

ASSEMBLY INSTRUCTIONS

8' (L) x 8' (W) x 6'3" (H) Early Bloomer **G-108 (3.5mm)**

All tubing has been precut - no cutting is required.
Glue joints as you go unless specified in the instructions.

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. PLIERS
- F. 1 tube "Clear" silicone (*We recommend GE IS800 Silicone Rubber Adhesive Sealant available through Adapt8*) & a caulking gun
- G. 8 oz. can (or smaller) 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!**

Please read instructions carefully and refer to the diagrams.

NOTE: Look at tubing ends for color coding

Attention:

There are two types of frame tubing in your kit. The **Composite** tubing is a heavier thick-walled tubing that is not flexible, while the **PVC** tubing is a thin-walled tubing that is a little bit flexible. The super strong Composite tubing will be used for the structural areas of the greenhouse frame.

Early Bloomer - Parts List

8' (L) x 8' (W) x 6'3" (H)

G-108 Early Bloomer (3.5mm)

* Please make sure your kit contains all of 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 46/47 lbs (20" x 20" x 51") Box 1 & 2 = 70/71 lbs Panels only = 46 / 47 lbs

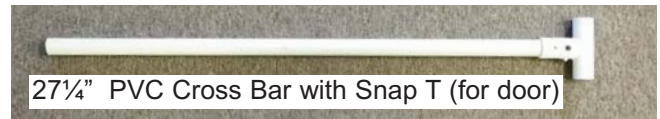
_____	4	49 ½" x 97 ½" Panels
_____	4	34" x 72" Solexx Panels
_____	1	30" x 68" Solexx Panel <u>with holes</u> for Hinges
_____	1	30 ¾" x 18 ½" Solexx Panel <u>with holes</u> for hinges
_____	1	34" x 49 ½" x Solexx Panel
_____	1	27¼" PVC Cross Bar with Snap T (for door)

NOTE:

To make the panels easier to work with, lay them out in a warm environment for a few hours before applying. As the panels warm, they relax and lie flat. Don't worry if the panels are not perfectly flat. They will continue to flatten out as you apply them. - *Panels will contract and expand with temp. changes.*

Outside the Inner Box

_____	1	32 ¼" Top Vent Casing (with Hinges)
_____	1	32 ¼" Bottom Vent Casing
_____	2	18" Side Vent Casings



INNER BOX 2 20 lbs (10" x 10" x 50")

_____	1	30" <u>PVC</u> Tubes (Alignment tool with red stripe on the side)
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BAG 1

_____	2	Metal-T's
_____	2	Metal Crosses
_____	4	Metal Elbows

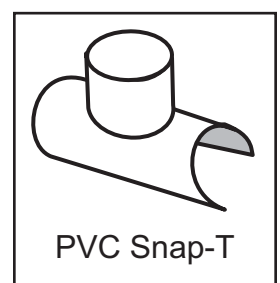
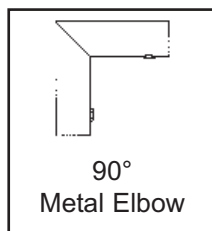
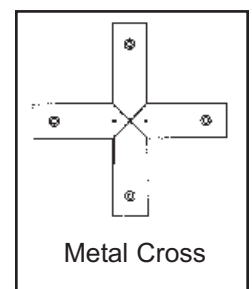
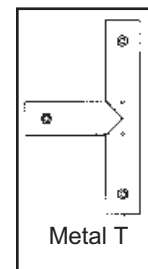
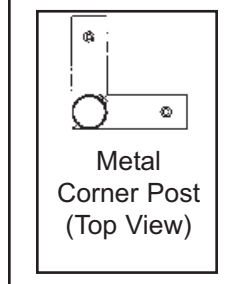
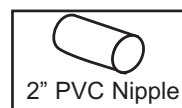
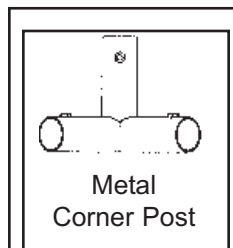


BAG 2

_____	8	Metal Corner Posts
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BAG 3

_____	15	<u>PVC</u> Snap-T's
_____	1	Narrow Snap-T
_____	6	90° <u>PVC</u> Elbows
_____	2	<u>PVC</u> Clips
_____	3	2" <u>PVC</u> Nipples
_____	1	<u>PVC</u> End Cap



G-108 (3.5mm)

Feb 2020

BAG 4

- 4 Large Black Zip Ties
- 30 Small Phillips Screws
- 2 Yellow Banding
- 2 Metal Banding Clips
- 260 1" Screws
- 1 1/4" Driver
- 12 #8 x 1/2" Phillips Screws - Flat Head
- 4 Metal Rings
- 4 1 1/2" x 1/4" Bolts & nuts
- 1 **Door and Vent Parts Bag:**



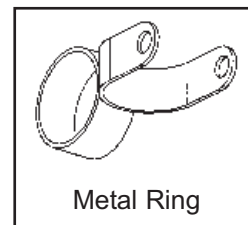
Small Phillips Screw



1/4" Driver



Banding Clip



Metal Ring

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)

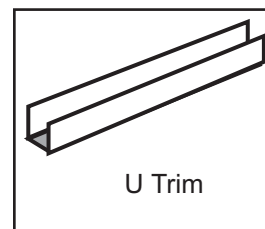
Vent Bag: 1/4" x 1-3/4" Bolts (4), Lock Nuts (4), Hinge halves and pins (2)

BOX #3 47/48 LBS (99" x 7 1/4" x 5")

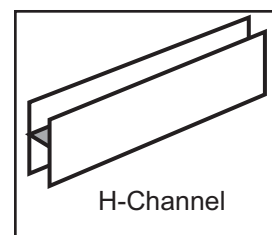
- 3 8' H-Channel
- 8 96" PVC tubes - White
- 2 94 1/2" Composite Tubing - Green
- 5 92" Composite Tubing - Red
- 1 32 1/4" Top Door Casing
- 1 67 1/2" Side Door Casing
- 1 67 1/2" Side Door Casing **with Hinges**
- 3 15 3/8" PVC tubes - Green
- 4 67 1/2" Composite Tubing -Green (Single-Slotted)
- 1 64 1/2" Composite Tubing- Blue
- 1 64 1/2" Composite Tubing- Blue **(with holes for Hinges)**
- 1 30" PVC tube - Yellow
- 2 30 1/2" Composite Tubes - Black
- 1 27 1/4" PVC Tubing - Red **with Holes for Hinges (Window)**
- 1 27 1/4" PVC Tubing - Red
- 2 27 1/2" Composite Tubing -Blue
- 4 78" U Trim
- 2 49" U-Trim
- 2 30 3/4" U-Trim
- 2 18 1/2" U-Trim



1" Screws



U Trim



H-Channel

Packed

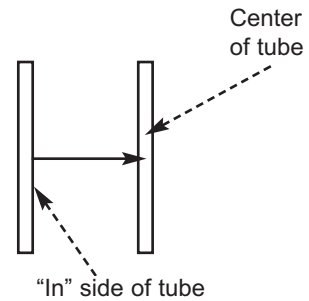
by: _____

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 tube and step on the Snap-T.

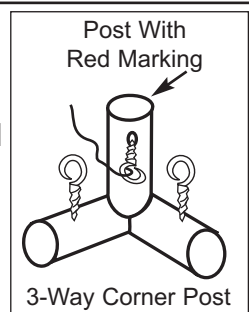


C.

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

F.

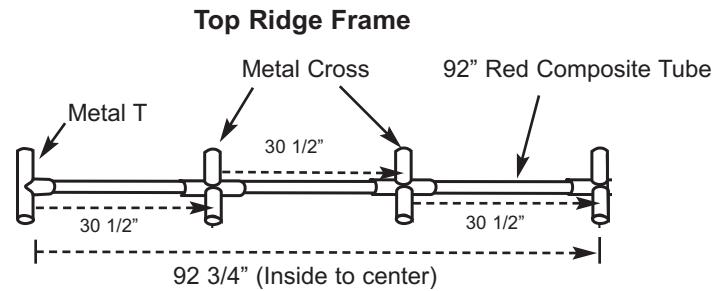
►► Very Important!! NEVER glue the underside of the Snap-T. You need to be able to slide the Snap-T along the tubing. You only glue tubes into the enclosed arm

1. TOP RIDGE FRAME, BENCH & BASE RODS

Pieces Required:

- 2 Metal Crosses
- 2 Metal-T's
- 1 92" Composite Tubing - RED

**** Read "Hints for pre-assembly", pg 4**



Making the Ridge Frame - Complete on a level surface so Top Ridge Frame will be flat & not twisted.

1. Insert a **Metal-T** snugly on one end of a **92" Composite Tubing - Red**, and tighten the eyebolt. (Insert a screwdriver or long bolt through the eyebolt and twist the eyebolt clockwise.)
2. Slide a **Metal Cross** over the 92" tube so that the distance from the side of the Metal-T to the center of the Metal Cross is 30 1/2". Tighten the eyebolts.
3. Slide the **2nd Metal Cross** over, so the distance from the side of the 1st Metal Cross to the center of the 2nd Metal Cross is 30 1/2" - tighten eyebolts.
4. Slide on the **2nd Metal T** so the distance from the side of the 2nd Metal Cross to the center of the 2nd Metal-T is 30 1/2" - tighten the eyebolts.

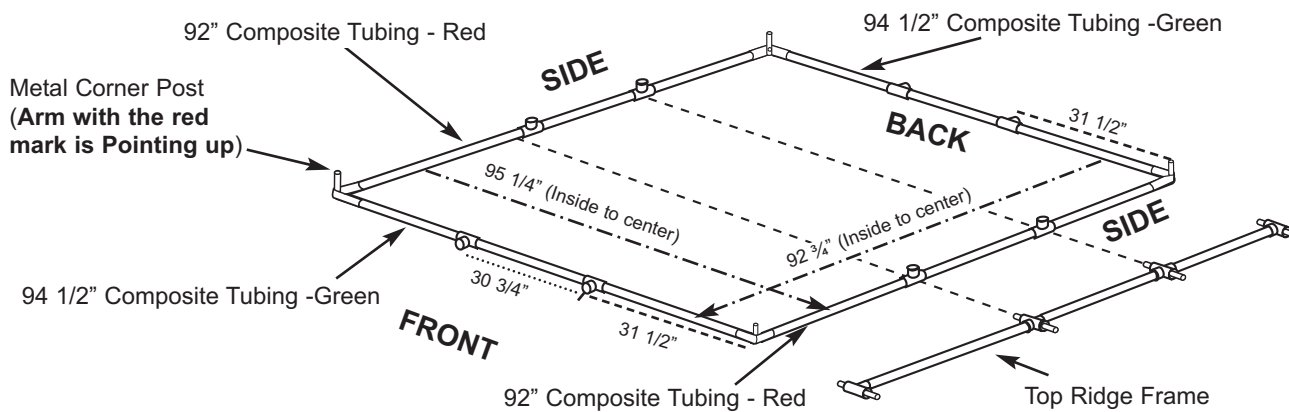
Note: The measurement from the inside the Metal-T on 1 end and the center of the Metal T on the opposite end is 92 3/4". This is an important measurement. The Ridge Frame will be used as a measuring device in future steps.

2. BASE FRAME

Pieces required:

- 4 Metal Corner Posts
- 2 94 1/2" Composite Tubing - GREEN
- 2 92" Composite Tubing - RED
- 8 Snap T's

Note: Remember to measure from inside of one tube to the center of the other tube. Check the dotted lines for exact measurements.



1. Insert the two **94 1/2" Composite Tubes - Green** and the two **92" Composite Tubes - Red** into the four **Metal Corner Posts**. (As pictured) above. Then adjust it, so that the measurement from the inside edge of the **FRONT** tubing to the center of the **BACK** tubing is 92 3/4". Then Adjust it, so the measurement from the inside of one **SIDE** tubing to the center of the **opposite SIDE** tubing is 95 1/4". **Make sure that the arms with the red marks are pointing up on all Metal Corner Posts.** Tighten the eyebolts. (Hint: mark **FRONT** tube with a marker/piece of tape for easy reference)
2. Attach two Snap-T's to each (**SIDE**) Composite Tube and align them with the with the Crosses on the Top Ridge Frame. (Top Ridge frame was made in Step 1)
3. Add Snap-T's to each 94 1/2" Composite Tube - Green 31 1/2" from the side of the Metal Corner Posts to the center of the snap-T's.

3. RIB ASSEMBLY

Pieces required:

- 8 96" PVC Tubes
- 1 Top Ridge Frame, (Made in Step 1)
- 4 Metal Rings

Slide Metal Rings over 96" tubes #2 and #3 on both sides before putting 96" tubes into Metal Crosses.

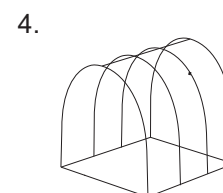
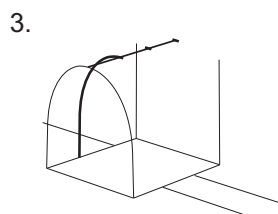
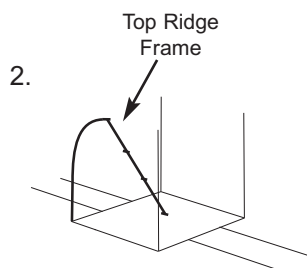
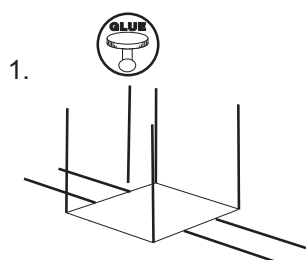
94 1/2" Composite Tubing -Green

96" PVC Tube

Top Ridge Frame

FRONT

92" Composite Tubing - Red



1. On 4 of the **96" PVC Tubes**. Using a pen, make a mark 2 1/4" in from one end on all 4 tubes.
2. Insert these four 96" PVC tubes into the Metal Corner Posts with the marked end pointing up. Make sure the tubes are all the way down into the fittings. Tighten the eyebolts.
3. Glue the remaining 96" PVC tubes into the Snap-T's on the Base Frame. **Make sure tubes are seated all the way into the Snap-T's.**
4. On Ribs #2 & #3 (on both sides), **slide the Metal Rings over the ends of the 96" Tubes.** Just let the Metal Rings slide down the rib to the greenhouse base frame. (These will be adjusted in Step 5-A)
5. Start with the four corner ribs. Loosely insert the tubes into the Metal-T's on the TOP RIDGE FRAME (Up to the marks you just made at the top of the corner ribs). Then insert the remaining ribs into the remaining open arms on the metal crosses.
6. After all Ribs are placed into the Metal T's & Crosses of the Top Ridge Frame, tighten all the Eye-Bolts.

4. FRONT and BACK ENDWALLS

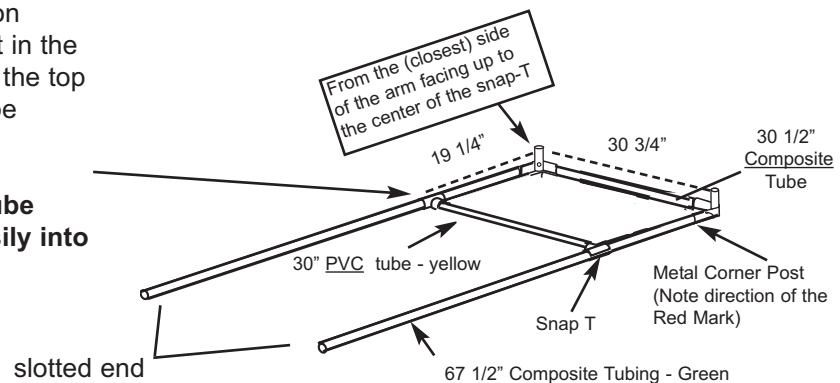
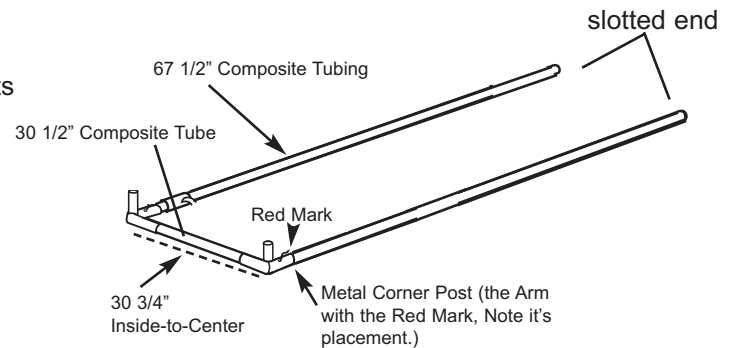
Pieces Required:

- 4 67 1/2" Composite Tubes - GREEN (single slotted)
- 4 Metal Corner Posts
- 2 30 1/2" Composite Tubes - BLACK
- 1 30" PVC Tube - YELLOW
- 2 Snap-T's
- 4 1" Screws

1. Slide the non slotted end of a **67 1/2" Composite Tube** into the arm marked with red on a **Metal Corner Post** and tighten the eyebolt. Make 3 more for a total of 4.
2. Make the Front Endwall by joining 2 of the 67 1/2" Composite Tubes (with Corner Posts attached) with a **30 1/2" Composite Tube - Black**. The Black Tube slides into arms with no Red Mark. Adjust it so the distance between the Metal Corner Posts is 30 3/4" from "in" side to center. Tighten eyebolts. Note: Make sure the tubing fits at least two inches into each Metal Corner Post.
3. Repeat step 2 to make Back Endwall.
4. On the Back Endwall frame, attach a **Snap-T** to each **67 1/2" Composite Tube** about 19 1/4" from the Corner Post.
5. Glue the **30" PVC tube - Yellow** between the Snap-T's on the 67 1/2" PVC Tube. Make sure the tube bottoms out in the Snap-T's. The measurement from the inside (bottom) of the top 30 1/2" Composite tube to the center of the 30" PVC tube should be 19 1/4" (approx.)

Note: All the exposed ends of the 67 1/2" Composite tube should be slotted. This enables them to slide more easily into the Snap T's.

Front Endwall



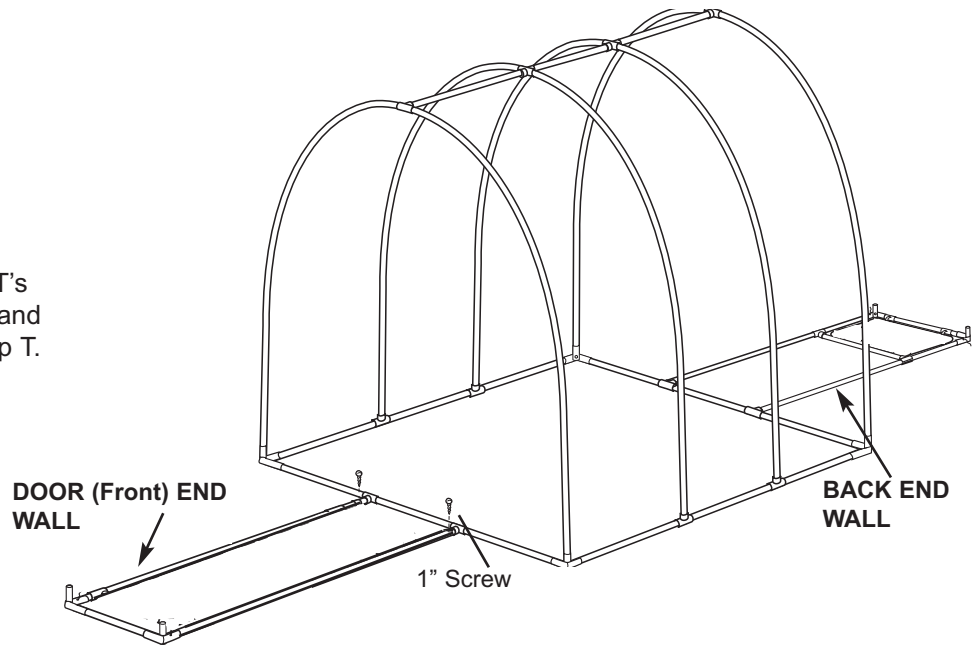
Back Endwall

5. END WALL ATTACHMENT

Pieces required:

- 1 Front Endwall Frame (Step 4)
- 1 Back Endwall Frame (Step 4)
- 4 1" Screws

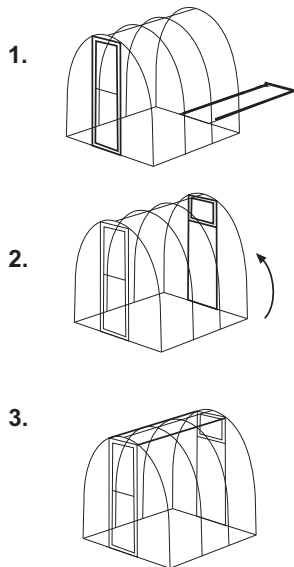
1. Attach the Door Endwall Frame to the Snap-T's on the Base Frame. Slide the tubing all the way into the Snap T's and attach 1" Screws through the Snap-T and into the door tubing to secure it in the Snap T.
2. Repeat for Back Endwall



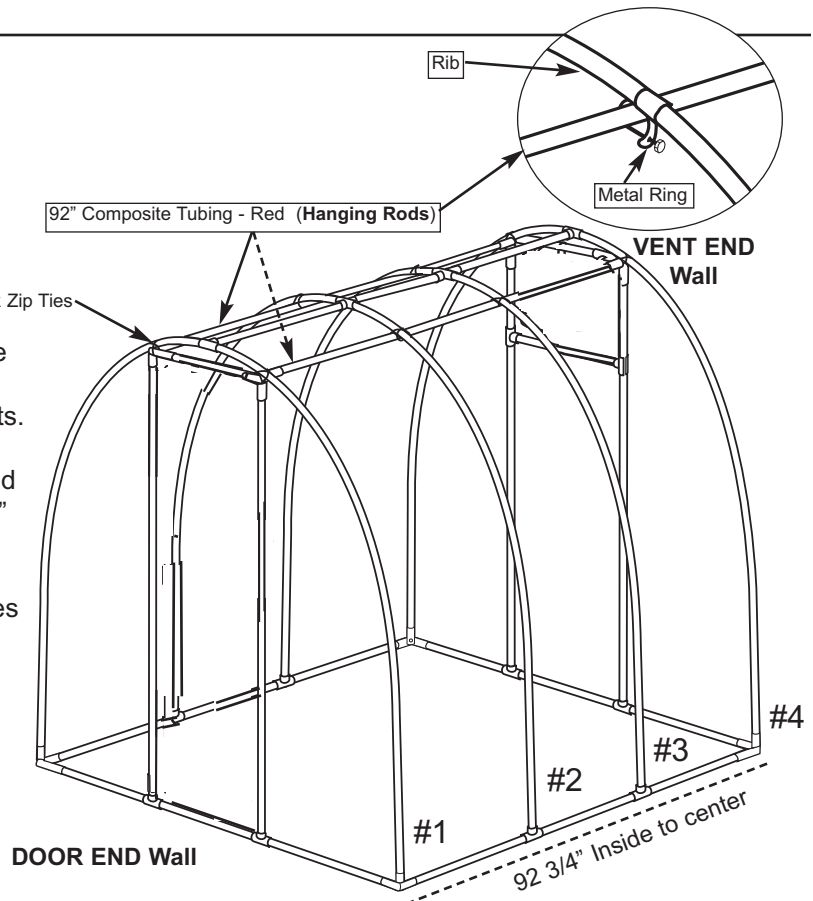
5-A HANGING RODS - (It helps to have 2 people)

Pieces Required:

- 2 92" Composite Tubing - RED
- 4 Black Zip Ties
- 4 1 1/2" x 1/4" Bolts & nuts



1. Lift up the Door End wall Frame and attach a 92" Composite Tube to both Metal Corner Posts.
2. Lift up Back End wall Frame and attach opposite end of each 92" Composite Tube to the Metal Corner Posts in the back end wall frame. These two 92" Tubes are **Hanging Rods**.
3. Connect Ribs # 1 & 4 to the Hanging Rods using 1 Black Zip Tie (Wrap it around the rib and the Metal Corner Post and cinch it tight.)



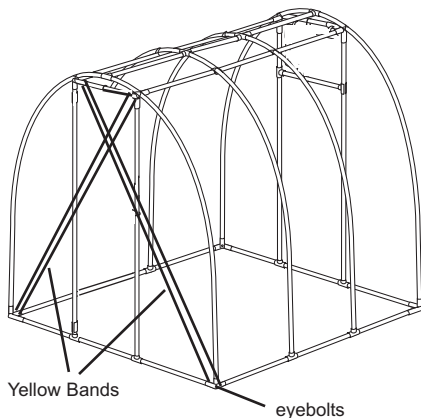
4. Slide the Metal Rings up to the hanging rods on Ribs #2 & 3, and adjust the "U" brackets (attached to the Rings) so they straddle the Hanging Rods. Slide a 1 1/2" x 1/4" **Bolt** through the bolt holes of the Metal Ring, attach a **Nut** and hand tighten.

Note: Both sides of the base frame, both hanging rods and the top ridge frame should all measure 92 3/4" from inside to center.

6. SQUARING DOOR FRAME

Pieces Required:

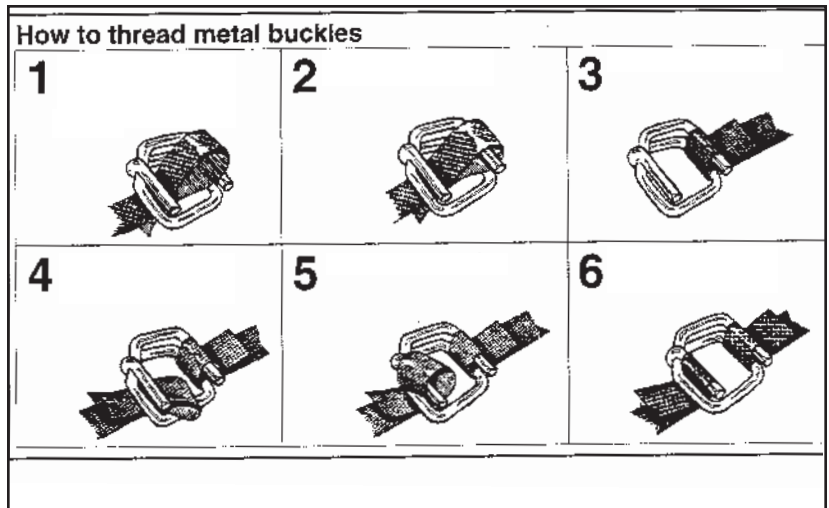
- 2 Yellow Banding
- 2 Metal Banding Clips
- 1 30" PVC tube, with Red Stripe



1. Loop a piece of Banding through the eyebolt on a Metal Corner Post on the Base Frame up to the eyebolt on the Door Frame Corner Post on the farthest side. (See picture above)
2. Attach a Metal Clip. (**See instructions, right**)
3. With the 2nd piece of banding, make an X starting with the eyebolt in the Opposite Base Metal Corner Post on the Door End and the eyebolt in the Opposite Door Frame Corner Post.

Note: The purpose of the yellow bands is to square the doorway

4. Tighten and adjust the banding until the measurements of the door frame diagonals are equal. Use the 30" PVC tube with red stripe to check the door opening is 30" wide at the top and bottom. Adjust door frame if needed.
5. Leave the yellow bands in place for paneling.



How to thread the metal Clip

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

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

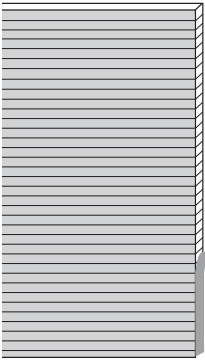


Hints for Panel Assembly

Congratulations, your frame is now finished! All that's left is the paneling application, the door and vent. Listed are several hints that will make paneling your greenhouse much easier.

1. **PANELS:** Apply panels when temperature is moderate. When attaching panels to the tubing, be careful not to over-torque the screws. The washers should just make a dimple in the plastic. Place screws about 6" apart on the perimeter and about 12" - 15" apart between the outer edges.

2. **U-TRIM:** Insert 1/4"-1/2" of silicone caulking into the open flutes of the paneling to prevent water intrusion. Once the caulking has dried, slip U-Trim over the 4" ends of panels where specified in the instructions. Secure U-Trim with **small Phillips Screws**, screwing through the underside of the U-Trim and into the Solexx Paneling. Make a small hole or force the screw tip through the U-Trim and then screw into the paneling. Place one screw at each end of the U-Trim and one in the middle (2 in the middle on U-Trim that is longer than 49").

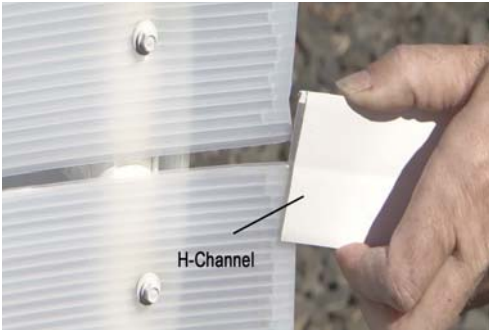


► **Note:** When using caulking, cut tip of tube at an angle. Be careful not to get caulking on your clothes.



For a video to help with caulking, go here <http://www.solexx.com/solexx-application.html>

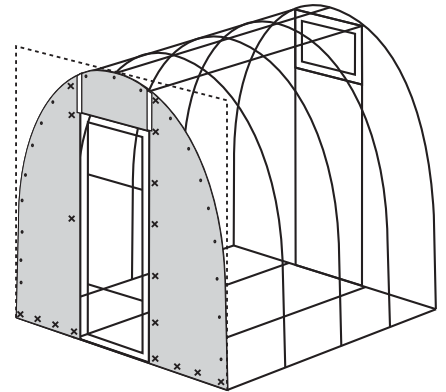
3. **H-CHANNEL:** When using H-Channel, attach one Solexx panel to your frame and attach another panel 1/4" above the first panel. This leaves enough space to slide the H-channel into the gap and between the panels. Attach screws approx. 1" away from each side of the H-Channel. Do not screw into the H-channel. If H-channel is difficult to slide on, try spraying the grooves of the H-channel and the edges of the panels with a little WD-40 and tap with a rubber mallet. **NEVER attach screws into the H-Channel!**



4. **SCREWS:** Use the diagrams as a guide only for placement of screws. Use your own 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:** The panel is easily cut using a sharp thin utility knife or saw. It is helpful to attach the panel to your structure first, then use a sharp thin utility knife to follow the frame as a cutting guide. It works well to cut the panel with two passes of the knife. Use lightweight pressure on the 1st pass to score the panel and set the path the knife will follow for the 2nd pass. Apply more pressure on the 2nd pass to cut through the panel while making sure the knife follows the score line of the 1st pass.



6. **TIE DOWN:** If you are paneling your greenhouse on a breezy day, please remember to tie it down once you have applied a panel. It is light enough that it could blow away. If there is no wind when you panel, you can tie it down after step #10.



7. FRONT END WALL PANELS AND DOOR CASING

Parts Required:

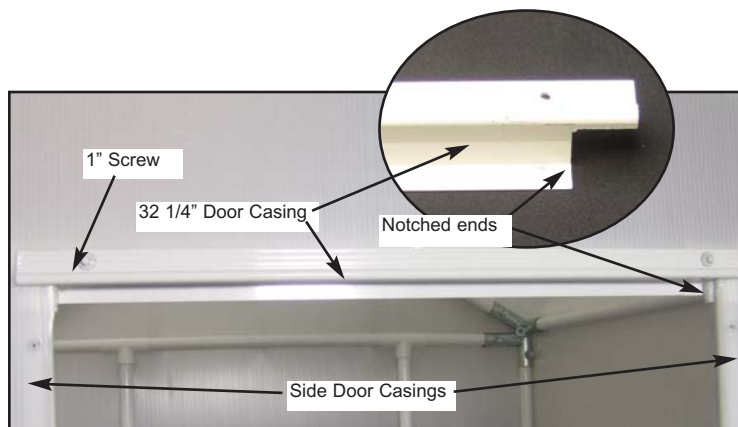
2	34" x 72" Solexx Panel
1	67 1/2" Side Door Casing with Hinges
1	67 1/2" Side Door Casing
1	32 1/4" Top Door casing
2	PVC Clips
44	1" Screws
6	#8 x 1/2 Phillips Screws - Flat Head
1	30" PVC tube, with Red Stripe

NOTE: Before paneling, make sure the measurements across the top and bottom of the door opening are 30 3/4" "In" side to center.

1. Insert silicone caulking into the flutes on one end of each **34" x 72" panel** - Let dry.

2. On each 67 1/2" tube, at about 38" from the base, snap on a PVC Clip, which acts as a spacer. (The opening of the clip should face the back of the greenhouse).

3. Attach the 32 1/4" **Top Door Casing** to the 30 1/2" Composite tube above door - making sure it is level. Tack in place using two **1" Screws**. (Pictured to the right - note panels are not attached yet)



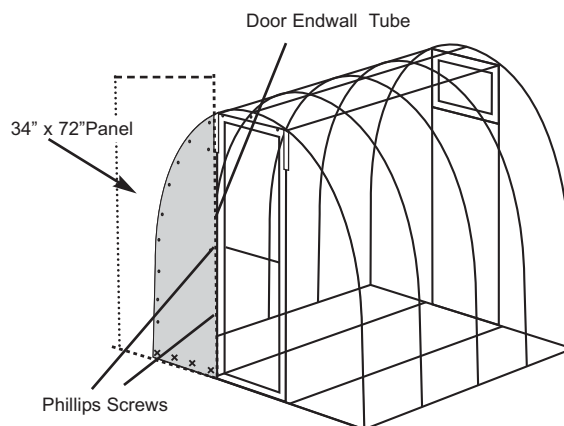
4. Hold the **Side Door Casings in place** against the 67 1/2" PVC Tubes. Use the **30" PVC Alignment Tube/ Red Stripe** to make sure the door frame is squared and sized correctly. The Alignment tube should just fit within the width of the door opening from side casing to side casing. Check the top, middle and bottom of the opening.

Things to adjust if necessary:

1) Tube at the top corner posts 2) The Snap-T's on the Base Frame or 3) The Yellow Bands to make sure the door diagonals are equal lengths. Also check to make sure the side casings are plum (straight up and down).

Once door opening is level and square, remove side door casings.

5. Place one **34" x 72" Panel** over the Door Endwall Tube (caulked end on the ground), making sure it covers the Door Endwall tube. Tack the the panel to the Door Endwall tube using 3 **Phillips Screws**. Do not add any other screws at this time. Repeat on opposite side door.

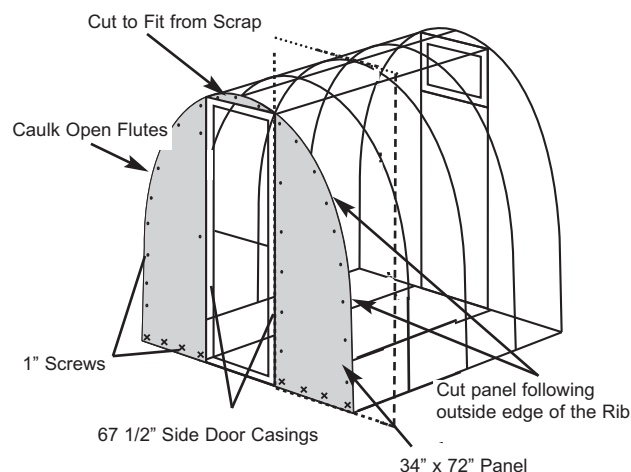


6. Attach both 34" x 72" panels to the Side Ribs and the base tubes using 1" Screws. Place screws at about 6" apart. Cut panels along the outside edge of ribs, using a sharp knife.

7. Using a scrap panel from the above step, cut a piece about 6 1/2" x 30 1/2" (this will go above the door). Remove the screws on Top Door Casing, slide the panel in and reattach the Door Casing. Use 1" Screws to attach panel along the top curve of frame and trim along the outside edge of ribs, using a sharp knife.

8. Attach the Side Door Casings permanently in place using 1" Screws. **Decide which side you want your door to open from (as you face the door) and then attach the 67 1/2" side door casing with hinges to the 90" Composite Tube on the side you want the door to hinge.** Make sure the casing is straight up and down and attach with 1" Screws. (it is helpful to keep the alignment tube in place while screwing the casings down). Double check the door opening again using the Alignment Tube.

9. Caulk exposed flutes along the curve of frame.

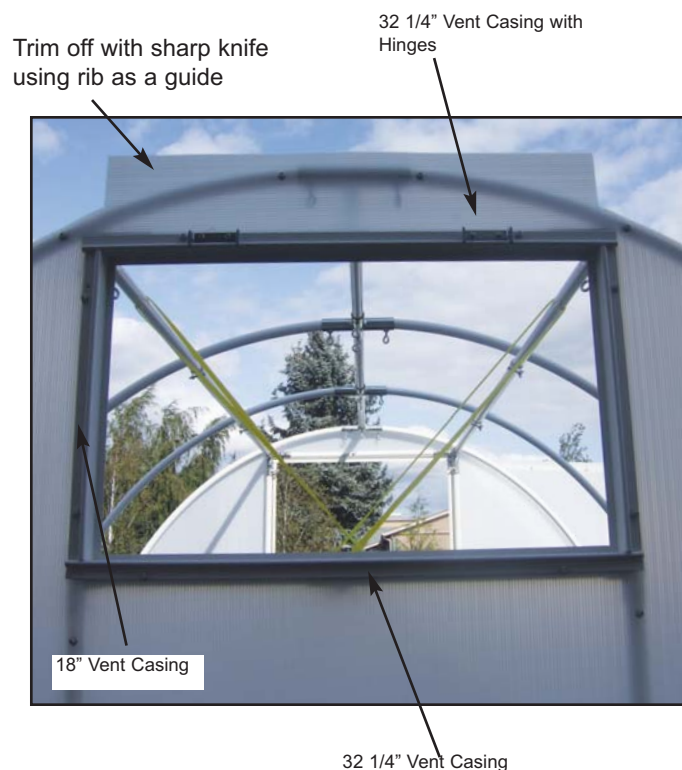


8. BACK ENDWALL PANELS

Pieces Required:

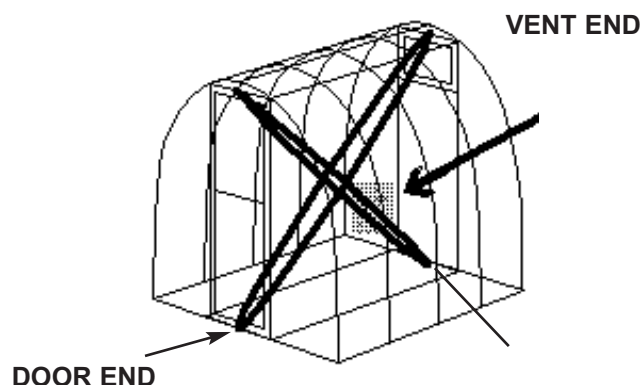
2	34" x 72" Solexx Panels
1	34" x 49 1/2" Solexx Panel
1	32 1/4" Top Vent Casing (with Hinges)
1	32 1/4" Bottom Vent Casing (No Hinges)
2	18" Side Vent Casings
6	#8 x 1/2 Phillips Screws - Flat Head
1	30" Alignment Tool / Red Stripe
50	1" Screws

1. Remove the Yellow banding and repeat the process to square the Back Endwall (see Step 6 - Page 9).
2. Insert silicone caulking into the flutes on one end of each **34" x 72" and 34" x 49 1/2" panel - Let dry.**
3. Place one **34" x 72" Panel** so it covers the Back Endwall Tube, (Caulked end on the ground). Tack the panel onto the 67 1/2" tube using three Phillips Screws - Flat Head. **Do not add any other screws at this time.**
4. Repeat Step 3, using the remaining 34" x 72" panel on the other side of opening.
5. Attach the **32 1/4" Top Vent Casing with Hinges** to the 30 1/2" Composite tube above vent opening. Make sure it is level. Tack in place using two **1" Screws.**
6. Place the **18" side vent Casings** and the **32 1/4" bottom vent Casing (no hinges)** in the Vent opening. If necessary, adjust the 30 1/2" PVC Tube (bottom of vent opening) up or down to make a snug fit.
7. Use the 30" Alignment Tube to set the vent opening. The Alignment tube should just fit within the width of the vent opening from side vent casing to side vent casing. Check the top and the bottom of the opening. Attach the bottom and side casings with 1" screws.
8. Now remove the vent casings even though you just put them on. You are doing this so you can attach the panels, they will go between the vent casings and the tubing. You first put the vent casings on to align the vent casings and the framing before paneling. Repeat sub-steps 6-7 from Front Endwall paneling (Step # 7 - Page 11) After completing this, reattach the upper and side vent casings using existing holes. Do not attach the bottom vent casing.
9. Attach the **34" x 49 1/2" Panel** in the open area below the Vent with the caulked end on the ground. Make sure it covers the 67 1/2" tubes (panel will overlap the 34" x 72" panels) and the 30 1/2" PVC Tube at the bottom of the vent opening. (Trim panel if necessary). Attach the panel with 1" Screws.
10. Reattach the 32 1/2" bottom vent casing over the 30 1/2" PVC Tube and Paneling.



9. FRONT TO BACK SQUARING FRAME

1. Remove the yellow bands from Back Endwall.
2. Loop a piece of Banding around 30 1/2" PVC tube above the door and around 94 1/2" Composite Tube - Green (Base Frame) on the opposite end.
3. Thread banding to the metal buckle . (see page 9)
4. Make an X with the Banding by looping the 2nd piece around the 30" tube on the Back Endwall and around the 94 1/2" composite tube - Green on the Front Base Frame.
5. Tighten and adjust the banding to the point that both pieces are of equal length. Keep Banding in place until all panels have been applied.



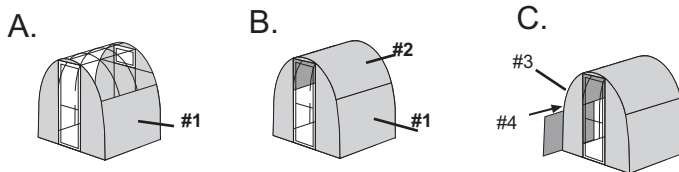
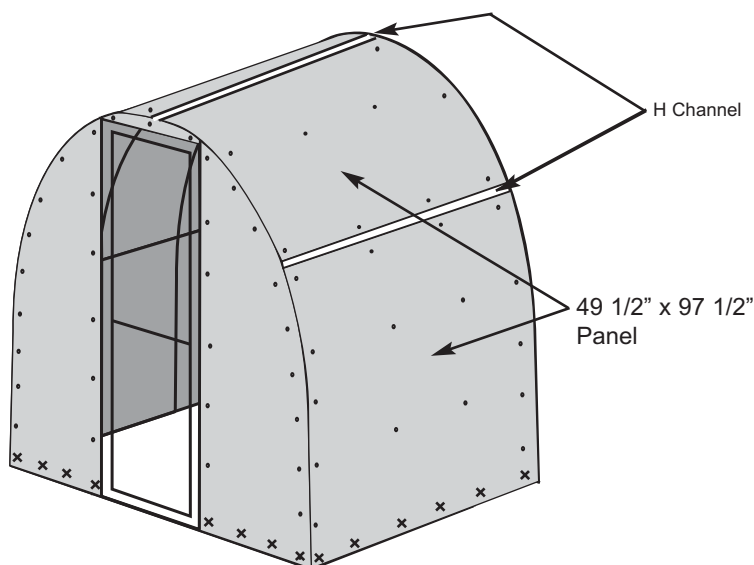
10. TOP PANEL LAYOUT

Pieces Required:

- 4 49 1/2" x 97 1/2" Panels
- 3 8' H Channel
- 102 1" Screws
- 2 49 1/2" U Trim
- 4 78" U Trim
- 18 Small Phillips Screws

► **NOTE:** Center each of the panels so the overhang edge is equal over the front & back endwalls. Do not cut off the overhang. It will help keep water out of the endwall panels.

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



1. Attach the four 49 1/2" x 97 1/2" panels as per diagrams A-C.
 - A. Attach panel #1 with screws. Start by attaching screws about 2 1/2" down from the upper edge of the panel on each rib. Attach additional screws about every 6 inches apart on the outer ribs and about 12" apart on the inner ribs.
 - B. Attach panel #2 above panel #1. Leave a 1/4" gap between the 2 panels. Slide H Channel between panels #1 & #2
 - C. Repeat process for panels #3 and #4. Trim last panel (Panel #4) to fit if necessary.
2. Attach U-Trim to the ends of each panel (refer to hints on page 10). Use 2 pieces of 78" and 1 piece of 49' U Trim on each end of the greenhouse. Cut U-Trim to fit as needed. Hold U-Trim in place with the small Phillip's Screws, (see pg 10, step 2)

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

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

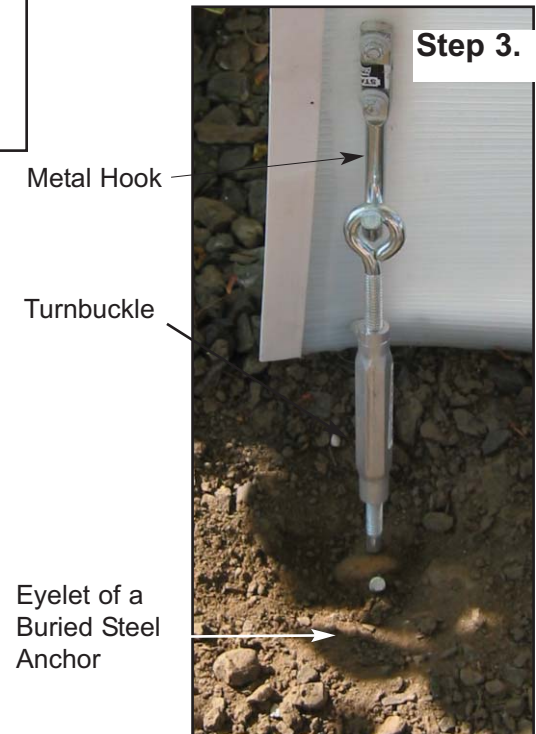
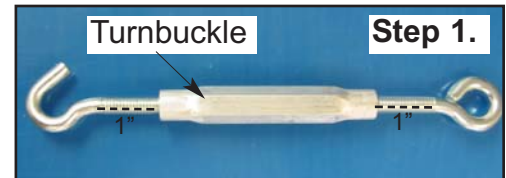
(You need a ¼" drill bit to predrill for the bolt holes)

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)

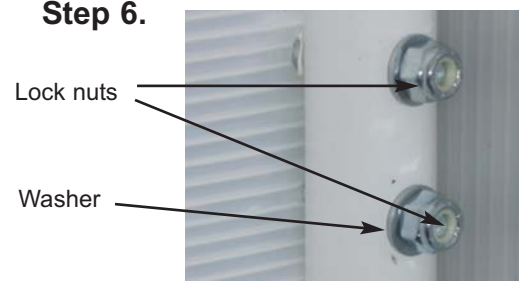
1. Loosen **turnbuckles** so the bolts of the turnbuckle are out about 1" on each side.
2. Screw one 15" or 30" **steel anchor** into the ground using a screwdriver, rod, or pipe inserted through the eyelet of the anchor. This will act as a handle for you to twist the anchor into the ground. The eyelet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



11. Door (Early Bloomer)

Pieces Required:

- 1 30" x 68" Door Panel
- 1 64 1/2" Composite Tubing- BLUE (with holes for hinges)
- 1 64 1/2" Composite Tubing- BLUE
- 2 27 1/4" Composite Tubes- RED
- 1 30 3/4" U-Trim
- 4 90° Metal Elbows
- 1 Snap-T
- 49 1" Screws
- 3 Small Phillips Screws
- 1 27 1/4" PVC Cross Bar with snap-T. (Should be in Box 1)

Door and Vent Parts Bag:

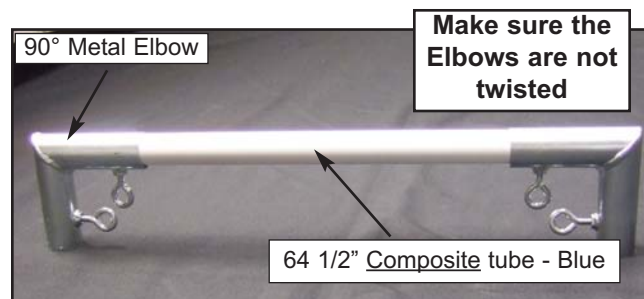
Outside Handle, Inside Handle, 3-point Cam

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

Door Parts Bag: 8/32 Hex Lock Nut, 3/8" Lock Nut,

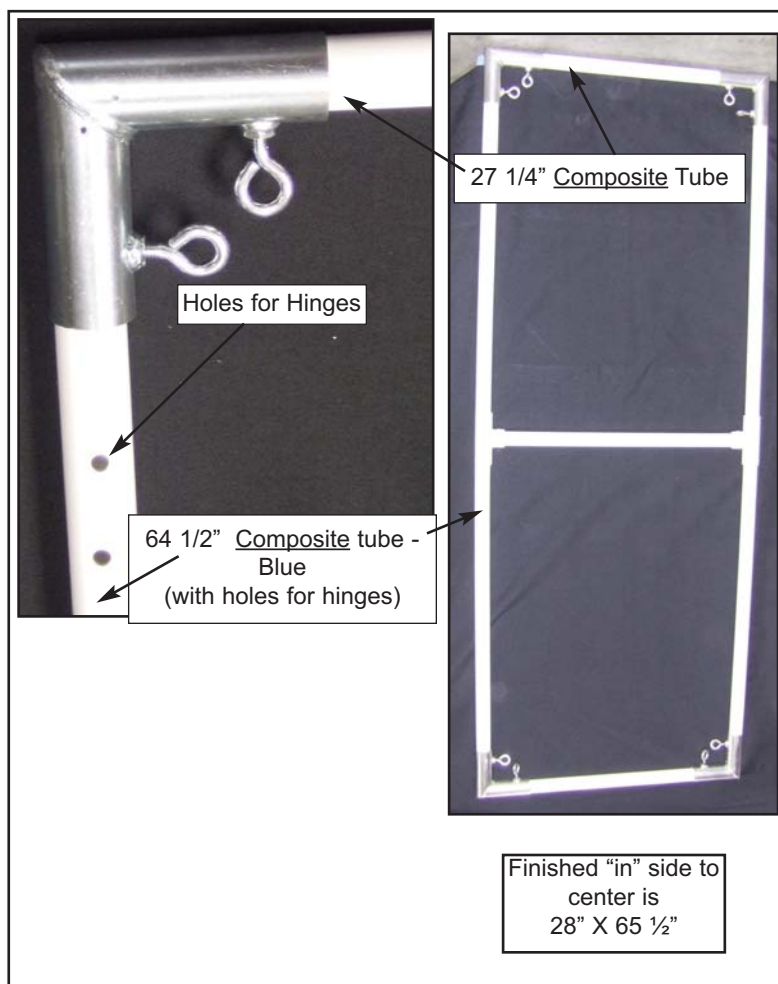
32 x 1-3/4" Machine Screw, 1" Metal Screw, 4mm Allen Wrench

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



1. Assemble the door frame on a flat surface by attaching one **90° Metal Elbow** to the ends of both **64 1/2" Composite Tubes - Blue**. Tap the tubing so it is completely seated into the elbows. Make sure the predrilled holes in the 64 1/2" tube with holes are facing up as the frame lies on the ground. You will be attaching hinges in these holes in a later step. Connect the 2 assemblies using the **27 1/4" Composite Tubes**.

Hint: It is important to attach the 64 1/2" tubes into the elbows first, followed by the 27 1/4" tubes. Line up the holes on the hinge side so they are centered on top. The door frame should measure 28" x 65 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.



2. Attach the snap T end of the 27 1/4" 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.

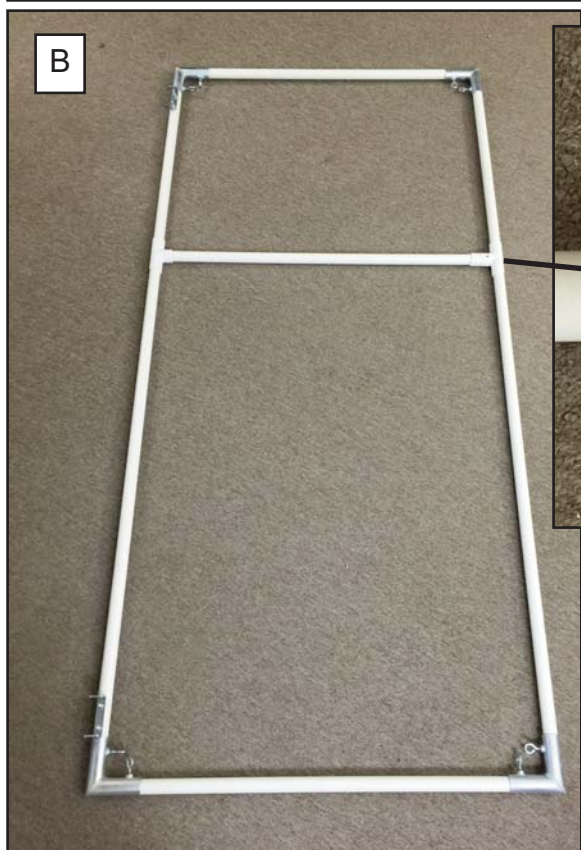


This side of the 24 1/4" PVC cross bar for the door faces up (While assembling the door frame or towards the outside of the greenhouse when the door is hung)

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.

3. Attaching the cross cable door support. 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

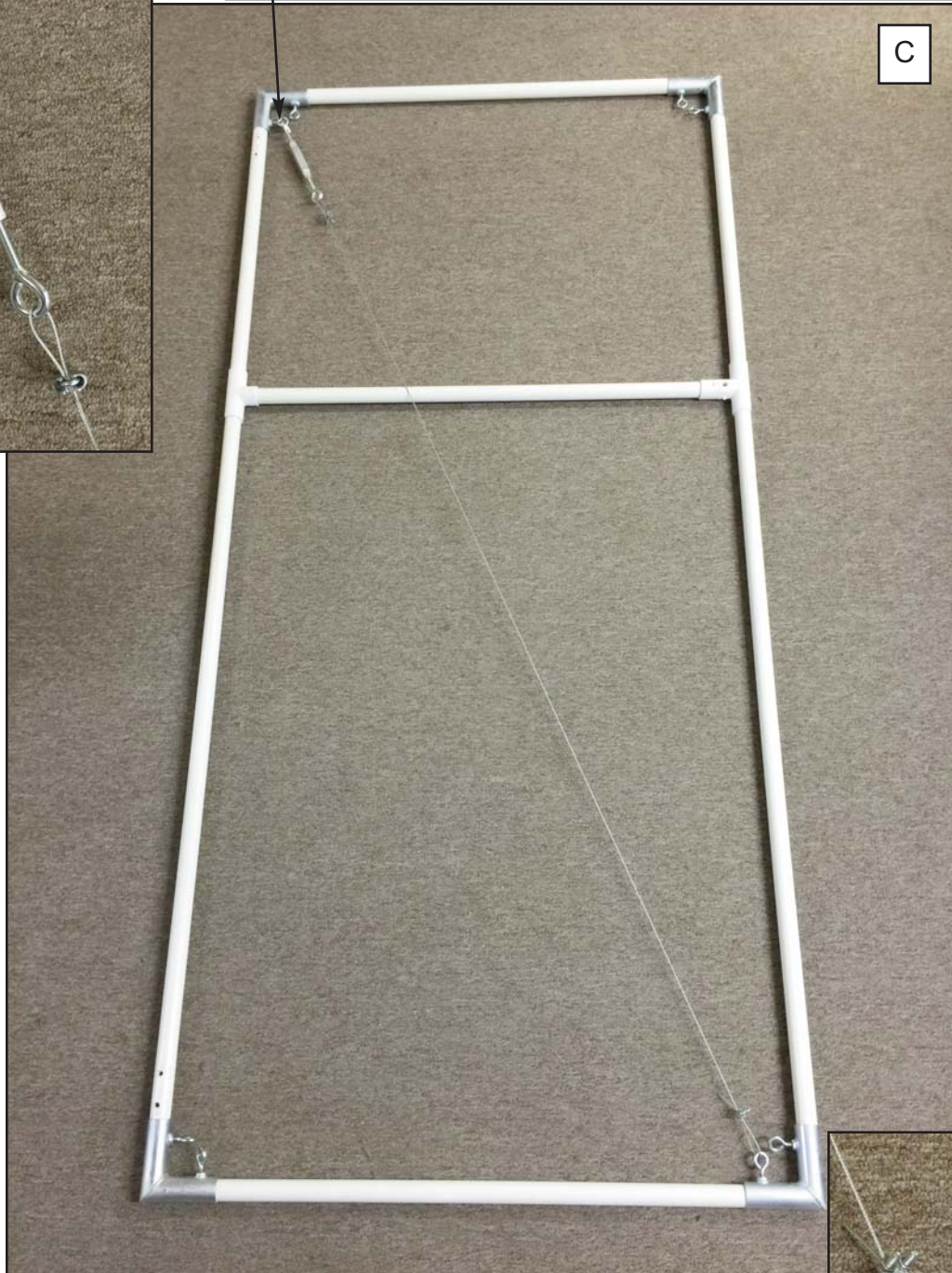
together creating a loop that is going through the eye bolt of the turnbuckle. See Picture "C" on page 17.



Cross Cable Door Support (Installed on Door frame)



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



You will now connect the other end of this cable. **The cable will pass over the top of the cross bar of the door.** Run the cable through the 2nd cable clamp, through the eye bolt and then back through the cable clamp. Using a pair of Pliers, tighten the two nuts on the cable clamp so that it pinches the two sections of the cable together creating a loop that is going through the eye bolt of the metal elbow. See picture to the right.



4. Place the **30" x 68" Door Panel with holes** on the Door Frame, aligning the holes in the Panel with the holes in the **64 1/2" Tube**.

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 page 19 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.**

5. Position the Door into the door opening and align the hinge halves up as shown on page 19. 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 pins. They are inserted from the top of the hinge for both hinges.

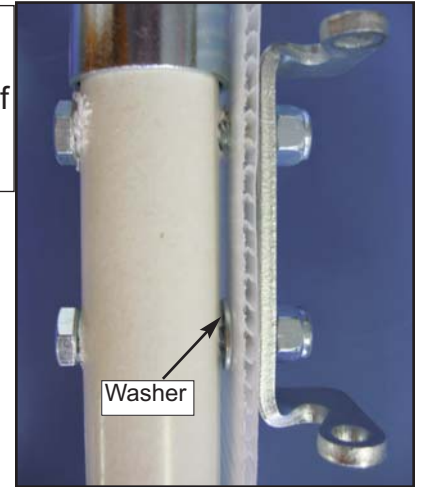


6. Now that the door is hung, close and open the door several times to make sure that none of the metal elbows of the door frame are hitting the metal casings of the door opening. If needed, adjust the door frame so that it fits within the door opening and is not touching the metal casings of the door opening. Make sure the top 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.
7. 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 6 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.**
8. 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.*
9. 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.
10. Slide a **30 3/4" 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 10, step 2).

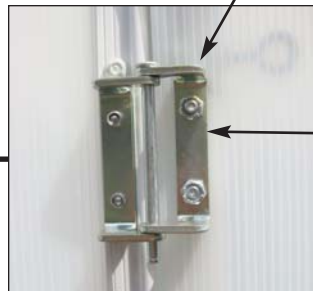
Hinge assembly & location of washer



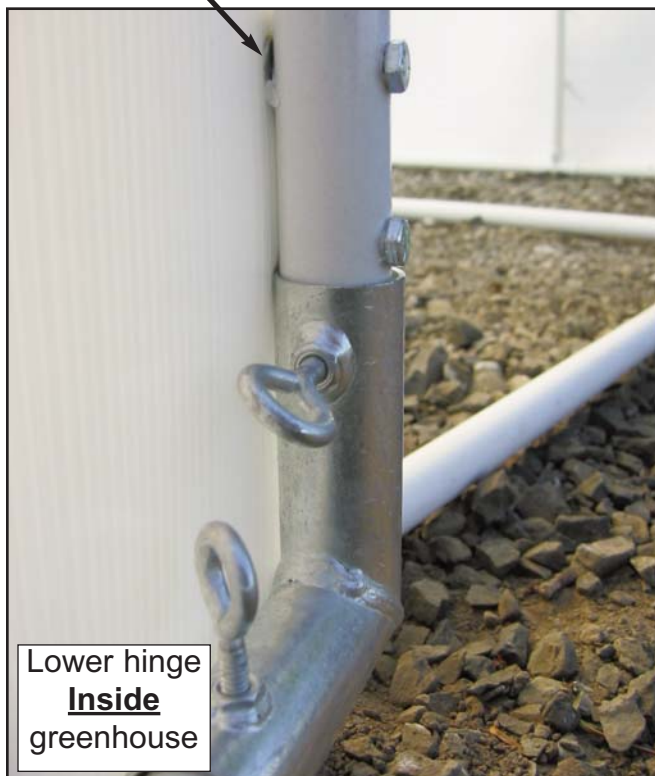
Side view of assembled upper hinge-half on door



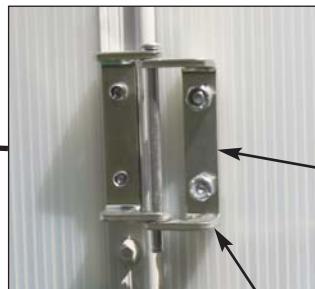
Upper hinge
(Outside greenhouse)
Hinge-half on door sits above hinge-half on door casing.



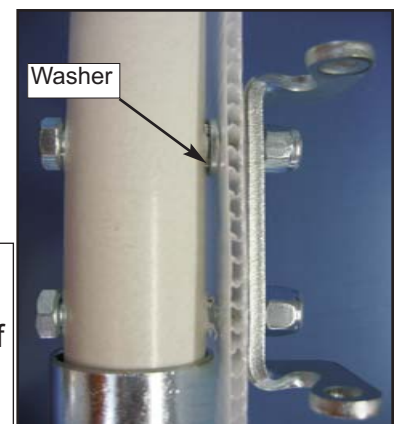
One washer goes in-between the door panel and the door frame to even out the spacing with the fitting. The fitting sits under the door panel and hinge-half on one side of the hinge-half and one washer goes under the door panel and hinge-half on the other side.
(Bolt goes through the washer)



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



Side view of assembled lower hinge-half on door



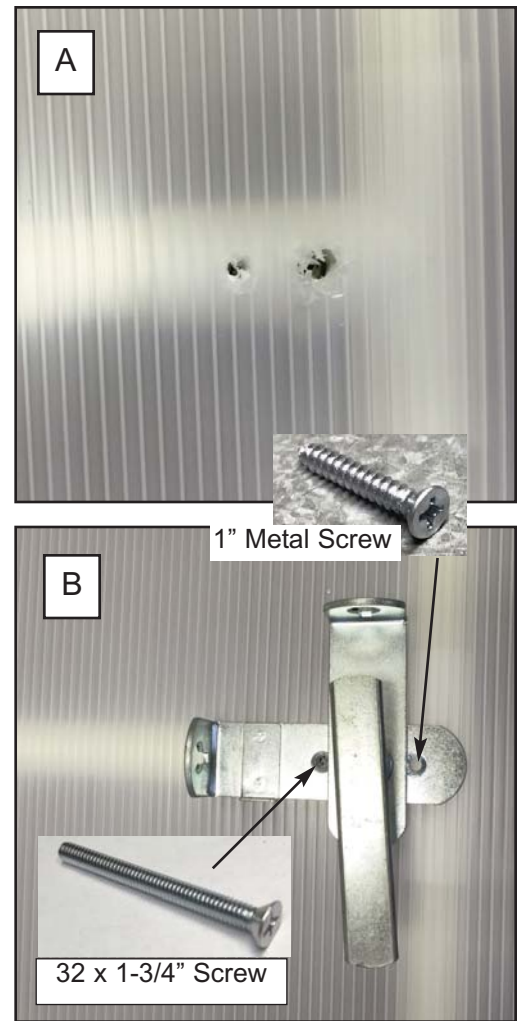
11. **Door lock** - The center cross bar of the door will set the height of your door lock/handle. From the outside of the greenhouse, look through the door panel at the holes in the predrilled snap-T, this would be the height of the outside door handle. To adjust to your preferred handle height, slide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

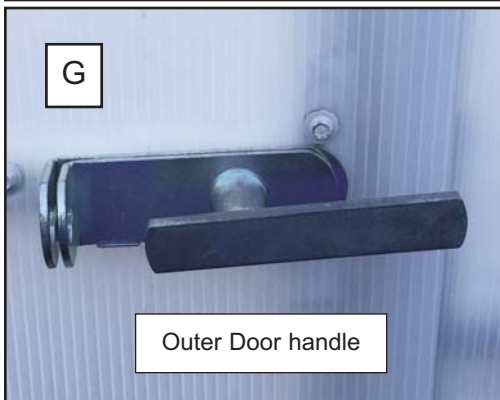
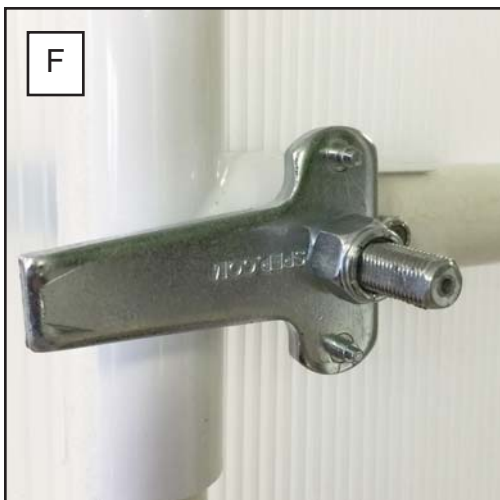
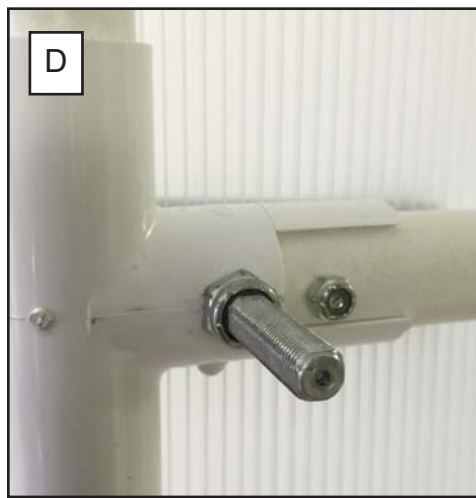
From the outside of the greenhouse, use a sharp thin bladed knife and push the blade of the knife through the panel and into the large predrilled hole. Do this twice so that you are cutting an "X" in the panel right where the predrilled hole is at and then twist the knife when it is in the hole, do the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





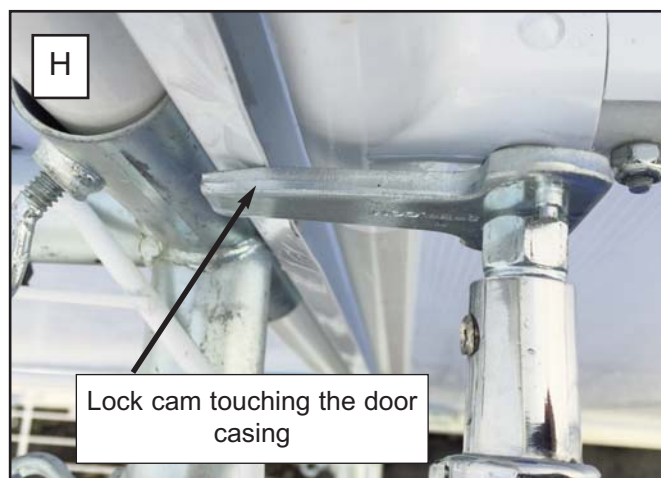
12. **Inside Door Handle** On the inside of the door, attach the 8/32 lock nut (the small nut in the kit) on this screw. See picture “C”.

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. 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.

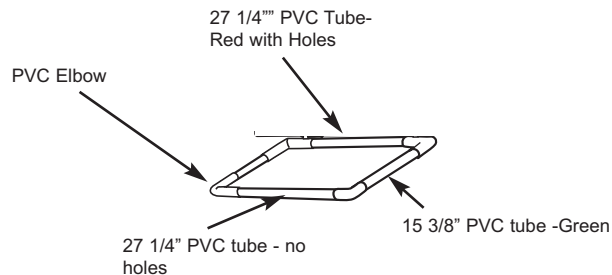
Next go inside the greenhouse and shut the door, when the door is shut push the inner door handle down which will swing the door lock cam out so it is now behind the door casing keeping the door from opening. Check to see if there is any space between the door lock cam and the metal door casing, if so, 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 “H”. This adjustment keeps the door shut snugly against the door casings.



12. VENT ASSEMBLY

Pieces Required

- 1 30 3/4" x 18 1/2" Panel (**With holes for hinges**)
- 1 27 1/4" PVC Tube - RED (**With Holes for Hinges**)
- 1 27 1/4" PVC Tube - Red
- 3 15 3/8" PVC Tubes - GREEN
- 1 30 3/4" U-Trim
- 2 18 1/2" U-Trim
- 6 Small Phillips Screws
- 2 Snap-T's
- 1 Narrow Snap-T
- 6 PVC Elbows
- 3 2" PVC Nipples
- 1 PVC End Cap
- 12 1" Screws
- 4 1 1/2" Bolts and Nuts
- 2 Hinge halves and pins

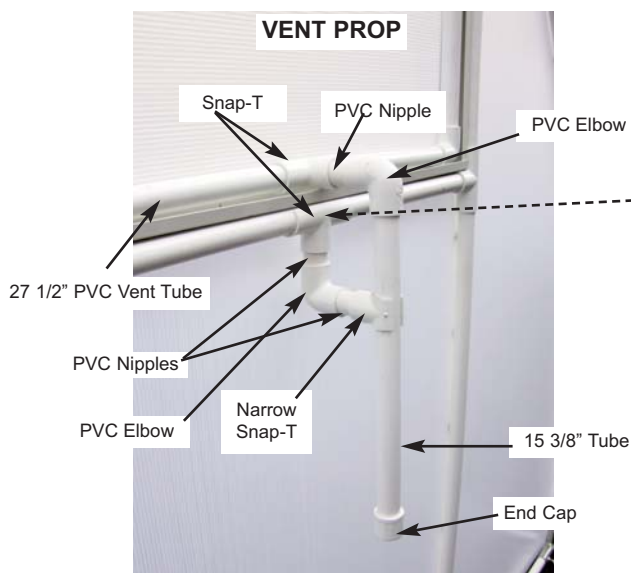


1. Assemble the vent on a flat surface by attaching a **PVC Elbow** to each end of both **27 1/2" PVC tubes (1 with holes one with out holes)**. Make sure the Elbows are not twisted. Then attach 2 of the **15 3/8" tubes** to the PVC Elbows, forming a rectangle. Make sure the assembly is not twisted, the tubes are seated all the way into the elbows and the holes are straight up on the tube with holes.
2. Place the **30 3/4" x 18 1/2" Panel (with holes for hinges)** over the vent frame and match up the holes in the 27 1/4" tube with the holes in the panel and the holes in the hinge pieces. Bolt them together using two - **1/4" x 1 3/4" Bolts** and two **nuts** for each hinge. The bolts join the hinges and the paneling to the 27 1/4" PVC tube.
3. Double check to make sure it fits inside the opening in the greenhouse (vent opening) and that the hinges match up.
4. Attach the vent to the greenhouse by lining up the hinges on the vent with the hinges on the back of the greenhouse (Top vent casing) and inserting the hinge pins.
5. When it is all lined up, screw the panel to the frame using **1" screws**. **Do not put a screw in the center of the bottom tube.** Caulk the open flutes and attach the U-trim to the sides and bottom of the panel with the small phillips screws.



30 3/4" x 18 1/2" Panel 30 3/4" U-Trim 18 1/2" U-Trim

12-A. Vent Prop *NOTE: If you purchased an Automatic Vent Opener you will not need the Vent Prop. Omit this step and follow the solar vent opener instructions.*



INSIDE GREENHOUSE

1. From inside the greenhouse attach 1 **snap-T** to the center of the 27 1/4" PVC tube on the bottom edge of the vent frame. Attach the other PVC Snap-T to the center of 30 1/2" PVC tube on the back end wall frame. (The tube under the bottom vent casing)
2. Glue a **PVC nipple** into both snap-T's.
3. Glue a **PVC elbow** as pictured onto both PVC nipples.
4. On the bottom elbow, glue another nipple and then glue the narrow snap-T onto the nipple
5. Glue the **15 3/8" PVC tubes - green** into the top elbow, and snap the tube into the narrow snap-T.
6. Glue the PVC **end cap** to the end of the 15 3/4" tube.
7. To open the vent: rotate the prop assembly up and push the 15" tube through the narrow snap-T. The narrow snap-T will hold the vent open. To close, pull the 15" tube back and push down to lock.

NOTES

HELPFUL HINTS

1. Silicone caulking where the front and back wall join the curved wall will help seal and winterize the unit. Also caulk any holes from screws or punctures in the panels.
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. See our catalog to find many useful greenhouse accessories.

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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