

ASSEMBLY INSTRUCTIONS

8' X 8' X 8' Garden Oasis

G-208 (3.5mm)

This greenhouse features (2) double-decker 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. 1/4" nut driver

TOOLS NEEDED:

- A. VARIABLE SPEED DRILL
- B. SCREWDRIVER
- C. LONG SHARP KNIFE
- D. TAPE MEASURE
- E. STEP LADDER
- F. PLIERS
- G. 2-3 tubes (clear) 100% Silicone. We recommend "IS800" Silicone Rubber Adhesive Sealant & a caulking gun
- H. 8 oz. can of "Clear" PVC CEMENT & PVC Primer (Available at a hardware store). **

Follow the instructions on the can of glue. Do not apply the glue if it is colder than the instructions indicate for proper use. ► **NOTE: GLUE DRIES VERY QUICKLY!

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

Jan 21

8'X 8'X 8' GARDEN OASIS

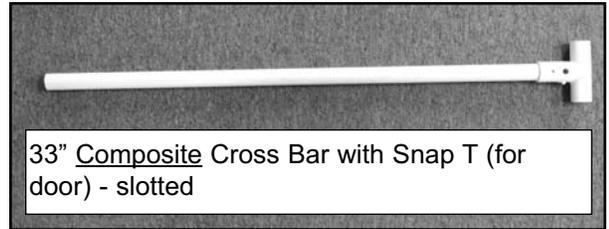
G-208 (3.5mm)

***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.

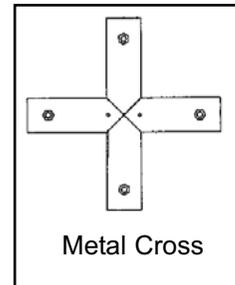
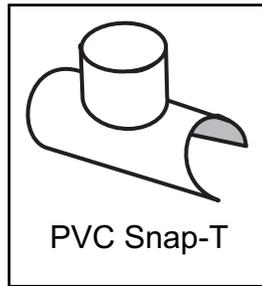
ROLL BOX 1 (65 /66 lbs) Roll box 1 + BOX 2 = 114 /115 lbs (23" x 23" x 43")

_____	7	42" x 97 1/2" Panels
_____	1	36 1/2" x 80" Door Panel
_____	4	31" x 94 1/2" Panels
_____	1	24" x 42" Panel
_____	2	35 3/4" <u>Composite</u> Tubing - White
_____	3	35 3/4" <u>PVC</u> pipes - White
_____	2	33" <u>Composite</u> Tubing - Black
_____	2	28" <u>Composite</u> Tubing- Green (Double-Slotted)
_____	2	24" <u>Composite</u> Tubing - Orange (Double-Slotted)
_____	2	22" <u>Composite</u> Tubing - White (Double-Slotted)
_____	4	18" <u>PVC</u> pipes - 1/2" diameter
_____	1	33" <u>Composite</u> Tubing- Cross Bar with Snap T (for door) - Slotted

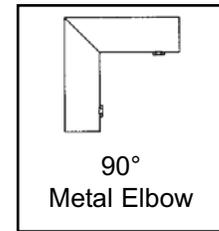


INNER BOX 2 37 lbs (10" x 10" x 42")

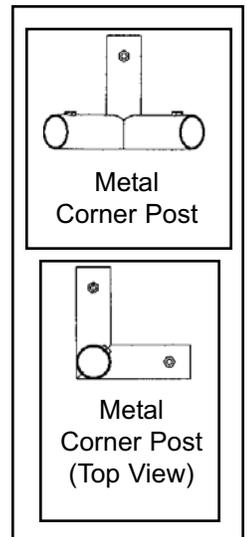
BAG 1		
_____	3	Metal Crosses
_____	2	Metal-T's
BAG 2		
_____	8	Metal Corner Posts
BAG 3		
_____	6	4-way Metal-T's
BAG 4		
_____	6	4-way Metal-T's
BAG 5		
_____	4	90° Metal Elbow
_____	6	Metal Rings
_____	6	1 1/2" x 3/16" Machine Screw
_____	6	3/16" Wing Nuts
_____	1	<u>Door Parts Bag:</u>
		Outside Handle, Inside Handle, 3-point Cam
		<u>Hinge Bag:</u> 1/4" x 1-3/4" Bolts (4), Lock Nuts (4), Hinge halves and pins (2), Flat Washers (2)
		<u>Door Parts Bag:</u> 8/32 Hex Lock Nut, 3/8" Lock Nut, 32 x 1-3/4" Machine Screw, 1" Metal Screw, 4mm Allen Wrench
		<u>Door Cable Bag:</u> Turnbuckle, 76" Wire Cable, 1/16" Wire Cable Clamps (2)
_____	13	Large Black Zip Ties
_____	38	Small Phillips Screws
_____	2	Yellow Banding
_____	2	Metal Banding Clips
_____	356	1" Screws
_____	1	1/4" Driver
_____	4	12 1/2" <u>PVC</u> pipes - White
_____	10	10" <u>PVC</u> pipes - 1/2" diameter



Metal Cross

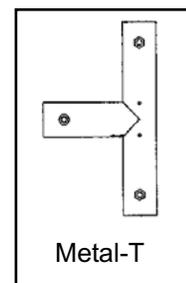


90° Metal Elbow



Metal Corner Post

Metal Corner Post (Top View)



Metal-T

***** Parts continue on next page*****

G-208 (3.5mm)

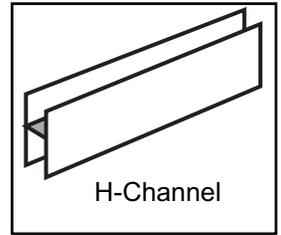
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BAG 6		
_____	10	<u>PVC-T's</u>
_____	3	<u>PVC Snap-T's</u> (includes 1 extra)

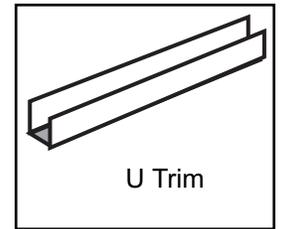


BAG 7		
_____	25	<u>PVC Snap-T's</u>

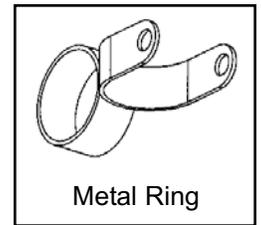
NOTE: To conserve shipping space, U-Trim and 1/2" diameter pipe are sometimes inserted into 3/4" tube tubing. Please check frame pieces before assembly.



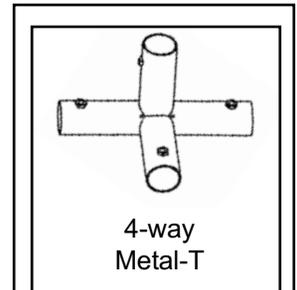
BAG 8		
_____	25	<u>PVC Snap-T's</u>



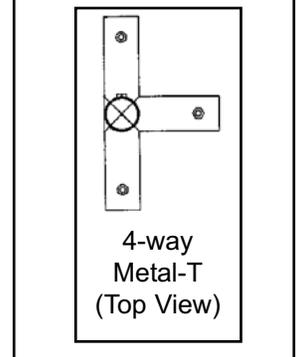
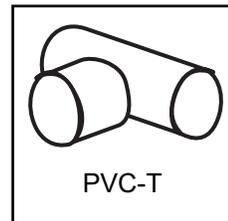
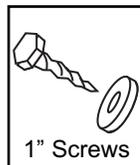
BOX 3	49 lbs	(99" x 7 1/4" x 5")
_____	5	8' H-Channel
_____	2	94 1/2" <u>Composite Tubing - Green</u>
_____	11	92" <u>Composite Tubing - Red</u>
_____	4	90" <u>Composite Tubing - Yellow</u>
_____	1	74" <u>Composite Tubing- Black</u>
_____	1	74" <u>Composite Tubing - Black (with Holes for Hinges)</u>
_____	1	38" Top Door Casing
_____	2	76" Side Door Casing (1 with Hinge halves attached)
_____	1	4' H-Channel
_____	4	49 1/2" U-Trim
_____	4	78" U-Trim
_____	1	36" U-Trim



BOX 4	28 / 29 lbs	(77" x 7 1/4" x 5")
_____	10	74" <u>PVC pipes - Orange</u>
_____	10	47 1/4" <u>PVC pipes - Orange</u>
_____	18	28" <u>Composite Tubing - Green (Double-Slotted)</u>



BOX 5	6 lbs	(28" x 15" x 5")
_____	1	Louver Assembly

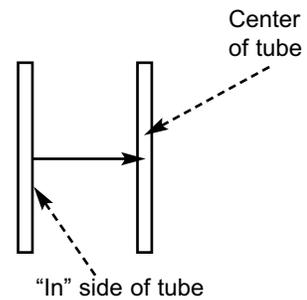


Packed by: _____
Date: _____

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.

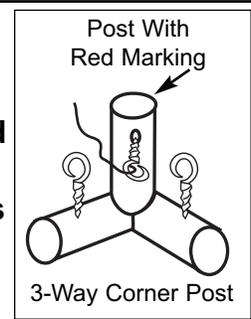
▶▶**NOTE:** Attaching Snap-T's this way prevents pinched fingers! Use a small pipe and step on the Snap-T.



C. ▶▶**Note:** Tubes that are double-slotted have slots on each end. Single-slotted tubes only have slots on 1 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 flexible. **Composite Pipe** is white with small gray fibers throughout and will not bend.

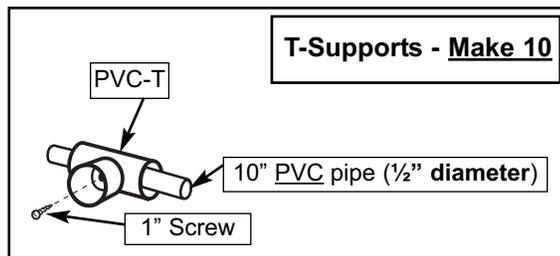
F. ▶▶**Very Important!! NEVER** glue the underside of the Snap-T. You need to be able to slide the Snap-T along the pipe. You only glue tubes into the enclosed arm

1. T-SUPPORTS

Pieces Required:

- 10 10" PVC pipe (1/2" diameter)
- 10 PVC-T's
- 10 1" Screws

1. Insert **10" pipes** into **PVC-T's**.
2. Insert a **1" Screw** through the opening of the PVC-T and into the mid point of the 10" pipe. Use in step 2.



► **NOTE:** Screw keeps 10" pipe from slipping out of the PVC-T. The 10" pipe will rattle in the fitting.

2. EXTENDED RIBS

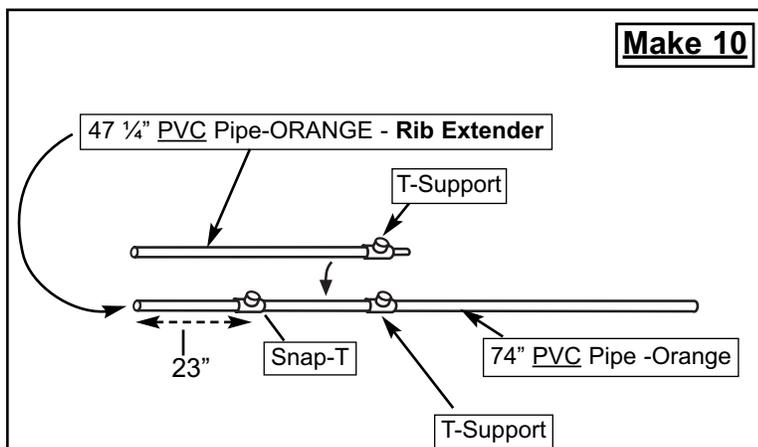
Pieces Required:

- 10 T-Supports (made in Step 1)
- 10 47 1/4" PVC Pipes - ORANGE
- 10 74" PVC Pipes - ORANGE
- 10 Snap-T's

►► Be sure to use the 74" **PVC pipe** and not the composite tubing.

1. To make Rib Extenders, glue a 47 1/4" **PVC Pipe - orange** to one side of the **T-Support** (from Step 1), so the 10" PVC Pipe is inside the 47 1/4" pipe.
2. Glue the opposite end of the T-Support to a **74" PVC Pipe - orange**.
3. Attach 1 **snap-T** about 23" in from the end of the 47 1/4" **PVC pipe - orange**.
4. Repeat steps 2-1 through 2-3, make a total of 10 extended ribs.

Extended Ribs are used in step 8.



There is no longer a Step #3.

4. TOP RIDGE FRAME, BENCH & BASE RODS

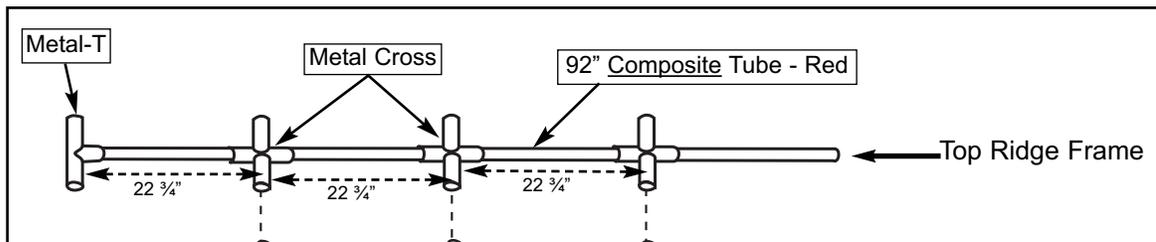
Pieces Required:

- 3 Metal Crosses
- 1 Metal-T's
- 9 92" Composite Tubing - RED
- 26 Snap-T's

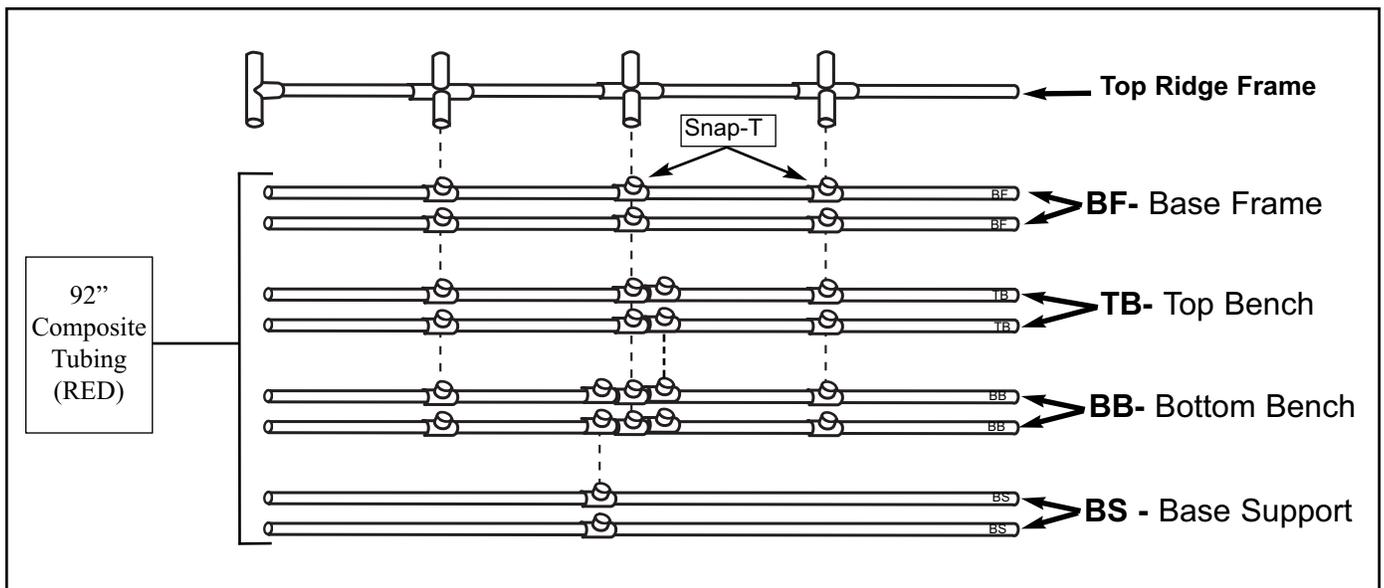
Making the Ridge Frames

Complete on a level surface so Top Ridge Frame will be flat & not twisted. Top Ridge Frame is used in Step 10, Top Ridge Assembly.

1. Insert **metal-T** snugly on one end of a **92" Composite Tubing - Red** and twist eyebolt until tight. (Insert a screwdriver or long bolt through the eyebolt and twist the eyebolt clockwise another 1/2 turn.)
2. Slide a **Metal Cross** over the 92" Composite tube - Red so that the distance from the "in" side of the metal-T to the center of the Metal Cross is 22 3/4". Twist the eyebolts tight.
3. Slide over the **2nd Metal Cross** so the distance from the "in" side of the 1st Metal Cross to the center of the 2nd Metal Cross is 22 3/4" - tighten eyebolts. Slide over the **3rd Metal Cross** so the distance from the "in" side of the 2nd Metal Cross to the center of the 3rd Metal Cross is 22 3/4" - tighten eyebolts.



4. **Aligning the snap-T's** - Use the **Top Ridge Frame** to line up the **snap-T's** on the remaining 92" tubes. Follow the pattern below. Label the tubes (**BF**, base frame; **TB**, top bench; **BB**, bottom bench; **BS**, base support) with a permanent marker to lessen confusion about the tubes in later steps.



5. BASE FRAME

Make sure working surface is clean and level.

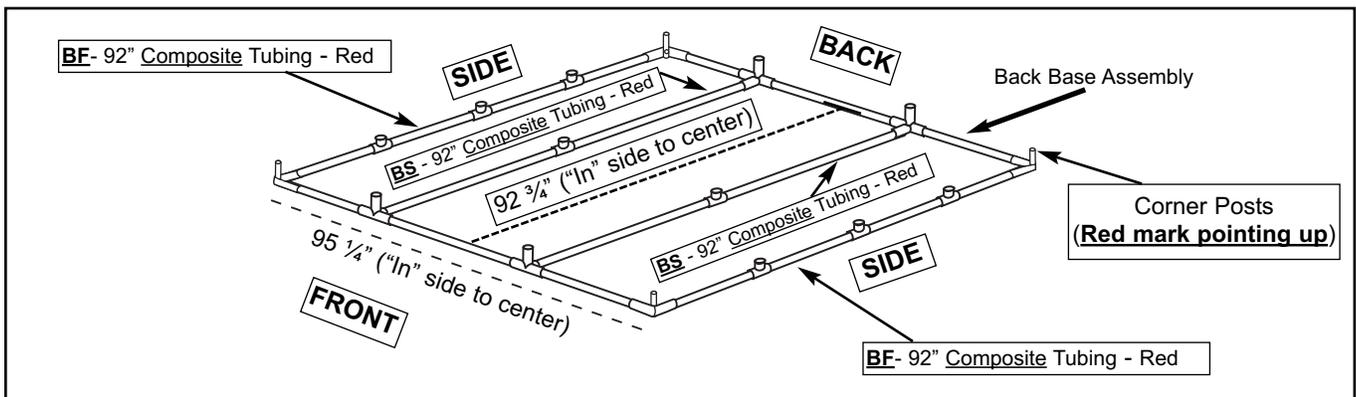
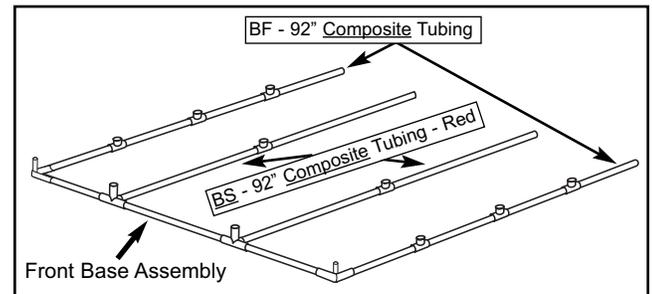
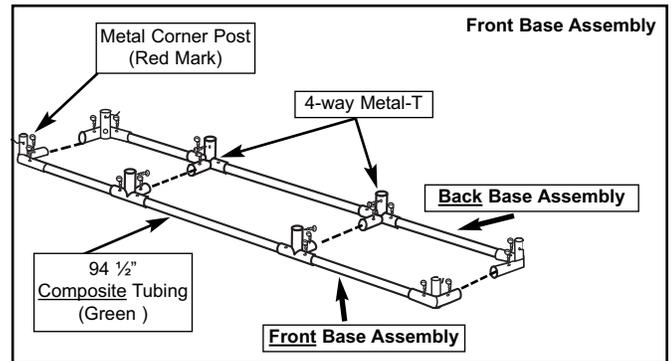
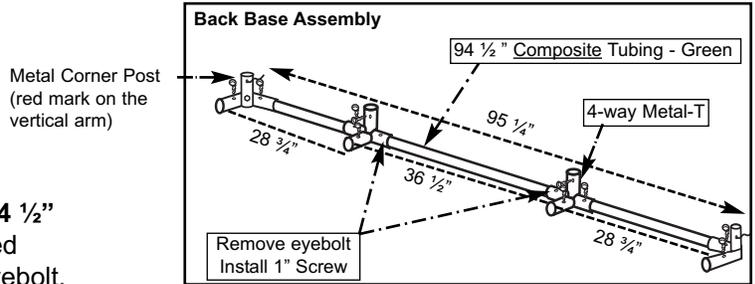
Pieces required:

- 4 Metal Corner Posts
- 4 4-way metal-T's
- 2 94 1/2" Composite Tubing - GREEN
- 2 BF - 92" Composite Tubing - RED (from step 4)
- 2 BS - 92" Composite Tubing - RED (from step 4)
- 4 1" Screws

FRAME ASSEMBLY

NOTE: It is important that the corner post is put on the right way. (Red Mark is on the vertical arm)

1. **Back Base Assembly.** 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) to one end of the 94 1/2" tube and tighten eyebolt. Attach a Metal Corner Post to the opposite end and adjust the Metal Corner Post so that the measurement from "in" side of one Corner Post to the center of the opposite Corner Post is 95 1/4". Move each 4-way metal-T to 28 3/4" ("in" side to center) from each Metal Corner Post. Secure the 4-Way metal-T's by tightening the eyebolts on the arms closest to the Corner Posts, and replace the eyebolt with a 1" Screw on the inside arms facing each other.
2. **Front Base Assembly.** Repeat the above step using the Back Base Assembly as a measuring device for the Metal Posts.
3. Attach both **BF- 92" Composite Tube** to the Metal Corner Posts of the Front Base Assembly. Attach both **BS - 92" Composite Tube** to 4-way metal-T's of the Front Base Assembly.
4. Attach the fittings of **Back Base Assembly** to the open ends of the 92" tubes. Push the 92" BS tubes all the way into the 4-way metal-T's. Adjust Metal Corner Posts so that the measurements from the inside edge of the Front Base Assembly to the center of the Back Base Assembly is 92 3/4".



6. END WALL FRAMES

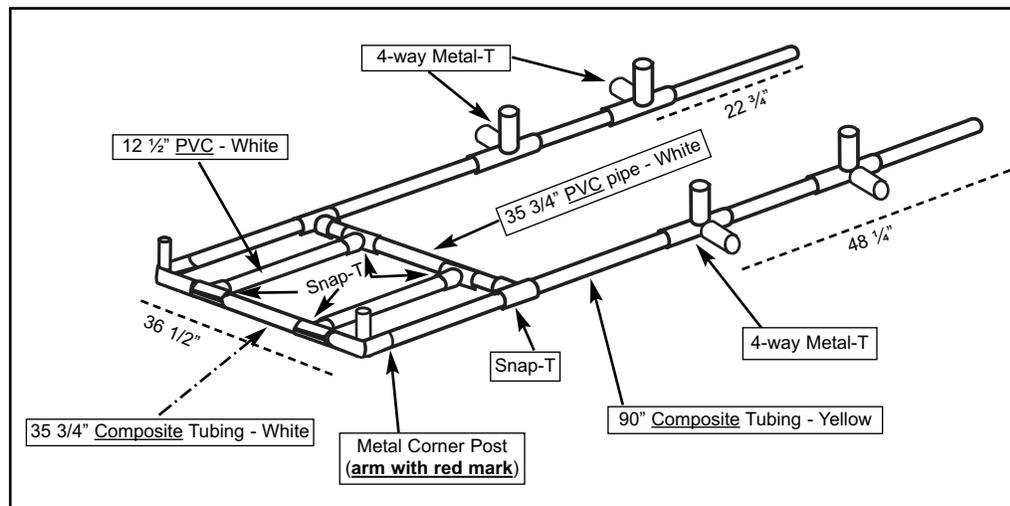
6A. Front End wall Frame

Pieces Required:

- 2 90" Composite Tubing - **YELLOW**
- 2 Metal Corner Posts
- 1 35 3/4" PVC Pipes - **WHITE**
- 1 35 3/4" Composite Tubing - **WHITE**
- 6 Snap-T's
- 2 12 1/2" PVC pipes - **WHITE**
- 4 4-Way Metal-T's

▶▶ Be sure to get the **composite tubing** and the **PVC pipe** in the right spot. **Composite tubing** has a gray fiber throughout and does not flex. While the **PVC** is white and flexible

Note: On Metal Corner Posts, the Arm with red mark attaches to 90" Composite Tube.

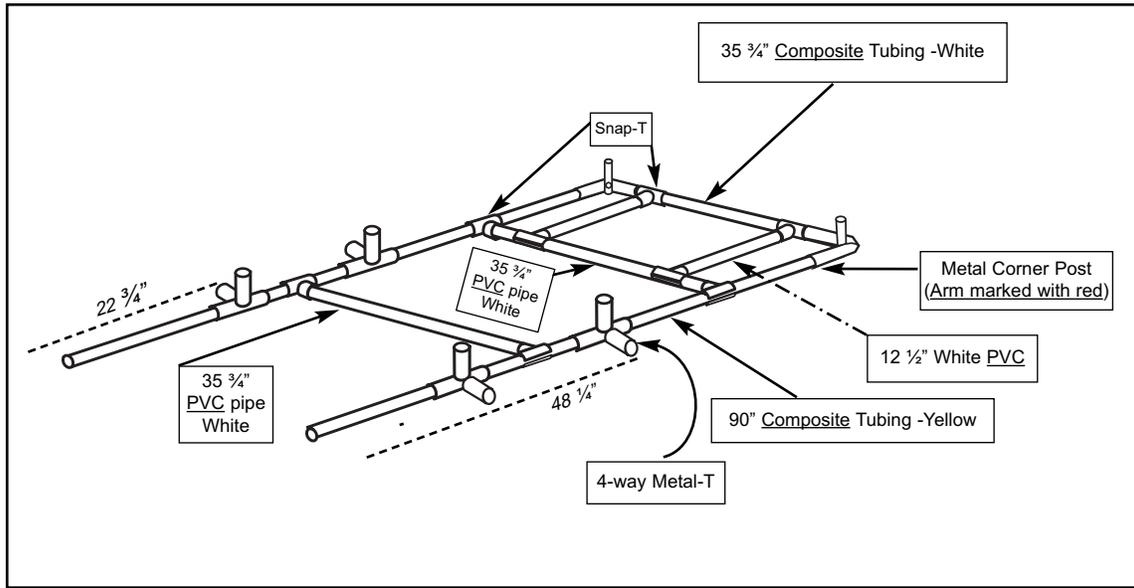


1. Slide each **90" Composite Tube - Yellow** snugly into a **Metal Corner Post** (insert tube into the arm with the red mark) and tighten the eyebolt. Attach a **35 3/4" Composite Tube** between the Metal Corner Posts on the 90" Composite Tube. Adjust 90" Composite Tube so the distance between the Metal Corner Posts is 36 1/2" from "in" side to center - tighten the eyebolts.
2. Attach a **Snap-T** to both 90" Composite Tubes about 13" below the Metal Corner Posts. Insert and glue a **35 3/4" PVC pipe** between the Snap-T's.
3. Attach two **Snap-T's** to both 35 3/4" pipes. Attach and glue **12 1/2" pipes** between the Snap-T's. Slide over each 12 1/2" PVC pipe - white to the edge of the Metal Corner Posts.
4. Slide two **4-way metal-T's** on both 90" Composite Tubes - yellow (Note direction of the posts). Tighten both bottom 4-way metal-T's at 22 3/4" from the bottom of the 90" Composite Tube - yellow to the center of the fitting. Tighten both top 4-way metal-T's at 48 1/4" from the bottom of the 90" Composite Tube - yellow to the center of the fitting.

6B. Back End Wall Frame

Pieces Required:

- 2 90" Composite Tubing - **YELLOW**
- 2 Metal Corner Posts
- 4 4-way metal-T's
- 2 35 3/4" PVC Pipes. - **WHITE**
- 1 35 3/4" Composite Tubing - **WHITE**
- 8 Snap-T's
- 2 12 1/2" PVC pipe -**WHITE**



1. Slide each **90" Composite Tube - yellow** snugly into a **Metal Corner Post** (insert tube into the arm with the red mark) and tighten the eyebolts. Attach a **35 3/4" Composite Tube - white** between the Metal Corner Post that are on the 90" composite Tubes - yellow. Adjust the metal corner posts so that they are 36 1/2" from "in" side to center - tighten the eyebolts.
2. Attach a **Snap-T** to both 90" Composite Tubes - Yellow, about 13" below the Metal Corner Posts. Insert and glue a **35 3/4" PVC pipe - white** between these Snap-T's.
3. Attach two **Snap-T's** onto both the 35 3/4" composite tube - White and the 35 3/4" PVC pipe - white that is below the 35 3/4" composite tube - White. **See note below before glueing** - Attach and glue a **12 1/2" PVC pipe - white** between both sets of Snap-T's. (See diagram above) Then Slide over both 12 1/2" PVC pipes - (with snap-t's glued) so the assembly is 10 1/2" from the "in" side of the 90" tube to the center of the 12 1/2" pipe (leaving about 13 1/2" between the 12 1/2" pipes).

NOTE: This spacing applies when installing a 12" Exhaust Fan or louver. If installing a 16" fan or larger, replace the 12 1/2" pipes with the larger pipes included with the fan (refer to Fan installation instructions).

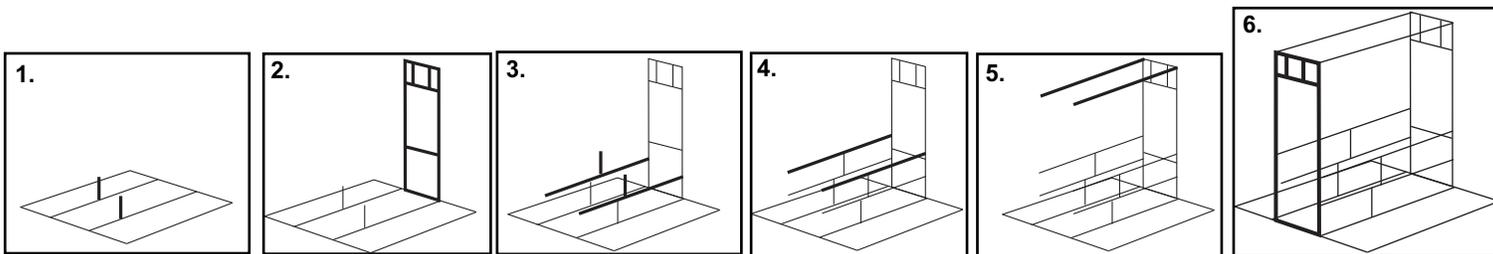
4. Slide two **4-way metal-T's** on both 90" Composite Tubes - yellow (Note direction of the posts). Tighten both bottom 4-way metal-T's at 22 3/4" from the bottom of the 90" Composite Tube - yellow to the center of the fitting. Tighten both top 4-way metal-T's at 48 1/4" from the bottom of the 90" Composite Tube - yellow to the center of the fitting.
5. Attach a **Snap-T** on both 90" Composite Tubes between the top and bottom 4-way metal-T's. Insert and glue a **35 3/4" PVC pipe - white** into these Snap-T's.

7. HANGING RODS & BENCH RODS

Pieces Required:

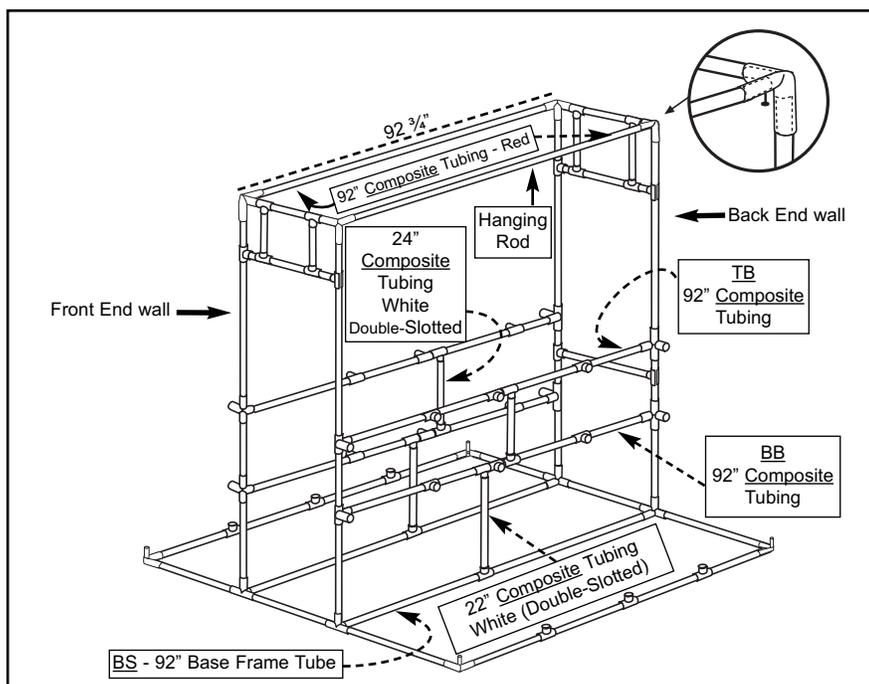
- 2 22" Composite Tubing - White (Double-Slotted)
- 1 Back End wall
- 2 BB -92" Composite Tubing - RED (from step 4)
- 2 24" Composite Tubing - Orange (Double-Slotted)
- 2 TB -92" Composite Tubing - RED (from step 4)
- 2 92" Composite Tubing - RED
- 1 Front End wall
- 8 1" Screws

Two people, a 4' and 8' ladder is recommended!



1. Attach a 22" **Composite Tube - White (Double-Slotted)** into the Snap-T's on both BS - 92" Base Frame tubes. **NOTE:** Apply glue around the outer end of the tube and inside the Snap-T fitting hole for lubrication. This way the tubing will be easier to slide into the Snap-T's. The glue will 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**. (See diagram 1 above)
2. Attach **Back End wall** to the 4-way Metal-T's on the back Base Frame and tighten the eyebolts. (See diagram 2 above)
3. Insert the **BB - 92" Composite Tubes** into the bottom 4-way Metal-T's on the 90" **Composite Tubes - Yellow** (Back End wall). Attach the end of the **BB - 92" composite tubes** that were marked **BB** from step 3 - 5, into the post and tighten the eyebolts. There are 3 snap-T's on the middle of the **BB** tubes. Of those three snap-T's, join the snap-T that is farthest from the end wall onto the 22" composite tube (From Step 1 above). Next, there are 3 snap-T's in the middle of the **BB** tubes, Of these three snap-T's, attach a **24" Composite Tube - Orange (Double-Slotted)** into the Snap-T that is closest to the end wall. Secure all Snap-T's to the tubes with 1" Screws. (See diagram 3 above and diagram below)
4. Insert the **TB - 92" Composite Tubes** into the top 4-way Metal-T's on the 90" **Composite Tubes - Yellow** (Back End wall) Attach the end of the **TB - 92" composite tubes** that were marked **TB** from step 3 - 5, into the post and tighten the eyebolts. Attach a 24" **Composite Tube** to the Snap-T (That is right of center) on both TB - 92" **Composite Tubes**. Secure with 1" Screws. (See diagram 4 above and diagram below)
5. Use a marker and draw a line 2 3/4" in from both ends of the remaining **92" Composite Tubes**. Put 92" **Composite Tubes** into the top Metal Corner posts on the Back End wall. Slide tubes into the posts until the line you just marked on them is even with the post and tighten the eyebolts.
6. Lift and attach the **Front End wall** to the 4-way Metal-T's on the Front Base Frame and tighten eyebolts. Insert the opposite sides of the 92" **Composite Tubes** (Including all TB and BB assemblies) into the corresponding Metal Fittings and tighten the eyebolts.

Check that the measurements of the Hanging Rods are 92 3/4" from the "in" side of one 35 3/4" Back End wall tube to the center of the opposite 35 3/4" Front End wall tube.

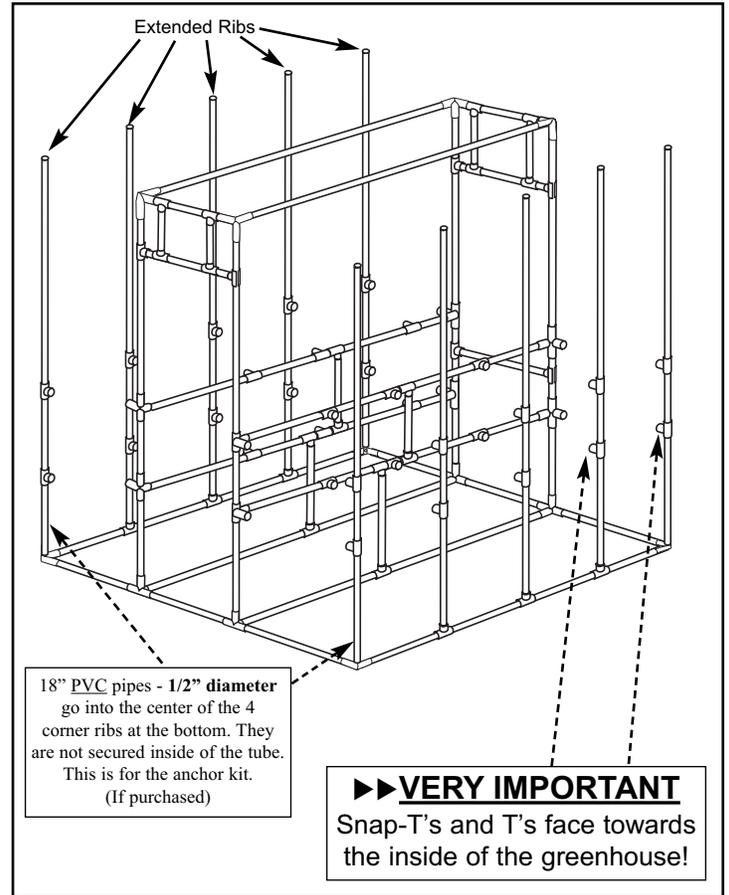
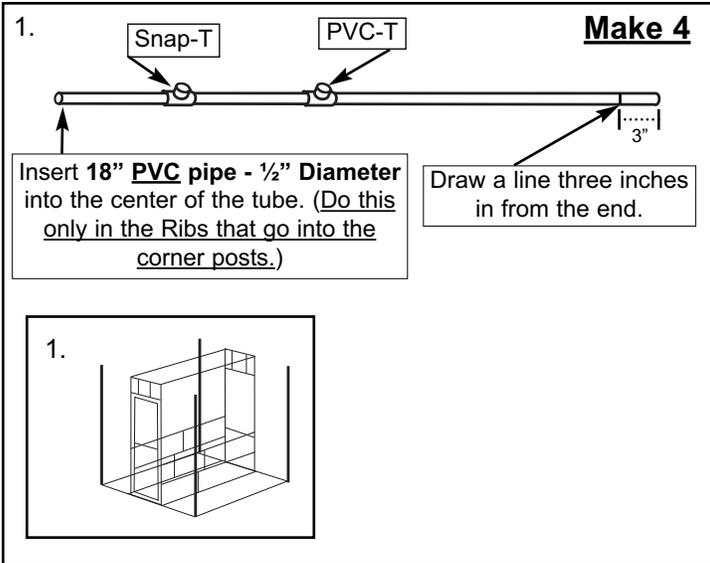


8. RIB ASSEMBLY

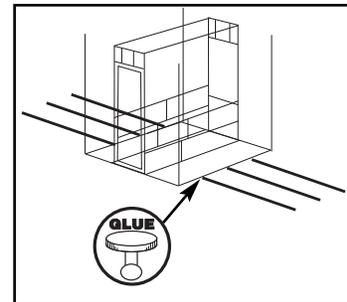
Pieces required:

- 10 Extended Ribs, made in step 2
- 4 18" PVC pipes - 1/2" diameter

1. On 4 **Extended Ribs**, draw a line 3" from the end furthest from the PVC-T. Slip an **18" PVC pipe - 1/2" Diameter** into the end with the Snap-T. Place the end with the 18" PVC pipe - 1/2" diameter snugly into the Metal Corner Post and tighten the eyebolt.



2. Glue the remaining 6 Extended Ribs into the Snap-T's on the BASE FRAME. **Make sure Ribs are seated all the way into the Snap-T's on the base frame. Make sure the PVC-T and the snap-T on each of the 10 ribs are facing towards the inside of the greenhouse.**



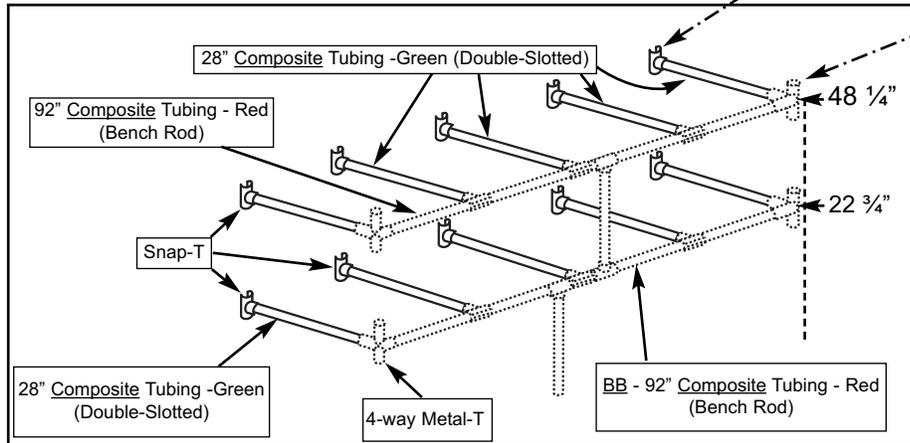
9. BENCH ASSEMBLY

Pieces Required:

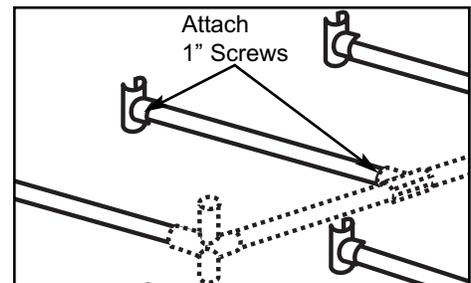
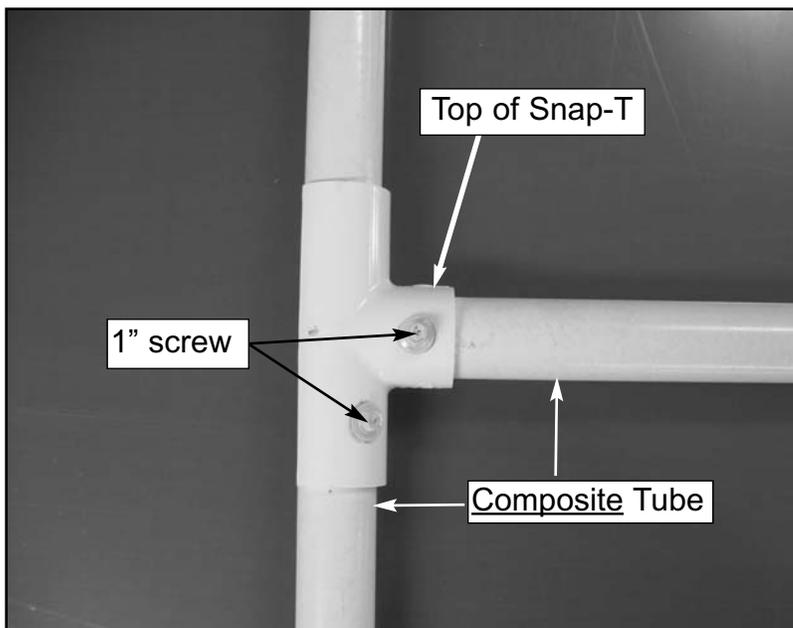
20 28" Composite Tubing - GREEN (Double-Slotted)

42 1" Screws

Attach screw here
(See picture below)



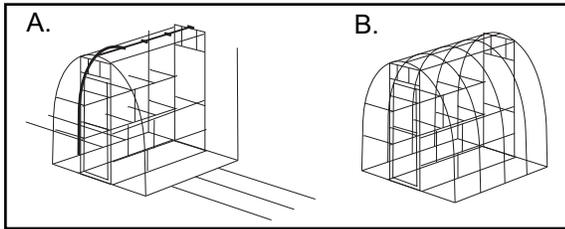
1. Insert **eight 28" Composite Tubes - Green (Double-Slotted)** into the 4-way Metal-T's that are on the end walls. Attach the opposite ends of the 28" Composite Tubes - Green (Double-Slotted) into the snap-T's on the corner side wall tubes. **(NOTE: The glue does not adhere to the Composite Tubing. Apply glue around the outer end of the pipe and inside the top of the Snap-T fitting for lubrication. The tubing will be easier to slide into the Snap-T's.)** You will need to secure the tubing by putting a **1" Screw** through the top of the Snap-T and into the 28" Composite Tubes - Green (Double-Slotted) - See picture below. Attach the remaining 28" Green Composite Tubes between the Snap-T's on the rib pipes and the Snap-T's on the 92" Bench Rods using glue to lubricate and 1" Screws to secure.
2. Double check measurements and make sure that the 4-way Metal-T's on the End walls are at $22\frac{3}{4}$ " and $48\frac{1}{4}$ " from the top of the BS - 92" Base Frame Tube to the center of the fitting. (See diagram above)
3. Adjust Bench Frame tubes (by moving Snap-T's on the Ribs up or down) so Snap-T's of each bottom bench frame are at an equal height and level with each other. HINT: Use a rubber mallet to tap the snap-T up or down.
4. After everything is level, attach a **1" Screw** through the top of the vertical Snap-T's on the Side Wall Tubes to prevent shelf brackets from sliding down (See picture below).



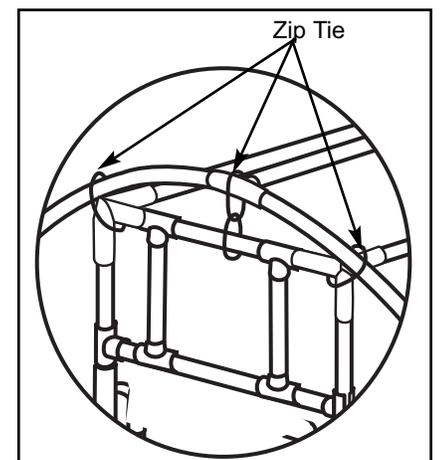
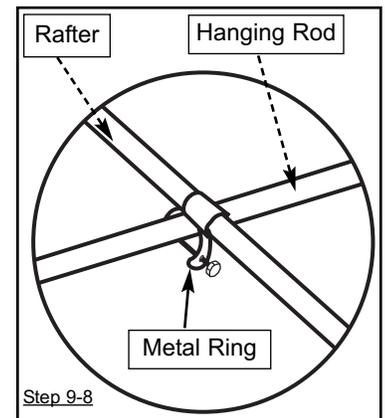
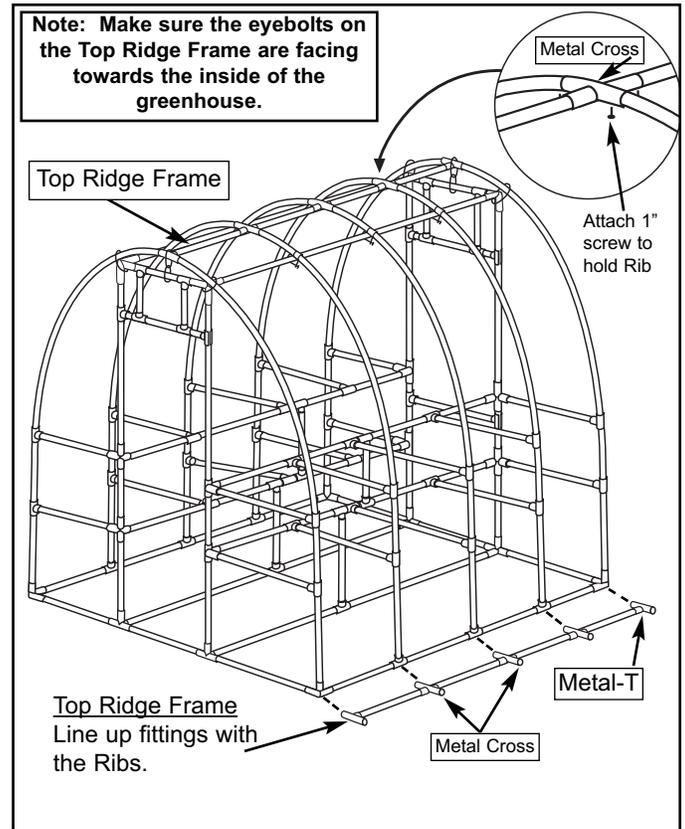
10. TOP RIDGE ASSEMBLY

Pieces required:

- 1 Top Ridge Frame, **made in step 4**
- 1 Metal-T
- 6 Metal Rings
- 6 1 ½" x 3/16" machine Screw & wing nuts
- 10 1" Screws
- 8 Large Black Zip Ties



1. Add a **Metal-T** to the end of the Top Ridge Frame and tighten the eyebolt. Line up the **Top Ridge Frame** with the base frame of the greenhouse. Make sure the Snap-T's and Metal fittings on the base frame are in line with the metal fittings on the Top Ridge Frame (See diagram to the right). Check rib alignment on both sides of the base frame.
2. Balance the Top Ridge Frame on the hanging rods. Insert both front end wall Ribs into the Metal-T on the end of the TOP RIDGE FRAME. (HINT: Have a person hand each Rib to you, while you are on a ladder. If assembling the greenhouse by yourself, make a hook from a wire hanger and use the hook to grab the Ribs). Push the Ribs into the Metal-T until the line drawn in Step 8 is even with the post of the Metal-T. Secure Rib by drilling a 1" screw into the eyebolt hole.
3. On the Ribs that go into the Metal Crosses, slide a **Metal Ring** onto each of these Ribs. Insert the Rib all the way into the Metal Cross until it stops. Attach a 1" Screw into the eyebolt hole. Slide the metal ring up to the hanging rod and adjust the "U" portion of the metal ring, so it straddles the hanging rod. Slide a 1 ½" x 3/16" **machine screw** through the bolt holes of the Metal Ring and attach a **wing nut**. Repeat for all Ribs going into Metal Crosses only.
4. For the back end wall Ribs, push the Rib into the Metal-T until the line drawn in Step 8 is even with the post of the Metal-T. Secure the Rib by drilling a 1" **screw** into the eyebolt hole.
5. Loop a **Zip Tie** around the Metal-T of the top ridge frame. Lock the Zip Tie loosely. Loop a second Zip Tie around the 35 ¾" **Composite** Tube and through the first Zip Tie. Tighten both Zip Ties until the measurement from the top of the greenhouse to the ground is 97". Do this on both end walls.
6. Attach a **Zip Tie** around the hanging rod, rib, and Metal Corner Post on both sides of both end walls. Make sure the door tubes. (90" tubes) are plum. - Straight up and down. See diagram to the right.



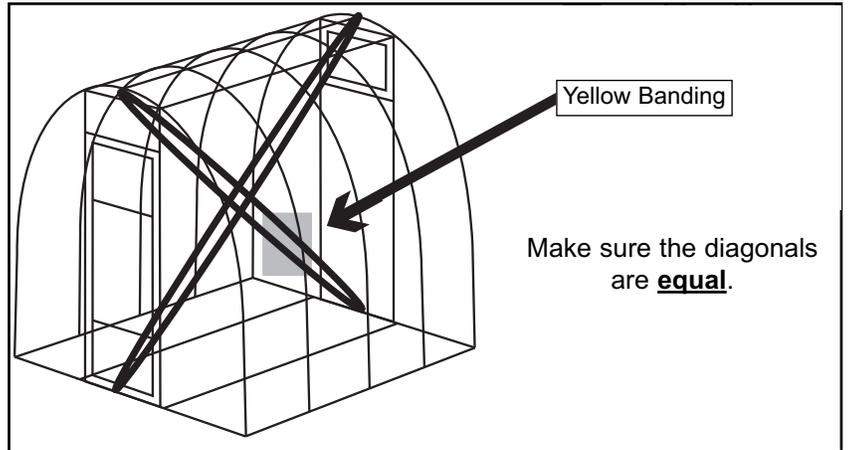
11A. SQUARING FRAME

Pieces Required:

- 2 Yellow Banding
- 2 Metal Banding Clips
- 2 76" Side Door Casing (1 with Hinges)
- 1 38" Top Door Casing
- 1 1" Screw

NOTE: Measure the diagonals with a tape measure first. If diagonals are equal, skip step 11A.

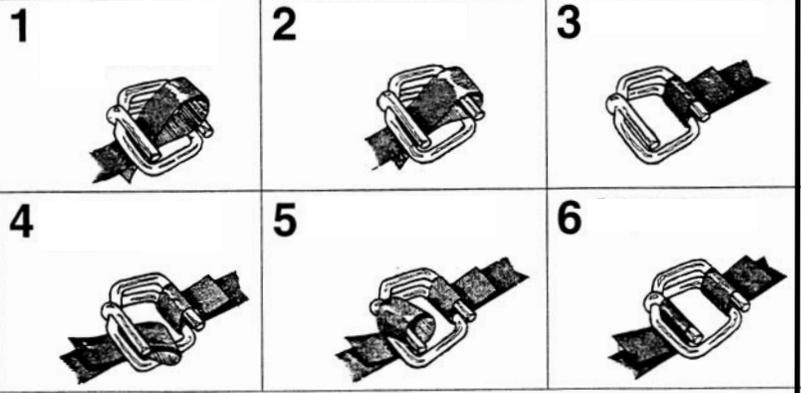
1. Loop a piece of **Banding** around the 35 3/4" composite tube - white at the top of the end wall and around the 94 1/2" Composite Tube - Green (Base Frame) on the opposite side.
2. Thread banding to the metal buckle as shown. (Diagram to the right)
3. Repeat on opposite ends using 2nd piece of **Banding**.
4. Tighten the banding (The longer of the two) so the diagonal measurements are equal in length. Keep the banding in place until panels have been applied and screwed into place.



11 B. Sizing Door Frame for Door Casing

1. Using the Top Door Casing as a measuring device, check to make sure the door opening is 36 7/8" at both the top and bottom from "in" side to center of the pipes. (The Top Door Casing fits between the 90" Tubes.
2. Make sure the door opening is square by measuring diagonally from corner to corner and making sure the measurements are the same. If not you will need to move the end wall assembly to the right or left.
3. Again place the Top Door Casing over the 35 3/4" pipe. Hold temporarily in place with one screw inserted from the front and into the tube.
4. Temporarily place the side Door Casing with the hinges attached on whichever side you want your door to hinge from - Opposite the side you want the door to open from. Hold in place.
5. Place the other Side Door Casing on the opposite side of door opening. All three Door Casing pieces should fit snugly.
6. Remove the Door Casing Pieces. They will be used in the Door Assembly **Step #15**. Proceed with paneling.

How to thread metal buckles



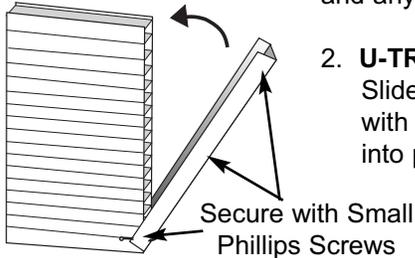
1. Form a 3" loop by folding banding away from you (short end of banding needs to be on top). With buckle tines facing upright, pass loop up through center of buckle.
2. Slip the loop over the tine (farthest from you).
3. Pull banding down and away.
4. Place banding around specified frame area. Fold 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

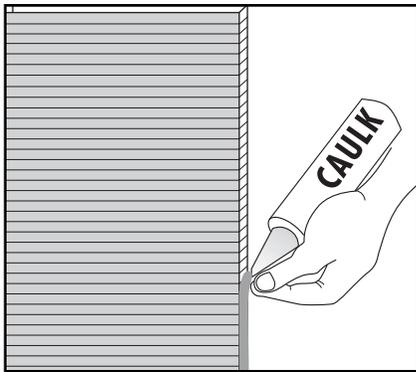
Congratulations, your frame is now finished! All that's left is the paneling application. Listed below are several hints that will make paneling your greenhouse much easier. If you have any suggestions that would be helpful for future customers we would be happy to hear from you.

- 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 panel. 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.

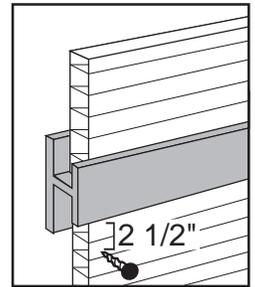


- 2. U-TRIM:** Insert 1/4"-1/2" of 100% silicone caulking into open flutes to prevent water intrusion. Slide U-Trim over the 4' ends of panels where specified in the instructions. Secure U-Trim with **small phillips screws** by poking a small hole on the underside of the U-Trim, and screwing into paneling. Place 1 screw on each end of each U-Trim and 1-3 screws in between the ends.

► **Note:** When using caulking, cut tip of tube at an angle. Be careful not to get caulking on your 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.

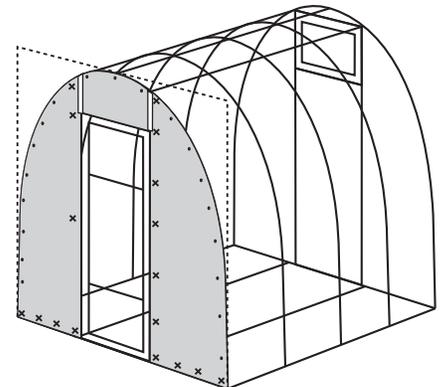


NEVER attach screws into the H-Channel!



- 4. SCREWS:** Use the diagrams 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 diagram.

- 5. CUTTING PANELS:** Panels cut very easily with a long, thin and sharp knife. Use the Frame for a guide when trimming panels - **Better to trim them a little higher than the frame. You can always trim a little off but you can not add a little on if you cut them too low.**



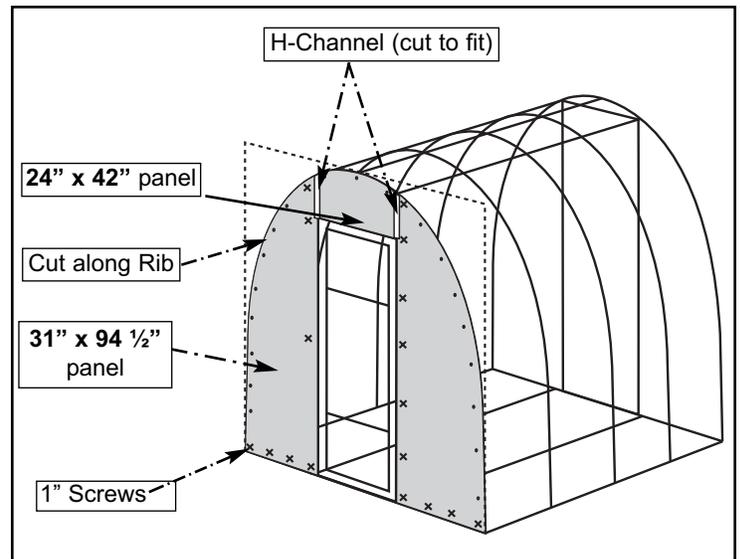
- 6. TIE DOWN:** Please remember to tie down your greenhouse once you begin paneling. The greenhouse is light enough that on a windy day it could blow over.

12. FRONT END WALL PANELS

Parts Required:

2	31" x 94 1/2" Panels
1	24" x 42" Panel
45	1" Screws
1	4' H-Channel

1. Caulk the open flutes on one end of all panels.
2. Screw **31" x 94 1/2" Panels** (caulked end on the ground) into place making sure they cover the door end wall tubes and ribs. Place screws about 6 - 8" apart on Ribs and Base Frame. **Attach to End wall Tubes (Door opening) with only 1 or 2 screws.** These screws will be removed later when you assemble your door.
3. Cut panels along the curved side using a sharp knife (use the pipe as a guide).
4. Trim and install the **24" x 42" panel** in the open space above the door. Leave a 1/4" gap between this piece and the 31" x 94 1/2" Panels (On the left and the right) so there is room to slide the H-Channels between the panels. Cut the **4' H-Channel** in half, slide into place and trim to fit.
5. Caulk exposed flutes along the curve of frame.



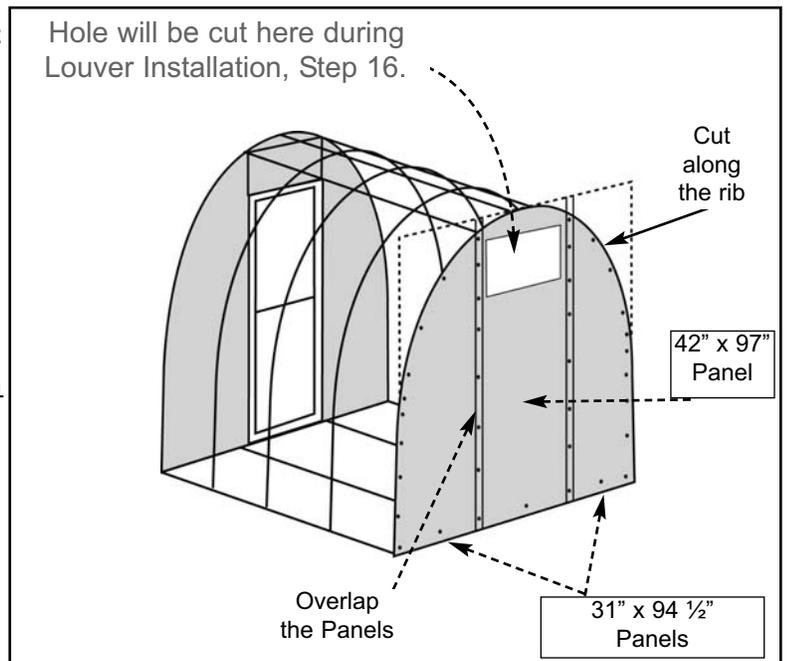
13. BACK END WALL PANELS

Pieces Required:

2	31" X 94 1/2" Panels
1	42" x 97" Panel
68	1" Screws

Hint: Using the Louver as a measuring device, Adjust the 12 1/2" pipes so the louver fits between them.

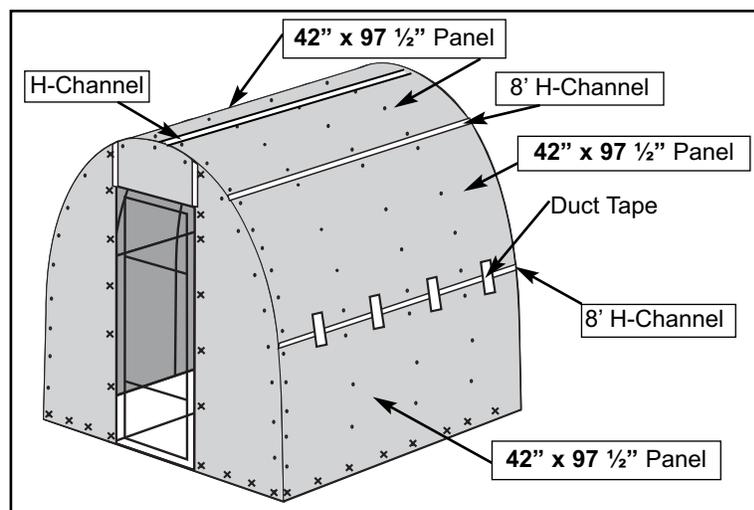
1. Caulk one end of all 3 panels as in Step 1 Front End wall.
2. Attach the 31 x 94 1/2" Panels as in Step 2 above (Front End wall), using only 1 or 2 screws on End wall Tubes.
3. Remove screws from the End wall Tubes and install the 42" x 97" Panel to cover the End wall Tubes so the 31" panel and 42" panels overlap. Reattach screws through both panels on the End wall tubes about every 6-8" apart.
4. Cut panels along the curved side as in Step 3 above, Front End wall.
5. Caulk exposed flutes along the curve of the frame.



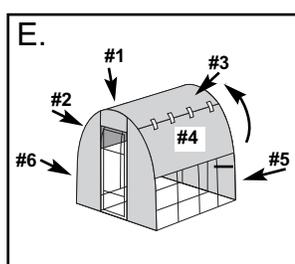
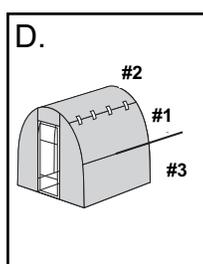
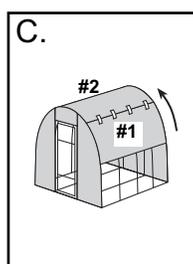
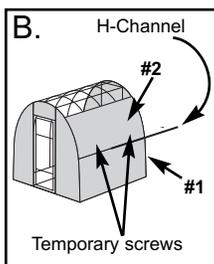
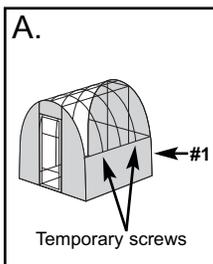
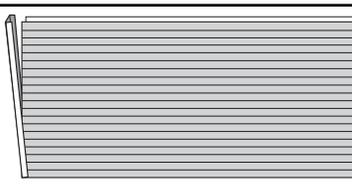
14. TOP PANEL LAYOUT

Pieces Required:

- 6 42" x 97 1/2" Panels
- 5 8' H-Channel
- 138 1" Screws
- 4 49 1/2" U-Trim
- 4 78" U-Trim
- Duct tape



Hint: Caulk the ends of each panel before attaching them to the greenhouse.



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

1. Apply panels as per diagrams A - E. (NOTE: We suggest this approach so the H-Channels are slid on at a more manageable and safe height. The panels can be attached one at a time going from one side to the other without using the duct tape)

- A. Temporarily attach a **42" x 97 1/2" panel (panel #1)** with 2 screws. One screw on the 2nd and 4th Rib about 2 1/2" from the upper edge of the panel.
- B. Temporarily attach a 2nd **42" x 97 1/2" panel (Panel #2)** above panel #1 with 2 screws to hold the panel in place. Leave a 1/4" gap between the 2 panels. Slide an **8' H-Channel** between panels #2 and #1
- C. Tape panels together with duct tape & unscrew the temporary screws. Slide panels up.
- D. Temporarily attach a third **42" x 97 1/2" panel (Panel #3)** under panels #2 and #1. Temporarily attach panel #1 with screws, leaving a 1/4" gap between panels #3 and #1. Slide an **8' H-Channel** between these two panels. Tape panels together with duct tape & unscrew the temporary screws. Slide the panels up. Temporarily attach a fourth **42" x 97 1/2" panel (Panel #4)** under panels #2, #1 and #3. Temporarily attach panel #3 with screws, leaving a 1/4" gap between panels #3 and #4. Slide an **8' H-Channel** between these two panels. Tape panels together with duct tape & unscrew the temporary screws. Slide panels up.
- E. Permanently attach a fifth **42" x 97 1/2" panel (Panel #5)** with screws. Pull panels #1 - 4 down so there is a 1/4" gap between panels #4 and #5. Begin attaching panels #2, 1, 3, and 4 with screws being careful to use the same holes used for temporary attachment. Slide an **8' H-Channel** between panels #4 and #5. Remove all of the duct tape. Attach a sixth **42" x 97 1/2" panel (panel #6)** to the bottom opening, under panel #2. Trim the top of this panel to fit. Slide an **8' H-Channel** between these two panels.

2. Attach U-Trim to the caulked ends of the 42" x 97 1/2" panels that overhang the end walls. (refer to hints on page 15). The first **78" U-Trim** will fit over a 42" Panel and part of a 2nd 42" Panel. Leave U-Trim in one continuous piece. Begin attaching the 2nd **78" U-Trim** where the first one stops. Finally attach two **49 1/2" U-Trims**. Cut the 2nd U-Trim to fit as needed. Repeat this step on the back end wall of the greenhouse. Attach with small phillips screws. Screw from underneath the paneling. Through one side on the u-trim and into the paneling.

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

(If you have not purchased one, you will need to secure the greenhouse to the ground.)

Tie Down Kit Instructions for 4 or 6 Anchor kit

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

Parts Needed: (4 anchor)

- 4 - 15" or 30" Steel Anchors
- 4 - Turnbuckles
- 4 - Metal Hooks
- 8 - 1 1/2 x 1/4" bolts
- 8 - 1/4" locknuts
- 8 - Washers

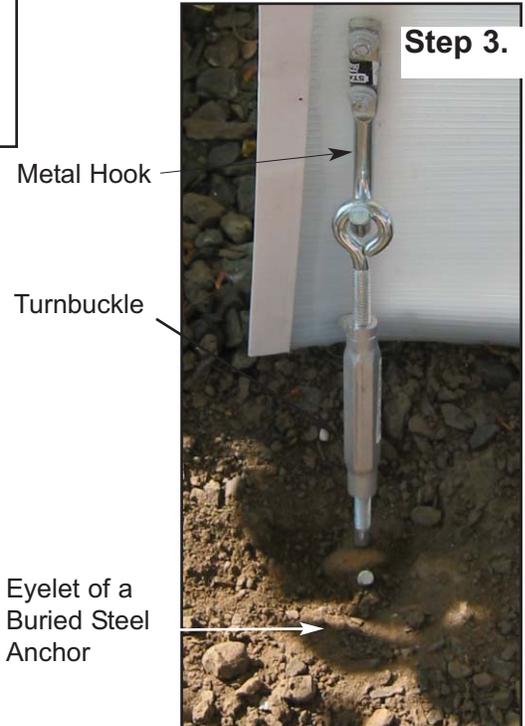
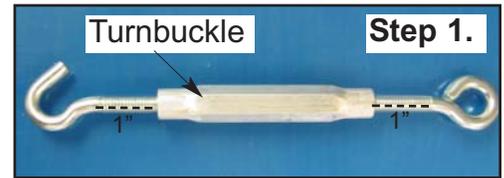
(You need a 1/4" drill bit to predrill for the bolt holes)

Parts Needed: (6 anchor)

- 6 - 15" or 30" Steel Anchors
- 6 - Turnbuckles
- 6 - Metal Hooks
- 12 - 1 1/2 x 1/4" bolts
- 12 - 1/4" locknuts
- 12 - Washers

(You need a 1/4" drill bit to predrill for the bolt holes)

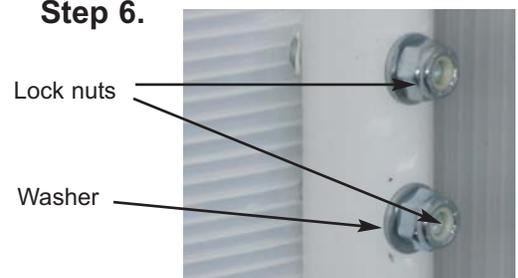
1. Loosen **turnbuckles** so the bolts of the turnbuckle are out about 1" on each side.
2. Screw one 15" or 30" **steel anchor** into the ground using a screwdriver, rod, or pipe inserted through the eyelet of the anchor. This will act as a handle for you to twist the anchor into the ground. The eyelet should be just showing above ground. This will prevent the greenhouse from shifting. Also, make sure the anchor is as close to the greenhouse as possible for the most secure pull. Place 1 anchor at each corner of the greenhouse. For units longer than 8', place one anchor in the middle of the each sidewall or every 8' along the sidewall plus the corners of the greenhouse.
3. Slide the hook of one turnbuckle onto the eyelet of a ground anchor. Slide a **Metal hook** through the eyelet of a turnbuckle.
4. Hold the flat part of the hook up tight against a corner rib outside the greenhouse. Using a 1/4" drill bit, drill a hole through each of the holes in the **metal hook**, clear through the Solexx and the rib including the 1/2" PVC pipe inside the rib.
5. From outside the greenhouse push a **bolt** through each hole in the **metal hook** and through the rib.
6. From inside the greenhouse, slide a **washer** over each bolt and secure it with a **lock nut**. Tighten the locknuts.
7. Repeat this process on each of the other corners.
8. Tighten the turnbuckles to remove any slack.



Step 4.



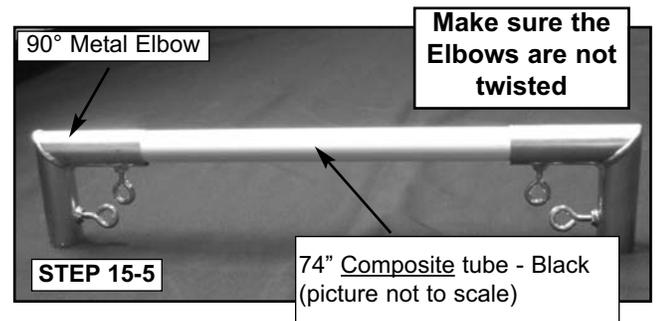
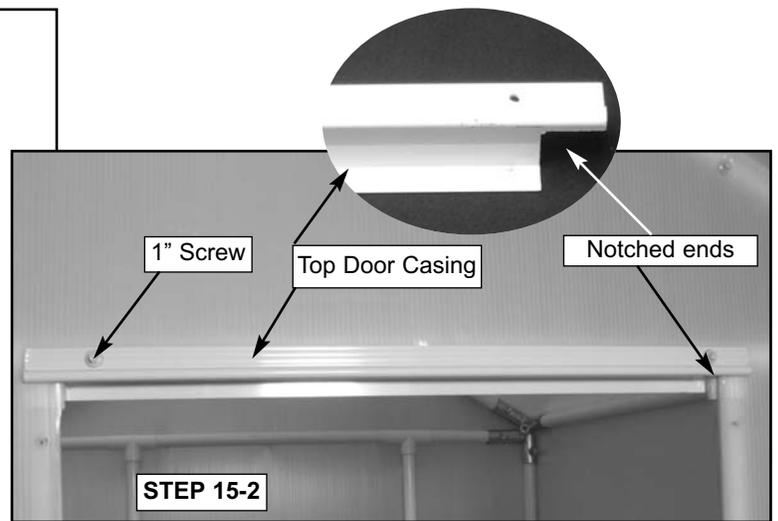
Step 6.



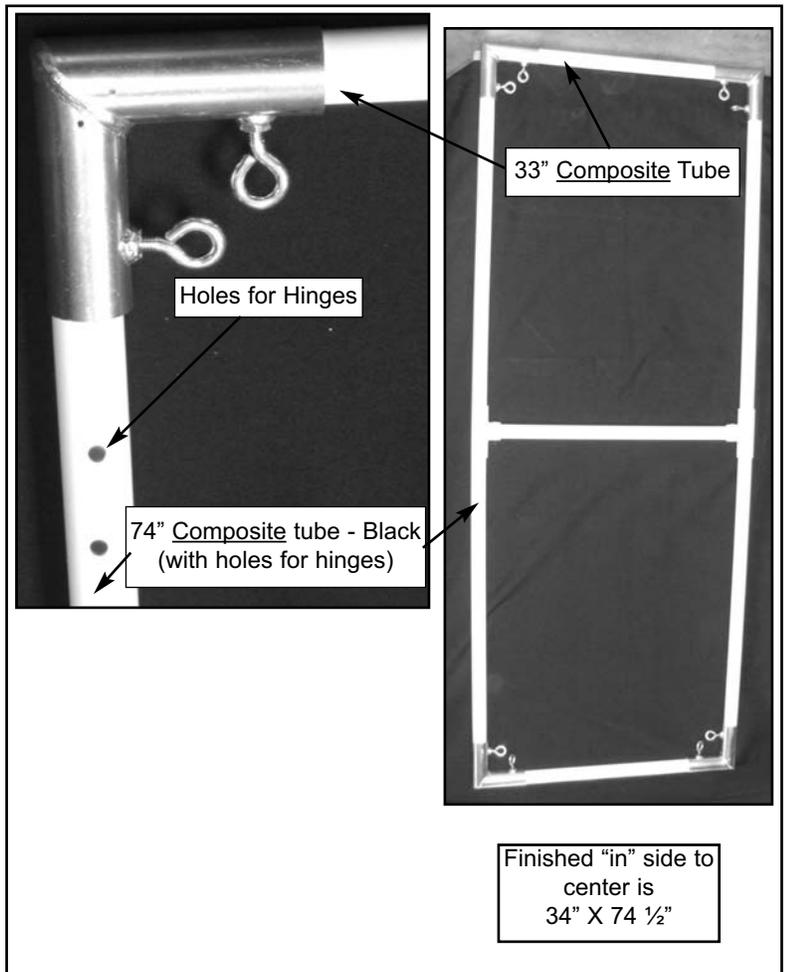
15. Door

Pieces Required:

- 1 36 1/2" x 80" Door Panel
- 1 76" Side Door Casing (Used in Step 11b)
- 1 76" Side Door Casing with Hinges (Step 11b)
- 1 74" Composite Tubing- BLACK (with holes for Hinges)
- 1 74" Composite Tubing- BLACK
- 1 38" Top Door Casing (Used in step 11b)
- 2 33" Composite Tubes- BLACK
- 1 36" U-Trim
- 4 90° Metal Elbows
- 1 Snap-T's
- 49 1" Screws
- 3 Small phillips Screws
- 1 33" Composite Cross Bar with Snap T (for door) - slotted
- 1 **Door Parts Bag:**
 Outside Handle, Inside Handle, 3-point Cam
 Hinge Bag: 1/4" x 1-3/4" Bolts (4), Lock Nuts (4), Hinge halves and pins (2), Flat Washers (2)
 Door Parts Bag: 8/32 Hex Lock Nut, 3/8" Lock Nut, 32 x 1-3/4" Machine Screw, 1" Metal Screw, 4mm Allen Wrench
 Door Cable Bag: Turnbuckle, 76" Wire Cable, 1/16" Wire Cable Clamps (2)



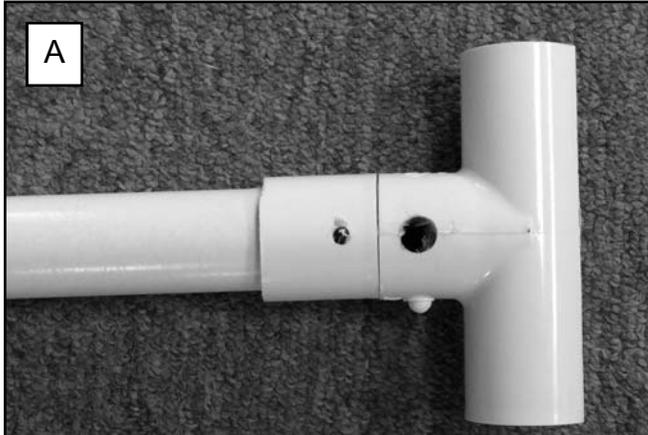
1. Remove the temporary screws from around the Door opening.
2. Attach the Top Door Casing to the Tube above door with 1" Screws. Make sure it is level.
3. **Decide which side you want your door to open (as you face the door) and attach the 76" Side Door Casing with hinge halves attached on the side 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 **74" Composite Tubes**. Tap the tubing so that it is completely seated into the elbow. Make sure the pre-drilled holes in the 74" 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 74" 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 74 1/2" ("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.**

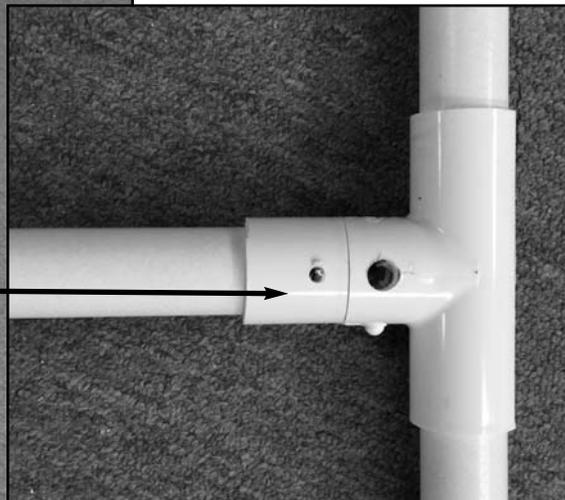
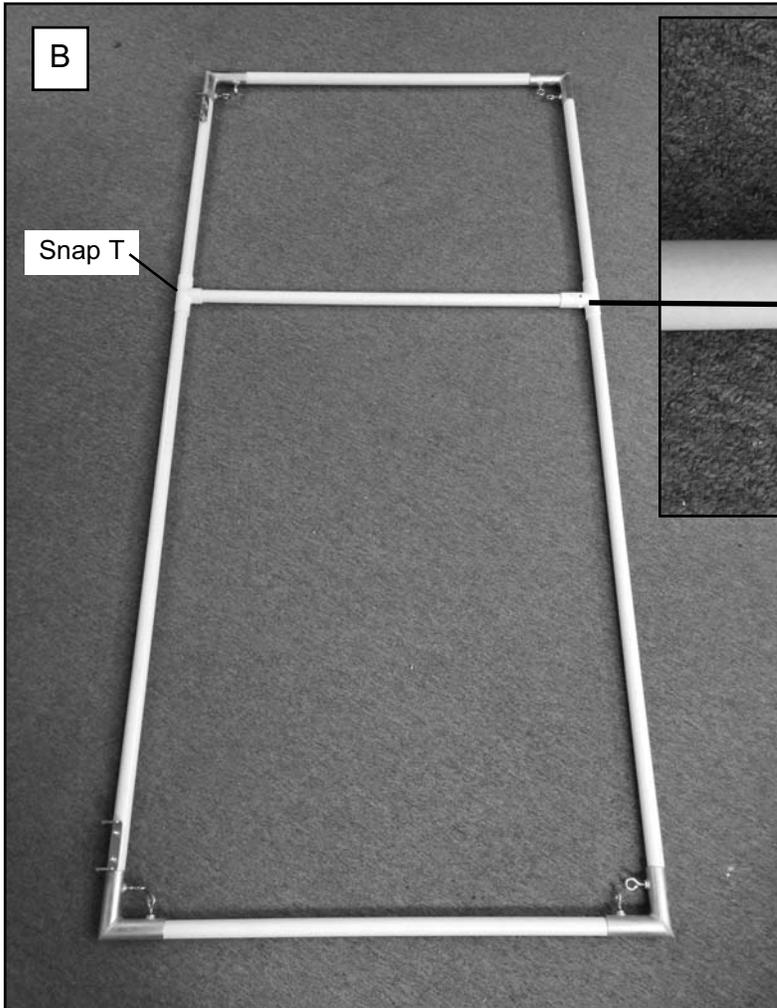
Attach a snap-T to the center of the opposite door tube and then slide the Cross Bar into this snap-T. See picture "B" below. Make sure that this cross bar is not causing the frame to be bowed out in the middle, if so, try compressing the snap-t on the end of the cross bar. If that doesn't work, separate 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)

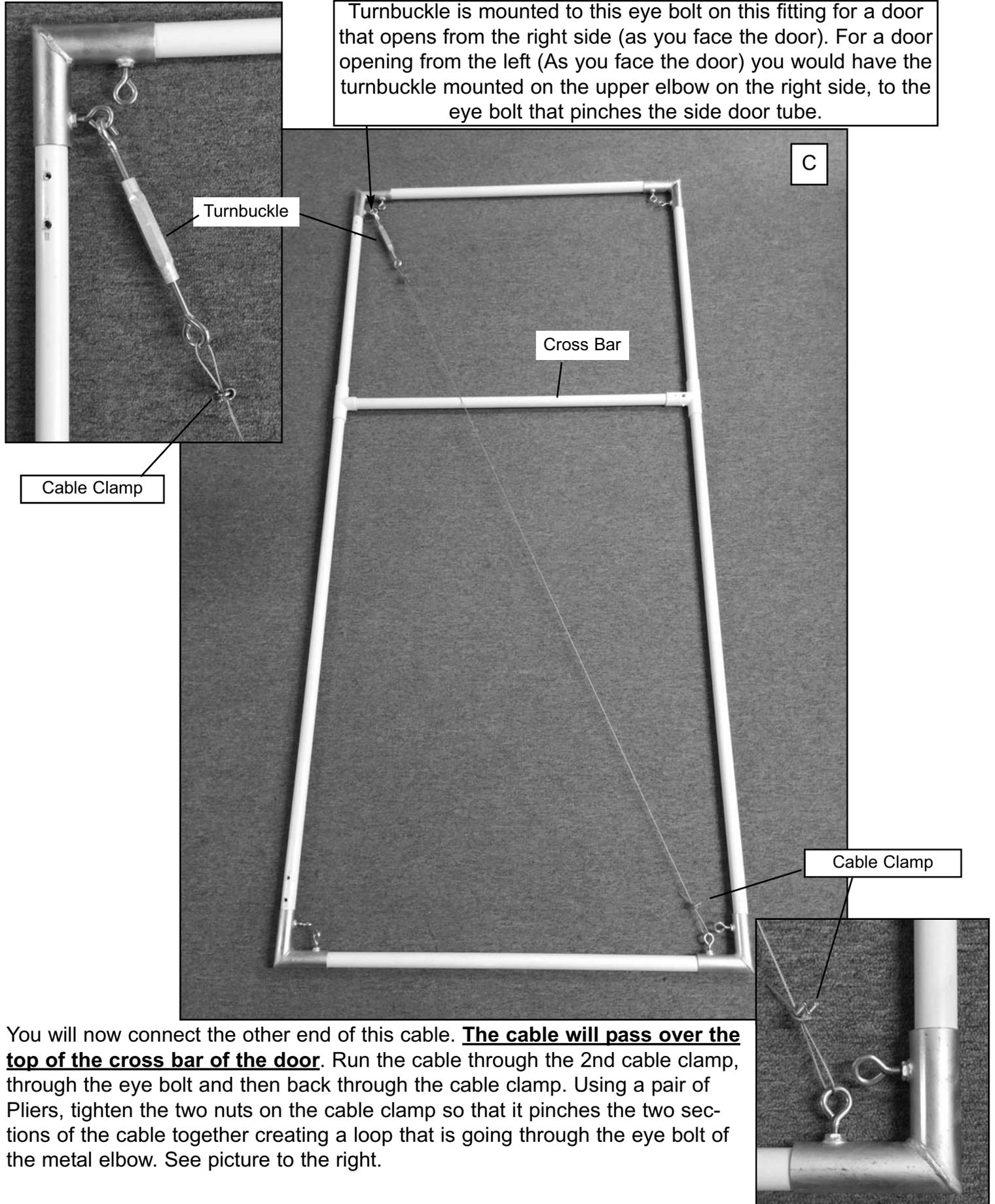
Make sure that the big hole and little hole remain lined up. If they are not aligned, then use the shaft of a screw driver inserted into the large hole and push or pull on the screw driver to move the snap-T on the tube. Once the large hole in the snap-T is aligned, you can use your hand to move and 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)

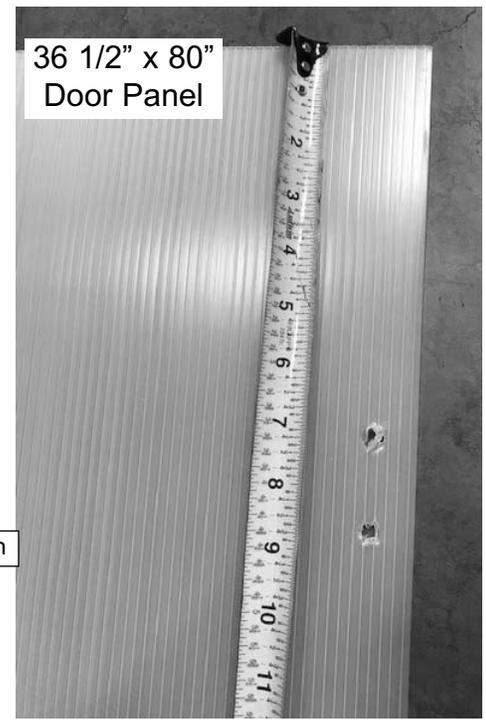
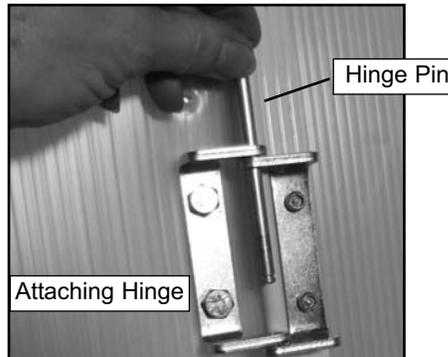


You will now connect the other end of this cable. **The cable will pass over the top of the cross bar of the door.** Run the cable through the 2nd cable clamp, through the eye bolt and then back through the cable clamp. Using a pair of Pliers, tighten the two nuts on the cable clamp so that it pinches 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 **1/4" x 1 3/4" 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.



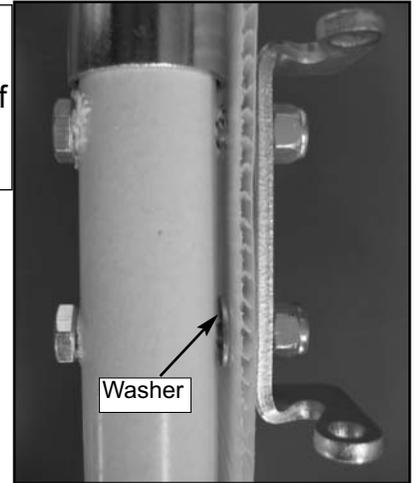
10. Now that the door is hung, close and open the door several times to make sure that none of the metal elbows of the door frame are hitting the metal casings of the door opening. If needed, adjust the door frame so that it fits within the door opening and is not touching the metal casings of the door 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 15, step 2).**

Hinge assembly & location of washer



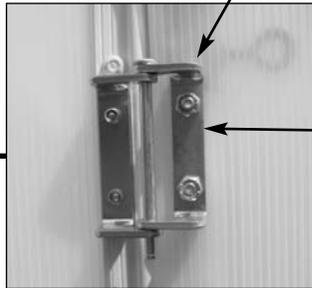
Upper hinge
Inside
greenhouse

Side view of
assembled
upper hinge-half
on door
→



Washer

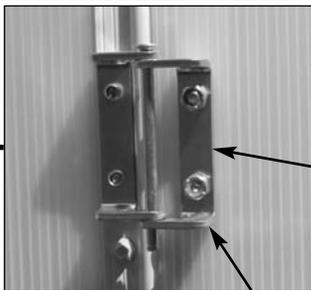
Upper hinge
(**Outside** greenhouse)
Hinge-half on door sits **above**
hinge-half on door casing.



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)

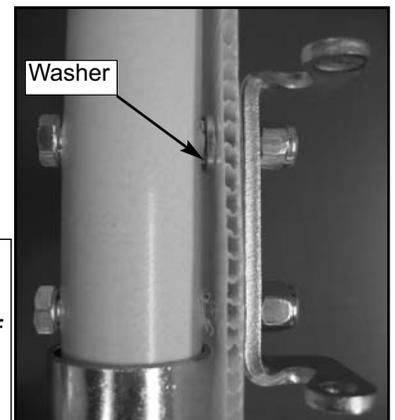


Lower hinge
Inside
greenhouse



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

Side view of
assembled
lower hinge-half
on door
→



Washer

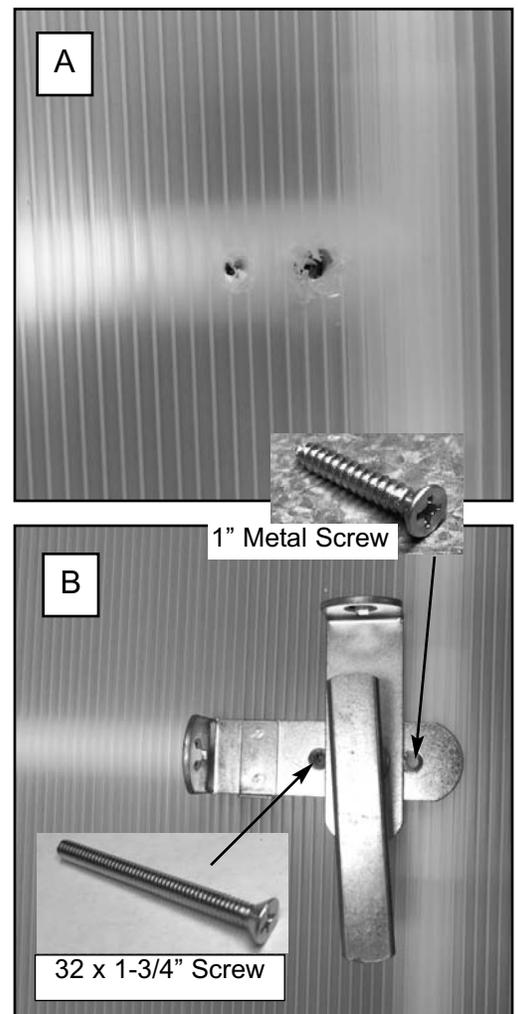
15. **Door lock** - The center cross bar of the door will set the height of your door lock/handle. From the outside of the greenhouse, look through the door panel at the holes in the predrilled snap-T, this would be the height of the outside door handle. To adjust to your preferred handle height, slide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

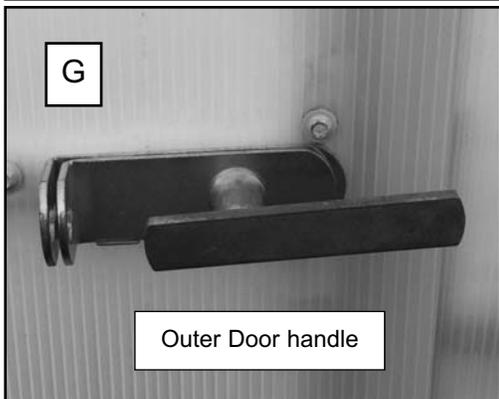
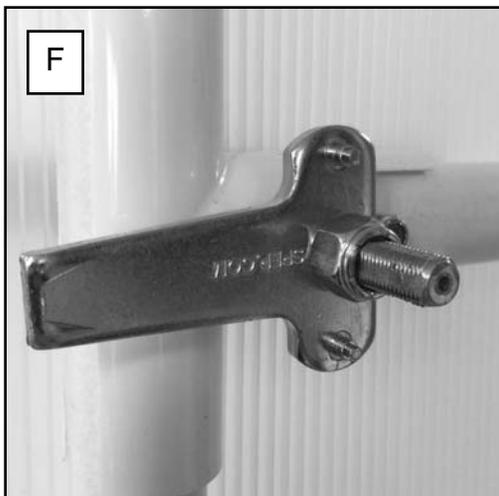
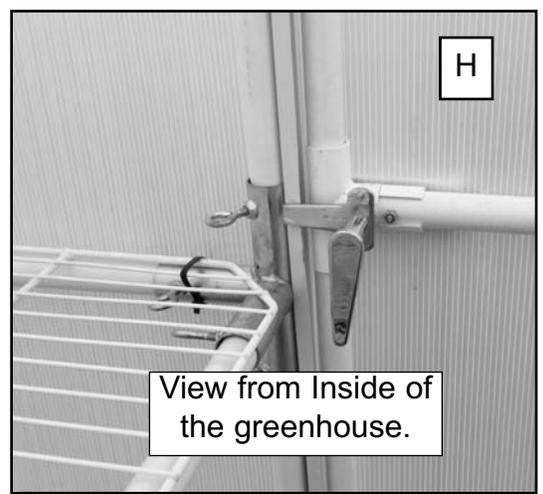
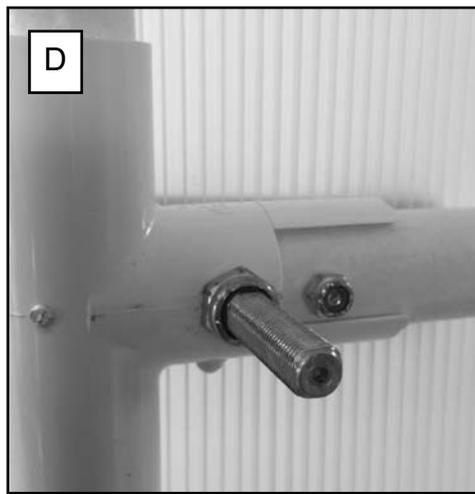
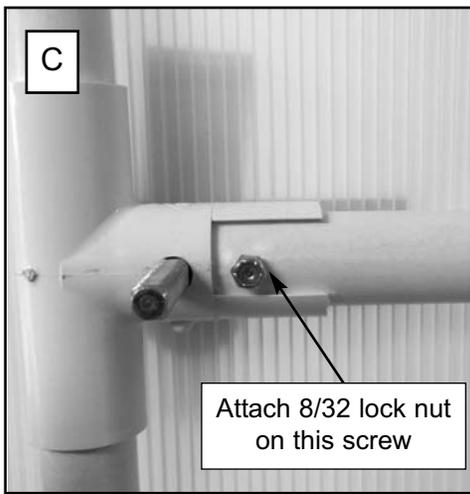
From the outside of the greenhouse, use a sharp thin bladed knife and push the blade of the knife through the panel and into the large predrilled hole. Do this twice so that you are cutting an "X" in the panel right where the predrilled hole is at and then twist the knife when it is in the hole, do the 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 1 $\frac{3}{4}$ " 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.





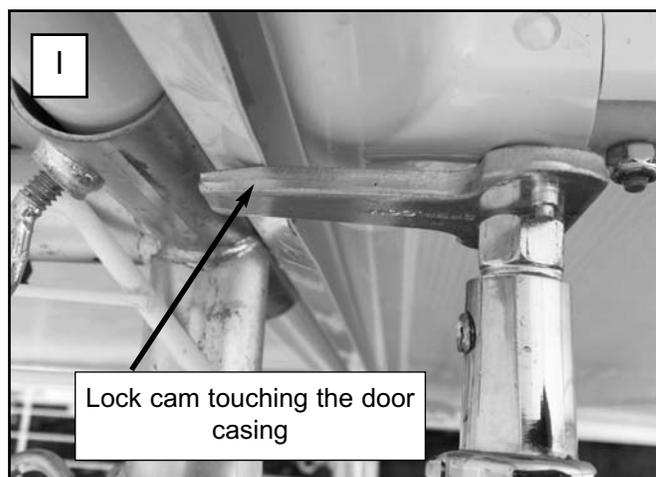
16. **Inside Door Handle** On the inside of the door, attach the 8/32 lock nut (the small nut in the kit) on this screw. See picture “C”.

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 snugly against the door casings.



16. LOUVER

Pieces Required:

1 Louver Box

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 assembling 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.
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