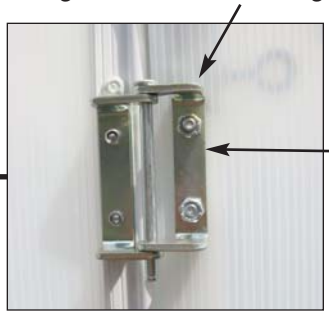
14. Slide a **36" U-Trim** over the top of the door panel to cover the caulked flutes (cut u-trim to fit if needed). Attach u-trim with 3 **Small Phillips Screws.**

Hinge assembly & location of washer

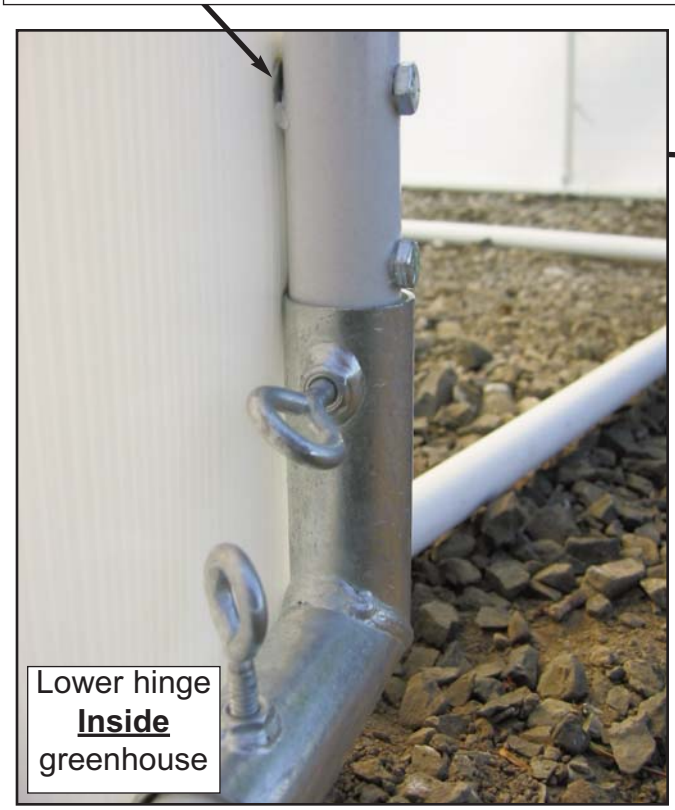
Side view of assembled upper hinge-half on door

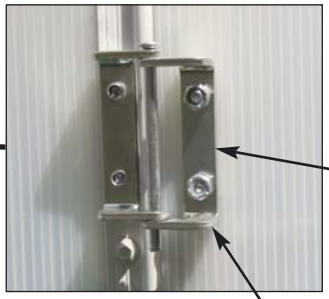


Upper hinge (**Outside** greenhouse) Hinge-half on door sits **above** hinge-half on door casing.

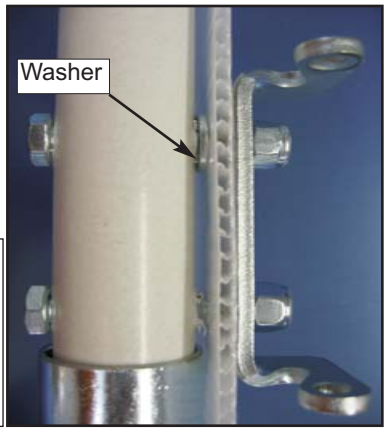


One washer goes in-between the door panel and the door frame to even out the spacing with the fitting. The fitting sits under the door panel and hinge-half on one side of the hinge-half and one washer goes under the door panel and hinge-half on the other side. (**Bolt goes through the washer**)





Lower hinge (**Outside** greenhouse) Hinge-half on door sits **below** hinge-half on door casing.



Side view of assembled lower hinge-half on door

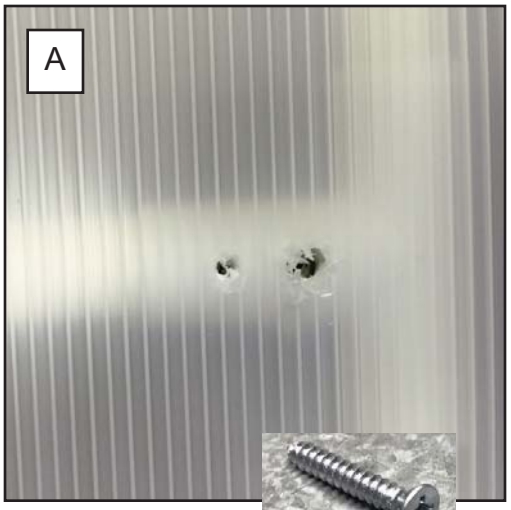
15. **Door lock** - The center cross bar of the door will set the height of your door lock/handle. From the outside of the greenhouse, look through the door panel at the holes in the predrilled snap-T, this would the height of the outside door handle. To adjust to your prefered handle height, slide the cross bar up or down using a rubber mallet. Make sure to level.

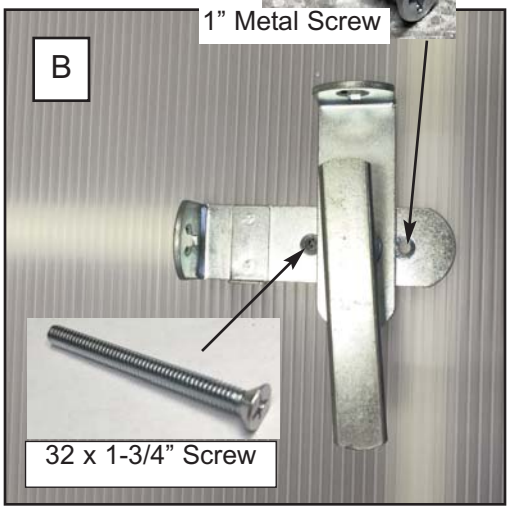
    From the outside of the greenhouse, use a sharp thin bladed knife and push the blade of the knife through the panel and into the large predrilled hole. Do this twice so that you are cutting an “X” in the panel right where the predrilled hole is at and then twist the knife when it is in the hole, do the same thing for the smaller predrilled hole. See picture “A” to the right.

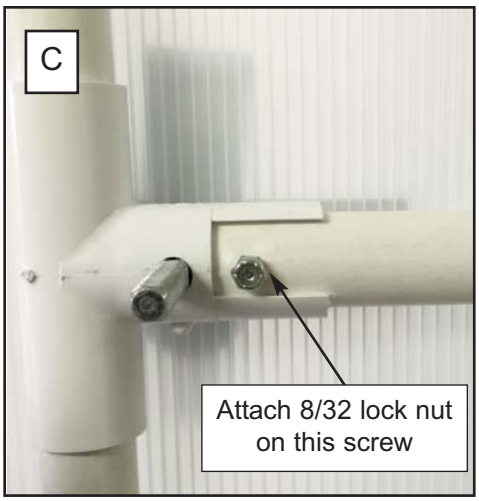
    Now you will install the outer door handle. This handle has a thin nut included in the bag, remove that nut and keep it close by.

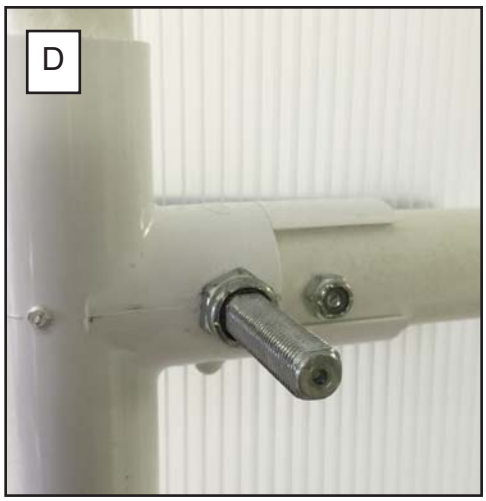
    Insert the shaft of the door lock handle through the door panel and into the large hole of the door cross bar. You may need to twist or screw this into the hole. The handle should be flush with the door panel. Next, twist the door handle so that it is perpendicular to the metal plate that is just behind that handle (that plate is a part of the lock, there are two holes in that plate, you cannot see them unless you twist the handle on the outside door handle). See picture “B” to the right.

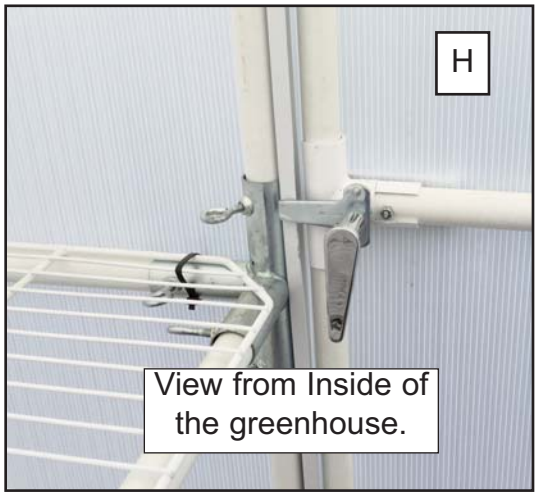
    Insert the 32 x 1¾” flat head screw (the long one in the lock kit) through the hole that is closest to the middle of the door, the tube is predrilled behind this hole. Attach the 1” Metal Screw into the other hole (this hole is not pre-drilled) - this will lock cross bar in place - so make sure the bar is level.

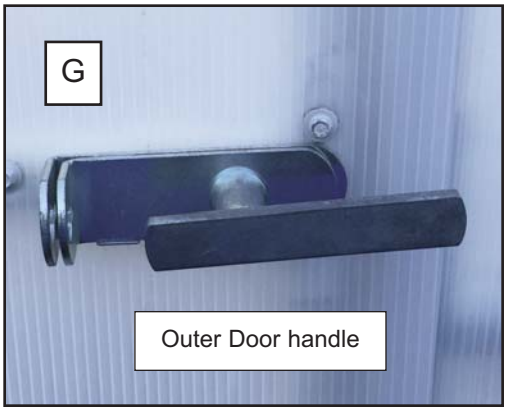












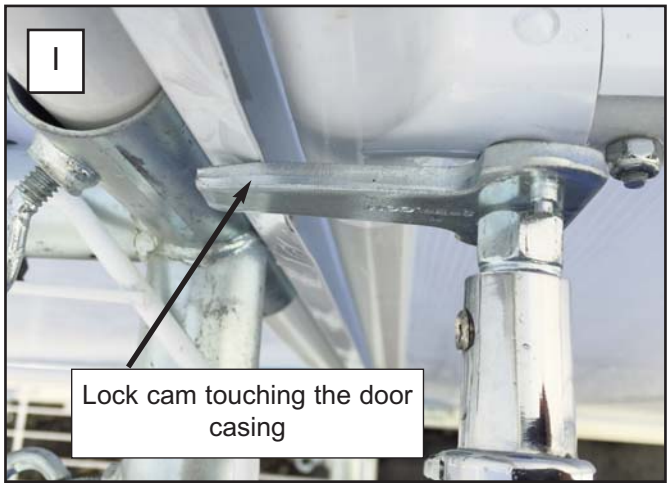
16. **Inside Door Handle** On the inside of the door, attach the 8/32 lock nut (the small nut in the kit) on this screw. See picture **"C"**.

    Attach the nut that came with the outer lock onto the shaft of the lock, snug this nut up against the tube, see picture **"D"**. Then turn the outer door handle several times, this helps seat the outer door handle on the tube.

    Slide the door lock cam onto the shaft. See Picture **"E"**. Next put the thicker of the two large nuts onto the shaft. Tighten the nut but make sure you can still turn the door handle. See picture **"F"**.

    Install the inner door handle (picture H). Make sure the outer door handle is in the position as shown in picture **"G"**, then using the 4mm allen wrench included in the door kit, loosen the set screw on the side of the inner door handle, position the handle so that it faces downward when you slide it on the shaft, then hold the handle pressed up against the nut and then tighten the set screw. Your lock is now installed.

    Next go inside the greenhouse and shut the door, when the door is shut push the inner door handle down which will swing the door lock cam out so it is now behind the door casing keeping the door from opening. Check to see if there is any space between the door lock cam and the metal door casing, if so, use a pair of pliers and bend the metal door casing (where the door lock cam is next to it) towards the lock cam. This should now put the metal door casing right up against the door cam when the door is closed. See picture **"I"**. This adjustment keeps the door shut snuggly against the door casings.



Other Helpful Hints

1. Caulk any holes from screws or punctures in the panels to help keep bugs and dirt out.
2. Be sure your Greenhouse is properly anchored to the ground or a foundation. **DURING AND AFTER ASSEMBLY**
3. Remove Shade Cloth in the winter.
4. Please call us if you have questions about assemblying your greenhouse.
5. We welcome pictures of your greenhouse in use. Send to info@adapt8.us

ENJOY YOUR NEW GREENHOUSE!

P.S. Please share with us any ideas you have on improving our kits. Pictures are appreciated.

 JAN. 2020 4th Edition V-1 Edition