ASSEMBLY INSTRUCTIONS

16’ X 8’ X 8’ Harvester

G- 416 (3.5mm)

This kit includes (1) latched door , (1) double-decker bench, (1) side bench, (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 screw bag)

TOOLS NEEDED:

A. VARIABLE SPEED DRILL
B. SCREWDRIVER
C. LONG SHARP KNIFE
D. TAPE MEASURE
E. STEP LADDER
F. PLIERS
G. 4-5 tubes “Clear” IS 800 Silicone Rubber Adhesive Sealant & 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 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.

PARTS LIST

16' X 8' X 8' Harvester

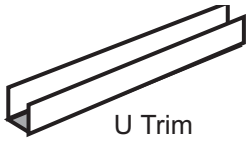
G-416 (3.5mm)

*Please make sure your kit includes all the following parts before you begin assembly. **HINT: Keep parts inside their original box so you can easily locate them when assembling the greenhouse.**

ROLL BOX 1 97/98 lbs (20" x 20" x 51")

_____	7	49 1/2" x 97 1/2" Panels
_____	1	36 1/2" x 80" Door Panel
_____	2	24" Composite Tubing - Orange
_____	4	22" Composite Tubing - White **(Double Slotted)**
_____	6	18" PVC pipe - 1/2" diameter
_____	1	2' H-Channel
_____	1	36" U-Trim
_____	1	33" Composite Tubing- Cross Bar with Snap T (for door) - Slotted

NOTE: To conserve shipping space, U-Trim and 1/2" diameter pipe are sometimes inserted into 3/4" pipe tubing. Please check frame pieces before assembly.



U Trim

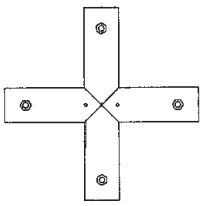
INNER box 2 39 lbs (Sleeve)

BAG 1	_____	8	Metal Corner Posts
BAG 2	_____	7	5-Way Metal-T
BAG 3	_____	1	Metal-T
	_____	2	5-Way Metal-T
	_____	4	4-way metal-T's
BAG 4 & 5	_____	8 Ea	4-way metal-T's (16 total)

33" Composite Cross Bar with Snap T (for door) - slotted

ROLL BOX 3 89/90 lbs (20" x 20" x 51")

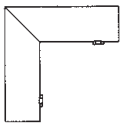
_____	7	49 1/2" x 97 1/2" Panels
_____	27	28" Composite Tubing - Green **(Double-Slotted)**
_____	4	28" PVC pipes - Green



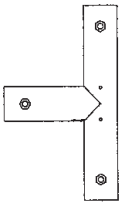
Metal Cross

INNER BOX 4 21 lbs (Sleeve)

BAG 1	_____	6	90° Metal Elbow
	_____	10	Metal Rings
	_____	10	1 1/2" x 1/4" Bolts
	_____	10	1/4" Nuts
BAG 2	_____	9	4" x 1" PVC Couplers
	_____	4	PVC snap-T's
Bag 3, 4, 5	_____	25 ea	PVC snap-T's (Total of 75)

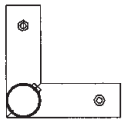


90° Metal Elbow

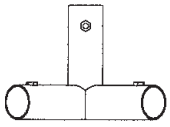


metal-T

Bag 6 - Is on the next page *************



Metal Corner Post - Top View

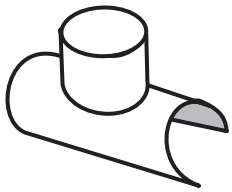


Metal Corner Post

G-416 (3.5mm)

BAG 6

_____	12	Large Black Zip Ties
_____	50	Small Screws
_____	4	Yellow Banding
_____	4	Metal Banding Clips
_____	550	1" Screws
_____	1	¼" Driver
_____	1	**Door Parts Bag**:

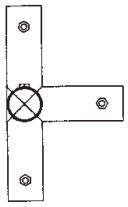


PVC snap-T

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)

BOX 5 38/39 lbs (99" x 7 ¼" x 5")

_____	6	94 ½" Composite Tubing - Green
_____	6	94 ½" Composite Tubing - Green **(Single-Slotted)**
_____	9	94 ½" PVC pipes - Green **(Single-Slotted)**



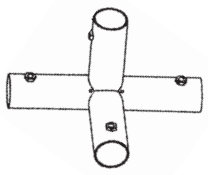
4-way metal-T - Top View

BOX 6 48lbs (99" x 7 ¼" x 5")

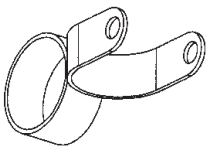
_____	23	92" Composite Tubing - Red

BOX 7 40/41 lbs (99" x 7 ¼" x 5")

_____	11	8' H-Channel
_____	3	77 ½" Composite Tubing - Black
_____	1	75" Composite Tubing - Orange (Door)
_____	1	75" Composite Tubing (**with Holes for Hinges)**
_____	2	77 ½" Side Door Casings (**1 with Hinge Pieces Attached**)
_____	9	64 ½" PVC pipes - Blue **(Single-Slotted)**
_____	1	38" Top Door Casing
_____	2	43 ½" Composite Tubing - Green **(Single-Slotted)**
_____	3	35 3/4" Composite Tubing - White **(Single-Slotted)**
_____	1	35 3/4" PVC pipe - White
_____	2	33" Composite Tubing - Black
_____	11	49 ½" U Trim



4-way metal-T



Metal Ring

BOX 8 6 lbs (28" x 15" x 5")

_____	1	Louver Assembly

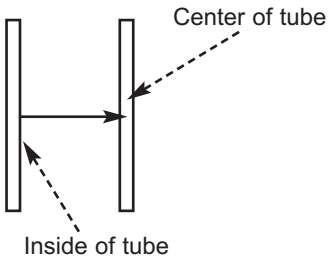
Packed by:_____

Date: _____

1. **Hints for Preassembly**

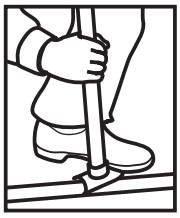
A.

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.

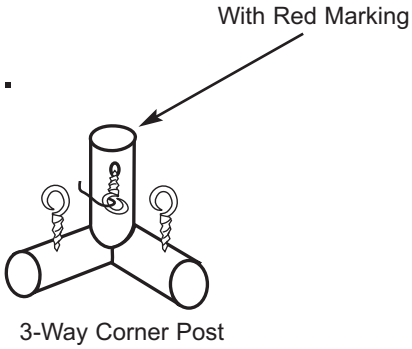
NOTE: Attaching snap-T's this way prevents pinched fingers! Use a small pipe and step on the snap-T.



C.

Note: Tubes that are double-slotted have slots on each end. Single-Slotted Tubes only have slots on one end. All Slotted ends attach to snap-T's.

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 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

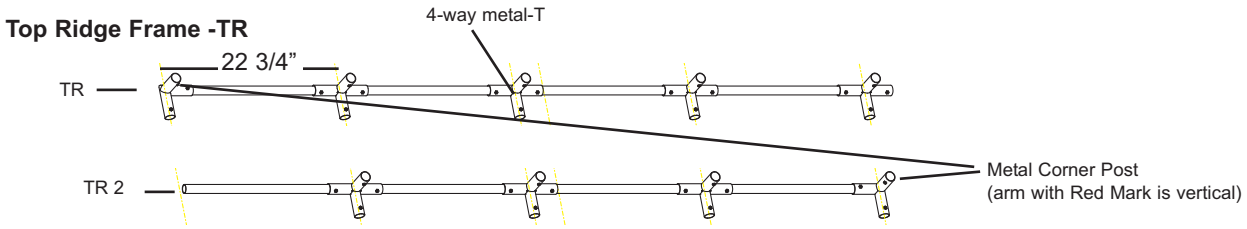
2. TOP RIDGE FRAME, BENCH & BASE RODS

Pieces Required:

8	4-way metal-T's
4	Metal Corner Posts
4	5-way Metal Crosses
2	Metal 90° Elbows
1	metal-T
20	92" Composite Tubing - RED
34	snap-T's

Making the Top Ridge Frame

Complete as shown on a level surface so the Top Ridge Frame will be flat and not twisted. Top Ridge Frame is used in Step 7.



A. Using a pen, make a mark 2 3/4" from the end on both ends of two 92" Composite Tubes.

B. Slide three 4-Way metal-T's onto both 92" Composite Tubes. Attach a Metal Corner Post (not arm with Red Mark is vertical) on one end of each tube until the post is even with the drawn line on the tube (See illustration above) On one 92" Composite Tube, attach a 4-way metal-T to the open end - slide on so the post is even with the drawn line. (tighten eyebolts).

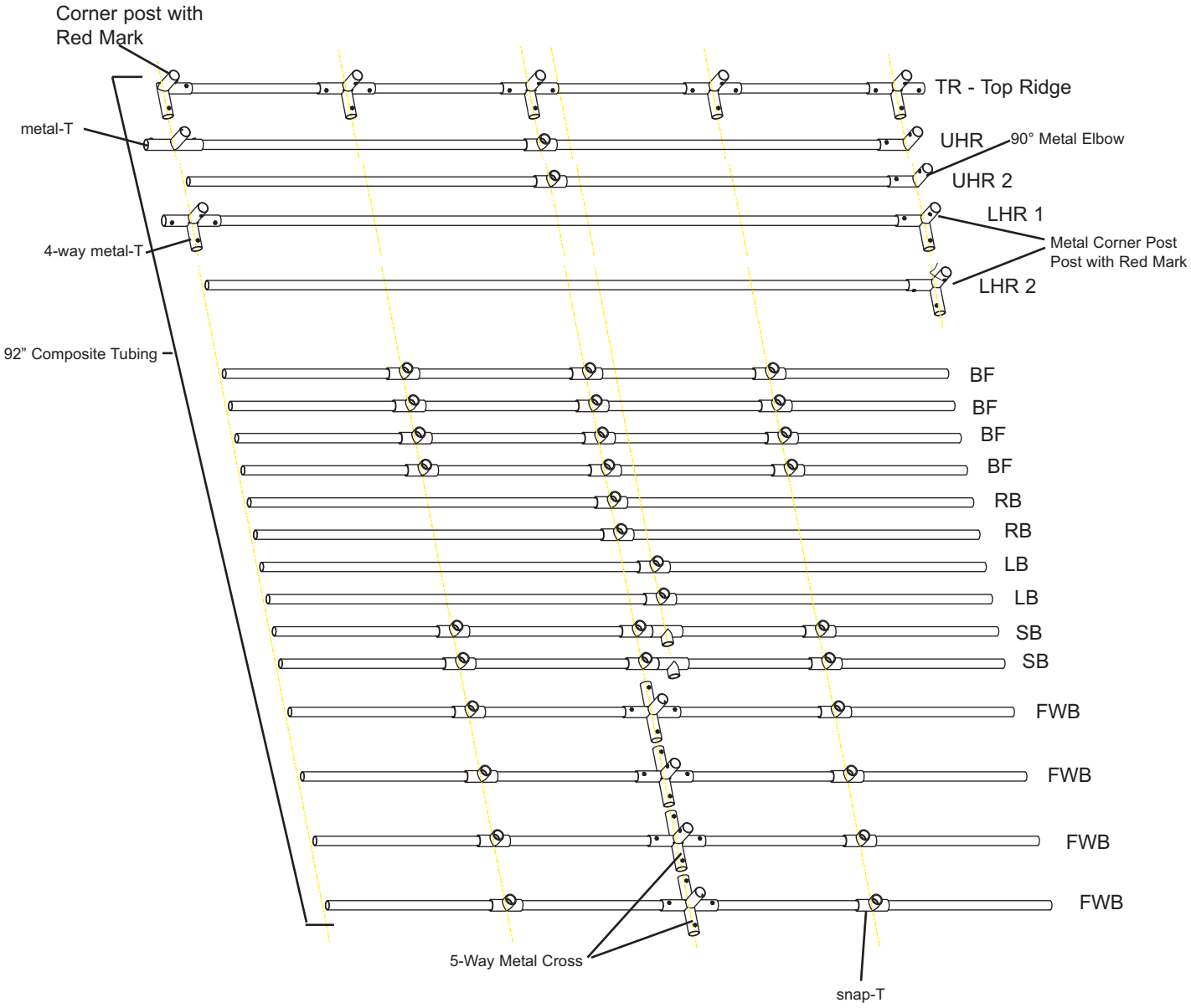
C. On both 92" tubes, position the first 4-Way metal-T over the 92" tube so that the distance from the inside of the 4-way metal-T to the center of the Metal Corner Post is 22 3/4". Twist the eyebolts tight.

D. Position the 2nd 4-way metal-T so the distance from the inside of the 1st 4-way metal-T to the center of the 2nd 4-Way metal-T is 22 3/4" - tighten. Slide over the 3rd 4-way metal-T so the distance from the inside of the 2nd 4-way metal-T to the center of the 3rd 4-way metal-T is 22 3/4" - tighten.

Step 2 continued....

Aligning the snap-T's and Metal Fittings

E. Use the Top Ridge Frame to line up the snap-T's and Metal Fittings on the remaining 92" tubes. Follow the drawing below. Label the tubes (BF, base frame; LB, left base; RB, right base; SB, side bench; UHR, upper hanging rod; UHR 2, upper hanging rod;LHR lower hanging rod; LHR 2 lower hanging rod; FWB, flat wall bench) with a permanent marker to reduce confusion about the tubes in later steps.
On the BF tubes draw a line 2 3/4" from each end.



FRAME ASSEMBLY

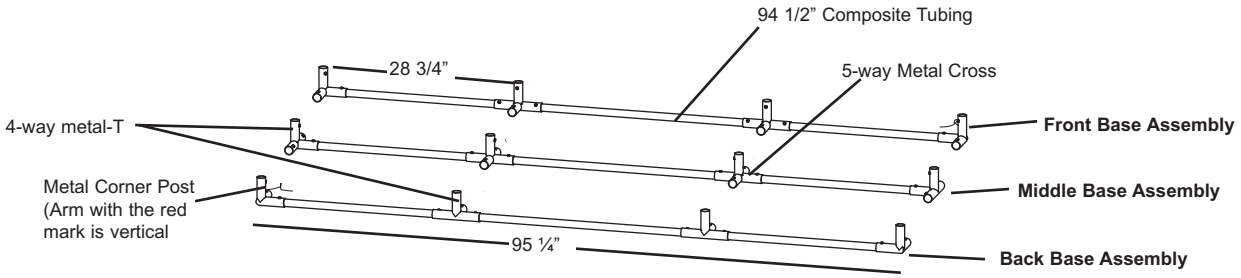
3. BASE FRAME

Make sure working surface is clean and level.

Pieces required:

4 Metal Corner Posts
6 4-way metal-T's
2 5-way Metal Crosses
3 94 ½ " Composite Tubing - GREEN
4 BF - 92" Composite Tubing - RED (from step 2)
2 LB - 92" Composite Tubing (from step 2)
2 RB - 92" Composite Tubing - RED (from step 2)

NOTE: It is important that the Corner Post is put on the right way. (The arm with the Red Mark is pointing up.



A. Using a pen, make a mark 2 3/4" from both ends of each 94 1/2" tube.

B. On two 94 ½" Composite Tubes, slide on two 4-way metal-T's. On the third 94 1/2" Composite Tube, slide on two 5-way Metal Crosses. Attach a Metal Corner Post (arm with Red Mark is vertical) to each end of the Front and Back base frame tubes until the post is even with the drawn line and tighten eyebolts. Attach 4-way metal-T's to each end of the middle base frame. Secure each 4-way metal-T and 5-way Metal Cross at 28 ¾" (inside to center) from each Metal Corner Post.

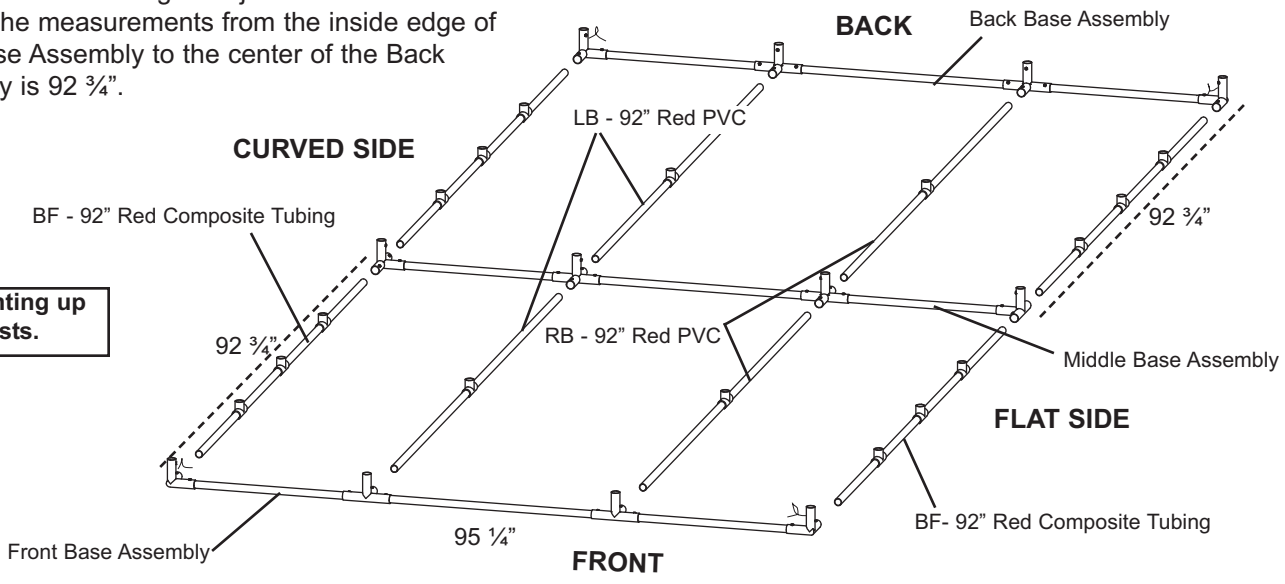
C. Attach two BF- 92" Composite Tubes to the Metal Corner Posts of the Front Base Assembly until the post is even with the drawn line. Attach a LB and RB - 92" Composite Tube to 4-way metal-T's of the Front Base Assembly. RB - 92" goes on the flatwall side.

D. Attach the fittings of the Middle Base Assembly to the open ends of the 92" Tubes. Adjust Metal Fittings so that the measurement from the inside edge of the Front Base Assembly to the center of the Middle Base Assembly is 92 ¾".

E. Repeat the process in step C, inserting the 92" tubes into the Middle Base Frame.

F. Attach the fittings of Back Base Assembly to the open ends of the 92" tubes. Push the 92" LB & RB tubes all the way into the Metal Fittings. Adjust Metal Corner Posts so that the measurements from the inside edge of the Middle Base Assembly to the center of the Back Base Assembly is 92 ¾".

Red Mark is pointing up on all Corner Posts.

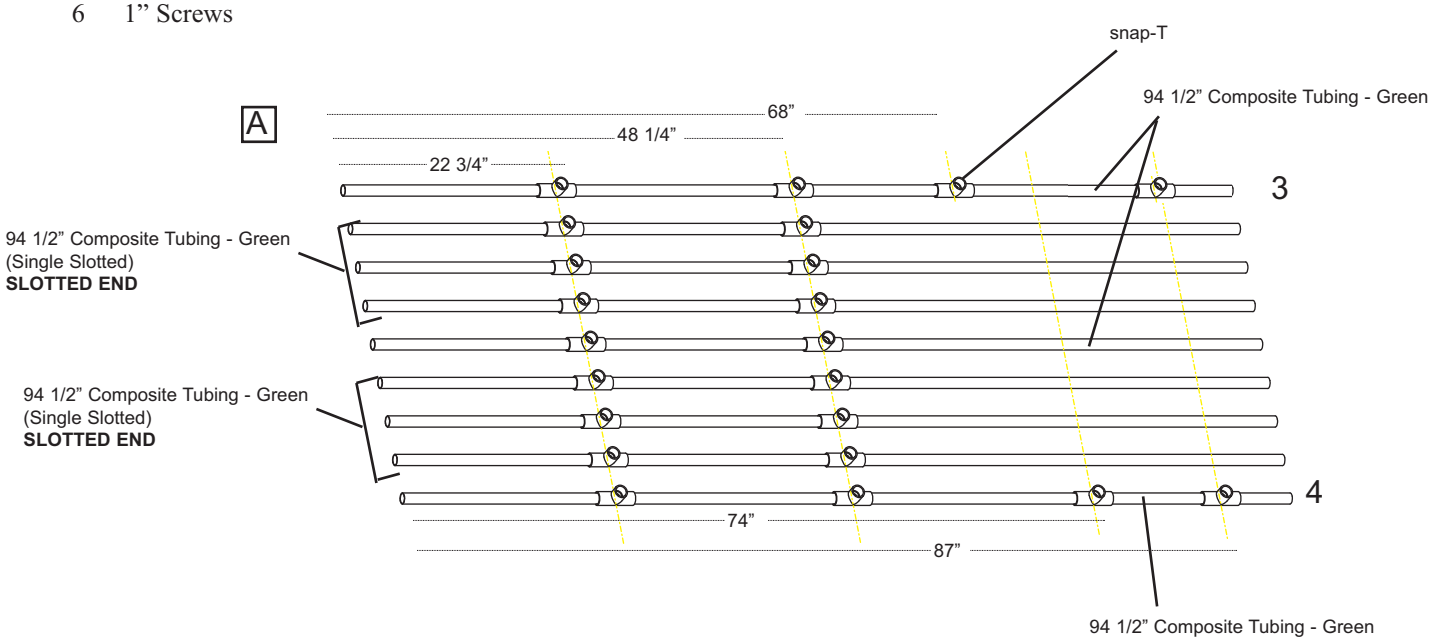


4. Flat Wall

Pieces Required:

3 94 1/2” Composite Tubing - Green
6 94 1/2” Composite Tubing - Green (Single Slotted)
22 snap-T’s
3 18” PVC pipe - 1/2” diameter
6 1” Screws

►►Be sure to use the composite tubing and not the PVC pipe. (Composite tubing has the gray fibers.)



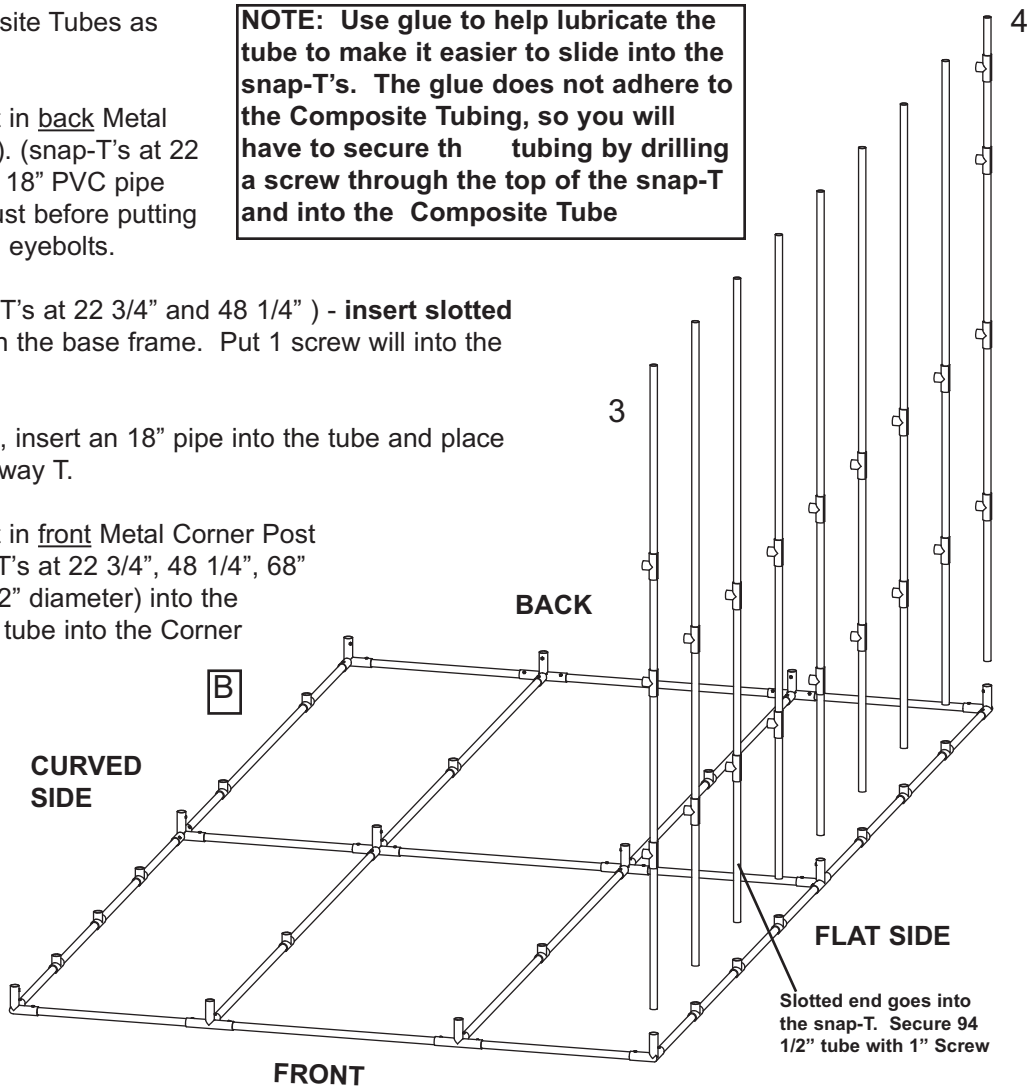
A. Attach snap-T’s to the 94 1/2” Composite Tubes as shown.
B. Insert the Flat Wall tubes as follows:
• 94 1/2” Tube with 4 snap-T’s - insert in back Metal Corner Post (Arm with the Red Mark). (snap-T’s at 22 3/4” , 48 1/4”, 74” and 87”). Slide an 18” PVC pipe (1/2” diameter into the 94 1/2” Tube just before putting the tube into the Corner Post. Tighten eyebolts.

NOTE: Use glue to help lubricate the tube to make it easier to slide into the snap-T’s. The glue does not adhere to the Composite Tubing, so you will have to secure th tubing by drilling a screw through the top of the snap-T and into the Composite Tube

• 94 1/2” tubes with 2 snap-T’s (snap-T’s at 22 3/4” and 48 1/4”) - **insert slotted end completely** into the snap-T’s on the base frame. Put 1 screw will into the snap-T and the tube.

For the composite tube without slots, insert an 18” pipe into the tube and place the composite tube into the Metal 4-way T.

• 94 1/2” Tube with 4 snap-T’s - insert in front Metal Corner Post (the armwith the Red Mark). (snap-T’s at 22 3/4”, 48 1/4”, 68” and 87”). Slide an 18” PVC pipe (1/2” diameter) into the 94 1/2” Tube just before putting the tube into the Corner Post. Tighten eyebolts.

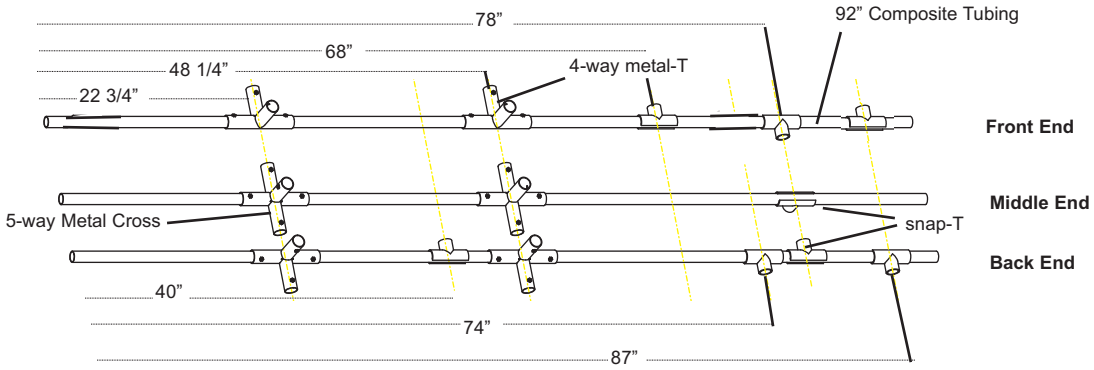


5. Flat Wall Side Endwalls

Pieces Required:

3 92” Composite Tubing - Red
8 snap-T’s
4 4-Way metal-T’s
2 5-Way Metal Crosses
2 22” Composite Tubing - White (Double Slotted)
2 1” Screws

A



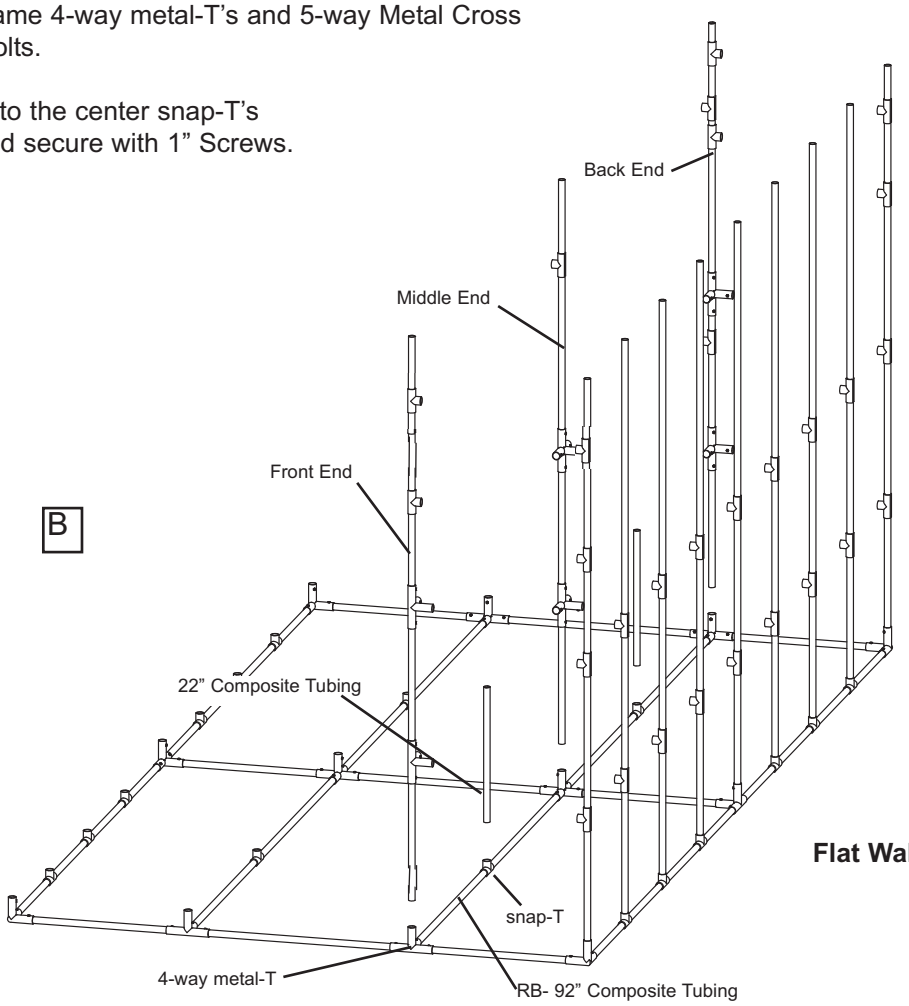
A. On each 92” Composite Tube attach metal fittings and snap-T’s.

- Front End: 22 3/4” (4-way), 48 1/4” (4-way), 68, 78”, 87” (snap-T’s)
- Middle End: 22 3/4” (5-way), 48 1/2” (5-way), 78”
- Back End: 22 3/4” (4-way), 40”, 48 1/4” (4-way), 74” , 78” , 87”

Insert the assemblies into the base frame 4-way metal-T’s and 5-way Metal Cross closest to the Flat wall. Tighten eyebolts.

B. Attach a **22” Composite Tubes** into the center snap-T’s on RB - 92 “ Composite Tubes and secure with 1” Screws.

B

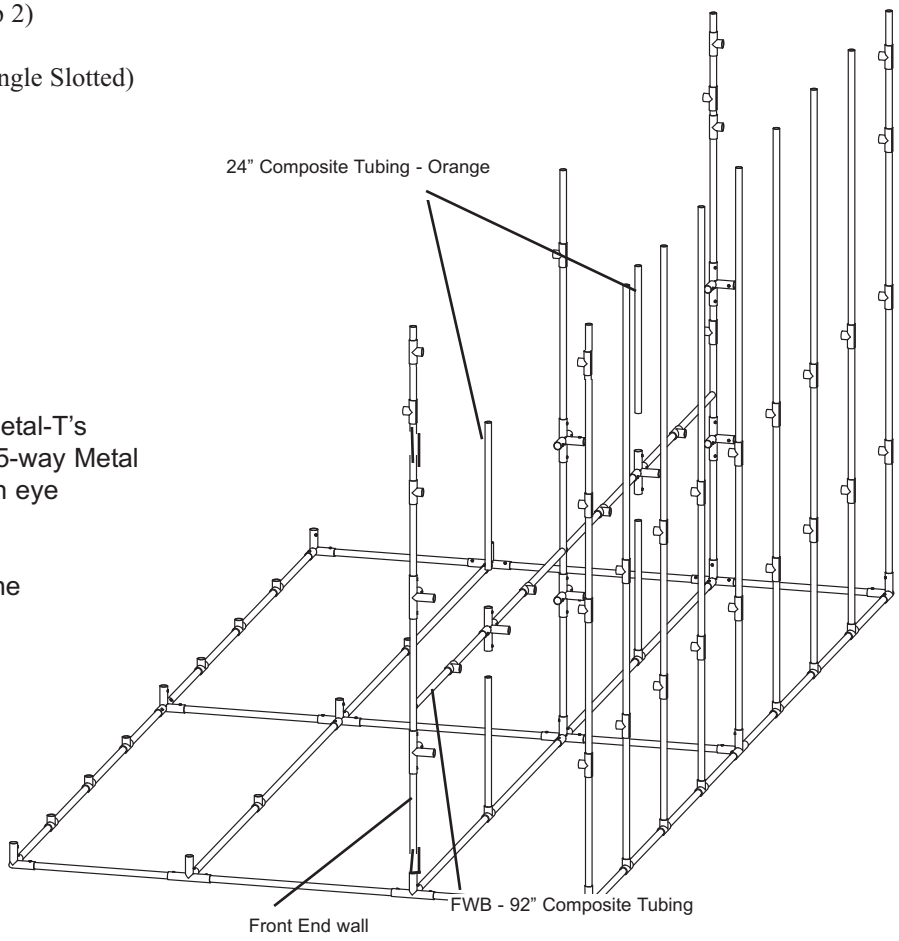


Flat Wall Side

6. Flat Wall Bench Rods

Pieces Required:

4 FWB - 92” Composite Tubing (from step 2)
2 24” Composite Tubing - ORANGE
2 43 1/2” Composite Tubing - GREEN (Single Slotted)



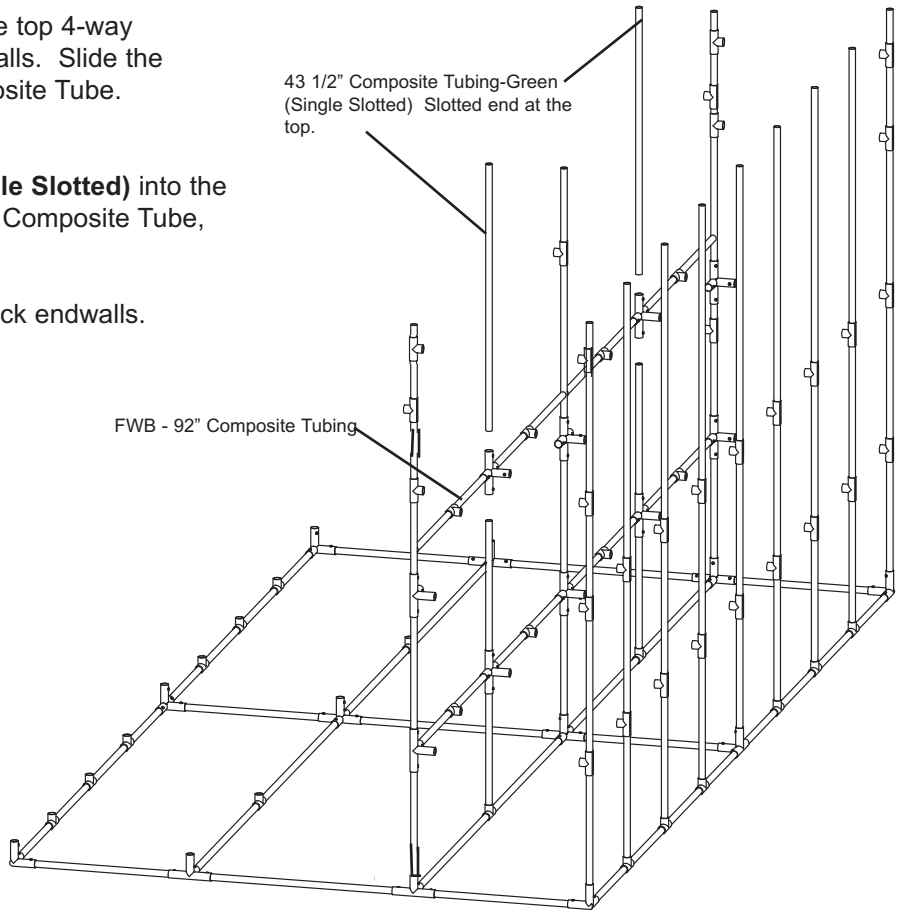
A. Insert FWB 92” tube into the bottom 4-way metal-T’s of the Front and Middle End wall. Slide the 5-way Metal Cross over the 22” Composite Tube. Tighten eye bolts.

B. Insert a 24” Composite Tube into the top of the 5-way metal-T. Tighten eyebolts.

C. Insert the second FWB 92” tube into the top 4-way metal-T’s of the front and middle endwalls. Slide the 5-way Metal Cross over the 24” Composite Tube. Tighten eyebolts.

D. Slide a **43 1/2” Composite Tube (Single Slotted)** into the 5-way Metal Cross of the top FWB 92” Composite Tube, slotted end up. Tighten eyebolt.

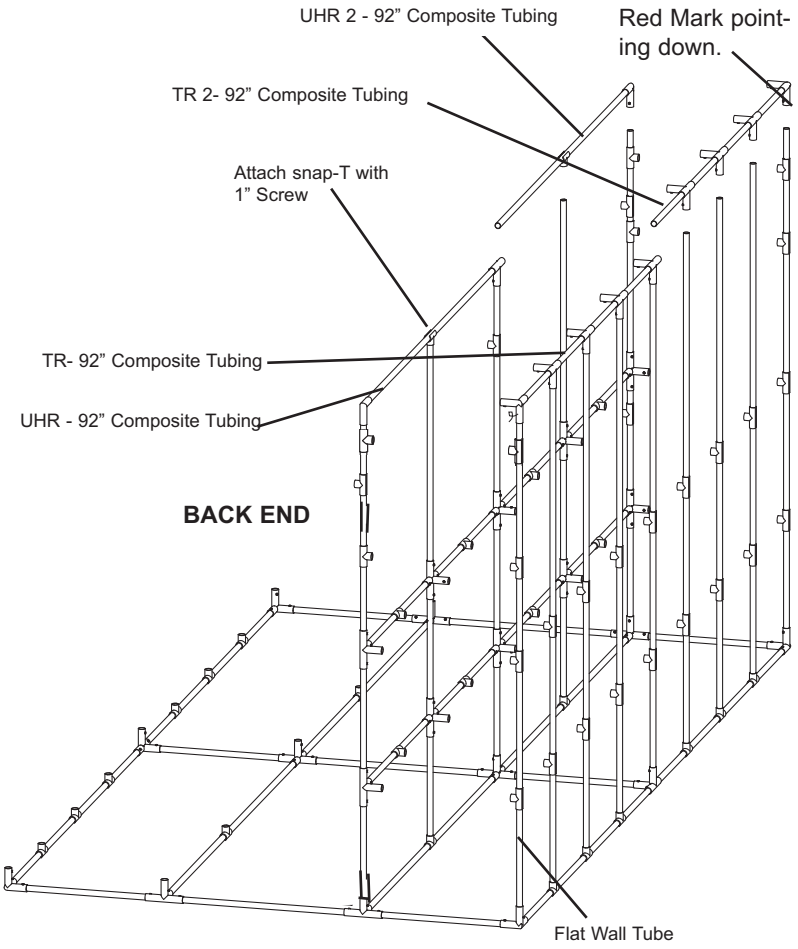
E. Repeat A-D between the middle and back endwalls.



7. Top Ridge & Hanging Rod

Pieces Required:

1 TR- 92” Composite Tubing - (from step 2)
1 TR 2 - 92” Composite Tubing (from step 2)
1 UHR - 92” Composite Tubing (from step 2)
1 UHR 2 - 92” Composite Tubing (from step 2)
2 1” Screws



A. Attach TR-92’ Composite Tube to the Flat Wall tubes on the front end (Note: On the Metal Corner Posts, arm with the Red Mark attaches to the Flat Wall Tube). Secure eyebolts. Attach the TR 2 -92” Composite Tube to the back and of the greenhouse and join it to TR - 92” Composite Tube.

B. Attach the UHR-92” Composite Tube to the top of the Front and Middle End wall tubes. Tighten eyebolts. Attach center snap-T to 43 1/2” Composite Tube with 1” Screw. Repeat for the back end of the greenhouse using the UHR 2 - 92” Composite Tube.

8. Flat Wall Benches & Supports

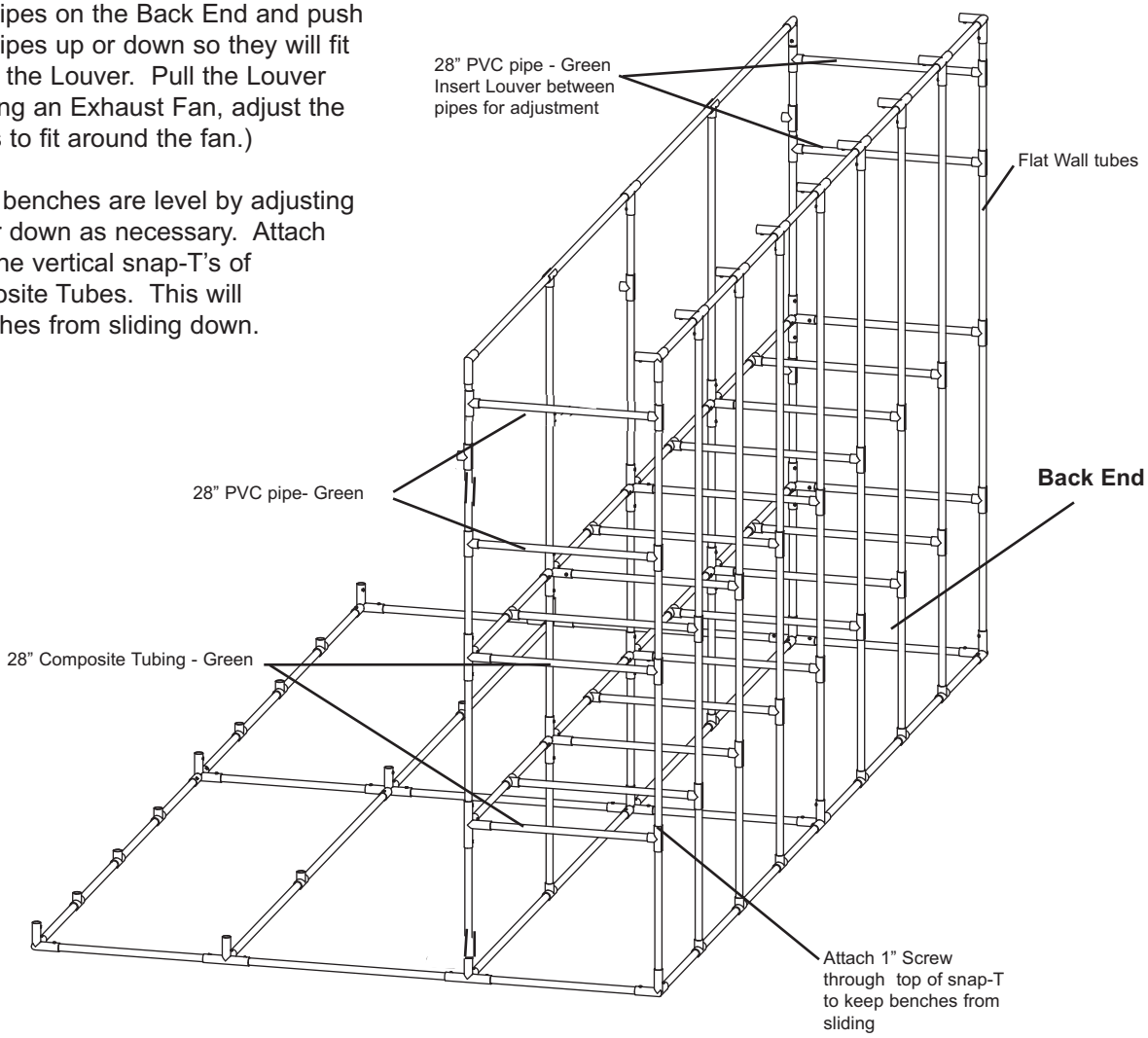
Pieces Required:

18 28” Composite Tubing - GREEN (Double Slotted)
4 28” PVC pipe - GREEN
44 1” Screws

A. Insert 28” Composite Tubes between the metal fittings and the snap-T’s on the Flat wall tubes. Where bench frames go into a snap-T on one end and a Metal fitting on the other end, always insert 28” Composite Tubes into the Metal fitting first. Glue all PVC fittings.

B. Glue the 28” PVC pipes between the upper snap-T’s. Insert the Louver between the 28” PVC pipes on the Back End and push the 28” PVC pipes up or down so they will fit snugly around the Louver. Pull the Louver out. (If installing an Exhaust Fan, adjust the front 28” pipes to fit around the fan.)

C. Make sure the benches are level by adjusting snap-T’s up or down as necessary. Attach 1” Screws to the vertical snap-T’s of the 28” Composite Tubes. This will keep the benches from sliding down.

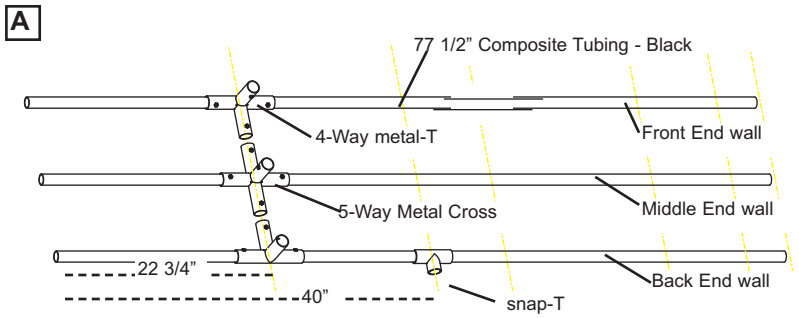


*****Please note: The drawings from here going forward indicate a door frame in the door opening. Please disregard this door frame. The new and improved door is constructed in the last step after the greenhouse is covered with Solexx Paneling.**

9. Curved Side End wall

Pieces Required:

3 77 1/2” Composite Tubings - Black
2 4-Way metal-T’s
1 5-Way Metal Cross
1 Snap-T’s
2 SB-92” Composite Tubing (from step 2)
2 22” Composite Tubing - WHITE
2 LHR-92” Composite Tubing (from step 2)
4 1” Screws



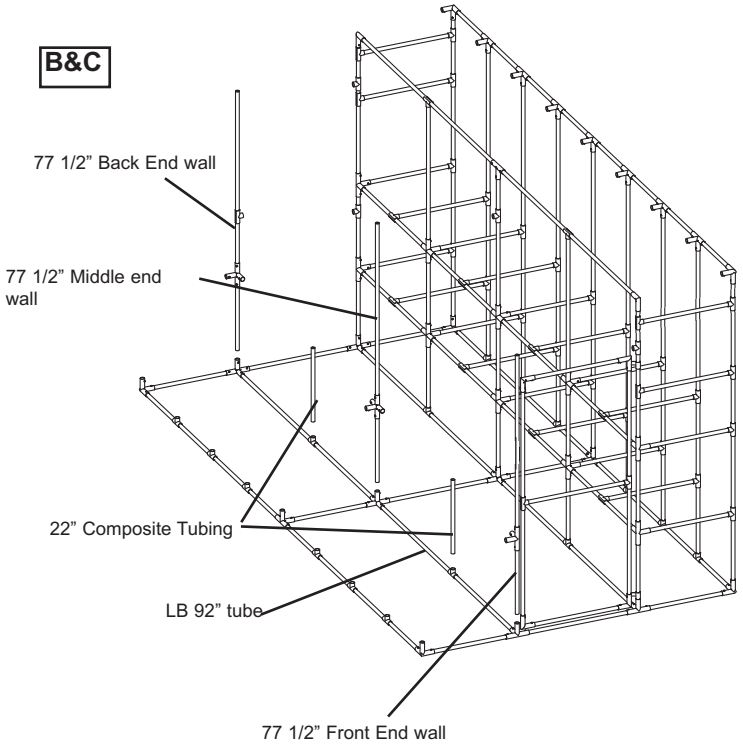
A. Slide a 4-way metal-T onto two 77 1/2” tubes-black and a 5-way Metal Cross on to the 3rd 77 1/2” tube-black at 22 3/4”. Attach a snap-T at 40” on the back end wall.

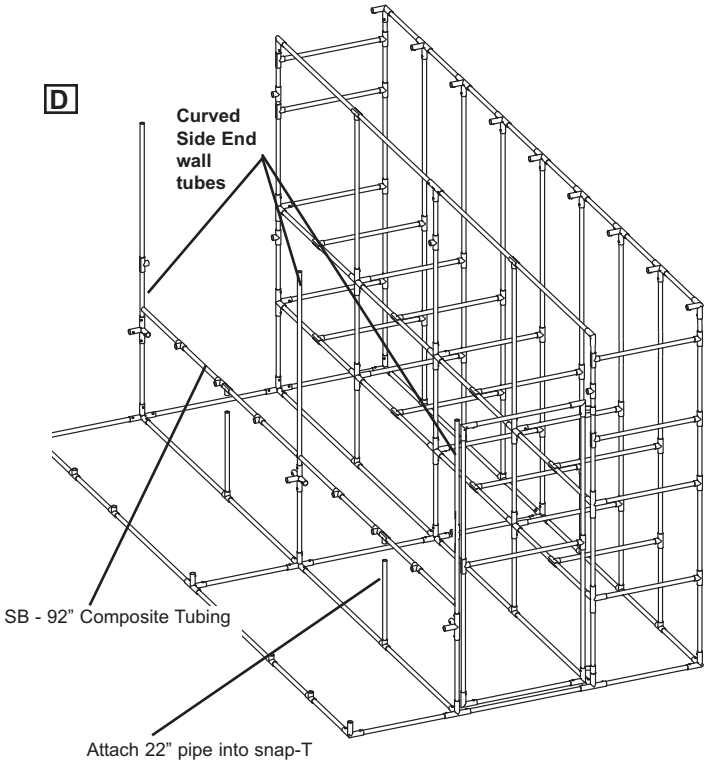
B. Insert tubes from step A into the 4-way metal-T’s on the base frame.

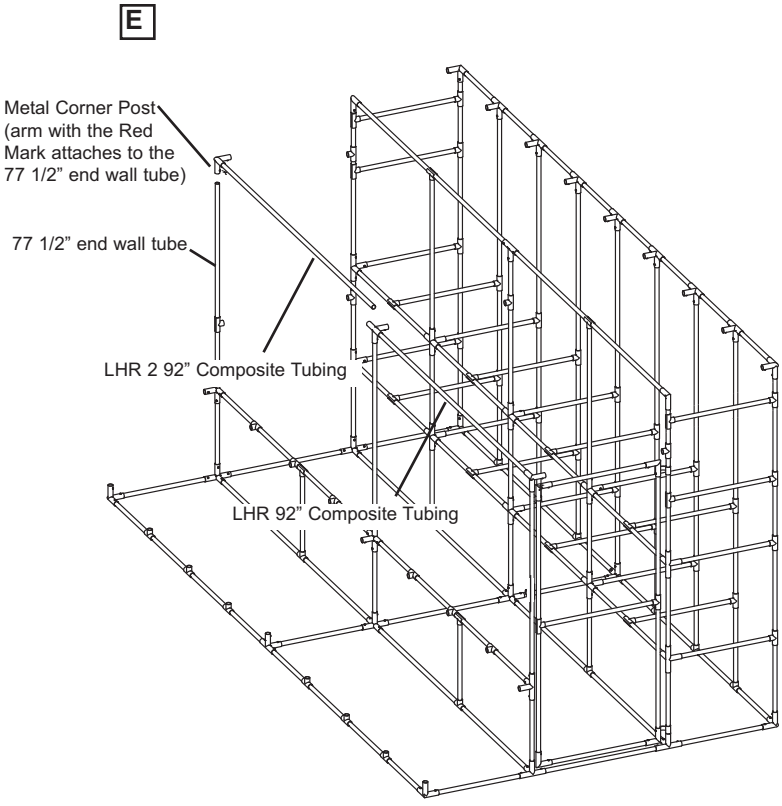
C. Attach a **22” Composite Tube** into the snap-T on the LB - 92” tube and secure with 1” Screw.

D. Slide the SB - 92” Composite Tube between the 4-way metal-T’s and 5-way Metal Cross on the curved side end wall tubes. Attach the 22” Composite Tube into the corresponding snap-T on the SB tube and secure with a 1” Screw.

E. Attach a LHR - 92” Composite Tube to the top of the curved side front and middle endwalls (Note: On the Metal Corner Posts, the arm with the Red Mark attaches to theendwall tube). Repeat with the LHR 2 - 92” Composite Tube over the middle and back endwalls.







10. Front End wall and Back End wall Supports

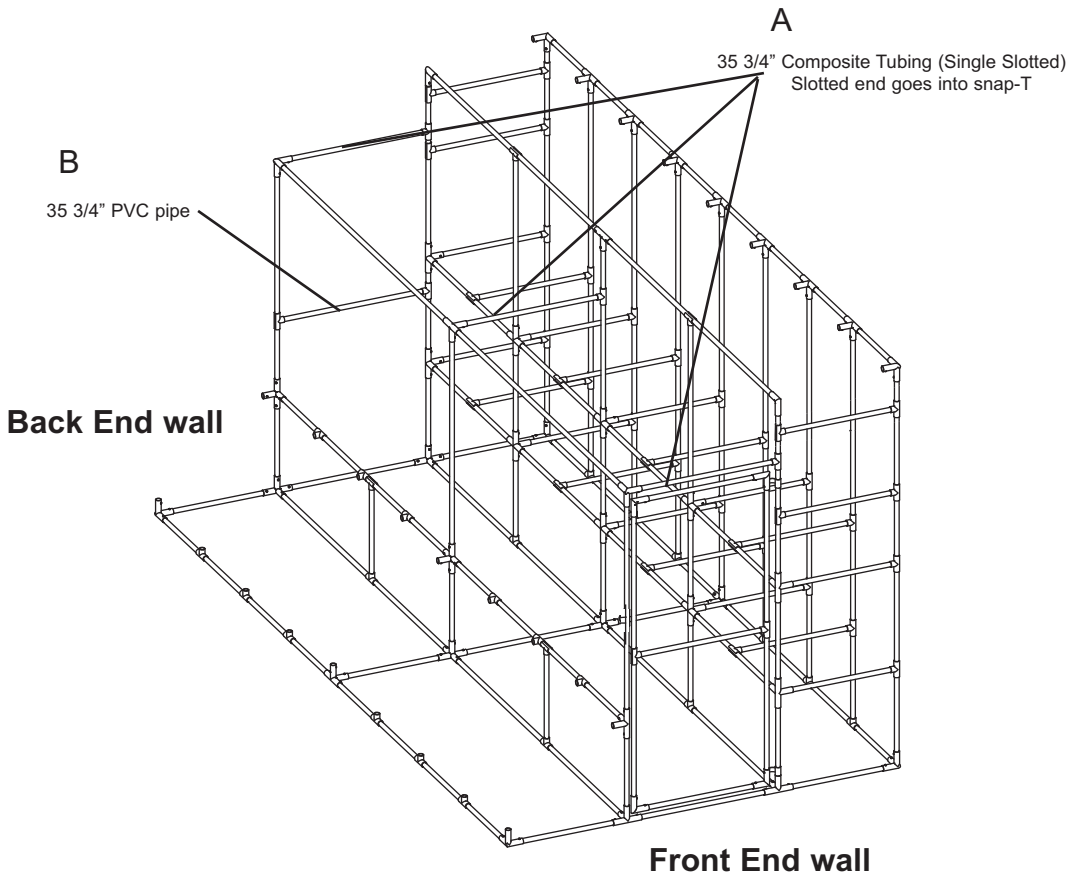
Pieces Required:

3 35 3/4" Composite Tubing - WHITE (Single Slotted)
1 35 3/4" PVC Pipes - WHITE
3 1" Screws

▶▶Be sure to get the composite tubing and the PVC pipe in the right spot. Composite Tubes have Gray Flecks.

A. Slide a **35 3/4" Composite Tubing (Single Slotted)** into the Metal Corner Posts of the curved side end wall tubes (the end without the slot). Attach the opposite end (end with slot) into the snap-T with 1" Screw. Adjust so the measurement from inside the snap-T to the center of the Corner Post is 36". Tighten eyebolts.

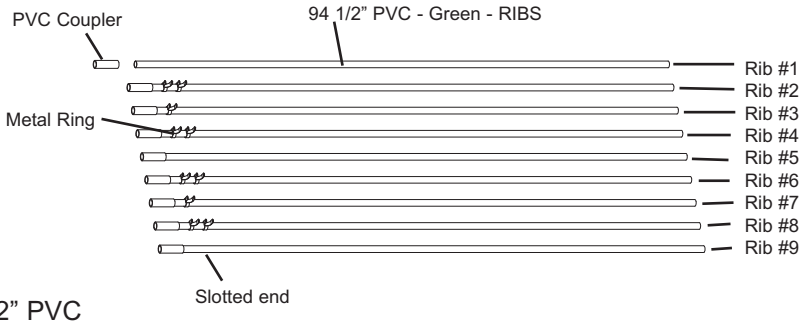
B. Glue the **35 3/4" PVC pipe** into the snap-T's between the back end wall tubes.



11. RIB ASSEMBLY

Pieces required:

9	94 1/2" Composite Tubing - Green **(Single Slotted)**
9	4" x 1" PVC Couplers
10	Metal Rings
10	Nuts and Bolts
8	Black Zip Ties
9	64 1/2" PVC - BLUE (Single Slotted)
9	Snap-T's
3	18" PVC pipes - 1/2" diameter

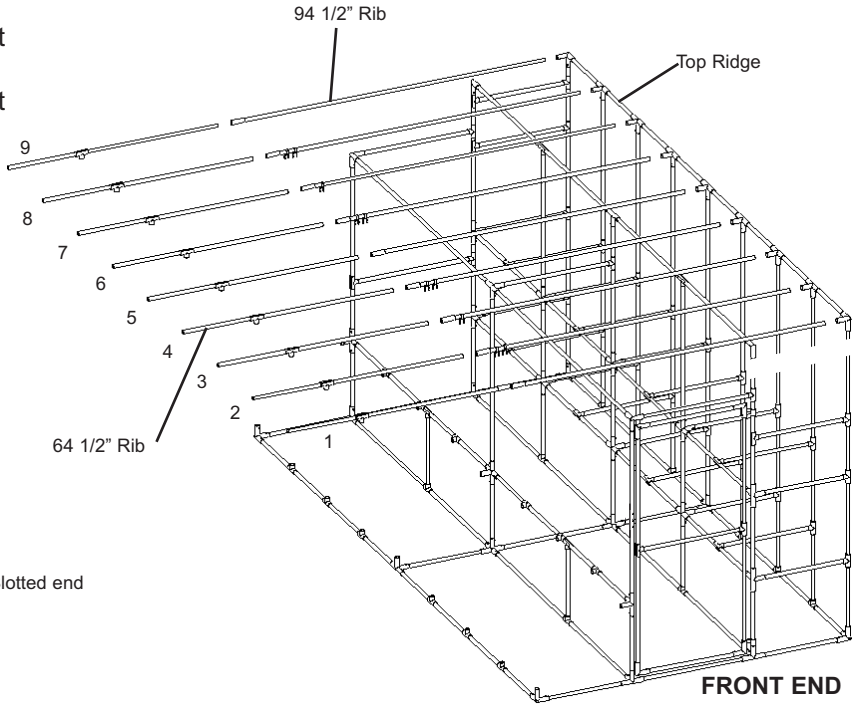


A. Glue a **PVC Coupler** on the slotted end of each 94 1/2" PVC pipe. Slide the pipe half way into the Coupler.

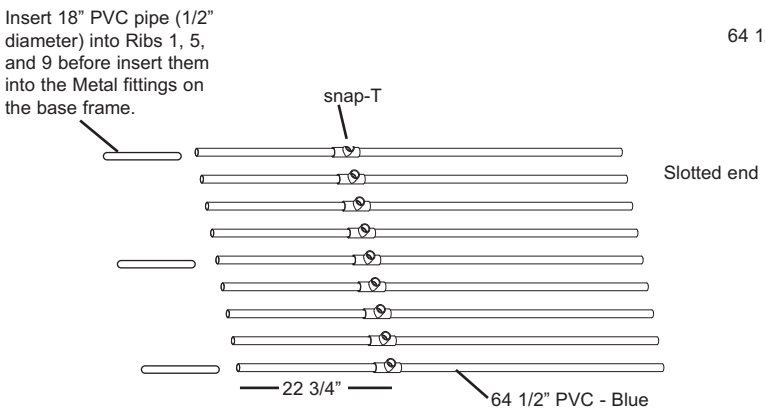
B. Insert the 94 1/2" PVC pipes into the **Top Ridge** as follows:

Rib 1 - Insert into front corner post
Rib 2 - Slide two Metal Rings over the pipe and insert
Rib 3 - Slide one Metal Ring over the pipe and insert
Rib 4 - Slide two Metal Rings over the pipe and insert
Rib 5 - Insert into middle corner post
Rib 6 - Slide two Metal Rings over the pipe and insert
Rib 7 - Slide one Metal Ring over the pipe and insert
Rib 8 - Slide two Metal Rings over the pipe and insert
Rib 9 - Insert into back corner post

C. Attach a snap-T on the non-slotted end of each 64 1/2" pipe 22 3/4" from one end to the center of the snap-T. Glue slotted end of 64 1/2" pipes into the open PVC Coupler on the 94 1/2" PVC pipes

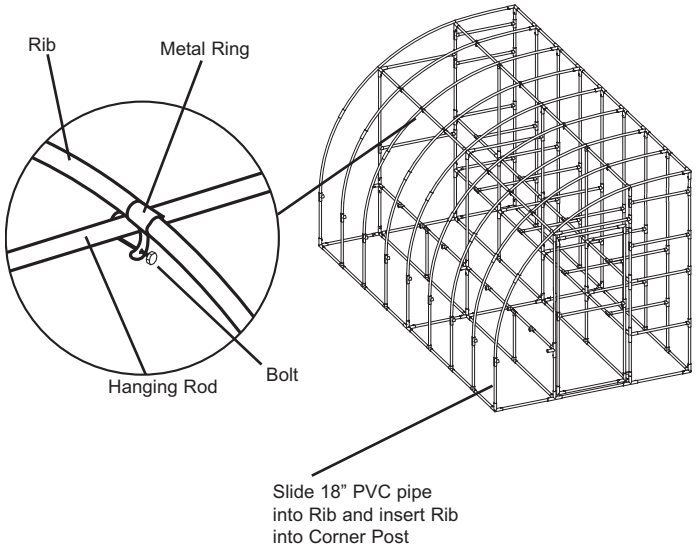


LET GLUE SET FOR A FEW HOURS OR OVERNIGHT.



D. Insert the Ribs into the base frame fittings (make sure the snap-T's point to the inside of the greenhouse toward the SB bench frame tube). On the end & center ribs, slide a **18" PVC pipe (1/2 diameter)** inside the end of the rib and then insert the rib into the Metal Corner Post and tighten eyebolts. Glue all ribs going into snap-T's.

E. Slide the **Metal Rings** up to the Hanging Rods and attach the "U" of the ring to the hanging rods. On the Ribs with only one metal ring, the metal ring will attach to the lower hanging rod. Secure with **nuts & bolts**. Attach Ribs 1, 5, & 9 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. And attach Ribs 3 and 7 to the lower Hanging Rod with a Zip Tie.



12. BENCH ASSEMBLY

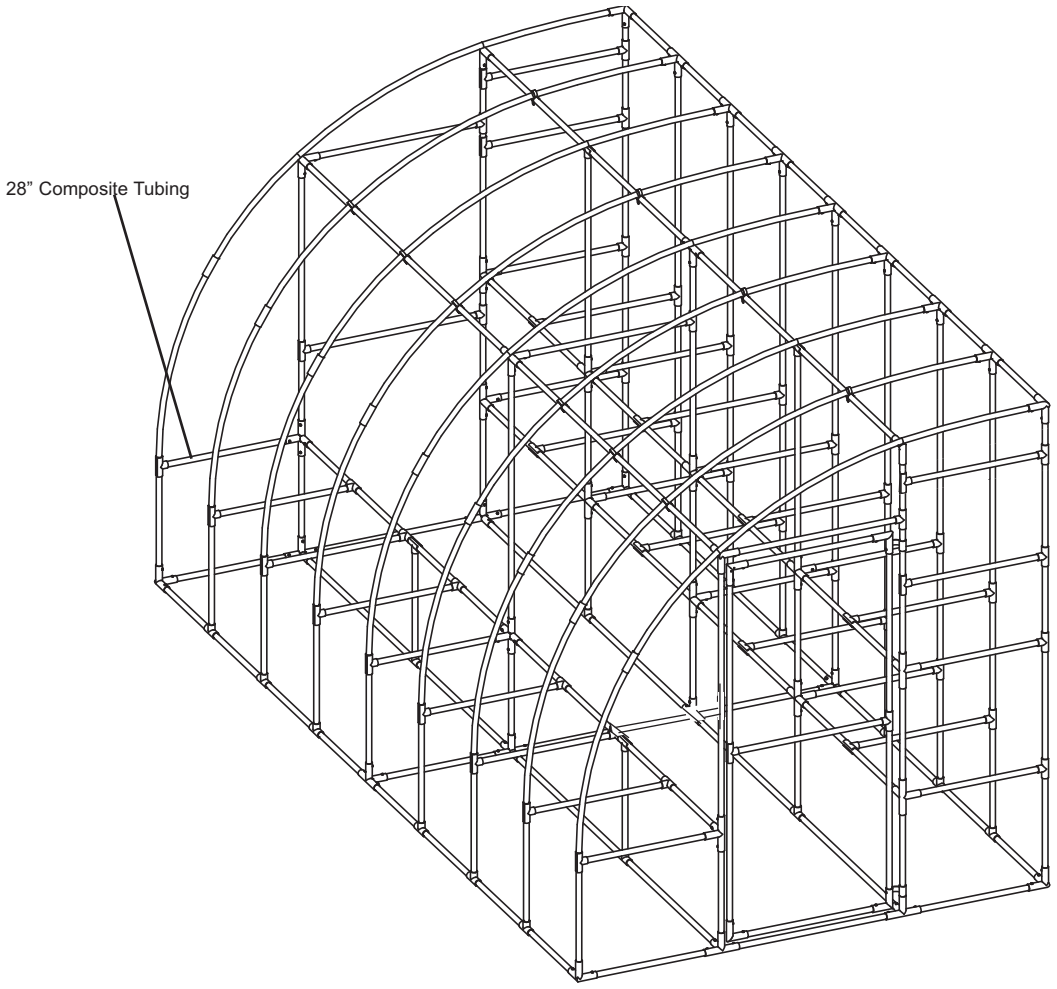
Pieces Required:

9 28” Composite Tubing - GREEN (Double Slotted)

24 1” Screws

A. Attach 28” Composite Tubes between the Ribs and the bench frames. Secure composite tubes to snap-T’s with 1” Screws. Tighten eyebolts.

B. Adjust the 28” bench tubes up or down so they are level and attach 1” Screws to the vertical snap-T’s.



13 A. SQUARING FRAME

Pieces Required:

4 Yellow Banding
4 Metal Banding Clips
2 77 1/2" Side Door Casing (1 with hinge)
1 38" Top Door Casing

A. Loop a piece of **Banding** around the 35 3/4" Composite Tube at the top of the door and around 94 1/2" Composite Tube (Base Frame) on the opposite side.

B. Thread banding to the metal buckle as shown.

C. Repeat on opposite ends using 2nd piece of **Banding**.

D. Tighten the banding so there is equal tension on both pieces and the diagonals are equal in length. Keep banding in place until glazing has been applied.

13 B. Sizing Door Frame for Door Casing

E. 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 **tubes**.(The Top Door Casing fits between the side tubes.

F. Make sure the door opening is square by measuring diagonally from corner to to corner and making sure the measurements are the same.

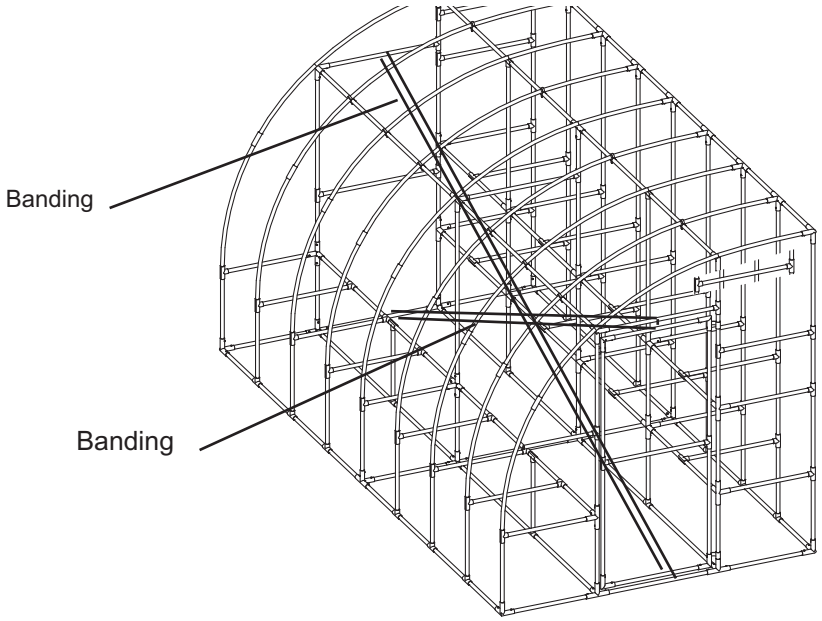
G. Again place the Top Door Casing over the 35 3/4" tube. Hold temporarily with one screw inserted from the front into the tube.

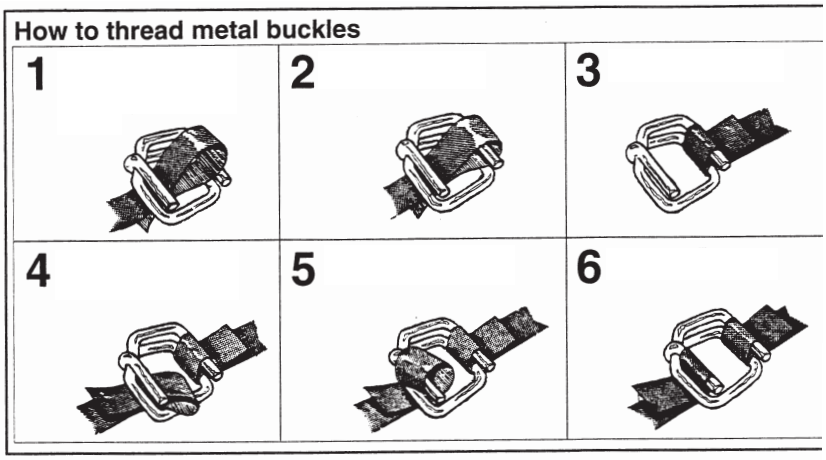
H. Place the side Door Casing with the Hinge Piece on the flat side of the end wall.

I. Place the other Side Door Casing on the opposite side of door opening. Adjust the door opening (you may need to adjust the 35 3/4" tube) so all 3 Door Casing pieces fit snugly.

J. Remove the Door Casing Pieces to be used in the Door Assembly, **Step #16.** Proceed with paneling.

NOTE: Measure the diagonals with a tape measure first. If diagonals are equal, skip step 13A.





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.

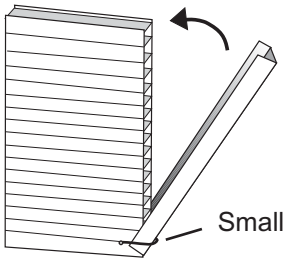
6. Tension by pulling banding coming from coil

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

Hints for Panel Assembly

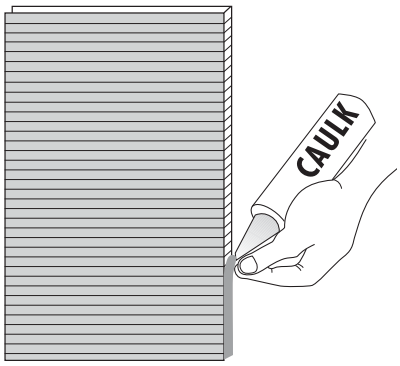
Congratulations, your frame is now finished! All that's left is the paneling application. Listed are several hints that will make paneling your greenhouse much easier. If you have suggestions that would be helpful for future customers we would be happy to hear from you.

1. **PANELS**: Apply paneling when temperature is moderate for your area (not during a cold or hot spell). When attaching panels to the PVC Pipe, be careful not to over-torque the screws. The washers should just make a dimple in the plastic. The screws should be placed about 12" - 15" apart on the panels and about 6" apart around the perimeter of the walls, roof and any overlapped joint.



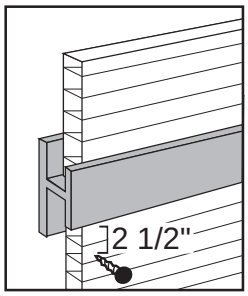
2. **U-TRIM**: Insert 1/4"-1/2" of silicone caulking into open flutes to prevent water intrusion. Slide U-Trim over the 4' ends of panels where specified in the instructions. Secure U-Trim with **Small Screws** by poking a small hole in panels with the point of the screw. Screw through the U-Trim and into the Solexx Paneling. Place 1 screw on each end of U-Trim and about 1 in the center of each piece.

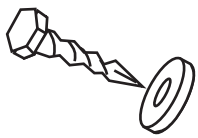
▶ Note: When using caulking, cut tip of tube at an angle. Be careful not to get caulking on nice clothing or jewelry.



3. **H-CHANNEL**: If H-Channel is difficult to slide on, spray panel edges with Pam (Vegetable oil). Also tapping on ends of H-Channel with a hammer or rubber mallet helps H-Channel slide on easily. Secure panels by placing screws into pipes 2 1/2" from each side of H-Channel. You can cut H-Channel by scoring on both sides with a knife and then bending at the score or use tin-snips.

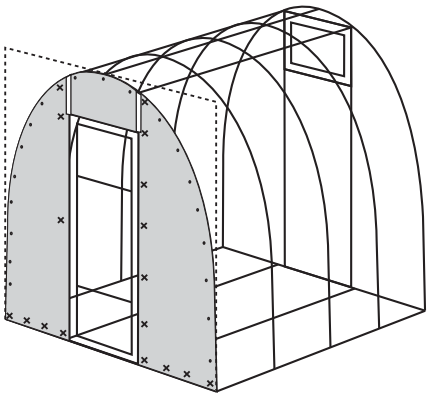
<u>NEVER</u> attach screws into the H-Channel!





4. **SCREWS**: Use the pictures as a guide for placement of screws. Use your discretion on your own greenhouse. The number of screws required for each step in paneling may not exactly coincide with the picture.

5. **CUTTING PANELS**: Panels cut very easily with a long sharp knife. Use Frame tubes as a guide when trimming panels. Keep blade of the knife at a 90° angle to the frame tubes.



6. **TIE DOWN**: Please remember to tie down your greenhouse once you begin paneling. The greenhouse is light enough that on a windy day it could blow over.

14. END WALL PANELS

Pieces Required:

4	49 1/2" x 97 1/2" Panels
170	1" Screws
1	8' H-Channel
1	2' H- Channel

Remember, place screws about 9" apart on the edges of the panels and 18" apart elsewhere.

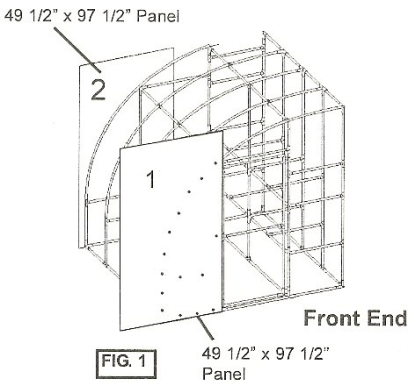


FIG. 1

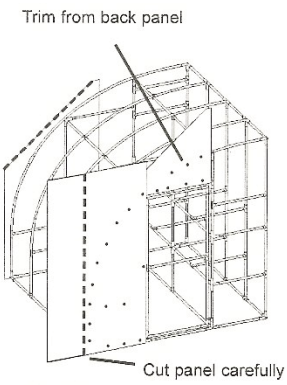


FIG. 2

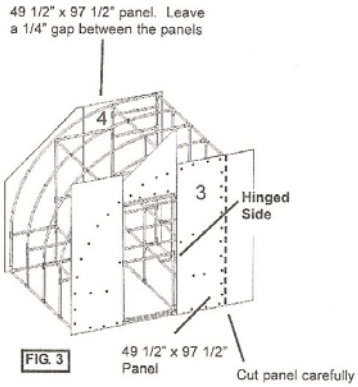


FIG. 3

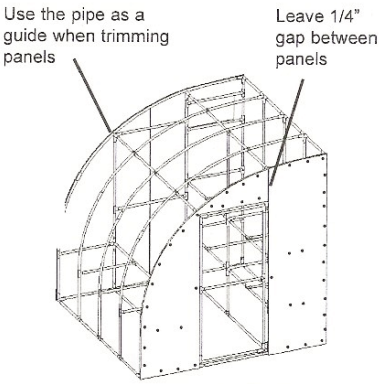


FIG. 4

NOTE: Before paneling, make sure the measurements across the top and bottom of the door openings are equal. Insert caulking into the flutes on one end of the panels.

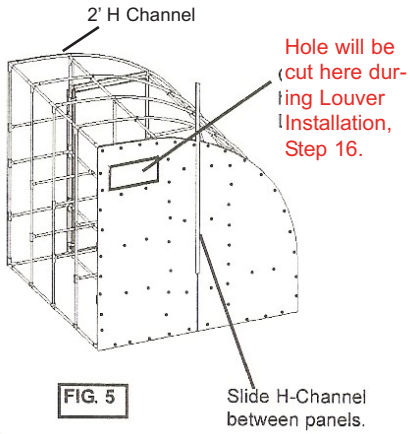


FIG. 5

FIG. 1

1. **Front End.** With **1" Screws**, attach the **49 1/2" x 97 1/2" panel** #1 (caulked end on the ground) into place making sure it covers the door end wall tube. (Only 1 screw o Door End wall).

2. **Back End.** Stand **49 1/2" x 97 1/2" panel** #2 vertically (caulked end on the ground) on the back end wall so it just covers the curved frame. Hold in place with Screws.

FIG. 2

3. Carefully cut a piece off panel #2 with a sharp knife. Use this piece to cut a piece to fit above the door of the green house on the Front End. Attach this piece with Screws along the rib only.

4. **Front End.** Cut panel #1 following along a flute on the panel so you have about a 16" x 97 1/2" piece. This will be used on Step 15 (Top Panels).

FIG. 3

5. **Front End.** Attach a 49 1/2" x 97" panel #3 (caulked end on the ground)to the hinged side of the door so it covers the door end wall tube. Attach with Screws (Only 1 screw on Hinged side. This screw will be removed later in Step #16, Door Assembly.) Cut panel #3 following along a flute on the panel so you have about a 16" x 97 1/2" piece. This will be used in Step #15 (Top Panels).

6. **Back End.** Attach a 49 1/2" x 97" panel #4 (caulked end on the ground) next to the first 49 1/2" x 97" panel #2 leave a 1/4" gap between the panels so there is room to slide the H-Channel between the panels.

FIG. 4

7. With a sharp knife, carefully trim all panels following the edge of the Ribs and Flat Wall pipes.
8. Caulk all exposed flutes along the curve of the frame.

FIG. 5

9. **Front End:** Join Panel #3 and the Panel above the door with **2' H-Channel**.

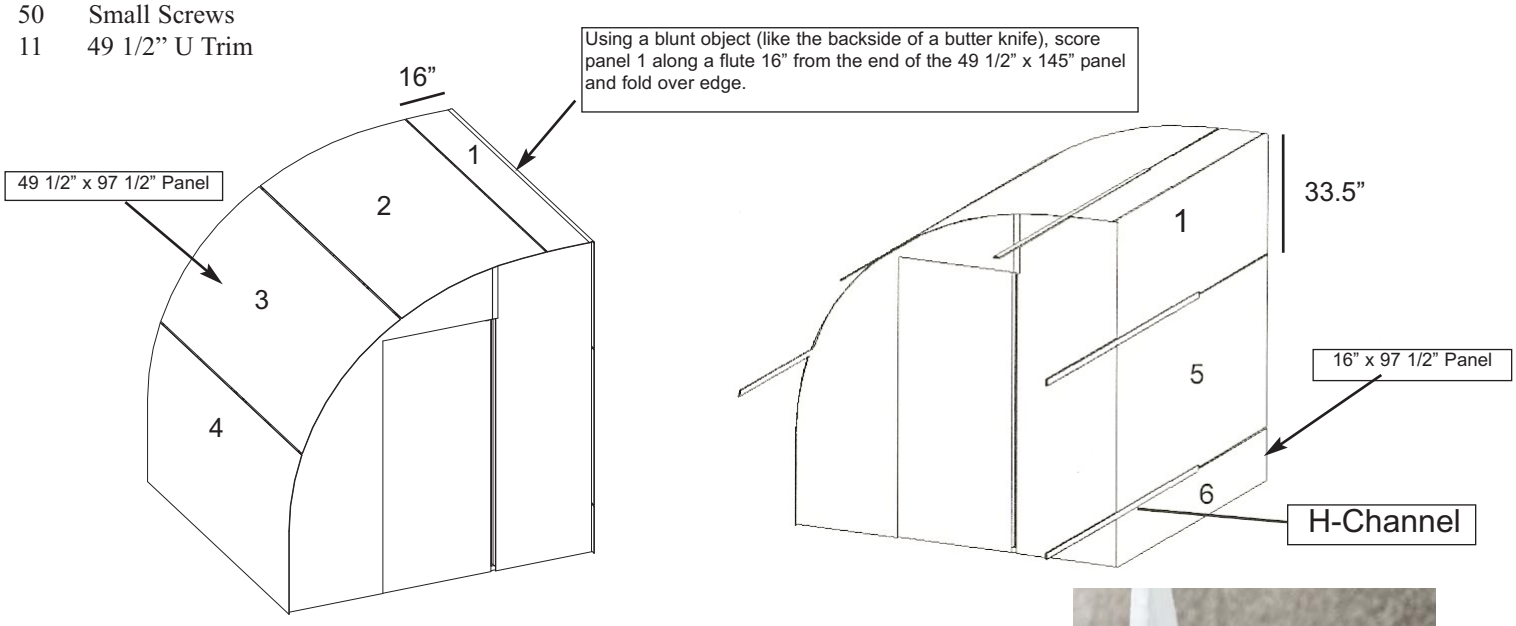
10. **Back End:** Join panels #2 and #4 with **8' H-Channel** - Finish securing with screws and cut along the curved side.

15. TOP PANELING

Pieces Required:

2 16” x 97 1/2” Panels (from Step 14)
10 49 1/2” x 97 1/2” Panels
10 8’ H-Channels
250 1” Screws
50 Small Screws
11 49 1/2” U Trim

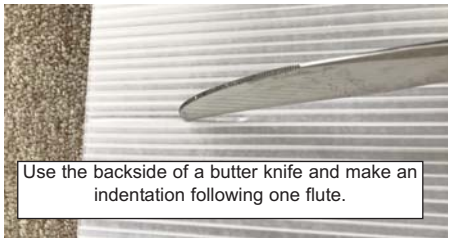
▶NOTE: Center the panels so the overhang is equal over the front & back endwalls. Do not cut off the overhang. It will help keep water out of the end wall panels.

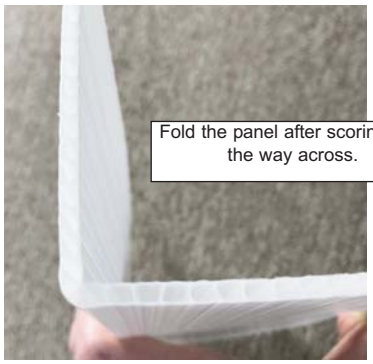


Note: Attach panels on the front 8’ section of your 16’ greenhouse first and then attach on the back 8’ section.

1. Caulk both ends of all panels and let dry.

**** Do not attach screws to the 5th rib yet on steps 2-8.**





2. Panel #1. Measure 16” from the end of a 49 1/2” x 97 1/2” panel and score panel by following a flute along the length of the panel (use a blunt object like the backside of a butter knife). Fold the panel along the score line. Attach the 16” section along the curved side of the greenhouse and the remaining part to the flat/back wall.

3. Attach a 49 1/2” x 97 1/2” panel #2 below panel #1. **Leave a 1/4” gap between the panels.** Slide two **H-Channels** between each of the panels.

4. Attach 49 1/2” x 97 1/2” panel #3 - 1/4” below panel #2. Slide H-Channel between the panels.

5. Attach 49 1/2” x 97 1/2” panel #4. Trim the panel by following a flute so that there is 1/4” gap between panel #4 and #3. Slide H-Channel between the panels.

6. Attach panel 49 1/2” x 97 1/2” #5 on the flat wall. Leave a 1/4” gap between panels 5 & 1. Slide H-Channel between panels.

7. Attach the 16” x 97 1/2” panel #6. Trim panel so there is a 1/4” gap between panels 5 & 6. Slide H-Channel between panels.

8. Repeat Steps 1-8 for the other 8’ half of the greenhouse frame. The Panels will overlap on the 5th Rib.

9. Attach screws 9” apart on the 5th Rib where the panels overlap. Screws go through two layers of panels.

10. Attach U-Trim on both ends of the paneling. - ***See U-Trim section on “Hints” Page 16.***

If you have purchased a tie down kit, install it now.

(If you did not purchase a tie down kit. You will need to secure the greenhouse to the ground.)

Tie Down Kit Instructions for 4 Anchors

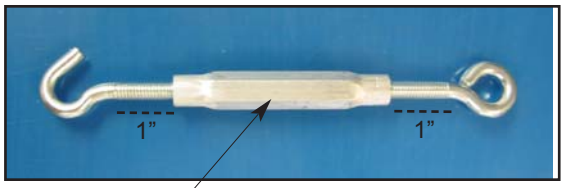
(HN-10 Purchased separately)

Parts Needed:

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)

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.

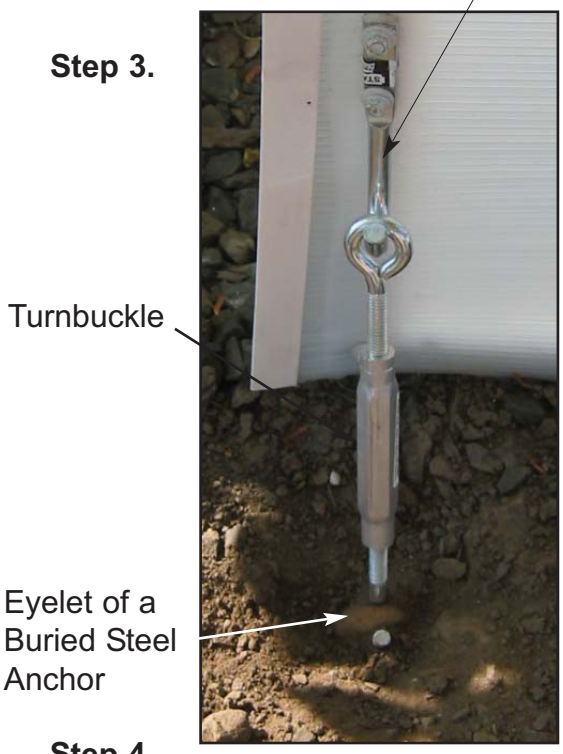
5. From outside the greenhouse push a **bolt** through each hole in the **metal hook** and through the rib.

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.

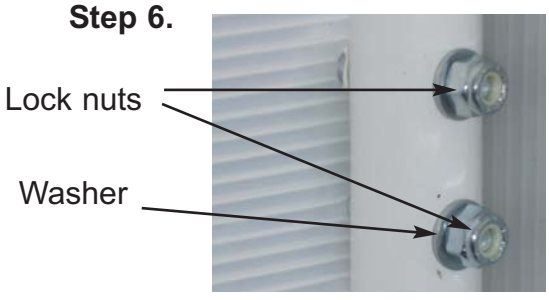
8. Tighten the turnbuckles to remove any slack.

Step 3.



Step 4.

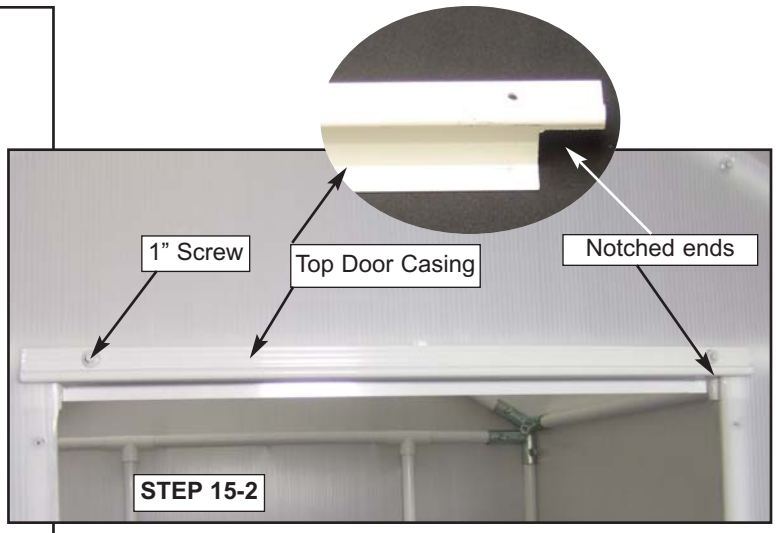
Step 6.

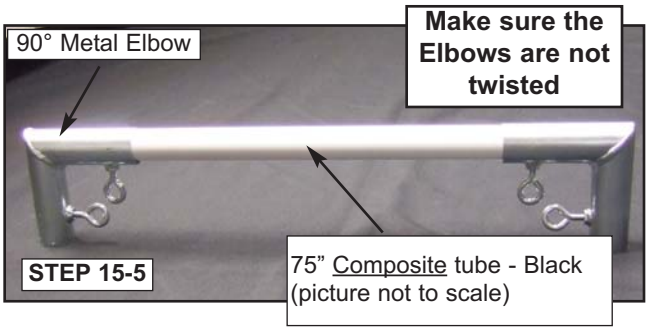


16. Door

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 and Vent 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.

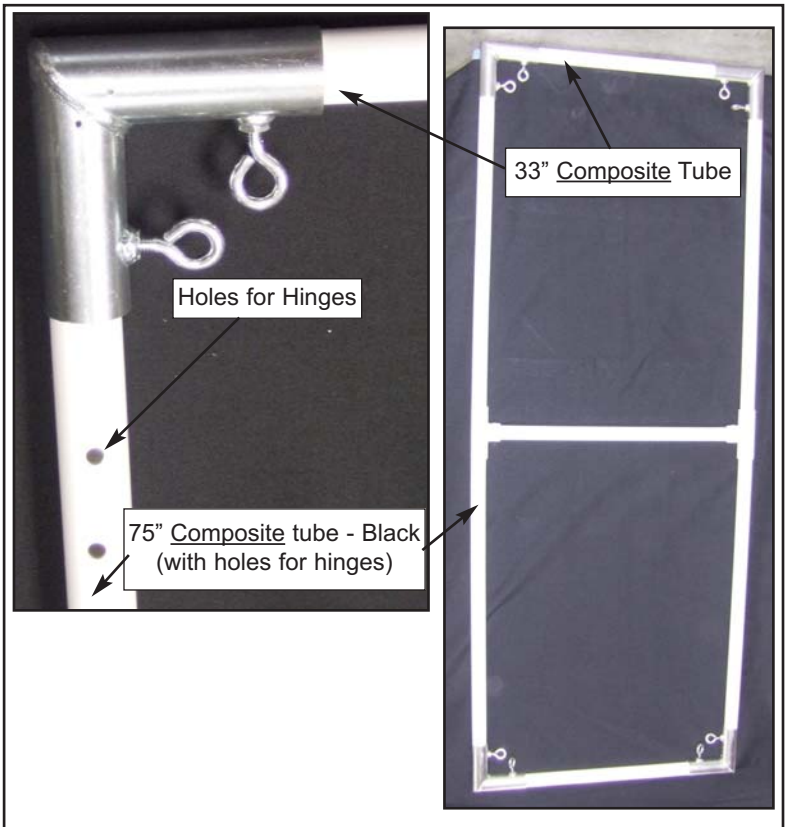
2. Attach the Top Door Casing to the Tube above door with 1" Screws. Make sure it is level.

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.

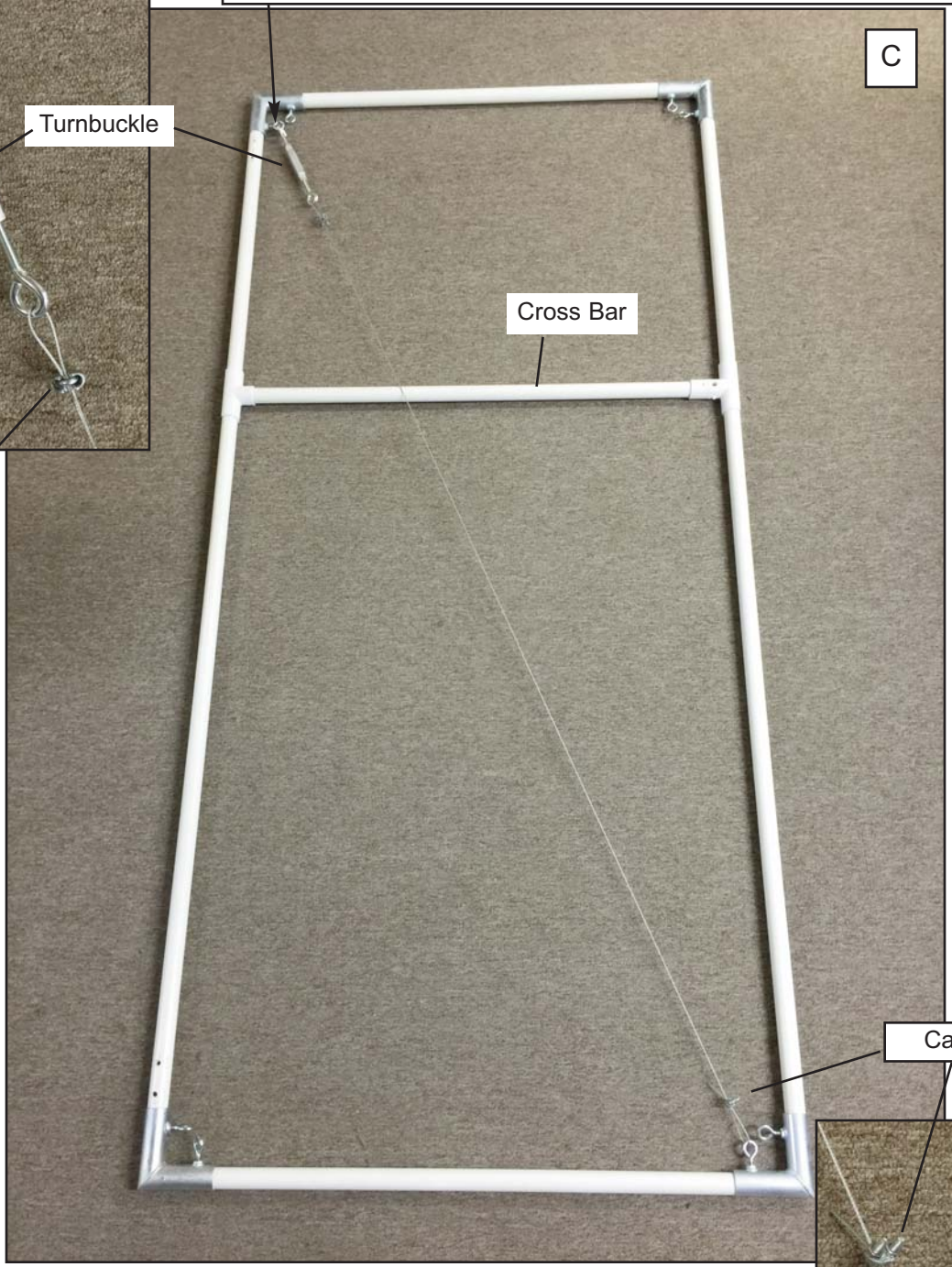
This side of the cross bar for the door faces up (While assembling the door frame or towards the outside of the greenhouse when the door is hung

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.

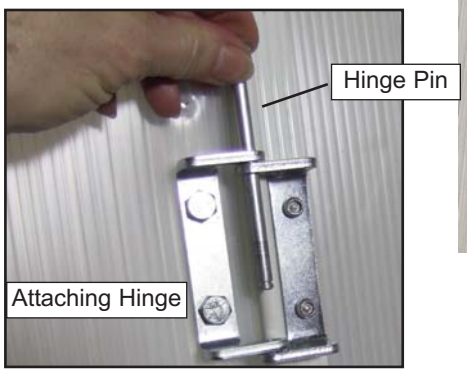


You will now connect the other end of this cable. **The cable will pass over the top of the cross bar of the door**. Run the cable through the 2nd cable clamp, through the eye bolt and then back through the cable clamp. Using a pair of Pliers, tighten the two nuts on the cable clamp so that it pinches 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. **See next page for washer placement and hinge attachment.** 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. **Do not screw the rest of the Panel to the Door Frame yet.**

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. **Do not put any screws into the cross bar of the door, you will adjust this tube in a step below.**

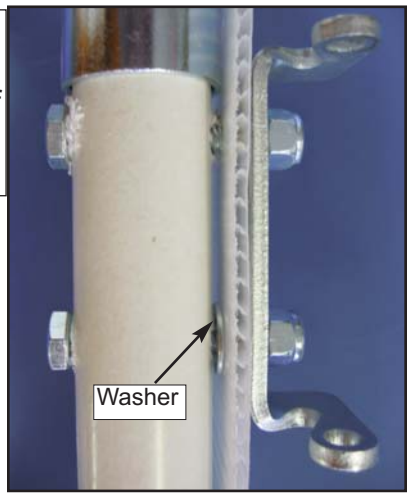
12. You can leave the door panel oversized or you can trim the panel down so that it fits within the door casings. We prefer to leave the door panel oversized to help keep wind from blowing in around the door. *If you like the look of the door panel snugged into the opening of the door casings, then 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.

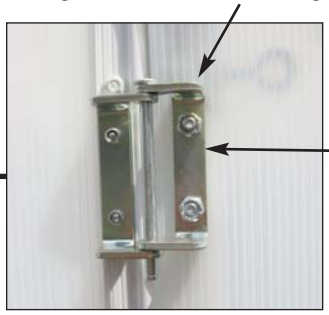
14. Slide a **36" U-Trim** over the top of the door panel to cover the caulked flutes (cut u-trim to fit if needed). Attach u-trim with 3 **Small Phillips Screws (see page 18, step 2).**

Hinge assembly & location of washer

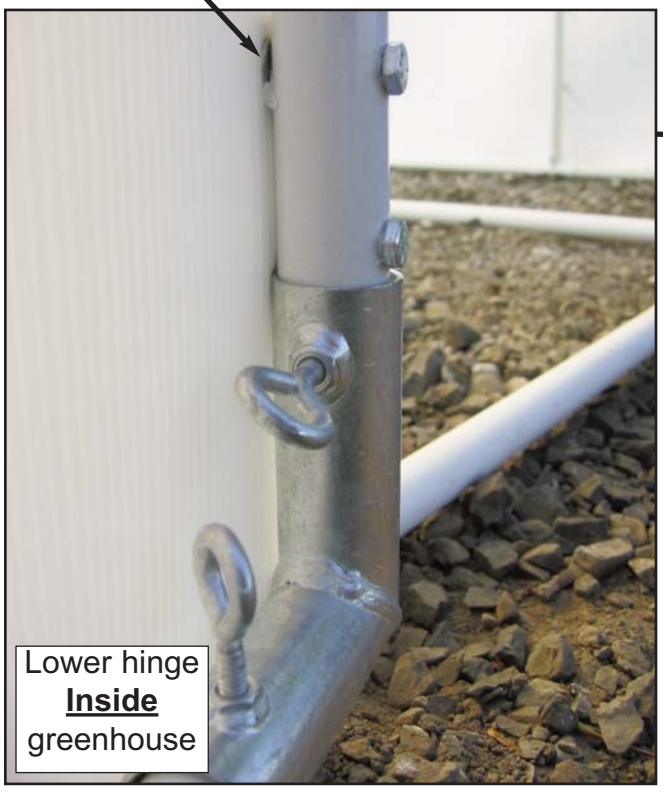
Side view of assembled upper hinge-half on door

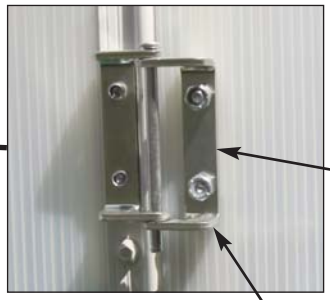


Upper hinge
(**Outside** greenhouse)
Hinge-half on door sits **above** hinge-half on door casing.

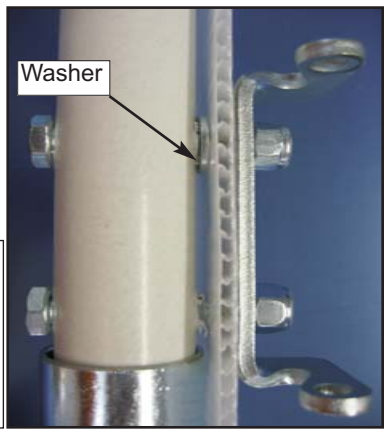


One washer goes in-between the door panel and the door frame to even out the spacing with the fitting. The fitting sits under the door panel and hinge-half on one side of the hinge-half and one washer goes under the door panel and hinge-half on the other side.
(**Bolt goes through the washer**)





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



Side view of assembled lower hinge-half on door

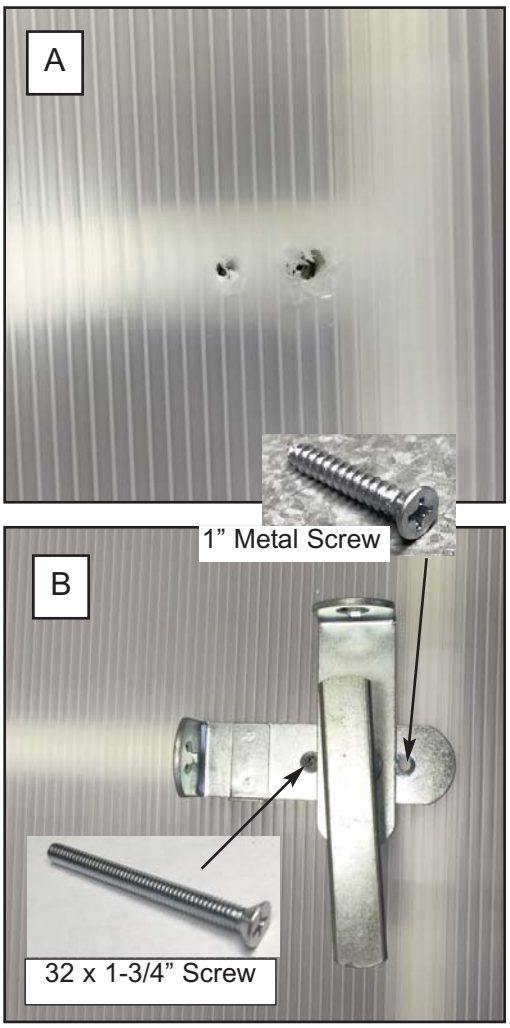
15. **Door lock** - The center cross bar of the door will set the height of your door lock/handle. From the outside of the greenhouse, look through the door panel at the holes in the predrilled snap-T, this would the height of the outside door handle. To adjust to your prefered handle height, slide the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

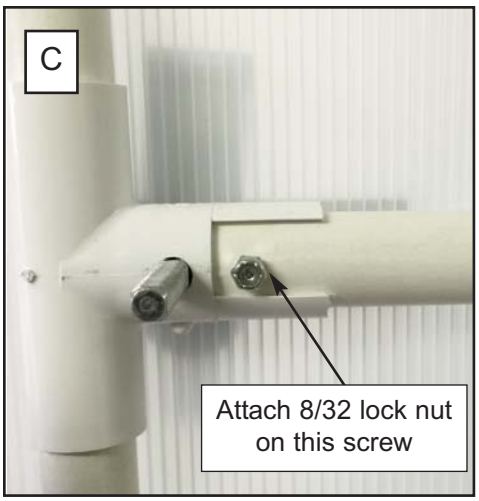
    From the outside of the greenhouse, use a sharp thin bladed knife and push the blade of the knife through the panel and into the large predrilled hole. Do this twice so that you are cutting an “X” in the panel right where the predrilled hole is at and then twist the knife when it is in the hole, do the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

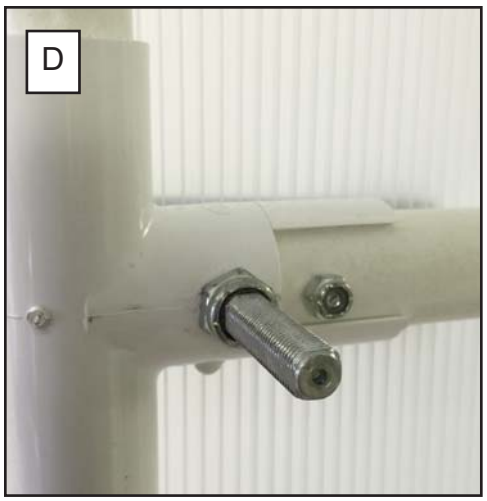
    Now you will install the outer door handle. This handle has a thin nut included in the bag, remove that nut and keep it close by.

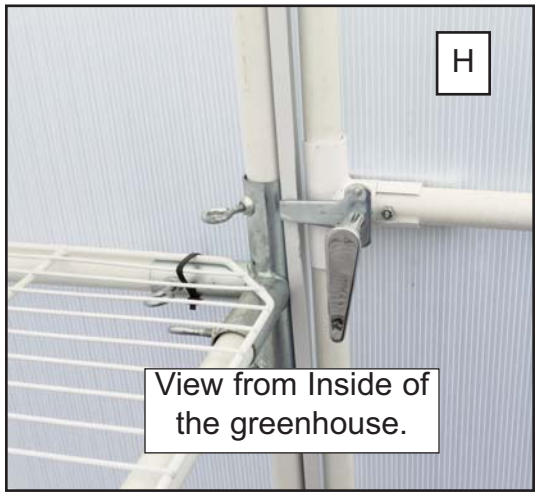
    Insert the shaft of the door lock handle through the door panel and into the large hole of the door cross bar. You may need to twist or screw this into the hole. The handle should be flush with the door panel. Next, twist the door handle so that it is perpendicular to the metal plate that is just behind 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.

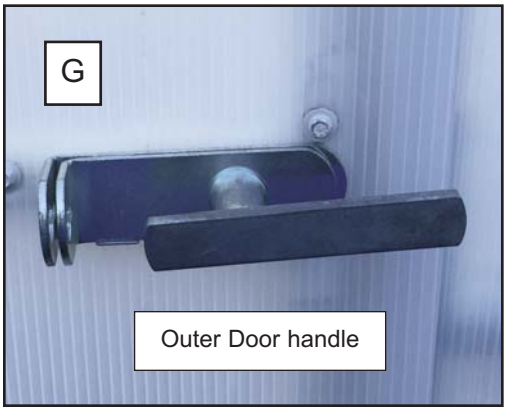
    Insert the 32 x 1¾” flat head screw (the long one in the lock kit) through the hole that is closest to the middle of the door, the tube is predrilled behind this hole. Attach the 1” Metal Screw into the other hole (this hole is not pre-drilled) - this will lock cross bar in place - so make sure the bar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











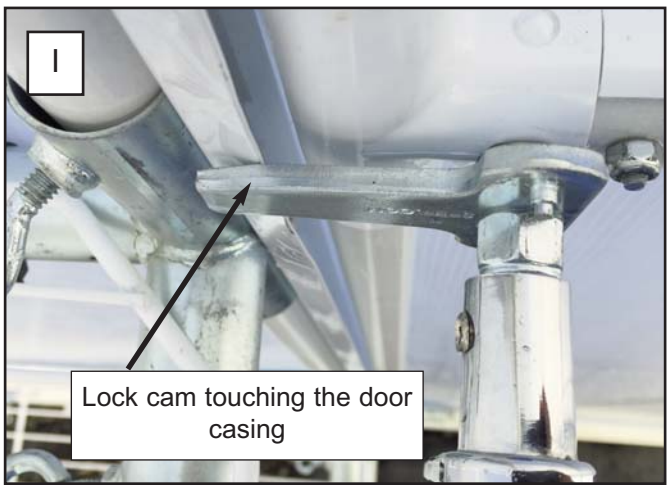
16. **Inside Door Handle** On the inside of the door, attach the 8/32 lock nut (the small nut in the kit) on this screw. See picture **"C"**.

    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.



17. LOUVER

Pieces Required:

1 Louver Assembly

SEE LOUVER INSTALLATION INSTRUCTIONS IN LOUVER BOX

IMPORTANT: If installing an Exhaust Fan, the fan will go in the back of the greenhouse in place of the Louver and the Louver will be installed above the door. Do not cut a hole for the Louver if you have purchased or are considering purchasing a 16" or larger fan.

Notes:

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