

# ASSEMBLY INSTRUCTIONS

## 8' Door End Conservatory connecting to a Walk-Through

### UNIT B

(Designed to be attached to a walk-through Unit)

This kit includes (2) doors, (1) center double-decker bench, (2) single side benches, (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 (Included in the screw bag.)

#### TOOLS NEEDED:

- A. VARIABLE SPEED DRILL  
 B. SCREWDRIVER  
 C. LONG SHARP KNIFE  
 D. TAPE MEASURE  
 E. STEP LADDER  
 F. PLIERS  
 G. VICE GRIPS  
 H. 2-3 tubes "clear" IS800 Silicone Rubber Adhesive Sealant & a Caulking Gun  
 I. 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 DRIES VERY QUICKLY!** Hold pipe into fitting for 30 seconds until the glue has set.

**Please read instructions carefully and refer to the diagrams.**

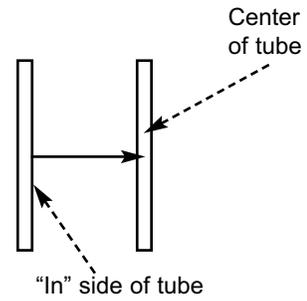
#### ►► **Attention:**

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 the “in” side of 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.

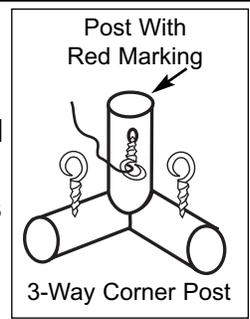


**C.**

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

**D.**

▶▶ **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 the 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 flexible. Composite Pipe is white with small gray fibers throughout and will not bend.

**F.**

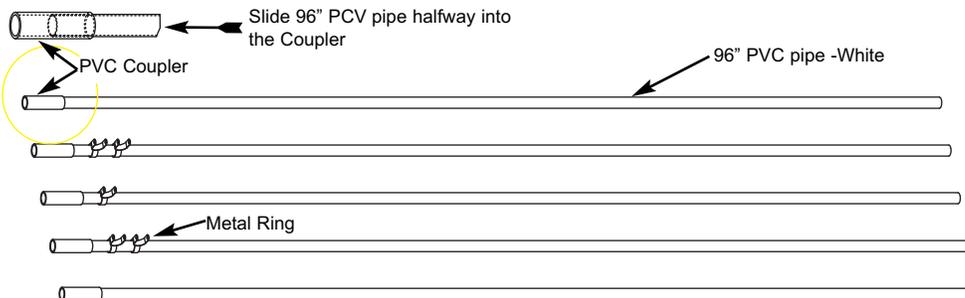
▶▶ **Very Important!! NEVER** glue the underside of the Snap-T. You need to be able to slide the Snap-T along the pipe. You only glue tubes into the enclosed arm

### PRE-ASSEMBLY

### MAKE 2 SETS

#### Pieces Required

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



### 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

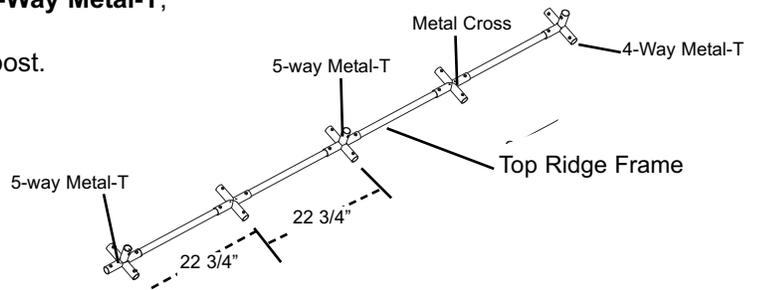
### Pieces Required:

- 2 Metal Crosses
- 1 4-Way Metal-T
- 2 5-Way Metal-T
- 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. Top Ridge Frame is used in Step V.

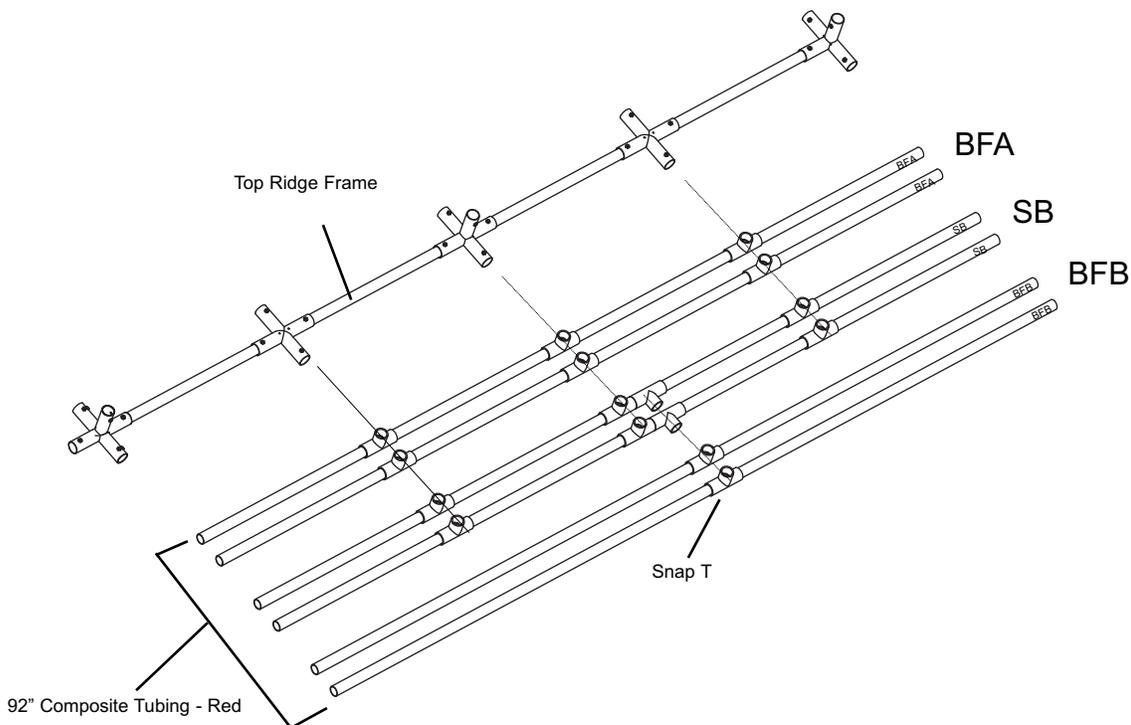
1. Draw a line with a marker  $2\frac{7}{8}$ " from one end of a **92" Composite Tube**. Insert pipe into the Metal Fittings (start with non-marked end) in the following order: **4-Way Metal-T, Metal Cross, 5-Way Metal-T, Metal Cross, and 5-Way Metal-T**. Slide the last 5-way Metal-T on until the drawn line just touches the post.



2. Carefully measure and set the fittings  $22\frac{3}{4}$ " apart from inside1 fitting to the center of the next fitting. The overall measurement is  $92\frac{3}{4}$ " from inside to center. **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 Tube 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.



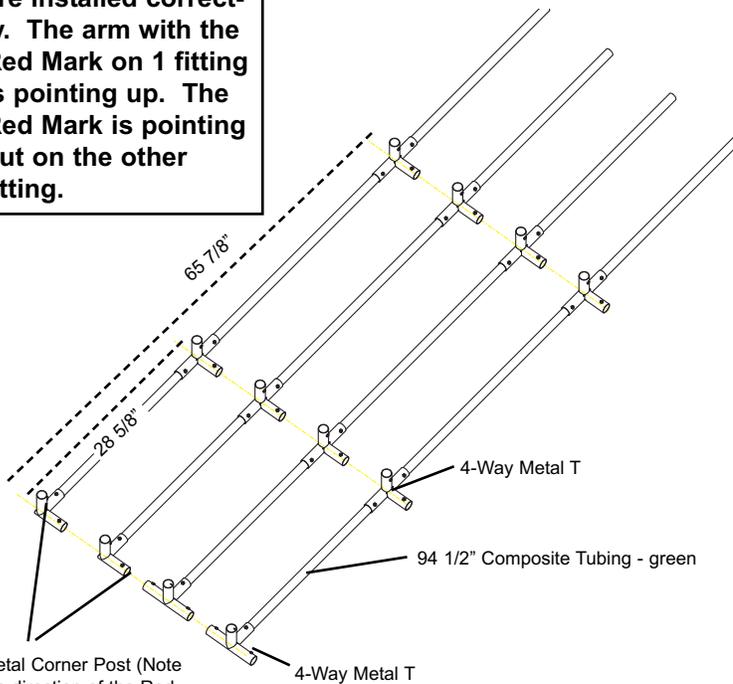
# FRAME ASSEMBLY

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

### Pieces required:

- 2 Metal Corner Posts
- 12 4-way Metal T's
- 4 94 1/2" 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)

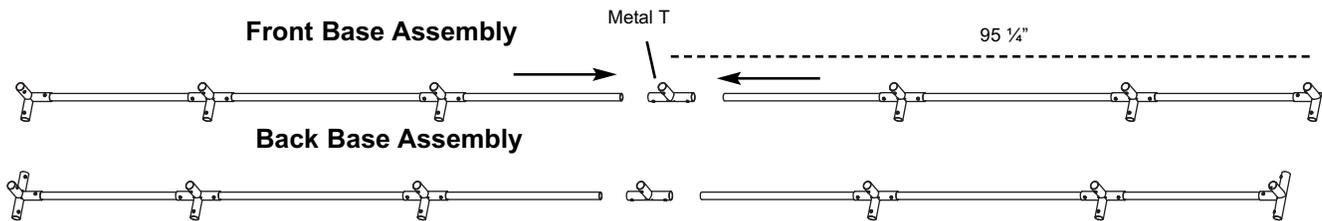
**NOTE:** It is important that the corner posts are installed correctly. The arm with the Red Mark on 1 fitting is pointing up. The Red Mark is pointing out on the other fitting.



Metal Corner Post (Note the direction of the Red Marks.)

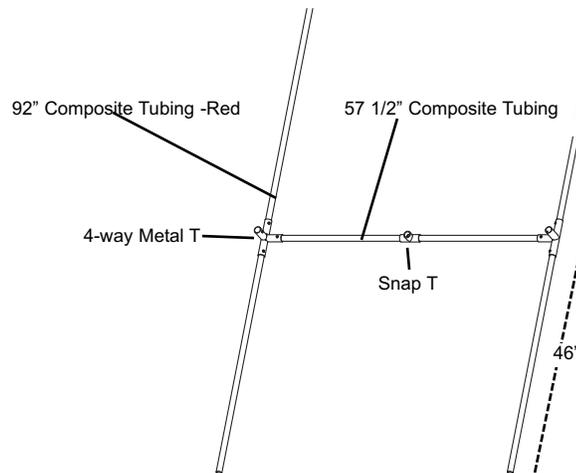
### Front Base Assembly

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 1/2" Composite Tube**. Attach a **Metal Corner Post** (arm with Red Mark is vertical on 1 Corner Post and is Horizontal on the other Corner Post.) to the end so the arm of the Corner Post just touches the mark. 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 2**
3. Make 2 more Assemblies as above for the Back Base Frame only replace the Corner Posts with **4-Way Metal T's**
4. Construct the Front Base Assembly by inserting each open pipe end of two of the assemblies in step 2 into a Metal T. Insert the pipe so the pen mark just touches the arm of the Metal T. Make sure that the measurements from the inside of each Corner Post to the center of the Metal T is 95 1/4". **Repeat this step to make the Back Base Assembly** using the assemblies from step 3.



### Center Bench Base Assembly

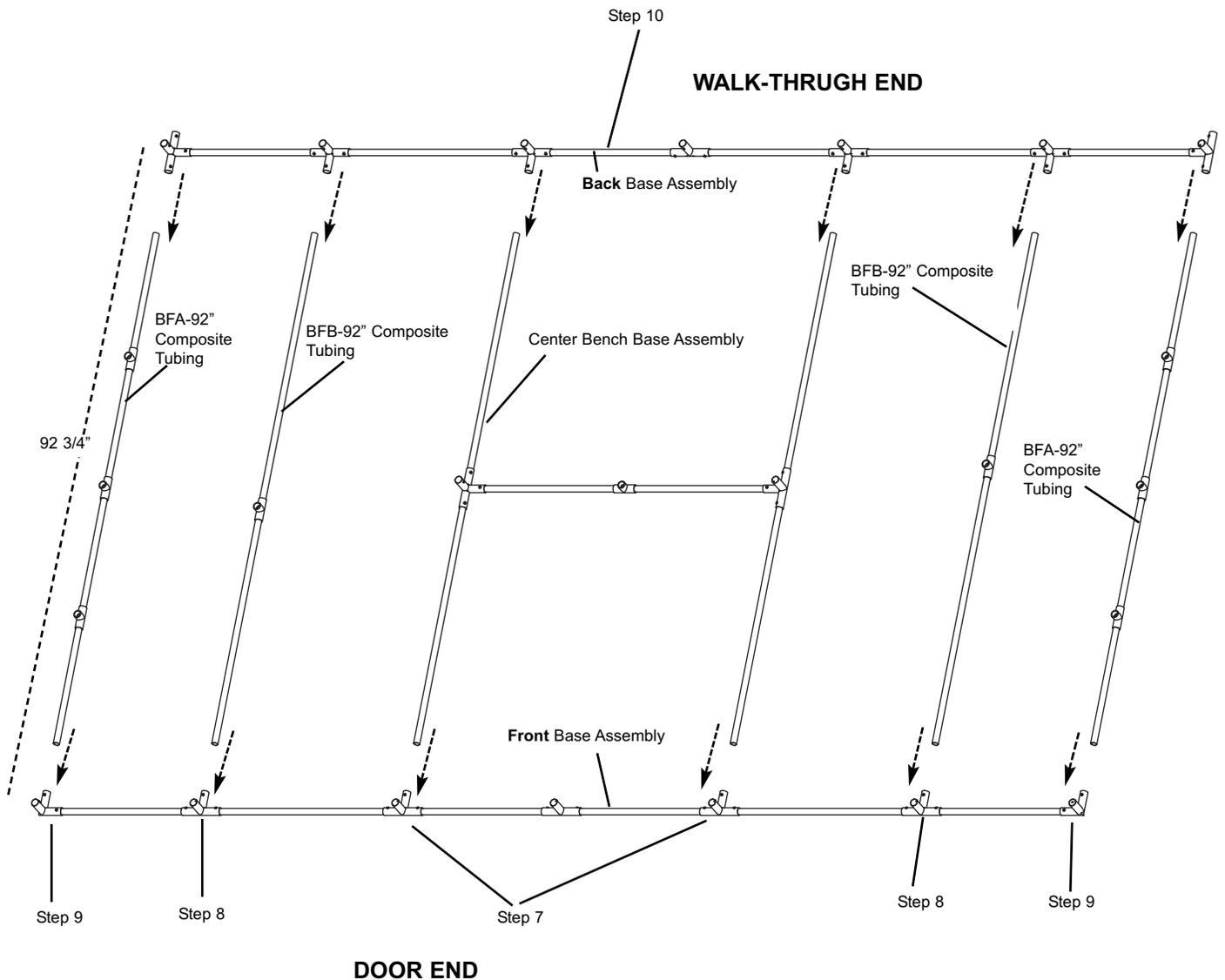
5. Slide a **4-Way Metal T** to the center (46") of a **92" Composite Tube - Red**. Make 2.
6. Attach a **Snap T** to the center (28 3/4") of the **57 1/2" Composite Tube**. Slide 57 1/2" tube - White into the 4-Way Metal T's on the 92" tubes. Tighten eyebolts.



**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

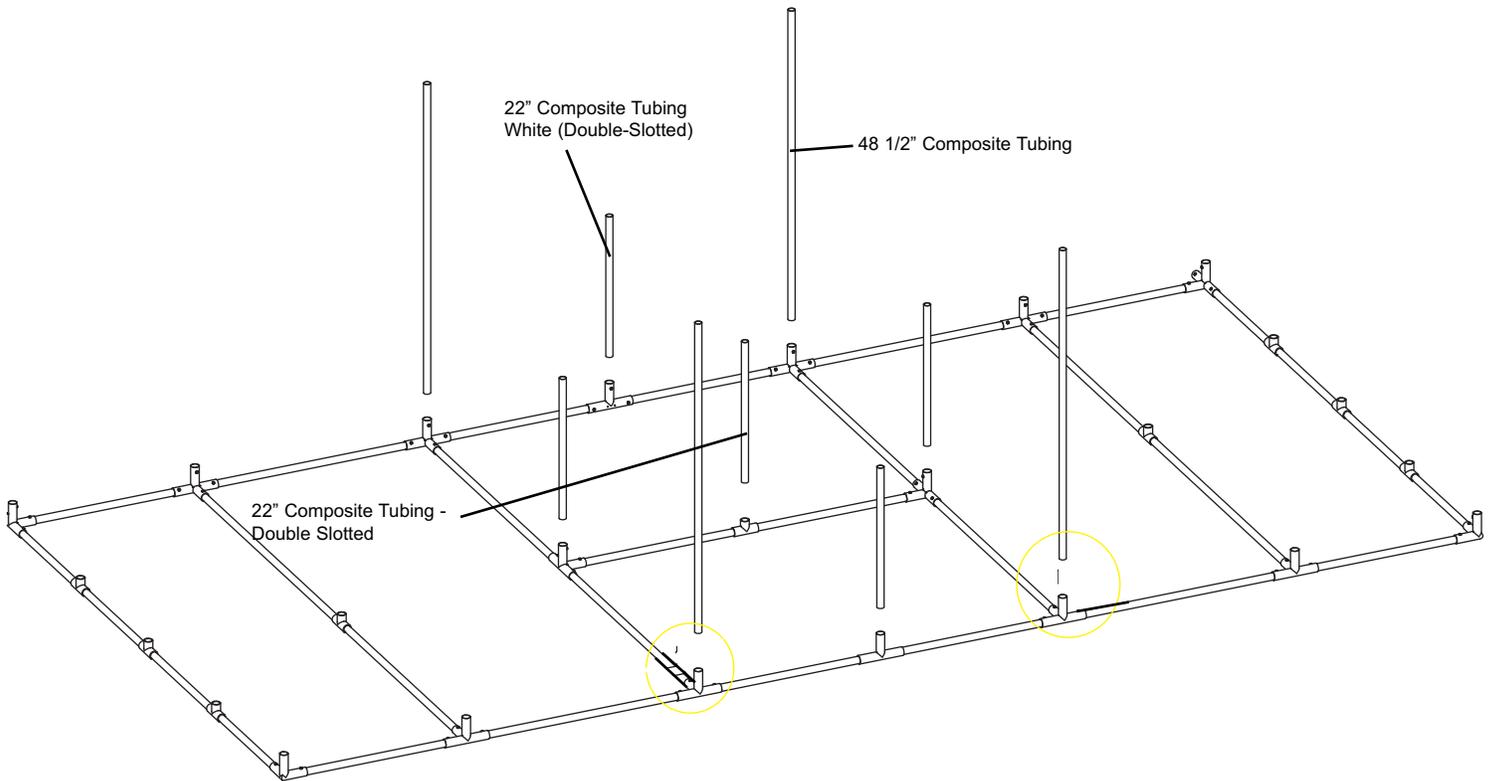
**A. Vertical Bench Supports** Assemble on a clean and level working surface.

**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 1/2" Composite Tubing** into the **4-way Metal T's** on the corners of the **Center Bench Base Assembly**. Tighten bolts.
2. Slide four **22" Composite Tubes - White (Double-Slotted)** in the remaining metal fittings on the center bench base assembly. Tighten the eyebolts. Attach the 5<sup>th</sup> 22" Composite Tube - White (Double Slotted) to the Snap T on the 57 1/2" Composite Tube. 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.

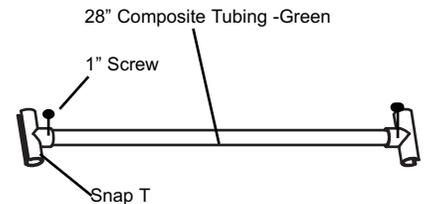


### B. 28" Supports

**Pieces required:**

- 8 28" Composite Tubing - Green (Double Slotted)
- 16 PVC Snap T's
- 16 1" Screws

1. On a flat surface, attach a Snap T to each end of eight 28" Tube, making sure the Snap T's are parallel to each other. Remember, it is easier if you use the PVC Glue to enable the Composite Tube to slide into the Snap-T. Secure the tubing by drilling a **1" Screw** through the top of the Snap T and into the 28" Composite Tube.



**28" SUPPORTS**

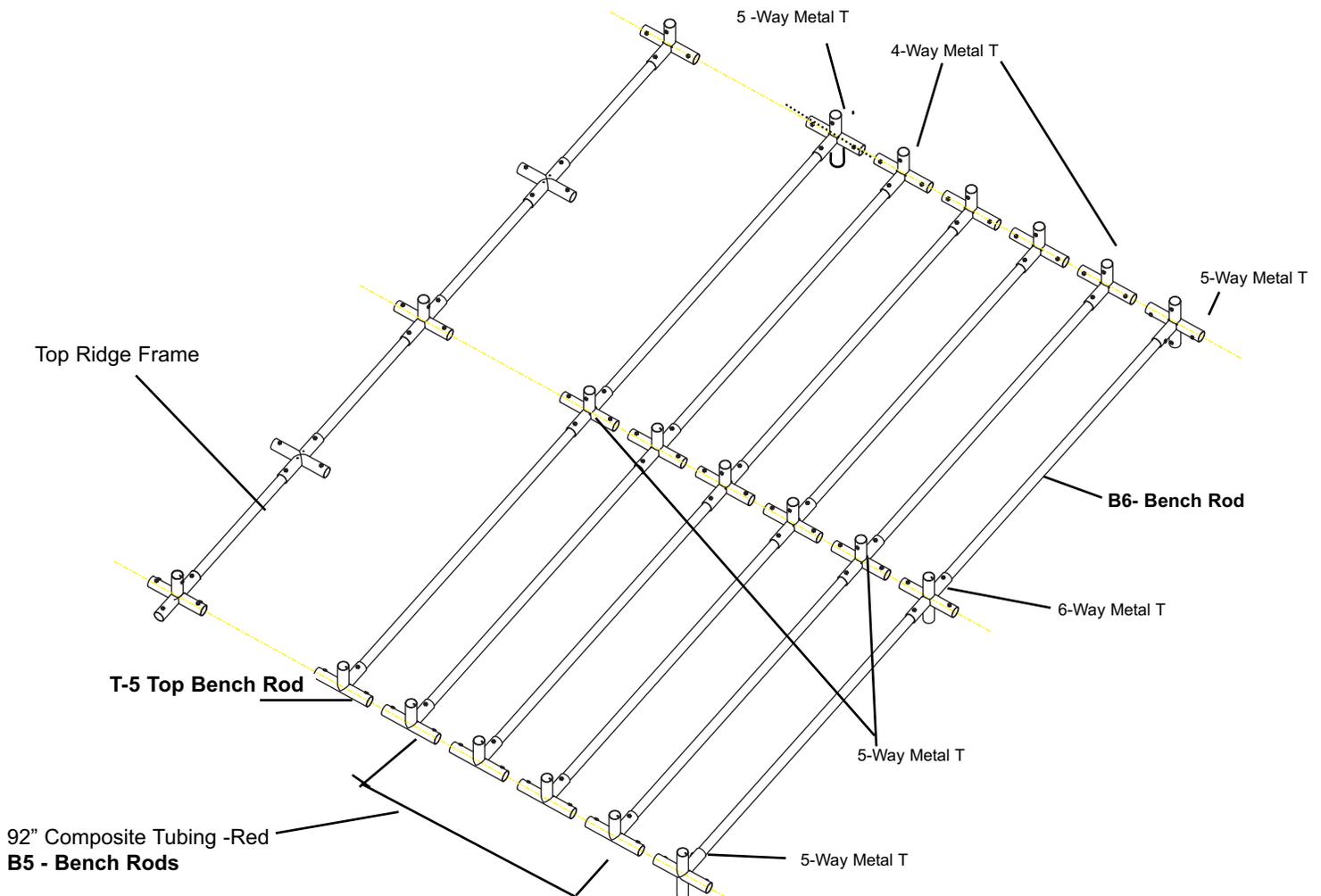
## C. Bench Rods

### Pieces required:

- 6 92" Composite Tubing - RED
- 9 4-Way Metal T's
- 8 5-Way Metal Crosses
- 1 6-Way Metal Cross

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

1. 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.
2. Make the B6-Bench Rod as follows:  
On one 92" Composite Tube, slide a 6-way Metal Cross to the center (46"). Attach 5-way Crosses on both ends.
3. Make a T-5 Bench rod as follows: On a 92" Composite Tube, slide a 5-Way to the center (46"). Attach a 5-Way on 1 end and a 4-Way Metal T on the other end.

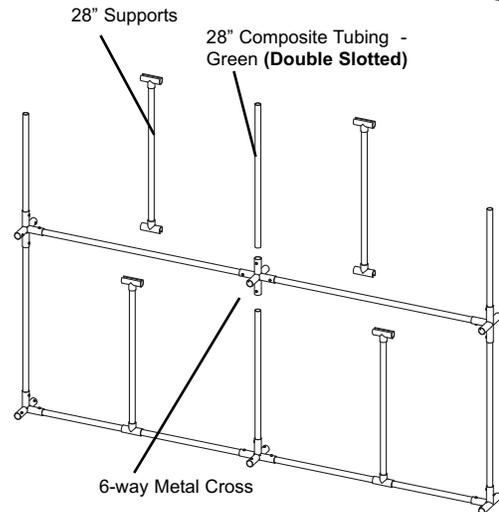
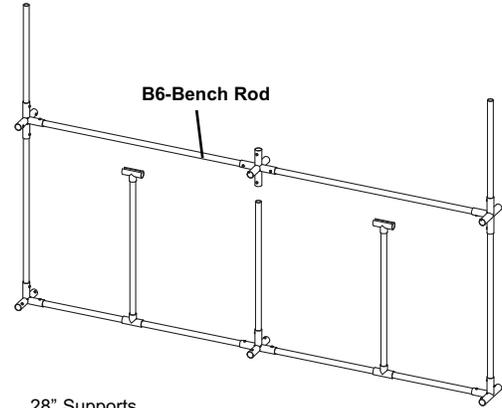
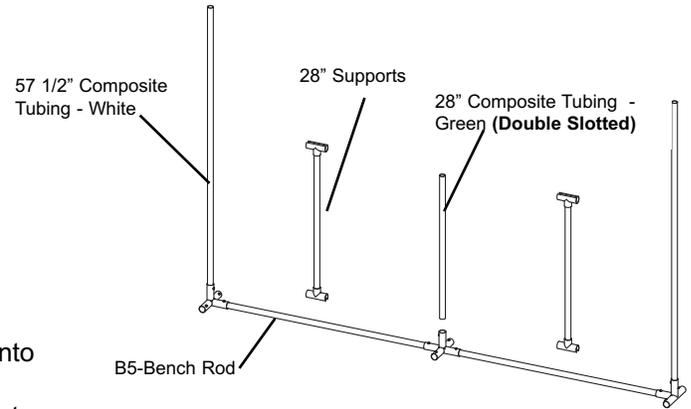


## D. Bottom Bench Frames

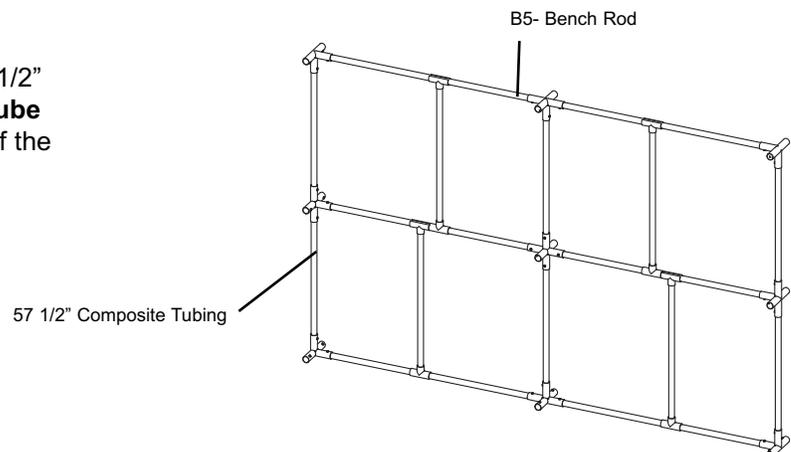
### Pieces required:

- 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)

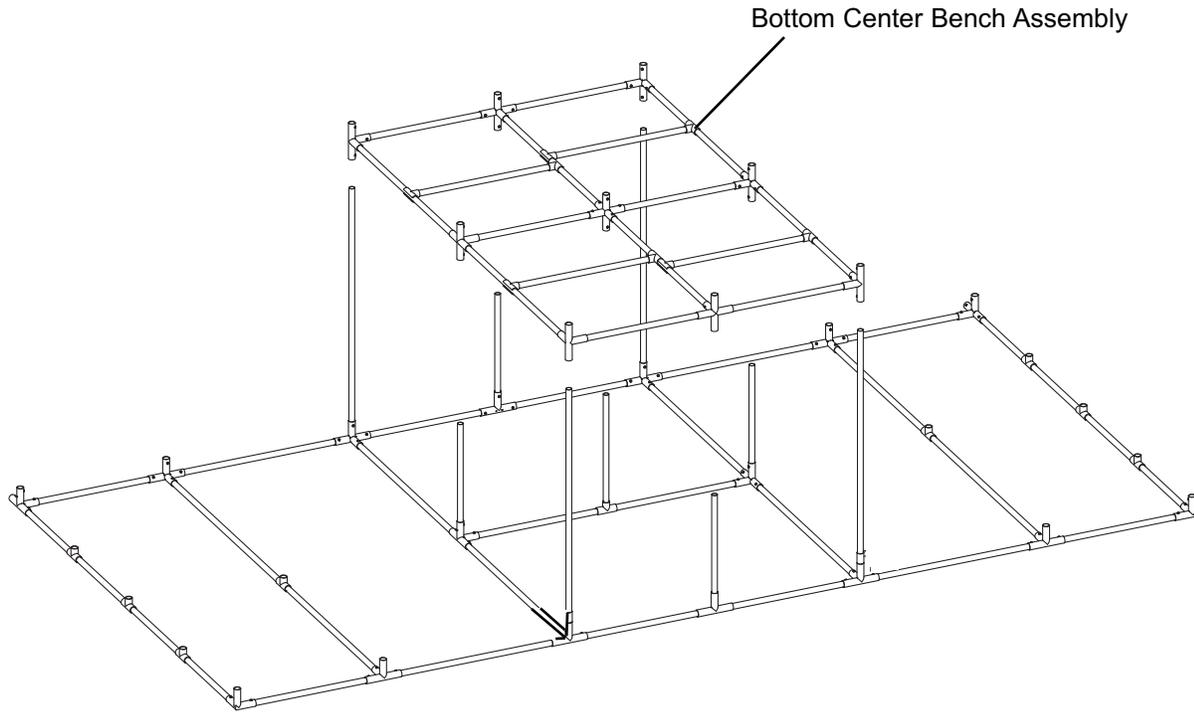
1. Using a B5-Bench Rod, insert a **57 1/2" Composite Tube** into 4-Way Metal T on each end. Tighten eyebolts. Insert a **28" Composite Tube** into the 5-Way Metal Cross in the center of the Bench Rod - tighten eyebolts. Next snap two **28" Supports** onto the bench rod, centering them between the steel fittings.
2. Slide the B-6 Bench Rod onto the 57 1/2" Tubes 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. Tighten eyebolts.



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.



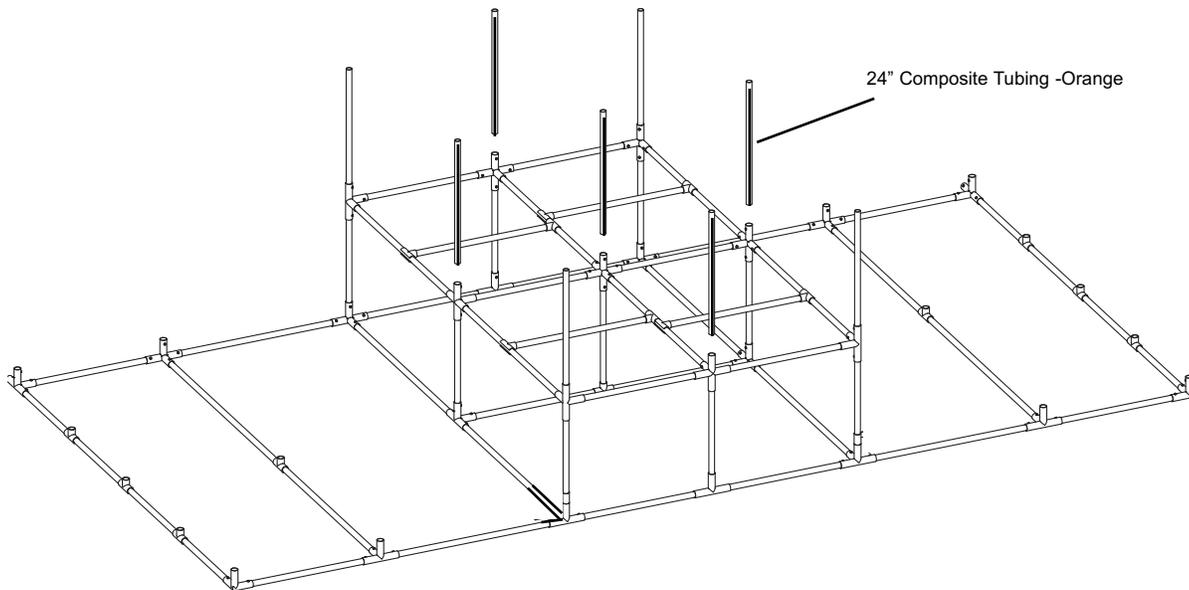
## E. Top Bench Supports

### 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

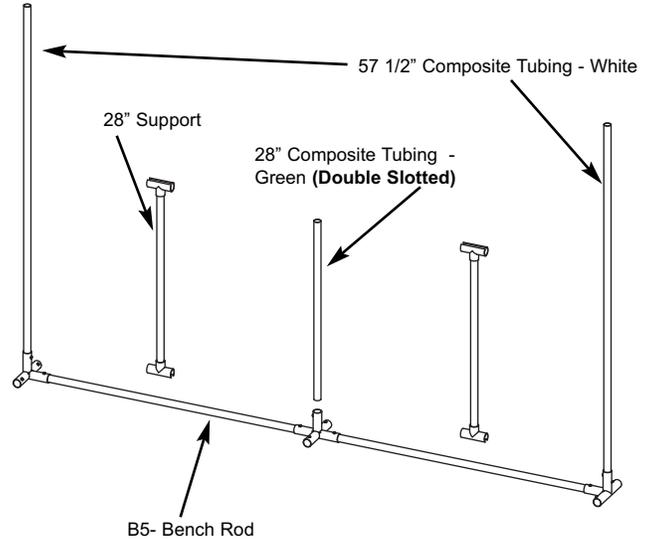
### Pieces required:

- 2 B5-Bench Rods
- 1 T-5 Bench Rod (Step C,3)
- 2 57 1/2" Composite Tubing- WHITE
- 2 28" Composite Tubing - Green (**Double Slotted**)
- 4 28" Supports (Step III, B)

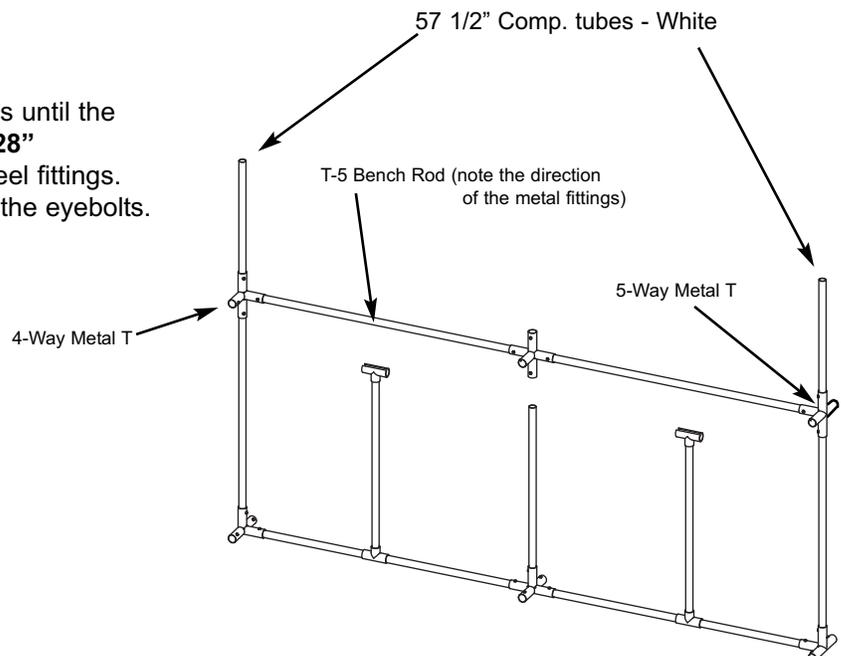
The same basic process is used in the Top Bench Frame as the Bottom Bench Frame, except that all the Bench Rods are the same.

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

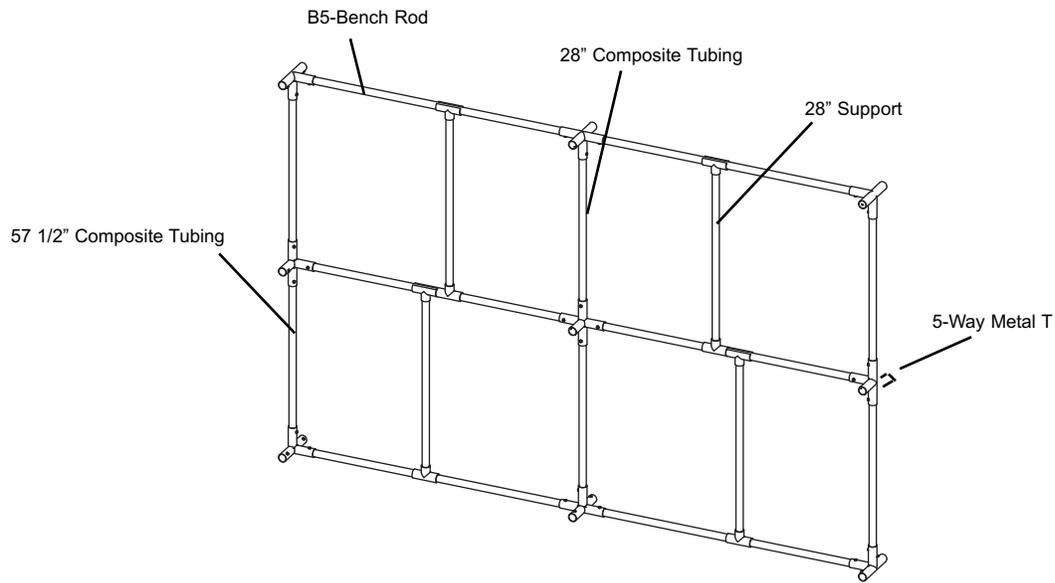
1. Using a B5- Bench Rod, insert a **57 1/2" Composite Tube** into 4-Way Metal T on each end. Insert a **28" Composite Tube** into the 5-Way Metal Cross in the center of the tube. Next snap on two **28" Supports**, centered between the steel fittings. Tighten eye bolts.



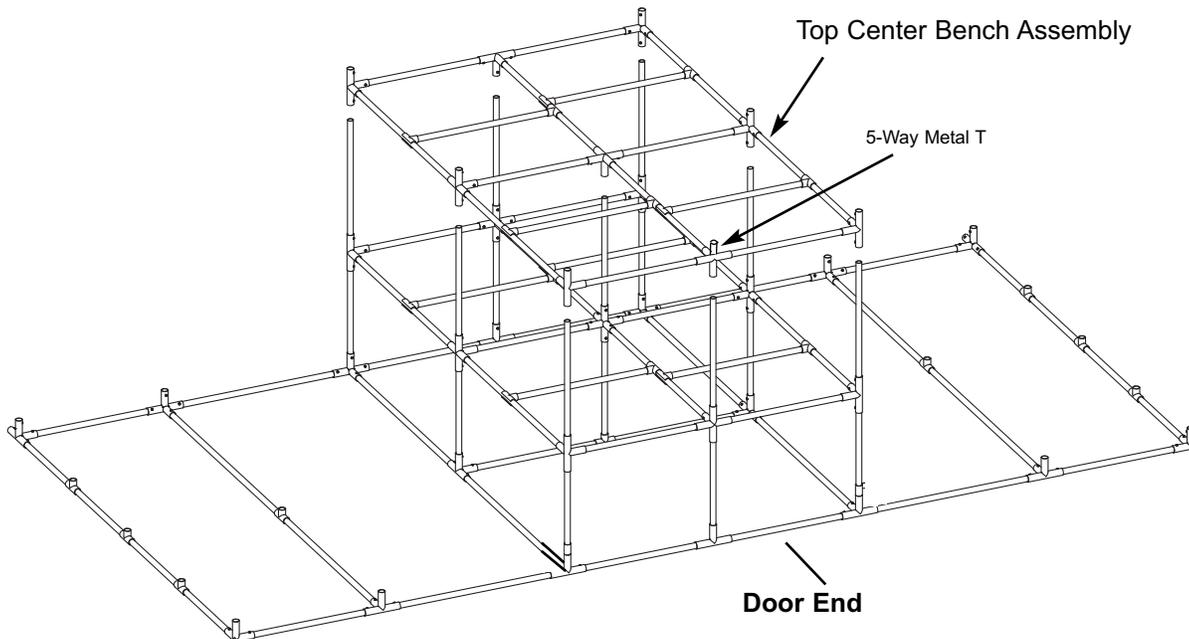
2. Slide the T-5 Bench Rod over the 57 1/2" Tubes until the middle 5-way Metal Cross rests on the center **28" Composite Tube**. Note the direction of the Steel fittings. Pop the snap T's onto the Bench rod. Tighten the eyebolts.



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.

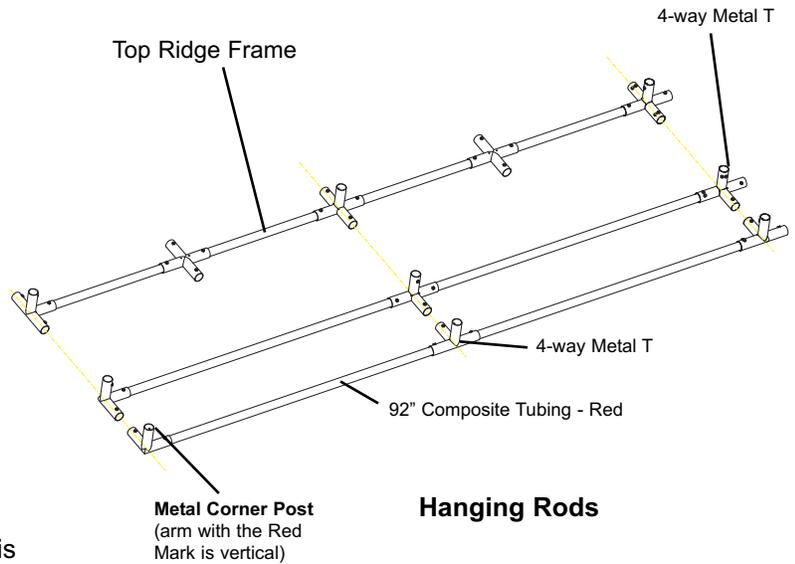
### A. Hanging Rods Make 2

**Pieces required:**

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

1. Mark a line 2 7/8" from one end of each 92" tube and mark a line 2 3/4" from the other end.

1. Slide a **Metal Corner Post** on the end with the 2 3/4" mark on a **92" Composite Tube** (arm with the Red Mark is pointing up).
2. Slide on a **4-Way Metal T**, and attach to the center of the pipe, 46" from the inside to the Corner Post to the Center of Metal T. Attach another 4-Way Metal T to the other end, so the total length is 92 3/4". Check that the measurements match the Top Ridge Frame. Tighten the eyebolts.



**Hanging Rods**

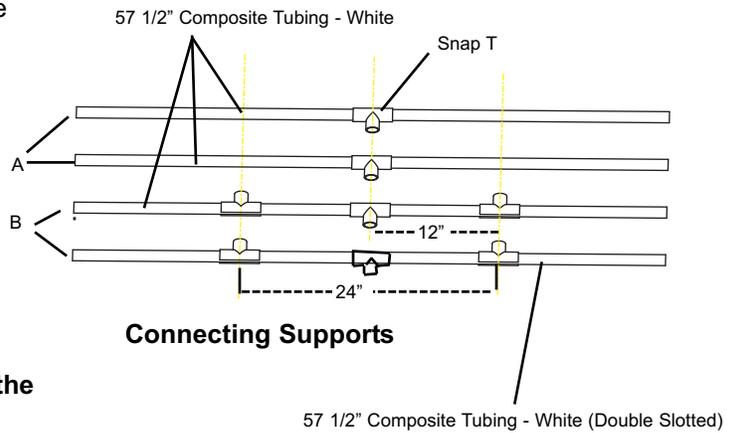
### B. Connecting Supports

**Pieces required:**

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

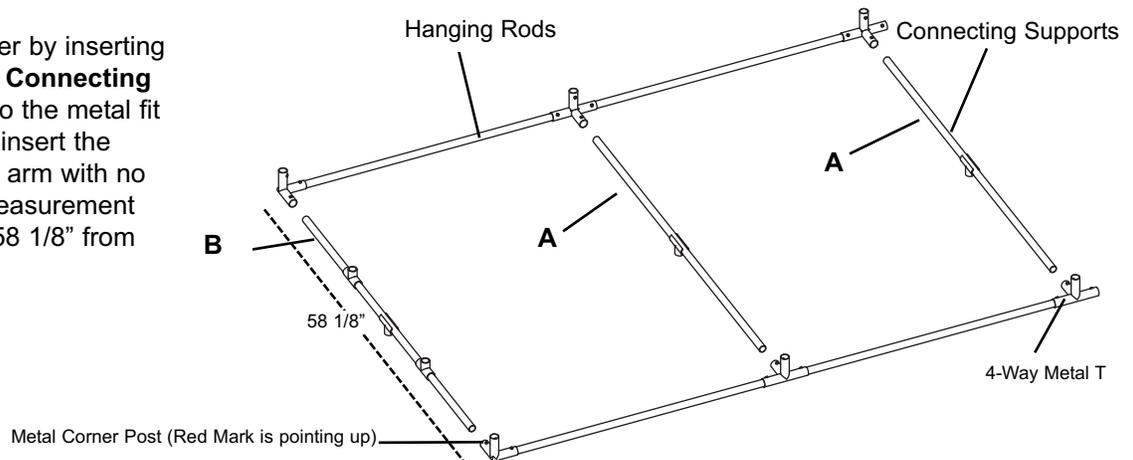
**Snap T's will be facing up, you will rotate them as shown in the drawing in later steps.**

1. Attach a **Snap T** to the center (28 3/4") of each **57 1/2" Composite Tube**. This forms **Connecting Support A**. On two of the **57 1/2" Composite Tubes**, add two additional Snap T's about 12" on either side of the center Snap T's. This makes **Connecting Supports B**. (The Snap T's may be adjusted later in Step V.)



**Connecting Supports**

2. Join the Hanging Rods together by inserting **Connecting Supports A and Connecting Supports B** (with no slots) into the metal fittings (on Metal Corner Posts, insert the Connecting Supports into the arm with no Red Mark). Make sure the measurement between the Corner Posts is 58 1/8" from inside to center.

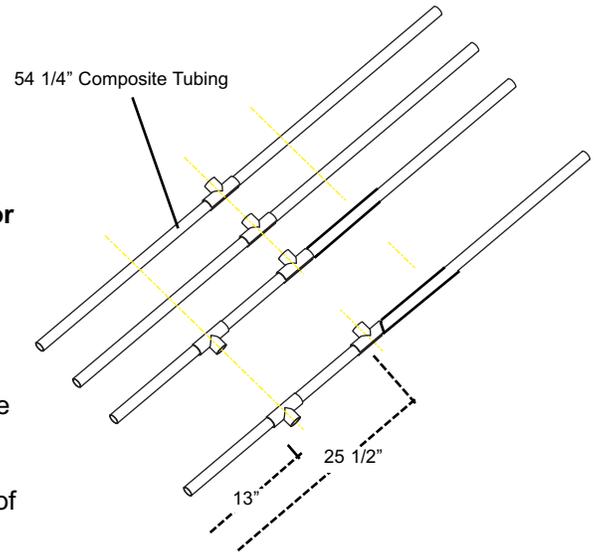


## C. Attaching Vertical Pipes

### Pieces Required

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

1. Attach two Snap T's to two 54 1/4" Composite Tubes, in the following order: Snap T at 13", Snap T at 25 1/2". These are for the **Door End**.
2. For the Back End, on two more 54 1/4" Composite Tubes, attach Snap T's at the 25" level.
3. Insert the two tubes with 2 Snap-T's into the two Corner Posts of the Hanging Rods with the bottom Snap T being at 13". Insert the two tubes with only 1 Snap T into the back 4-way Metal T's. Insert the remaining 2 54 1/4" Composite Tubes into the 4-Way Metal fittings of the Hanging Rods. Tighten the eyebolts.



### Louvers

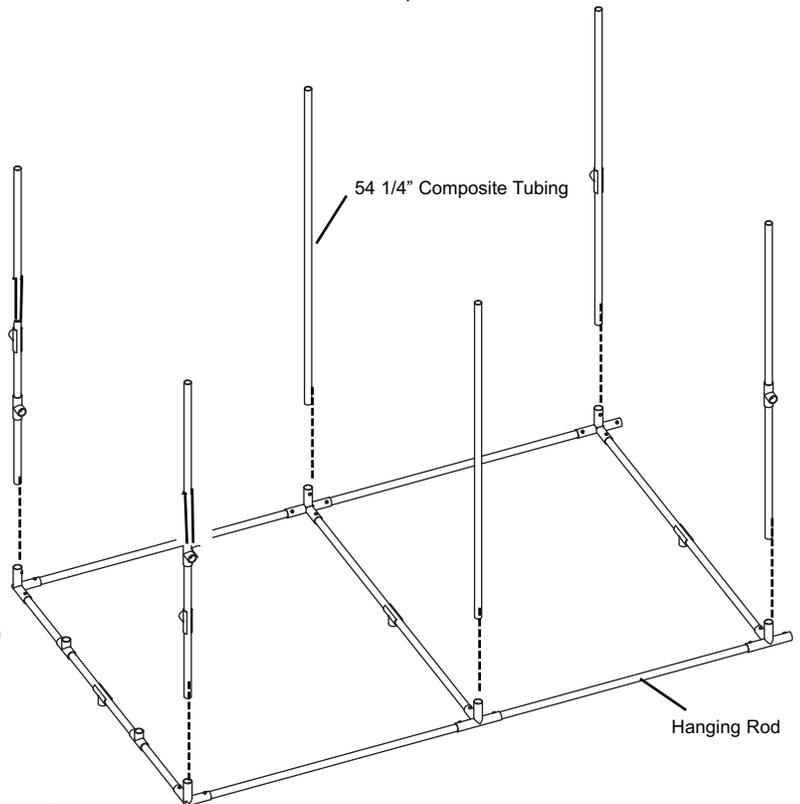
Your greenhouse includes 1 louver for the door end. However, if you are installing a fan on one end, please refer to your fan installation instructions. If you have a 16" fan or larger, you will have to use longer pipes included in the Fan Kit in place of the 12 1/2" pipes.

## D. Attaching End Supports

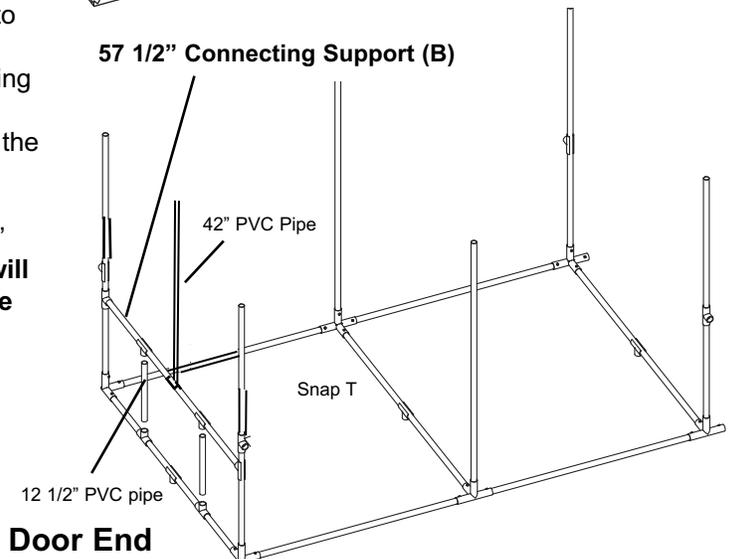
### Pieces Required

- 1 57 1/2" Connecting Support (B) (from Step IV-B)
- 1 42" PVC pipe - RED
- 2 12 1/2" PVC pipes
- 2 1" Screws

1. Insert the **57 1/2" Connecting Support B** (double slotted) into the lower Snap T's on the vertical pipes. Remember about lubricating the tube with glue. You will need to secure the tubing by drilling a screw through the Snap T and into the 57 1/2" 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 57 1/2" tubes. **Note: If you are using a fan larger than 12", you will have longer pipes in your Fan Kit and you will not use the 12 1/2" pipes.**
3. If you are using a larger than 12" fan, you will need to reduce the 42" pipe according to the size of the 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.(B)



### 57 1/2" Connecting Support (B)



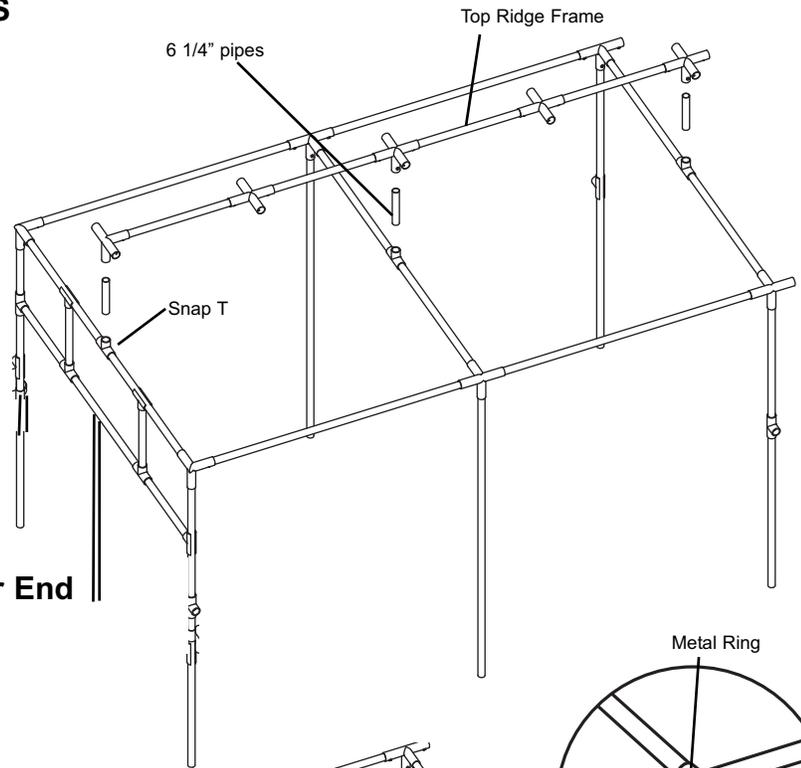
## V. ATTACHING TOP RIDGE ASSEMBLY & RIBS

### Pieces required:

- 3 6 1/4" PVC Pipes- White
- 1 Top Ridge Frame (from Step I)
- 10 Top Rib Pipes (From Preassembly, page 2)
- 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" pipes. Adjust 12 1/2" Pipes to fit around Louver. Remove Louver once adjustment is made. If you are installing a fan, fit the fan in the same way. Remove Louvers/ fan once the adjustment is made.
2. Make sure the 42" pipe has been cut if needed so that all the pipes are touching the ground.

**Door End**

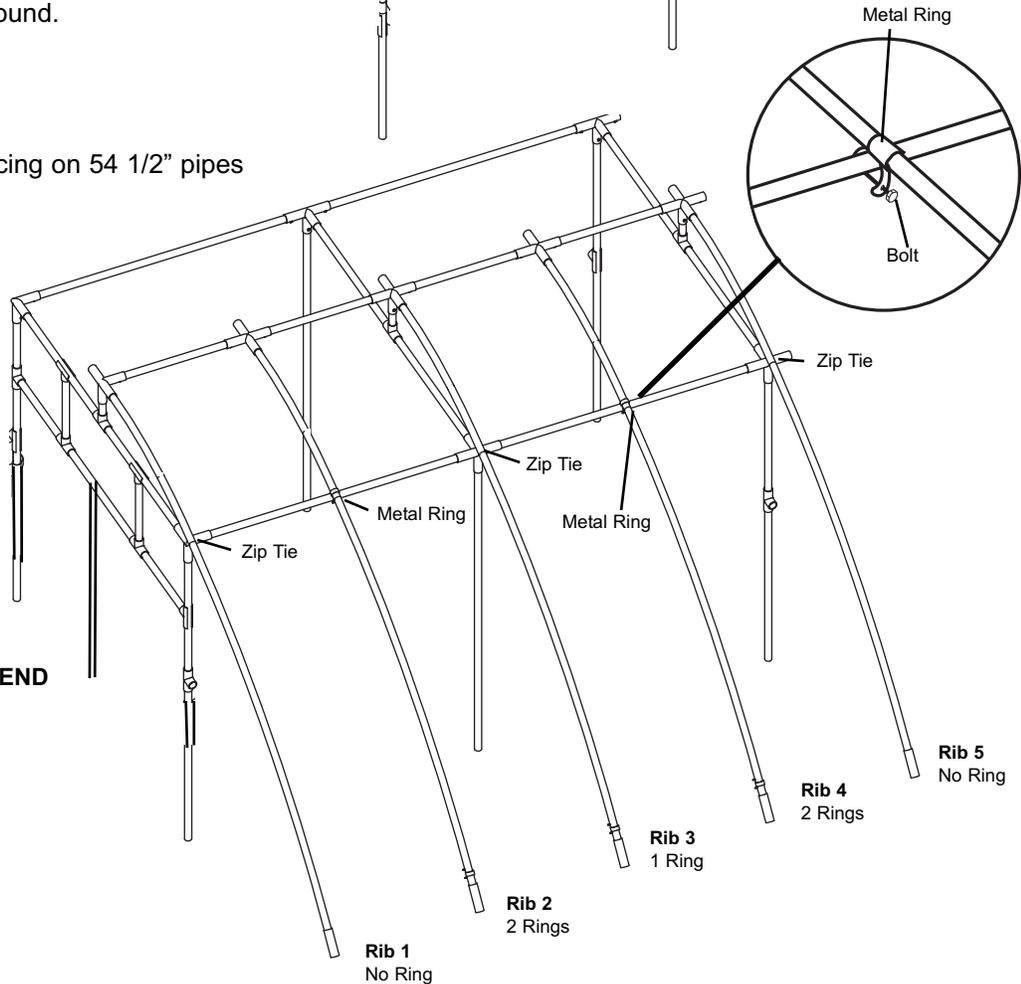


Note: Hanging Rod Assembly is still balancing on 54 1/2" pipes

### Top Ridge Placement

3. Glue 6 1/4" pipes into the center Snap T's on the Connecting Supports.
5. Attach the Top Ridge Frame to the 6 1/4" pipes. Make sure the 4-way Metal T is on the Door End. Tighten eyebolts.

**DOOR END**

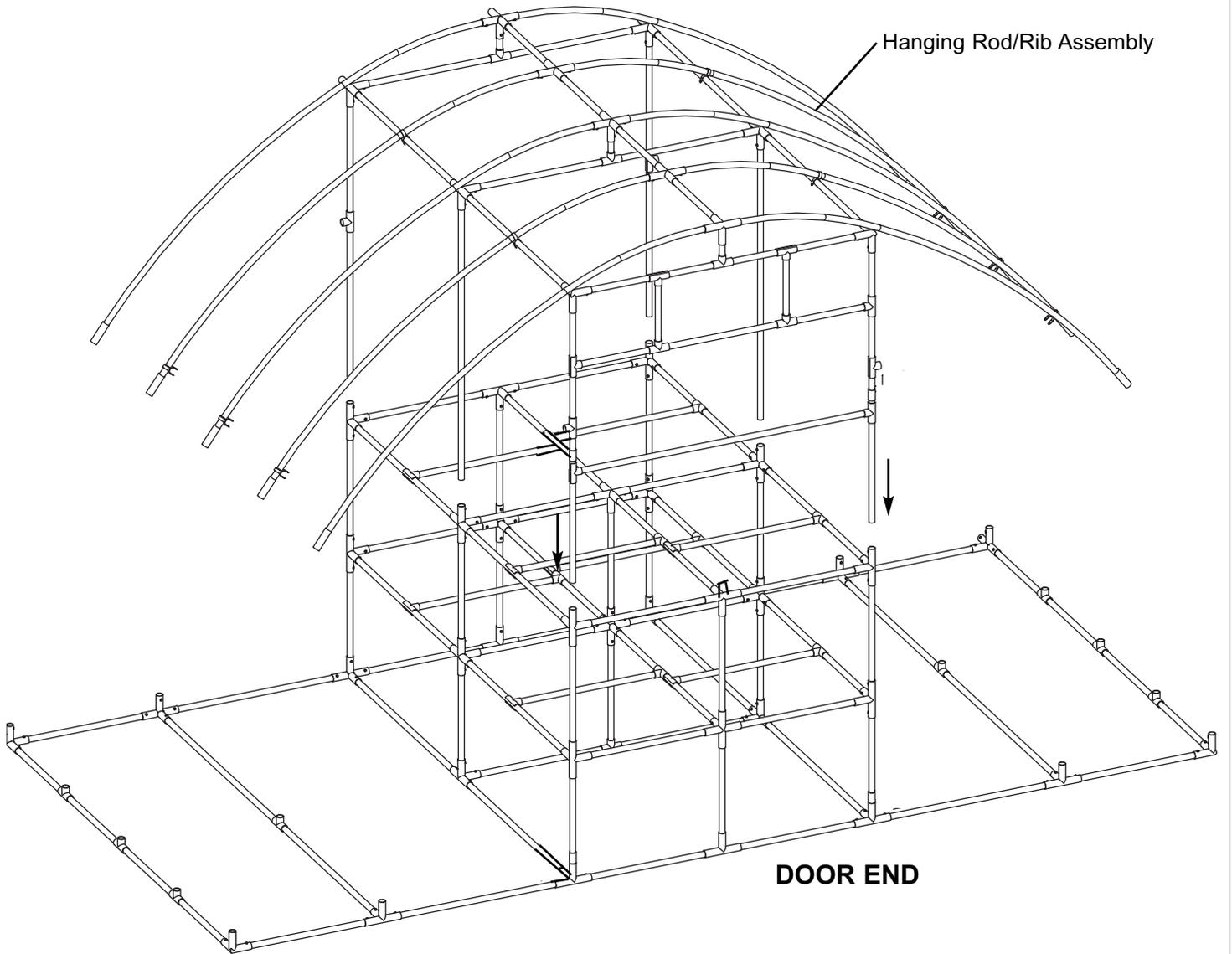


### Insertion of Ribs

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 the Rib insertion on the other side of the Greenhouse.

### Placement of Hanging Rod/Rib Assembly

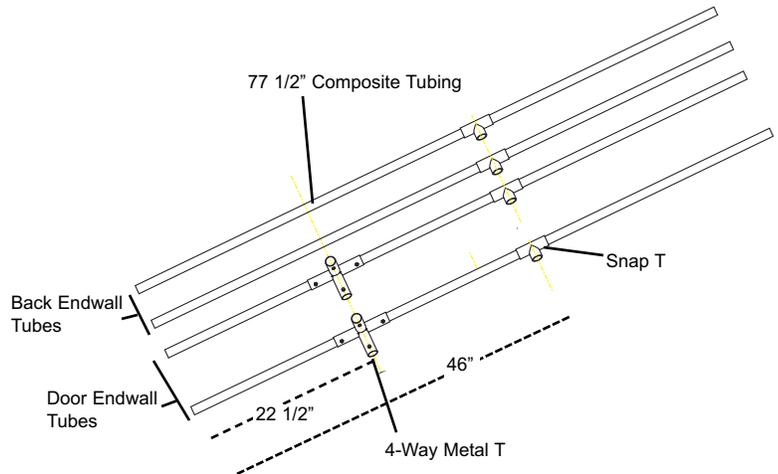
7. Pick up the Hanging Rod/ Rib Assembly and place on top of the Top Bench Frame by inserting the 54 1/4" tubes into the Metal Fittings on The Top Bench Frame. It helps to have 3 or 4 people helping with this step. **Note: Make sure the Door end of the Hanging Rod/Rib assemble matches up with the door end on the Base frame with Bench Frames.** 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)
- 2 22" Composite Tubing -WHITE(Double Slotted)
- 4 4-way Metal T's
- 2 Metal Corner Posts
- 2 5-Way Metal Crosses
- 4 PVC Snap T's
- 12 1" Screws



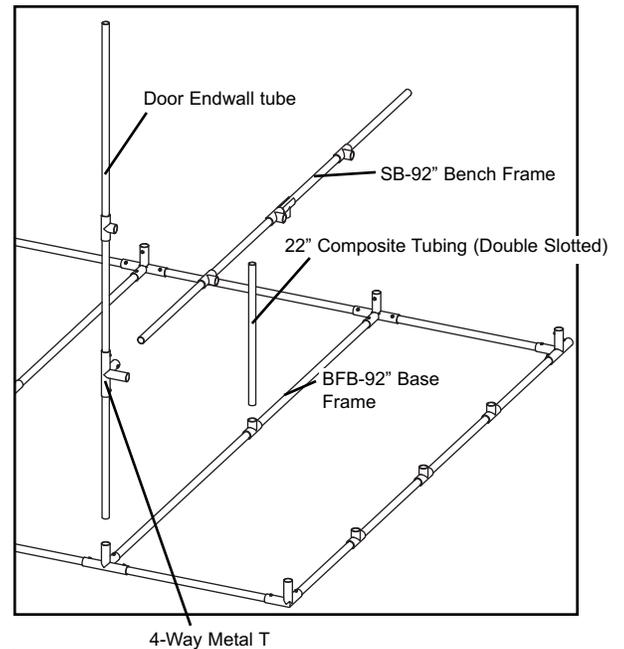
### Vertical Endwall Pipes

1. Slide a **4-way Metal T** onto a **77 1/2" Composite Tubing** - 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. These are the Back Endwalls.

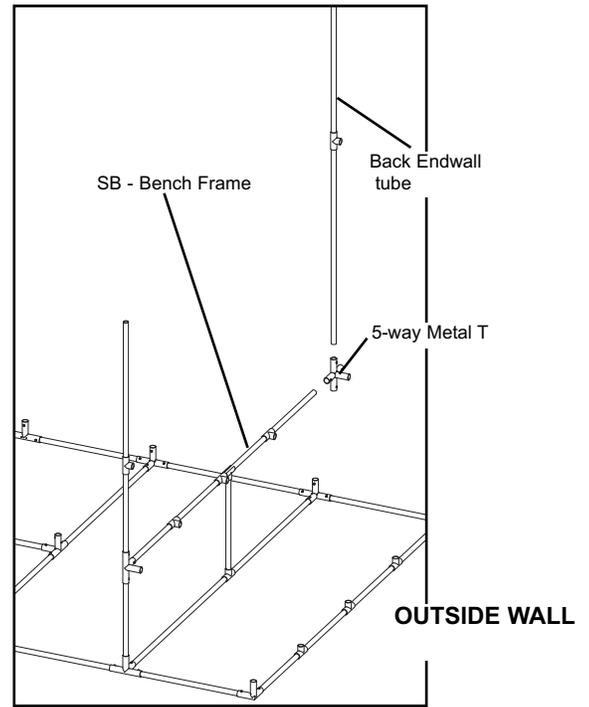
**The next 10 steps will be performed on both sides of your greenhouse. You may complete one side, following the steps below, and then repeat on the other side, or you may make each side simultaneously.**

### 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 Tube** 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.

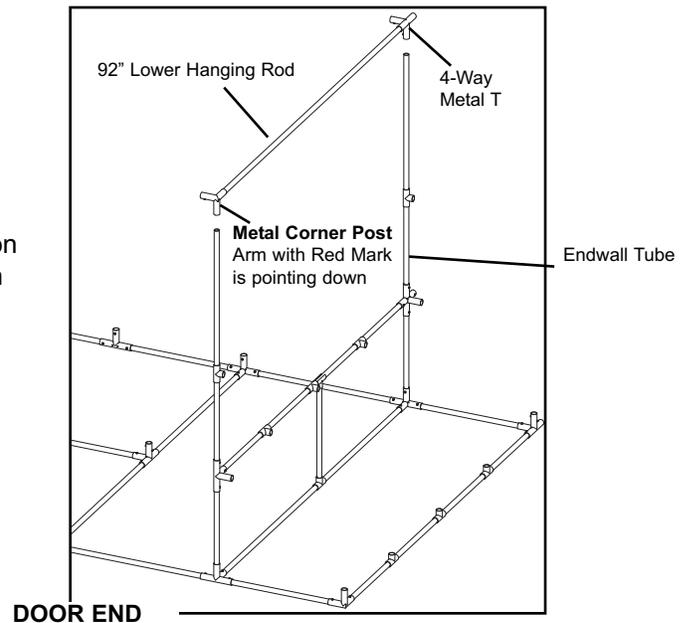


6. Slide a **5-Way Metal Cross** onto the end of the SB 92" Bench Frame so that it bottoms out. One arm should point toward the outside wall of the greenhouse and the other arm should point to the next Greenhouse unit. Tighten eyebolts.
7. Slide the 77 1/2" Back Endwall Tube through the 5-Way Metal Cross on the SB - Bench Frame and down into the 5-Way Metal Cross 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 5-Way Metal T's and tighten the eyebolts.



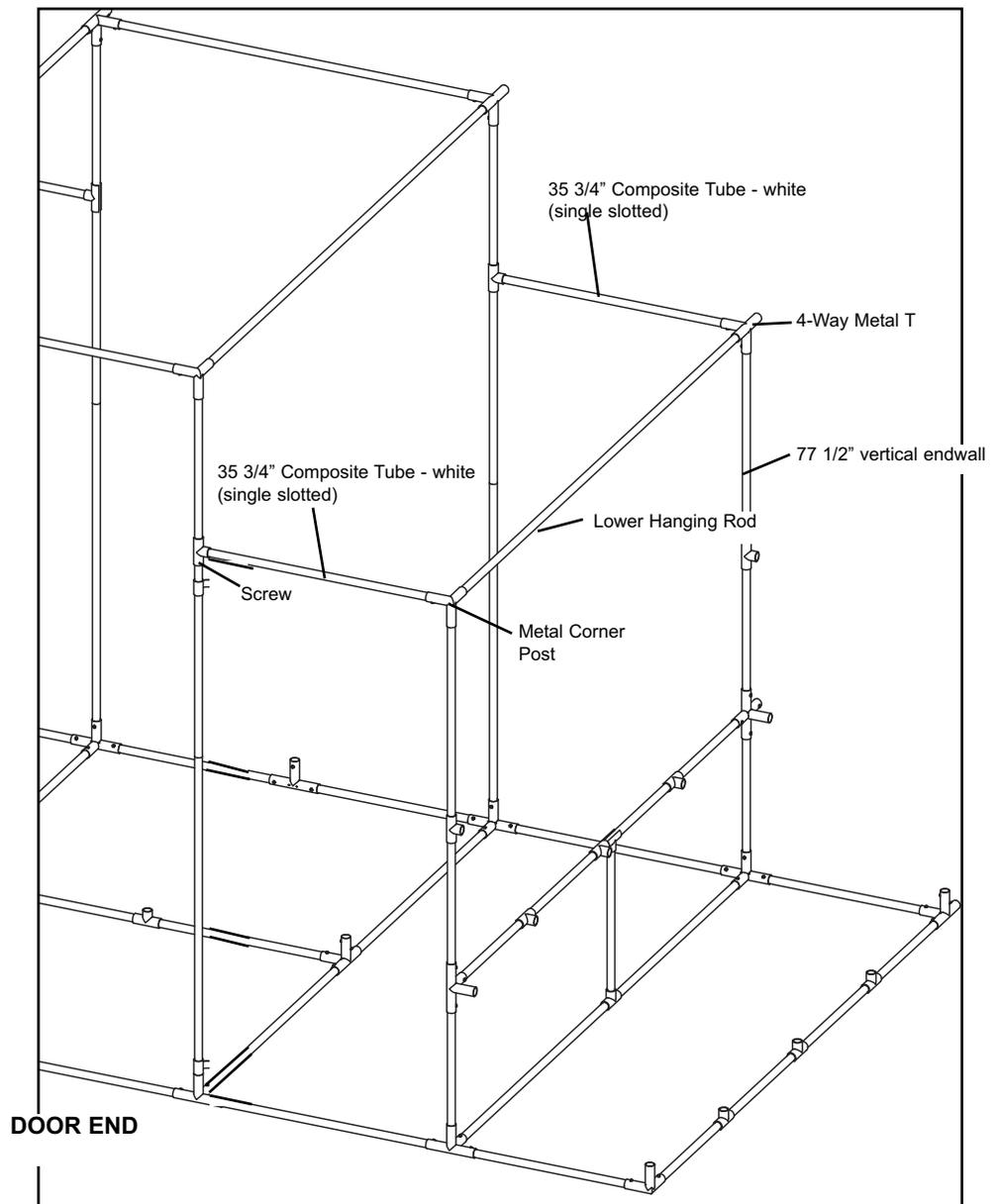
### Lower Hanging Rod

8. On a **92" Composite Tube** attach a **Metal Corner Post** (Arm with the Red Mark is vertical) on one end, and on the other end, attach a **4-Way Metal T**. Adjust both Metal Fittings so the measurement from inside to center is 92 3/4". Tighten the eyebolts. This is the **Lower Hanging Rod**.
9. Slide the Metal fittings of this tube (the Lower Hanging Rod) onto the 77 1/2" Endwall tubes, with the Metal Corner Post on the Door End of the Greenhouse. Make sure that the arm on the Corner Post with the Red Mark is pointing down, and the remaining arm points into the **center** of the greenhouse. One arm of the 4-Way Metal T also points to the Center.



## Endwall Frames

10. On the Door End, insert a **35 3/4" Composite Tube - single slotted** 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 the tube into the Snap T with a 1" Screw through the Snap T and into the 35 3/4" Tube (Adjust Snap- T if necessary). Adjust the tube in the Metal 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 and into the vertical tube to keep to Snap T from sliding. Repeat on the Back End of the greenhouse.

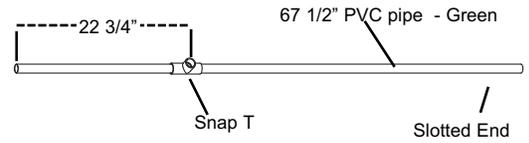


## VII. LOWER RIB ATTACHMENTS:

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 (Single Slotted)
- 10 Snap T's
- 4 18" PVC pipes (1/2" diameter)



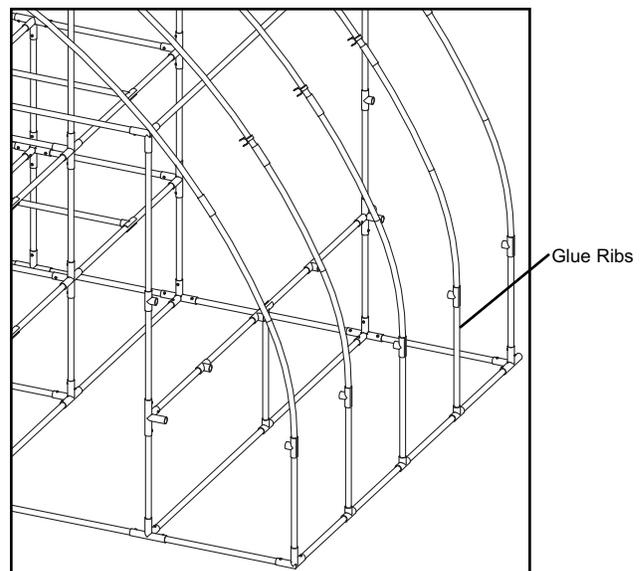
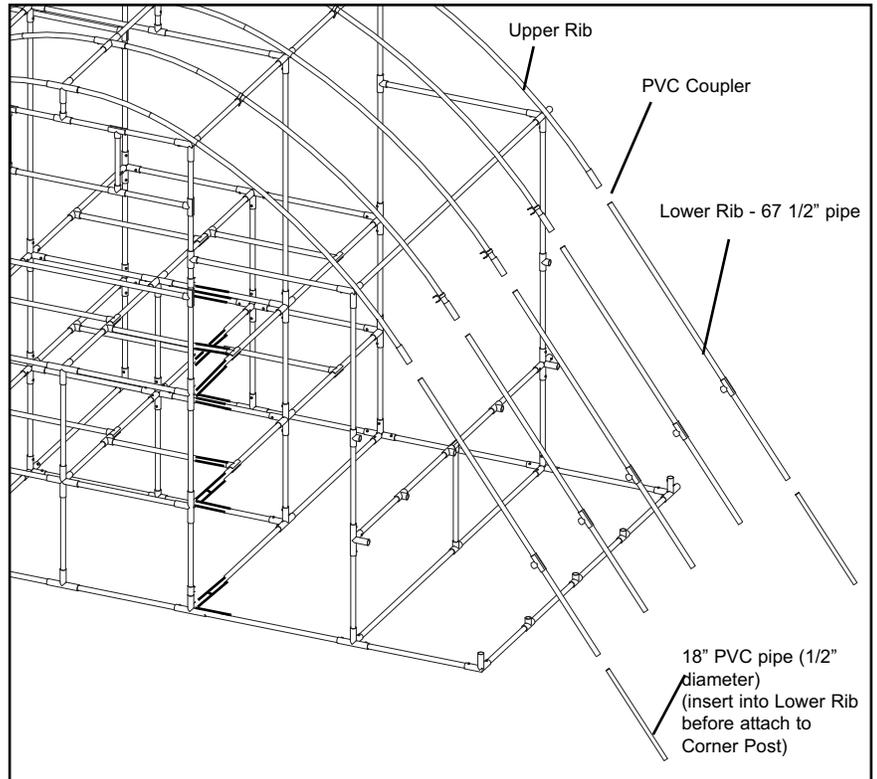
1. **Lower Ribs:** Attach a Snap T to each 67 1/2" PVC Pipe- Green about 22 3/4" from the unslotted end.

**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.

2. Glue the slotted end of a 67 1/2" 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 Eye Bolts.

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

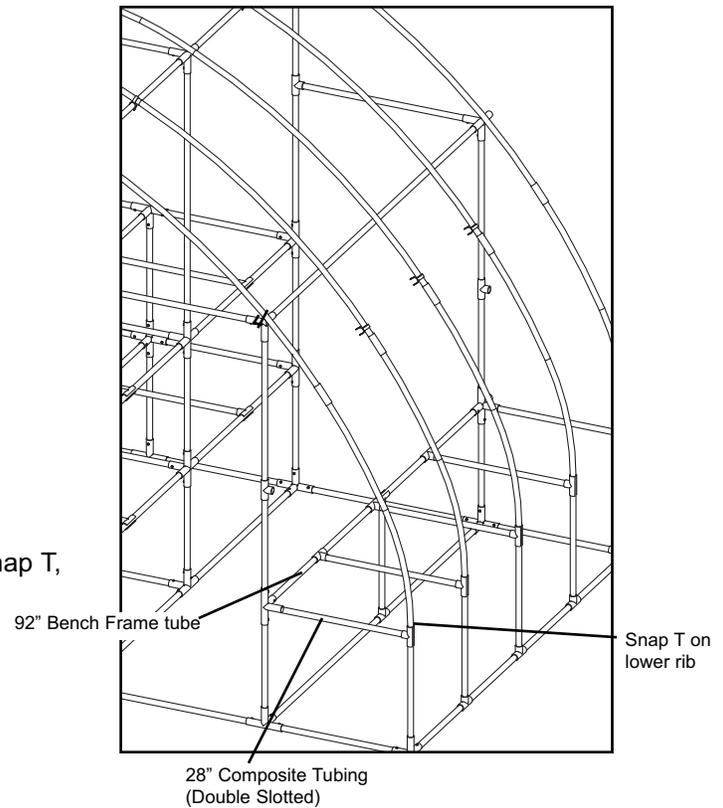


## VIII. SIDE BENCHES AND SIDE SUPPORTS

### Pieces required:

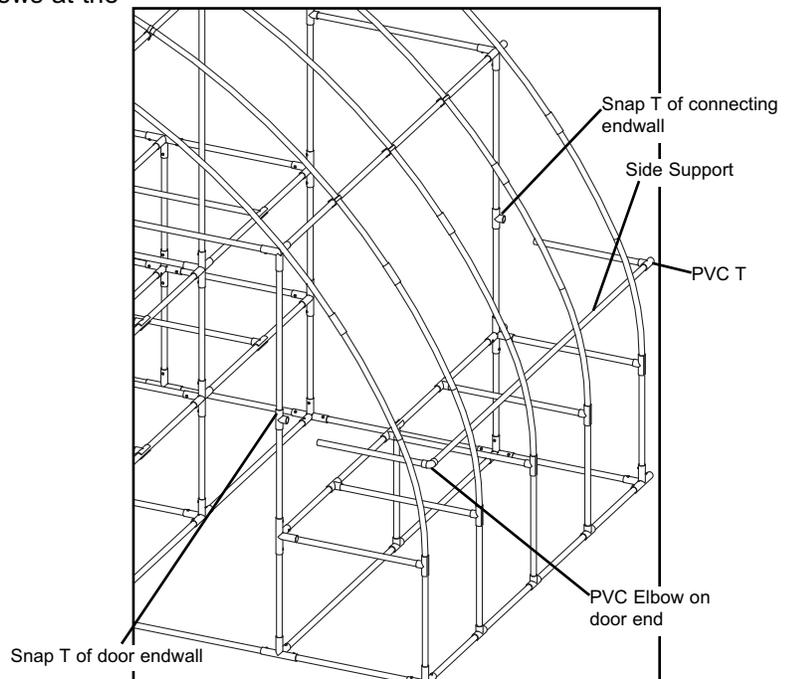
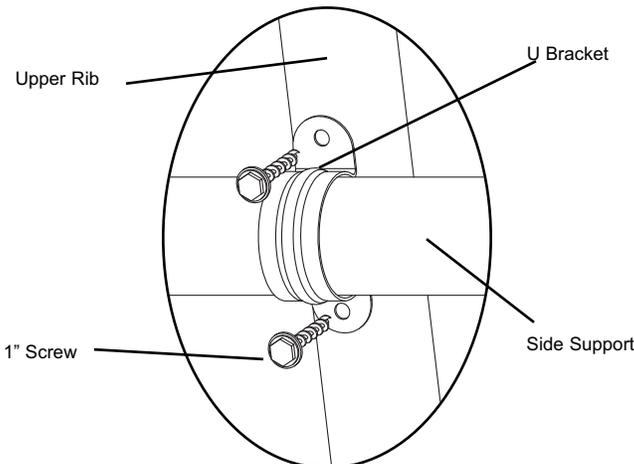
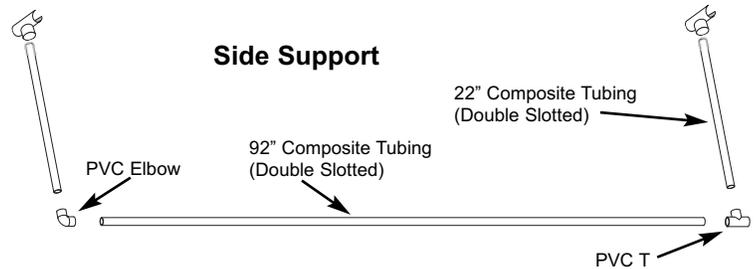
- 10 28" Composite Tubing - GREEN (Double Slotted)
- 4 22" Composite Tubing- WHITE (Double Slotted)
- 2 92" Composite Tubing - Red (Double Slotted)
- 2 PVC T'S
- 2 PVC Elbows
- 50 1" Screws
- 6 "U" Brackets
- 8 Black Zip Ties
- 6 Nuts and Bolts

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 T** on one end of a **92" Composite Tubing (Double Slotted)** and a 90° PVC Elbow on the opposite end. Attach each 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 PVC T and secure with 1" Screws. This is the Side Support.
5. Attach the Side Supports into the Snap T's with 1" Screws at the 46" height on the 77 1/2" Door Endwall 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.

