ASSEMBLY INSTRUCTIONS

16' X 8' X 8' Garden Oasis

G-216 (3.5mm)

This kit includes (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. ¼" NUT DRIVER (Is included in the screw bag.)

TOOLS NEEDED:
A. VARIABLE SPEED DRILL
B. SCREWDRIVER
C. LONG, THIN SHARP KNIFE
D. TAPE MEASURE
E. STEP LADDER
F. PLIERS
G. DUCT TAPE
H. 2-3 tubes "clear" IS 800 Silicone Rubber Adhesive Sealant & a Caulking Gun
I. 8 oz. can of "Clear" PVC CEMENT (Available at a hardware store). **

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

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

Please read instructions carefully and refer to the diagrams.

▶▶Attention:

There are two types of tubing in your kit. The Composite Tubing is a heavier thicker-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 and the PVC tubing is used in areas where the pipe needs to be flexible to bend or in non-structural areas.

NOTE: To conserve shipping space, U-Trim and ½" diameter pipe are sometimes inserted into ¾" pipe tubing. Please check frame pieces before assembly.

PARTS LIST

16'X 8'X 8' Garden Oasis

G-216 (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.**

3.5mm panels

ROLL BOX 1 (23" X 23" X 43") **(Panels only = 76 / 77lbs) Roll box 1 & inner sleeve = 134 lbs**

_____	13	42" x 97 ½" Panels
_____	1	36 ½" x 80" Door Panel
_____	1	24" x 42" Panel
_____	1	33" Composite Tubing- Cross Bar with Snap T (for door) - Slotted

Inner Sleeve **59 lbs**

BAG 1	_____	7	Metal Crosses
BAG 2	_____	8	Metal Corner Posts
BAG 3 & 4	_____	16	4-way metal-T's (**8 per bag**)
BAG 5	_____	6	5-way Metal-T's
BAG 6	_____	2	Metal-T's
	_____	4	90° Metal Elbows
BAG 7	_____	18	PVC-T's
	_____	12	PVC Snap-T's (**Includes 1 extra**)
BAG 8 - 10	_____	75	PVC Snap-T's (**25 per bag**)

BAG 11

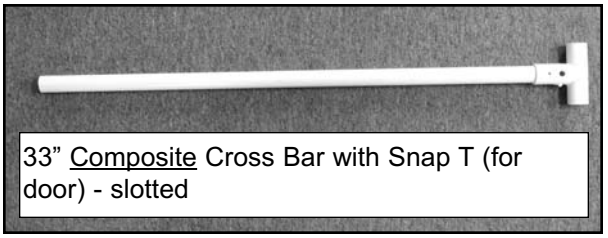
_____	15	Large Black Zip Ties
_____	38	Small Phillips Screws
_____	4	Yellow Banding
_____	4	Metal Banding Clips
_____	665	1" Screw
_____	1	¼" Driver
_____	12	Metal Rings
_____	12	1 ½" x 3/16" Machine Screws
_____	12	3/16" wing nuts
_____	1	**Door Parts Bag**:

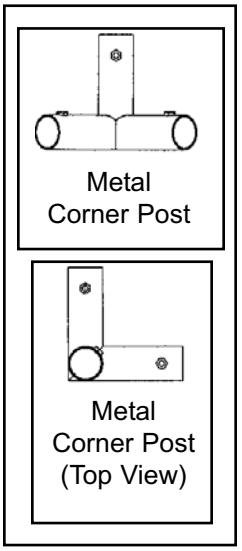
Outside Handle, Inside Handle, 3-point Cam

Hinge Bag: 1/4" x 1-3/4" Bolts (4), Lock Nuts (4), Hinge halves and pins (2), Flat Washers (2)

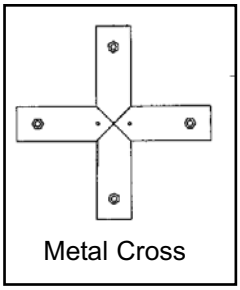
Door Parts Bag: 8/32 Hex Lock Nut, 3/8" Lock Nut, 32 x 1-3/4" Machine Screw, 1" Metal Screw, 4mm Allen Wrench

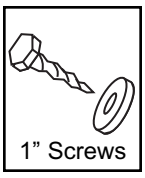
Door Cable Bag: Turnbuckle, 76" Wire Cable, 1/16" Wire Cable Clamps (2)

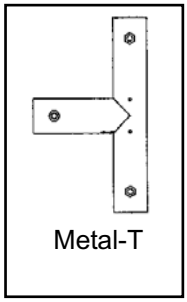

33" Composite Cross Bar with Snap T (for door) - slotted

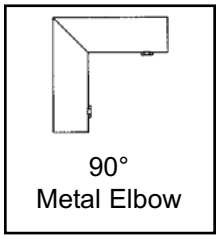

Metal Corner Post

Metal Corner Post (Top View)


Metal Cross


1" Screws


Metal-T

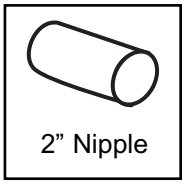

90° Metal Elbow

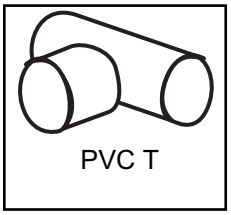
G-216 (3.5mm)

Jan 21

Box 2 41 / 42 lbs (16” x 16” x 33”)

_____	4	31" x 94 ½" Panels
_____	36	28” Composite Tubes - Green **(Double-Slotted)**
_____	6	18" PVC pipes (½” diameter)

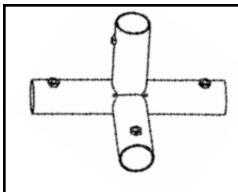

2” Nipple

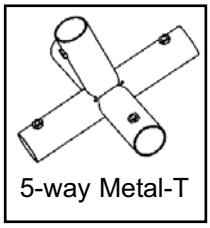

PVC T

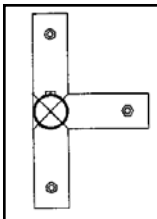
BOX 3 57 lbs (99” x 7 ¼” x 5”)

_____	10	8’ H-Channel
_____	22	92" Composite Tubing - Red
_____	4	12 ½" PVC pipes - White
_____	1	4’ H-Channel


Banding Clip

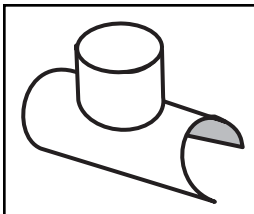

4-way Metal-T


5-way Metal-T


4-way Metal-T (Top View)

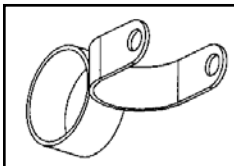
BOX 4 45 lbs (99” x 7 ¼” x 5”)

_____	3	94 ½" Composite Tubing - Green
_____	6	90" Composite Tubing - Yellow
_____	18	47 ¼" PVC pipes - Orange
_____	3	35 ¾" Composite Tubing - White
_____	3	35 ¾" PVC pipes - White
_____	2	33" Composite Tubing - Black
_____	4	24" Composite Tubing - Orange **(Double Slotted)**
_____	4	22" Composite Tubing - White **(Double Slotted)**
_____	4	78" U-Trim **(some of the U-Trim may be inside pipe)**
_____	4	49 ½" U-Trim
_____	1	36” U-Trim


PVC Snap-T

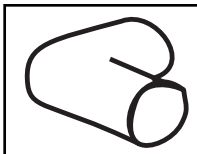
BOX 5 28 / 29 lbs (77” x 7 ¼” x 5”)

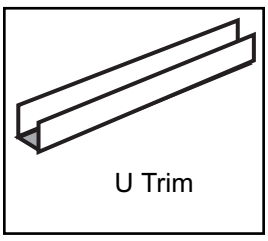
_____	1	74" Composite Tubing - Black
_____	1	74” Composite Tubing - Black (**with holes for Hinges**)
_____	2	76” Side Door Casing (**1 with Hinge halves attached**)
_____	18	74" PVC pipes - Orange
_____	1	38” Top Door Casing
_____	18	10" PVC pipes (½" diameter)

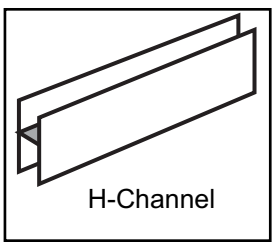

Metal Ring

BOX 6 6 lbs (28” x 15” x 5”)

_____	1	Louver Assembly


PVC Elbow


U Trim


H-Channel

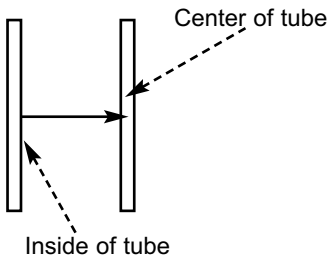
Packed by:_____

Date: _____

Hints for Preassembly

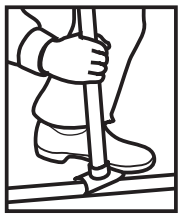
A.

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.

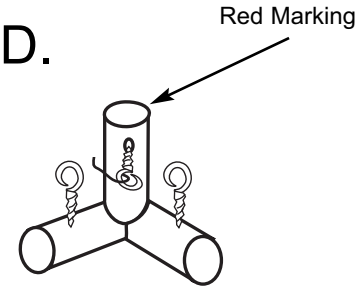
NOTE: Attaching snap-T's this way prevents pinched fingers! Use a small pipe and step on the snap-T.



C.

Note: Tubes that are double-slotted have slots on each end. Single-Slotted Tubes only have slots on 1 end. All Slotted ends attach to snap-T's.

D.



3-Way Corner Post

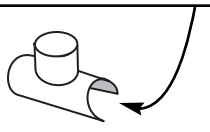
Note: The 3-Way Metal Corner posts have a red mark on the "dead end" arm. In order for all measurements to be correct, the 3-Way Metal Corner Posts must be oriented correctly on the Base Frame and on the End Wall Frames. Follow lthe directions carefully about where the red arm is pointing. Please look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

E.

▶▶PVC Pipe is White and flexable. 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.



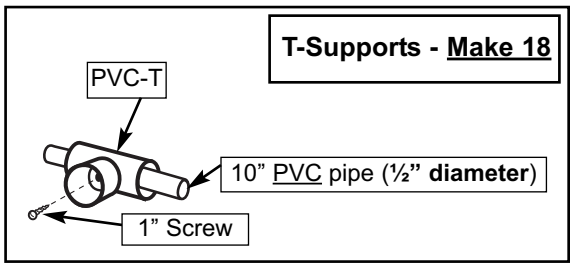
snap-T

PREASSEMBLY

1. T SUPPORTS

Pieces Required:

18	10” PVC pipe (1/2” diameter)
18	PVC-T’s
18	1” Screws



1. Insert **10” pipes** into **PVC T’s**.

2. Insert a **1” Screw** through the opening of the PVC-T and screw into the midpoint 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.**

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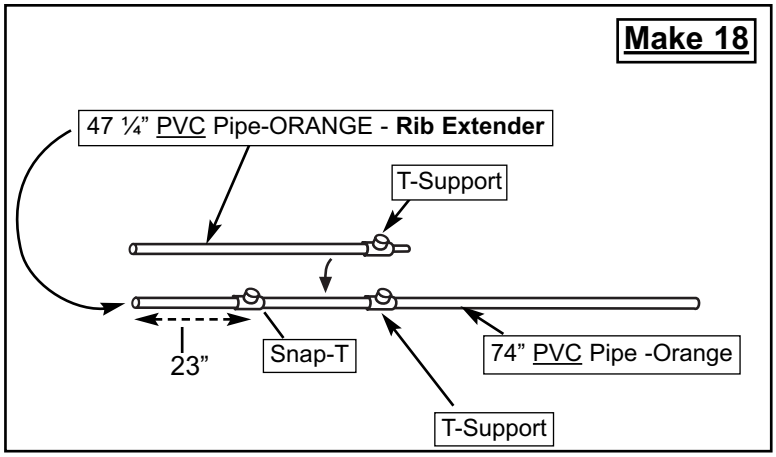
2. EXTENDED RIBS

Pieces Required:

18	T Supports, made in Step 1
18	47 ¼” PVC Pipes - ORANGE
18	74” PVC Pipes - ORANGE
18	Snap-T’s

▶▶Be sure to use the 74” PVC pipe and not the composite tubing.



1. **To make Rib Extenders,** glue **47 ¼” PVC Pipe** to one end of the **T-Support** (from Step 1), so the 10” PVC Pipe is inside the 47 ¼” pipe.

2. Glue the opposite end of the T-Support to a **74” PVC Pipe**.

3. Attach 1 **snap-T** about 23” from the end of the 47 ¼” pipe

4. Repeat steps 2-1 through 2-3 seventeen times for a total of 18 extended ribs.

   Extended Ribs are used in step 8.

STEP 3
has been deleted.
It is no longer needed.

4. TOP RIDGE FRAME, BENCH & BASE RODS

Pieces Required:

6	Metal Crosses
2	metal-T's
18	92" Composite Tubing - RED
52	snap-T's

Making the Ridge Frames

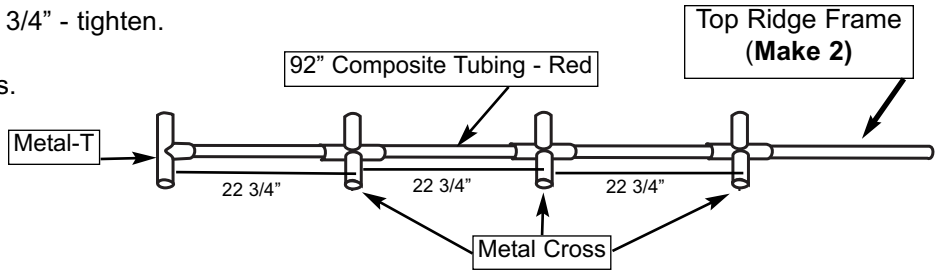
Complete as shown on a level surface so the Top Ridge Frame will be flat and not twisted. Top Ridge Frame is used in Step 10, Top Ridge Assembly.

1. Insert **metal-T** snugly on one end of a **92" Red Composite Composite Tubing** and twist eyebolt until tight. (Insert a screwdriver or long bolt through the eyebolt and twist the eyebolt clockwise.)

2. Slide a **Metal Cross** over the 92" tube so that the distance from the inside of the metal-T to the center of the Metal Cross is 22 3/4". Twist the eyebolts tight.

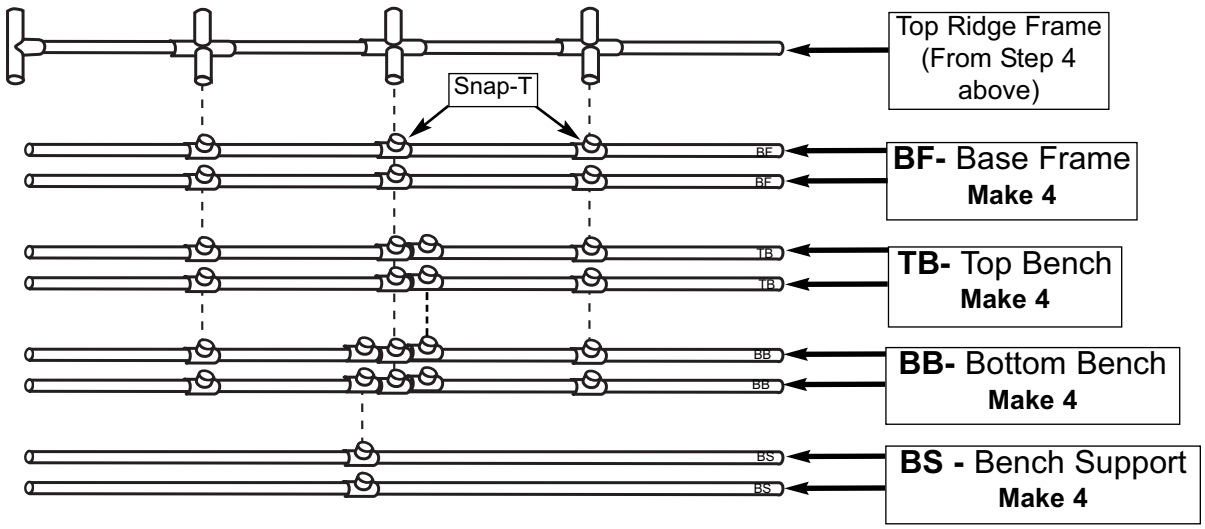
3. Slide over the 2nd **Metal Cross** so the distance from the inside of the 1st Metal Cross to the center of the 2nd Metal Cross is 22 3/4" - tighten. Slide over the 3rd **Metal Cross** so the distance from the inside of the 2nd Metal Cross to the center of the 3rd Metal Cross is 22 3/4" - tighten.

4. Repeat step 1-3 to make a total of 2 units.



Aligning the snap-T's

5. Use a 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**, bench support) with a permanent marker to lessen confusion about the tubes in later steps.



5. BASE FRAME

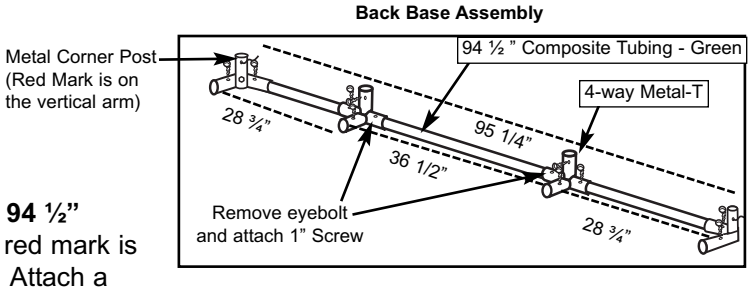
Make sure working surface is clean and level.

Pieces required:

4	Metal Corner Posts
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 4)
4	BS - 92" Composite Tubing - RED (from step 4)
6	1" Screws

FRAME ASSEMBLY

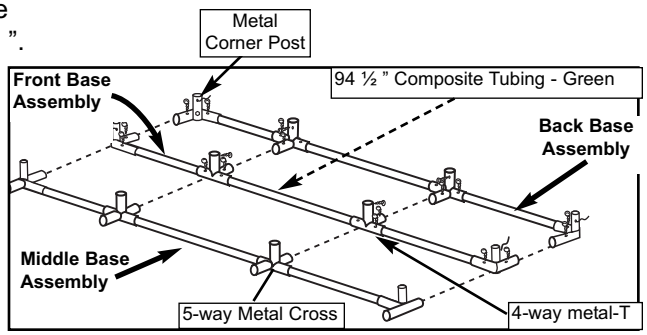
NOTE: It is important that the corner post is put on the right way. (Red Mark is on the vertical arm)

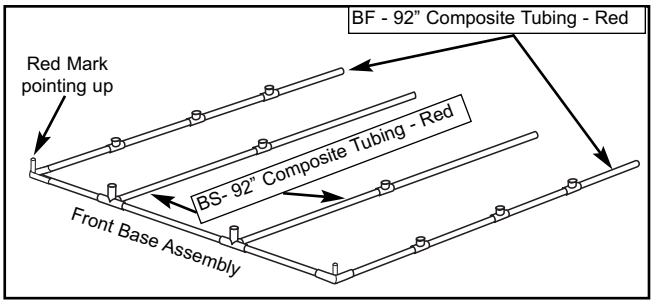


1. **Back Base Assembly.** Slide two **4-way metal-T's** onto a **94 ½" Composite Tube**. Attach a **Metal Corner Post** (arm with red mark is vertical) to one end of the 94 ½" pipe and tighten eyebolt. Attach a Metal Corner Post (arm with red mark is vertical) to the opposite end and adjust the Metal Corner Post so that the measurement from inside of one Corner Post to the center of the opposite Corner Post is 95 1/4 ". Secure each 4-way metal-T at 28 ¾" (inside to center) from each Metal Corner Post with eyebolts on the outside arms and 1" screws on the inside arms (see illustration).

2. **Front Base Assembly.** Repeat the above step using the Back Base Assembly as a measuring device for Metal Post placement.

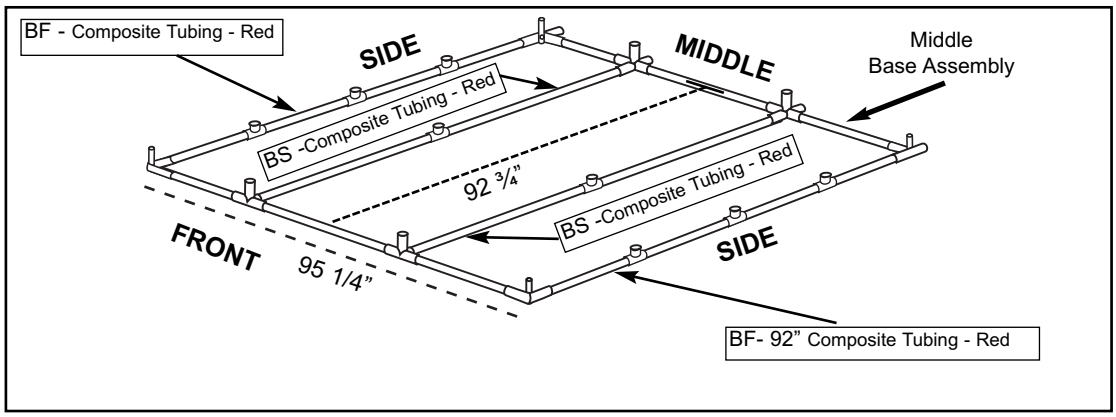
3. **Middle Base Assembly**. On the remaining **94 ½ " tube**, attach two **5-way Metal Crosses** to correspond to the 4 way metal-T's above and attach a **4 way metal-T** on each end.





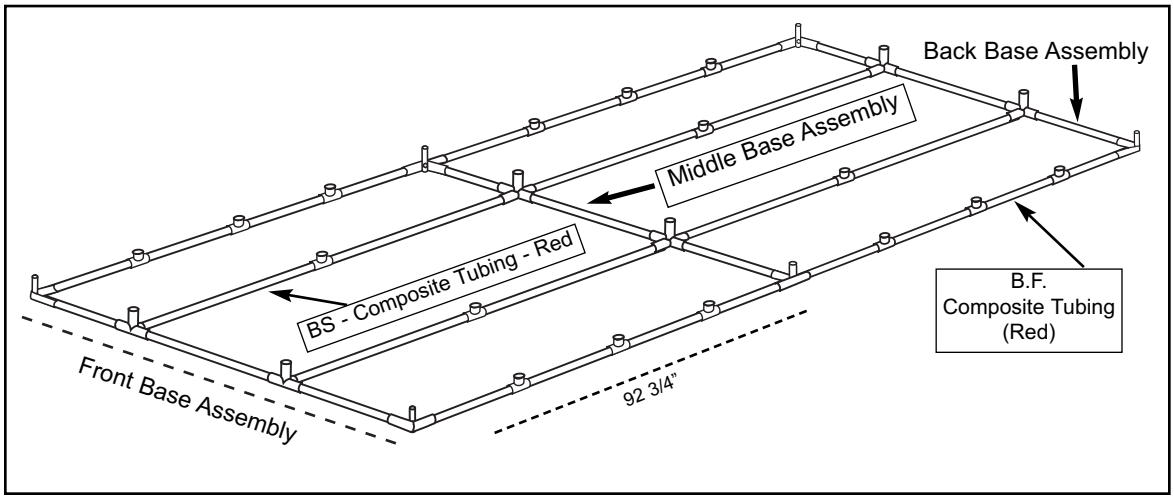
4. Attach 2 **BF- 92" Composite Tube** to the Metal Corner Posts of the Front Base Assembly. Attach 2 **BS - 92" Composite Tubes** to 4-way metal-T's of the Front Base Assembly.

5. Attach a **Middle Base Assembly**, pushing the 92" BS tubes all the way into the 5-way Metal Crosses and the 92" BF tubes in to 4-way metal-T's to measure 92 ¾" from inside edge of Front Base Assembly to the center of the Middle Base Assembly.



6. Repeat Step 4 attaching the 92” tubes into the Middle Assembly.

7. 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 measurement from the inside edge of the Middle Base Assembly to the center of the Back Base Assembly is 92 ¾”.



END WALL FRAMES

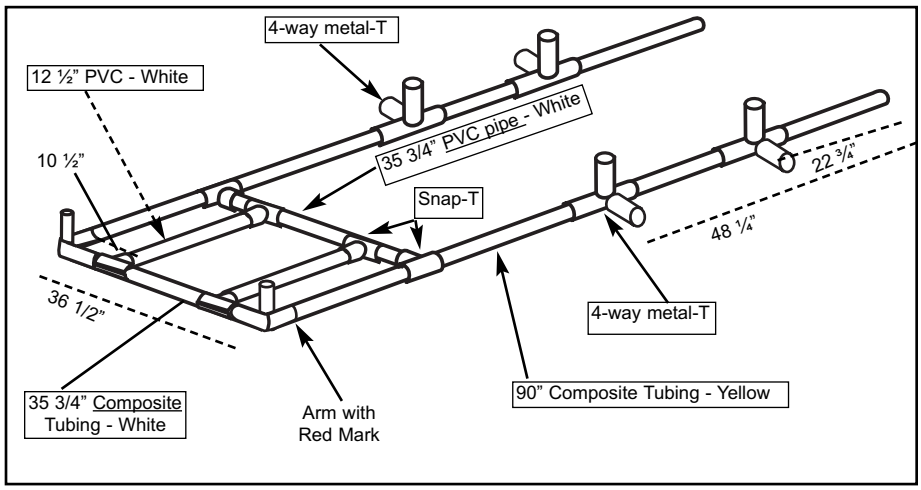
6A. Front End wall Frame

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 ½ ” PVC pipes -WHITE
4	4-way metal-T’s

Note:
On Metal Corner Post, the arm with the Red Mark attaches to the 90” Composite Tube -Yellow

▶▶Be sure to get the composite tubing and the PVC pipe in the right spot.



1. Slide each **90” Composite Tube - Yellow** snugly into a **Metal Corner Post** (insert tube into the arm with the Red Mark) and tighten eyebolt. Attach **35 ¾” 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 inside to center - tighten eyebolts.

2. Attach a **snap-T** to each 90” Composite Tube about 13” below the Metal Corner Post. Insert and glue **35 ¾” PVC pipe** - **White between** the snap-T’s.

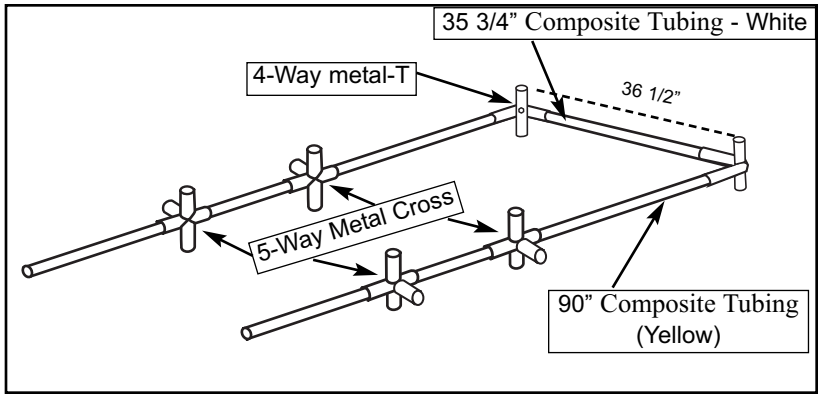
3. Attach two **snap-T’s** to both 35 ¾” pipes. Attach and glue **12 ½” pipes** between the snap-T’s. Slide over each 12 ½” pipe to the edge of the Metal Corner Posts.

4. Slide two **4-way metal-T’s** on one 90” Composite Tube. On the opposite 90” tube, slide on two **4-way metal-T’s** (Note direction of the posts). Tighten bottom 4-way metal-T at 22 ¾” from the bottom of the 90” Composite Tube and tighten the top 4-way metal-T at 48 ¼” from the bottom of the 90” Composite Tube.

6B. Middle End wall Frames

Pieces Required:

2 90” Composite Tubing - YELLOW
2 4-way metal-T’s
1 35 3/4 ” Composite Tubing - WHITE
4 5-way Metal Crosses



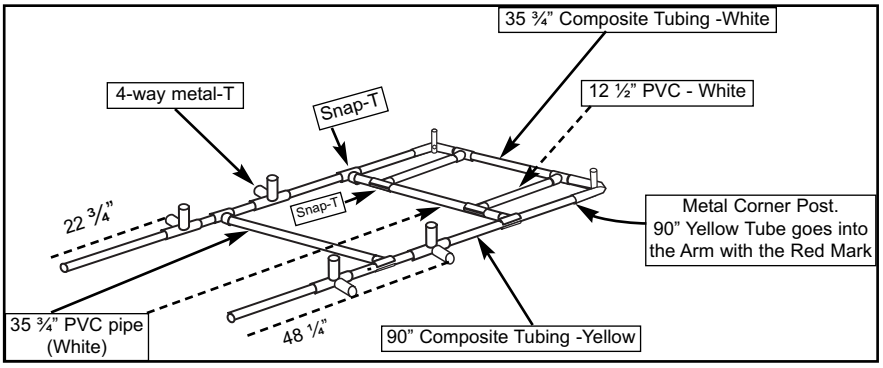
1. Slide each **90” Composite Tube -Yellow** snugly into a **4-way metal-T** and tighten eyebolt. Attach **35 ¾” Composite Tube - White** between the 4-way metal-T’s of the 90” Composite Tube. Measure the distance between the 4-way metal-T’s and adjust to 36 1/2” from inside to center. Snugly tighten eyebolts.

2. Slide two **5-way Metal Crosses** on each 90” Composite Tube - yellow (note the direction of the posts). Tighten eyebolts of the top posts at 48 ¼” and the bottom posts at 22 ¾”.

6C. Back End wall Frame

Pieces Required:

2 90” Composite Tubing - YELLOW
2 Metal Corner Posts
4 4-way metal-T’s
2 35 ¾” PVC Pipes. - WHITE
1 35 ¾” Composite Tubing - WHITE
8 snap-T’s
2 12 ½” PVC pipe -WHITE



1. Slide each **90” Composite Tubes** snugly into a **Metal Corner Post** (insert tube into the arm with the Red Mark) and tighten eyebolt. Attach **35 ¾” Composite Tube** between the Metal Corner Post on the 90” Composite Tube into the corner posts. Adjust 90” Composite Tube so the distance between the Metal Corner Posts is 36 1/2” from inside to center - tighten eyebolts.

2. Attach a **snap-T** to each 90” Yellow Composite Tube, about 13” below the Metal Corner Post. Insert and glue **35 ¾” PVC pipe** between the snap-T’s.

3. Attach two **snap-T’s** onto both 35 ¾” pipes. Attach and glue **12 1/2” pipes** between these snap-T’s. Slide over each 12 ½” pipe so it is 10 ½” from the inside of the 90” tube to the center of the 12 ½” pipe (leaving about 13 ½” between the 12 ½” pipes).

NOTE: *This spacing applies when installing a 12” Exhaust Fan. If installing a 16’ fan or larger, replace the 12 ½” pipes with the larger pipes included with the fan (refer to Fan installation instructions).*

4. Slide two **4-way metal-T’s** on each 90” Composite Tube (note the direction of the posts). Tighten the top 4-way metal-T’s at 48 ¼” and the bottom 4-way metal-T’s at 22 ¾”.

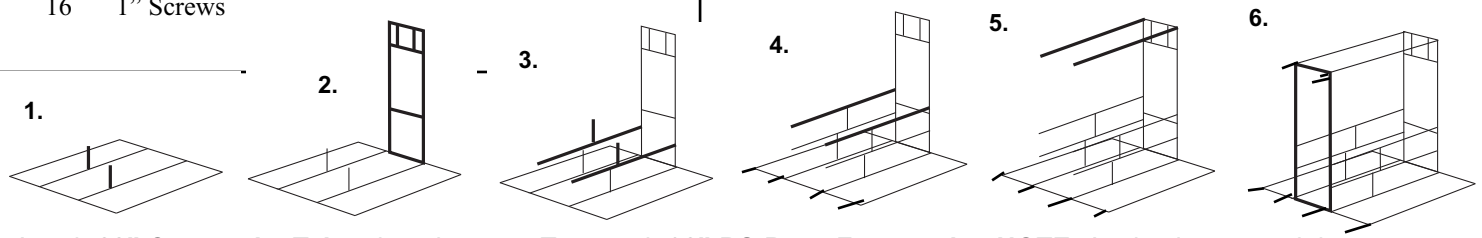
5. Attach a **snap-T** on each 90” Composite Tube between the top and bottom 4-way metal-T’s. Insert and glue **35 ¾” PVC pipe** into snap-T’s.

7. HANGING RODS & BENCH RODS

Pieces Required:

4 22" Composite Tubing - White **(Double-slotted)**
1 Back End wall (From step 6C)
4 BB -92" Composite Tubing - RED (from step 4)
4 24" Composite Tubing - Orange
4 TB -92" Composite Tubing - RED (from step 4)
4 92" Composite Tubing - RED
1 Front End wall (From step 6A)
1 Middle End wall (From step 6B)
16 1" Screws

Two people & ladder recommended!



1. Attach **22" Composite Tubes** into the snap-T on each **92" BS Base Frame tube. NOTE:** Apply glue around the outer end of the tube and inside the snap-T fitting hole for lubrication so the tubing will be easier to slide into the snap-T's. The glue does not adhere to the Composite Tubing, so you will have to secure the tubing by drilling a **1" Screw** through the top of the snap-T and into the 22" Composite Tube.

2. Attach **Back End wall** to 4-way metal-T's on the Base Frame -tighten eyebolts.

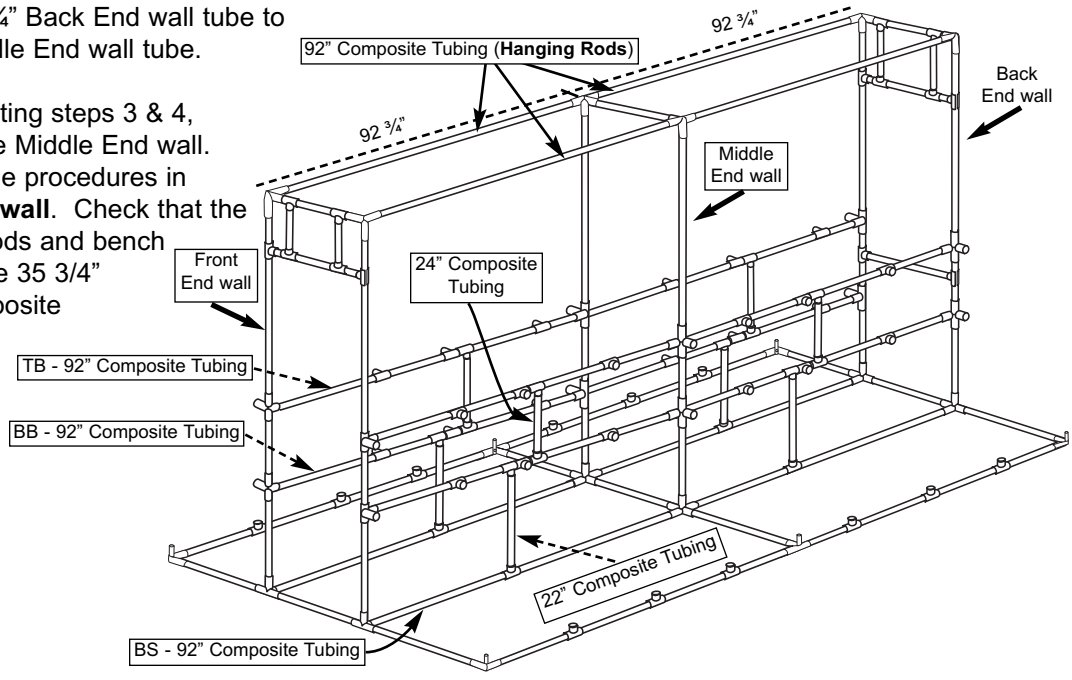
3. Insert the **BB - 92" Composite Tubes** into the bottom 4-way metal-T's on the 90" Back End wall- tighten eyebolts. (Attach the end that is marked BB from step 4 into the post). Attach the opposite end of the 22" Tube into the snap-T on the 92" Base Frame tube. Attach the **24" Composite Tube** into the snap-T (right of center) on the BB- 92" Composite Tubes. Secure all snap-T's to the tubes with 1" Screws.

4. Insert the **TB - 92" Composite Tubes** into the top 4-way metal-T's on the 90" Back End wall -tighten eyebolts. (Attach the end that is marked TB from step 4 into the post). Attach 24" Composite Tubes to snap-T (right of center) on TB - 92" Composite Tubes with 1" Screws.

5. Use a marker and draw a line 2 ¾" from both ends of two **92" Composite Tubes**. Put 92" Composite Tubes into the top Metal Corner posts on the Back End wall. Slide tubes into the post until the line marked on the tube is even with the post -tighten eyebolt.

6. Lift a **Middle End wall** and attach to the 4-way metal-T's on the Middle Base Frame - tighten eyebolts. Insert the opposite sides of the 92" Composite Tubes into the corresponding Metal Fittings of the Middle End wall - tighten eyebolts. Check that the measurements of the Hanging Rods and bench rods are 92 ¾" from inside of one 35 ¾" Back End wall tube to center of the opposite 35 ¾" Middle End wall tube.

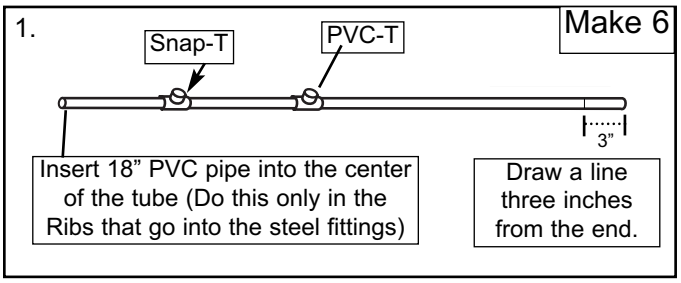
7. Complete 2nd 8' section by repeating steps 3 & 4, attaching all the 92" tubes into the Middle End wall. Tighten eyebolts. Follow the same procedures in Step 5-6 inserting the **Front End wall**. Check that the measurements of the Hanging Rods and bench rods are 92 ¾" from inside of one 35 3/4" End wall tube to center of the opposite 35 3/4" End wall tube.

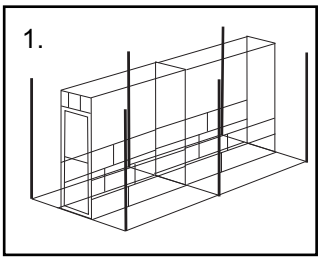


8. RIB ASSEMBLY

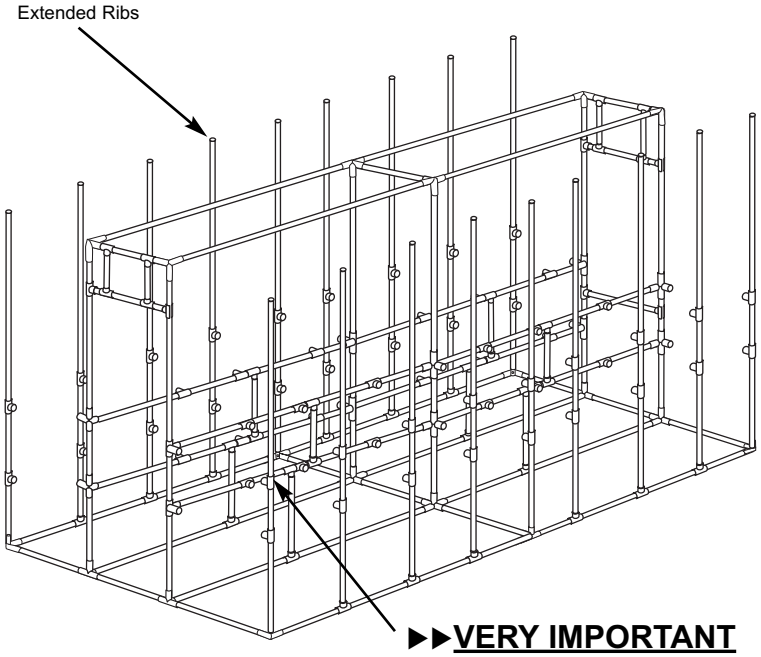
Pieces required:

18 Extended Ribs, made in step 2
6 18" PVC pipes (1/2" diameter)



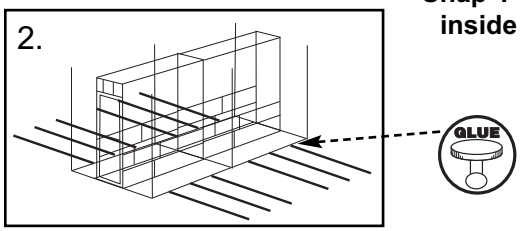


1. On 6 **Extended Ribs**, draw a line 3" from the end furthest from the PVC-T. Slip a **18" PVC pipe (1/2" diameter)** into the end with the snap-T. Place the end with the 18" PVC pipe snugly into the Metal Corner Post and tighten the eye bolt.



▶▶VERY IMPORTANT

Snap-T's and T's face towards the inside of the greenhouse on all ribs!



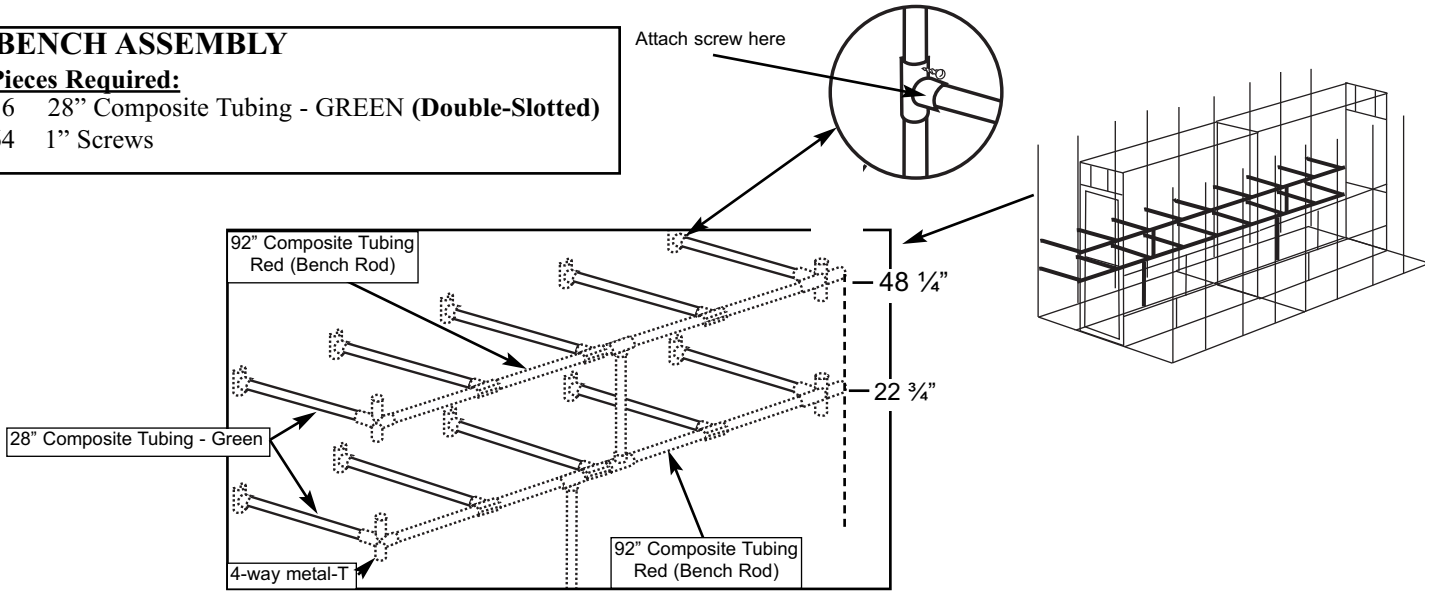
2. Glue the 12 remaining Extended Ribs into the snap-T's on the BASE FRAME. **Make sure Ribs are seated all the way into the snap-T's. On the Ribs, make sure the PVC-T is facing towards the inside of the greenhouse.**

9B. BENCH ASSEMBLY

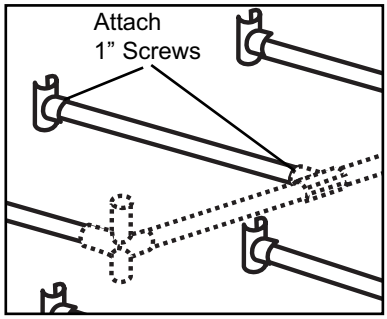
Pieces Required:

36 28” Composite Tubing - GREEN **(Double-Slotted)**

64 1” Screws



1. Insert 8 **28” Green Composite Tubes** into 4-way metal-T’s on the end walls. Attach the opposite ends of the 28” pipes into the composite tubing (**NOTE: Apply glue around the outer end of the pipe and inside the snap-T fitting hole for lubrication so the tubing will be easier to slide into the snap-T’s.** The glue does not adhere to the Composite Tubing, so you will have to secure the tubing by drilling a **1” Screw** through the top of the snap-T and into the 28” Composite Tube. Attach the remaining 28” 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 4-way metal-T’s on the End walls are at 22 ¾” and 48 ¼” from the top of the base frame tube to the center of the fitting.

3. Adjust Bottom Bench Frame pipes (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. HINT: Use a rubber mallet to tap the pipe up or down.

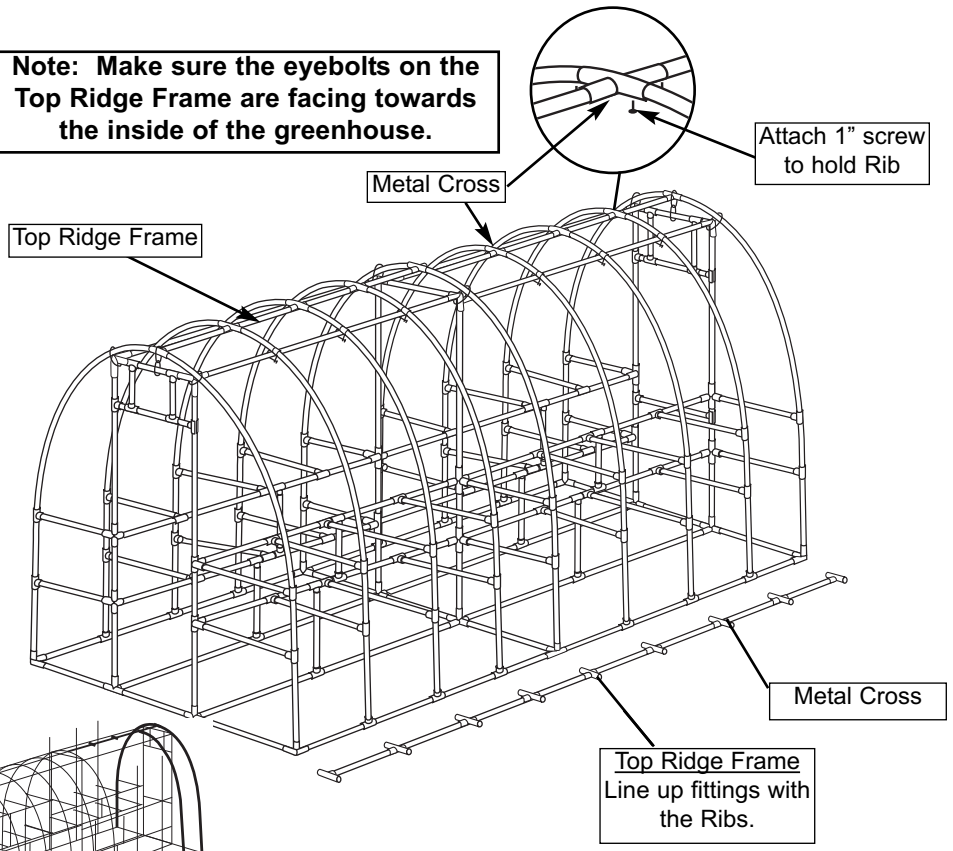
4. After everything is level **on the bottom bench**, attach a **1” Screw** through the top of the vertical snap-T’s on the Ribs to prevent shelf brackets from sliding down.

10. TOP RIDGE ASSEMBLY

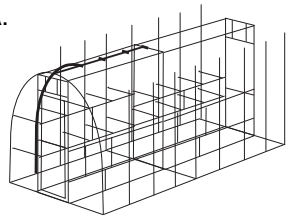
Pieces required:

2	8' Top Ridge Frame, made in step 4
1	Metal Cross
12	Metal Rings
12	1 ½" x ¼" Bolts & nuts
18	1" Screws
12	Large Black Zip Ties

Note: Make sure the eyebolts on the Top Ridge Frame are facing towards the inside of the greenhouse.



A.



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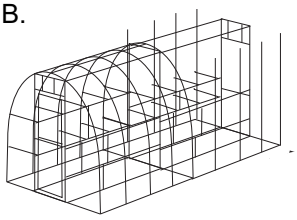
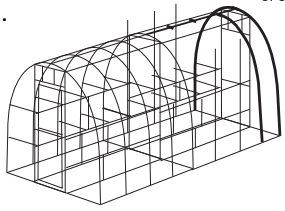
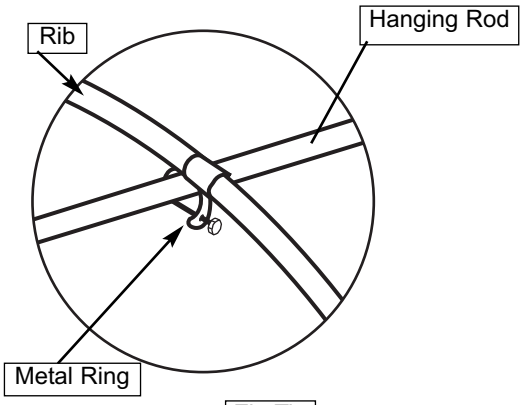


C.



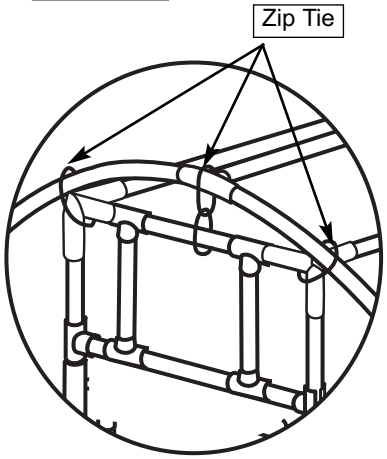
1. Line up an **8' Top Ridge Frame** with the first 8' portion of the base frame. Make sure the snap-T's on the base frame and Metal fittings are in line with each other. Add a **Metal Cross** to the end of the Top Ridge Frame and line it up with the center Rib. Attach the other 8' Top Ridge Frame into the open end of the Metal Cross, and tighten the eyebolts. Make sure the snap-T's on the base frame and Metal fittings are in line with each other.

2. Balance the 16' Top Ridge Frame on the hanging rods. Insert a Rib from each side into the metal-T on the end of the TOP RIDGE FRAME. (HINT: Have a person hand each Rib to a person on a ladder or if assembling the greenhouse by oneself, make a hook from a wire hanger and use the hook to grab the 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 Rib by drilling a 1" screw into the eyebolt hole.



3. On the Ribs that go into the Metal Crosses, slide a **Metal Ring** over the Rib (Exception: Ribs #5 at the junction between the 2 units do not have Metal Rings). Insert the Rib all the way into the Metal Cross until it stops. Attach a **1" Screw** into the eyebolt hole. Slide ring to the hanging rod and adjust the "U" bracket so it straddles the hanging rod. Slide a **1 ½" x ¼" Bolt** through the bolt holes of the Metal Ring and attach a **nut**. Repeat for all Ribs going into Metal Crosses only.

4. For the Ribs going into the metal-T on the Back End wall, push the Rib 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.



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 3/4" Composite Tubes and through the first Zip Tie. Tighten the Zip Ties until the measurement from the top of the greenhouse to the ground is 97". Do this on both end walls and the Middle Wall.

6. Attach a **Zip Tie** around the hanging rod, rib, and Metal Corner Post at each end wall.

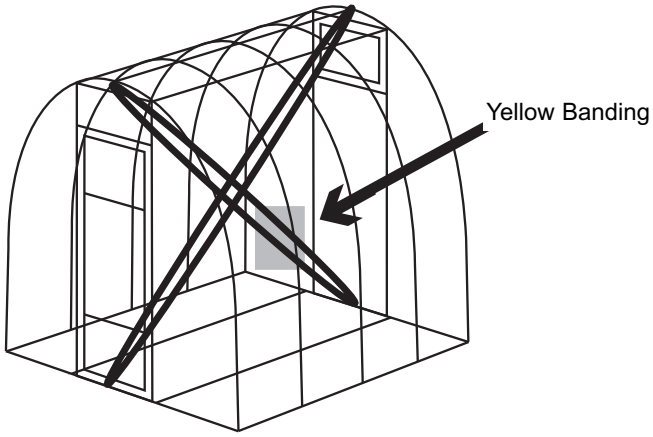
11A. SQUARING FRAME

Pieces Required:

4 Yellow Banding
4 Metal Banding Clips
2 76” Side Door Casings
1 38” Top Door Casing

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

Make sure the diagonals are **equal.



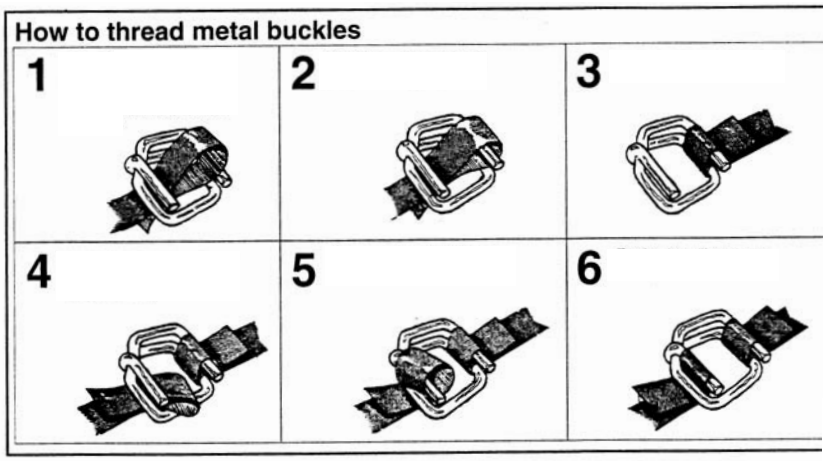
1. Loop a piece of **Banding** around the 35 1/2” Composite Tube at the top of the end wall and around 94 1/2” Composite tube (Base Frame) on the opposite side.

2. Thread banding to the metal buckle as shown.

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

4. Tighten the banding so there is equal tension on both pieces and the diagonals are equal in length. Keep banding in place until paneling has been applied and screwed down.

5. Repeat for the second 8’ unit **just before paneling** that section.



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 inside to center of the **tubes**.(The Top Door Casing fits between the side tubes.

2. Make sure the door opening is square by measuring diagonally from corner to to corner and making sure the measurements are the same
3. Again place the Top Door Casing over the 35 3/4” tube. Hold temporarily in place with one screw inserted from the front and into the tube.

4. Temporarily place the side Door Casing with the 74” tube attached on whichever side you want your door to hinge.

5. Place the other Side Door Casing on the opposite side of door opening. All 3 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.

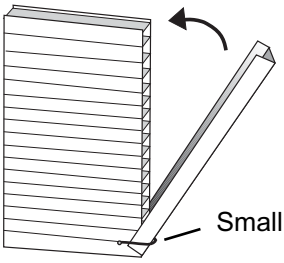
6. Tension by pulling banding coming from coil.

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

Hints for Panel Assembly

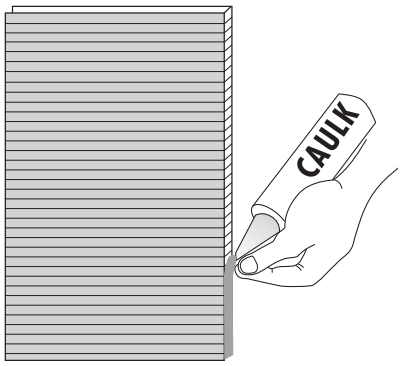
Congratulations, your frame is now finished! All that's left is the paneling application. Listed are several hints that will make paneling your greenhouse much easier. If you have suggestions that would be helpful for future customers we would be happy to hear from you.

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.



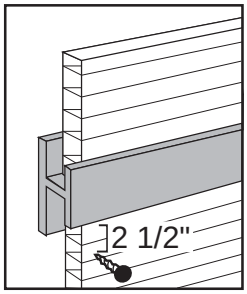
2. **U-TRIM**: Insert 1/4"-1/2" of silicone caulking into open flutes to prevent water intrusion. Slide U-Trim over the 4' ends of panels where specified in the instructions. Secure U-Trim with **small screws** by poking a small hole on the underside of the U-Trim, and screwing into panels. Place 1 screw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



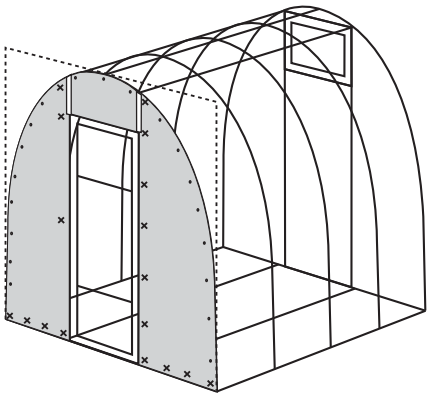
3. **H-CHANNEL**: If H-Channel is difficult to slide on, spray panel edges with Pam (Vegetable oil). Also tapping on ends of H-Channel with a hammer or rubber mallet helps H-Channel slide on easily. Secure panels by placing screws into pipes 2 1/2" from each side of H-Channel. You can cut H-Channel by 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 PVC Frame for a guide when trimming panels.



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
66 1" Screws
1 4' H Channel

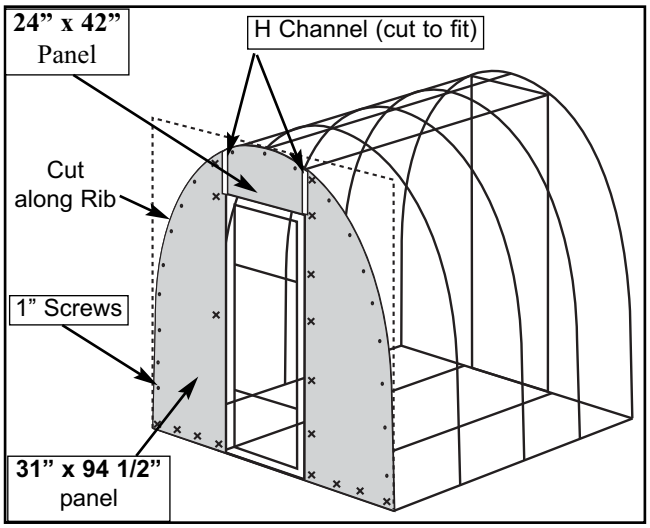
1. Caulk open flutes one end of each of the panels.

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 with only 1 or 2 screws**. These screws will be removed later when you make your door.

3. Cut panels along the curved side using a sharp knife (use the pipe as a guide).

4. Trim and screw into place 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 so there is room to slide the H-Channel between the panels. Cut the **4' H-Channel** in half and trim to fit.

5. Caulk exposed flutes along the curve of frame.



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13. BACK END WALL PANELS

Pieces Required:

2 31" X 94 1/2" Panels
1 42" x 97.5" Panel
66 1" Screws

Hint: Using the Louver as a measuring device, Adjust the 12 ½" pipes so the louver fits bewtween them.

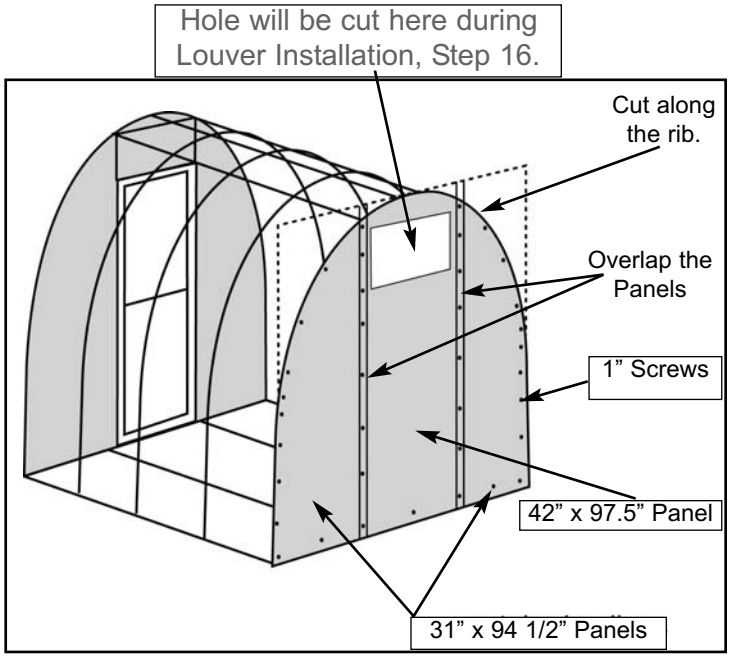
1. Caulk one end of all 3 panels as in Step 1 Front End wall.

2. Attach as in Step 2 above (Front End wall) **Attach to End wall Tubes with only 1 or 2 screws**.

3. Remove screws from the End wall Tubes and install the 42" x 97.5" 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, Front End.

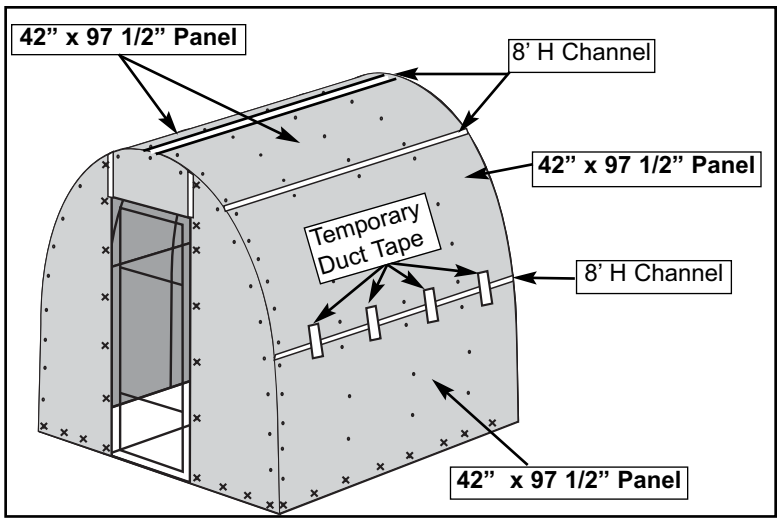
5. Caulk exposed flutes.



14. TOP PANEL LAYOUT

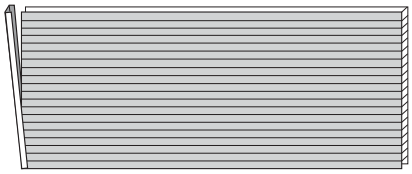
Pieces Required:

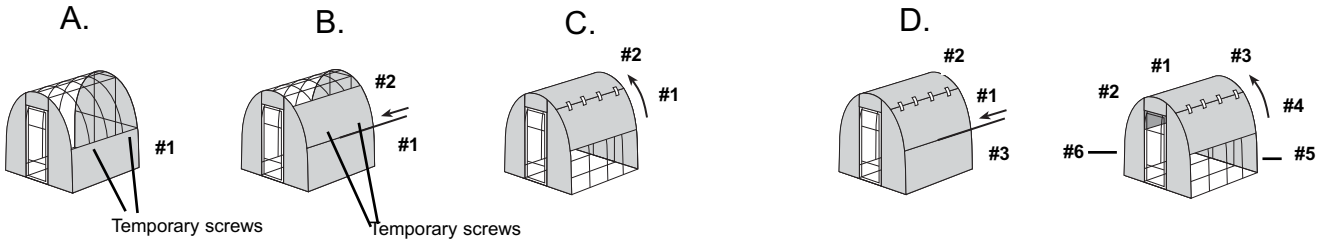
12	42” x 97 1/2” Panels
10	8’ H Channel
250	1” Screws
4	49 1/2” U Trim
4	78” U Trim
38	Small Screws
	Duct tape



▶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.**

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





1. Apply panels as per diagrams A-E. (NOTE: We suggest this approach so the H-Channel is 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 **42” x 97 1/2” panel** #1 with 2 screws. One each on the 2nd and 4th Rib about 2 1/2” from the edge of the panel.
   B. Temporarily attach **42” x 97 1/2” panel** #2 above panel #1 with 2 screws to hold in place. Leave a 1/4” gap between the 2 panels. Slide **8’ H Channel** between panels #1 and #2
   C. Tape panels together with duct tape & unscrew the temporary screws. Slide panels up.
   D. Temporarily attach **42” x 97 1/2” panel** #3 under panels #1 and #2. Temporarily attach panel #1 with screws, leaving a 1/4” gap between panels #1 and #3. Slide **8’ H-Channel** between panels. Tape panels together with duct tape & unscrew the temporary screws. Slide panels up. Temporarily attach **42” x 97 1/2” panel** #4 under panels #3, #1 and #2. Temporarily attach panel #3 with screws, leaving a 1/4” gap between panels #3 and #4. Slide **8’ H Channel** between panels. Tape panels together with duct tape & unscrew the temporary screws. Slide panels up.
   E. Remove screws, slide panels #1-4 up. Permanently attach a **42’ x 97 1/2” panel** with screws (do not attach any screws to the 5th rib at this point - panels will overlap on this Rib). Pull back down panels #1-4 so there is a 1/4” gap between panels #4 and #5. Begin attaching panels #4, 3, 1, and 2 with screws being careful to use the same holes used for temporary attach ment (no screws on the 5th rib at this point). Slide **8’ H-Channel** between panels #4 and #5. Remove Duct Tape.

   Attach the remaining **42” x 97 1/2” panel** #6 to the opposite side at ground level (no screws on the 5th rib at this point). Trim the top of the panel to fit. Slide **8’ H-Channel** between panel #6 and #2.

2. Repeat step 1 on the 2nd half of the greenhouse. Overlap the panels and H-Channel where they come together at the center of the greenhouse. Screw through both layers of paneling and into the center rib. Do not screw through the H-Channel

3. Attach U-Trim to the ends of the panels on both ends of the greenhouse (see “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. Attaching the 2nd **78” U-Trim** where the first one stops then attach the **49 1/2” U-Trims**. Cut U-Trim to fit. Repeat on back end of greenhouse. Secure with the small phillips screws.

   ▶**If you have purchased a tie down kit, install it now! If not 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 concreate perimeter, concrete slab, or corner holes are good alternatives to anchoring into soil.

Parts Needed: (4 anchor)

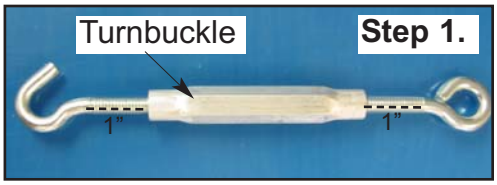
4 - 15” or 30”Steel Anchors
4 - Turnbuckles
4 - Metal Hooks
8 - 1 ½ x ¼” bolts
8 - ¼” locknuts
8 - Washers

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

Parts Needed: (6 anchor)

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

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



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

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

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

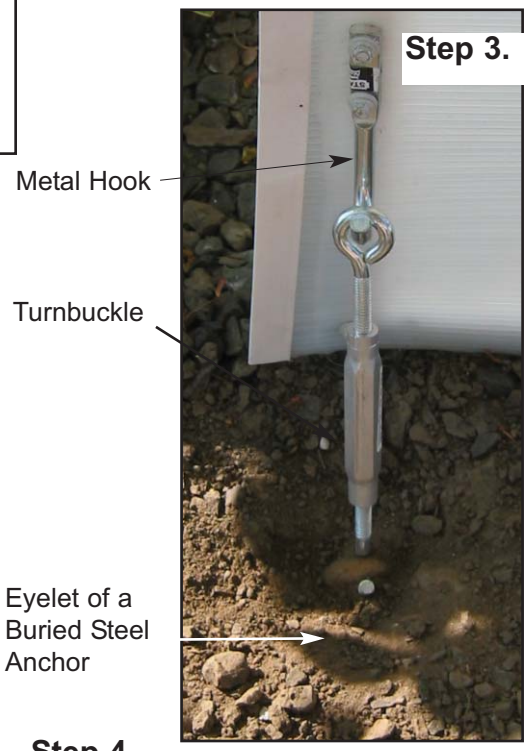
4. Hold the flat part of the hook up tight against a corner rib outside the greenhouse. Using a ¼” drill bit, drill a hole through each of the holes in the **metal Hook,** clear through the Solexx and the rib including the ½” PVC pipe inside the rib.

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

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

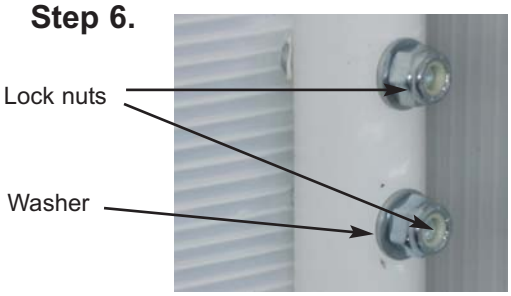
7. Repeat this process on each of the other corners.

8. Tighten the turnbuckles to remove any slack.



Step 4.

Step 6.

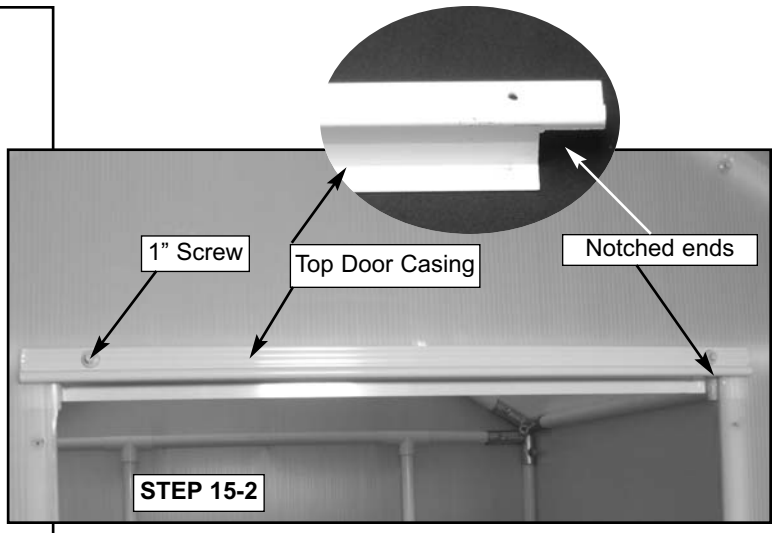


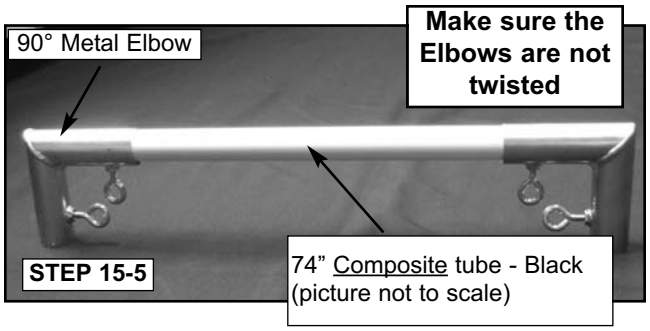
Questions? Contact Adapt8 at 1-877-476-5399

15. Door

Pieces Required:

1	36 ½" 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 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.

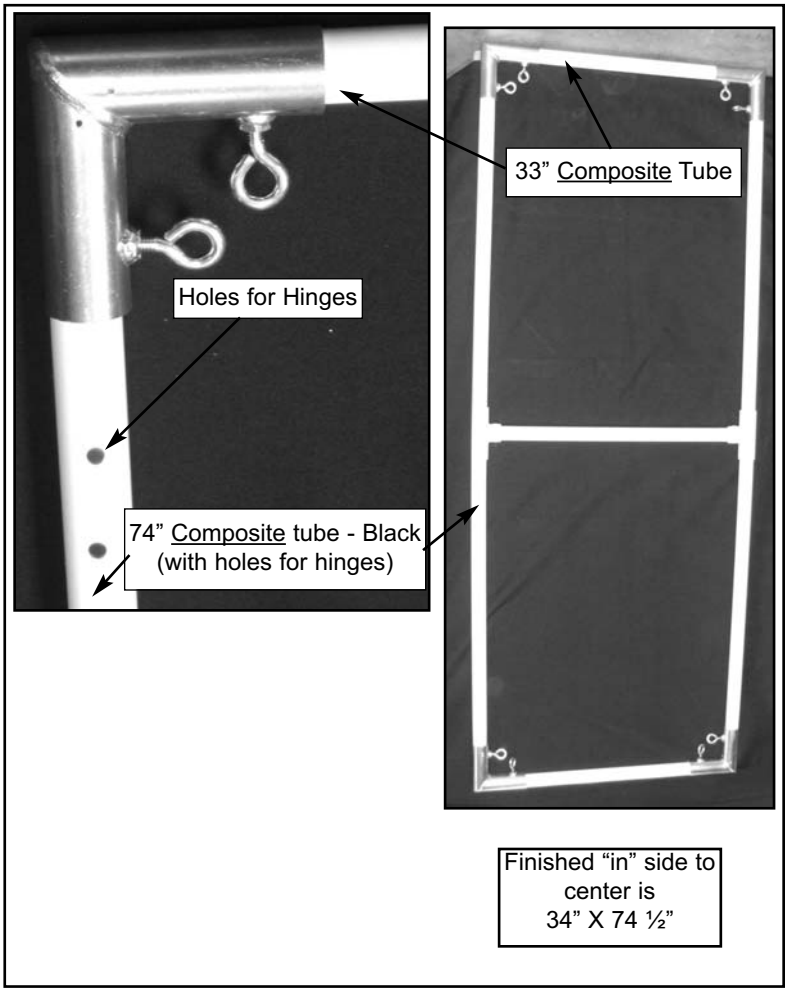
2. Attach the Top Door Casing to the Tube above door with 1" Screws. Make sure it is level.

3. **Decide which side you want your door to open (as you face the door) and attach the 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 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.



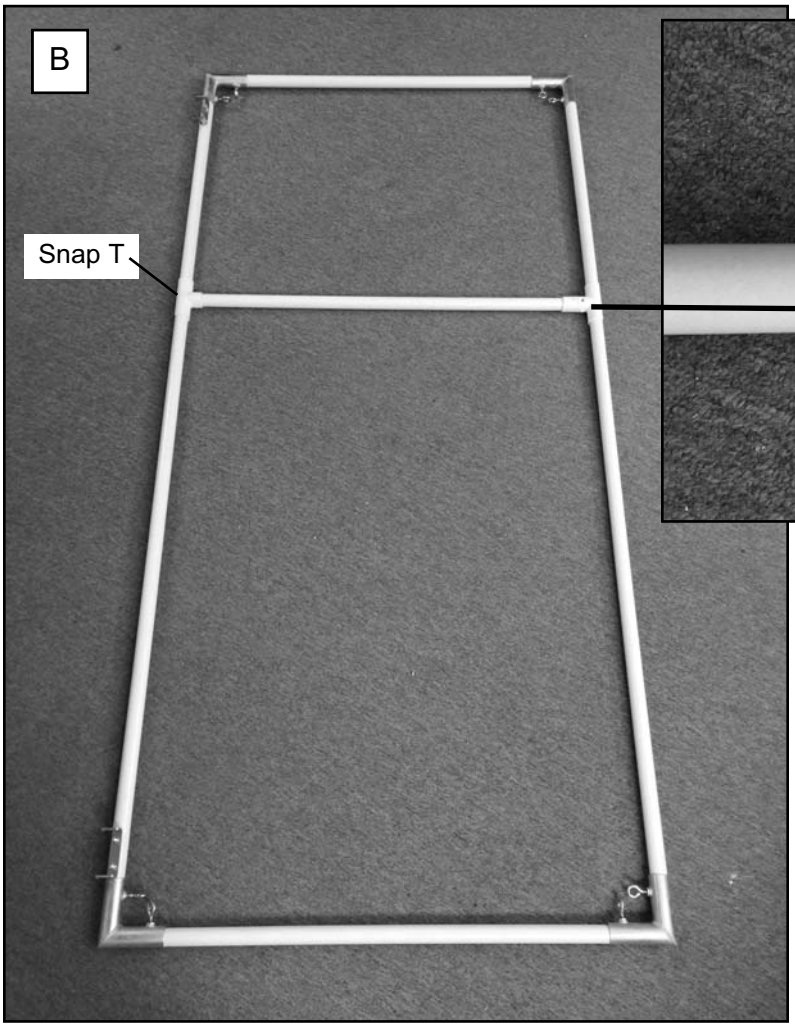
6. Attach the snap T end of the 33” PVC Cross bar to the side door tube **WITHOUT drill holes. Attach near the center of the tube (you can adjust it up and down later)**. **Make sure the holes in the crossbar are facing up and looks like picture A.**

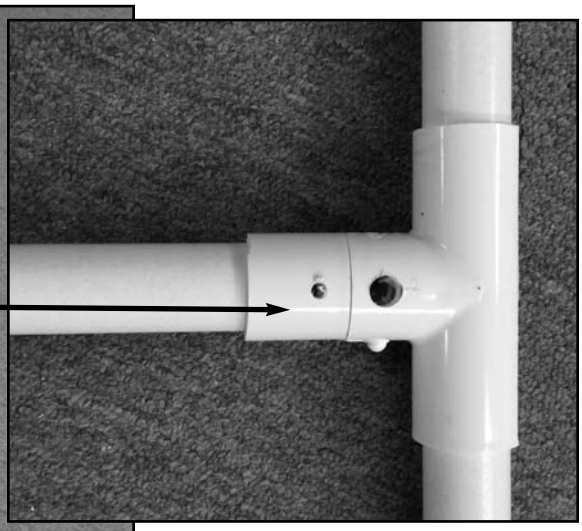
Attach a snap-T to the center of the opposite door tube and then slide the Cross Bar into this snap-T. See picture “B” below. Make sure that this cross bar is not causing the frame to be bowed out in the middle, if so, try compressing the snap-t on the end of the cross bar. If that doesn’t work, separate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

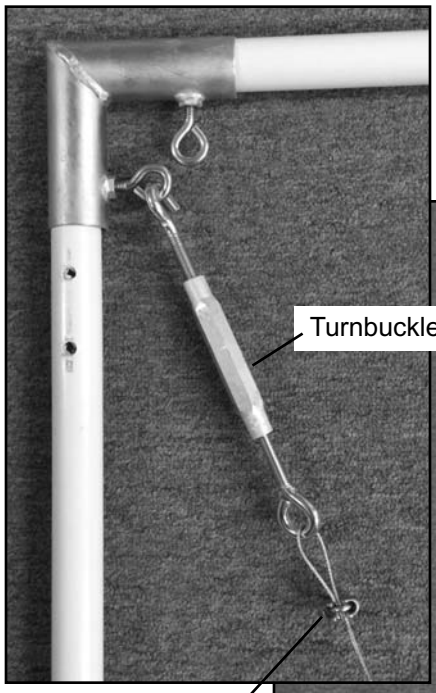
Make sure that the big hole and little hole remain lined up. If they are not aligned, then use the shaft of a screw driver inserted into the large hole and push or pull on the screw driver to move the snap-T on the tube. Once the large hole in the snap-T is aligned, you can use your hand to move and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

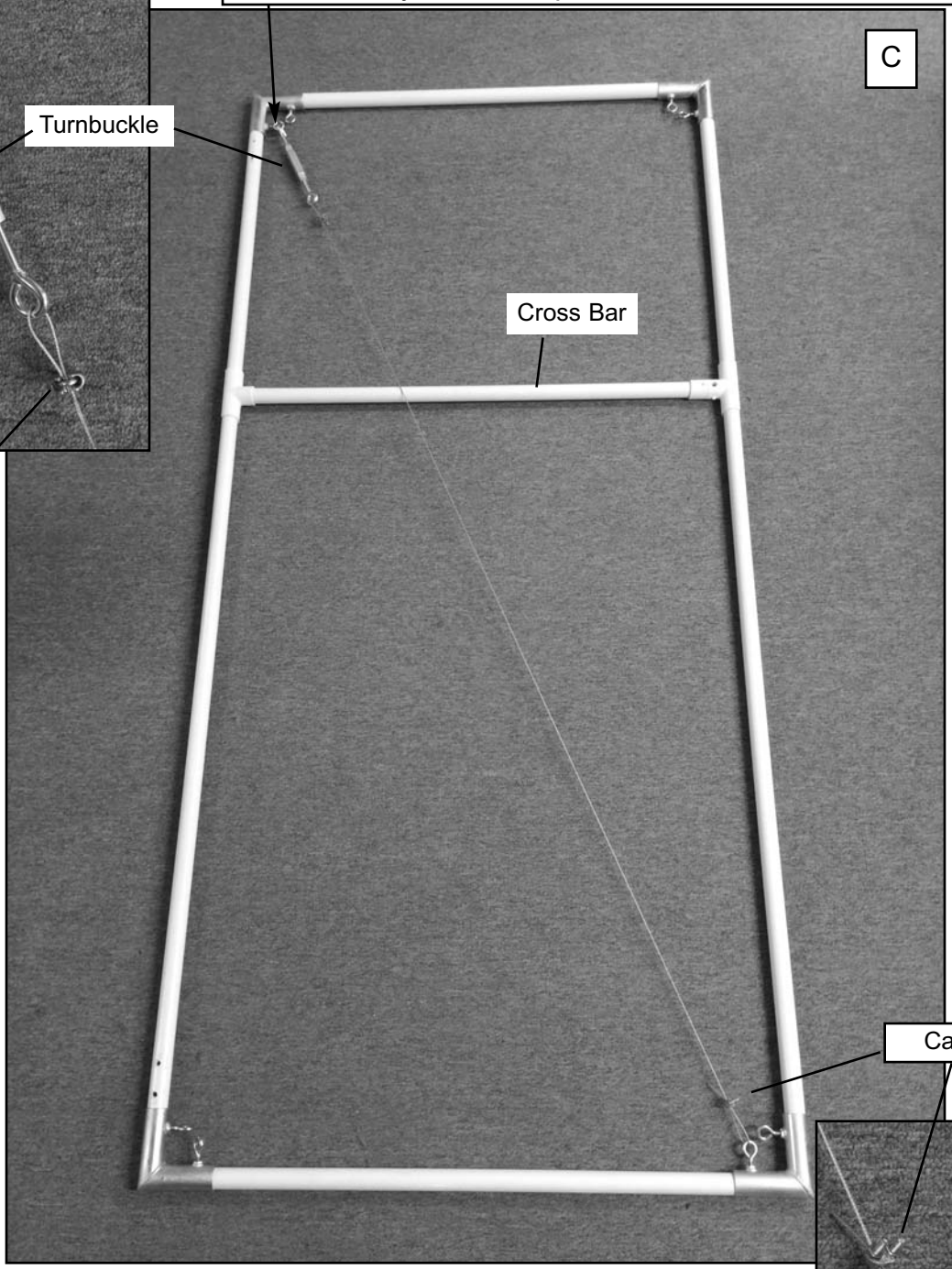


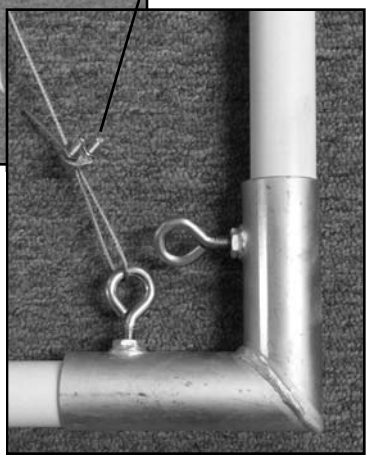


Cross Cable Door Support (Installed on Door frame)



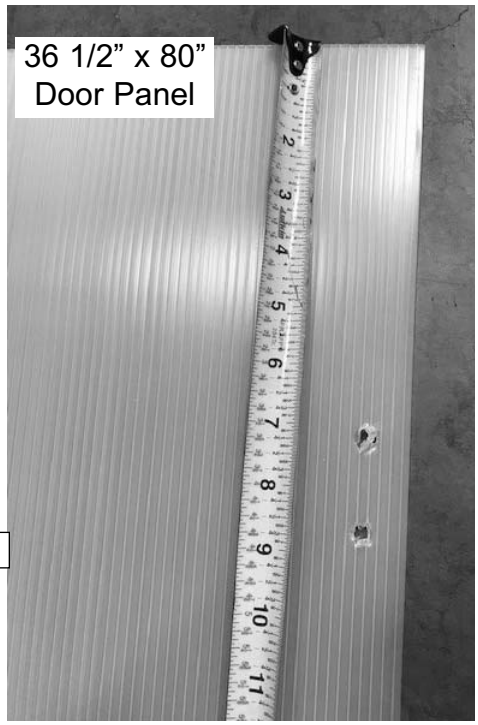
Turnbuckle is mounted to this eye bolt on this fitting for a door that opens from the right side (as you face the door). For a door opening from the left (As you face the door) you would have the turnbuckle mounted on the upper elbow on the right side, to the eye bolt that pinches the side door tube.





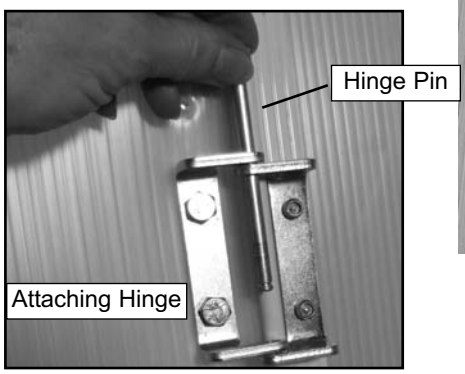
You will now connect the other end of this cable. **The cable will pass over the top of the cross bar of the door**. Run the cable through the 2nd cable clamp, through the eye bolt and then back through the cable clamp. Using a pair of Pliers, tighten the two nuts on the cable clamp so that it pinches 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. **<u>See next page for washer placement and hinge attachment.</u>** From the underside, Insert a bolt through the door frame, through the washer (The washer is only used on one of the two bolts for the hinge half), through the door panel and then put the hinge half on top and attach the nut. Repeat this for the 2nd bolt and 2nd hinge. The nut will be on the side that the hinge half is on. Once all 4 bolts are put in place, they will be holding the door panel to the door frame. **<u>Do not screw the rest of the Panel to the Door Frame yet.</u>**

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



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

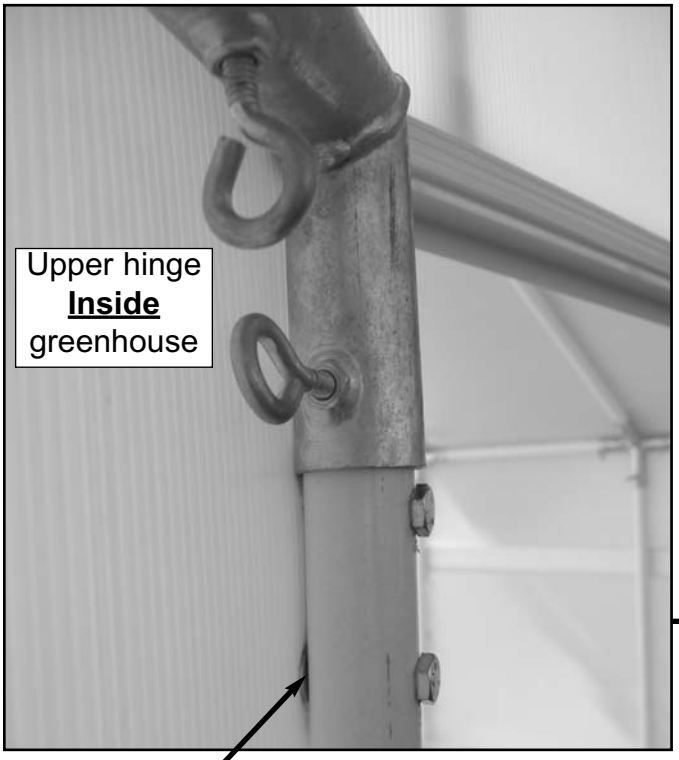
11. Tighten the cross cable door support a little bit by rotating the turnbuckle. Be careful not to lift the door very much - you just want to support the door. Verify that the lower tube of the door frame is not hitting the tube under it and that it is parallel with the tube below it. After doing this,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

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

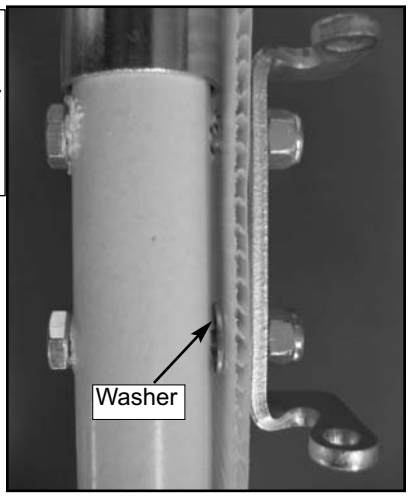
13. Caulk the open flutes on the top and bottom of the door panel and reattach the door to the Hinges. Caulking the bottom of the door panel is easiest when the door is removed from the greenhouse.

14. Slide a **36" U-Trim** over the top of the door panel to cover the caulked flutes (cut u-trim to fit if needed). Attach u-trim with 3 **Small Phillips Screws (see page 15, step 2).**

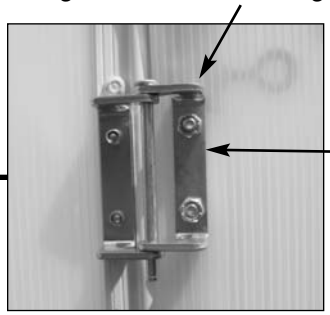
Hinge assembly & location of washer



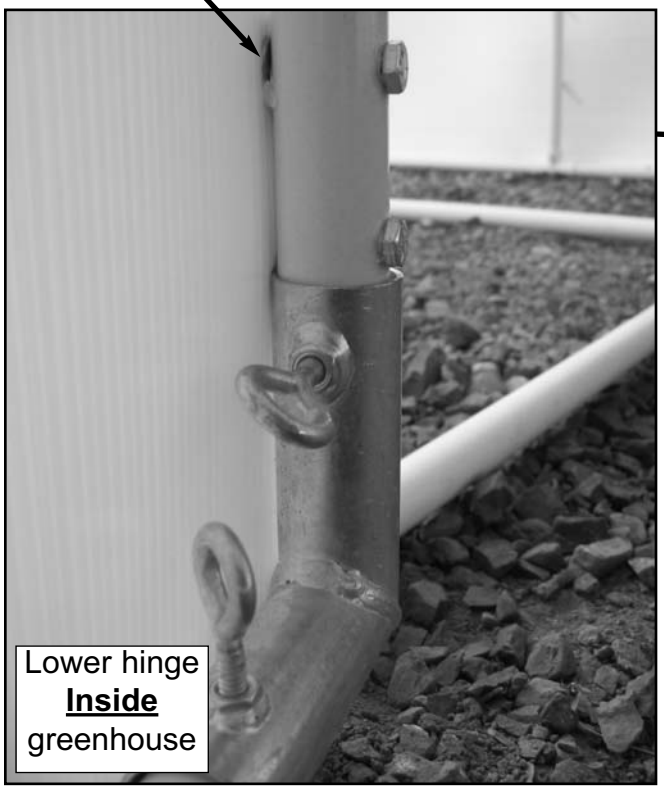
Side view of assembled upper hinge-half on door

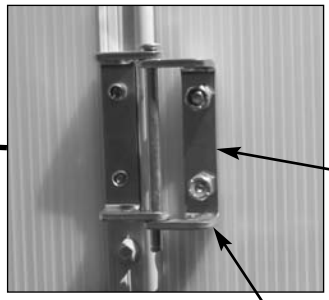


Upper hinge
(**Outside** greenhouse)
Hinge-half on door sits **above** hinge-half on door casing.



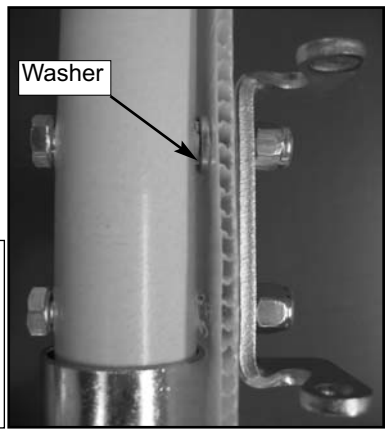
One washer goes in-between the door panel and the door frame to even out the spacing with the fitting. The fitting sits under the door panel and hinge-half on one side of the hinge-half and one washer goes under the door panel and hinge-half on the other side.
(**Bolt goes through the washer**)





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

Side view of assembled lower hinge-half on door



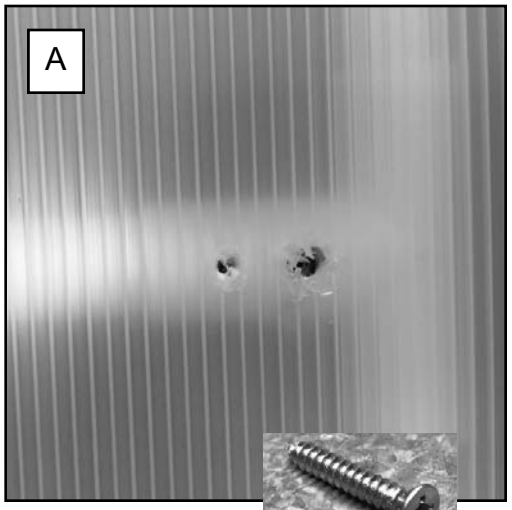
15. **Door lock** - The center cross bar of the door will set the height of your door lock/handle. From the outside of the greenhouse, look through the door panel at the holes in the predrilled snap-T, this would the height of the outside door handle. To adjust to your prefered handle height, slide the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

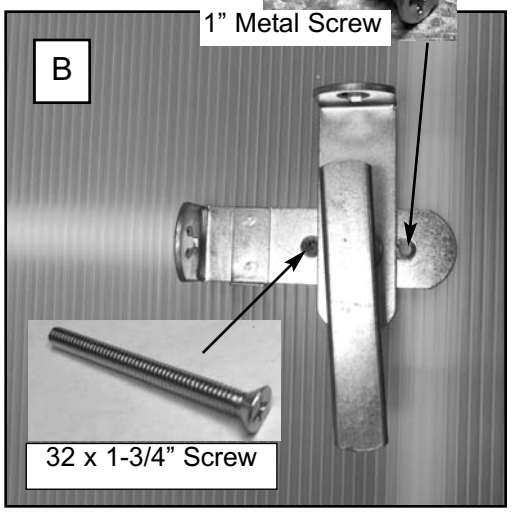
    From the outside of the greenhouse, use a sharp thin bladed knife and push the blade of the knife through the panel and into the large predrilled hole. Do this twice so that you are cutting an “X” in the panel right where the predrilled hole is at and then twist the knife when it is in the hole, do the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

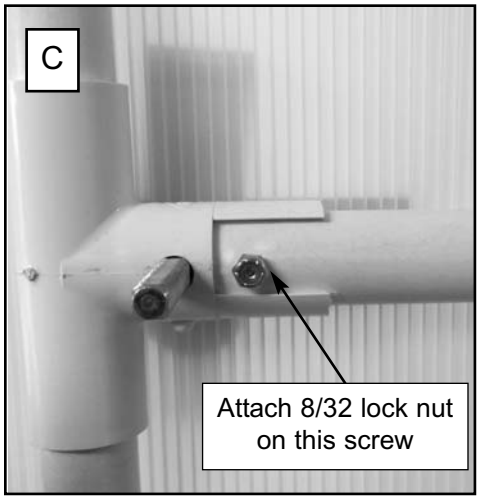
    Now you will install the outer door handle. This handle has a thin nut included in the bag, remove that nut and keep it close by.

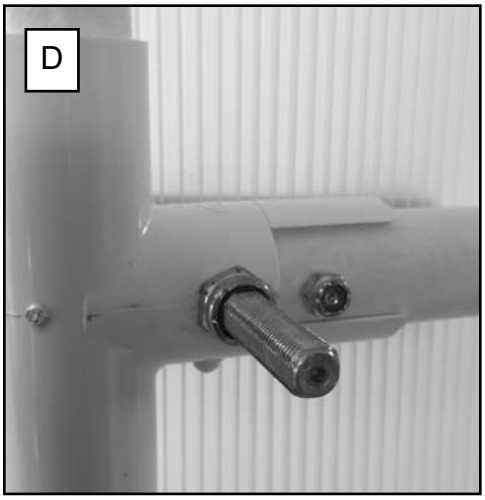
    Insert the shaft of the door lock handle through the door panel and into the large hole of the door cross bar. You may need to twist or screw this into the hole. The handle should be flush with the door panel. Next, twist the door handle so that it is perpendicular to the metal plate that is just behind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

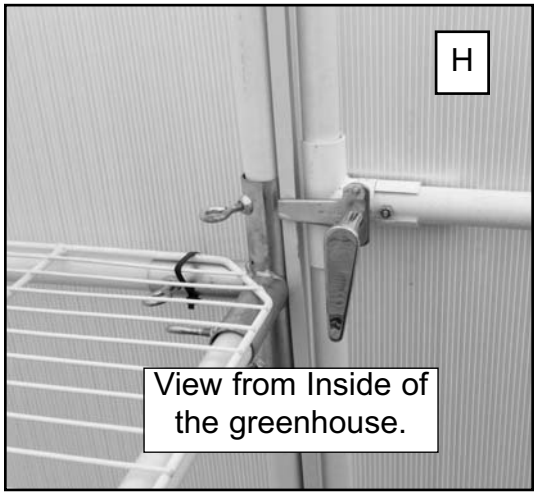
    Insert the 32 x 1¾” flat head screw (the long one in the lock kit) through the hole that is closest to the middle of the door, the tube is predrilled behind this hole. Attach the 1” Metal Screw into the other hole (this hole is not pre-drilled) - this will lock cross bar in place - so make sure the bar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

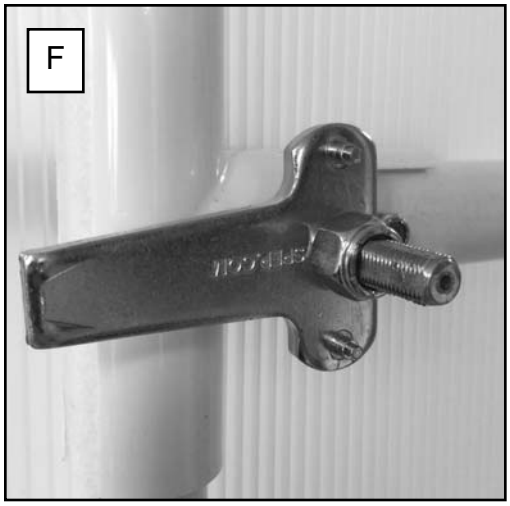


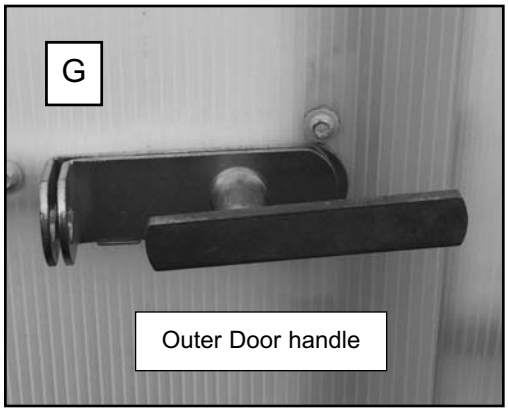












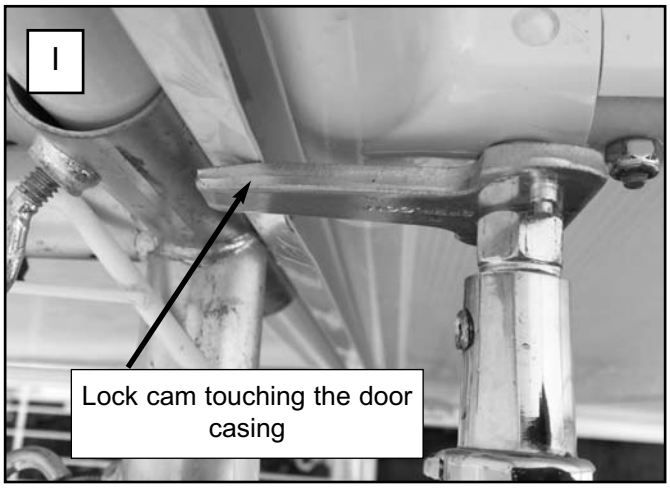
16. **Inside Door Handle** On the inside of the door, attach the 8/32 lock nut (the small nut in the kit) on this screw. See picture **"C"**.

    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.



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 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.

 FEB. 2020 4th Edition V-1 Edition