

ASSEMBLY INSTRUCTIONS

8' X 8' X 8'9" Garden Master

G-508 (3.5mm)

This kit includes (1) latched door, (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 (Available at a hardware store). **

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

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

Please read instructions carefully and refer to the diagrams.

►►Attention:

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

PARTS LIST

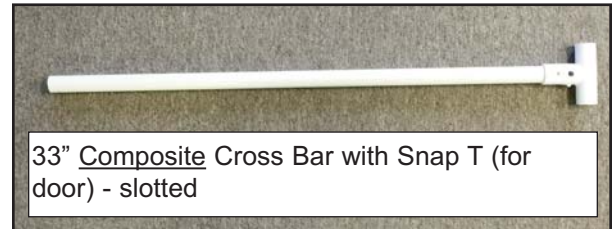
8'X 8'X 8' Garden Master

G-508 (3.5mm)

*Please make sure your kit includes all the following parts before you begin assembly

ROLL Box 1 128 lbs (24" x 24" x 51")

_____	2	49 ½" x 97 ½" Panels
_____	1	42" x 115" Panel
_____	4	42" x 97 ½" Panels
_____	4	31" x 94 ½" Panels
_____	1	36 ½" x 80" Door Panel
_____	1	29" x 42" Panel
_____	20	28" <u>Composite</u> Tubing - Green (Double-Slotted)
_____	2	33" <u>Composite</u> Tubing - Black
_____	4	18" <u>PVC</u> pipe - ½" diameter
_____	1	33" Composite Tubing- Cross Bar with Snap T (for door) - Slotted



INNER BOX 2 47 lbs (10" X 10" X 50")

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

BAG1

9 4-way 120° Metal-T's

BAG 2

6 3-way 120° Metal Corner Post

BAG 3

8 Metal Corner Posts

BAG 4

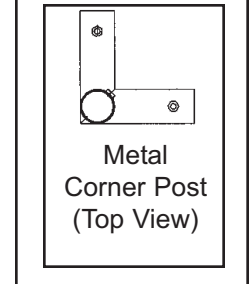
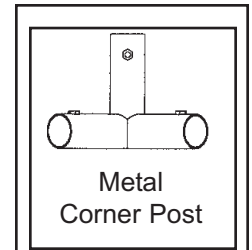
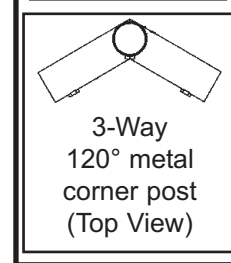
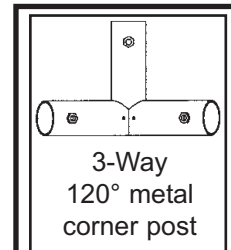
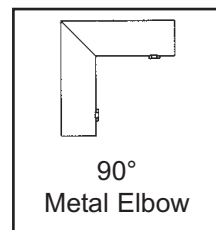
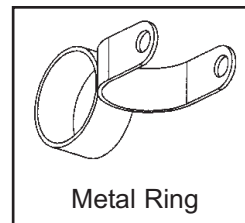
6 4-way Metal-T's

BAG 5

6 4-way Metal-T's

BAG 6

4 90° Metal Elbow
 6 Metal Rings
 6 1 ½" x 3/16" Machine Screws
 6 3/16" Wing Nuts
 7 Large Black Zip Ties
 35 Small Phillips Screws
 5 Yellow Banding
 5 Metal Banding Clips
 480 1" Screws
 1 ¼" Driver
 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)

G-508 (3.5mm)

Jan 2021

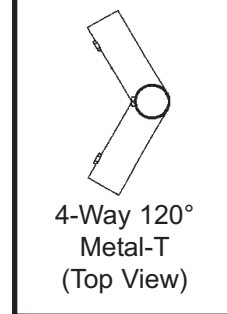
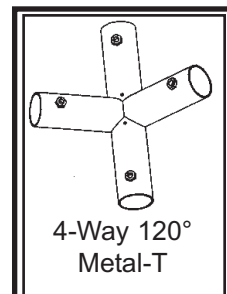
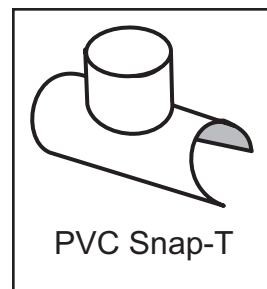
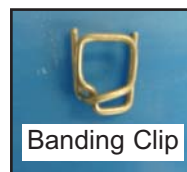
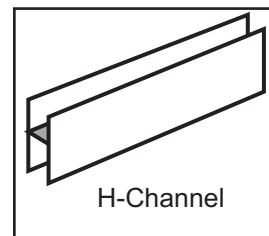
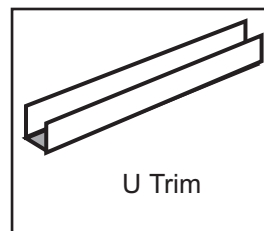
BAG 7
 _____ 13 PVC Snap-T's (includes 1 extra)

BAG 8
 _____ 25 PVC Snap-T's

BAG 9
 _____ 25 PVC Snap-T's

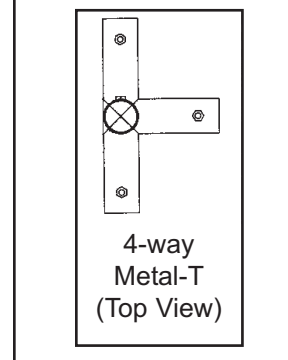
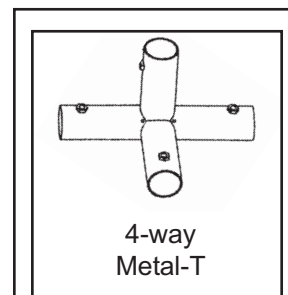
BOX 3 57 lbs (99" x 7 1/4" x 5")

_____ 6 8' H-Channel
 _____ 1 3' H-Channel
 _____ 2 94 1/2" Composite Tubing - Green
 _____ 13 92" Composite Tubing - Red
 _____ 4 90" Composite Tubing - Yellow
 _____ 4 75" Composite Tubing - Orange
 _____ 4 56" U-Trim
 _____ 4 78" U-Trim
 _____ 1 36" U-Trim



BOX 4 29 lbs (77" x 7 1/4" x 5")

_____ 6 75" Composite Tubing - Orange (**Single-Slotted**)
 _____ 1 74" Composite Tubing - BLACK (**with holes for Hinges**)
 _____ 1 74" Composite Tubing - BLACK
 _____ 10 54 1/4" PVC pipes - Yellow
 _____ 2 76" Side Door Casing (**1 with hinge halves attached**)
 _____ 1 38" Top Door Casing
 _____ 2 35 3/4" Composite Tubing - White
 _____ 3 35 3/4" PVC pipes - White
 _____ 2 22" Composite Tubing - White (**Double-Slotted**)
 _____ 2 24" Composite Tubing - Orange (**Double-Slotted**)
 _____ 4 12 1/2" PVC Pipes - White



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

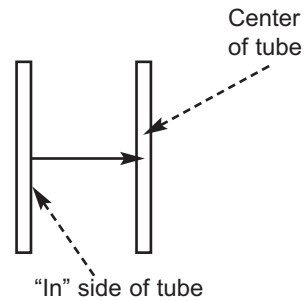
_____ 1 **Louver Assembly**

Packed
by: _____
Date: _____

Hints for Preassembly

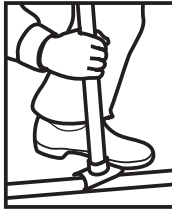
A.

►► **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.

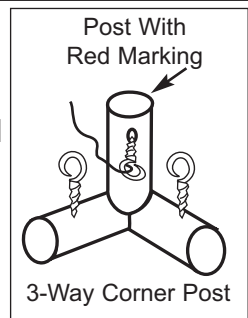


C.

►► **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

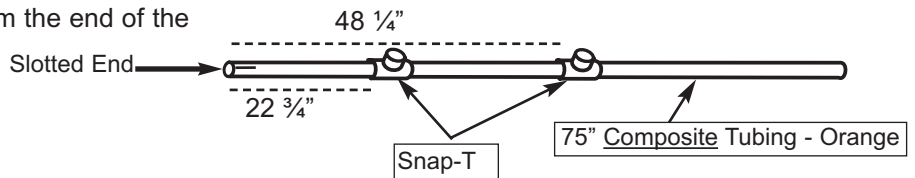
1. SIDE WALLS

Pieces Required:

- 4 75" Composite Tubing - ORANGE
- 6 75" Composite Tubing - ORANGE (Single-Slotted)
- 20 Snap-T's

Make 10

1. Attach 1 **Snap-T** about 23" from the end of the **75" tube** and a second Snap-T about 48 1/4" from the end of the tube. (Do this to all 10 tubes - Both slotted and non slotted tubes)



Side Walls are used in step 7.

Step #2 is no longer needed so has been deleted

Very Important!! NEVER glue the underside of the Snap-T. You need to be able to slide the Snap-T along the tube.

3. RIDGE FRAMES, BENCH & BASE RODS

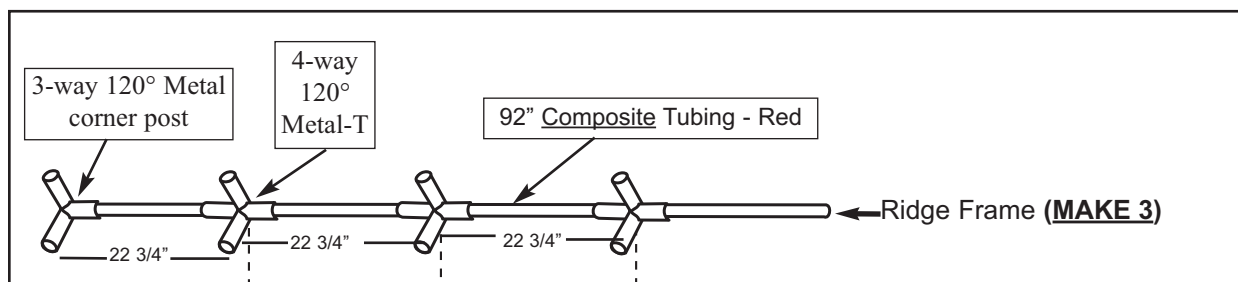
Pieces Required:

9	4-way 120° Metal-T's
3	3-way 120° metal corner posts
11	92" <u>Composite</u> Tubing - RED
26	Snap-T's

Making the Ridge Frames

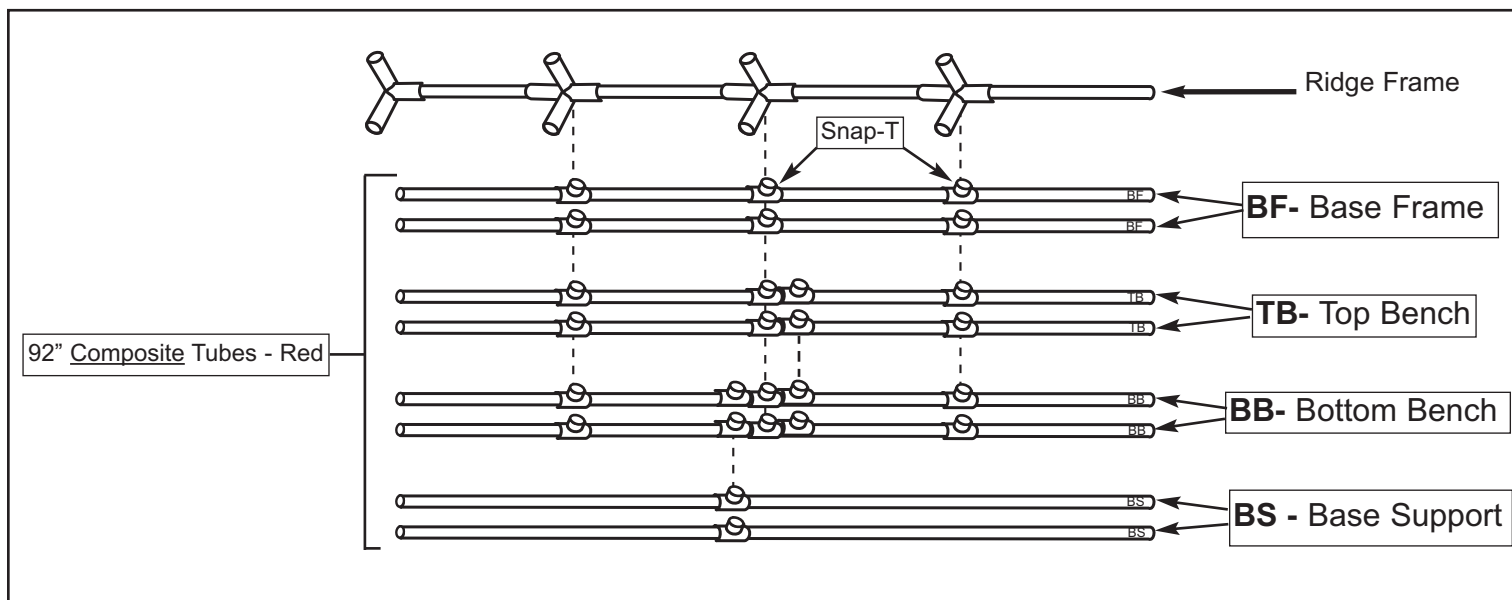
Complete as shown on a level surface so the Ridge Frames will be flat and not twisted. Ridge Frames are used in Step 7, Side Walls and in Step 9, Top Ridge Assembly.

1. Insert **3-way 120° metal corner post** snugly on one end of a **92" Composite Tube** - (Red) and twist eyebolt until tight. (Insert a screwdriver or long bolt through the eyebolts and twist the eyebolt clockwise.)
2. Slide a **4-way 120° Metal-T** over the 92" tube so that the distance from the "in" side of the 3-way 120° Metal corner Post to the center of the 4-way 120° Metal-T is 22 ³/₄". Twist the eyebolts tight.
3. Slide over the 2nd 4-way 120° Metal-T so the distance from the inside of the 1st 4-way 120° Metal-T to the center of the 2nd 4-way 120° Metal-T is 22 ³/₄" - tighten. Slide over the 3rd 4-way 120° Metal-T so the distance from the inside of the 2nd 4-way 120° Metal-T to the center of the 3rd 4-way 120° Metal-T is 22 ³/₄" - tighten eyebolts
4. Repeat steps 1-3 twice for a total of three Ridge Frames.



Aligning the Snap-T's

5. Use a 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.



4. BASE FRAME

Make sure working surface is clean and level.

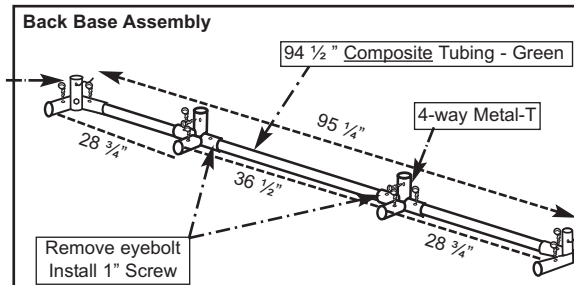
Pieces required:

- 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 3)
- 2 BS - 92" Composite Tubing - RED (from step 3)
- 4 1" Screws

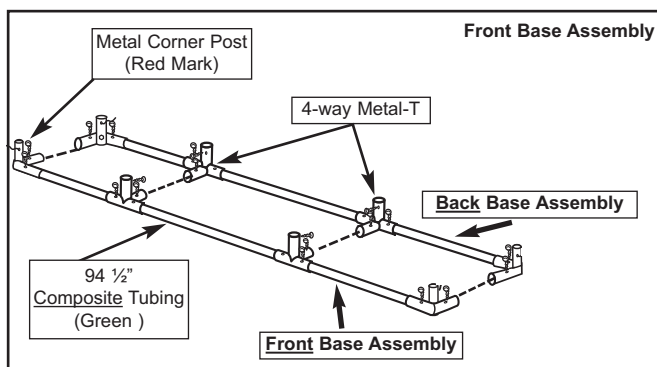
FRAME ASSEMBLY

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

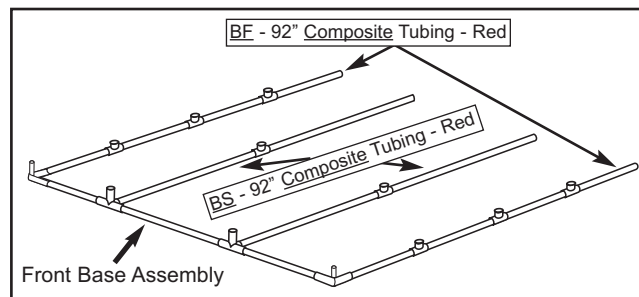
1. **Back Base Assembly.** Slide two 4-way metal-T's onto a 94 1/2" Composite Tube. Attach a Metal Corner Post (arm with red mark is vertical) to one end of the 94 1/2" tube and tighten eyebolt. Attach a Metal Corner Post to the opposite end and adjust the Metal Corner Post so that the measurement from "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.



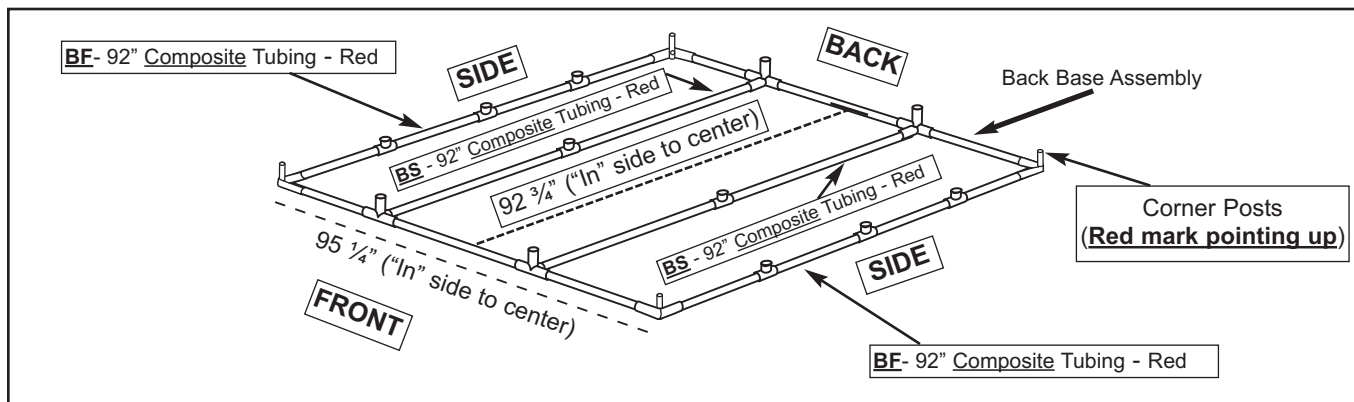
2. **Front Base Assembly.** Repeat the above step using the Back Base Assembly as a measuring device for the metal corner posts.



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 "in" side edge of the Front Base Assembly to the center of the Back Base Assembly is 92 3/4".



5. END WALL FRAMES

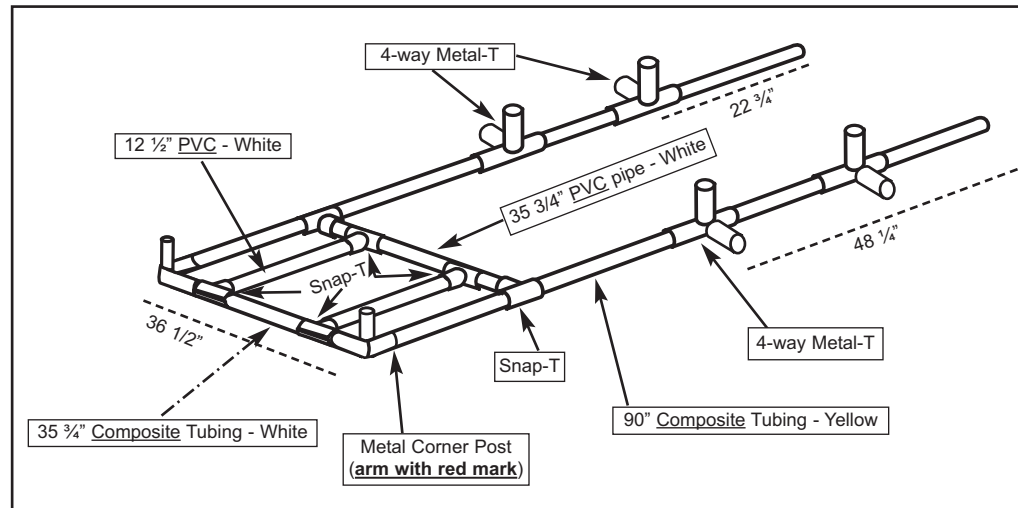
5A. Front End wall Frame

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.

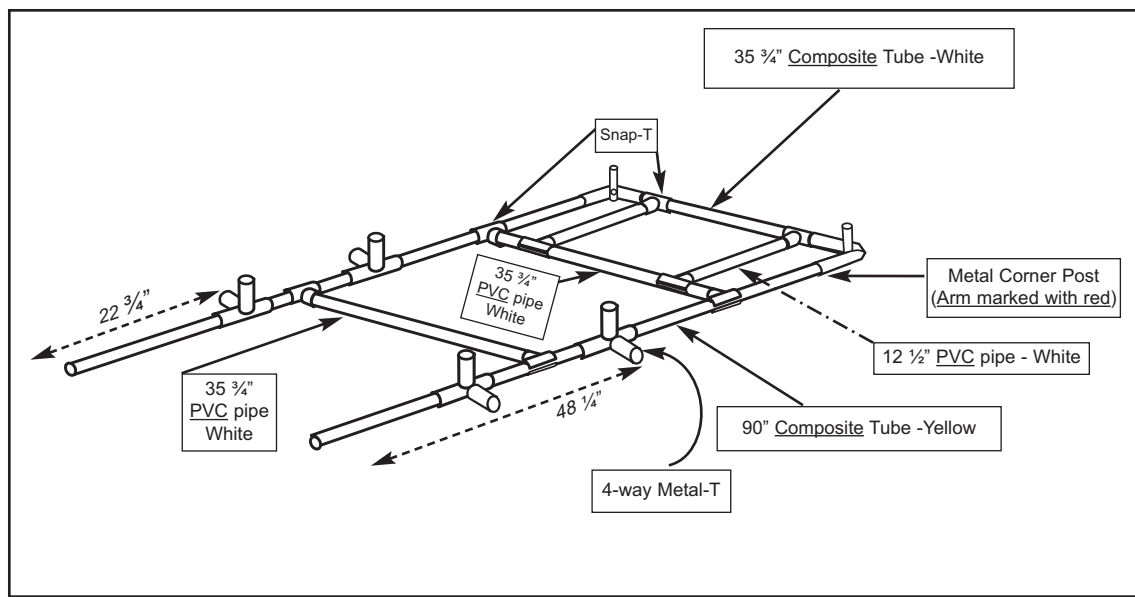


1. Slide each 90" Composite Tube - Yellow snugly into a Metal Corner Post (insert tube into the arm with the red mark) and tighten the eyebolt. Attach a 35 3/4" Composite Tube between the Metal Corner Posts on the 90" Composite Tube. Adjust 90" Composite Tube so the distance between the Metal Corner 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" PVC 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.

5B. 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



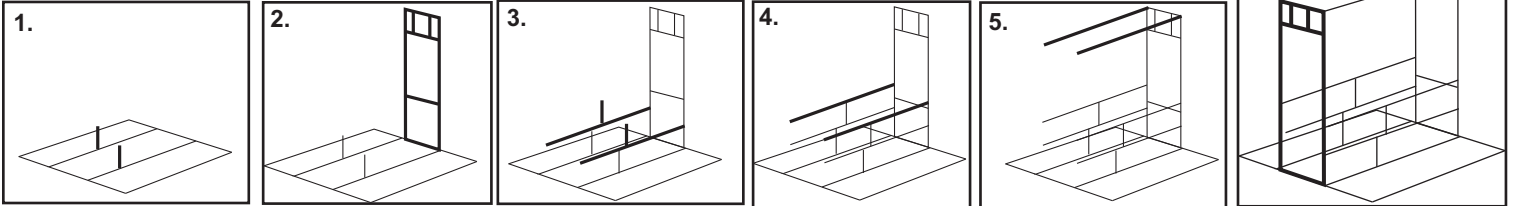
1. Slide each **90" Composite Tube - yellow** snugly into a **Metal Corner Post** (insert tube into the arm with the red mark) and tighten the eyebolts. Attach a **35 3/4" Composite Tube - white** between the Metal Corner Post that are on the 90" composite Tubes - yellow. Adjust the metal corner posts 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.

6. HANGING RODS & BENCH RODS

Pieces Required:

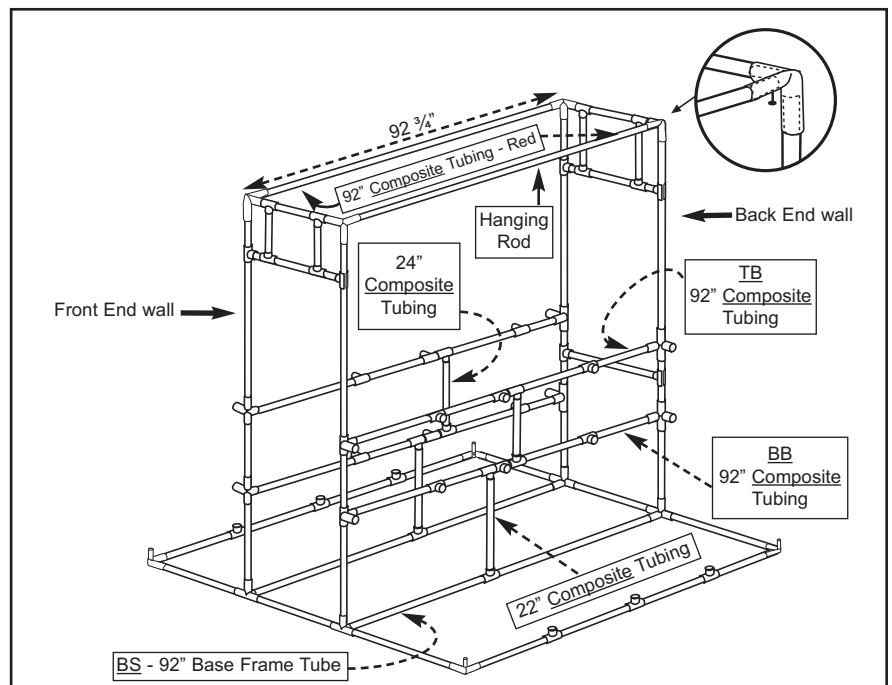
- 2 22" Composite Tubing - White (**Double-Slotted**)
- 1 Back End wall
- 2 BB - 92" Composite Tubing - RED (**from step 3**)
- 2 24" Composite Tubing - Orange (**Double-Slotted**)
- 2 TB - 92" Composite Tubing - RED (**from step 3**)
- 2 92" Composite Tubing - RED
- 1 Front End wall
- 8 1" Screws

Two people & ladder 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 posts 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. Do this on both BB tubes. 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 the 24" Composite Tube to the Snap-T (That is right of center - Closest to the back end wall) 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 $\frac{3}{4}$ " 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.

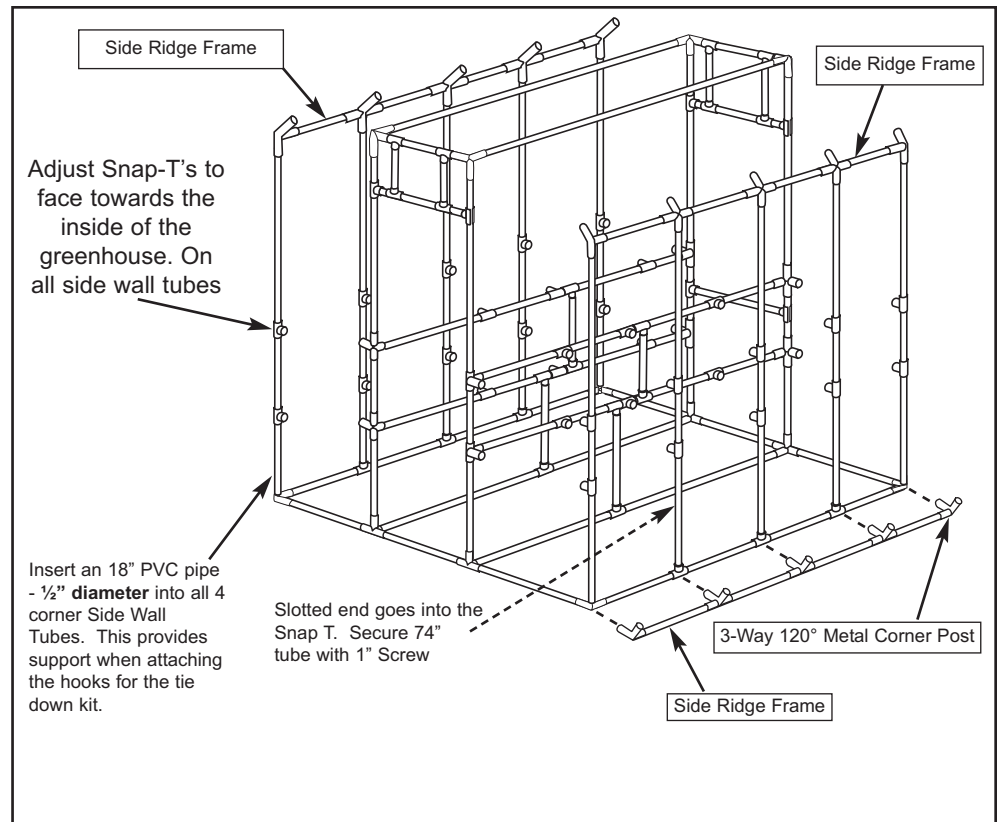
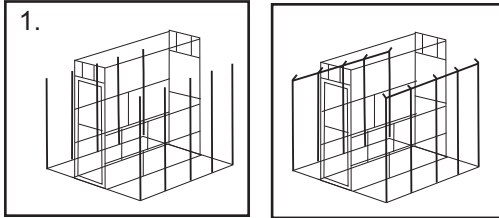
Check that the measurements of the Hanging Rods are 92 $\frac{3}{4}$ " from the "in" side of one 35 $\frac{3}{4}$ " Back End wall tube to the center of the opposite 35 $\frac{3}{4}$ " Front End wall tube.



7. SIDE WALLS

Pieces required:

- 10 Side Wall tubes, made in step 1
- 2 Ridge Frames, made in step 3
- 2 3-Way 120° metal corner post
- 4 18" PVC pipe - 1/2" diameter
- 6 1" Screws

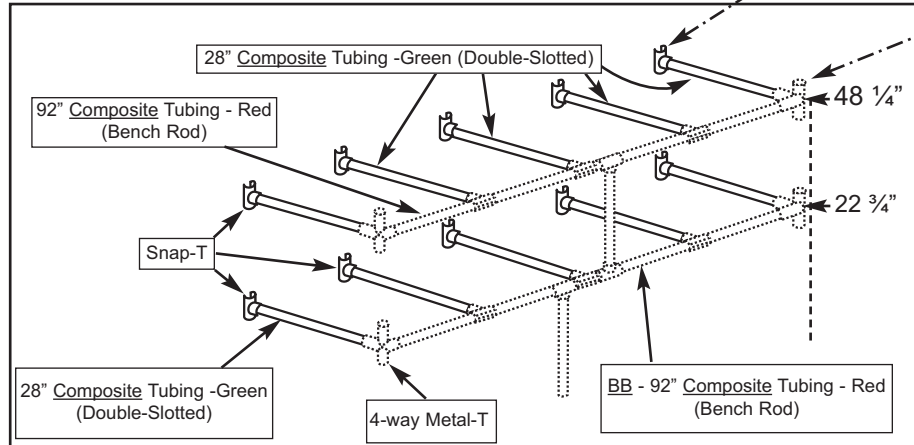


1. Locate the 4 **Side Wall tubes (without slots)** - From Step 1). Slip an 18" (1/2" diameter) PVC pipe into the center of the Corner Side Wall Tubes (Bottom side that goes into the Metal Corner Posts on the base frame). Then tighten the eyebolts. Now draw a line 2 3/4" down from the top of the corner Side Wall Tubes (On all 4 corner side wall tubes).
2. Insert the 6 remaining Side Wall tubes (**Single-Slotted**) into the Snap-T's (Slotted side goes into the snap-T) on the BASE FRAME. **Use glue to help lubricate the tubes to make it easier to slide them into the Snap-T's. The glue will not adhere to the Composite tubing, so you will have to secure the tubing by putting a screw through the top of the Snap-T and into the 94 1/2" Composite Tube. Make sure the Side Wall tubes are seated all the way into the Snap-T's.** Adjust the Snap-T's On the Side Wall Tubes, so they face towards the inside of the greenhouse.
3. Line up two **Ridge Frames** with the side base frame of the greenhouse. Make sure the Snap-T's and Metal fittings on the side base frame are in line with the Metal Fittings of the Ridge Frame. Add a **3-way 120° Metal Corner Post** to the end of the ridge Frames (Making sure it is in line with the Metal corner post of the side base frame) and tighten the eyebolt.
4. Place a side ridge frame on top of the side wall tubes, insert the side wall tubes into the Metal fittings of the side Ridge Frame and tighten the eyebolts. Note: On the corner Side Wall tubes, adjust the 3-way 120° metal corner post up or down so the edge of the arm on the post lines up with the line that you drew on the Side Wall tube in step 7 - 1 above. Repeat this step for the side wall on the opposite side.

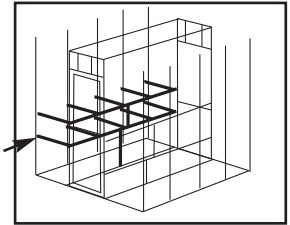
8. BENCH ASSEMBLY

Pieces Required:

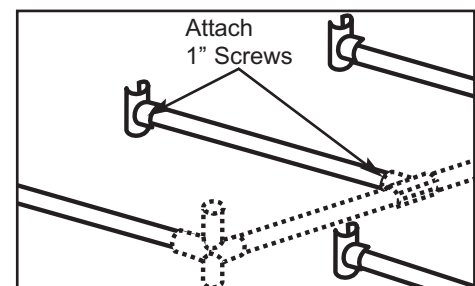
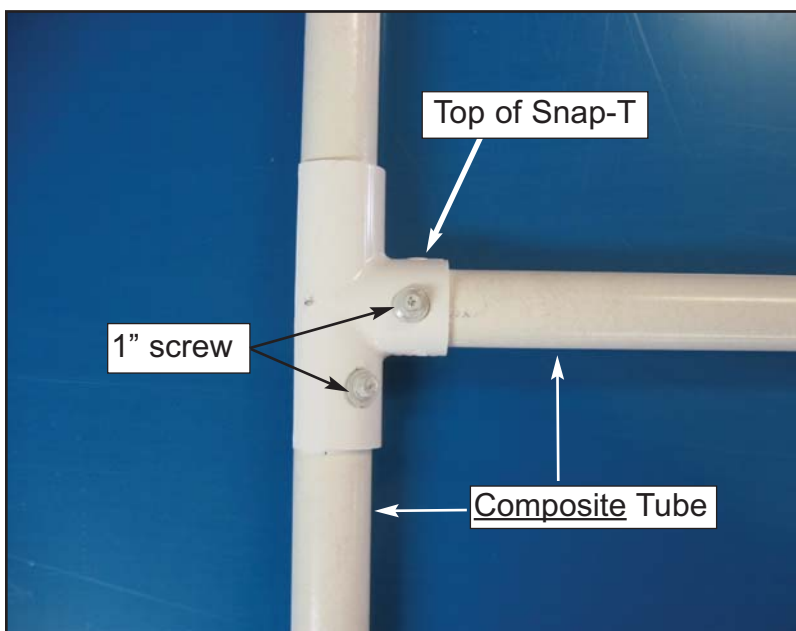
20 28" Composite Tubing - GREEN (Double-Slotted)
52 1" Screws



Attach screw here
(See picture below)



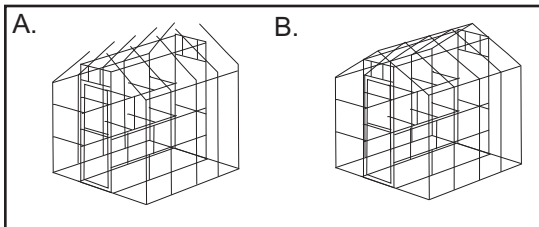
1. Insert **eight 28" Composite Tubes - Green (Double-Slotted)** into the 4-way Metal-T's that are on the end walls. Attach the opposite ends of the 28" Composite Tubes - Green (Double-Slotted) into the snap-T's on the corner side wall tubes. **(NOTE: The glue does not adhere to the Composite Tubing. 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 3/4" and 48 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 **on the bench frames**, 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).



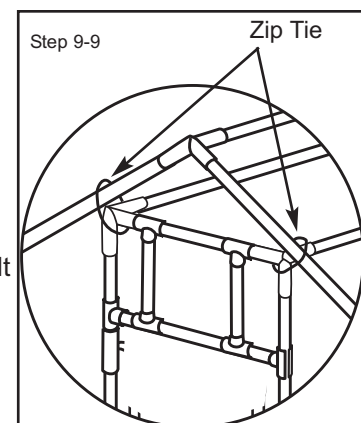
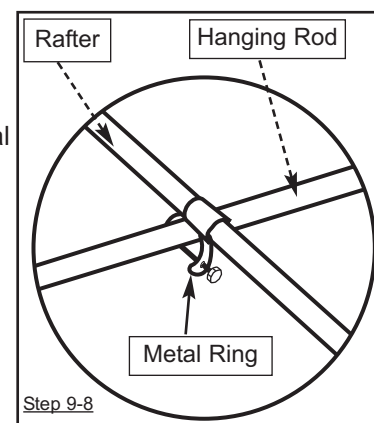
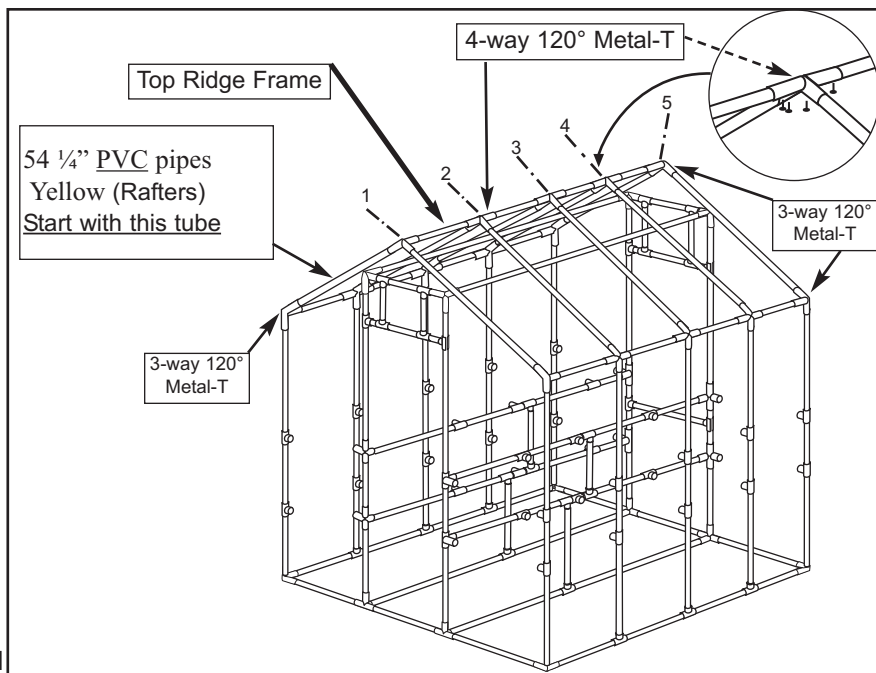
9. TOP RIDGE ASSEMBLY

Pieces required:

- 10 54 1/4" PVC pipes - Yellow
- 1 Ridge Frame, made in step 3
- 1 3-Way 120° metal corner post
- 6 Metal Rings
- 6 1 1/2" x 3/16" machine screws & 3/16" wing nuts
- 4 Large Black Zip Ties



1. Line up the **top Ridge Frame** with the base frame of the greenhouse (see picture - Step 7). Add a **3-Way 120° Metal corner Post** to the end of the Ridge Frame and tighten the eyebolt. Make sure the Snap-T's and the Metal fittings on the base frame are lined up with the Metal Fittings of the Ridge Frame.
2. Draw a line 2 3/4" in from the end of four of the **54 1/4" PVC pipes - Yellow** (on both ends). Set these 54 1/4" PVC pipes - Yellow into the front and back 3-Way 120° metal corner posts of the Side Ridge Frames. **DO NOT tighten eyebolts.**
3. Set the remaining six **54 1/4" PVC pipes - Yellow** into the 4-way 120° Metal-T's of the Side Ridge Frames. **DO NOT tighten eyebolts.**
4. Balance the top Ridge Frame on the hanging rods. Pull a 54 1/4" PVC pipe - Yellow (Start with rafter 1) from the Side Ridge Frame and insert it into the **3-Way 120° metal corner post** of the TOP RIDGE FRAME (54 1/4" pipe will come out of the Metal Fitting on the side Ridge frame - this is OK). Push the 54 1/4" PVC pipe - Yellow into the 3-Way 120° metal corner post until the line drawn (in step 9 - 1, above) is even with the edge of the arm of the 3-Way 120° metal corner post. Tighten the eyebolt. Repeat on the opposite side.
5. Pull out the remaining 54 1/4" PVC pipes - Yellow (Rafter 2 - 5) and insert them into the metal fittings on the Top Ridge Frame (one at a time - 54 1/4" pipes will come out of the Metal Fittings on the side Ridge frame - this is OK). Insert the 54 1/4" pipes all the way into the 4-way 120° Metal-T's until they stop. On (rafter 5) the last fitting, the 3-Way 120° Metal Post, push the 54 1/4" PVC pipes - Yellow in so the line drawn (in step 9 - 1, above) is even with the edge of the arm of the 3-Way 120° metal corner post. Tighten the eyebolts.
6. Rest the top Ridge Frame and Rafter (54 1/4" pipes attached to the top ridge frame) assembly over the center of the Hanging Rods.
7. Insert the Rafters into the Metal Fittings of the Side Ridge Frame one at a time. **Slide a Metal Ring on the Rafters Before inserting them into the side ridge frame (Both sides of rafters 2, 3 and 4 - Rafters that attached to a 4-way 120° Metal-T on the top ridge frame - . Do not tighten the eyebolts until all the Rafters are in place.** Once all rafters are inserted into the metal fittings of the side Ridge Frames, tighten the eyebolts. Adjust rafters on the ends so the line drawn (in step 9 - 1, above) is even with the edge of the arm of the 3-Way 120° metal corner post.
8. Slide the Metal Rings up to the Hanging Rods and adjust the "U" portion of the metal ring so the bracket straddles the hanging rod. Slide a **1 1/2" x 3/16" machine screw** through the bolt holes of the Metal Rings and attach a 3/16" wing nut. (See diagram to the right)
9. Attach a **Zip Tie** around the Rafter and Metal Corner Post at each end wall. (See diagram to the right)



10 A. SQUARING FRAME

Pieces Required:

- 3 Yellow Banding
- 3 Metal Banding Clips
- 2 76" Side Door Casing
(1 with hinge-halves attached)
- 1 38" Top Door Casing
- 1 1" Screw

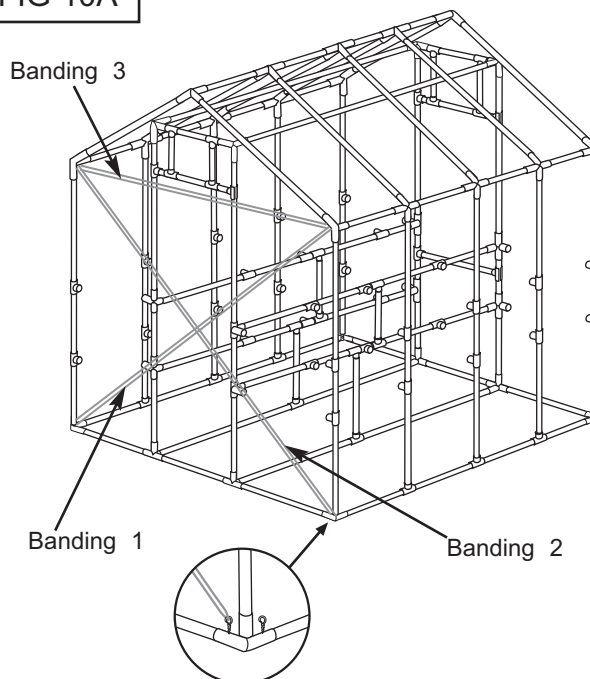
1. On the front end wall, loop **Banding 1** through an eyebolt on the Metal Corner Post on the base frame. Loop the other end of the banding through an eyebolt on the opposite 3-Way 120° metal corner post on the Side Ridge Frame.
2. Thread banding through the metal buckle as shown/explained in Fig 10B.
3. Thread **Banding 2** to the opposite diagonals.
4. Tighten Banding 1 & 2 so the diagonals are equal in length. If they are not equal in length. Loosen the shorter one and then tighten the longer band until the two diagonal measurements are the same.
5. Loop **Banding 3** through an eyebolt of the 3-way 120° Metal corner post of one Side Ridge Frame to the eyebolt of the 3-way 120° Metal corner post on the opposite Side Ridge Frame. Tighten the banding so the measurement from the "in" side of one 3-way 120° Metal corner post to the center of the opposite 3-way 120° Metal corner post is equal to 95 ½".

Keep banding in place until Front End wall paneling has been applied.

10 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 90" tubes. (The Top Door Casing fits between the snap-T's on the top of 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. Also check that the 90" tubes are plum (Straight up and down) and the top door frame tube is level.
3. Again place the Top Door Casing over the 35 3/4" tube. Hold in place temporarily with one screw inserted from the front and into the tube.
4. Temporarily place the side Door Casing with the Hinge attached on whichever side you want your door to hinge from.
5. Place the other Side Door Casing on the opposite side of the 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 #14**. Proceed with paneling.

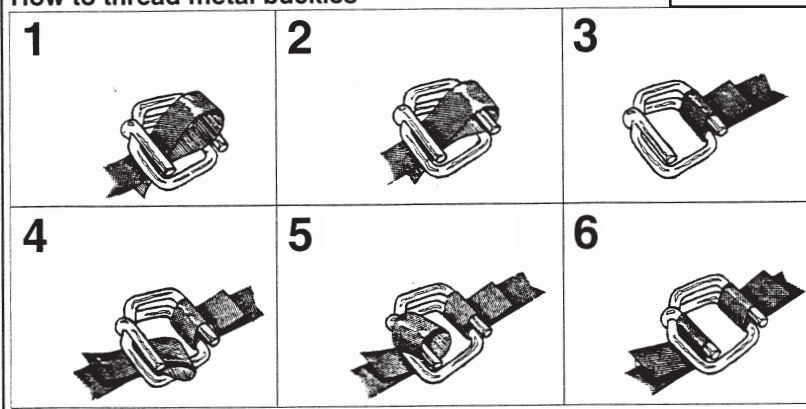
FIG 10A



NOTE:
Measure the diagonals with a tape measure first. If diagonals are equal, skip step 10A.

How to thread metal buckles

FIG 10B



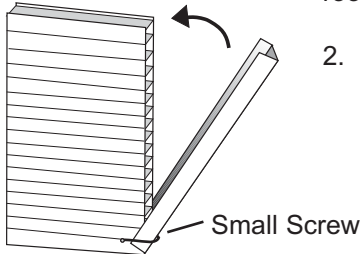
How to thread Metal Buckles

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

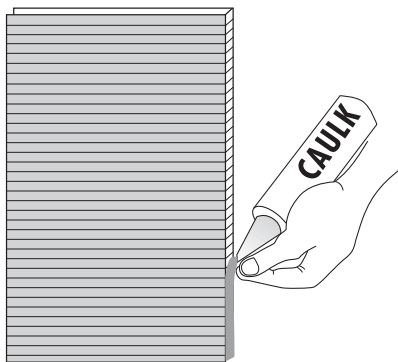
Congratulations, your frame is now finished! All that's left is the paneling application. Listed are several hints that will make paneling your greenhouse much easier. If you have suggestions that would be helpful for future customers we would be happy to hear from you.

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 paneling. 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.



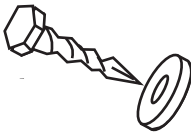
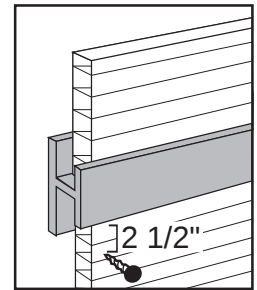
2. **U-TRIM:** Insert 1/4" - 1/2" of silicone caulking into open flutes to prevent water intrusion. Slide U-Trim over the 4' ends of panels where specified in the instructions. Secure U-Trim with **Small Screws** by poking a small pilot hole in the U-Trim with a thin nail. Put small screw through U-Trim and into panel. Place 2-3 screws on each U-Trim.

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



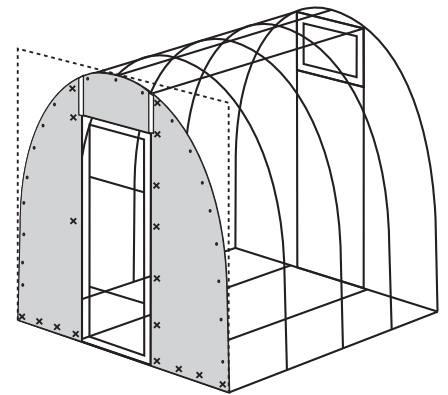
3. **H-CHANNEL:** If H-Channel is difficult to slide on, spray panel edges with Pam (Vegetable oil). Also tapping on ends of H-Channel with a hammer or rubber mallet helps H-Channel slide on easier. Secure panels by placing screws into pipes 2 1/2" from each side of H-Channel. You can cut H-Channel by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

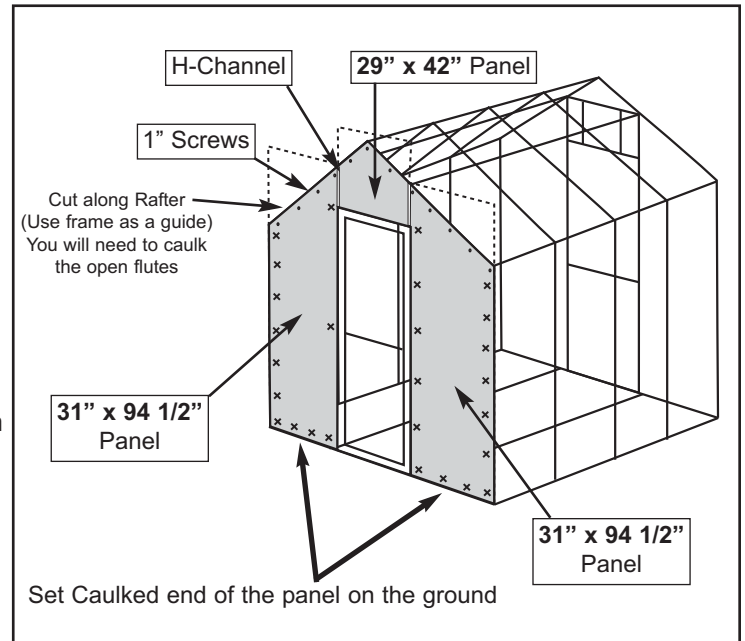
11. FRONT END WALL PANEL

Parts Required:

2	31" x 94 1/2" Panels
1	29" x 42" Panels
87	1" Screws
1	3' H Channel

1. Caulk the flutes of one end of each of the panels.
2. Screw both **31" x 94 1/2" Panels** into place (the caulked end goes on the ground) making sure the panels cover the door end wall tubes. Attach to the door end wall tubes with only 1 or 2 screws. These screws will be removed later when you assemble the door.
3. Cut panels carefully along the Rafters and Side Walls using a sharp thin knife (use the tubes as a guide - better to leave to much paneling then to remove to much).
4. Attach a 29" x 42" panel above the door. You will need to trim it to fit. Leave a 1/4" gap between this piece and both 31" x 94 1/2" Panels so there is room to slide the H-Channel between the panels. Cut the **3' H-Channel** in half and trim to fit.

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



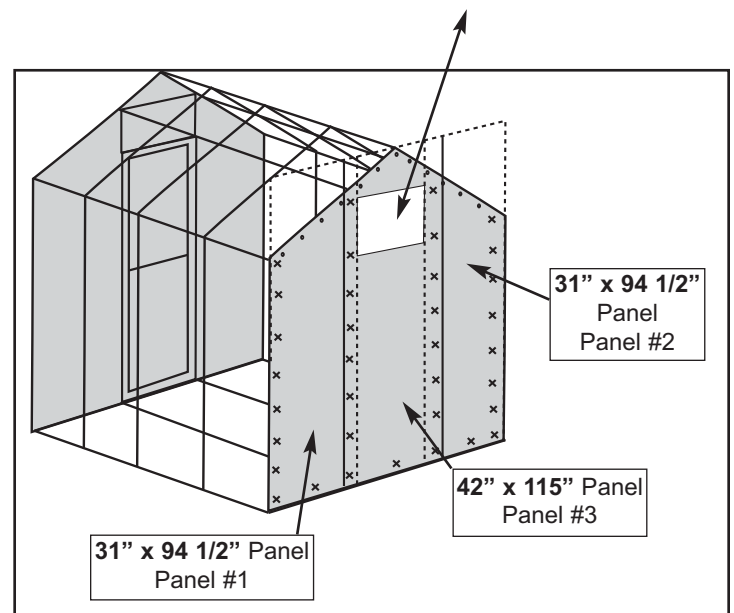
12. BACK END WALL PANEL

Pieces Required:

3	Yellow Bands (from Step 10)
3	Metal Clips (from Step 10)
2	31" x 94 1/2" Panels
1	42" x 115" Panel
70	1" Screws

1. Caulk the open flutes on one end of all three panels.
2. Remove the Banding from the Front end walls, do not cut the banding. Use the banding to square the back end wall. (**see step 10, Squaring the frame**)
3. Attach panel #1 and panel #2 (31" x 94 1/2" panels) vertically (Caulked ends on the ground). Line one side of the panels up with the side wall tubes so they also cover the end wall tubes. This way you should not have to trim the panels at the side wall tubes. Do not attach screws on the end wall tubes yet. Panel 3 will over lap panel 1 & 2. Carefully trim panels along the rafters and side walls (if needed).
4. Attach panel #3 (42" x 115" panel) so it overlaps panels #1 and #2 on the end wall tubes. Attach screws through both layers of paneling and into the end wall tubes. Trim panel along the rafters.
5. Caulk all exposed flutes that are still open on the top of both end walls.

Hole will be cut here during Louver Installation, Step 15.



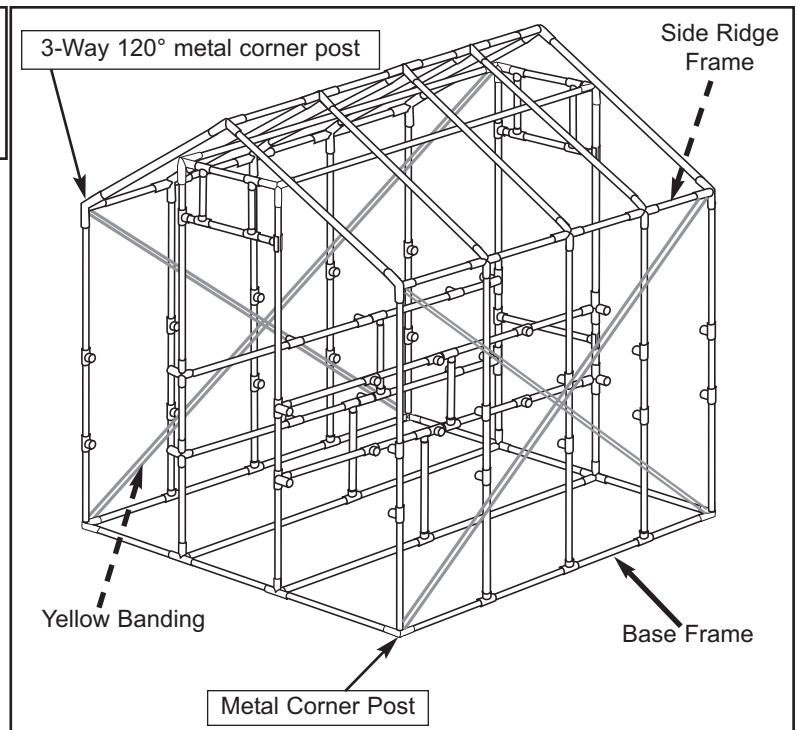
DO NOT CUT HOLE - the Louver will be installed in Step 15. Louver installation instructions included in the Louver Box.

13A. SQUARING SIDE WALLS

Pieces Required:

- 4 Yellow Banding (3 from Back End wall, Step 12)
- 4 Metal Banding Clips (3 from Back End wall, Step 12)

1. Remove Yellow Banding from the Back End wall and do not cut the bands.
2. On the side wall tubes, loop the banding through an eyebolt on the corner post of the base frame and run the banding diagonally across to the 3-way 120° metal corner post of the Side Ridge Frame. Repeat for the opposite diagonal. Attach banding on both sides of the greenhouse. (see Fig. 10B, Step 10 - How to thread metal buckle and diagram to the right)
3. Tighten the banding so there is equal tension on both pieces and the diagonals are equal in length.



13B. TOP AND SIDE PANELING

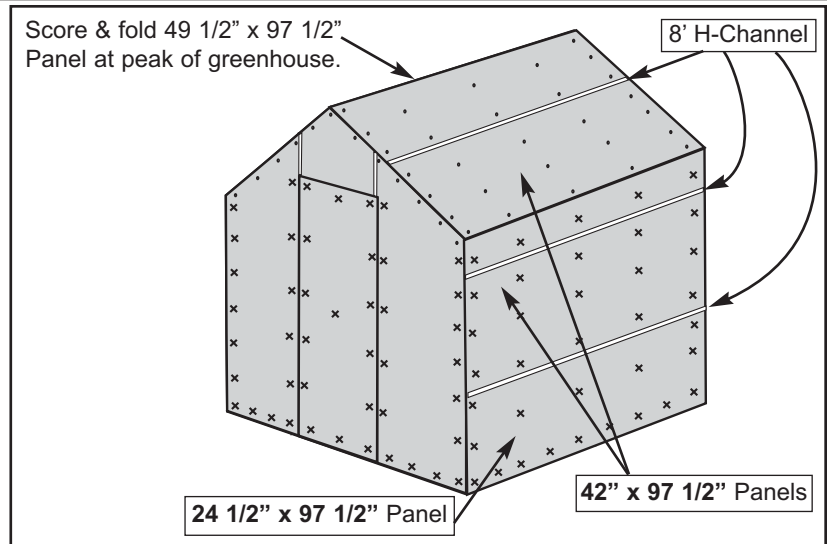
Pieces Required:

- 2 49 1/2" x 97 1/2" Panels
- 4 42" x 97 1/2" Panels
- 6 8' H-Channel
- 192 1" Screws
- 4 78" U-Trim
- 4 56" U-Trim

► **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 off of the end wall panels.

1. Caulk both ends of each panel and let dry.
2. Lay a **49 1/2" x 97 1/2" Panel** on the ground and score (using a blunt object such as the back side of a butter knife) down the center of the panel by following a flute (**Do not cut the panel** - Just make a depression in the panel). Center the panel on the peak of the greenhouse (equal overhang on both sides.), squaring panel to frame and attaching with screws.
3. Attach a **42" x 97 1/2" panel** 1/4" below the top panel (the 1/4" provides room to slide in the H-Channel in). Make sure the ends of the panels are lining up with each other. Score and fold the panel down, where the side of the greenhouse meets the roof. Repeat with a 42" x 97 1/2" Panel on the opposite side of the greenhouse.
4. Attach a **42" x 97 1/2" panel** 1/4" below the panel from step 3 (On both sides).
5. **Cut a 49 1/2" x 97 1/2" panel in half (to make two 24 1/2" x 97 1/2" panels)** to fill in the the remaining spaces on each side of the greenhouse. Remember to allow for 1/4" between each of the panels for H-Channels.
6. Slide an **8' H-Channel** between each of the panels.
7. Attach U-Trim to the ends of panels (refer to hints on page 11). Cut U-Trim to fit when needed. Use two 56" and two 78" pieces on each end, running consecutively. Use the small phillips screws to secure the U-Trim to the paneling.



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 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 ½ x ¼" bolts
- 8 - ¼" locknuts
- 8 - Washers

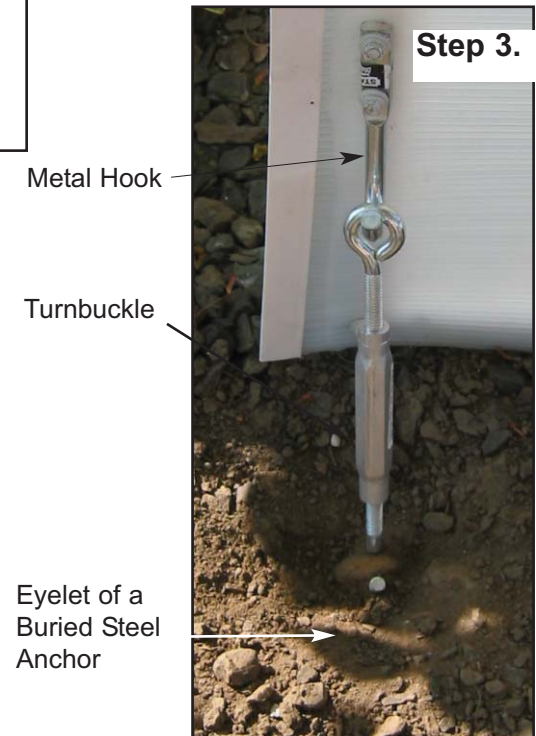
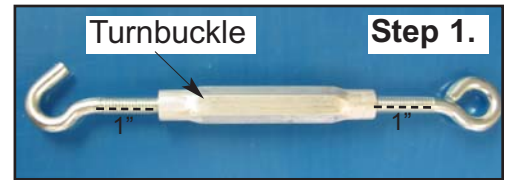
(You need a ¼" drill bit to predrill for the bolt holes)

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)

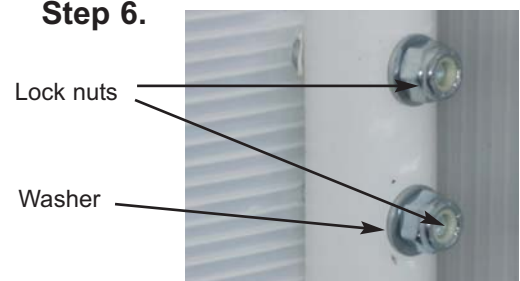
1. Loosen **turnbuckles** so the bolts of the turnbuckle are out about 1" on each side.
2. Screw one 15" or 30" **steel anchor** into the ground using a screwdriver, rod, or pipe inserted through the eyelet of the anchor. This will act as a handle for you to twist the anchor into the ground. The eyelet 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 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.



14. 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

Door Parts Bag:

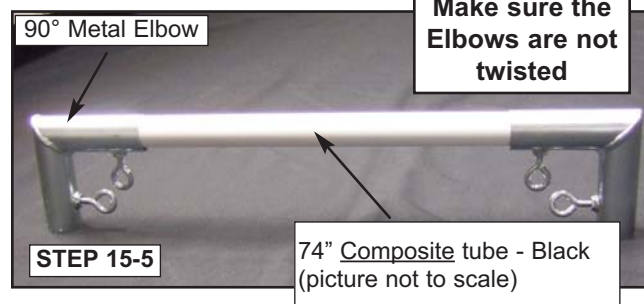
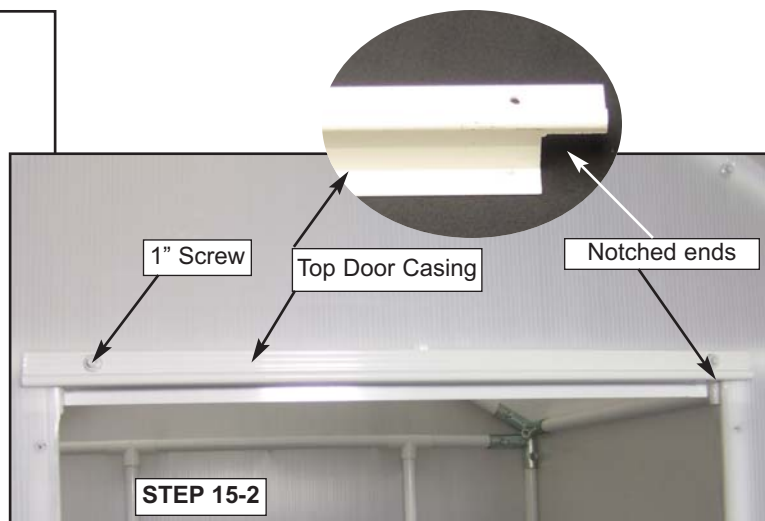
Outside Handle, Inside Handle, 3-point Cam

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,

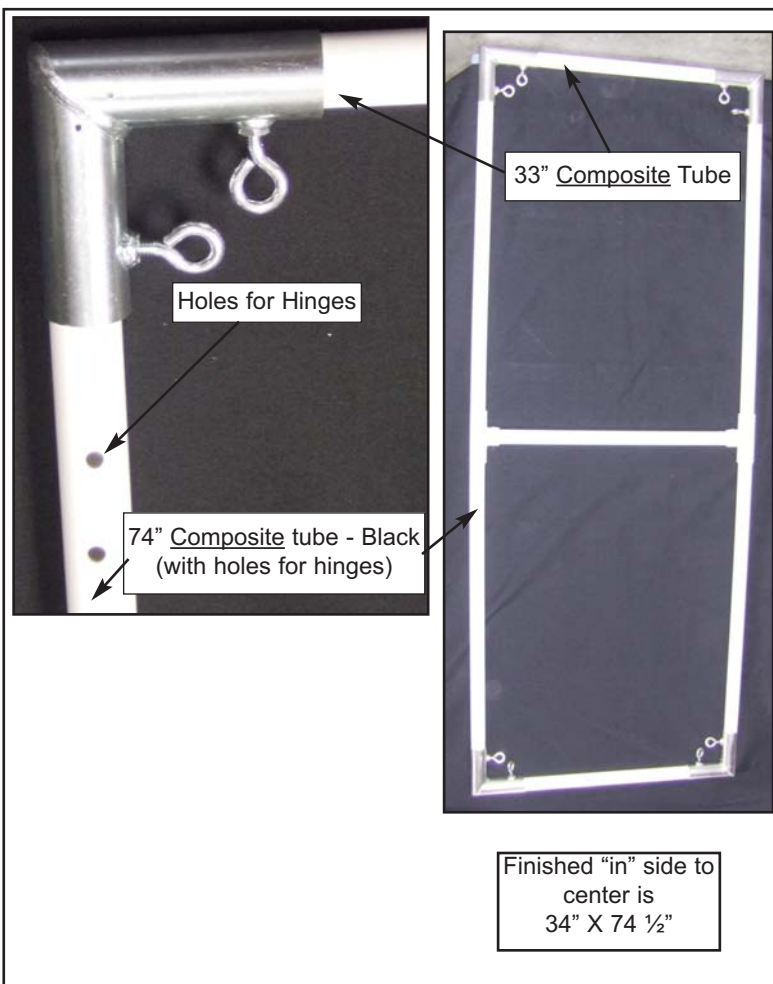
32 x 1-3/4" Machine Screw, 1" Metal Screw, 4mm Allen Wrench

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



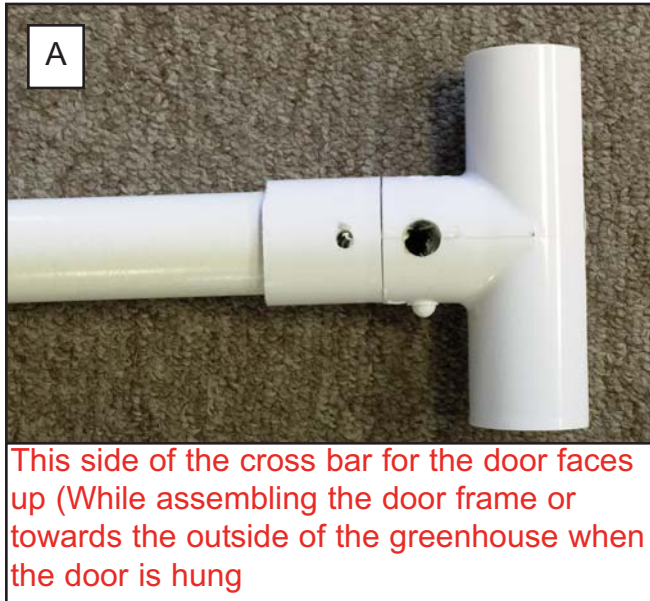
1. Remove the temporary screws from around the Door opening.
2. Attach the Top Door Casing to the Tube above door with 1" Screws. Make sure it is level.
3. **Decide which side you want your door to open (as you face the door) and attach the 76" Side Door Casing with hinge halves attached on the side 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.



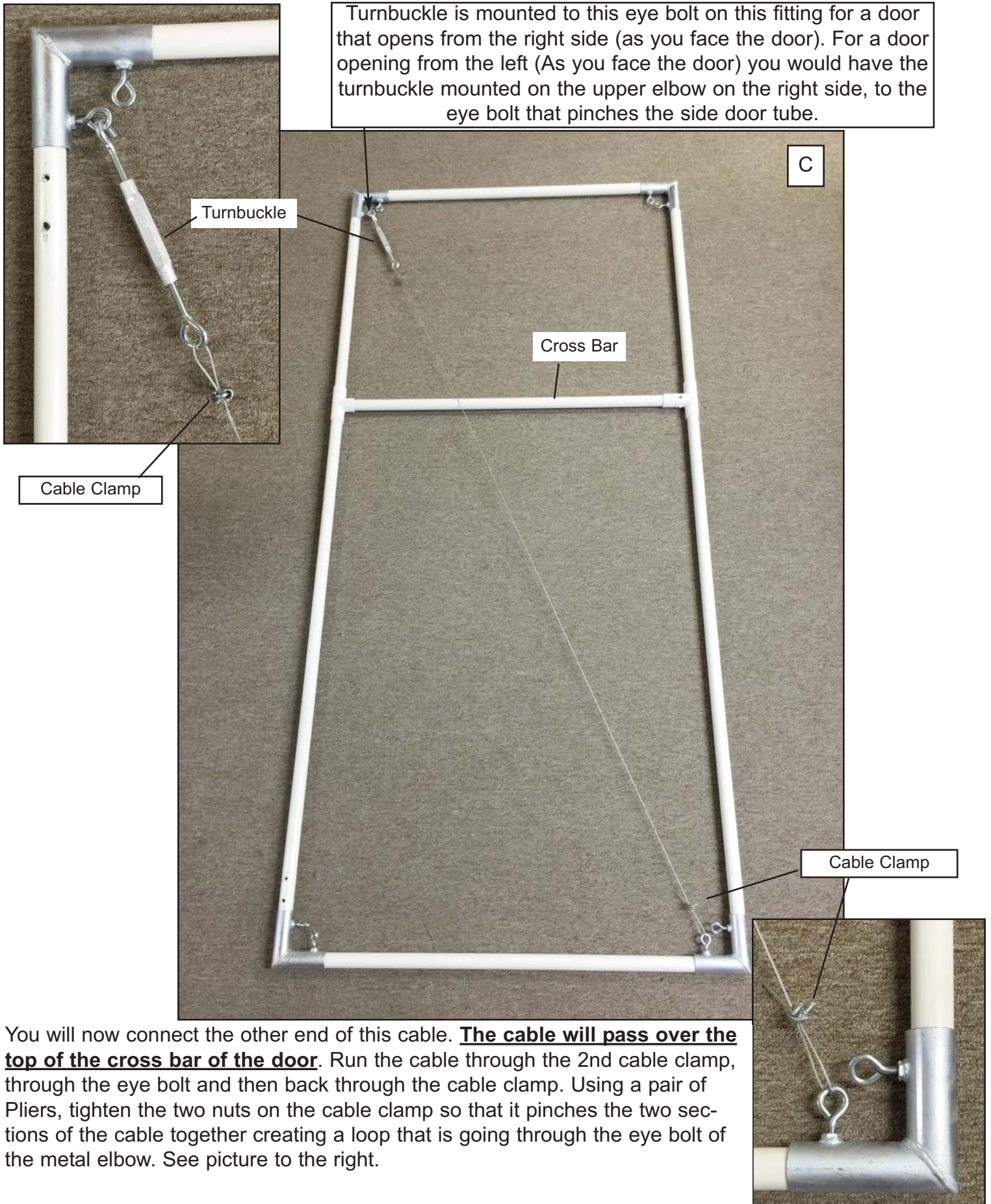
Make sure that the big hole and little hole remain lined up. If they are not aligned, then use the shaft of a screw driver inserted into the large hole and push or pull on the screw driver to move the snap-T on the tube. Once the large hole in the snap-T is aligned, you can use your hand to move and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

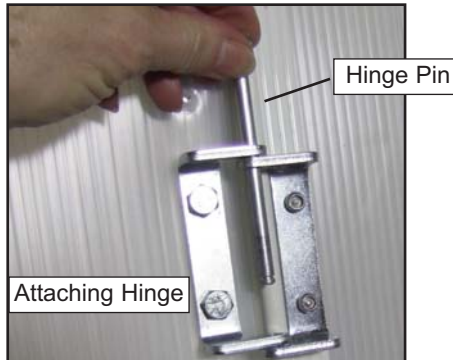
Cross Cable Door Support (Installed on Door frame)



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.



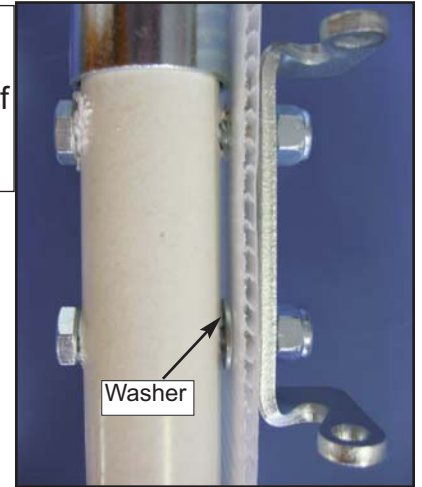
10. Now that the door is hung, close and open the door several times to make sure that none of the metal elbows of the door frame are hitting the metal casings of the door opening. If needed, adjust the door frame so that it fits within the door opening and is not touching the metal casings of the door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



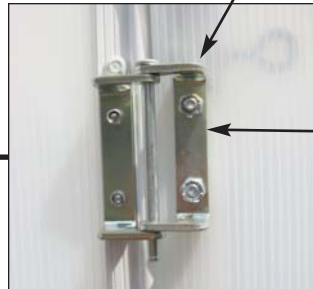
Upper hinge
Inside
greenhouse

Side view of
assembled
upper hinge-half
on door

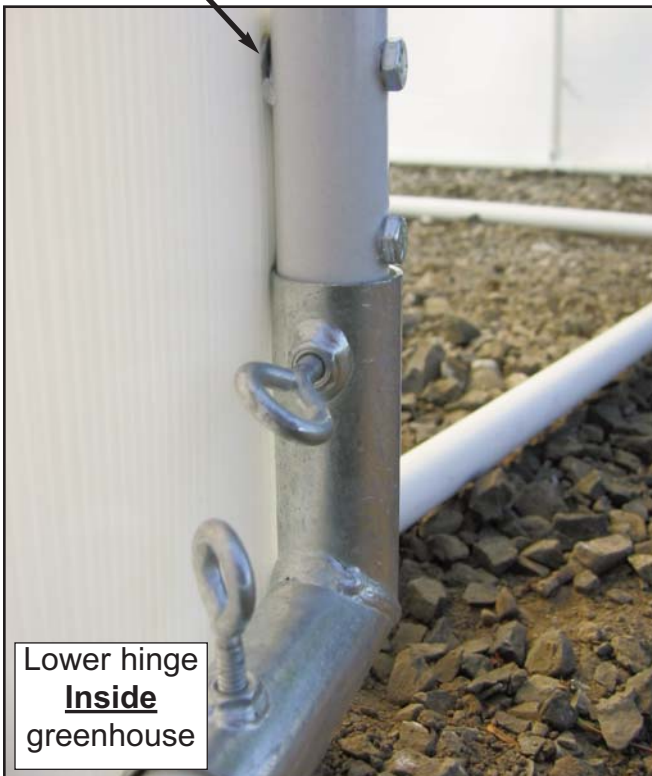


Washer

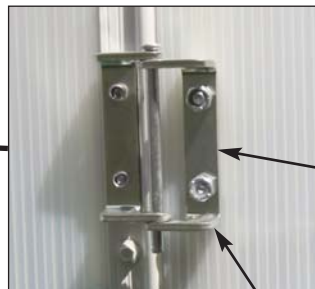
Upper hinge
(Outside greenhouse)
Hinge-half on door sits above
hinge-half on door casing.



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)

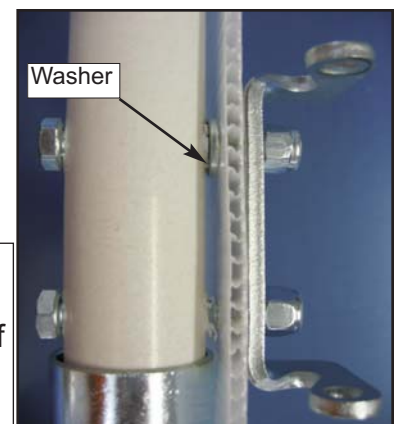


Lower hinge
Inside
greenhouse



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

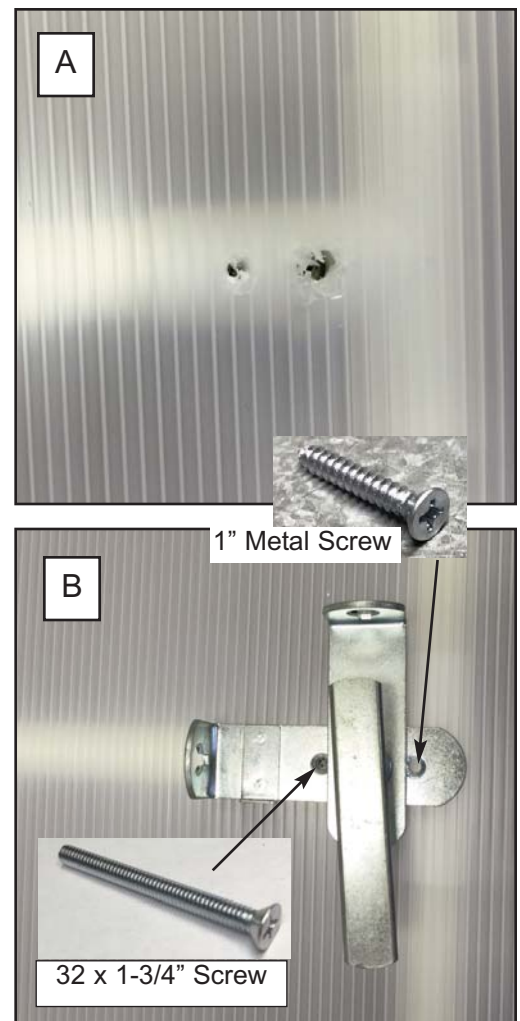
15. **Door lock** - The center cross bar of the door will set the height of your door lock/handle. From the outside of the greenhouse, look through the door panel at the holes in the predrilled snap-T, this would be the height of the outside door handle. To adjust to your preferred handle height, slide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

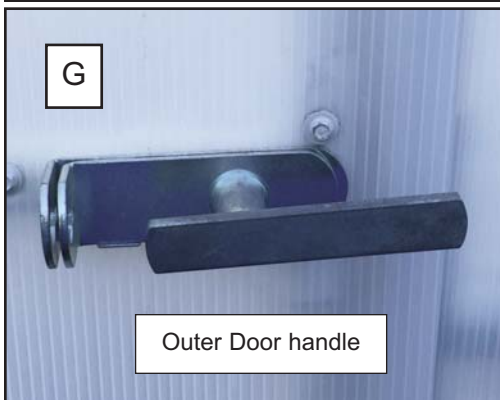
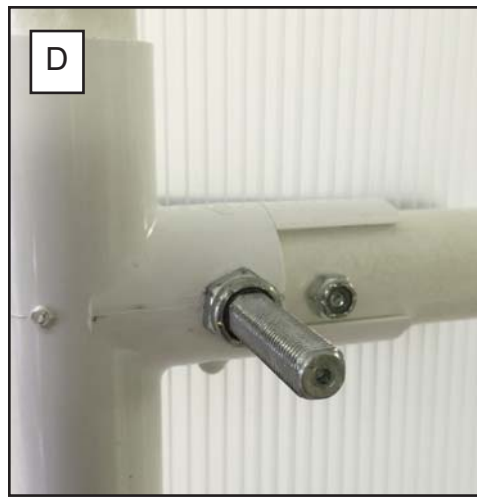
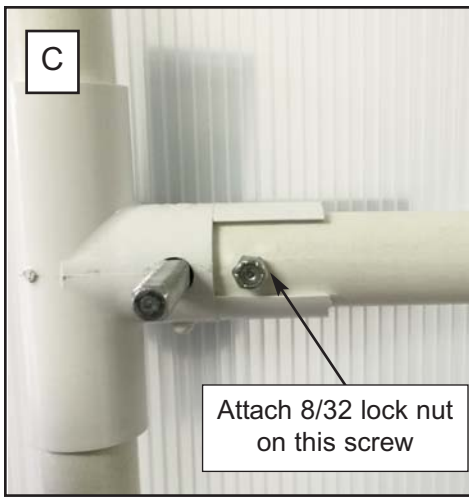
From the outside of the greenhouse, use a sharp thin bladed knife and push the blade of the knife through the panel and into the large predrilled hole. Do this twice so that you are cutting an "X" in the panel right where the predrilled hole is at and then twist the knife when it is in the hole, do the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





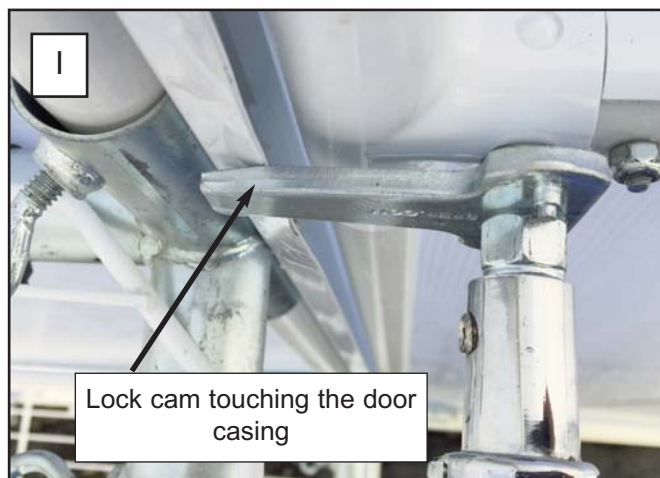
16. **Inside Door Handle** On the inside of the door, attach the 8/32 lock nut (the small nut in the kit) on this screw. See picture “C”.

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.



15. 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.

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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JAN. 2021

4th Edition

V-1 Edition