

ASSEMBLY INSTRUCTIONS

12' X 8' X 8' Garden Oasis

G-212 (3.5mm)

This kit includes (3) 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 (Included in the screw bag.)

TOOLS NEEDED:

- A. VARIABLE SPEED DRILL
B. SCREWDRIVER
C. LONG SHARP KNIFE
D. TAPE MEASURE
E. STEP LADDER
F. PLIERS
G. 2-3 tubes of 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). **
I. DUCT TAPE

**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 the fitting for 30 seconds until the glue has set.

►► **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.

Please read instructions carefully and refer to the diagrams.

PARTS LIST

12'X 8'X 8' Garden Oasis

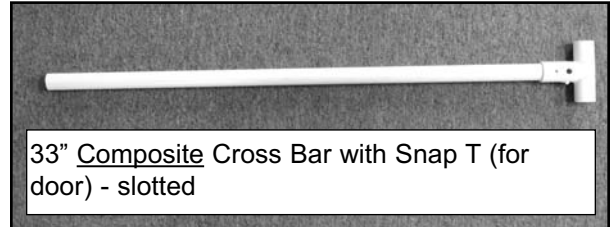
G-212 (3.5MM)

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

HINT: Keep parts inside their original box so you can easily locate them when assembling the greenhouse.

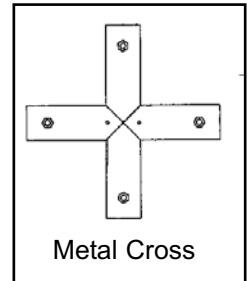
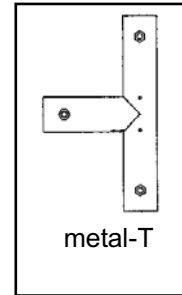
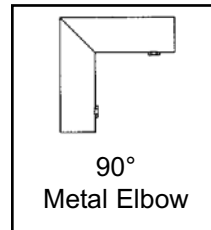
ROLL BOX 1 86/87 lbs (23" x 23" x 43") Box 1 & 2 = 129/130

_____	6	42" x 145" Panels
_____	1	42" x 97" Panel
_____	1	36 1/2" x 80" Door Panel
_____	4	31" x 94 1/2" Panels
_____	1	24" x 42" Panel
_____	5	44" <u>Composite</u> Tubing - Red
_____	1	33" Composite Tubing- Cross Bar with Snap T (for door) - Slotted



INNER BOX 2 43 lbs (10" x 10" x 42")

BAG 1	_____	5	Metal Crosses
	_____	2	Metal-T's
BAG 2	_____	8	Metal Corner Posts
BAG 3	_____	8	4-way metal-T's
BAG 4	_____	8	4-way metal-T's
BAG 5	_____		



_____	4	90° Metal Elbows
_____	8	Metal Rings
_____	8	1 1/2" x 3/16" Machine Screws
_____	8	3/16" Wing Nuts
_____	1	<u>Door Parts Bag:</u>

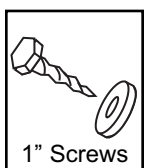
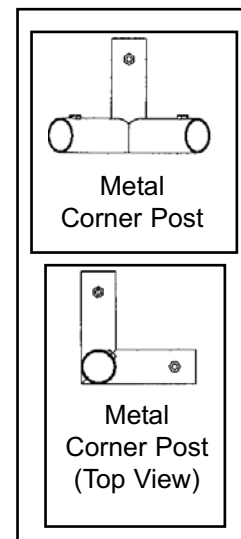
Outside Handle, Inside Handle, 3-point Cam

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)

BAG 6	_____	14	<u>PVC</u> -T's
	_____	10	<u>PVC</u> snap-T's (includes 1 extra)
	_____	4	Yellow Banding
	_____	4	Metal Banding Clips
BAG 7, 8 & 9	_____	75	Bags <u>PVC</u> snap-T's (3 bags of 25)

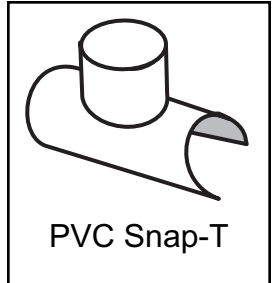
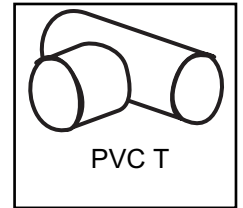


G-212 (3.5MM)

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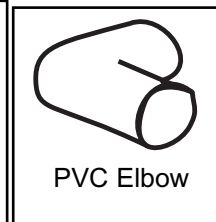
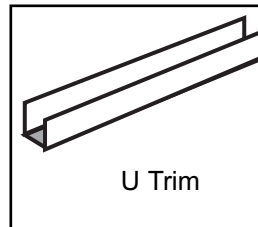
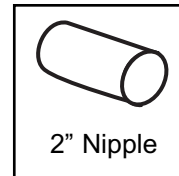
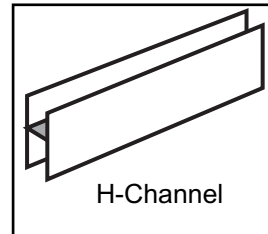
BOX 3 51 lbs (99"x 7 1/4" x 5")

3	94 1/2" <u>Composite</u> Tubing - Green (Double slotted)
3	94 1/2" <u>Composite</u> Tubing - Green
11	92" <u>Composite</u> Tubing - Red
4	90" <u>Composite</u> Tubing - Yellow
2	90" <u>Composite</u> Tubing - Yellow (Single Slotted)
4	78" U-Trim
4	49 1/2" U-Trim
1	36" U-Trim



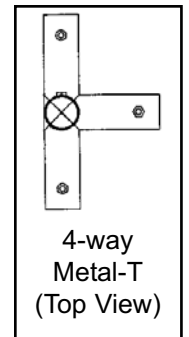
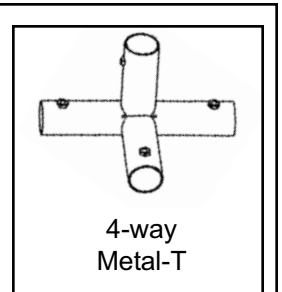
BOX 4 44 lbs (99"x 7 1/4" x 5")

14	47 1/4" <u>PVC</u> pipes - Orange
3	35 3/4" <u>PVC</u> pipes - White
3	35 3/4" <u>Composite</u> Tubing - White
2	33" <u>Composite</u> Tubing - Black
20	28" <u>Composite</u> Tubing - Green (Double-Slotted)
2	28" <u>PVC</u> pipes - Green
3	24" <u>Composite</u> Tubing - Orange (Double-Slotted)
12	22" <u>Composite</u> Tubing - White (Double-Slotted)
6	18" <u>PVC</u> pipes - 1/2" diameter
4	12 1/2" <u>PVC</u> pipes - White
14	10" <u>PVC</u> pipes - 1/2" diameter
5	H-Channel Clips



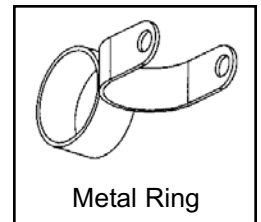
Bag #1

4	<u>PVC</u> Elbows
4	2" <u>PVC</u> Nipples
15	Large Black Zip Ties
516	1" Screws
38	Small Phillips Screws
1	1/4" Driver



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

10	6' H-Channel
1	4' H-Channel
14	74" <u>PVC</u> pipes - Orange
1	74" <u>Composite</u> Tubing - Black
1	74" <u>Composite</u> Tubing- Black (with holes for Hinges)
2	76" Side Door Casing (1 with hinge Pieces attached)
1	38" Top Door Casing



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

1	Louver Assembly
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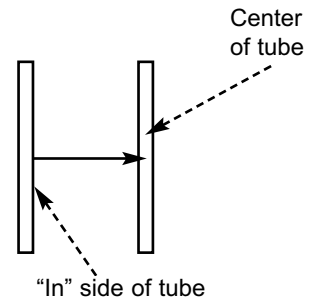


Packed
by: _____
Date: _____

Hints for Preassembly

A.

►► **Note:** All measurements are taken from the “in” side of one tube to the center of the other tube so one person can easily take the measurement by her/himself.



B.

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

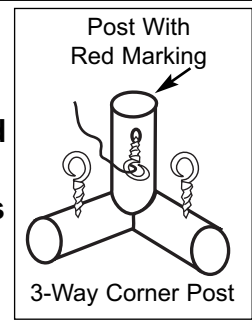


C.

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

D.

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



E.

►► PVC Pipe is White and flexible. Composite Pipe is white with small gray fibers throughout and will not bend.

F.

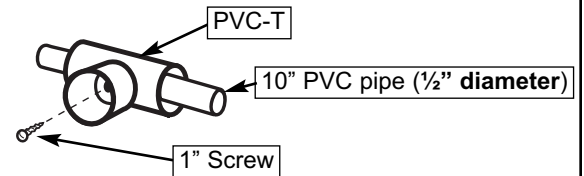
►► **Very Important!!** NEVER glue the underside of the Snap-T. You need to be able to slide the Snap-T along the pipe. You only glue tubes into the enclosed arm

1. T SUPPORTS

Pieces Required:

- 14 10" PVC pipe (½" diameter)
- 14 PVC-T's
- 14 1" Screws

T-Supports - Make 14



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

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

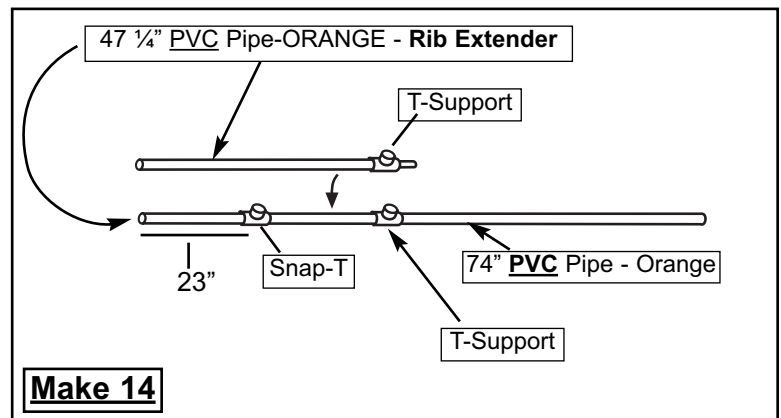
2. EXTENDED RIBS

Pieces Required:

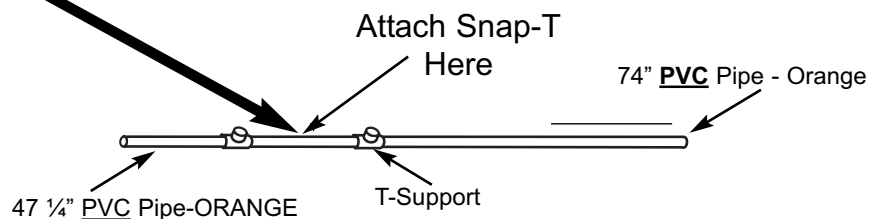
- 14 T Supports, made in Step 1
- 14 47 ¼" PVC Pipes - ORANGE
- 14 74" PVC Pipes - ORANGE
- 16 Snap-T's

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

1. To make the **Extended Ribs**, glue a **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 - Orange**.
3. Attach 1 **snap-T** about 23" from the end of the 47 ¼" pipe.
4. Repeat steps 2-1 through 2-3 to make a total of 14 extended ribs.
5. On **two** of the Extended Ribs attach a **snap-T** between the snap-T and T-Support on the 47 ¼" tube. It's position can be adjusted in a later step.



Extended Ribs are used in step 8.



Step #3 is no longer needed and has been deleted

4A. 8' TOP RIDGE FRAME, BENCH & BASE RODS

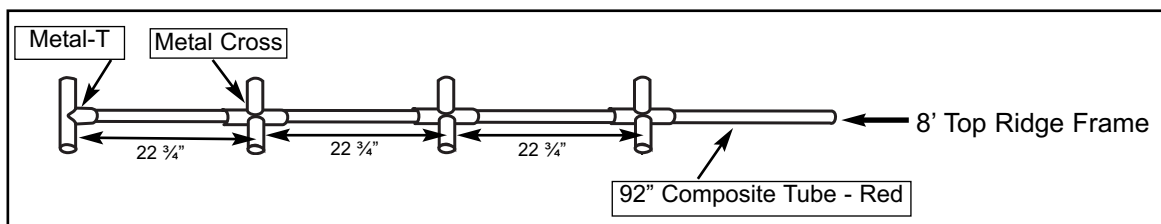
Pieces Required:

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

Making the Top Ridge Frame

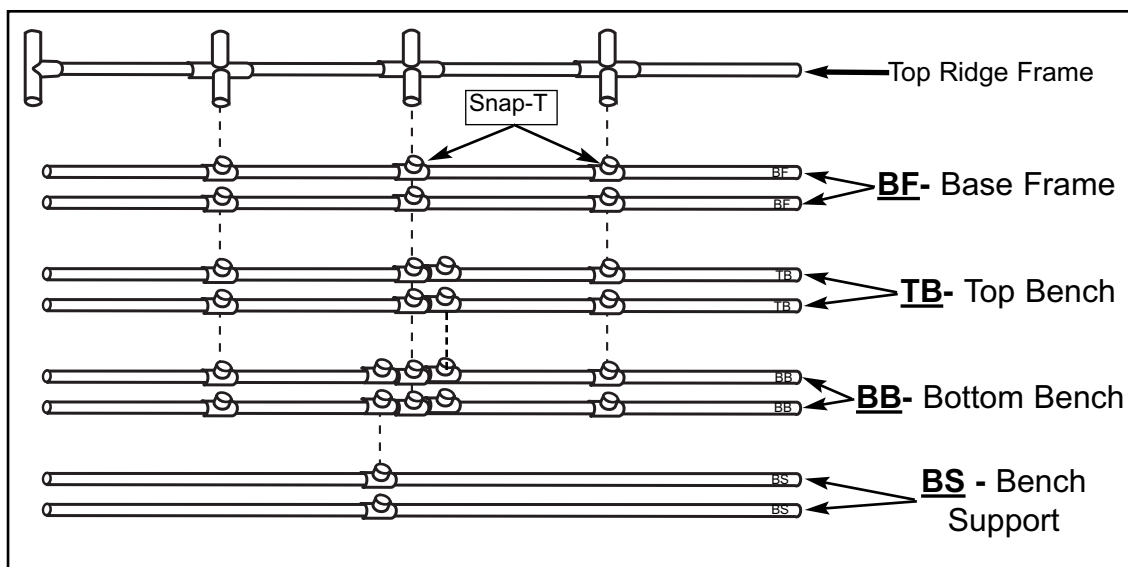
Complete as shown on a level surface so the Top Ridge Frame is flat and not twisted. This Top Ridge Frame is used in Step 10, Top Ridge Assembly.

1. Insert a **metal-T** snugly on one end of a **92" Composite Tube - Red** and twist the 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" Composite Tube - Red** so that the distance from the "in" side of the metal-T to the center of the Metal Cross is $22\frac{3}{4}"$. Twist the eyebolts tight.
3. Slide over the 2nd **Metal Cross** so the distance from the "in" side of the 1st Metal Cross to the center of the 2nd Metal Cross is $22\frac{3}{4}"$ - tighten. Slide over the 3rd **Metal Cross** so the distance from the "in" side of the 2nd Metal Cross to the center of the 3rd Metal Cross is $22\frac{3}{4}"$ - tighten.



Aligning the snap-T's

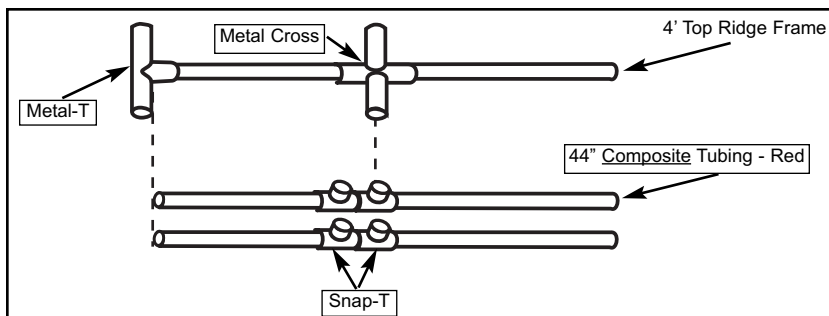
4. Use the Top Ridge Frame to line up the **snap-T's** on the remaining 92" Composite Tubes - Red. Follow the pattern below. Label the tubes **BF** = base frame, **TB** = top bench, **BB** = bottom bench and **BS** = bench support with a permanent marker to eliminate confusion about the tubes in later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



4B. 4' TOP RIDGE FRAME & BASE RODS

Pieces Required:

- 1 Metal Cross
- 1 Metal-T
- 4 Snap-T's
- 3 44" Composite Tubing - RED



1. Insert a **metal-T** on one end of a **44" Composite Tube - Red** and twist the eyebolt until tight. Insert a screwdriver or long bolt through the eyebolt and twist the eyebolt clockwise to snug the eyebolt up.
2. Slide a **Metal Cross** over the 44" tube so that the distance from the "in" side of the metal-T to the center of the Metal Cross is 22 5/8". Twist the eyebolt tight.
3. Remove all the extra eyebolts (there will be 4). The holes will be used to insert screws in Step 10.
4. Use the 4' Top Ridge Frame to line up the **snap-T's** on the two remaining **44" tubes**. Follow the pattern above.

FRAME ASSEMBLY

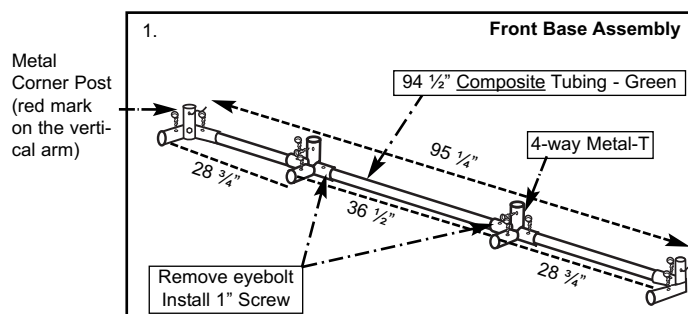
5. BASE FRAME

Make sure working surface is clean and level.

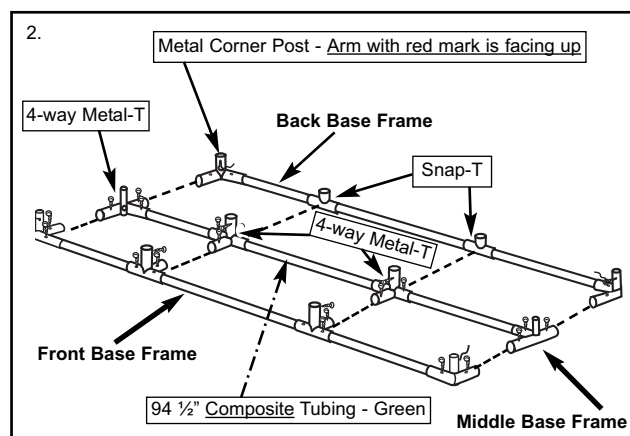
Pieces required:

- 4 Metal Corner Posts
- 6 4-way Metal-T's
- 3 94 1/2" Composite Tubing - GREEN
- 1 94 1/2" Composite Tubing - GREEN (**Double-Slotted**)
- 2 BF - 92" Composite Tubing - RED (**from Step 4A**)
- 2 BS - 92" Composite Tubing - RED (**from Step 4A**)
- 4 Snap-T's
- 2 44" Composite Tubing - RED (with Snap-Ts) - **from Step 4B**
- 4 1" Screws

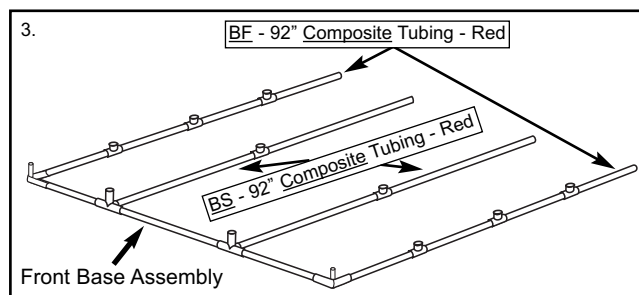
NOTE: It is important that the corner post is put on the right way. (Red Mark is on the vertical arm.)



1. Slide two **4-way Metal-T's** onto a **94 1/2" Composite Tube - Green**. Attach a **Metal Corner Post** (arm with the Red Mark is vertical) to one end of the 94 1/2" Composite Tube - GREEN and tighten the eyebolt. Attach a 2nd Metal Corner Post to the opposite end and adjust the Metal Corner Post so that the measurement from the "in" side of one Corner Post to the center of the opposite Corner Post is 95 1/4". Secure each 4-way Metal-T at 28 3/4" ("in" side to center) from each Metal corner Post with eyebolts on the outside arms and 1" Screws on the inside arms (see diagram 1 to the right). This is the **Front Base Frame Assembly**.



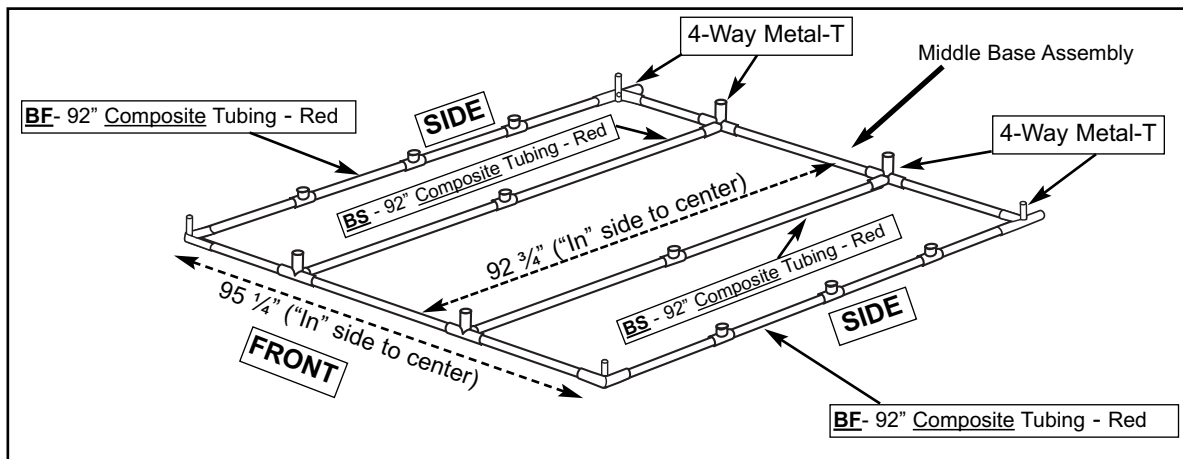
2. Use the **Front Base Frame** assembly as a measuring device to line up the fittings on the Middle and Back Base Frame Assemblies. On the **Middle Base Frame**, attach four **4-way Metal-T's** onto the 2nd **94 1/2" Composite Tube - Green**. For the **Back Base Frame**, attach two **Metal Corner Posts** and two **Snap-T's** to the 3rd 94 1/2" Composite Tube - Green (see diagram 2 to the right).



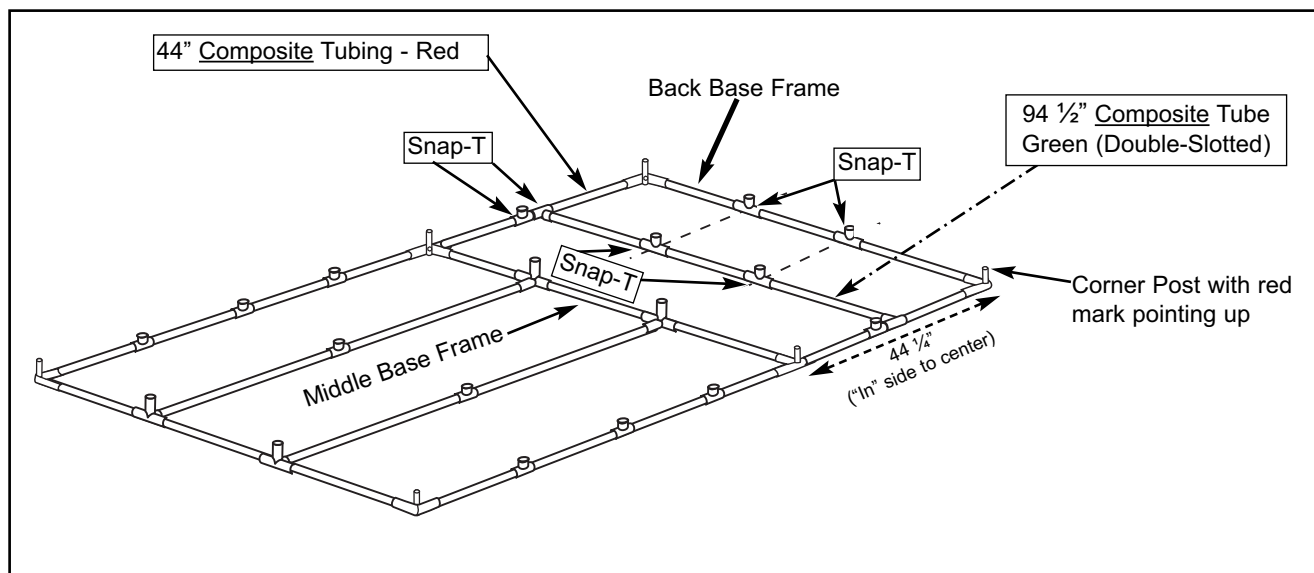
3. Attach both **BF - 92" Composite Tubes - Red** to the Metal Corner Posts of the Front Base Frame assembly. Attach both **BS - 92" Composite Tubes** to the 4-way Metal-T's of the Front Base Frame assembly. (See diagram 3 to the right)

CONT..... BASE FRAME

4. Attach the fittings of the Middle Base Frame assembly (made in step 5-2) to the open ends of both BF - 92" Composite Tubes - RED and both BS - 92" Composite Tubes - RED. Push both BS - 92" Composite Tubes - RED all the way into the 4-way Metal-T's. Adjust the middle base frame assembly so that the measurement from the "in" side edge of the Front Base Assembly to the center of the Back Base Assembly is 92 $\frac{3}{4}$ ".



5. Attach both 44" Composite Tubes - Red (**with Snap-T's** from Step 4B-4) to the 4-way metal-T's on the ends of the Middle Base Frame.
6. Attach the Metal Corner Posts of the Back Base Frame assembly to the opposite ends of the 44" Composite Tubes - Red that you just added in the step above (Step 5-5). Making sure the arm with the red mark is facing up on the metal corner posts. Adjust the Back Base Frame Assembly so that the measurement from the 94 $\frac{1}{2}$ " Composite Tube of the Middle Base Frame Assembly to the 94 $\frac{1}{2}$ " Composite Tube of the Back Base Frame Assembly is 44 $\frac{1}{4}$ " from "in" side to center. Tighten the eyebolts.
7. Attach a 94 $\frac{1}{2}$ " Composite Tube - Green (Double-Slotted) into the Snap-T's on the 44" Composite Tubes (added in Step 5-5) that are closest to the Back Base Frame Assembly. **Use glue to help lubricate the tube to make it easier to slide into the Snap-T's. The glue does not adhere to the Composite Tubing, so you will have to secure the tubing by drilling a screw through the top of the Snap-T and into the 94 $\frac{1}{2}$ " Composite Tube.** Attach two Snap-T's onto the 94 $\frac{1}{2}$ " Composite Tube - Green. Line up the Snap-T's with the Snap-T's that are on the Back Base Frame assembly.



6. END WALL FRAMES

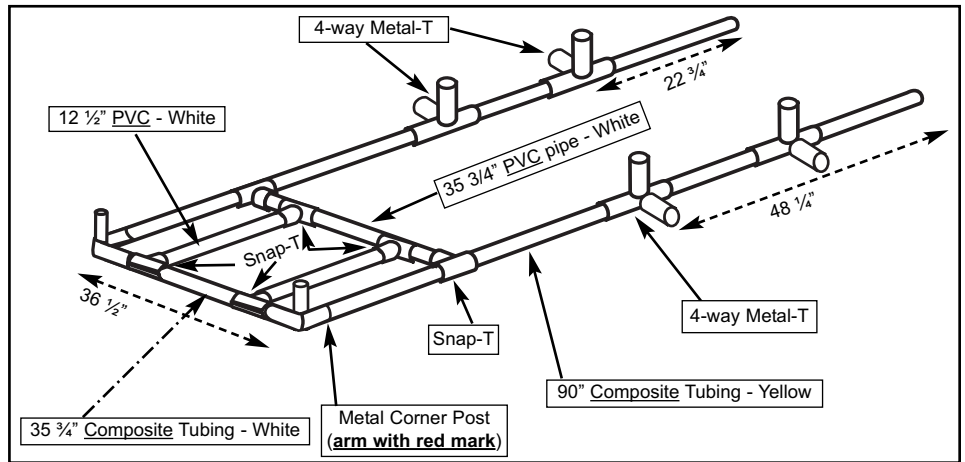
6A. Front End wall Frame

Pieces Required:

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

Note: On Metal Corner Post, the Arm with the Red Mark attaches to 90" Composite Tube.

►► Make sure the composite tubing and the PVC pipe are in the right spots. Composite tubing has a gray fiber throughout and does not flex.

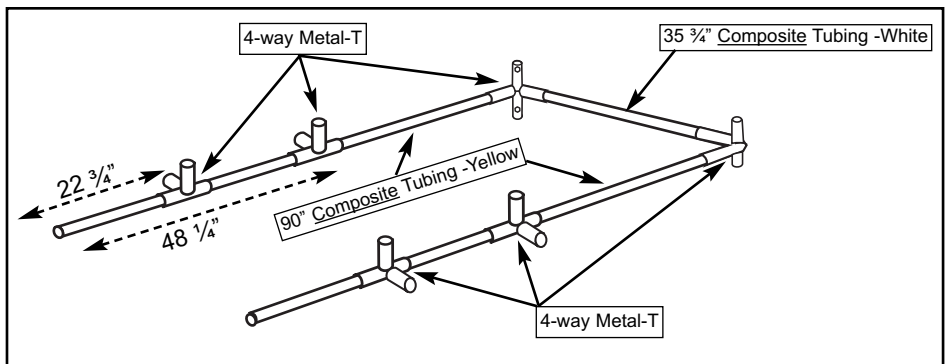


- Slide each 90" **Composite Tube - Yellow** snugly into a **Metal Corner Post** (insert tube into the arm with the red mark) and tighten the eyebolt. Attach a 35 3/4" **Composite Tube** between the Metal Corner Posts on the 90" **Composite Tubes**. Adjust 90" **Composite Tubes** (With metal corner posts on them) so the distance between the Metal Corner Posts is 36 1/2" from "in" side to center - tighten the eyebolts.
- Attach a **Snap-T** onto both 90" **Composite Tubes** about 13" below the Metal Corner Posts. Insert and glue a 35 3/4" **PVC pipe** between these Snap-T's.
- 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 (With snap-Ts attached) to the edge of the Metal Corner Posts.
- 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 so they are 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 so they are 48 1/4" from the bottom of the 90" **Composite Tube** - yellow to the center of the fitting.

6B. Middle End wall Frame

Pieces Required:

- 2 90" Composite Tubes - YELLOW
- 6 4-way metal-T's
- 1 35 3/4" Composite Tube - WHITE

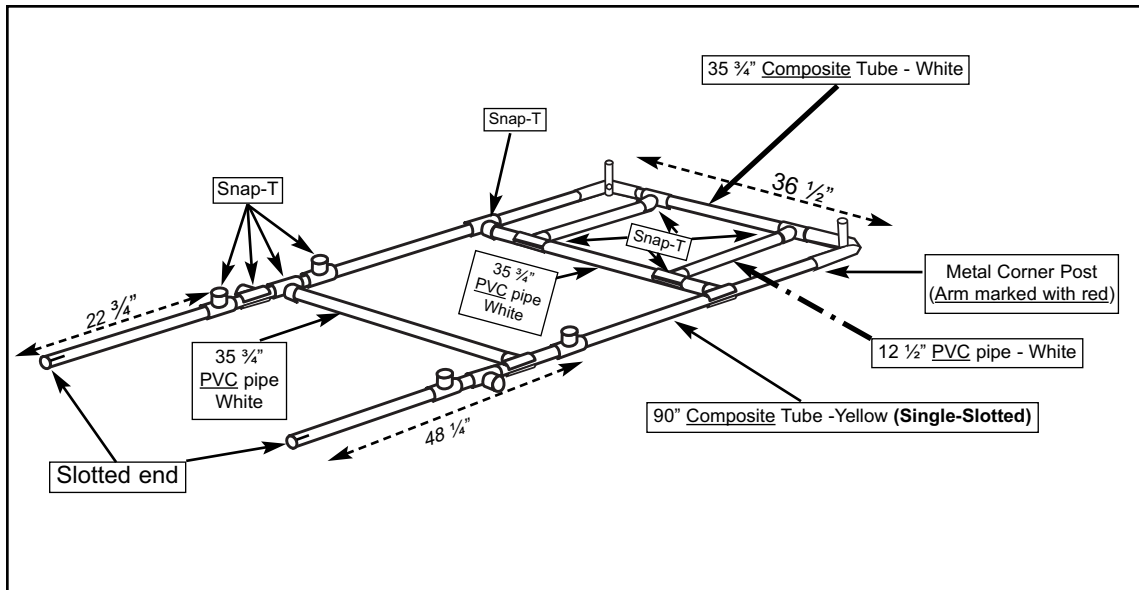


- Slide a 90" **Composite Tube - yellow** snugly into a 4-way Metal-T (As pictured above) and tighten the eyebolt. Do this twice. Attach a 35 3/4" **Composite Tube - White** between the 4-way Metal-T's on the 90" **Composite Tubes** - yellow. Measure the distance between the two 4-way Metal-T's and adjust them so they are 36 1/2" from "in" side to center. Tighten the eyebolts.
- Slide two **4-way Metal-T's** on to each 90" **Composite Tube** - yellow (Note the direction of the posts pictured above). Tighten the eyebolts of the the top 4-way metal-T so the distance from the center of the middle arm to the bottom of the 90" composite tube - yellow is 48 1/4" and the distance from the center of the middle arm of the bottom 4-way metal-T to the bottom of the 90" composite tube - yellow is 22 3/4".

6C. Back End Wall Frame

Pieces Required:

- 2 90" Composite Tubing - YELLOW (Single-Slotted)
- 2 Metal Corner Posts
- 2 35 3/4" PVC Pipes. - WHITE
- 1 35 3/4" Composite Tubing - WHITE
- 14 Snap-T's
- 2 12 1/2" PVC pipes -WHITE



1. Slide the **non-slotted** end of both 90" Composite Tubes - Yellow (Single-Slotted) 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 - White between the Metal Corner Posts attached to the 90" Composite Tubes - Yellow (Single-Slotted). Adjust the 90" Composite Tubes with the metal corner posts attached 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 each 90" Composite Tube - Yellow (Single-Slotted) , about 13" below the Metal Corner Post. Insert and glue a 35 3/4" PVC pipe - White between these Snap-T's.
3. Attach two Snap-T's on to both 35 3/4" pipes. Attach and glue a 12 1/2" PVC pipe - White between these Snap-T's. Slide each 12 1/2" pipe (With snap-t's attached) over so it 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. 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).

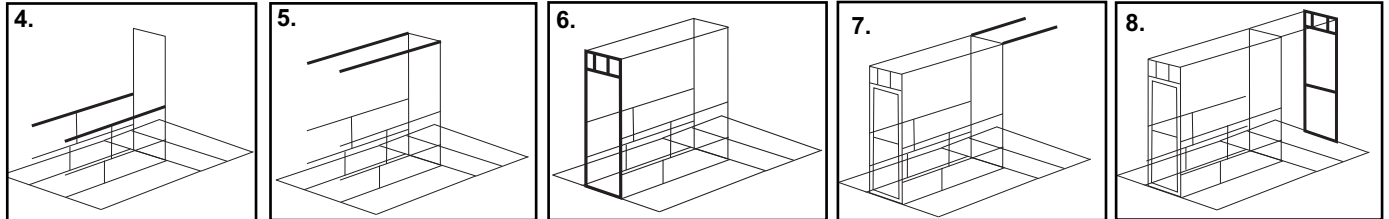
4. Attach two Snap-T's on each 90" Composite Tube - Yellow (Single-Slotted). The center of the top Snap-T is at 48 1/4" from the bottom of the 90" composite tube - Yellow (Single-Slotted) and the center of the 2nd Snap-T is at 22 3/4" from the bottom of the 90" Composite Tube - Yellow (Single-Slotted).
5. Attach a Snap-T on each 90" Composite Tube - Yellow (Single-Slotted) between (Approximately - it can be adjusted later) the top and bottom Snap-T's attached in the previous step (Step 6C-4). Insert and glue a 35 3/4" PVC pipe - White into these Snap-T's.
6. Attach an additional Snap-T on each 90" Composite Tube - Yellow (Single-Slotted) below the Snap-T you just put on in step 6C-5.

7. HANGING RODS & BENCH RODS

Pieces Required:

- 2 22" Composite Tube - White (Double-Slotted)
- 1 Middle End wall (from Step 6B)
- 2 BB - 92" Composite Tubes - RED (from step 4A-4)
- 2 24" Composite Tube - Orange (Double-Slotted)
- 2 TB - 92" Composite Tube - RED (from step 4A-4)
- 2 92" Composite Tube - RED
- 1 Front End wall (from Step 6A)
- 2 44" Composite Tube - Red
- 1 Back End wall (from Step 6C)
- 8 1" Screws

Two people & ladder recommended!



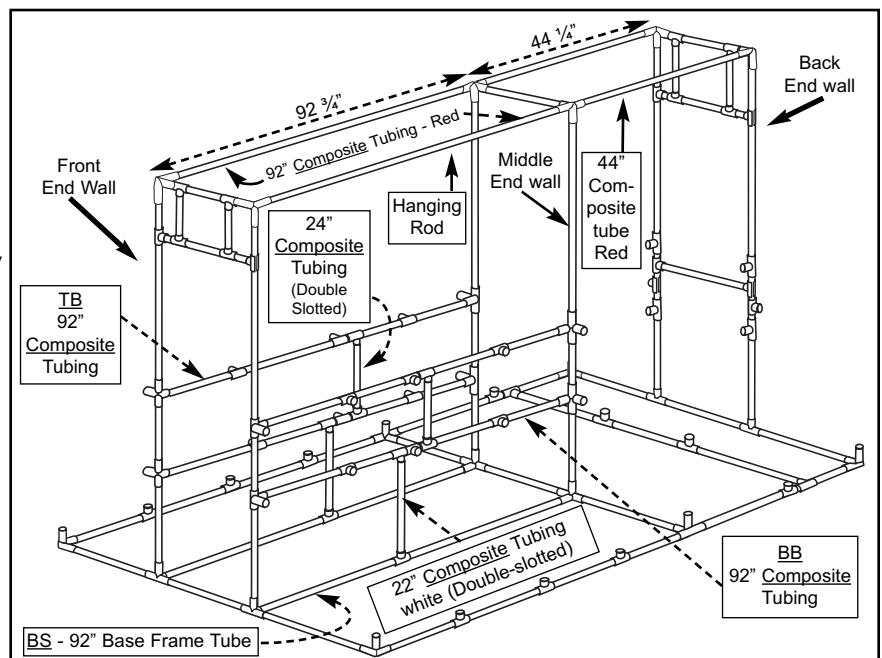
1. Attach a **22" Composite Tube - White (Double-Slotted)** into the Snap-T's on Both **BS - 92" Base Frame tubes**. Secure tubing into the Snap-T's with a 1" Screw. See diagram 1 above.
2. Attach **Middle End wall** to the 4-way Metal-T's on the Middle Base Frame and tighten the eyebolts. The Lower and middle 4-way metal-T's face towards the front base assembly. See diagram 2 above and diagram below.
3. Insert the **BB - 92" Composite Tubes** into the bottom 4-way Metal-T's on the 90" Composite Tubes - Yellow (Middle End wall). Attach the end of the **BB - 92" composite tubes** that were marked **BB** from step 4A-4, into the post and tighten the eyebolts. There are 3 snap-T's on the middle of the **BB** tubes, of these three snap-T's, join the snap-T that is farthest from the Middle end wall onto the 22" composite tube - white (Double-Slotted), from Step 7-1 above. Next, attach a **24" Composite Tube - Orange (Double-Slotted)** into the Snap-T that is closest to the Middle end wall (on both **BB - 92" Composite 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 Middle 4-way Metal-T's on the 90" Composite Tubes - Yellow (Middle End wall). Attach the end of the **TB - 92" composite tubes** that were marked **TB** from step 4A-4, into the post and tighten the eyebolts. Attach the 24" composite Tubes - orange (Double-Slotted) to the Snap-T's (That are right of center - Closest to the middle end wall) on both **TB - 92" Composite Tubes**. Secure them with 1" Screws. See diagram 4 above and diagram below.
5. Use a marker and draw a line 2 3/4" in from both ends of the **92" Composite Tubes - Red** (Do this on both tubes). Put 92" Composite Tubes - red into the top 4-way metal-T's on the Middle End Wall. Slide tubes into the posts until the line you just marked on them is even with the post and tighten the eyebolts. See diagram 5 above and diagram below.
6. Lift and attach the **Front End wall** to the 4-way Metal-T's on the Front Base Frame and tighten the 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 the measurements of the Hanging Rods. They should be 92 3/4" from the "in" side of one 35 3/4" Middle End Wall tube to the center of the 35 3/4" Front End wall tube. See diagram 6 and diagram to the right.

7. Insert both **44" Composite Tubes - Red** into the 4-way Metal-T's at the top of the Middle End Wall. See diagram 7 and diagram to the right.

8. Attach the **Back End Wall (Insert slotted end completely)** into the Snap-T's on the Back base frame. *Use glue to help lubricate the tube to make it easier to slide into the Snap-T's. The glue does not adhere to the Composite Tubing, so you will have to secure the tubing by drilling a screw through the top of the snap-T and into the 90" Composite Tubes.*

Insert the opposite ends of the 44" Composite Tubes into the Metal Corner Posts at the top of the Back End Wall. The measurement from the "in" side of the 35 3/4" Middle End wall tube to the center of the opposite 35 3/4" Back End Wall tube should be 44 1/4"



8. RIB ASSEMBLY

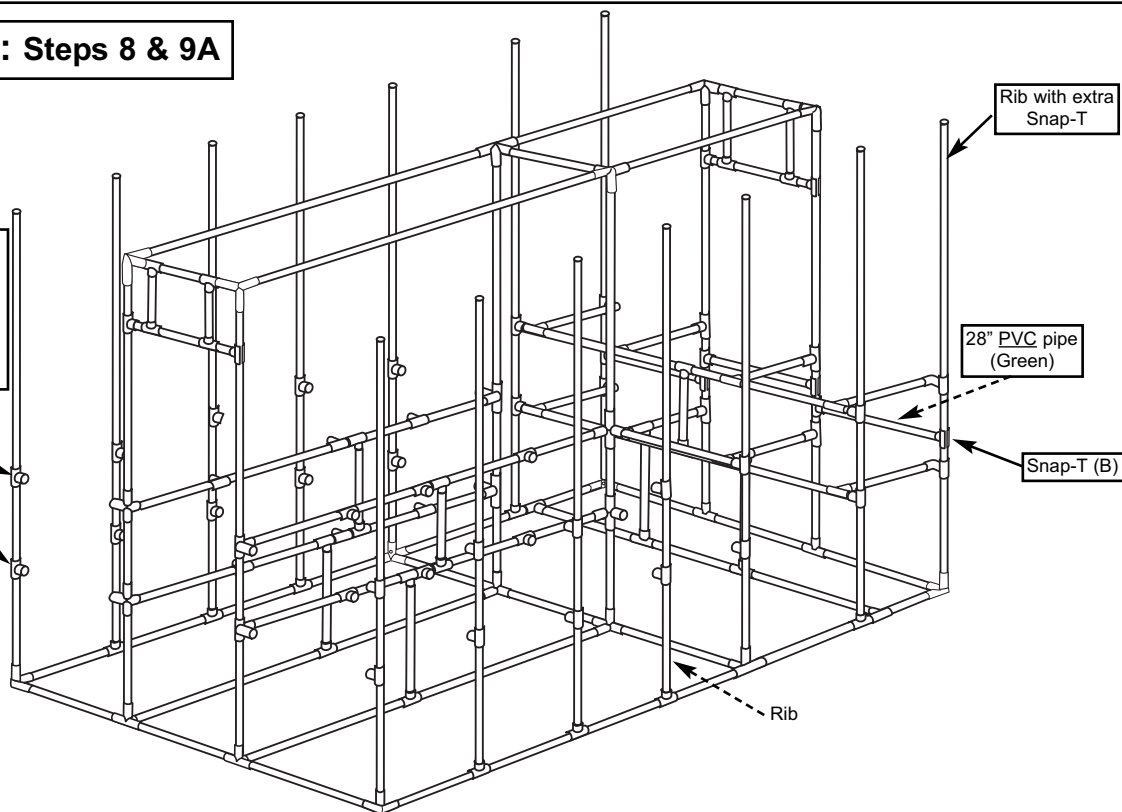
Pieces required:

- 14 Extended Ribs, made in step 2
- 6 18" PVC pipes - ½" diameter
- 2 28" PVC pipes - Green

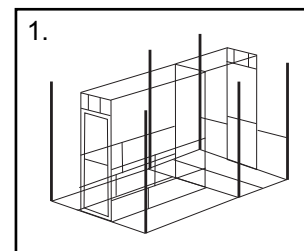
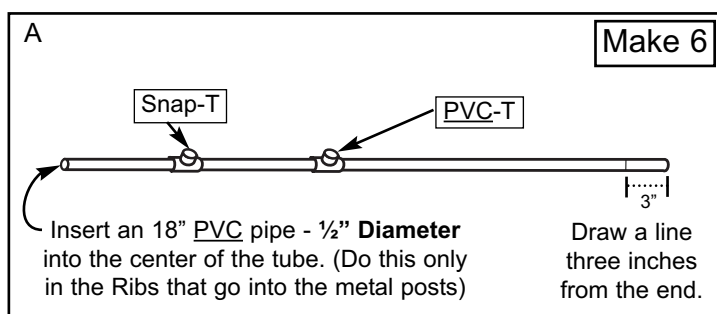
Composite Drawing: Steps 8 & 9A

►► **VERY IMPORTANT**

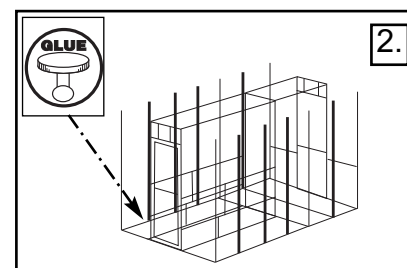
All snap-T's and PVC-T's face towards the inside of the greenhouse! (On all ribs)



1. On **6 Extended Ribs** (including the 2 Ribs with the extra snap-T), draw a line 3" in from the end that is furthest from the snap-T's. Slip an **18" PVC pipe - ½" diameter** into the end that is closest to the snap-T's (See diagram A below). Insert the end of the extended rib (with the 18" pipe inside) snugly into each of the six Metal fittings of the base frame and tighten the eyebolts. **The Ribs with the extra snap-T go into the Corner Posts on the Back Base Frame.** See diagram above.



2. Glue the 8 remaining **Extended Ribs** into the snap-T's on the **BASE FRAME**. **Make sure the Ribs are seated all the way into the snap-T's. When gluing the Ribs, make sure the PVC-T is facing towards the inside of the greenhouse.** (see drawing)
3. Attach and glue each **28" PVC pipe** between snap-T's (B) on the Back End wall and Back Corner Ribs.



9A. BACK BENCH ASSEMBLY

Pieces Required:

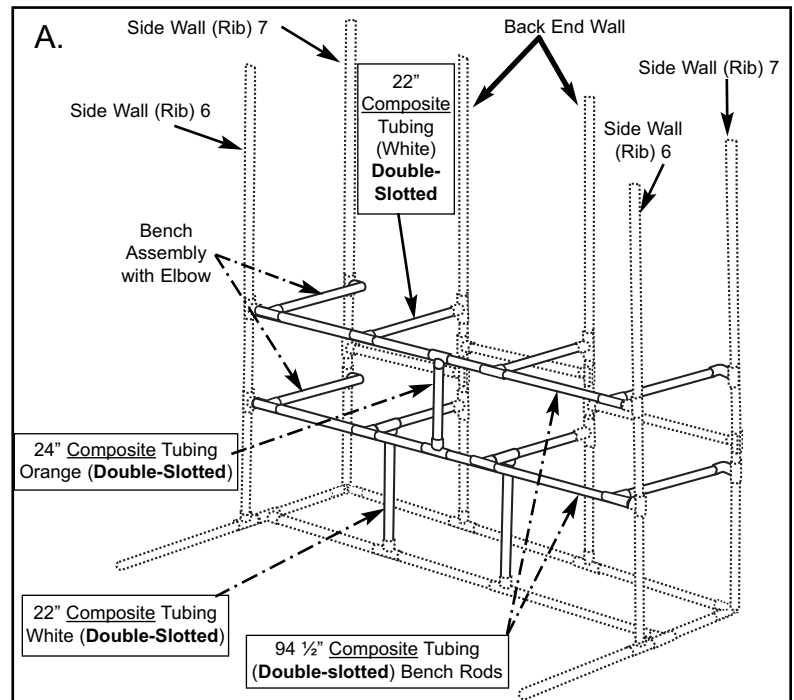
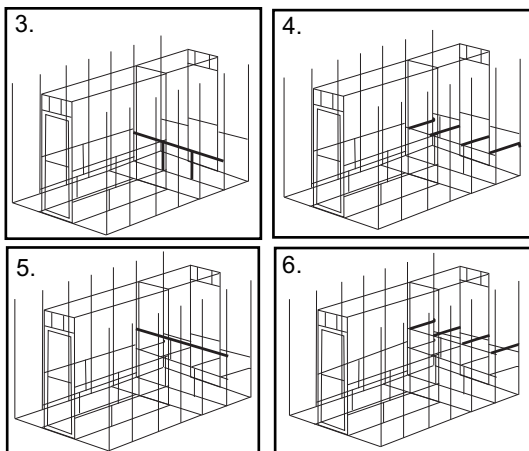
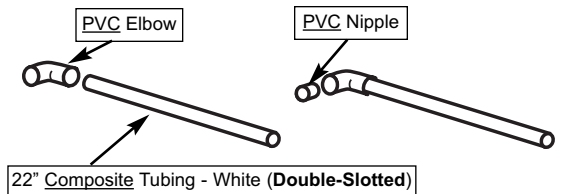
2	94 1/2" Composite Tubing - Green (Double-Slotted)
10	22" Composite Tubing - White (Double-Slotted)
1	24" Composite Tubing - Orange (Double-Slotted)
12	Snap-T's
4	PVC Elbows
4	PVC Nipples
38	1" Screws

Bench Assembly with Elbow:

1. Insert a **PVC Elbow** onto a **22" Composite Tube - White (Double-Slotted)**. Secure with a 1" Screw.
2. Insert and glue a **PVC Nipple** into the **PVC Elbow**. Repeat these two steps to make a total of 4 bench assemblies (with elbow). See diagram to the upper right.
3. Attach two **22" Composite Tubes - white (Double-Slotted)** into the Snap-T's on the 94 1/2" **Composite Tube - green (Double-Slotted)**. The base frame tube added in step 5-7. Attach a **Snap-T** to the top of the 22" **Composite Tubes - White (Double-Slotted)**. Secure with 1" Screws. These tubes will support the bench pipes.
- 4a. Glue the **2" Nipple** of a **Bench Assembly With Elbow** into the bottom Snap-T on Rib 7. Attach the other end of the Bench Assembly to a Snap-T on the **94 1/2" Composite Tube - green (Double-Slotted)** bottom bench rod as shown in diagram A. Repeat for the opposite side. Attach a **22" Composite Tube - White (Double-Slotted)** between the bottom Snap-T's on the Back End Wall and the Snap-T's on the 94 1/2" bottom bench rod. Snap these 22" tubes into the Snap-T's on the vertical 22" **Composite Tubes** you installed in step 9A-3 above.
5. Attach a **24" Composite Tube - Orange (Double-Slotted)** to the remaining center Snap-T on the 94 1/2" **bottom** bench rod installed in step 9A-4 above. Attach five **Snap-T's** to the remaining **94 1/2" Composite Tube - Green (Double-Slotted)** and insert the tube into the top Snap-T's on both Ribs #6. Secure with 1" Screws. Attach the 24" **Composite Tube** to the center Snap-T on the top 94 1/2" **Composite Tube - Green (Double-slotted)** - (Upper bench rod).
6. Repeat Step 9a-4a (above) for the top bench, except you will use the upper snap-T's on ribs 6 & 7. Secure all Snap-T's to the tubing with 1" Screws.
7. Adjust Bench Frame pipes by sliding the Snap-T's on the Ribs up or down, so that the Snap-T's of each bench frame are at an equal height. *HINT: Use a rubber mallet to tap the pipe up or down.* After everything is level, attach a 1" screw through the "snap" portion of the Snap-T's on the side walls and end walls to prevent the shelf tubes from sliding down.

Bench Assembly with Elbow

MAKE 4

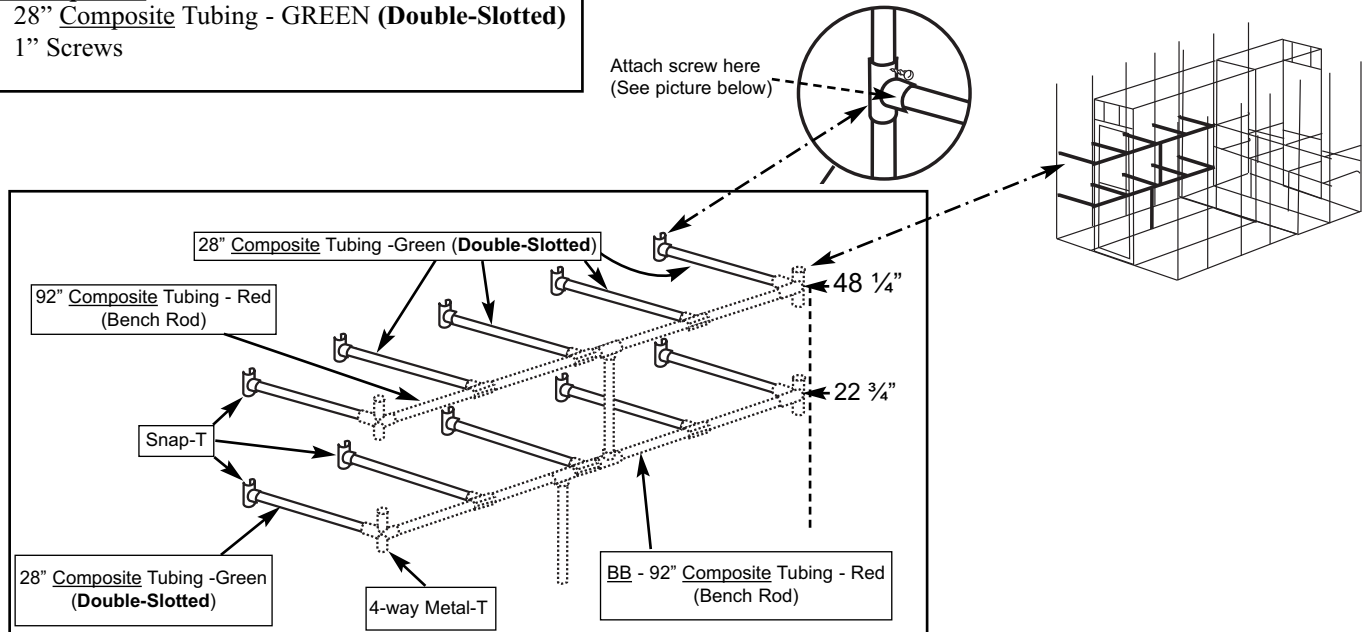


9B. SIDE BENCH ASSEMBLY

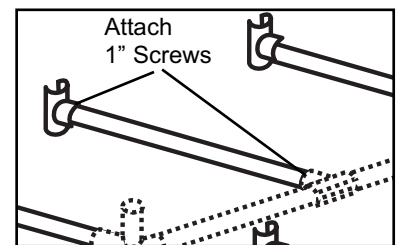
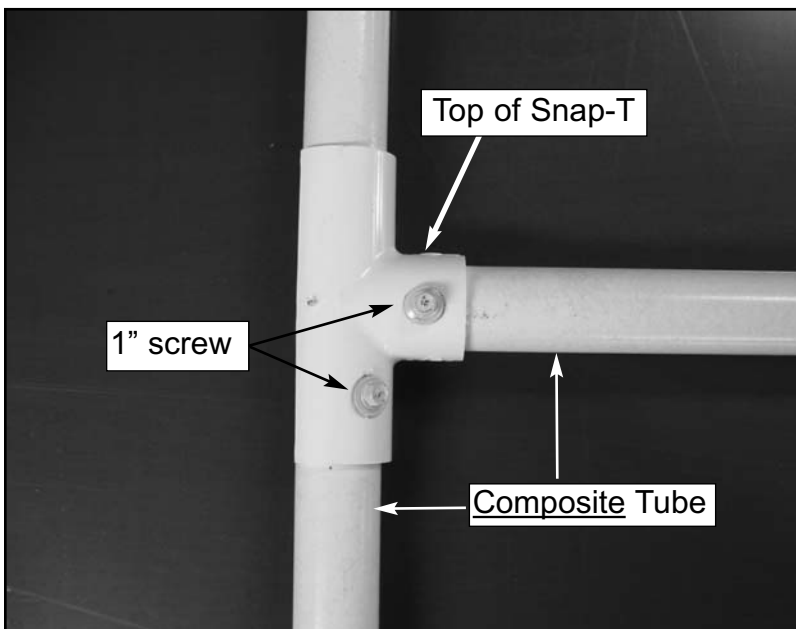
Pieces Required:

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

42 1" Screws



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).

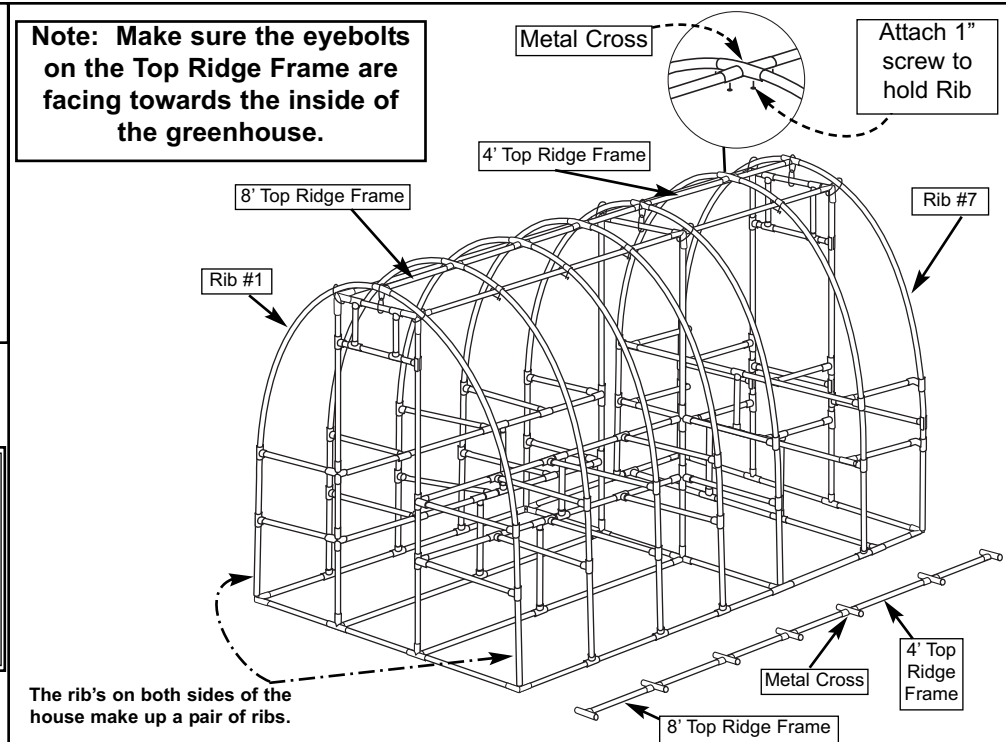
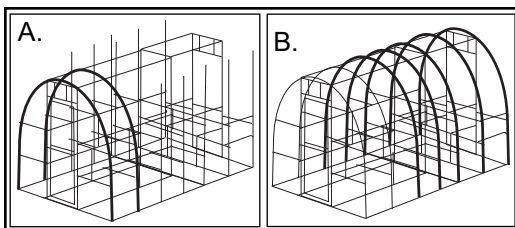


10. TOP RIDGE ASSEMBLY

Pieces required:

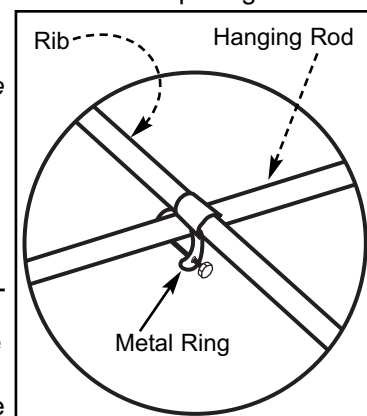
- 1 8' Top Ridge Frame, made in step 4
- 1 4' Top Ridge Frame, made in step 4
- 1 Metal Cross
- 8 Metal Rings
- 8 1 1/2" x 3/16" machine screws
- 8 3/16" Wing Nuts
- 14 1" Screws
- 12 Large Black Zip Ties

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



1. Line up the **8' Top Ridge Frame** with the 8' base frame. Make sure the snap-T's and Metal fittings on the base frame are lined up with the Metal Fittings of the Top Ridge Frame. Add a **Metal Cross** to the end of the 8' Top Ridge Frame. Line up the **Metal Cross** with the 5th Rib and tighten the eyebolt. Insert the **4' Top Ridge Frame** into the opposite end of the Metal Cross. Line up the metal fittings of the 4' top ridge frame with Ribs and tighten the 4' Top Ridge Frame into the Metal Cross.

2. Temporarily balance the 12' Top Ridge Frame on the hanging rods while you get into position. Lift the 12' Top Ridge Frame into approximate position and insert a Rib from each side of the greenhouse into the front metal-T 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 8-1 is even with the post of the metal-T. Tighten the eyebolt.



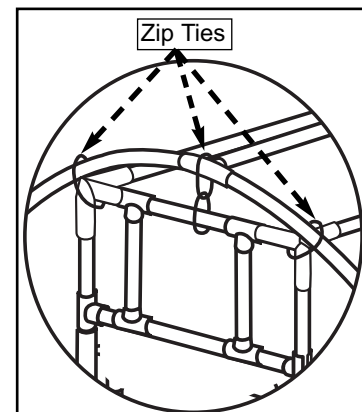
3. On the next three pairs of Ribs that go into the Metal Crosses, slide a **Metal Ring** onto each rib half before inserting the rib half into the metal cross, one on each side of the top ridge frame. These rings will join the rib to the hanging rod. **Do not slide a Metal Ring on the 1st, 5th or 7th pair of ribs.** Metal rings go onto the ribs that go into snap-t's on the base frame. Insert these Ribs all the way into the Metal Cross until they stop. Attach a **1" Screw** into the eyebolt hole. Slide the Metal Ring to the hanging rod and adjust the "U" bracket so it straddles the hanging rod. Slide a **1 1/2" x 3/16" machine screw** through the bolt hole of the Metal Ring and attach a **3/16"**

wing nut. Do not put metal rings on the 5th rib pair. Insert the ribs into the metal cross until the line drawn in Step 8-1 is even with the post of the metal cross. For the 6th rib pair, slide a **Metal Ring** onto each rib half before inserting the rib half all the way into the metal cross. Slide the Metal Ring to the hanging rod and adjust the "U" bracket so it straddles the hanging rod. Slide a **1 1/2" x 3/16" machine screw** through the bolt hole of the Metal Ring and attach a **3/16" wing nut.**

4. For the back end wall Ribs (Rib pair 7), push the Rib halves into the metal-T until the line drawn in (Step 8-1) 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 Tube** and through the first Zip Tie. Tighten the Zip Ties until the measurement from the top of the greenhouse to the ground is 97". Repeat for the front, middle and back end walls.

6. Attach a **Zip Tie** around the Rib and the Metal fitting at each end wall.



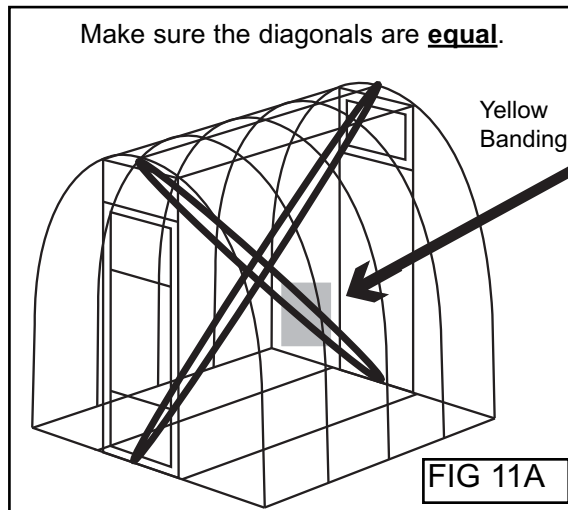
11 A. SQUARING FRAME

Pieces Required:

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

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

1. Loop a piece of **Banding** around the 35 ½" Composite Tube at the top of the front end wall and around the 94 ½" Composite tube of the Base Frame on the opposite side. (The bottom of the back end wall) (See fig. 11A, The diagram shows an 8' Garden Oasis. You will do the same set up with your 12' Garden Oasis.)
2. Thread the banding through the metal buckle as shown in fig. 11B.
3. Repeat on opposite ends (Making an "X" out of the two bands) using the 2nd piece of **Banding**.
4. Tighten the banding so the diagonals are equal in length. If one diagonal measurement is longer than the other, Loosen the band of the shorter diagonal and tighten the band on the longer diagonal. Keep the banding in place until glazing has been applied.



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 ½" at both the top and bottom from the "in" side to the center of the 90" tubes. (The Top Door Casing fits between the 90" tubes.)

2. Make sure the door opening is square by measuring diagonally from corner to corner and making sure the measurements are the same. If the diagonal measurement is not the same, nudge the top of the door frame to one side or the other and then measure again.

3. Place the Top Door Casing over the 35 ¾" tube (Top of door frame). Hold it temporarily in place with one screw inserted from the front and into the tube.

4. Temporarily place the Side Door Casing with the Hinge halves attached on whichever side you want your door to hinge from. (Hold in place)

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 #15**. Proceed with paneling.

FIG 11B

How to thread metal buckles

1



2



3



4



5



6



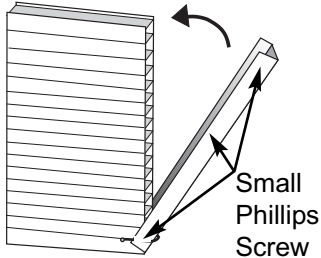
How to thread Metal Buckles

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

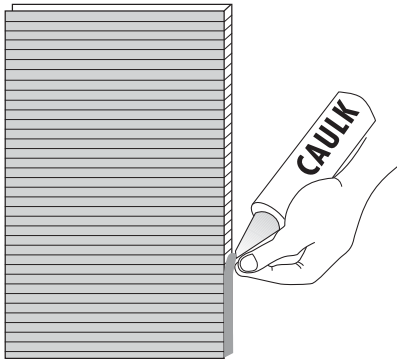
Congratulations, your frame is now finished! All that's left is the paneling application. Listed are several hints that will make paneling your greenhouse much easier. If you have suggestions that would be helpful for future customers we would be happy to hear from you.

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

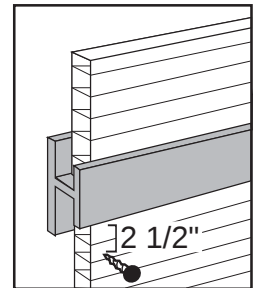


2. **U-TRIM:** Insert ¼" - ½" of 100% silicone caulking into open flutes to prevent water intrusion. Place U-Trim over the 4' ends of panels where specified in the instructions. Secure the U-Trim with **small Phillips Screws** by poking a small pilot hole in the U-trim and screwing through the U-Trim and into the panel. Use about 3 or 4 Screws per U-Trim

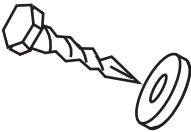
► Note: When using caulking, cut tip of tube at an angle. Be careful not to get caulking on nice clothing or jewelry.



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 rubber mallet helps H-Channel slide on easily. Secure panels by placing screws into pipes 2 ½" from each side of the 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.

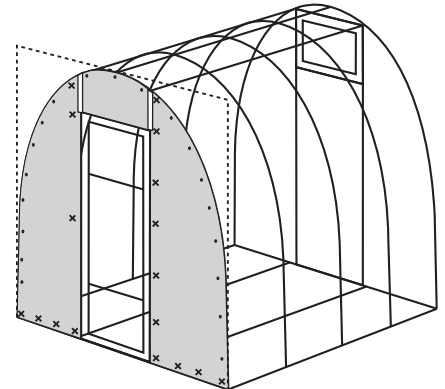


NEVER attach screws into the H-Channel!



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, thin sharp knife or utility knife. Use the Frame or a straight edge for a guide when trimming panels.



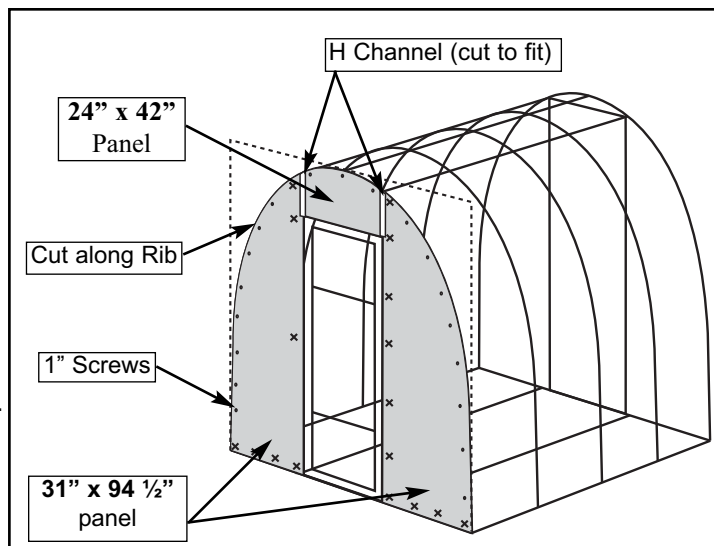
6. **TIE DOWN:** Please remember to tie down your greenhouse once you begin paneling. The greenhouse is light enough that on a windy day it could blow over.

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 the open flutes one end of all three panels. - Let Dry
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 around the door with only 1 or 2 Screws. These screws will be removed later when you assemble your door.



3. Cut panels along the curved side using a sharp thin knife. Use the frame as a guide but make sure the panel is not cut lower than the top of the tube. You can always trim a little more off but you can not add on to the panel if you cut it to low.
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.

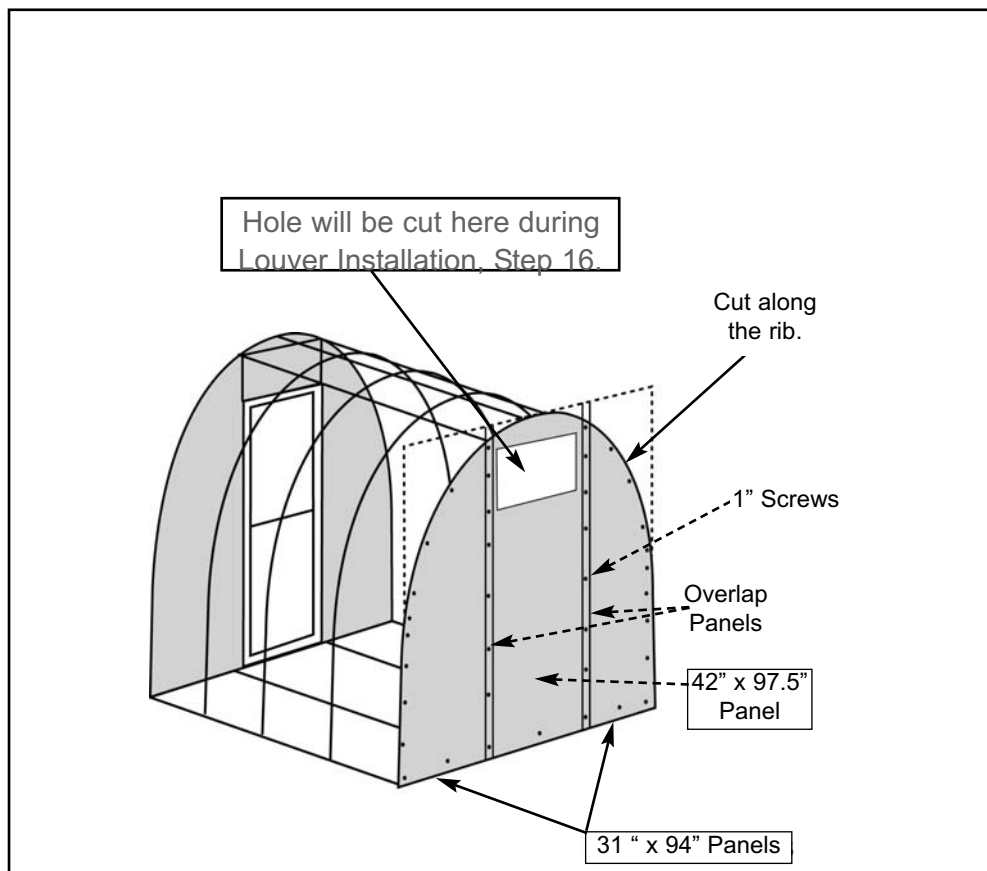
13. BACK END WALL PANELS

Pieces Required:

2	31" X 94 1/2" Panels
1	42" x 97" Panel
66	1" Screws

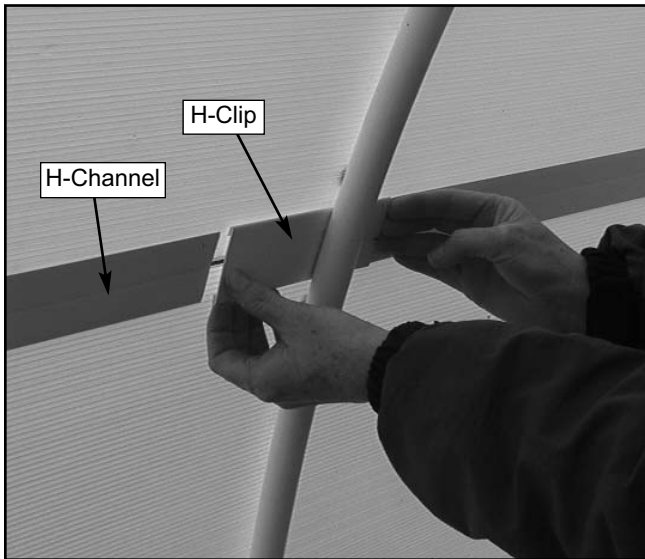
Hint: Using the Louver as a measuring device, Adjust the 12 1/2" pipes so the louver fits between them.

1. Caulk one end of all 3 panels as in Step 12-1 Front End wall.
2. Attach as in Step 12-2 above (Front End wall) **Do not attach to end wall tubes until next step.**
3. Attach a 42" x 97" Panel to cover the end wall tubes and the 31" panels. 42" panel overlaps the 31" panels, screw through both panels on the End wall tubes about every 6-8" apart.
4. Cut panels along the curved side as in Step 12-3, Front End Wall.



5. Caulk the exposed flutes along the top of both the front and back end walls.

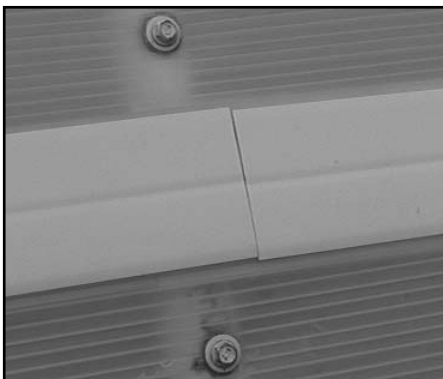
Installation instructions for H-Channel Clips



1. Slide the H-Channel between the panels leaving a couple inches between each piece of H-Channel. From the **inside** of the greenhouse, slide the H-Clip onto each end of the H-Channel pieces.



2. From the **outside** of the greenhouse, insert about a nickel-size gob of **100% silicone** caulking into the area between the H-Channel pieces.



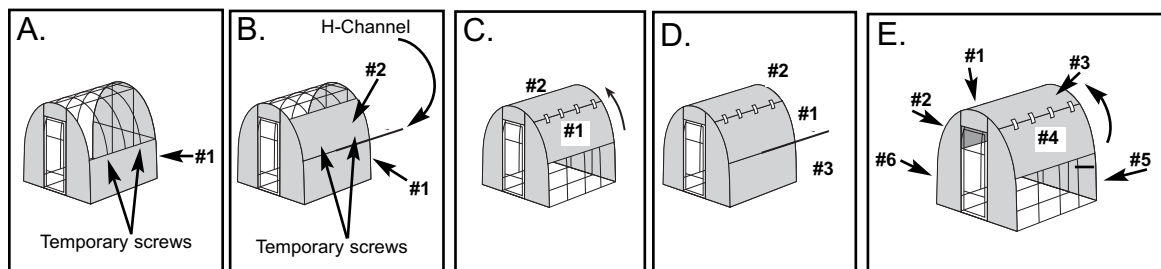
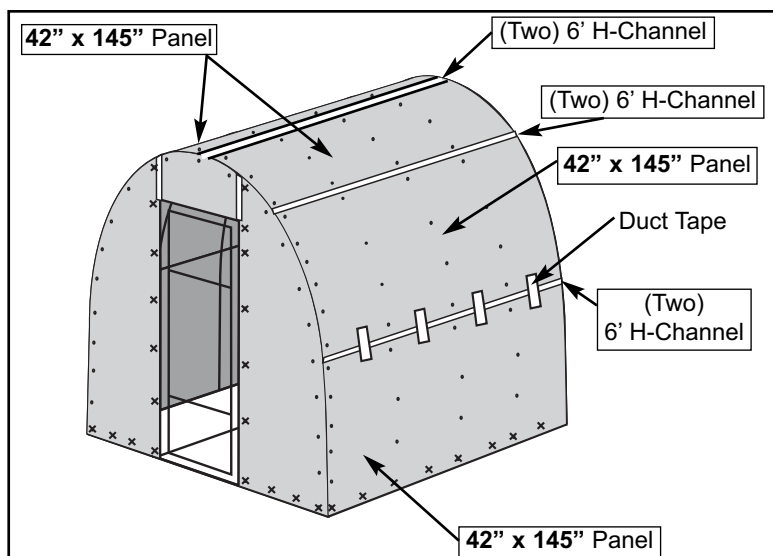
3. Slide the H-Channel pieces in so they butt together.

14. TOP PANEL LAYOUT

Pieces Required:

6	42" x 145" Panels
10	6' H-Channel
5	H-Channel Clips
200	1" Screws
4	78" U-Trim
4	49 ½" U-Trim
35	Small Screws
	Duct tape

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



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

1. Apply panels as per diagrams A-E. (NOTE: We suggest this approach so the H-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 if you would like)

- Temporarily attach a **42" x 145" panel** (Panel #1) with 3 screws. One screw on the 2nd, 4th and the 6th Rib about 2 ½" in from the edge of the panel.
- Temporarily attach another **42" x 145" panel** (Panel #2) above panel #1. Hold in place with 3 temporary screws. Leave a ¼" gap between the 2 panels. Slide **two 6' H-Channels** between panels #1 and #2. You will join two 6' H-Channels with an H-Channel Clip - See page 19 for H-channel clip instructions.
- Temporarily tape panels together with duct tape (See diagram in upper right corner) & unscrew the temporary screws. Slide the panels up the distance of one panel. See fig "C" above.
- Temporarily attach a 3rd **42" x 145" panel** (Panel #3) under panels #1 and #2. Temporarily attach panel #1 with screws, leaving a ¼" gap between panels #1 and #3. Slide **two 6' H-Channels** between panels #1 and #3. You will join two 6' H-Channels with an H-Channel Clip - See page 19 for H-channel clip instructions. Tape panels together with duct tape & unscrew the temporary screws. Slide the panels up the distance of one panel. Temporarily attach a 4th **42" x 145" panel** (Panel #4) under panels #3, #1 and #2. Temporarily attach panel #3 with screws, leaving a ¼" gap between panels #3 and #4. Slide **two 6' H-Channels** between panels #3 and #4. You will join two 6' H-Channels with an H-Channel Clip. Tape panels together with duct tape & unscrew the temporary screws. Slide the panels up.
- Permanently attach a 5th **42" x 145" panel** with screws (See diagram "E" above). Pull back down panels #1-4 so there is a ¼" gap between panels #4 and #5. Begin permanently attaching panels #4, 3, 1, and 2 with screws being careful to use the same holes used for temporary attachment. Slide **two 6' H-Channels** between panels #4 and #5. You will join the two 6' H-Channels with an H-Channel Clip. Remove all the Duct Tape.

Attach the 6th **42" x 145" panel** (Panel #6) to the bottom opening. See fig. "E" above. Trim the top of the panel to fit. Slide **two 6' H-Channels** between panels #6 and #2. Join the H-Channels with an H-Channel clip.

2. Attach U-Trim to the ends of the panels (refer to hints on page 17). The first **78" U-Trim** will fit over a 42" Panel and part of a 2nd 42" Panel. Leave U-Trim in one continuous piece. Begin attaching the 2nd **78" U-Trim** where the first one stops. Finally attach the **49 ½" U-Trims**. Cut U-Trim to fit as needed. Repeat on back end of greenhouse.

► If you have purchased a tie down kit, install it now!
 If not you will need to secure the greenhouse to the ground.

15. Door

Pieces Required:

- 1 36 1/2" x 80" Door Panel
- 1 76" Side Door Casing (**Used in Step 11b**)
- 1 76" Side Door Casing with Hinges (**Step 11b**)
- 1 74" Composite Tubing- BLACK (**with holes for Hinges**)
- 1 74" Composite Tubing- BLACK
- 1 38" Top Door Casing (**Used in step 11b**)
- 2 33" Composite Tubes- BLACK
- 1 36" U-Trim
- 4 90° Metal Elbows
- 1 Snap-T's
- 49 1" Screws
- 3 Small phillips Screws
- 1 33" Composite Cross Bar with Snap T (for door) - slotted

Door and Vent Parts Bag:

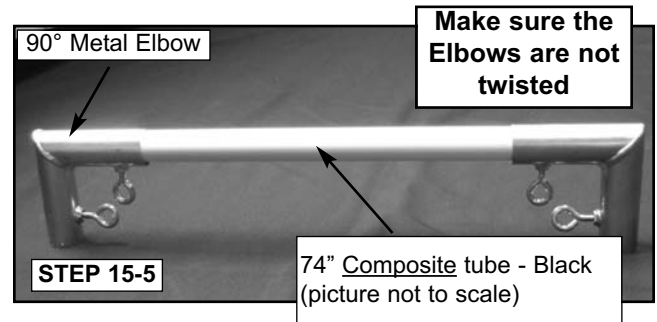
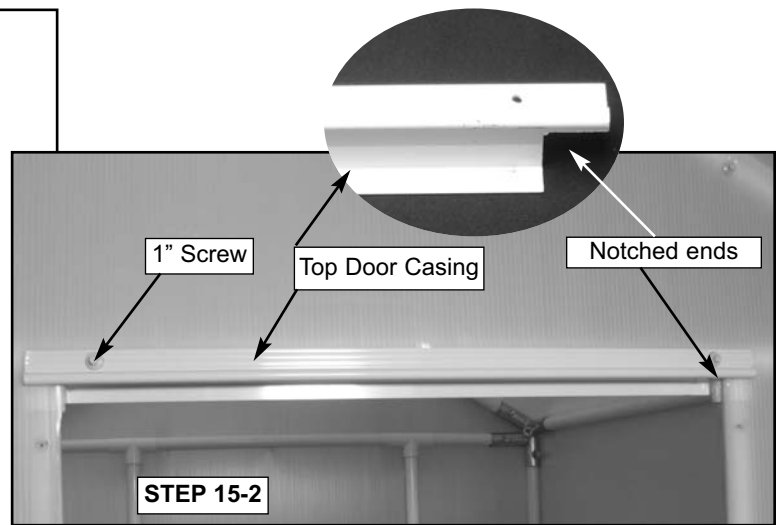
Outside Handle, Inside Handle, 3-point Cam

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,

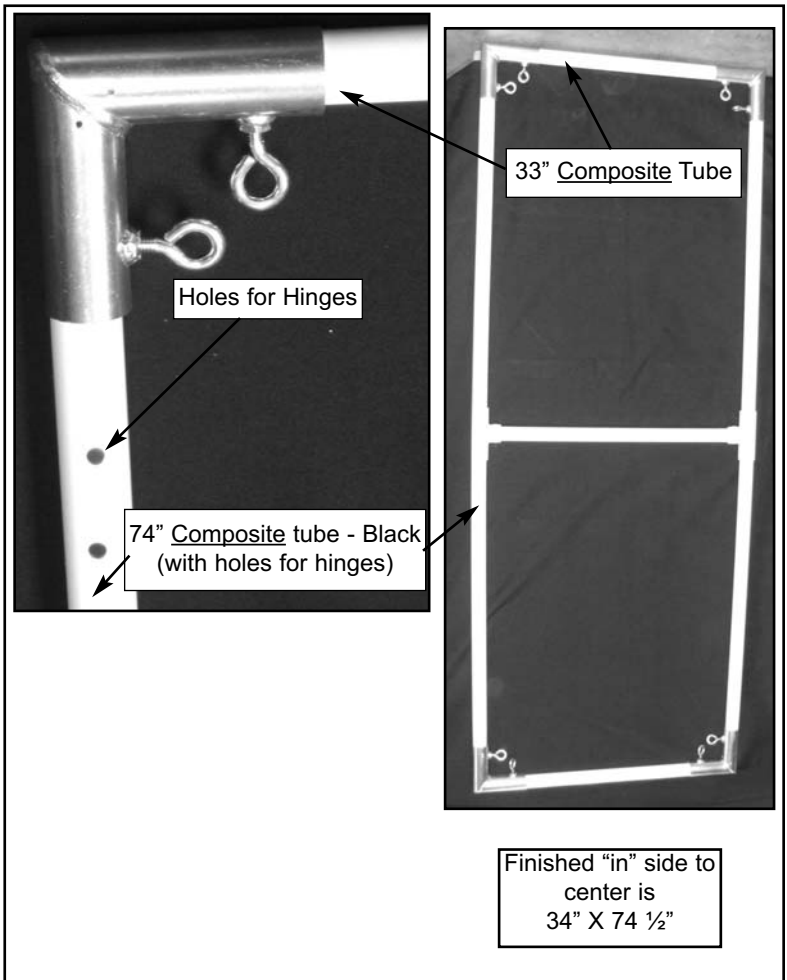
32 x 1-3/4" Machine Screw, 1" Metal Screw, 4mm Allen Wrench

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 1/2" ("In" side to center). Tighten the eyebolts. You will adjust this frame when you hang the door so the measurements don't need to be exact at this time.



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

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

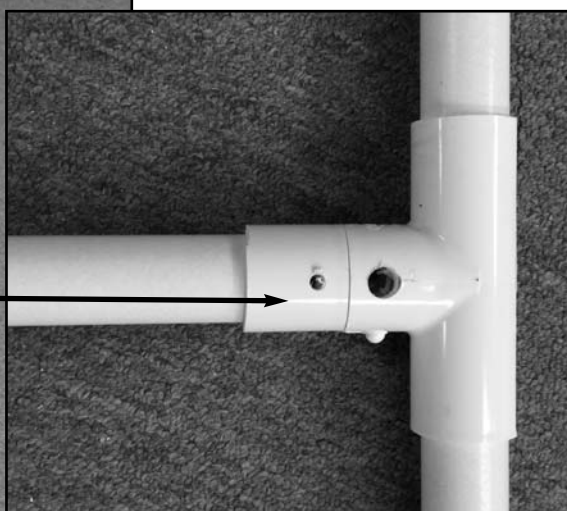
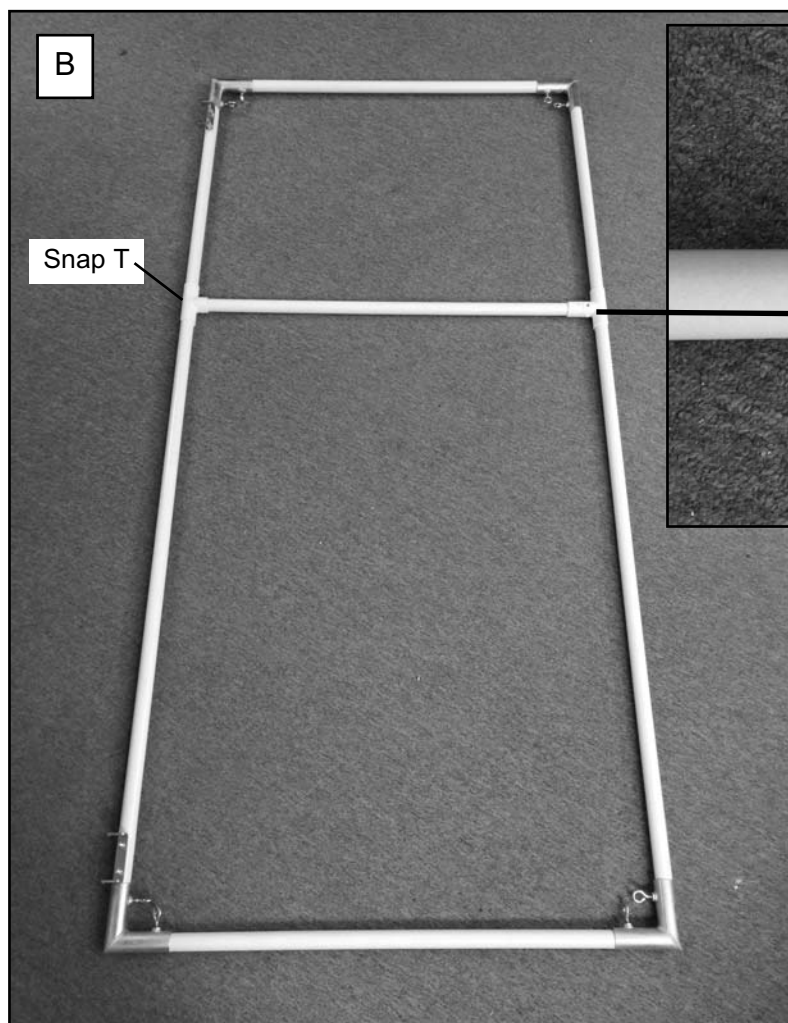


This side of the cross bar for the door faces up (While assembling the door frame or towards the outside of the greenhouse when the door is hung)

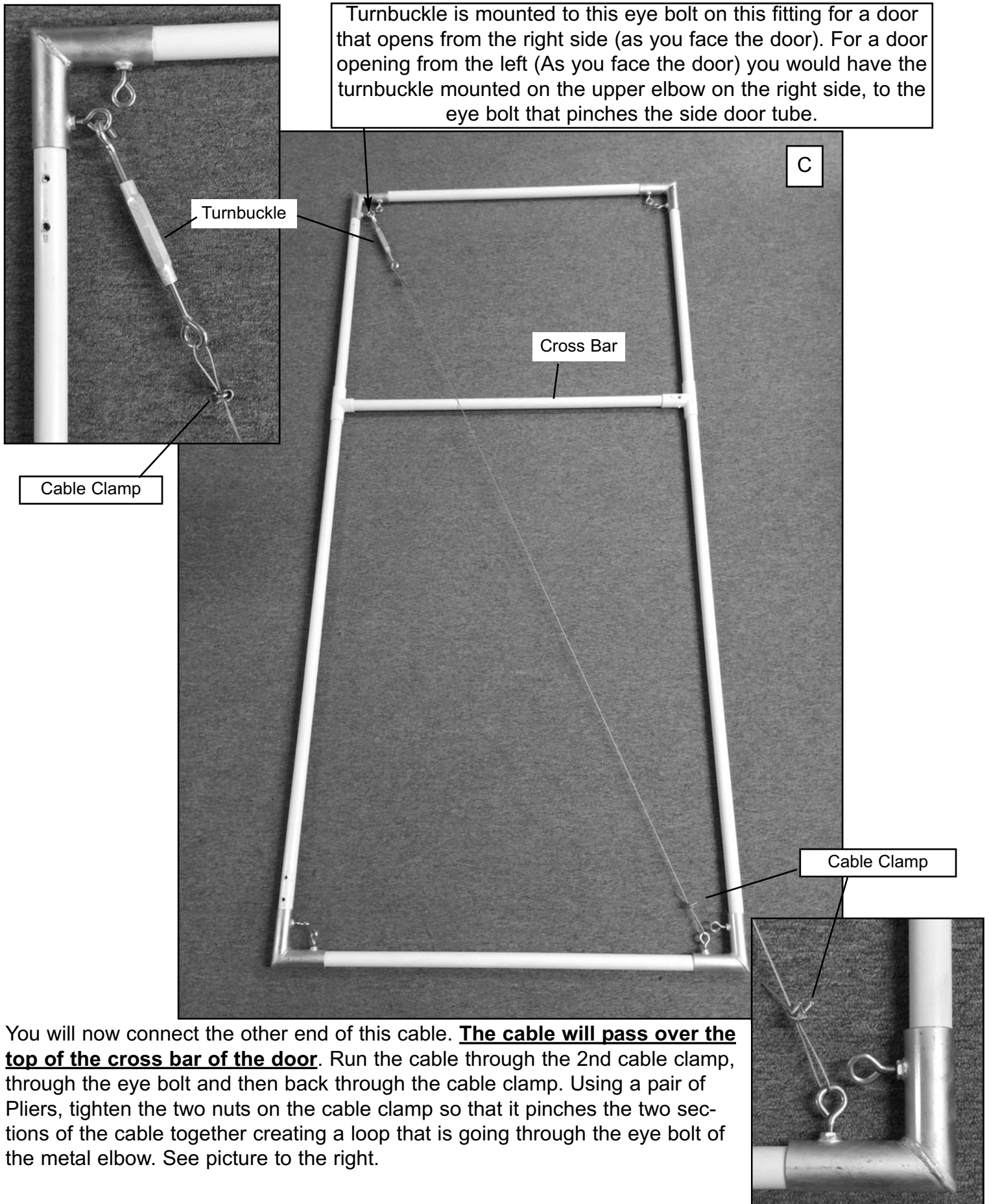
Make sure that the big hole and little hole remain lined up. If they are not aligned, then use the shaft of a screw driver inserted into the large hole and push or pull on the screw driver to move the snap-T on the tube. Once the large hole in the snap-T is aligned, you can use your hand to move and line up the smaller hole. You will insert the lock through the larger hole in a later step. Aligning these holes now will make that easier.

7. **Attaching the cross cable door support.** See Picture "C" next page. You will be using two cable clamps, a turnbuckle and the 76" long - 1/16" diameter cable. These are all grouped together in the door kit bag. Start at the metal elbow that is on top of the side door tube holes. Place the Hook of the turnbuckle through the eye bolt that is pinching the metal elbow fitting onto the side door frame tube, not the eye bolt that goes to the upper tube. Then run the cable through the cable clamp, through the eye bolt of the turnbuckle and back through the cable clamp. Using a pair of Pliers or a socket, tighten the two nuts on the cable clamp so that

it pinches the two sections of the cable together creating a loop that is going through the eye bolt of the turnbuckle.



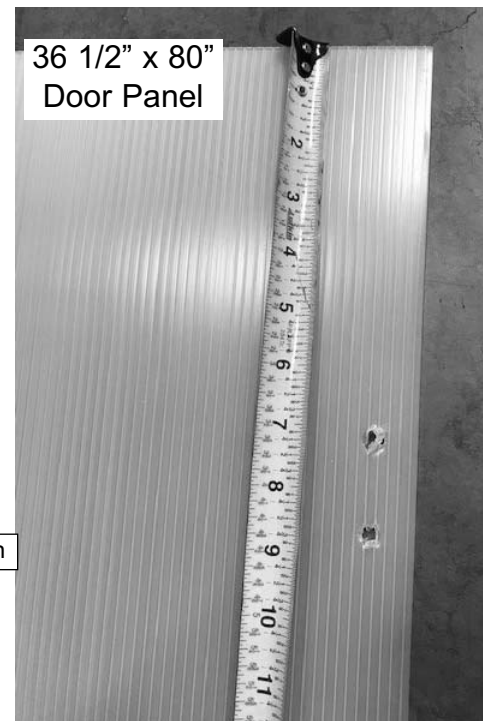
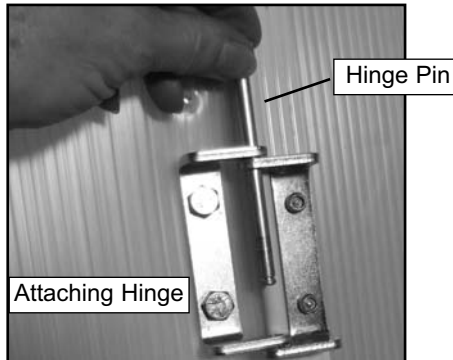
Cross Cable Door Support (Installed on Door frame)



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.

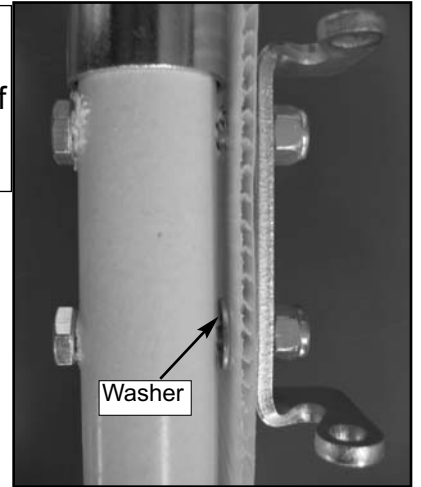


10. Now that the door is hung, close and open the door several times to make sure that none of the metal elbows of the door frame are hitting the metal casings of the door opening. If needed, adjust the door frame so that it fits within the door opening and is not touching the metal casings of the door 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 17, step 2).

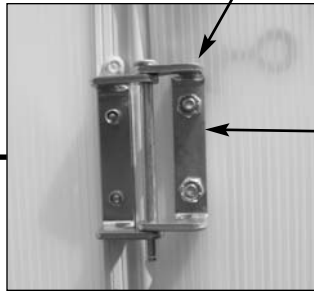
Hinge assembly & location of washer



Side view of
assembled
upper hinge-half
on door
→



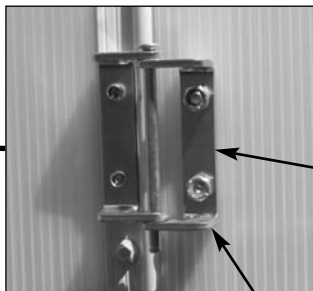
Upper hinge
(**Outside** greenhouse)
Hinge-half on door sits **above**
hinge-half on door casing.



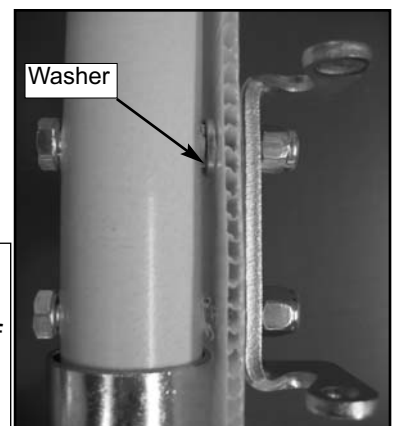
One washer goes in-between the door panel and the door frame to even out the spacing with the fitting. The fitting sits under the door panel and hinge-half on one side of the hinge-half and one washer goes under the door panel and hinge-half on the other side.
(Bolt goes through the washer)



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



Side view of
assembled
lower hinge-half
on door
→



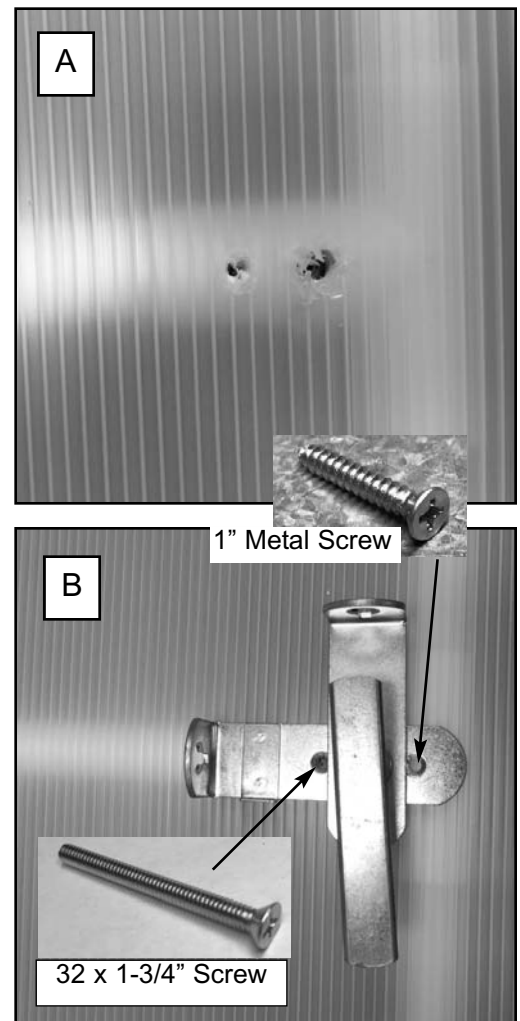
15. **Door lock** - The center cross bar of the door will set the height of your door lock/handle. From the outside of the greenhouse, look through the door panel at the holes in the predrilled snap-T, this would be the height of the outside door handle. To adjust to your preferred handle height, slide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

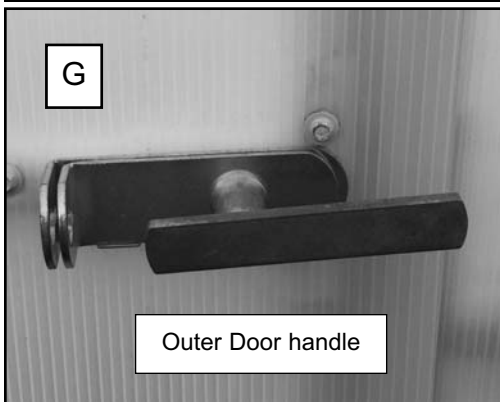
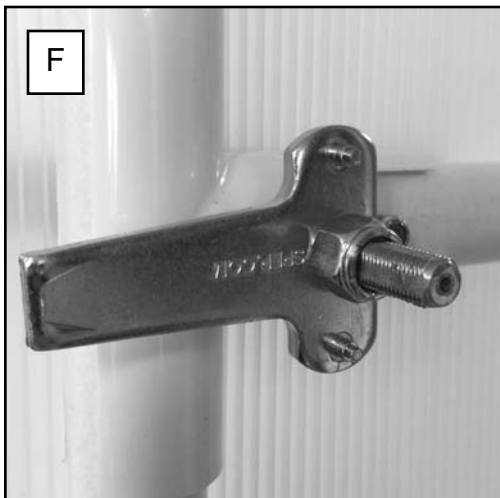
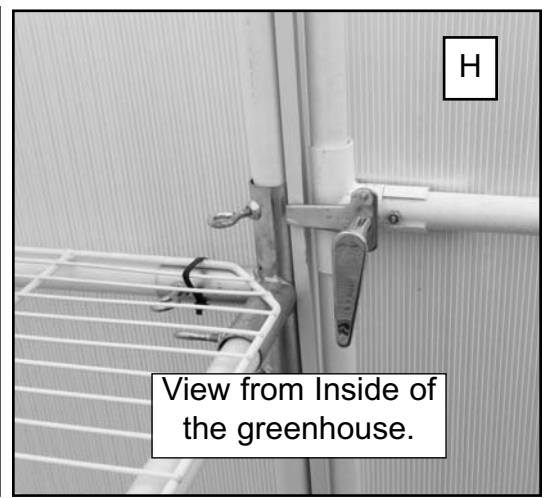
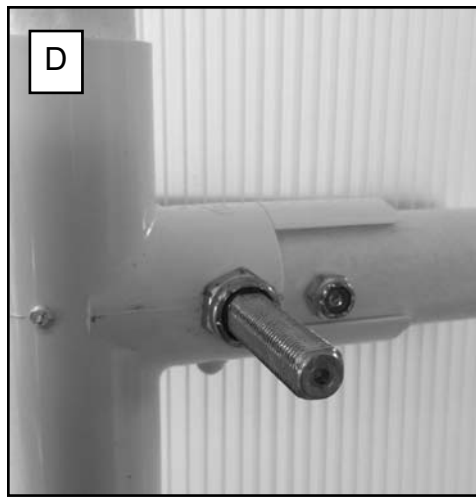
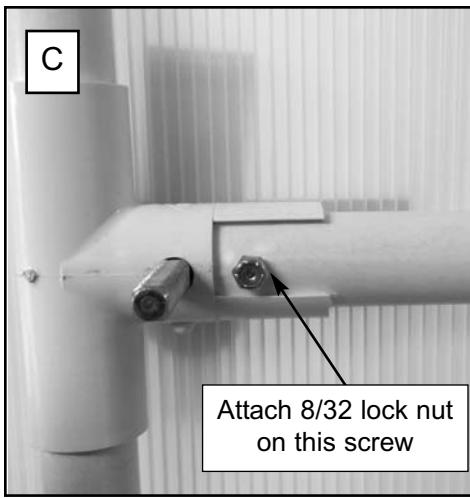
From the outside of the greenhouse, use a sharp thin bladed knife and push the blade of the knife through the panel and into the large predrilled hole. Do this twice so that you are cutting an "X" in the panel right where the predrilled hole is at and then twist the knife when it is in the hole, do the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

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

Insert the shaft of the door lock handle through the door panel and into the large hole of the door cross bar. You may need to twist or screw this into the hole. The handle should be flush with the door panel. Next, twist the door handle so that it is perpendicular to the metal plate that is just behind that handle (that plate is a part of the lock, there are two holes in that plate, you cannot see them unless you twist the handle on the outside door handle). See picture "B" to the right.

Insert the 32 x 1 $\frac{3}{4}$ " flat head screw (the long one in the lock kit) through the hole that is closest to the middle of the door, the tube is predrilled behind this hole. Attach the 1" Metal Screw into the other hole (this hole is not pre-drilled) - this will lock cross bar in place - so make sure the bar is level.





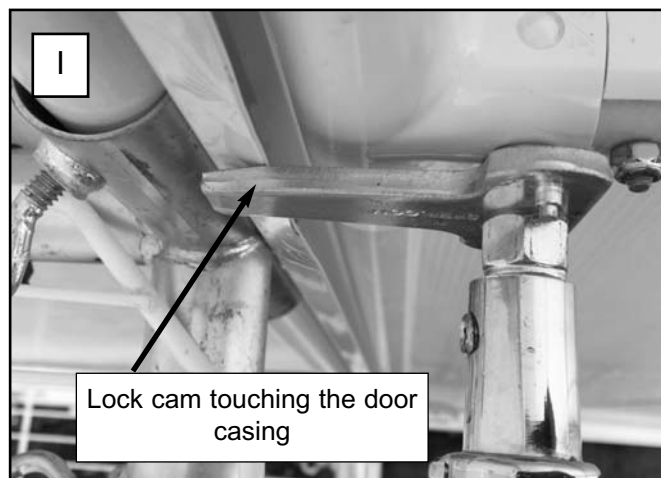
16. **Inside Door Handle** On the inside of the door, attach the 8/32 lock nut (the small nut in the kit) on this screw. See picture “C”.

Attach the nut that came with the outer lock onto the shaft of the lock, snug this nut up against the tube, see picture “D”. Then turn the outer door handle several times, this helps seat the outer door handle on the tube.

Slide the door lock cam onto the shaft. See Picture “E”. Next put the thicker of the two large nuts onto the shaft. Tighten the nut but make sure you can still turn the door handle. See picture “F”.

Install the inner door handle (picture H). Make sure the outer door handle is in the position as shown in picture “G”, then using the 4mm allen wrench included in the door kit, loosen the set screw on the side of the inner door handle, position the handle so that it faces downward when you slide it on the shaft, then hold the handle pressed up against the nut and then tighten the set screw. Your lock is now installed.

Next go inside the greenhouse and shut the door, when the door is shut push the inner door handle down which will swing the door lock cam out so it is now behind the door casing keeping the door from opening. Check to see if there is any space between the door lock cam and the metal door casing, if so, use a pair of pliers and bend the metal door casing (where the door lock cam is next to it) towards the lock cam. This should now put the metal door casing right up against the door cam when the door is closed. See picture “I”. This adjustment keeps the door shut snugly against the door casings.



16. LOUVER

Pieces Required:

1 Louver Box

SEE LOUVER INSTALLATION INSTRUCTIONS IN LOUVER BOX

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

Notes:

Other Helpful Hints

1. Caulk any holes from screws or punctures in the panels to help keep bugs and dirt out.
2. Be sure your Greenhouse is properly anchored to the ground or a foundation. **DURING AND AFTER ASSEMBLY**
3. Remove Shade Cloth in the winter.
4. Please call us if you have questions about assembling your greenhouse.
5. We welcome pictures of your greenhouse in use. Send to info@adapt8.us

ENJOY YOUR NEW GREENHOUSE!

P.S. Please share with us any ideas you have on improving our kits. Pictures are appreciated.
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