
Cross Country Arctic Series Free Standing Greenhouses



Manufactured for:



Contents

Foreword	2
User Notes	2
List of Drawings	3
Cross Country Triple Wall Series Component List	4
Foundations	5
Assembly of the Aluminum Frame	
A. Back Gable-End Assembly With Door	6
B. Front Gable-End Assembly	9
C. Sidewall Assembly	14
Aluminum Frame Installation	
1. Side Wall	17
2. Side Wall To Back Gable End	17
3. Side Wall To Front Gable End	17
4. Bolt Side Wall to Front and Back	18
5. Ridge	18
6. Truss Assembly Installation	219, 20 & 21
7. Perlin Installation	22
8. Poly Bar With Sliders (#1 or #2 or more)	23
9. Vent Frame Bottom Angle	24
10. All remaining Roof Bars	25
11. Taping Glass bars with Foam	26
<i>Side Vents, Intake Shutter, Polycarbonate Roof and Exhaust Fan Installation (if necessary).</i>	<i>See Appendices B through F</i>
Polycarbonate Panels and Cap Installation	
General Information	27
12. Side Walls	28
13. Roof Panels	29
14. End Walls	30
Door And Vent Installation	
15. Door Installation	31
16. Vent Assembly	33
17. Vent Installation	34
18. Sealing the Greenhouse	36
Appendices: Optional Installations	
Vent Opener	Appendix A
Motorized Intake Shutter	Appendix B
Exhaust Fan	Appendix C
Side Vent	Appendix D
Glass Louvre	Appendix E
Diagonal Brace	Appendix F
Cedar Bench	Appendix G
Greenhouse Bench	Appendix H
Roof Vent Screen	Appendix I
Side Vent Screen	Appendix J
Wire Shelving	Appendix K

Foreword

Your Cross Country greenhouse is designed and constructed to the highest engineering standards and provides structural strength and maintenance-free service for year-round gardening pleasure.

The Cross Country greenhouse must be built upon a firm, level surface. The greenhouse foundation or sill can be made from pre-treated timbers, concrete or bricks. Whatever your choice of material, the base must be square and level.

When selecting a site for your greenhouse, keep in mind that a flat, level site is essential so that the greenhouse can be easily installed and the complete structure is stable and secure. If possible, choose a site with proper water drainage.

Locating the greenhouse in a north-south position is most suitable for raising summer and autumn crops since the sun's rays will be on the greenhouse from daybreak until sunset. An east-west position is ideal for early spring and winter crops since the winter months, with shorter daylight hours, still allow six hours of light exposure to the greenhouse.

Try to locate your greenhouse for easy access, especially to the necessary power and water that is required for greenhouse gardening.

Please watch the enclosed video and follow the steps in this manual for your greenhouse installation. *Remember, if all else fails, read the instructions.*

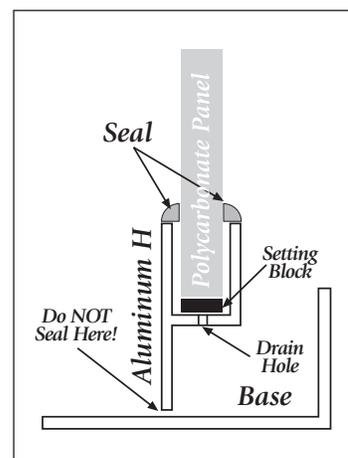
User Notes

The Cross Country greenhouse structure has been designed to withstand extreme weather conditions such as high winds and accumulated snowfall. Hanging baskets and sidewall shelving can also be attached to its sturdy frame. The greenhouse design also makes it possible to add extra sections at a later date.

Sealing the polycarbonate sheets to the aluminum "H" (*see sketch*) and base is optional, however we highly recommend it.

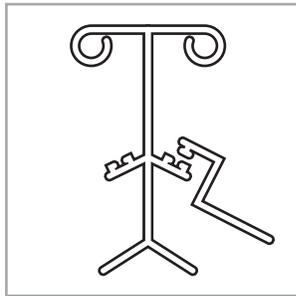
By eliminating water from entering the inside of the aluminum, will prevent excessive moisture inside the panels.

Once a year the greenhouse needs to be completely washed inside and out. You should do this task when your greenhouse contains the least number of plants, generally just before the garden plants are brought in for wintering over. A recommended cleaning solution is a mixture of soap and water, this will not damage your polycarbonate sheets. Any benches, shelving, plastic trays, pots and baskets should also be cleaned thoroughly. *Prevention is the best known method for controlling pests and diseases in the greenhouse.*

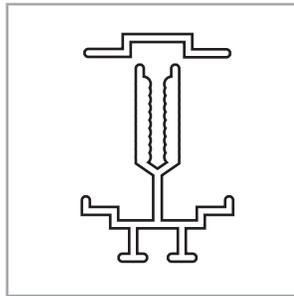


NOTE: Do not store polycarbonate sheets in the sun.

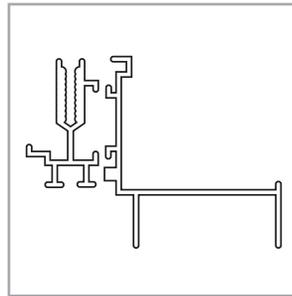
Cross Country Triple Wall Component List



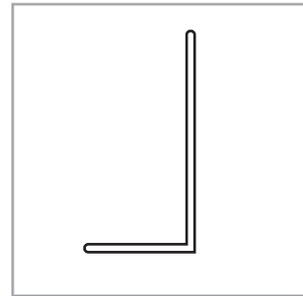
Ridge



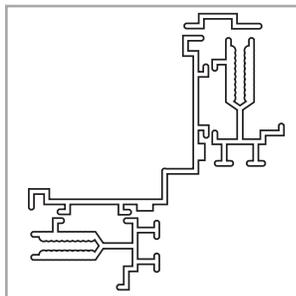
Poly Cap & Poly Bar



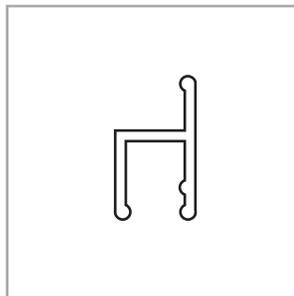
End Rafter



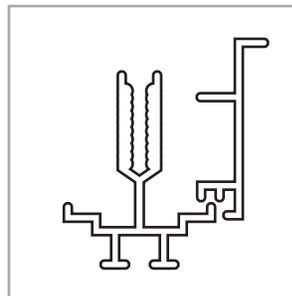
Ventframe Bottom



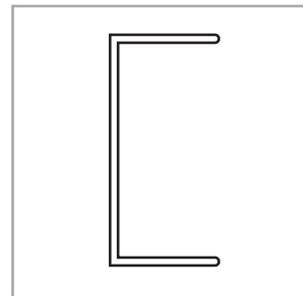
Corner Post



Aluminum "H"



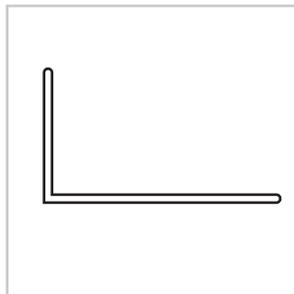
Vent Frame Sides



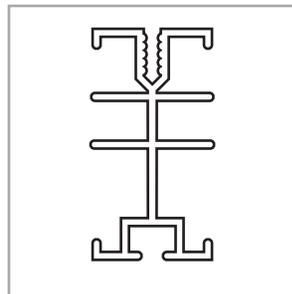
Perlin (if required)



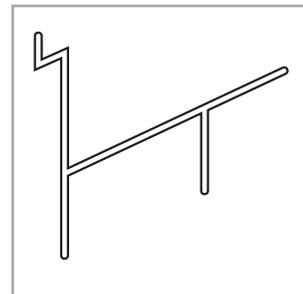
Screws and Bolts



Base / Sill



Door Frame



Gutter

Tools

- #2 Square head screw driver
- Measuring tape
- Level to check foundation
- 3/16" concrete bit (concrete foundation)
- 9/64" aluminum bit
- 15/64" aluminum bit fastening perlin to trusses (larger greenhouses)
- 7/16" wrench
- Razor blade cutter
- Caulking gun
- Ladder
- Hammer

Optionals

- Automatic Opener
- Circulating Fan
- Max/Min thermometer
- Benches
- Eyebolts
- Motorized Intake Shutter
- Exhaust Fan
- Thermostat
- Heater

Foundations

Check your local building codes for foundation requirements in your area.

CONCRETE FOUNDATIONS

When you prepare the concrete foundation, the size should be exactly the same as the outside dimensions of the greenhouse.

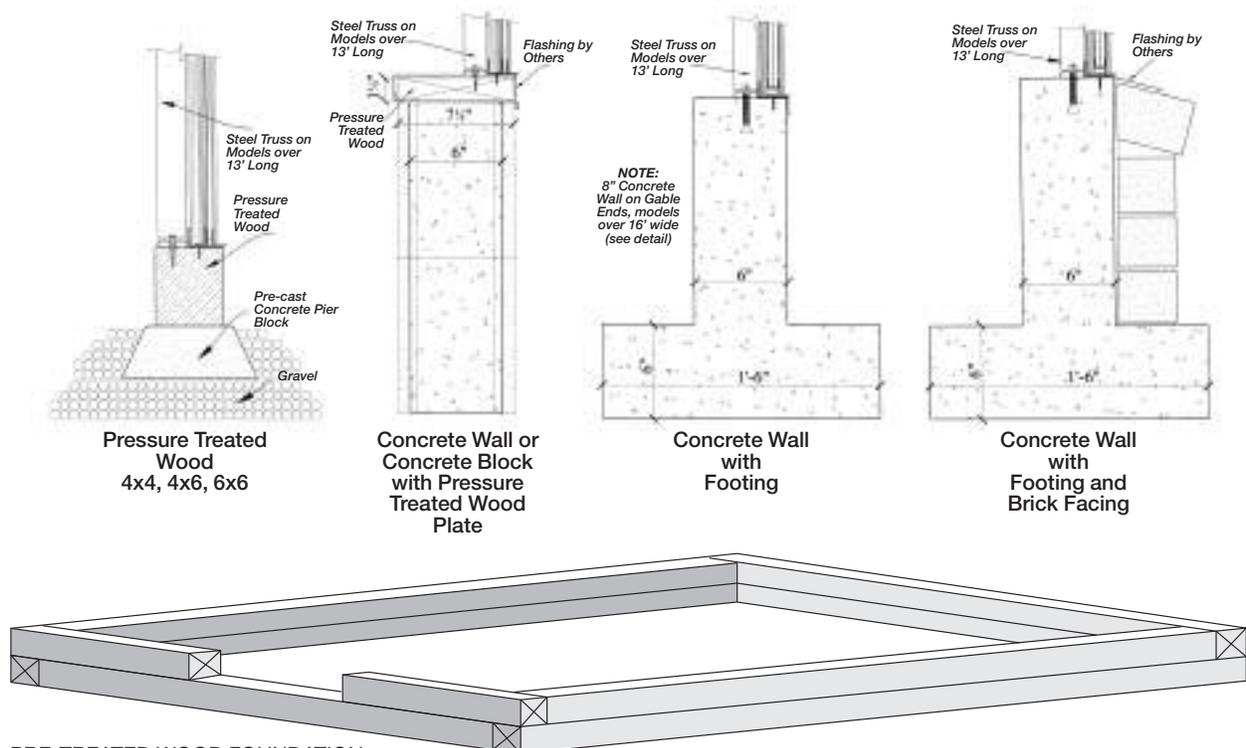
PRE-TREATED WOOD FOUNDATIONS

A greenhouse that is approximately 100 sq. ft. (9.3 m²) can be fastened to a 4" x 4" pre-treated wood timber foundation. For larger greenhouses, a 6" x 6" wood timber foundation is recommended. These timbers are placed on a 4" (10 cm) deep and 8" (20 cm) wide gravel bed. Wood timbers can be stacked to increase the height of the greenhouse. *One advantage of the wood foundation is that it is not classified as a permanent structure. Therefore, if you move, the greenhouse can be dismantled and moved to another location. IMPORTANT NOTE: Please see the last page of this manual for important information regarding the 'New' Pressure Treated wood.*

A SQUARE AND LEVEL FOUNDATION

Check the width and length of the foundation's outside dimensions. Then, square the foundation by measuring diagonally from opposite corners in the form of an "X". Next, use a long carpenter's level to check and adjust the foundation until it is level. Finally, measure where the door will be placed (in most cases it is 34 1/2" wide). Mark these measurements on your foundation.

Foundation Styles

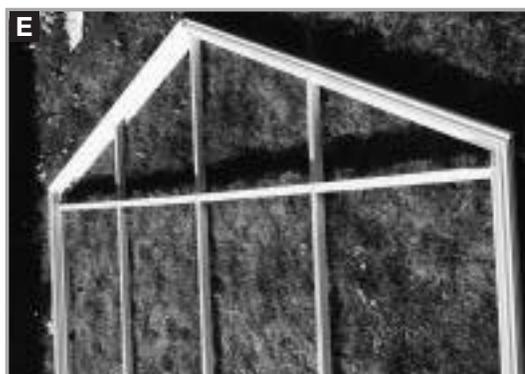


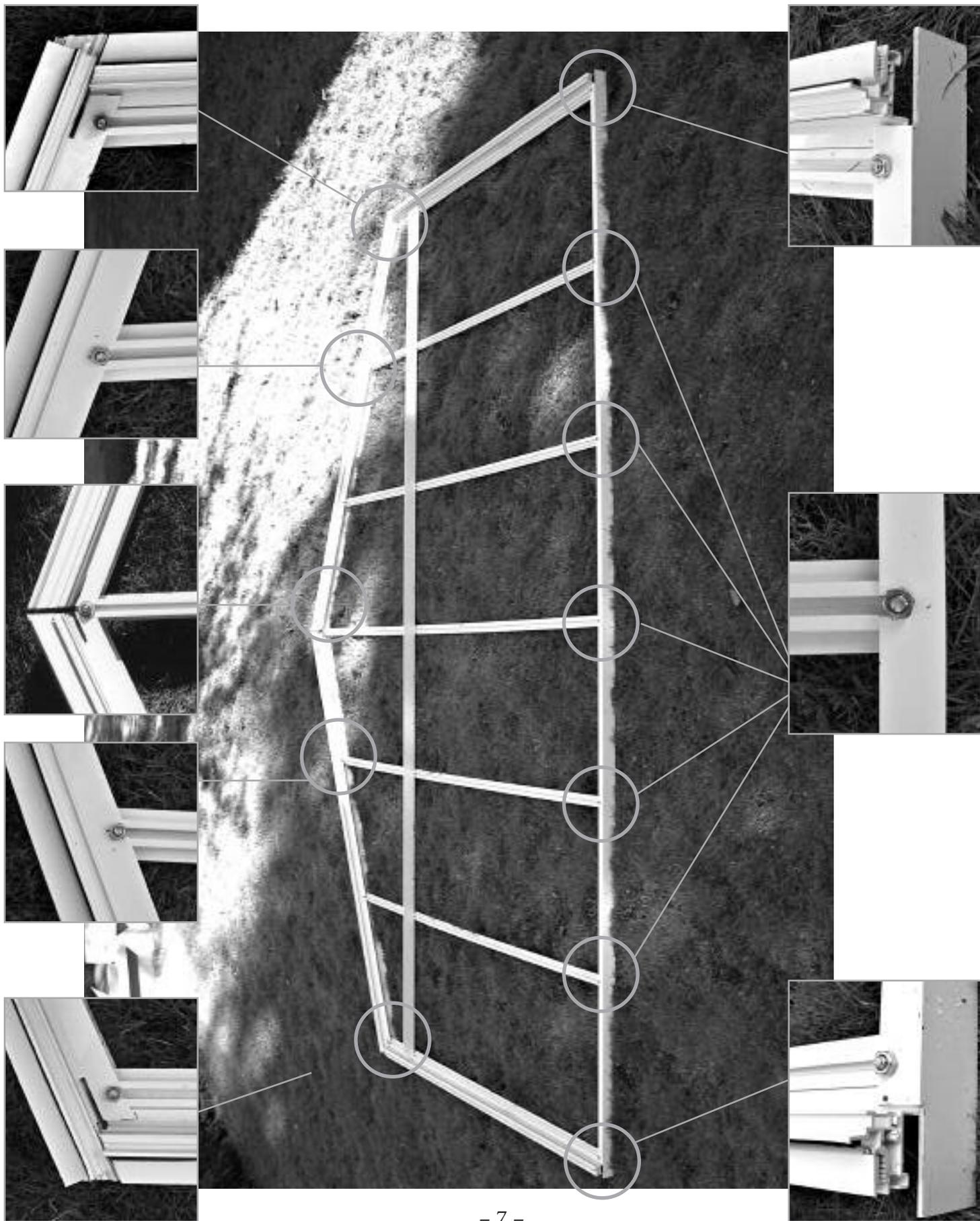
PRE-TREATED WOOD FOUNDATION

Back Gable End Assembly

Lay out the back pieces into the shape of the end wall. See page 7 for details and refer to the line drawing on page 8.

1. The 1" x 2" angle / base laying on the ground should have the 1" side (with the slot punches out) facing up. (See Pic A)
2. Bolt the corner post onto the base angle. (See Pic B)
3. Bolt on all the end bars to the base. Make sure that the longest bar is in the center of the back wall. (See Pic C)
4. End Rafter. When fastening end rafters to the cornerpost, leave a 1/8" space for gutters etc. See page 10. (Also See Pic D)
5. The angle cross brace is approx. 60" from the base bolted on with 1/4" x 1/2" bolts. (See Pic E)



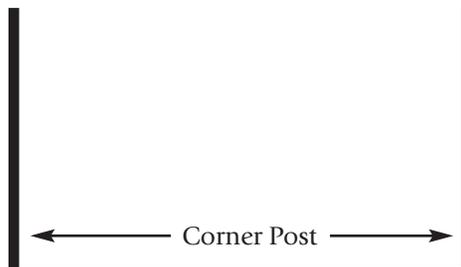


Back Gable End Line Drawing Assembly Procedure

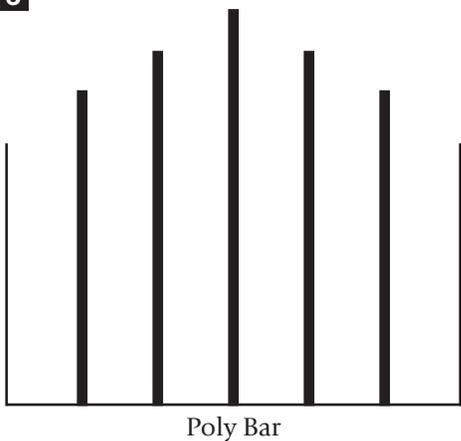
1



2

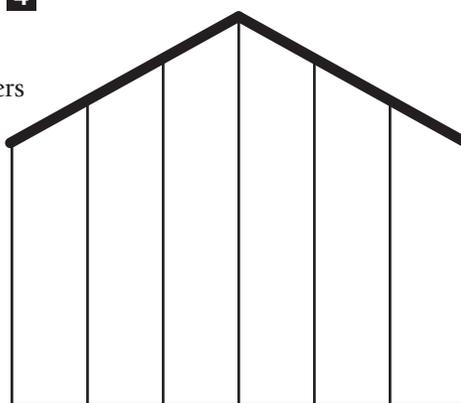


3

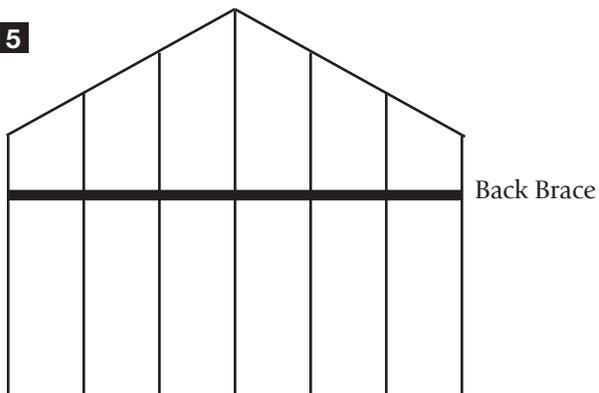


4

End
Rafters



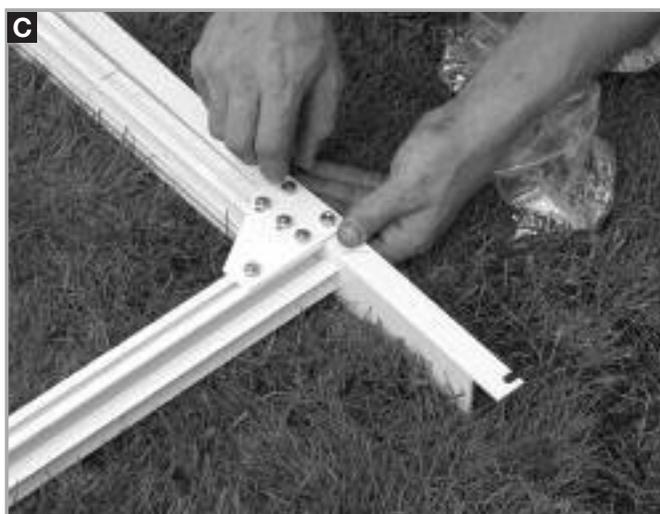
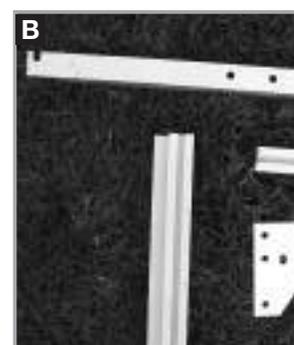
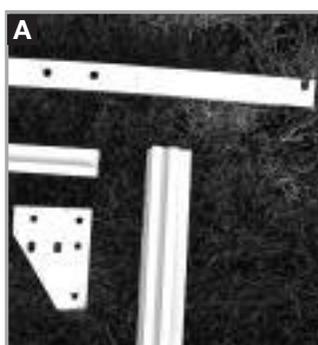
5



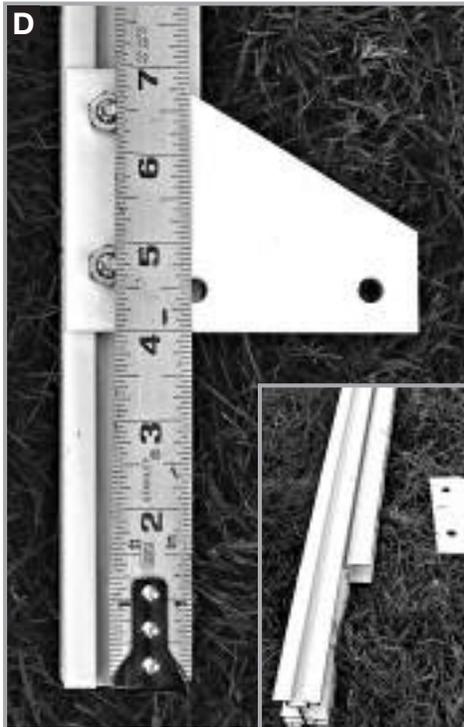
Front Gable End Assembly

Lay out the front pieces into the shape of an end wall. The doorframe and all poly bars have a track for the bolts. The track must face up towards you when you assemble the gable ends. Slide the bolts in to the ends or use the notches that are punched out in the glass bars. Refer to the line/detail drawings when assembling. *(the sketches/ drawings/ pictures are viewed from inside the greenhouse pages 13 & 14).*

1. At the top of the doorframe, put on the doorframe header (which looks the same as the side pieces). Put the header **between** the two side pieces and bolt on the plates (6 holes). The plates should stick up 1" above the doorframe. Note how the plates are put on. Before tightening the bolts, be sure to square up the doorframe *(see pic A & B)*.
2. The 1" x 2" angle above the door (50" long) can now be bolted on. The 1/4" round holes should be lined up with the holes in the plates *(see pic C)*. Each end of the 1" x 2" angle has a slot punched out to accommodate the bolt in the upright polybar *(see pic C)*.
3. Bolt the bottom plates (4 holes) to the base/sill and the doorframe sides using 1/4" x 1/2" stainless steel bolts *(see Pic D & E)*. Before tightening the bolts, be sure that it is square. *(A greenhouse with no door drop – fasten the plate flush with the bottom of door frame. A greenhouse with a door drop, measure from the bottom of the doorframe to the underside of the base according to the specified distance)*
4. Take the corner post *(angle cut on top)* and bolt it to the base *(see Pic F & G)*.



Front Gable End Assembly (contd.)



Front Gable End Assembly (contd.)

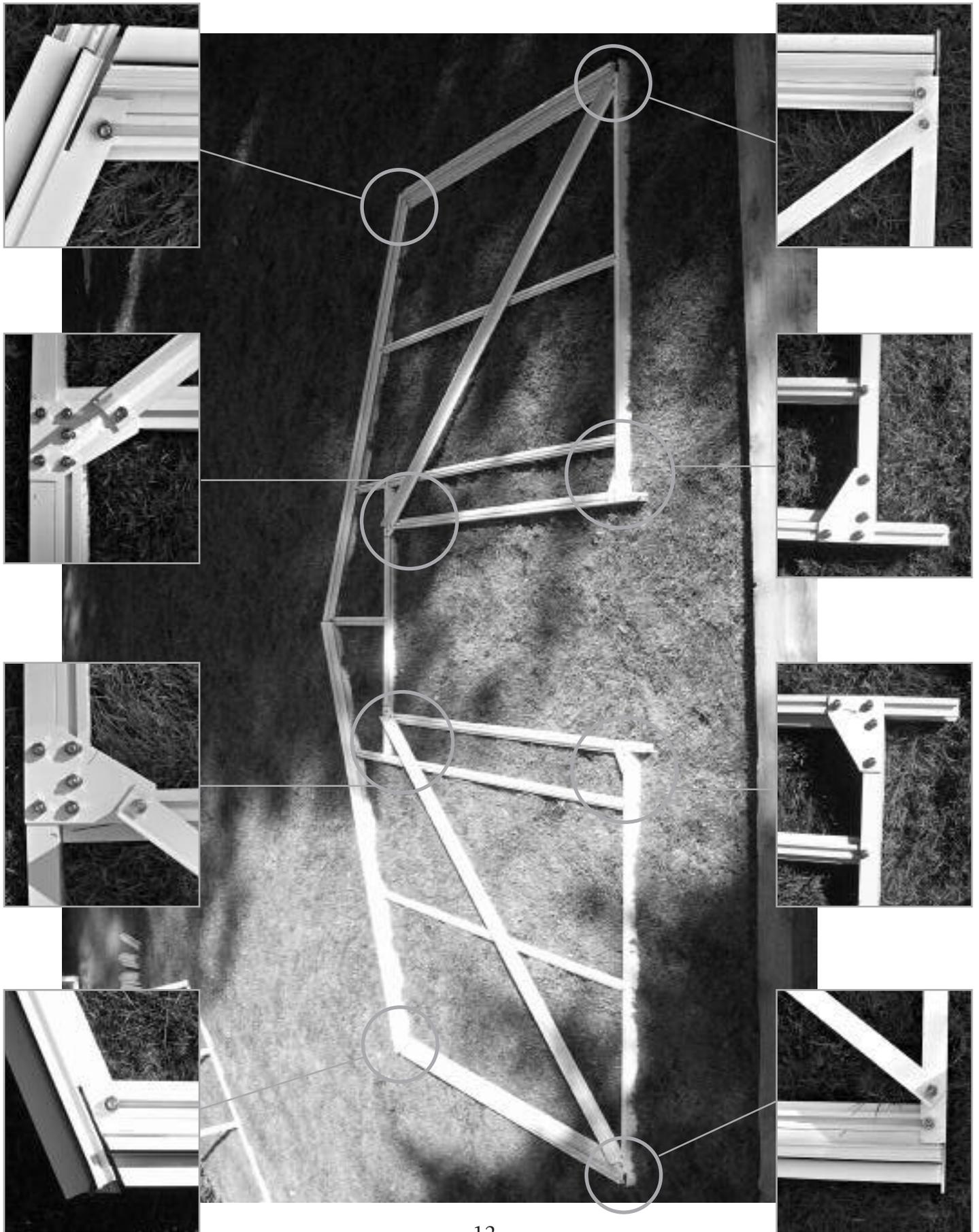


5. Install the polybar on each side of the door frame (*make sure that the angle cut on top matches the slope of the roof*).
6. End Rafter - when fastening end rafters to the corner posts, leave a 1/8" space for the gutters to slide through (*see Pic H & I*). The punched out slots in the end rafter will line up with upright end poly bars. Slide the bolts in the top of the upright poly bar before you fasten it to the end rafter.

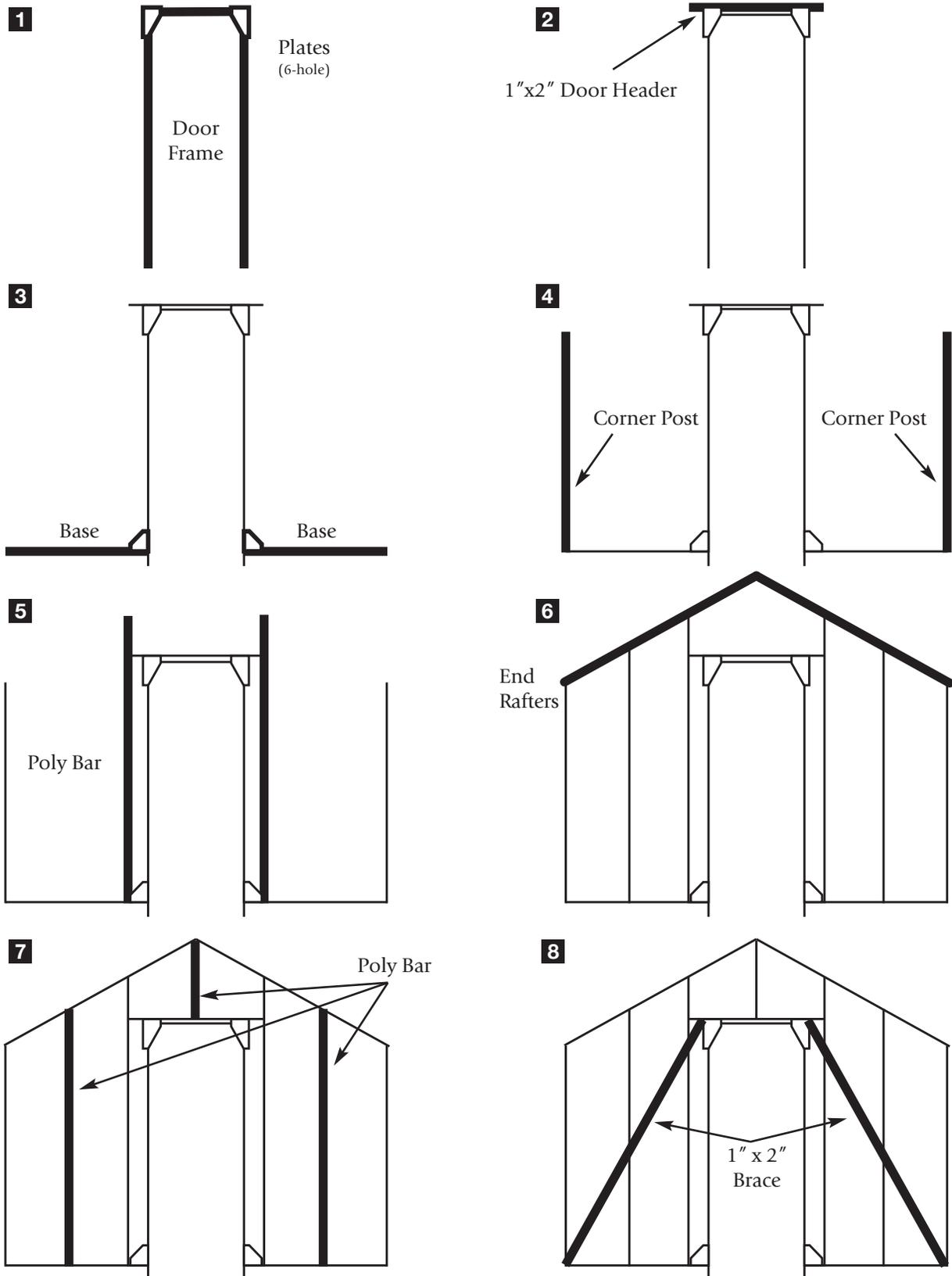
At this point, you can install all the end poly bars. (*A smaller greenhouse may only have 1-bar above the door*). The centre bar uses a 1/4" washer to keep the end rafters together. Please allow a 1/8" slot above the centre bar for the ridge to slide into (*see Pic J*).

7. Smaller sized greenhouses have a horizontal brace. Larger sized greenhouses will have a diagonal brace from the top door frame plate to base/sill 2" from the corner post (*A temporary piece of wood can be fastened from door frame vertical to door frame vertical. This will help hold the front together*).





Front Gable End (with door) Line Drawing Assembly Procedure

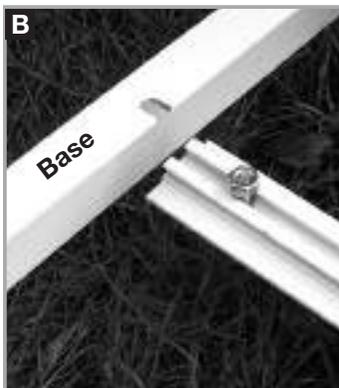


Sidewall Assembly



Lay out the sidewall with the gutter at the top - base at the bottom (*See Pic A*). You will notice that each sidewall glass bar has a straight and an angle cut. The straight end fits against the base (*See Pic B*) and the angle goes towards the gutter (*See Pic C*). Always face the bolt slot in the glass bar towards you.

1. Take all the poly bars and bolt them to the gutter (*See Pic D*). Start your bars approx. 2' in from the end of the gutter and base.
2. Bolt the poly bars to the base. Ensure bar fits tight to base and gutter.



Aluminum Frame Assembly & Installation

1. SIDE WALL page 17

Take the assembled sidewall and stand it up on your foundation.
Note: Each end of the side base is 2" shorter than the foundation (See Pic A).



2. BACK GABLE END page 17

Take the end wall and slide a bolt into the corner post and end rafter (top and bottom) move it down and up approx. 3" and temporarily tighten the bolts. Now stand up the end wall. Slide the gutter (sidewall) in between the end rafter and the corner post. (There should be a 1/8" space - See Pic B). By sliding the gutter in as far as it goes, the punched out slots line up with the bolt track (See Pic C). Undo the bolts and slide it into the slots and tighten up. Do the same with the bottom base (See Pic D).



3. FRONT GABLE END page 17

Follow the same procedure as the back gable end.

4. SIDEWALL page 18

Place the sidewall in between the front and back. You will have to push the corner/end rafter out just a little to get the gutter in.



Aluminum Frame Assembly & Installation (contd.)

5. RIDGE page 18

For a small greenhouse, you handle the ridge by yourself. Over 12' long it be easier with 2 people. Set the ridge on top of the end rafters in the middle of the greenhouse. Push the end rafter out and drop the ridge down 2" and slide it in-between as far as it goes. The bolt track in the poly bar lines up with the punch mark in the ridge. Undo the bolt and slide it up and fasten it (See Pic E).



6. TRUSS ASSEMBLY INSTALLATION page 19 & 20

7. PERLIN INSTALLATION page 22

8. POLY BAR WITH VENT FRAME SLIDERS page 23

Each poly bar has a slider with a number on it. This number will also be marked on the ridge. Slide a bolt in the end of the poly bar (*angle cut end*) and push it tight against the ridge and bolt it on. (see Pic G). At the bottom end of the poly bar that now sits into the gutter, lift up the bar and slide the bolt (*or use the punch out*) and fasten the bar to the gutter. (See Pic F).



9. VENT FRAME BOTTOM SECTION page 24

The vent frame bottom is now ready to go in between the poly bars that you have just installed (See Pic G). The 2" side of the angle faces towards the Ridge (See Pic H). Move the bolt up the poly bar and fasten it. Be sure the slider (*on the bar*) butts tight against the ridge lip (See Pic I).



10. REMAINING POLY BARS page 25

All remaining poly bars can now be installed. Make sure that the top is against the ridge. Before you tighten the poly bar on the gutter, eyeball the gutter to see if it is straight. There is usually about a 1/8" space between the poly bar and the gutter.



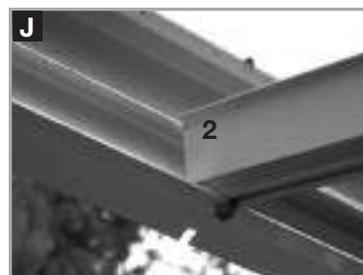
NOTE: Fasten the greenhouse base/sill to the foundation using #8 x 1" screws (if it is on concrete, drill holes using a concrete bit and push the plastic plugs into the holes). If possible, lift the greenhouse and seal below the base before fastening the greenhouse to the foundation.



11. Your greenhouse is now ready for putting on the 1/8" foam strips. Do not put the foam strips on the base or beside the door. Only use the foam on the poly bars. Do not put foam strips on the gutter (See Page 26).

OPTIONALS

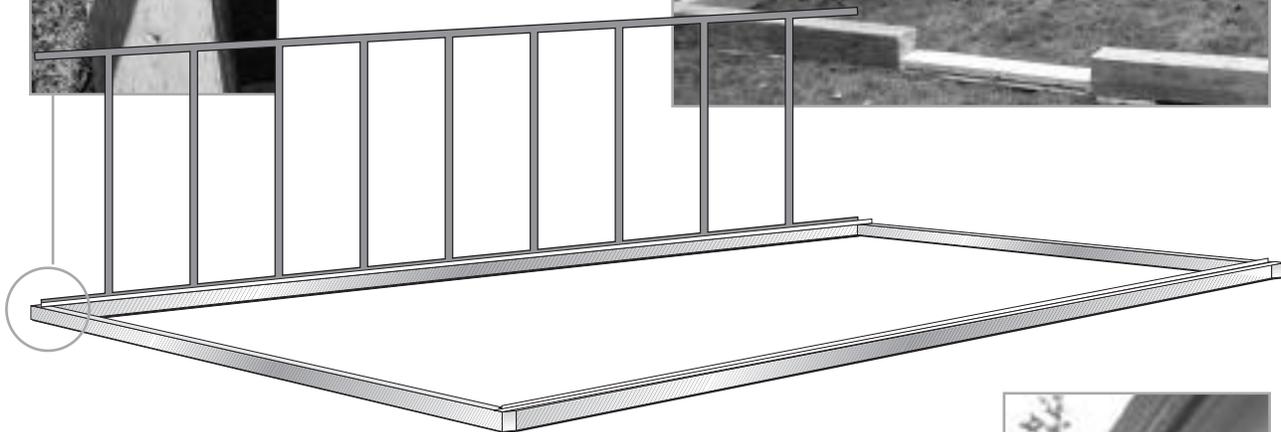
Side vents, intake shutters and exhaust fan installation. See Appendix B – F.



Assembly Outline



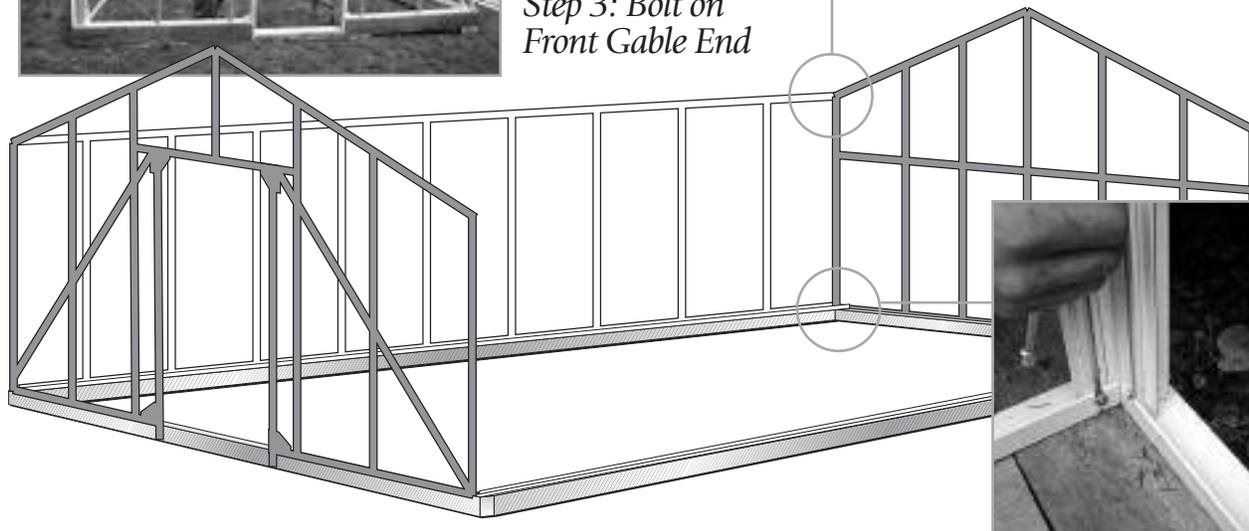
Step 1: Stand up Side Wall



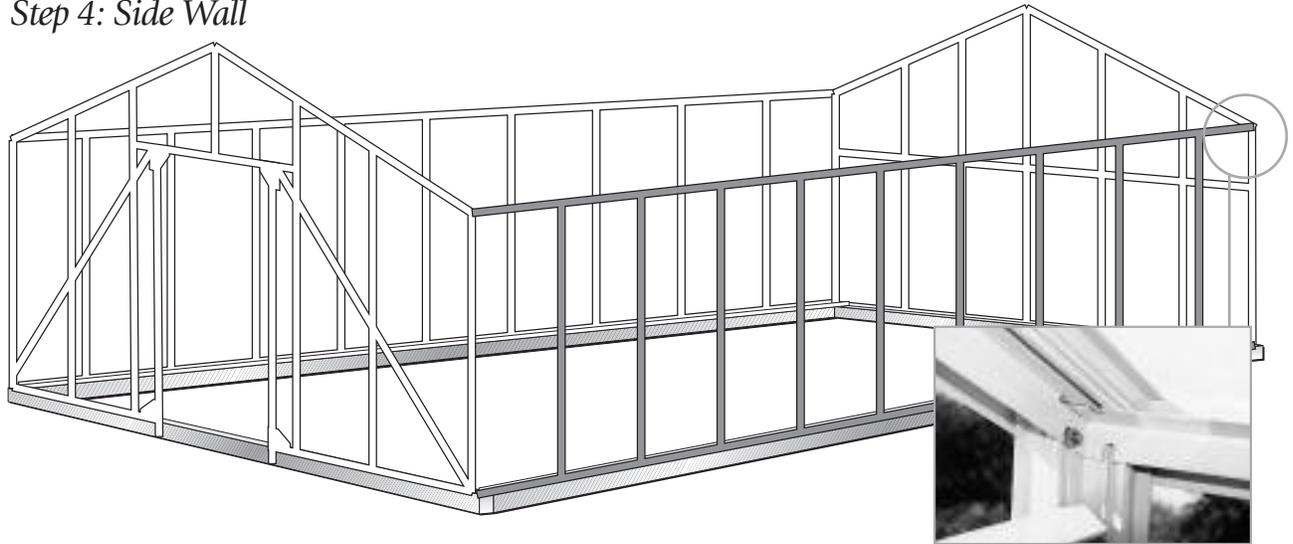
Step 2: Bolt Side Wall to Back Gable End



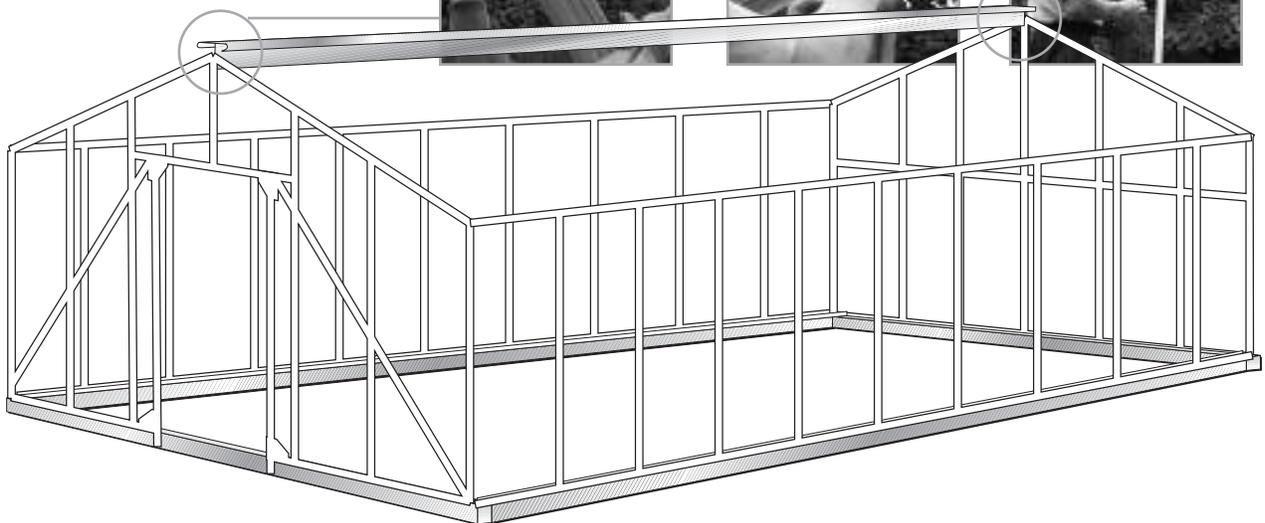
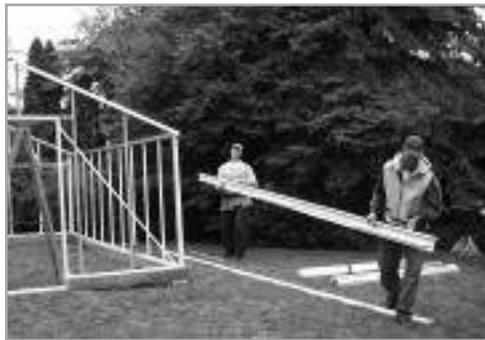
Step 3: Bolt on Front Gable End

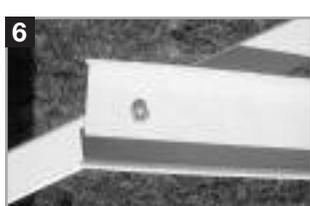


Step 4: Side Wall



Step 5: Ridge





Step 6: Truss Installation

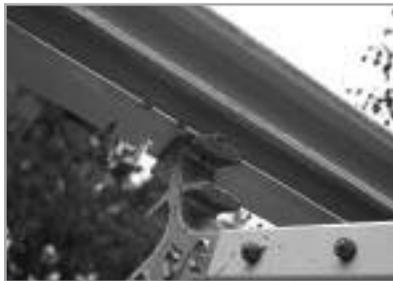
Trusses are installed after the sides, base, front, back and ridge are bolted together. Make sure that the greenhouse is temporarily braced (*see 4A on Aluminum Frame Assembly*).

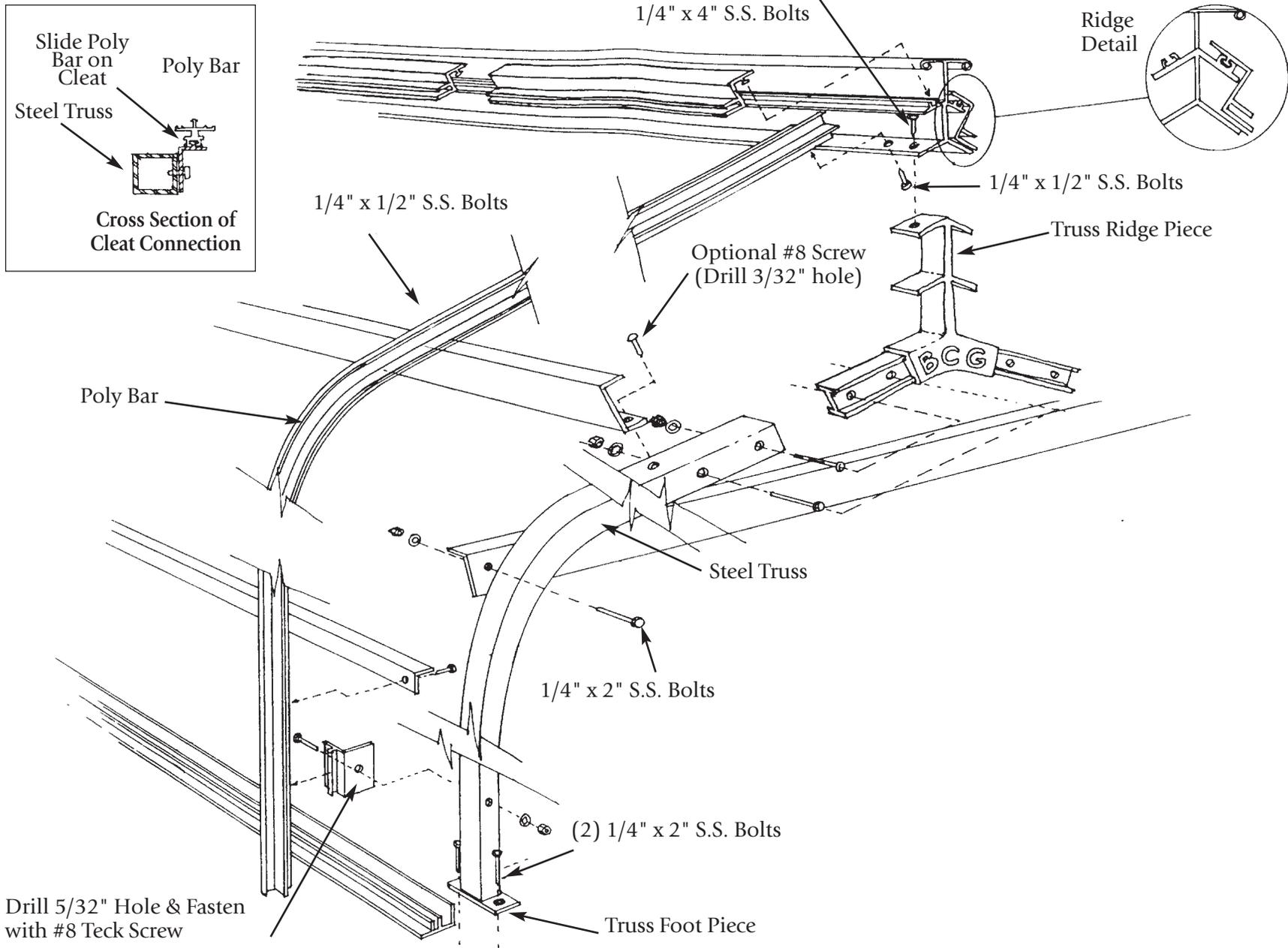
- A. Lay the truss piece in the shape of an end wall.
- B. Slide the center pieces into the top of the truss and bolt them together. **1**, **2** and **3** (*lean to models do not have a center piece – see next page*).
- C. Slide the truss feet into the bottom of the truss and bolt them together. **4** and **5**.
- D. Bolt on the cross brace (*if required*) **6**.

The next step takes two people, one on each side. Carry the truss to the center of the greenhouse and put the feet on your foundation between the side base/sill **7**. Lift the top of the truss towards the ridge and bolt it on **8**. Use the notch on either side of the center. There are three notches in the ridge because if the polybars have already been installed with the truss bracket facing one way, you can bolt the truss to either notch without having to turn the truss bracket around. Sometimes the installers put in all the polybars first and slide the truss bracket in beforehand.

Remove the truss bracket from the truss. (*It may also be in a plastic bag.*) Unbolt the bar from the base. Slide the truss bracket into the bottom of the polybar (*long bar*) **9** & **10** and slide it to the place where there is a 9/64" hole drilled into the truss. Fasten it with a screw. If the hole does not line up, you may have to drill a new hole in the truss bracket **11**. Do this after all the poly bars have been bolted together. To fasten the truss to the foundation, use 1/4" x 2" leg bolts (*see extra pictures on page 20*).







Step 7: Perlin Installation

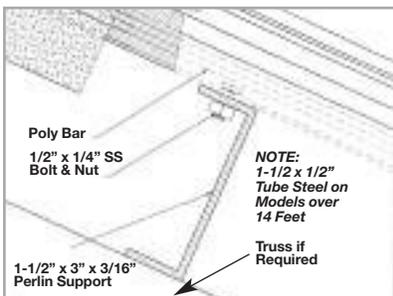
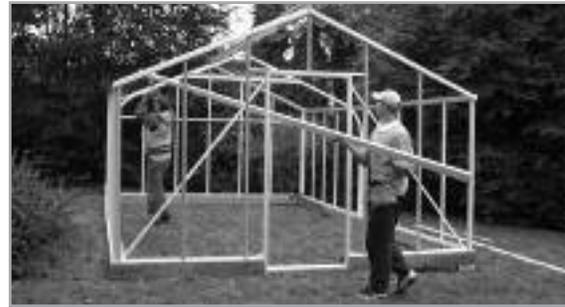
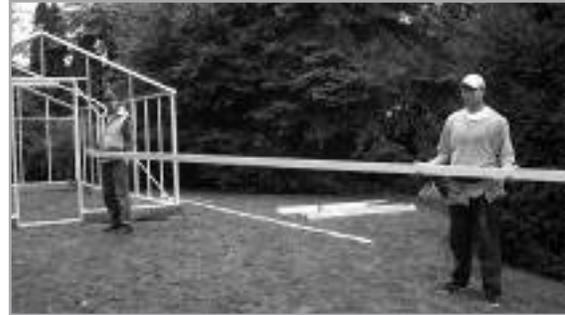
Larger greenhouses have perlin to increase strenght in roof structures.

A perlin can be a heavy or light channel. It usually sits on top of a truss and is bolted to the roofbars in the centre of he roof.

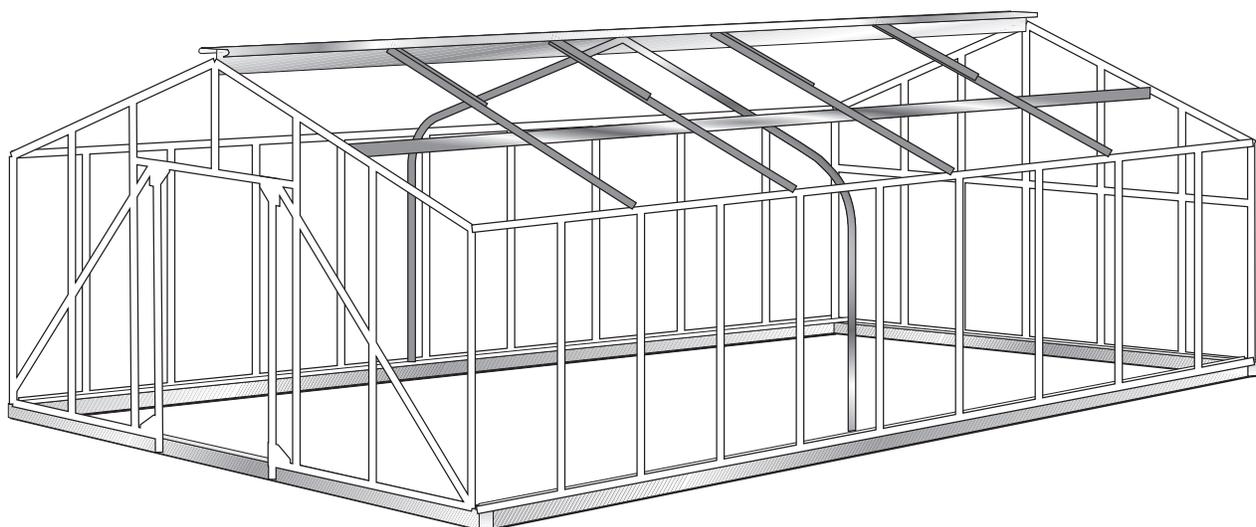
Heavy perlin (*at least 1/4" thick*) requires 1/4" x 3/4" bolts. Smaller greenhouses use a light channel – bolts used are the same as the greenhouse bolts, 1/4" x 1/2."

Installation of a perlin is a simple matter of sliding the bolts into the roof bars and fastening the perlin (*see photos*).

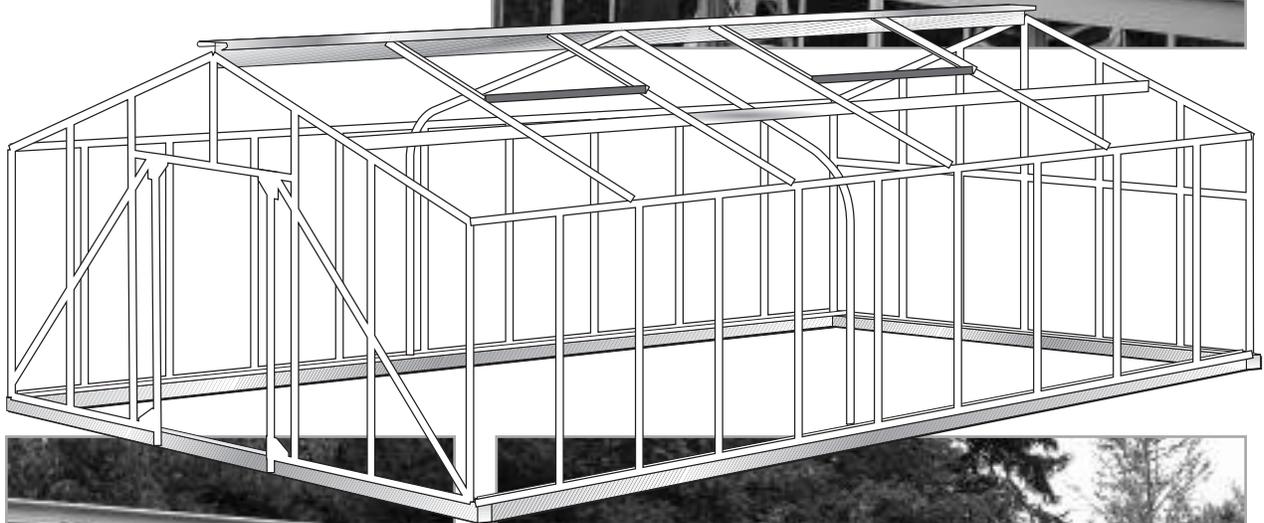
Bolt Perlin with the open side facing up if you wish to use it for hanging baskets.



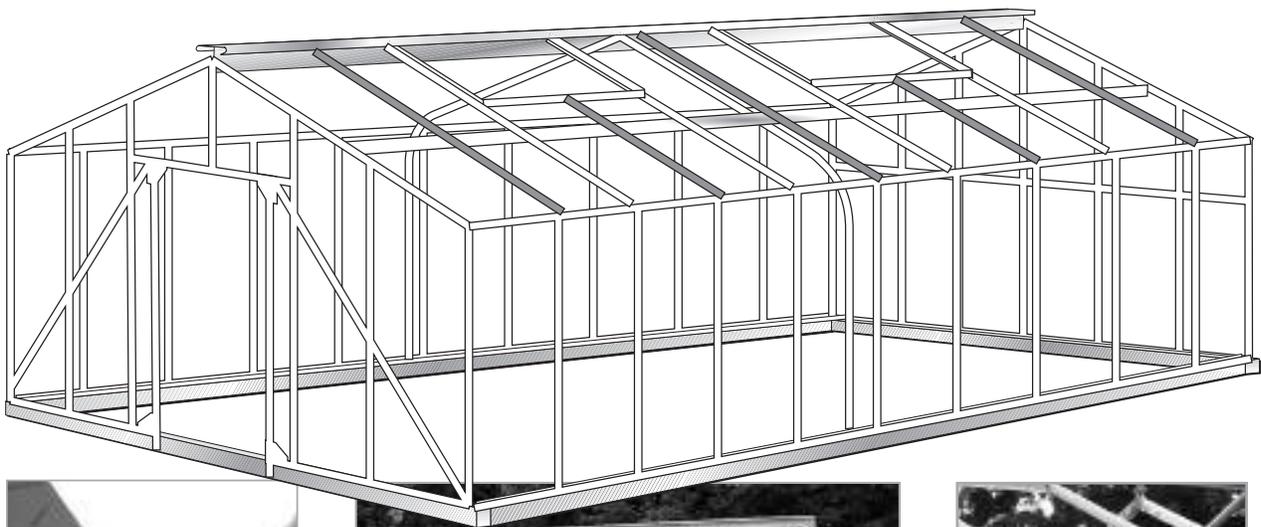
*Step 8:
Roof Poly bar
with Vent Frame Sliders*



Step 9: Vent Frame Bottom



Step 10: Install all remaining roof bars

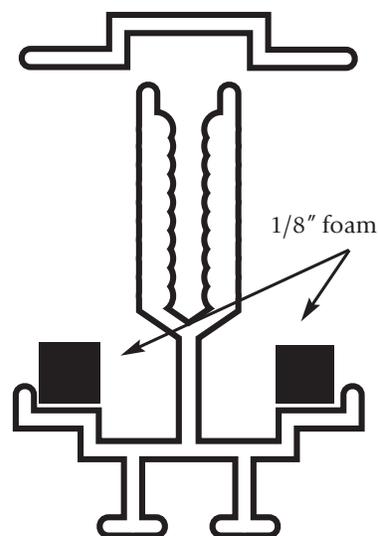


At this time fasten the greenhouse base/sill to the foundation.

NOTE: *Fasten the greenhouse base/sill to the foundation using #8 x 1" screws (if it is on concrete, drill holes using a concrete bit and push the plastic plugs into the holes). If possible, lift the greenhouse and seal below the base before fastening the greenhouse to the foundation.*

11. TAPING POLYBARS WITH FOAM

Tape all the aluminum polybars with 1/8" foam tape both sides. Take a roll of tape and start at one end and press on the bar. *Make sure that the aluminum is dry.* Slowly roll down the tape toward the outer edge and press it down at the same time (See Pictures). Be careful because sometimes the edge of the paper is quite sharp. Do not remove the paper until later.



NOTE:

Taping the greenhouse can be done before you put the frame together.

If the weather is bad or dark outside, you bring everything inside the garage and put the foam strips on the bars.

Make sure that the front / poly / side / roof bars don't get mixed up, it would make it much harder to put it together.

Polycarbonate Panels & Cap Installation

GENERAL INFORMATION ABOUT HANDLING POLYCARBONATE

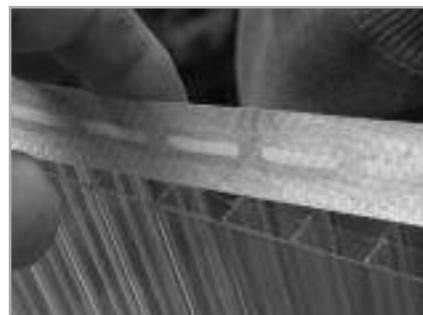
All polycarbonate sheets are covered with a thin sheet of plastic on both sides to prevent the sheets from becoming dirty and scratching during handling. One side is a clear plastic while the other side is blue or some other colour, depending on the manufacturer. This latter side should be installed so that it faces out. (**VERY IMPORTANT: Mark the sheet to indicate which side should face out.**)

ONLY THE BOTTOM ALUMINUM "H" that goes on the end of the panels has drain holes.

FOIL TAPE

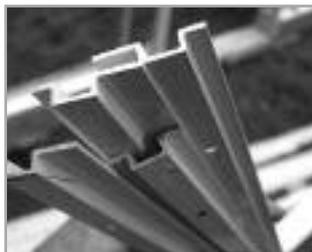
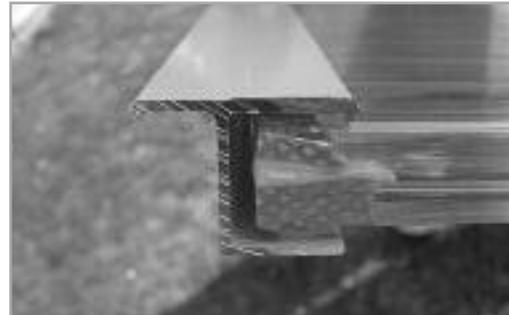
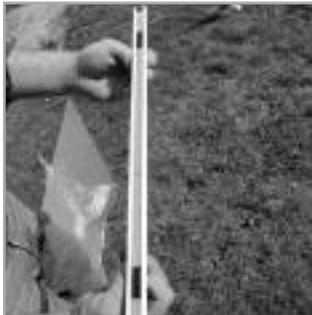
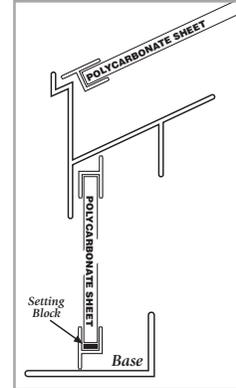
All triple wall panels should be taped on both ends (*keeps bugs out*). Take the panel, peel off the protective plastic (*make sure the outside corner is marked*). Or if you do it before installation you can just peel back the edges. **TOP OF THE PANEL** uses a **SOLID** foil tape. Take off the backing of the tape and lay it on the end of the panel, press the edges down a little and move your hand along the panel to the end. Be careful when you slide your finger along the edge of the tape – it is sharp! When finished go back and bend the edge all the way over. **BOTTOM OF PANEL** use the **VENTILATED TAPE** (*this tape has breathing / drain holes*). To cut this tape you will have to use a knife or scissors. Put it on the same way as solid tape.

(If it is sunny – do not lay your panels on the grass too long – it WILL burn your lawn. Also do not store polycarbonate bundles outside in the sun. Instead, store them in a cool dark place, such as a garage, until you are ready to use them.)



12. SIDEWALLS

Take side panels and peel back the protective poly. Mark the outside top corner with a marker – apply foil tape, ventilated for the bottom / solid for the top (*you can do all the panels before hand or 1 at a time*). After the tape is applied, take an aluminum “H” and put it on the top first (*see pic A*). Next put one on the bottom (*put in setting blocks – do not cover drain holes – see pic C*) and push the panel up behind the gutter edge (*see pic B*). Push the panel against the foam, make sure the Greenhouse is square and screw on the cap using #8 x 1/2” screws. If the weather is calm you can position all the panels first and then fasten all the caps.



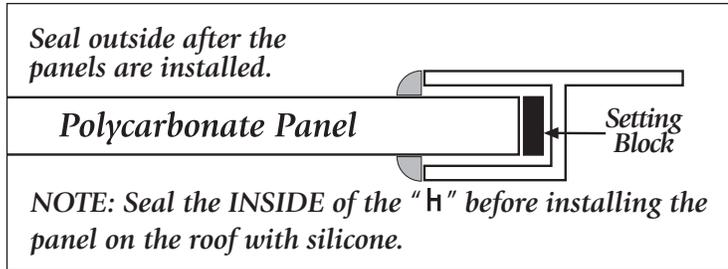
13. ROOF PANELS

Start off the same way as the sidewalls – peel back the protective coating, mark the corner with a marker so you know which side is out. Apply foil tape, ventilated for the bottom / solid for the top (you can do all the panels before hand or 1 at a time).

NOTE: The panels below the vents have an aluminum “H” on BOTH ends. All long panels have an aluminum “H” on the bottom only.

Take an aluminum “H” and put it on the bottom of the panel, do not forget the setting blocks (see pic on previous page), push the panel up to the ridge and slide under the ridge flange (if the foam is sticking, spray it with a bit of water). Square the greenhouse up to the panel and fasten the cap using #8 x 1/2” screws. At this time you can seal the roof panels with clear silicone or wait until all the panels are place.

After the first panel is installed, continue with the second panel, etc.



14. END WALLS

Start off the same way as the sidewalls and roof panels – peel back the protective coating, mark the corner with a marker so you know which side is out. Apply foil tape, ventilated for the bottom / solid for the top (*you can do all the panels before hand or 1 at a time*).

Start with a corner first and work towards the centre. Put aluminum “H” on the bottom of panels (*drop in 2 setting blocks*). There is no aluminum “H” on the top of the sheets with the exception of the 2 panels *beside* the door.



After the polycarbonate panels have been installed, take the round foam and fill the space between the panels and the aluminum

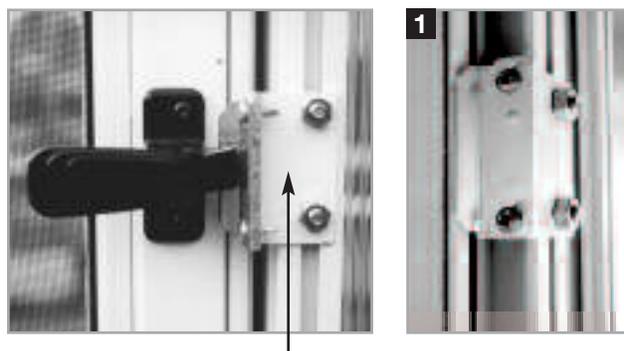


15. DOOR INSTALLATION

(Refer to the drawing.) Take the door and set it inside the door frame. Lift it up as high as possible on the hinge side and put the screws through the existing holes in the door frame. *Now the door will hang by itself.*

Remove the black clip from the "Z" bar and put one screw into the door frame to hold the "Z" bar. Open the door, take off the clips and put back the screws. Close the door and check that it is square. If the frame and the door are square, then fasten the "Z" bar to the frame. If not, move the "Z" bar up or down to square it. If this is not enough, loosen the bolts in the top plates and move the frame to make it square. When it is in place, tighten all the bolts.

Next install the door handle (see the instructions inside the box). To install the door catch angle, slide in two bolts into the back of the door frame. Bolt on a small angle (provided with the door handle). Face the angle towards the door, line it up with the center of the door handle, and then tighten the two bolts *(see picture to the right)*. Take the door catch out of the door handle box and screw it on. Close the door and adjust the door sweep at the bottom of the door to eliminate potential gaps.



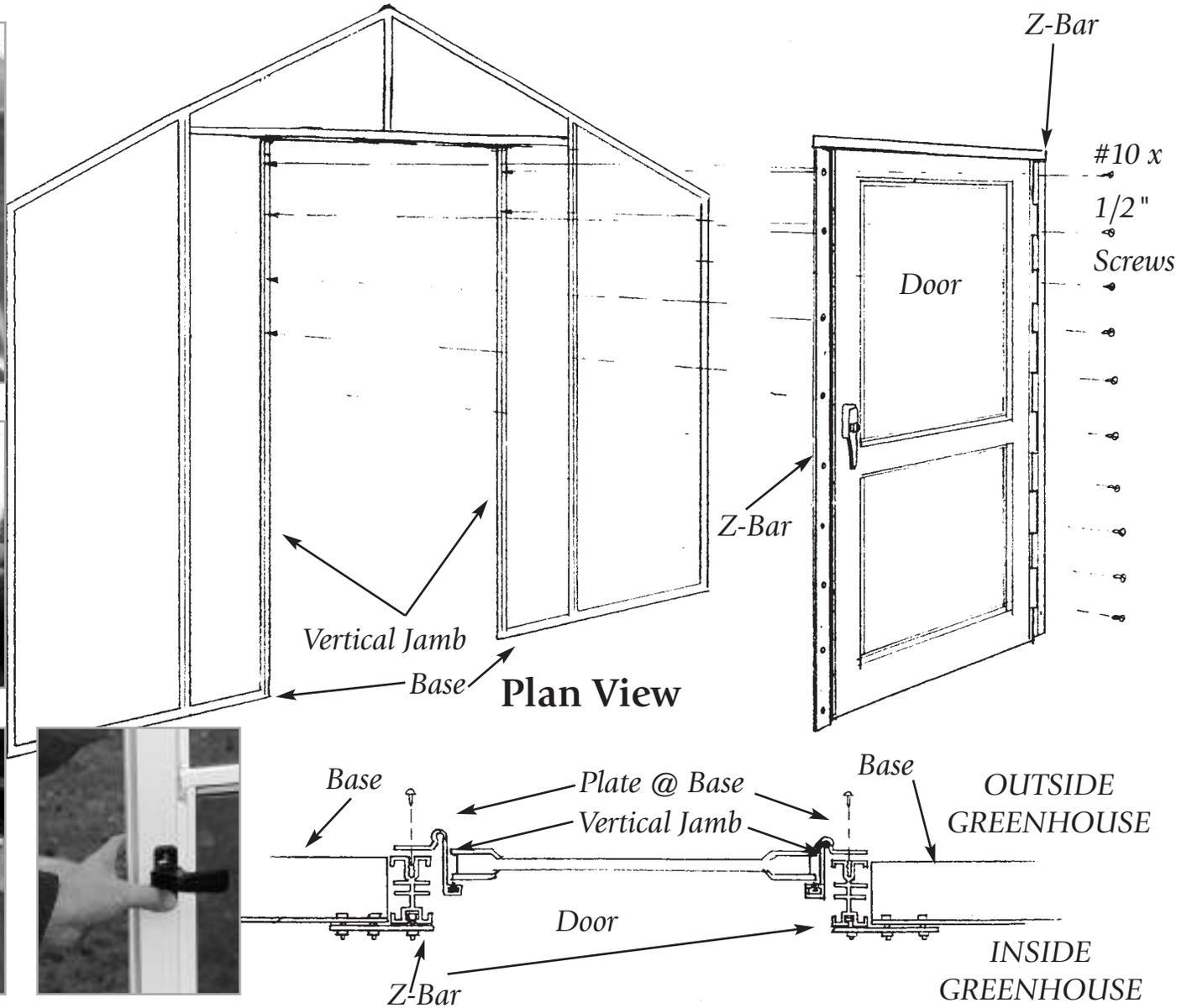
Door Catch Angle

NOTE: *There are two types of manufactured doors. The door catch angle on the white door may have to be turned the opposite way as shown on picture 1.*

Run a bead of silicone under the angle above the door and against the door frame. Also silicone the poly beside the door to ensure an airtight seal.



Door Installation



16. VENT ASSEMBLY (SEE PICTURES & PAGE 34 & 35)

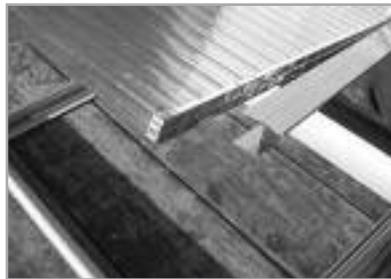
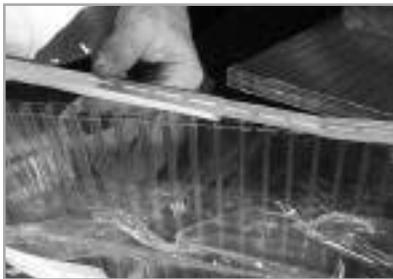
1. Lay down the gutter with the punches facing up towards you.
2. Polybars with sliders on are for the end. Lay them down with the bolt slot facing up.
3. Hinge with punches facing up towards you.
4. Slide the bolts into both ends of the end bar. Take the gutter and line up the bolt with the 1st punch, slide the bolt down and tighten it. Do the same with the hinge, other side and center bar. Make sure that the polybars are tightly fitted to the gutter and hinge after vent assembled.
5. Turn it over and put a square where the polycarbonate goes. Shift to square.
6. Put 1/8" foam on the polybars.
7. Take polycarbonate panel, remove the film (*clear inside*) and slide it into the hinge track. Before you do this; remove the paper and lightly spray the foam so that it doesn't stick. Lay it on the foam and slide it into the hinge (top) section and then down into the gutter track. Do the same with the next piece.
8. Take the caps and lay them on the bars, center them, fasten with 1/2" screws.
9. Take the silicone gun and seal where the sheets slide into the track. *Inside and out.*

17. VENT INSTALLATION

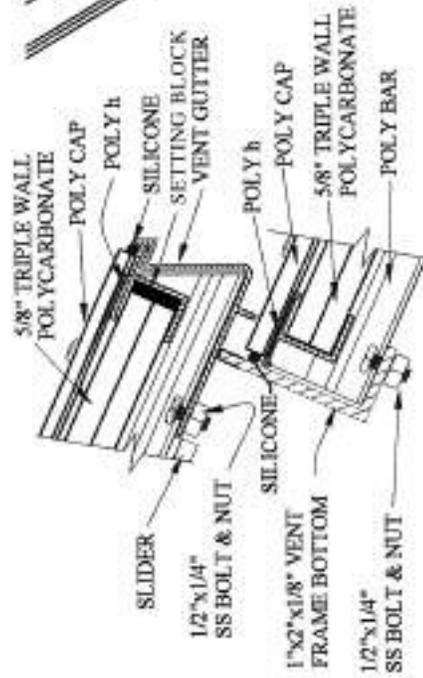
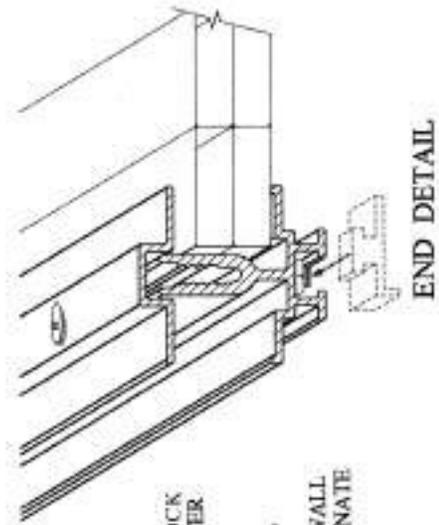
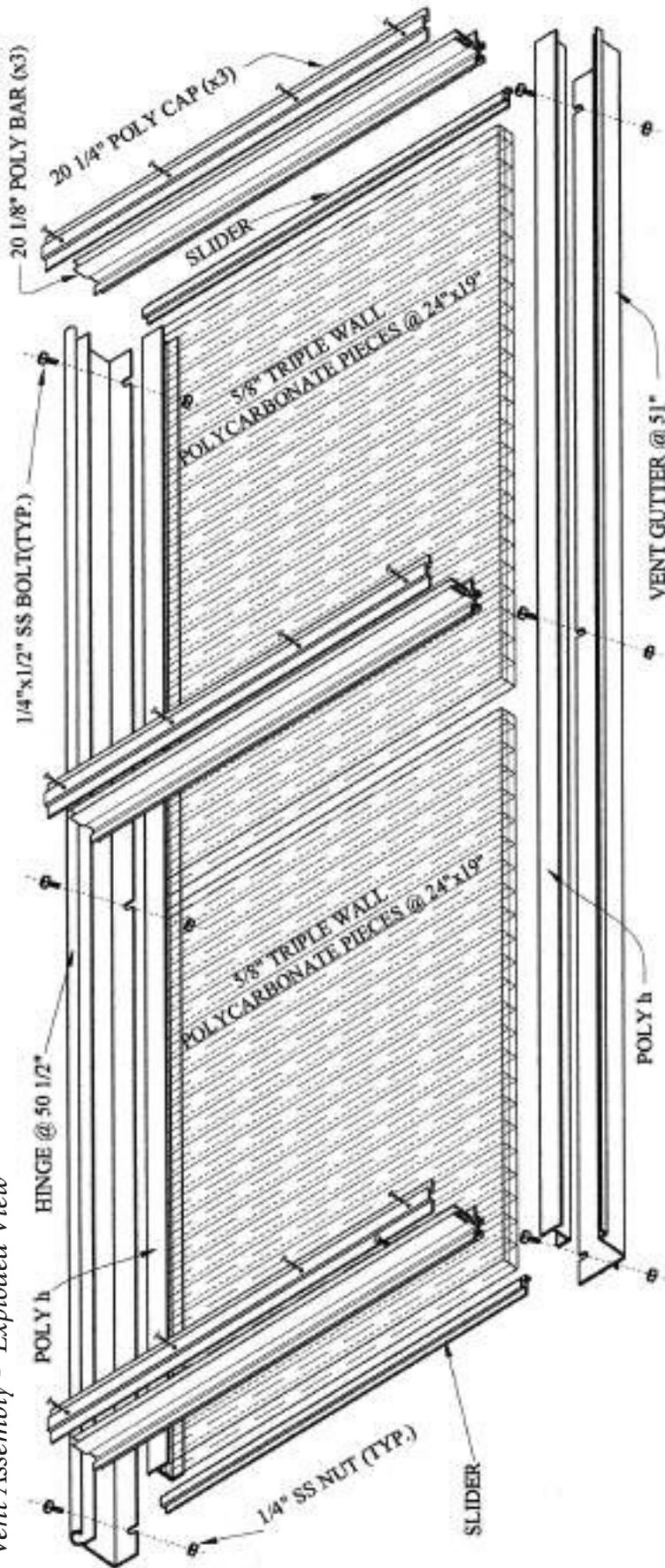
Take the vent and slide it in the end of the ridge **A** (*you will have to remove a the screw in the ridge*). Then push it into place and put the screw back in **C**. Now attach manual opener **D**.



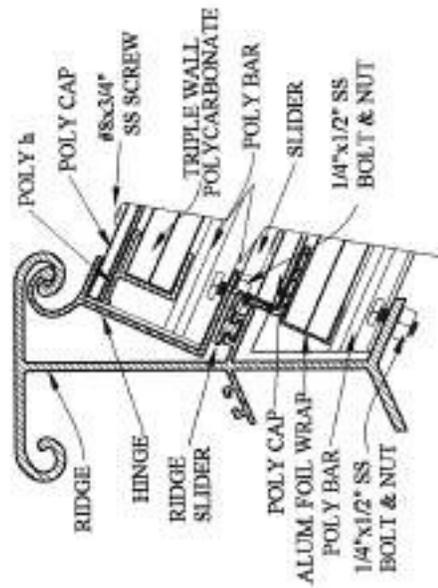
Greenhouse Roof Vent Details



Vent Assembly - Exploded View



BOTTOM VENT FRAME



RIDGE & VENT HINGE

18. SEALING THE GREENHOUSE

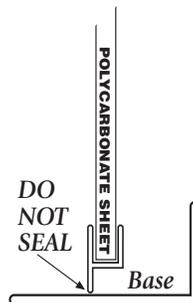
When all the polycarbonate sheets are installed, take a tube of clear silicone sealant and seal all the panels that fit into the aluminum tracks on the top, the bottom, the inside and the outside. In this way, you can keep out most of the moisture from the end of the panels. If this sealing process is not done, water may sit in the bottom and fill the inside of the panels and grow algae.

1. Unscrew the plastic nozzle on the tube of silicone sealant.
2. Cut the top of the tube.
3. Screw on the plastic nozzle again.
4. Cut approximately 1/8" off the end of the plastic nozzle at a 30-degree angle.
5. Put the tube into the caulking gun. When using the gun, squeeze the handle slowly.
6. Wherever the polycarbonate sheets are sitting in a track or aluminum "H". Also seal the inside of the "H" on the ends and sidewalls because greenhouse humidity runs down the panels into the "H" track.
7. Seal the vents before you slide them into place. Seal the places where the panels fit into the door frame bar and the "H" under the above door angle.

CAULKING / SEALING

- Seal the door frame bar where the base/sill meets the door frame.
- Seal the inside of the base/sill along the perimeter of the foundation.

Do Not seal the "H" to the base! Any condensation in the polycarbonate needs to be allowed out. If the aluminum "H" is tight against the base, drill a small weeping hole.



Inside view



Outside View



Roof



General Notes After Installation:

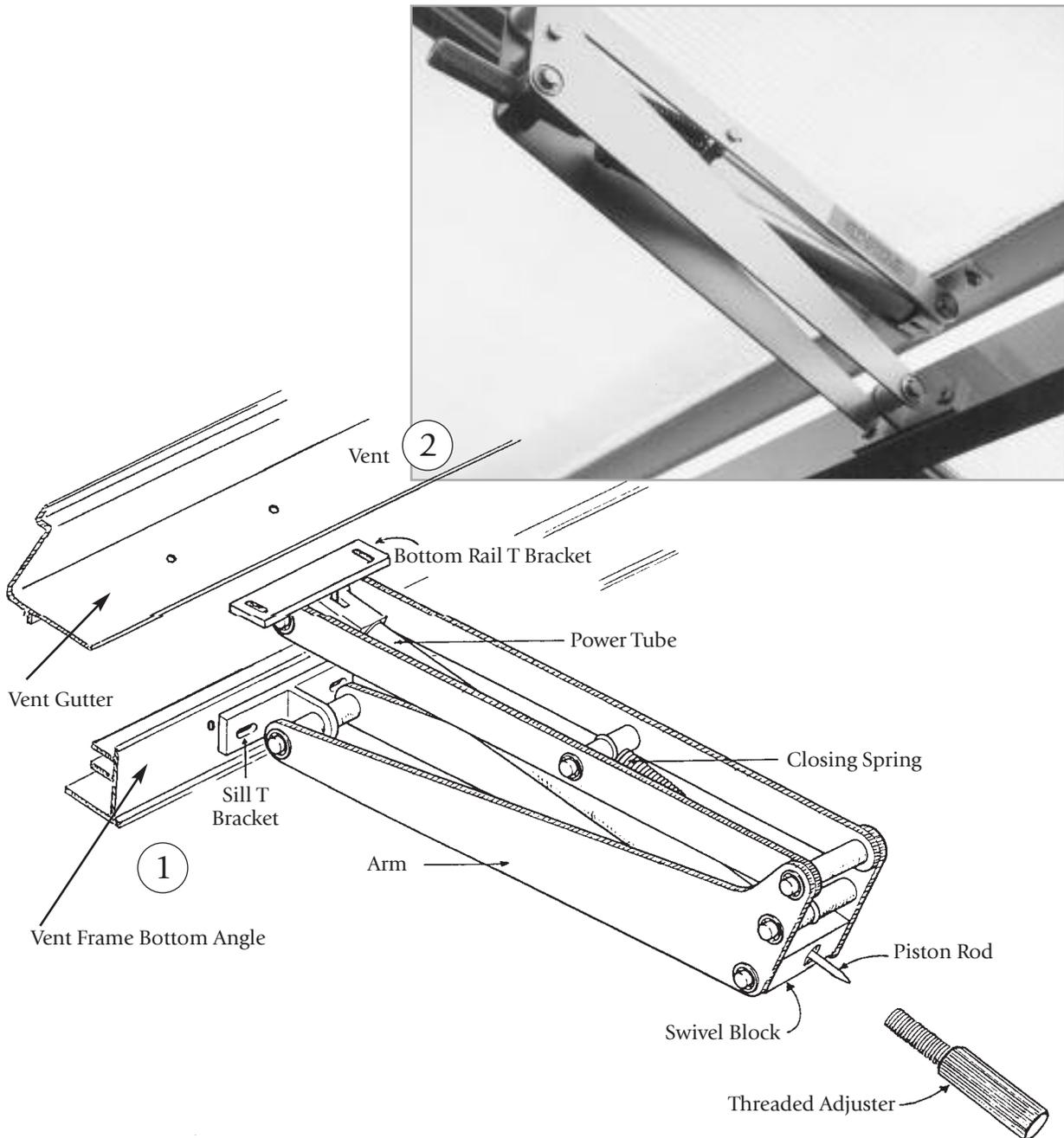
- If the gutter fills up with water, drill a few small weep holes (*check gutter for level*).
- Small beads of silicon will not adhere unless they are molded into corners with a moist fingertip.
- Adjusting the door can be done by loosening up the bolts in door plates and/or putting shims under the door frame.
- When vents hang up on top of vent frame – check the vent bolts (*in the hinge*) to make sure that the bolts do not hit the ridge when closed.
- To keep the overlap of the glass clean, silicone the overlap bottom (*outside*) and top (*inside*).
- After the greenhouse has been up for more than 6 months (*the greenhouse will have settled*) recheck the screws and bolts to ensure everything is tight.

Appendix A – Vent Opener

INSTALLING THE BAYLISS AUTOMATIC VENT OPENERS

Detailed instructions are included in the box with the control (there are a few extra parts). Use #8 stainless steel screws to fasten the Bayliss and the vent sill (1) and the vent (2). All holes are already drilled.

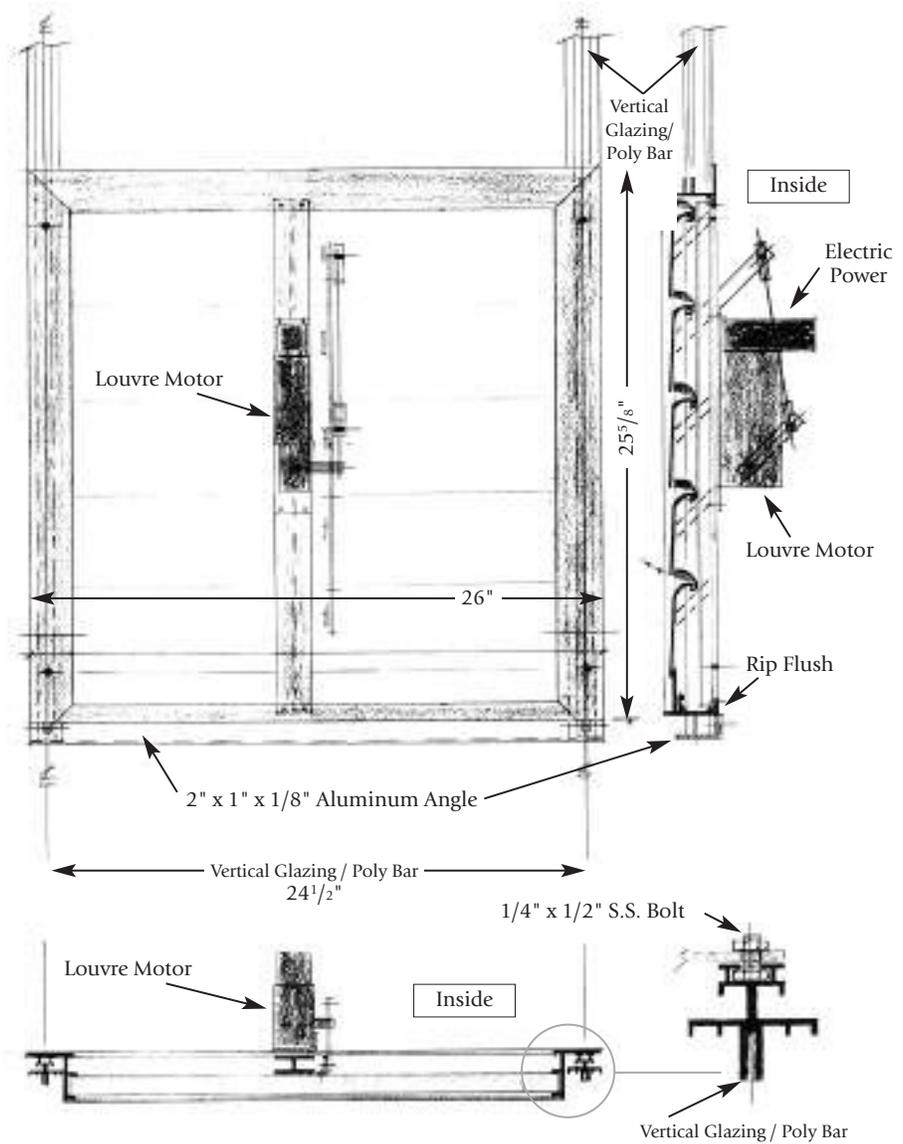
After the Bayliss is fastened in place, install the threaded adjuster into the swivel block. This is made easier by lifting the vent with one hand until the piston rod only projects 1/2" through the swivel block.



Appendix B – Motorized Intake Shutter

NOTE: Installation of the intake shutter is the same for a glass or polycarbonate greenhouse

- Slide bolts in through notches provided (a small piece of foam stuffed in track under bolt keeps it from sliding down).
- Ensure the blades open with flaps facing down.
- Install glass or polycarbonate on frame of intake shutter.
- Seal around the intake shutter after glass or polycarbonate is installed.

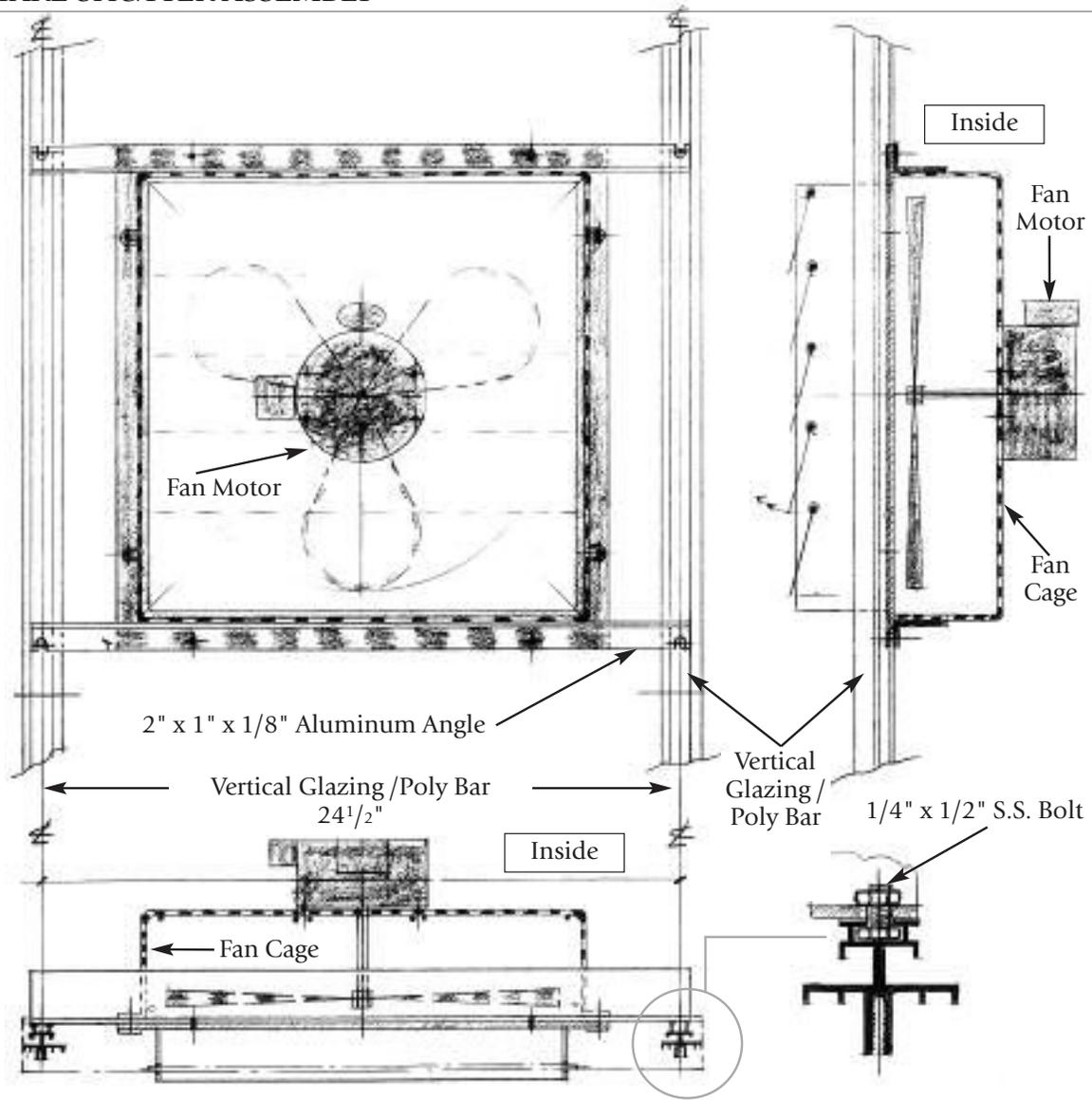


Inside View



Appendix C – Exhaust Fans

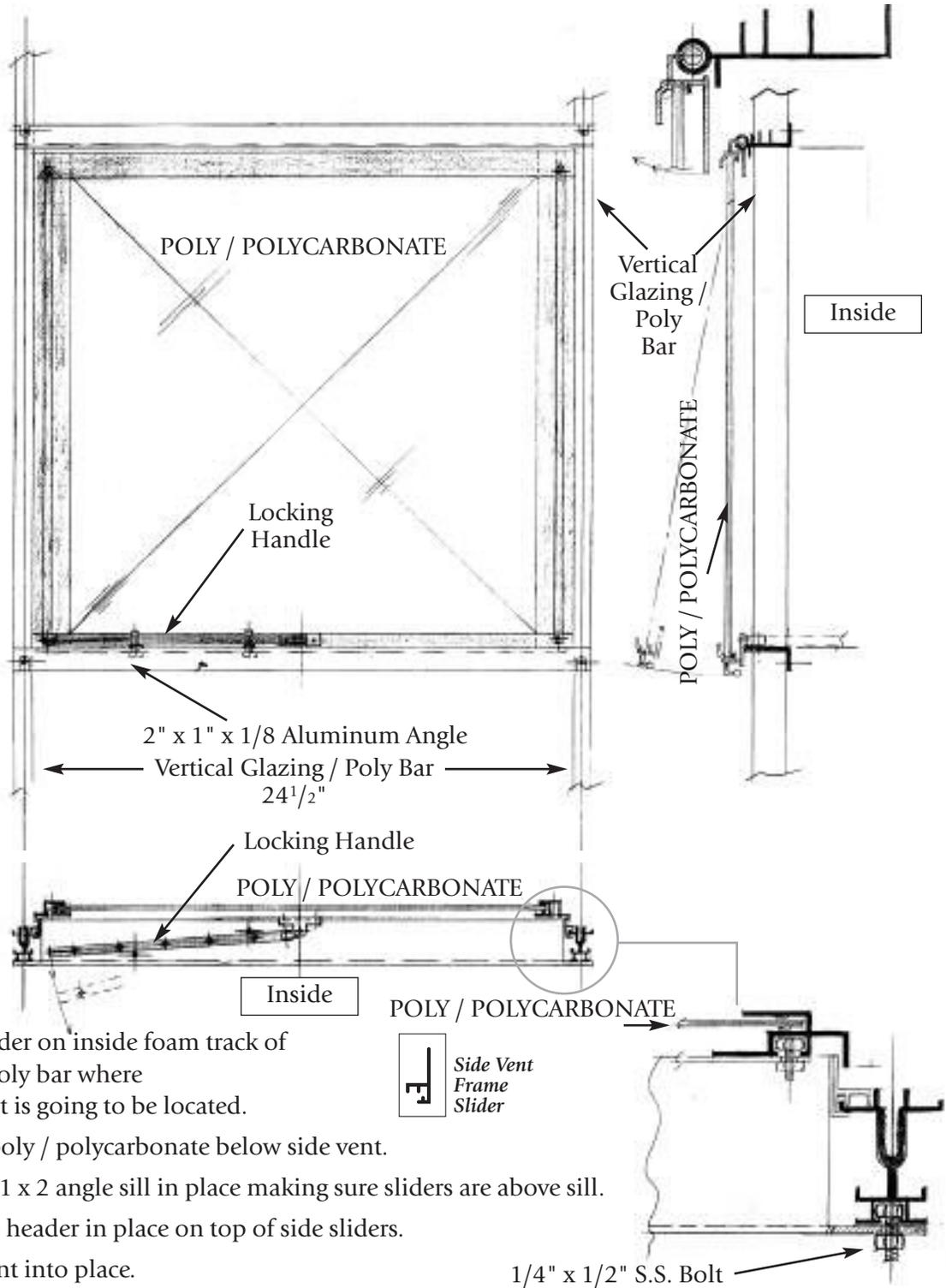
INTAKE SHUTTER ASSEMBLY



NOTE: When installing fan into Triple Wall Greenhouse, tape the edges with aluminum foil tape.

Appendix D – Side Vent

POLY OR POLYCARBONATE SIDE VENT ASSEMBLY



1. Slide slider on inside foam track of poly / poly bar where side vent is going to be located.
2. Install poly / polycarbonate below side vent.
3. Bolt on 1 x 2 angle sill in place making sure sliders are above sill.
4. Bolt top header in place on top of side sliders.
5. Slide vent into place.
6. Install automatic or manual opener.



Side Vent Frame Slider

1/4" x 1/2" S.S. Bolt

Appendix D – Side Vent CONTINUED



Appendix E – Glass Louvre

GLASS OR POLYCARBONATE GLASS LOUVRE ASSEMBLY



Appendix F – Diagonal Brace

Diagonal Braces are used for larger greenhouses – 16' and up.

INSTALLATION

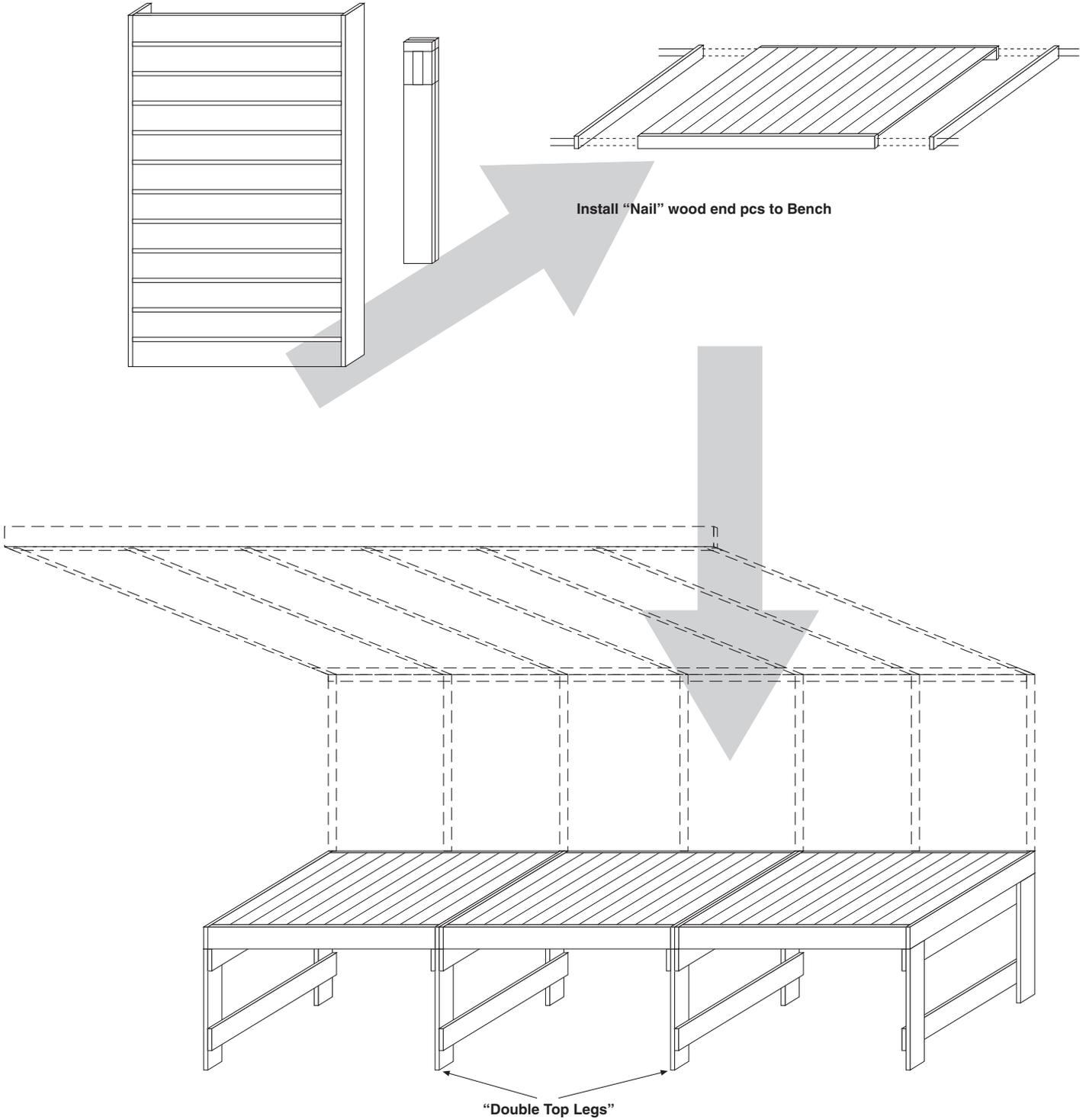
1. Unwrap the brace, loosen up the bolts on the ends and turn the angles. **1**

2. Take the end of the brace with the straight angle and bolt it to the end wall. **2**

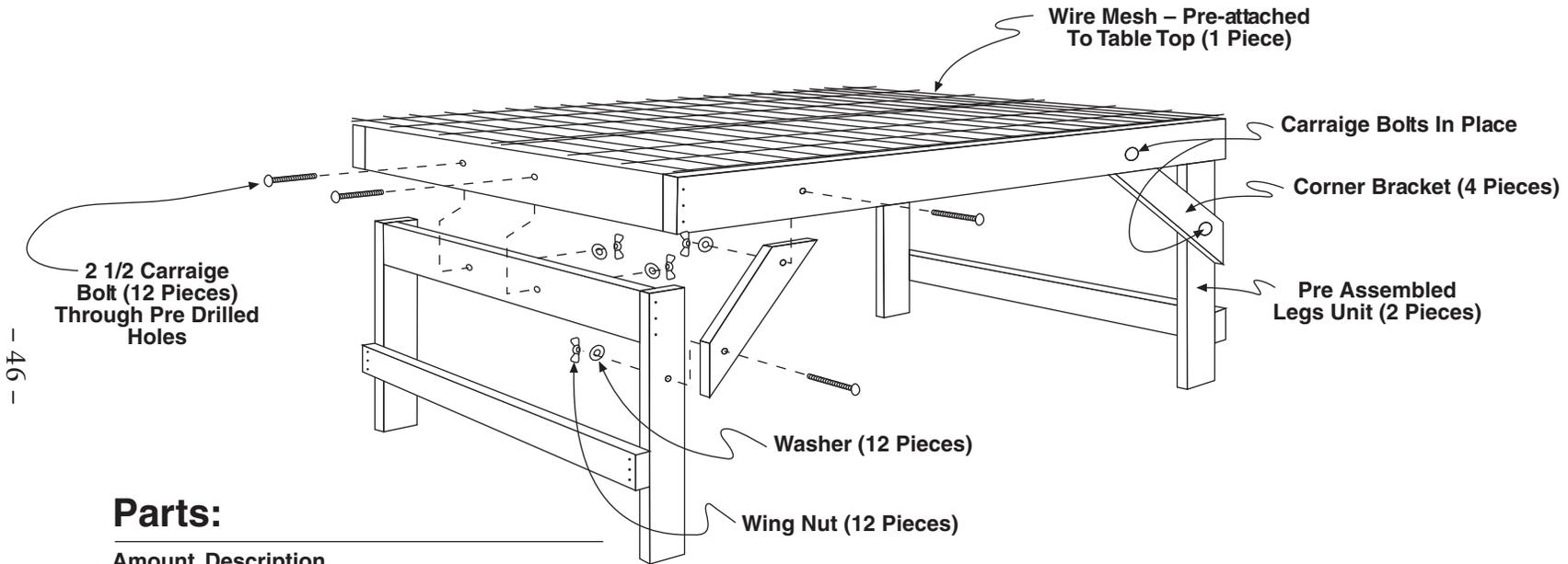
3. The other end is fastened to the ridge. You can use a self-drilling screw (supplied) or pre-drill the hole using 9/16" drill bit. **3**



Appendix G – Cedar Bench



Appendix H – Greenhouse Bench



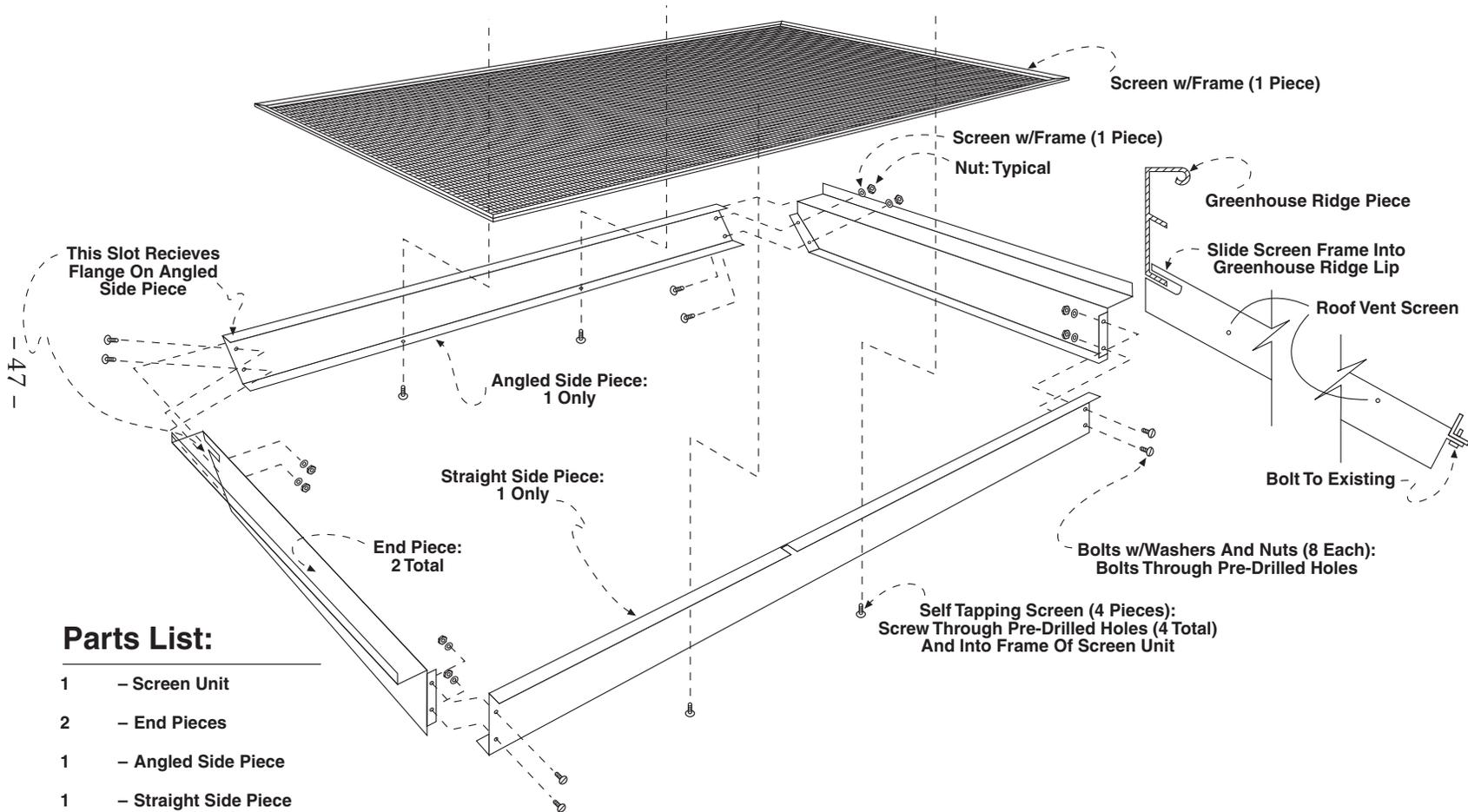
- 46 -

Parts:

Amount	Description
--------	-------------

- | | |
|-------|-------------------------------------------------------------------------|
| 1 | - Table Top = W/ Pre-attached Wire Mesh
Plastic Coated W/Guide Holes |
| 2 | - Leg Units = Pre-assembled W/ Guide Holes |
| 4 | - Corner Brackets = W/ Guide Holes |
| 1 Bag | - Contains: 12 – 2 1/2 Carraige Bolts
12 – Washers
12 – Wing Nuts |

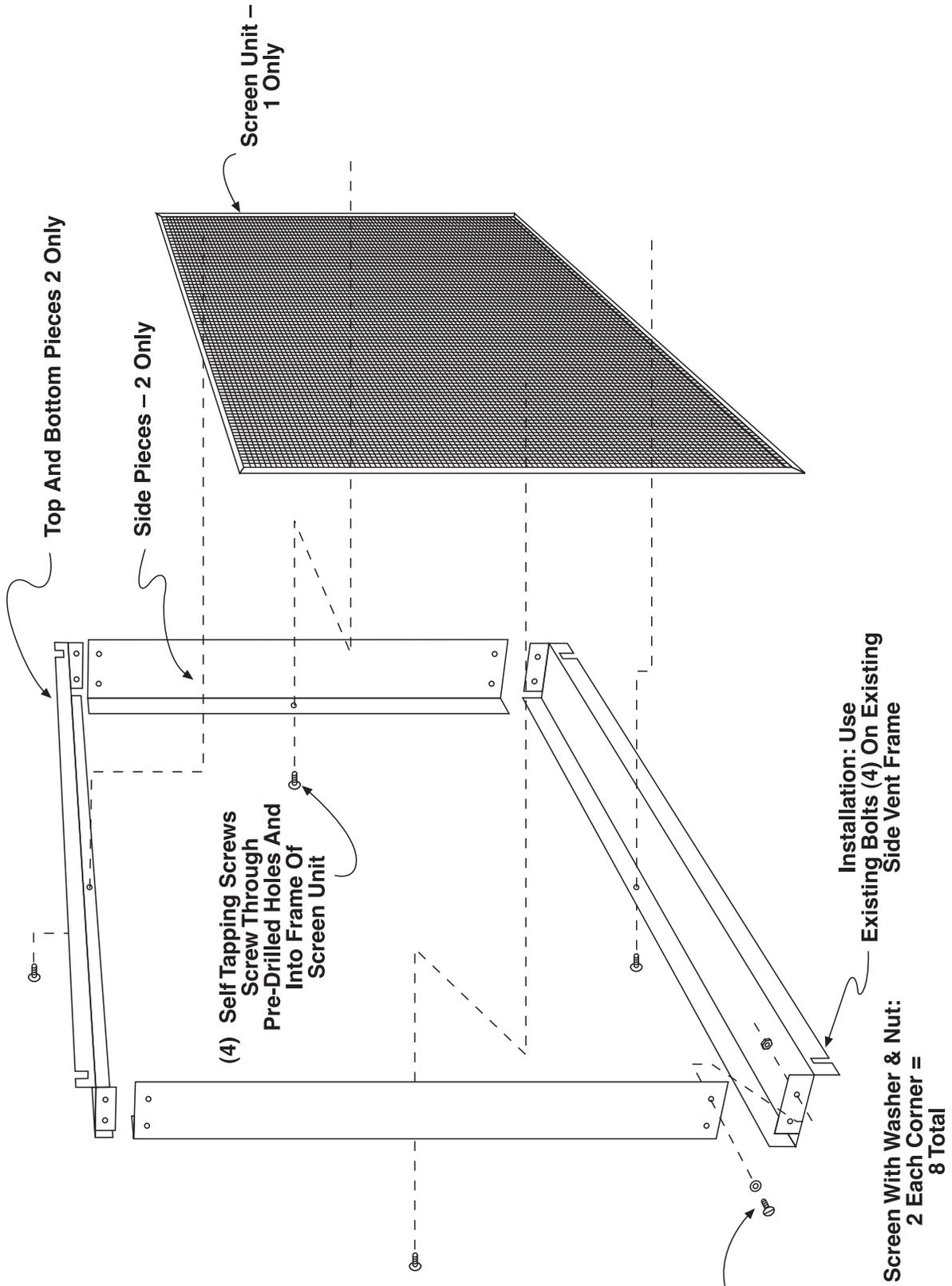
Appendix I – Roof Vent Screen



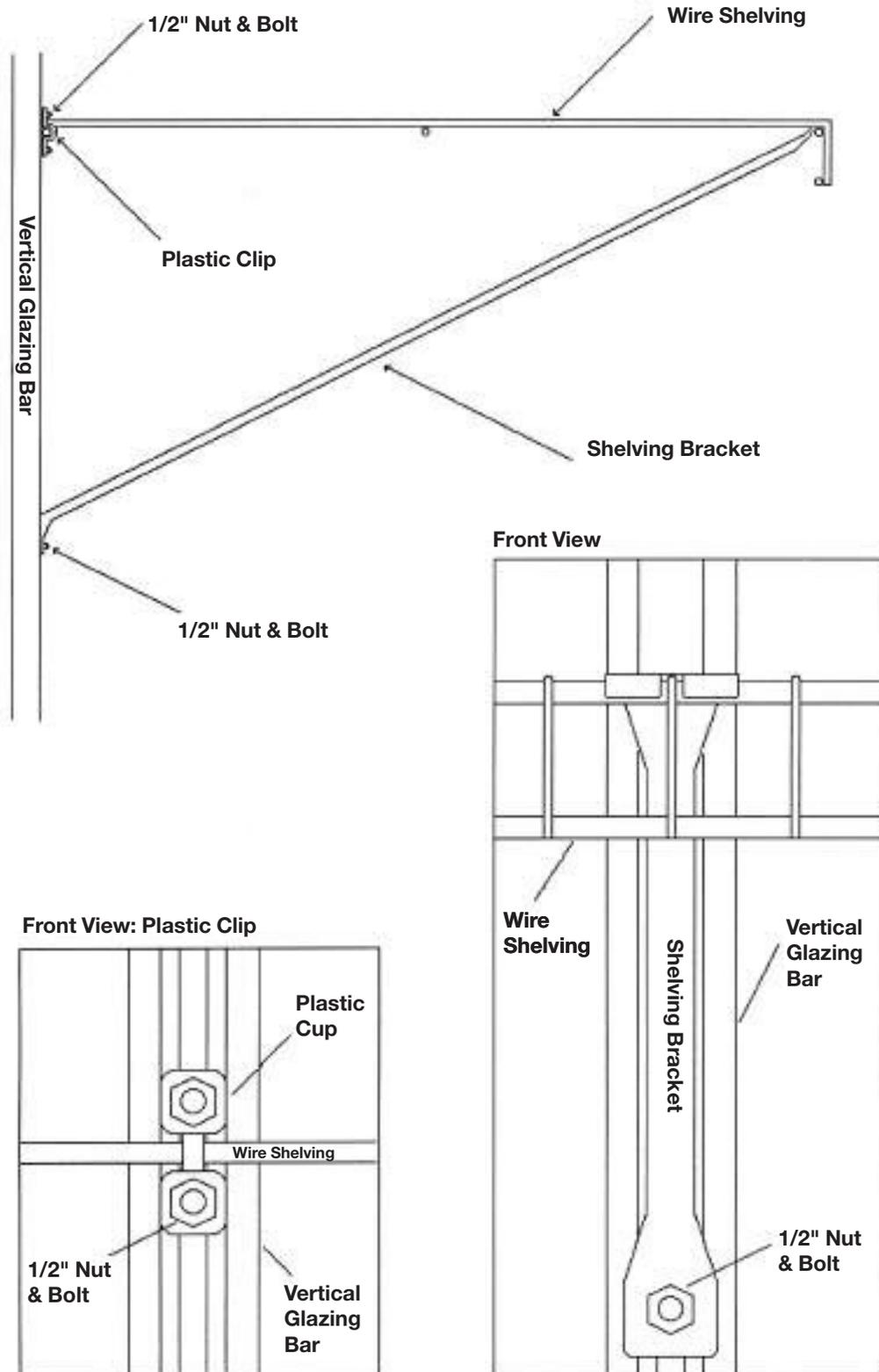
Parts List:

- 1 – Screen Unit
- 2 – End Pieces
- 1 – Angled Side Piece
- 1 – Straight Side Piece
- 1 Bag With: 8 – Bolts
- 8 – Washers
- 8 – Nuts
- 4 – Self Tapping Screws

Appendix J – Side Vent Screen



Appendix K – Wire Shelving



'New' Pressure Treated Wood

WHAT IS NEW ABOUT PRESSURE TREATED WOOD?

As of January 2005, the chemicals used in pressure treated wood have been changed. Previous wood was treated with arsenic. However due to the potential long term health hazards this has been discontinued. New pressure treated wood is treated with copper.

The copper in the 'new' wood will be CORROSIVE TO ALUMINUM as well as other metals.

What are 'Greenhouse Friendly' solutions to the new pressure treated wood?

- 1 If you are using the new pressure treated wood, you must place a barrier between the wood and your aluminum frame. Popular barriers include 10 mil thick plastic sheeting, steel weather flashing, a rubber or foam weather membrane, or a row of weather resistant non-treated wood such as cedar or hemlock.
- 2 Other weather resistant non-treated woods are popular alternatives to pressure treated wood. These contain no harmful chemicals and will outlast pressure treated wood. Cedar timbers are a popular choice for greenhouse foundations.
- 3 Concrete foundations have always been suitable foundation alternatives for greenhouses. They can vary from poured concrete slabs, poured concrete perimeter walls to concrete block walls. Although these are usually more costly than wood alternatives, they have the benefit of lasting a lifetime. As they are usually considered a permanent foundation, it is important to check with your building codes to determine what you are able to build.

If you have any questions about using the 'New' pressure treated wood in conjunction with our aluminum greenhouses, please contact our office at 1-888-391-4433.



At this point, stand back and enjoy your workmanship.

*Your Cross Country Triple Wall Greenhouse
should now be closed in and ready for use.*

Congratulations!