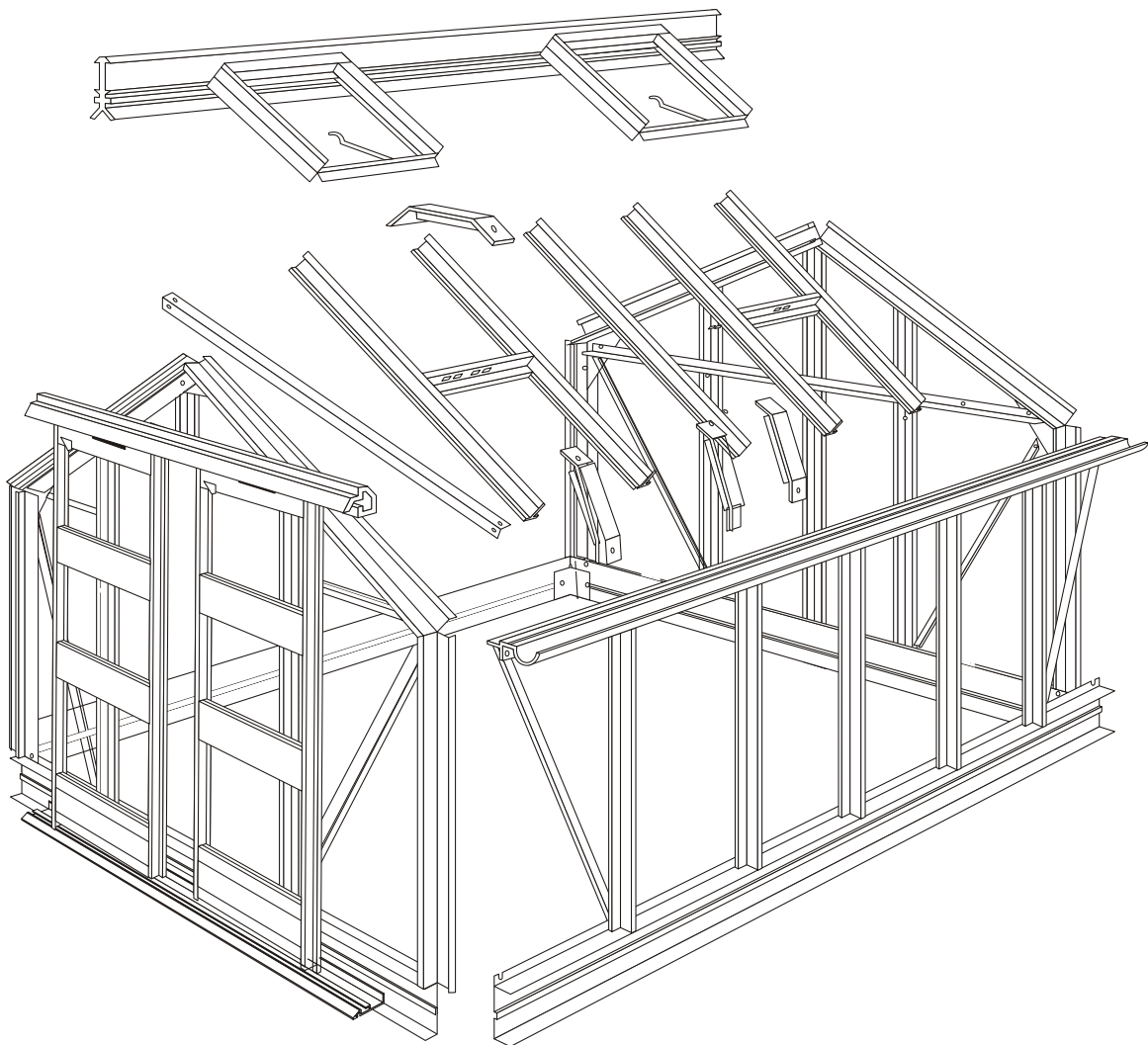




INSTRUCTIONS & ILLUSTRATIONS FOR THE  
**7'5" VANTAGE MODEL**



**ELITE GREENHOUSES LTD**

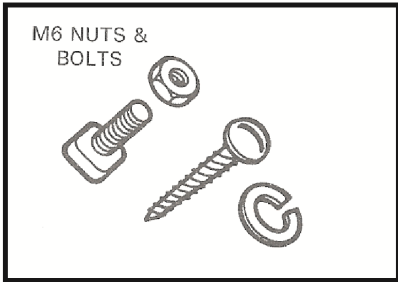
BENT SPUR ROAD, KEARSLEY, BOLTON BL4 8PD

TEL: 01204 791488 FAX: 01204 862412

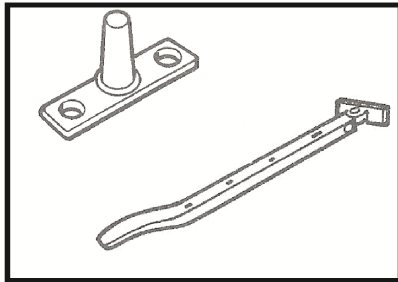
[enquiries@elite-greenhouses.co.uk](mailto:enquiries@elite-greenhouses.co.uk)

[www.elite-greenhouses.co.uk](http://www.elite-greenhouses.co.uk)

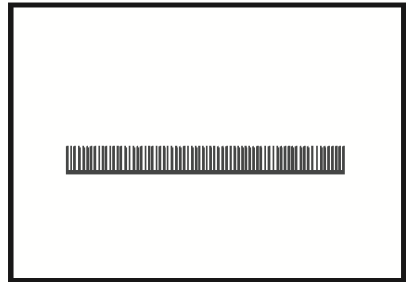
**FITTINGS WITHIN THE KIT (NOT TO SCALE)**



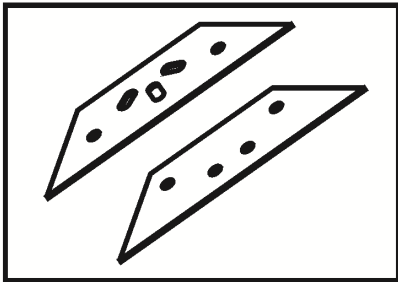
**M6 NUTS & BOLTS**  
**SELF TAPPING SCREWS**  
**SPRING WASHER**



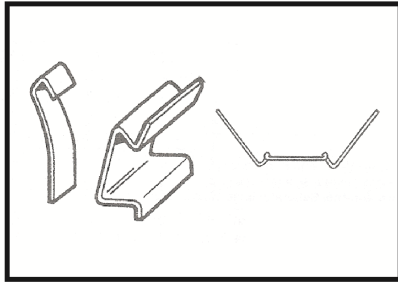
**CASEMENT STAY + PINS**



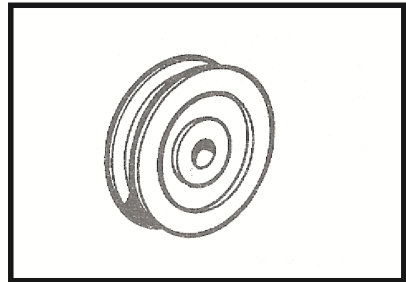
**BRUSH DRAUGHT EXCLUDER**



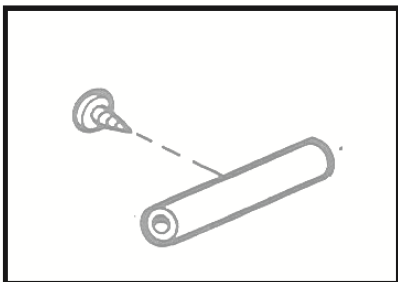
**APEX & EAVE GUSSET PLATES**



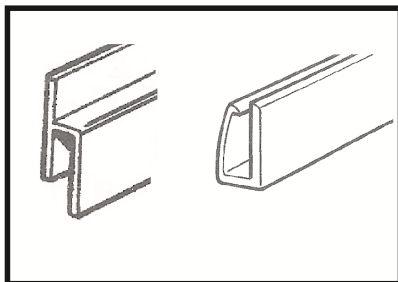
**OVERLAP, SPRING + WIRE CLIPS**



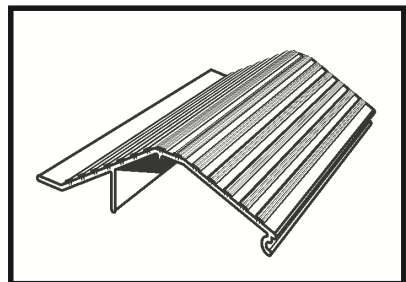
**DOOR WHEEL**



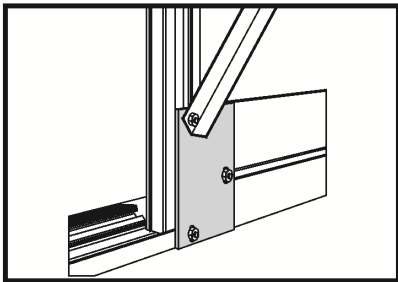
**VENT STOPPER**



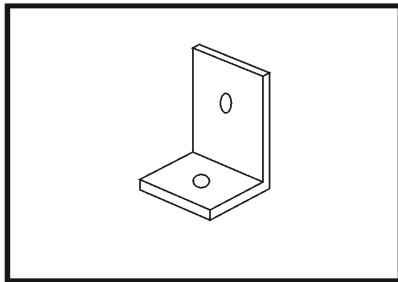
**MUNTIN      BLACK DOOR SKID**



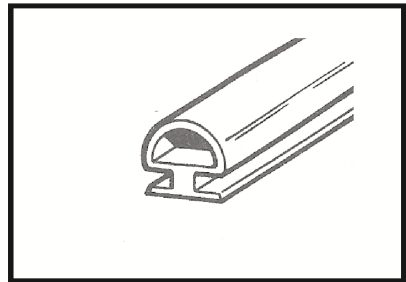
**RAMP**



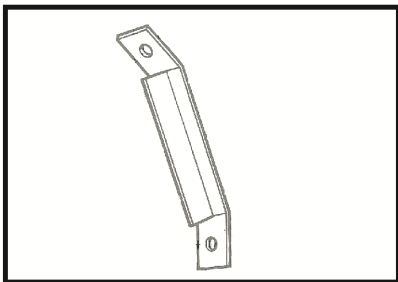
**DOOR END PLATE**



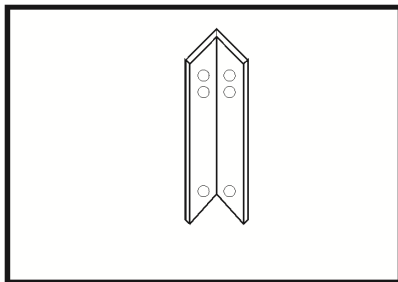
**DOOR STOP & ANGLE BRACKET**



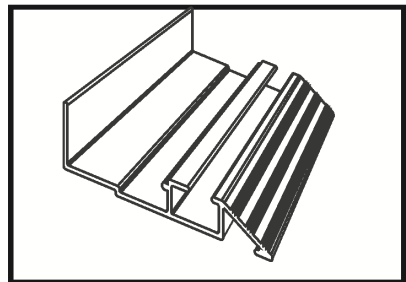
**NEOPRENE BEADING**



**CANTILEVER BRACE**

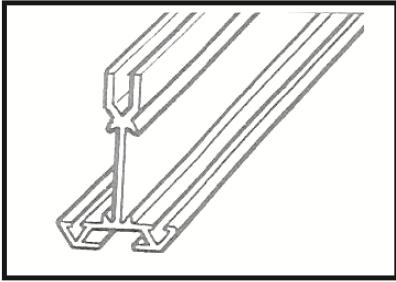


**CORNER BRACKETS/BASE LEGS**

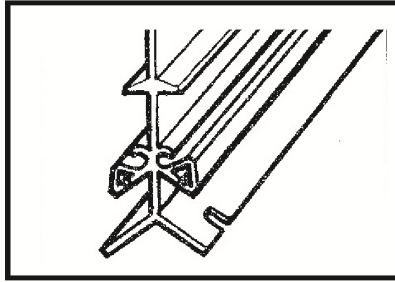


**DOOR END CILL**

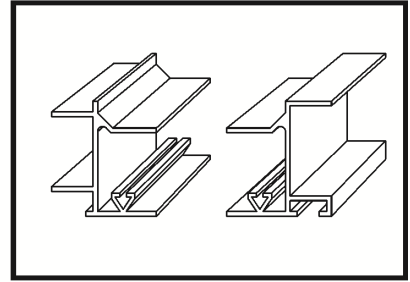
**COMPONENT DRAWINGS (NOT TO SCALE)**



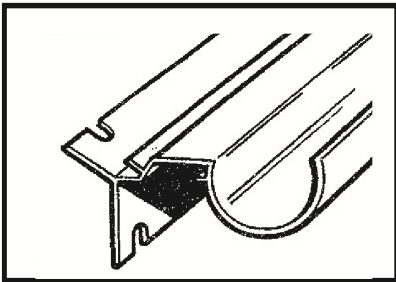
**GLAZING BARS AND DOOR POSTS**



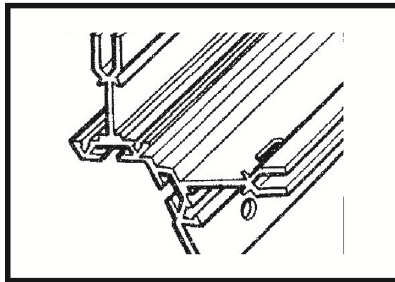
**RIDGE**



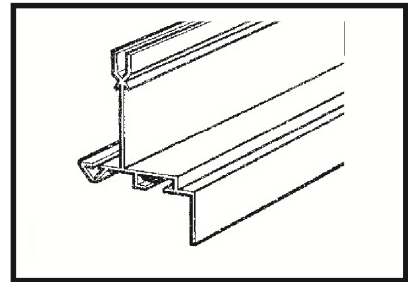
**HANDED DOOR POSTS**



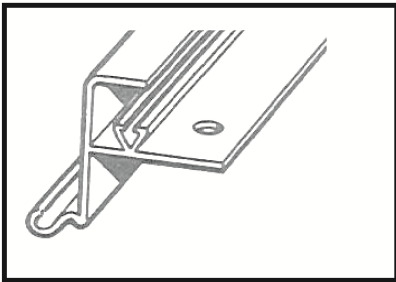
**EAVES BAR/GUTTER**



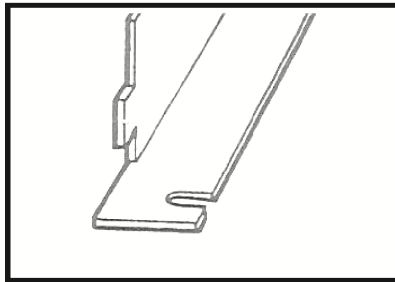
**CORNER BAR**



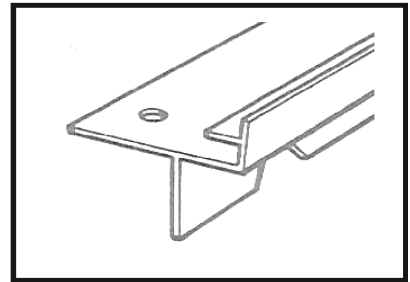
**VENT SIDE RAIL**



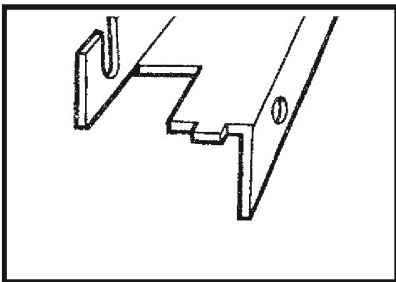
**VENT TOP RAIL**



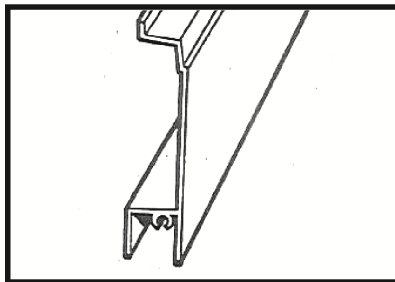
**VENT SLAM BAR**



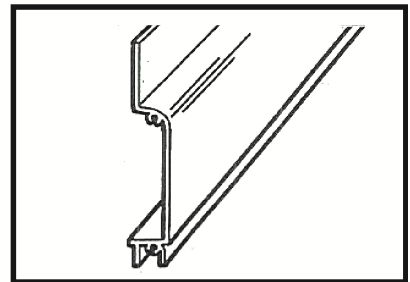
**VENT BOTTOM RAIL**



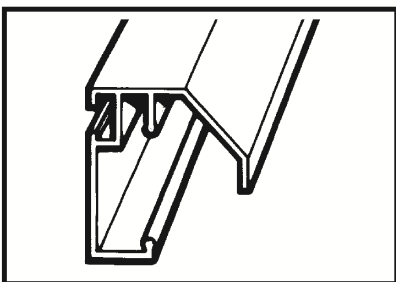
**DOOR TRACK SUPPORT**



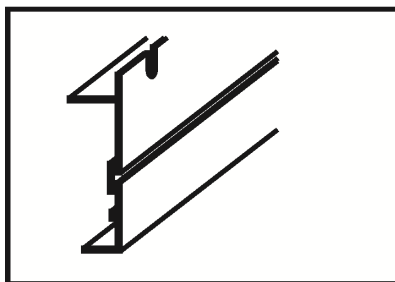
**DOOR INFIL PANEL**



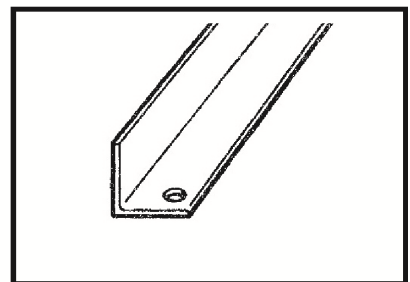
**DOOR TOP/BOTTOM PANEL**



**TOP DOOR TRACK**



**BUILT IN BASE**



**BRACING ANGLE**

## PARTS LIST

			4x7	6x7	8x7	10x7	12x7	14x7	16x7	18x7	20x7
1	Ridge		1	1	1	1	1	1	1	1	1
2	Gutter/Eave		2	2	2	2	2	2	2	2	2
3	Side built in base cill		2	2	2	2	2	2	2	2	2
4	Side angle/Diagonal tie bar		2	2	4	4	4	6	8	8	8
5	Door end built in base		2	2	2	2	2	2	2	2	2
6	Door end cill		1	1	1	1	1	1	1	1	1
7	Rear end built in base cill		1	1	1	1	1	1	1	1	1
8	Rear end horizontal angle	Taped together and marked door end	1	1	1	1	1	1	1	1	1
9	Long door end glazing bar		2	2	2	2	2	2	2	2	2
10	Short door end glazing bar		1	1	1	1	1	1	1	1	1
11	Door end diagonal angle		2	2	2	2	2	2	2	2	2
12	Short horizontal angle		2	2	2	2	2	2	2	2	2
13	Short rear end glazing bar	Taped together and marked rear end	2	2	2	2	2	2	2	2	2
14	Long rear end glazing bar		1	1	1	1	1	1	1	1	1
15	Rear end diagonal angle		2	2	2	2	2	2	2	2	2
16	Corner bars in 2 packs of 4		8	8	8	8	8	8	8	8	8
17	Roof bars		2	4	6	8	10	12	14	16	18
18	Side bars		2	4	6	8	10	12	14	16	18
19	Roof diagonal angle		2	2	2	2	2	4	4	4	4
20	Roof vent pack*		1	1	2	2	2	3	4	5	6
21	Door panel pack**		2	2	2	2	2	2	2	2	2
22	Door posts (2 handed/2 un-handed )		1	1	1	1	1	1	1	1	1
23	Small cantilever brace		0	0	2	4	3	0	0	0	0
24	Large cantilever brace		0	0	0	0	6	10	13	16	19
25	Bag of fittings		1	1	1	1	1	1	1	1	1
26	Glazing beading (m)		65	78	92	103	117	131	144	158	172
27	Gusset plates—eave/ridge		4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
28	Door end ramp		1	1	1	1	1	1	1	1	1
29	Casement stays		1	1	2	2	2	3	4	5	6
30	Top door track		1	1	1	1	1	1	1	1	1
31	Door track support		1	1	1	1	1	1	1	1	1
32	Rectangular base plate (3 holes)		2	2	2	2	2	2	2	2	2

\* Made up of 2 side rails, 1 top rail, 1 bottom rail and 1 slam bar.

\*\* Made up of 1 top panel, 1 bottom panel and 3 intermediate panels.

## HELPFUL HINTS AND ADVICE

- Please do take your time and be sure to read all instructions carefully before assembling.
- Do not assemble frame in high winds.
- The greenhouse frame must be anchored to a permanent foundation. This will not only help secure it against powerful winds, but will help prevent breakage of the glass caused by the freezing and thawing process of the earth. **(Key point)**.
- When building your own brick/concrete foundations ensure that they are level and square otherwise your frame will not be correct and the glass will not fit.
- Be sure all four corners of the constructed greenhouse are square before installing glass, and do not install the glass until the greenhouse is on a permanent foundation.
- Do not place your greenhouse in vulnerable locations such as under trees, playing areas etc.
- Children should not play near glass greenhouses.
- REMEMBER: Glass is fragile. Handle with extreme care! **(Key point)**.
- Protective clothing such as gloves, strong outer clothing and eye glasses should be worn.
- Be careful when using agricultural chemicals such as fertilisers, fungicides and insecticides etc. in the greenhouse. Do not use chemicals that are for outside use only. Always read the labels very carefully.
- Do not push or lean on the glass panels.
- Use extra care when moving heavy or awkward objects such as tables, poles, internal frames etc. within or near the greenhouse.
- Do not latch the door when anybody is inside the greenhouse.
- Be aware of the increased temperature of the greenhouse on a sunny day.
- Do not keep pets or other animals in a greenhouse.
- When cleaning glass, do not exert too much pressure.
- When constructing a painted model please take care not to damage the finish by working on concrete or patios.
- We reserve the right to alter and improve our products.

If your greenhouse is a painted one there are a few 1/8" holes in the ends of some bars. These are jig holes for painting and have no bearing on construction. **(Key point)**.

Powder coated packages are wrapped in polythene tubing – please be careful when opening e.g. Do not run a knife down the sides as you can scratch the paintwork.

**Various video's on selected installation processes are available on our website.**

**[www.elite-greenhouses.co.uk](http://www.elite-greenhouses.co.uk)**

## **DETAILED ASSEMBLY INSTRUCTIONS**

**The contents of this carton are divided into the different frame assemblies that collectively make up the completed unit.**

It is recommended that each frame assembly is **fully** completed before moving on to the next.

The frames to be constructed are as follows:

SIDE FRAME – Two off.

REAR GABLE – One off.

DOOR GABLE)– One off.

ROOF VENT – One for 4 x 7, 6 x 7, two for 8 x 7, 10 x 7 and 12x7, three for 14 x 7, four for 16 x 7, five for 18 x 7, six for 20 x 7.

DOORS – 2 x 18” doors.

Additional parts such as the ridge, roof bars, eaves ties etc. are put on “loose” and are not pre-constructed into an independent frame. The partition, if appropriate is constructed in situ and not as an independent frame.

**WE CAN NOW COMMENCE WITH THE ASSEMBLY**

## SIDE FRAME ASSEMBLY

From the main box you require: Pack of side glazing bars marked “side”.  
Pack of gutters and side angles.  
Built in base side cills.

From the pack of fittings you need: Nuts and bolts and glazing beading.

**PROCEDURE.** For the point of this plan we have used a 12' x 7' side as an illustration. The procedure is identical for a 6' x 7' and 20' x 7' apart from, you need more or less side bars, nuts and bolts, glazing beading and longer or shorter gutters and cill. **(Key point).**

If you have purchased a **partition** with your greenhouse you will have 2 less roof and 2 less side bars. These are replaced with an extra set of corner bars. You must decide where the partition is to be situated and at that point **leave out** one side bar on each of the side frames. **(Key point).** The partition is constructed when the greenhouse is fully erected prior to glazing. Full details of this procedure are given later, but for the time being do nothing apart from the omission of the side bar. If you have not purchased a partition disregard this and future notes relating thereto.

The base is integrated with the cill for each side of the greenhouse, and is assembled onto each sub-assembly rather than separately laid out.

1. Lay out the pieces on the ground as though you were standing inside the house, i.e. with the gutter and built in base cill facing downwards, and the bolt channels of the glazing bar(s) upwards. **(Key point). Slide the glazing beading into the V grooves of the glazing bars.**

2. Slide a bolt into each end of each glazing bar. (If you have bought a shelf to go in your greenhouse and you intend to fit it on a side wall, use the ½ headed bolts provided with the shelf fittings these can be inserted later).

For the 8' model, slide 1 extra bolt into the middle glazing bar of each side.

For 10' models, slide an extra bolt into the 2<sup>nd</sup> and 3<sup>rd</sup> glazing bar.

For 12' models – 2<sup>nd</sup>, 3<sup>rd</sup> And 4<sup>th</sup> bars and so on as the length of the building increases, these will enable the fitting of a cantilever brace during general assembly later in the plan.

3. Fix the combined eaves bar/gutter to the glazing bar(s) by pushing the bolts through the holes in the eaves bar, and securing with a nut. You do not need to tighten the nuts too much at this stage, but they need to be tight enough to stop the bolts slipping out of the glazing bar.

4. Fix the built in base cill to the middle glazing bar by pushing the bolt through the hole in the cill unit and tightening.

5. Correctly position the built in base cill on the outer most glazing bars by pushing the bolts through the holes in the cill, but do not put the nuts on yet.

6. Place the angled tie bars over these bolts so that they point outwards towards the ends of eaves bar. They must be so arranged that the flat bit of the angle in each case faces towards the middle of the house (i.e. the elongated slit will be by the eaves in one case and by the cill in the other). **(Key point).**

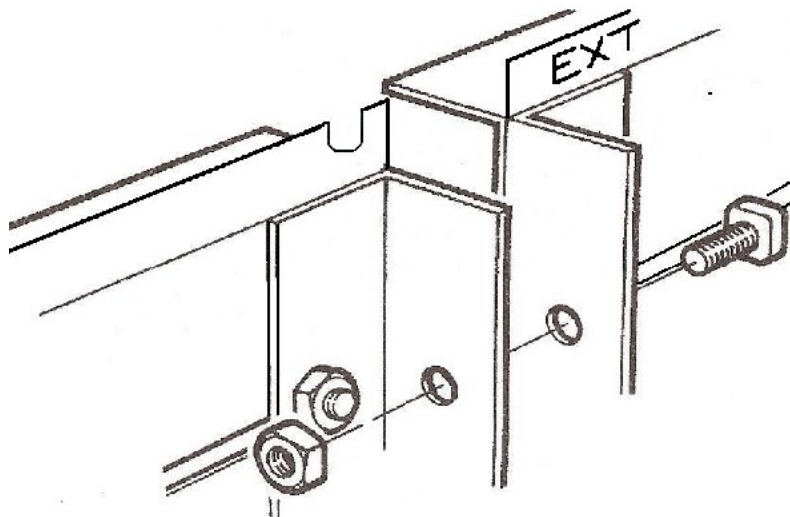
7. Do not attach the angle tie bar to the end of the eave/gutter at this stage.

8. Put nuts on bottom bolts and lightly tighten.
9. Do the same with the other side frame assembly.
10. Make sure that the glazing bars reach both the built in base cill and the eaves in each case. Tighten all nuts.
11. If you intend to fit any Elite accessories (louvers, shelf, staging) they will be packed with  $\frac{1}{2}$  head bolts to enable them to be retro fitted. You do not need to pre insert any bolts for these accessories.
12. If you are fitting your greenhouse onto hard standing (flags, concrete etc.), then insert bolts into the bolt channel of the built in base (generally 1 every 2'). These will be used to anchor the greenhouse to the floor during general assembly.

If your greenhouse is over 12'5" in length, you will need to attach the side base sections together to form the length of your greenhouse. You will notice that you have 4 side base pieces, 2 of which will be un-fabricated at 1 end. These 2 sections are handed sections and must be fitted to the correct side assembly.

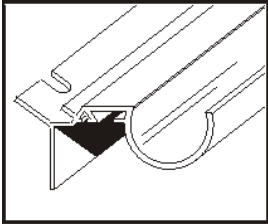
The un-fabricated end of the base will be joined to the unhandled base section as shown below. It is essential that the un-fabricated end is towards the middle of the greenhouse side assembly and not at one of the ends.

To attach the 2 base pieces together you must attach 2 corner bracket/base legs back to back, bolt them together and attach the vacant end of each corner bracket/base leg to the bolt channel of the base section as shown. Your gutter section will be in one piece and will not need to be joined (except where greenhouse is over 20'5").

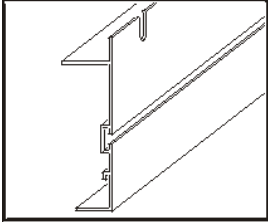




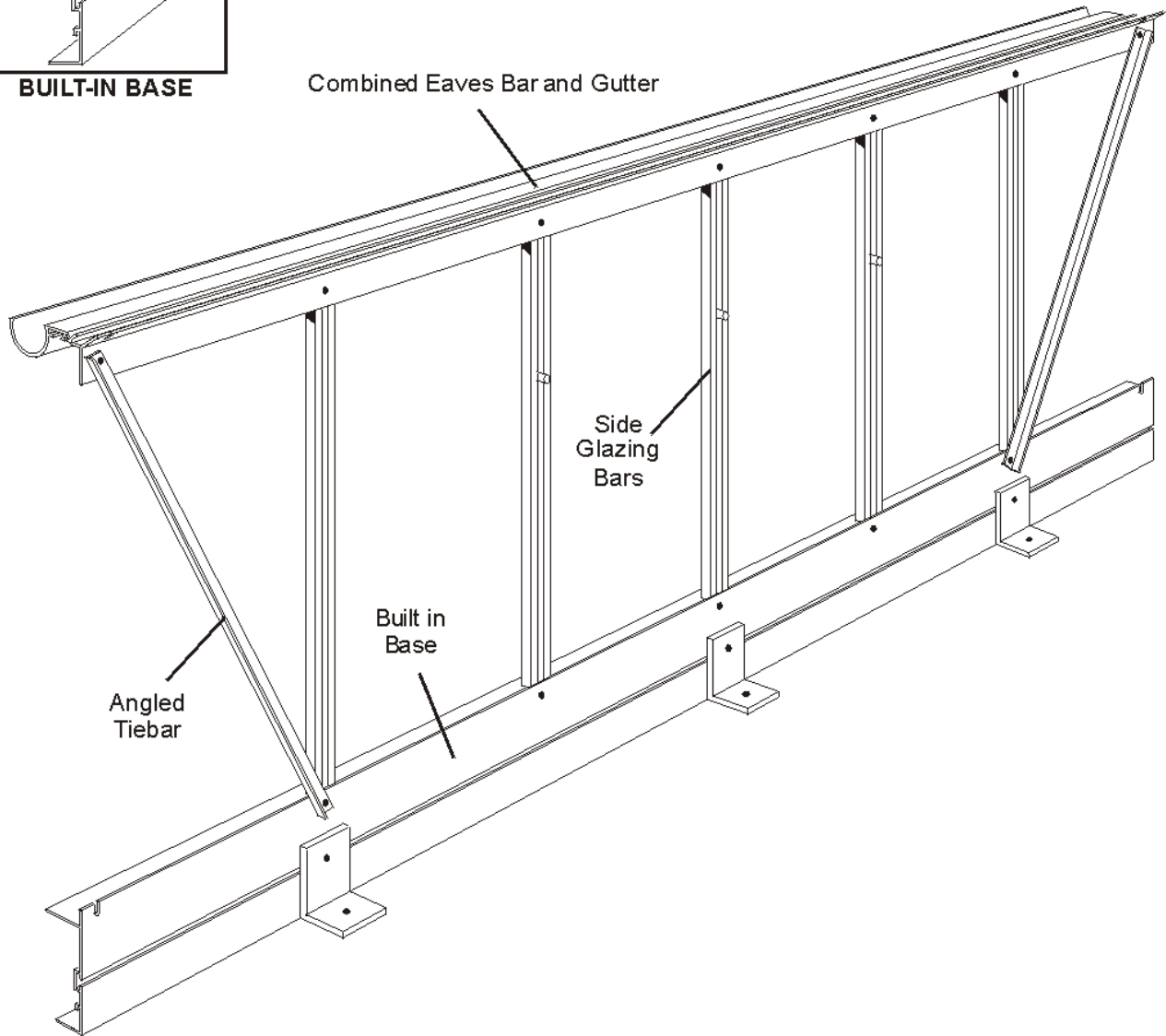
## SIDE FRAME ASSEMBLY



EAVES BAR GUTTER



BUILT-IN BASE

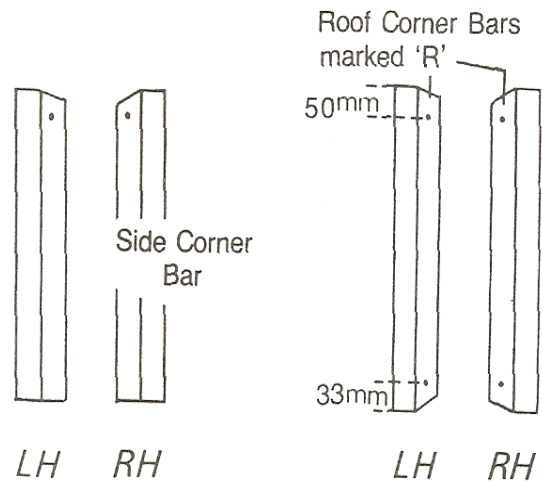


**WELL DONE! YOU HAVE SUCCESSFULLY COMPLETED THE 2 SIDE FRAMES!**

## REAR END ASSEMBLY

For the construction of this frame you require from the main box: 1 pack of corner bars marked “corner bars”, 1 rear end pack marked “rear end”, 1 rear end built in base cill marked “rear end” and 1 rear end horizontal brace marked “rear end”. 2 corner bracket/base legs (approx. 400mm long).

From the pack of fittings you need: nuts and bolts, glazing beading and gusset plates – 1 large (ridge plate) 2 small (eave plates). These plates are **not** in the pack of fittings but are taped up with the casement stays elsewhere in the box.



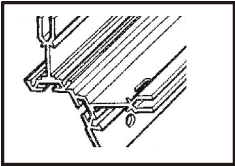
1. Starting with the pack of corner bars split the tape holding them together and first identify the 2 roof bars from the 2 side bars. The side bars are longer and have a mitre at one end of the bar. The other end has no hole and is square cut. The roof bars have 3 holes in the flange and are mitred at both ends and in addition have a letter ‘R’ written at the apex on the **outside** of the bar. N.B. If your greenhouse is a painted one, the roof corner bars will not be marked with a letter ‘R’. They can be identified from the side bars as outlined above. **(Key point)**.

The bars are also handed so you must identify the left and the right hand. Standing up, hold one **side bar** vertically in your left hand and the other in your right. Rotate the bars so that the 2 bolt slots are facing towards you, with the mitres at the top (inside view). Viewed this way the two mitres should run down to each other. The roof bars can be handed similarly, keeping the bolt slots facing inwards and the letter ‘R’ to the top. (With a painted model, the top can be identified by observing the holes in the flange. The two holes nearest the end are at 50mm and 33mm centres. The 50mm end is the top i.e. nearest the ridge). On the outside you can identify them by ensuring that the ‘R’s (indicating ridge) are at the top, the mitres will then run into each other.

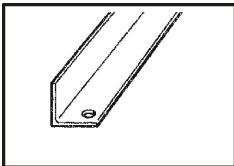
2. Slide the glazing beading into the 3 vertical glazing bars and the 4 corner bars, taking care not to stretch the material. Trim off any surplus level with the end of the bars. N.B. The corner bars have 3 grooves to receive the glazing bead; do not put any in the middle one. **(Key point)**.



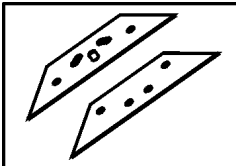
# REAR END ASSEMBLY



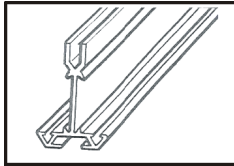
CORNER BAR



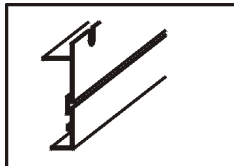
BRACING ANGLE



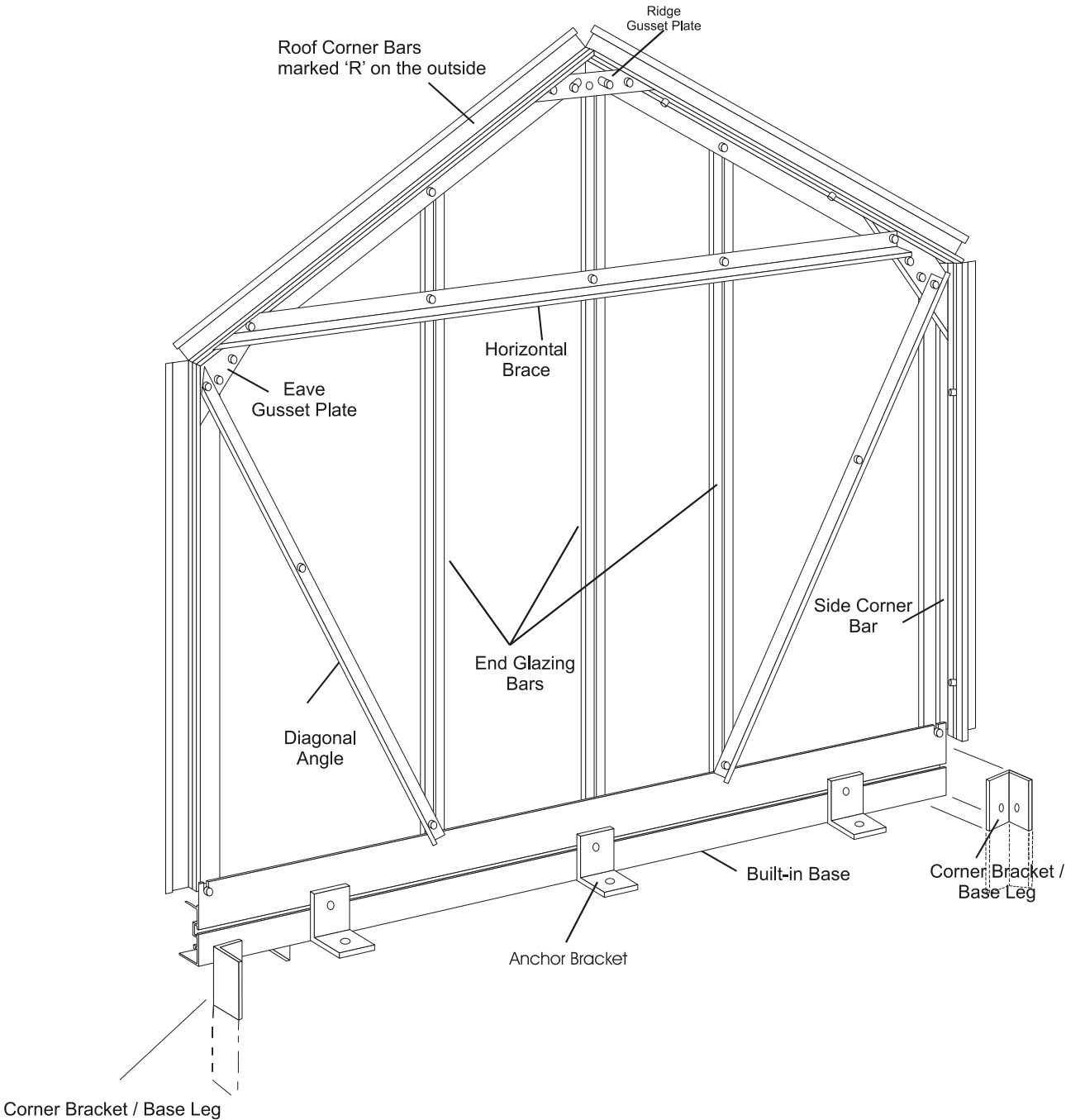
APEX & EAVE GUSSET PLATES



GLAZING BARS AND DOOR POSTS



BUILT IN BASE



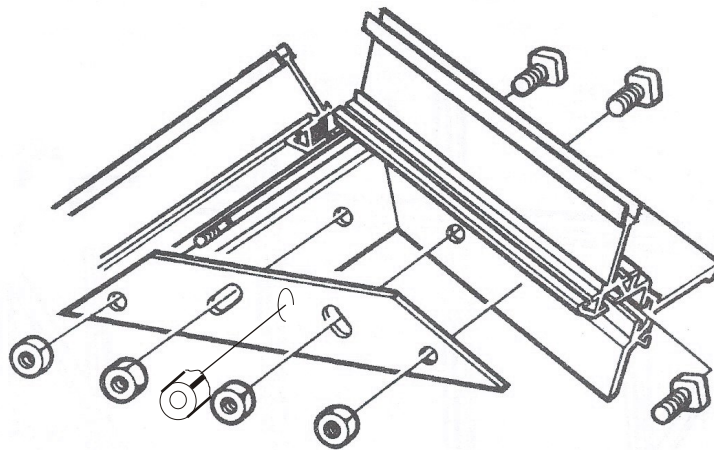
3. Lay out the components of the frame on the ground as though you were standing on the inside i.e. with the bolt slots uppermost. Ensure that, having correctly identified the roof from the side corner bars, left and right hands (see previous text) you have the roof bars with the letter 'R' (indicating ridge) at the top on the outside, i.e. towards the ground. **(Key point)**.

4. Slide 2 bolts into each corner bar bolt slots (facing inwards) 1 at the top and 1 at the bottom. Put a nut on and lightly tighten, leaving them approx. 2" from the end of each bar. These will be used later in the general assembly.

5. Starting at the apex (2 corner bars opposite each other marked 'R') slide 1 bolt into the other bolt slot i.e. the one that is facing upwards and is set at 90° to the other – 4 above. **(Key point)**.

6. Place the ridge gusset plate (larger of the 2 types) over the bolt, slide the plate left or right until the slotted hole in the plate lines up with the locating hole in the flange nearest to the end of the corner bar. Put nuts on both bolts i.e. flange and plate, finger tip tighten only. **(Key point)**.

7. Do exactly the same with the other roof corner bar ensuring that the two bars are pressed tight up together behind the ridge gusset plate.



8. Now moving to the eave gusset assembly, slide one bolt into the other bolt slot (the one that is facing upwards and is at 90° to 4 above). Place the eave gusset plate (smaller of the 2 types) onto the bolt and move it left or right until the next hole in the plate lines up with the locating hole in the top of the side corner bar. Place a bolt through the hole and put a nut on finger tip tight only. **(Key point)**. At this stage do not put a nut on the first bolt.

9. Do the same with the other part of the eave gusset plate, ensuring that both corner bars are tight up against each other behind the eave plate.

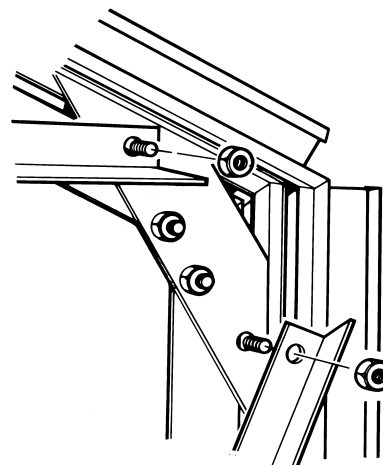
10. Repeat steps 8 and 9 at the other corner with another eave gusset plate.

11. Attach the bottom built in base cill, marked "rear end" in the box, to the left and right hand side corner bars by inserting a bolt into the facing bolt slot. Line the bolts up with the 2 slotted holes at the end of the cill, put nuts on and tighten up ensuring that the corner bars are pushed right down into the angle of the cill. **(Key point)**.

12. You can now attach the 3 vertical glazing bars to the built in base cill in a similar manner to 11 above, the longer bar to the middle hole, and the shorter ones to the outer holes. Before attaching the nuts to the shorter glazing bars place the diagonal angles onto the bottom bolt and put a nut on finger tip tight only. Attach the other end of the angle brace to the **bottom bolt** of the eave gusset plate, put on the nut and finger tip tighten. **(Key point)**. Do the same with the other diagonal brace.

13. Moving to the top of the greenhouse, insert 3 bolts into the shorter two glazing bars and 2 bolts into the longer glazing bar.

14. Now you can attach the long angle horizontal brace marked “rear end” in the box to the **top bolts** of the eave gusset plates. The angle should be facing upwards, put the nuts on and finger tip tighten.



15. You can now attach the 3 vertical glazing bars to the roof/corner bars. Slide the last bolt in each bar you inserted in 13 above to the end of each bar and insert them through the holes in the flange of the roof corner bar, place the nuts on and finger tip tighten.

16. Slide the second bolt previously inserted in 13 above to the middle of the bar and line it up with the hole in the diagonal brace, put the nuts on finger tip tight. **(Key point)**.

17. Now attach the horizontal brace to the 3 upright glazing bars utilising the final bolts you inserted in 13 above. Put the nuts on finger tip tight. **(Key point)**.

18. Slide a bolt into the bolt slot in the built in base section, one at each end. Attach the corner bracket/base leg so that it is pointing downwards. If you are fitting your greenhouse onto soft ground, then do not fit the corner bracket/base leg yet. If you are on a patio, you will need to cut the corner bracket/base leg off level with the bottom of the built in base and slide extra bolts into the bolt channel to be attached to the anchor brackets (generally 1 every 2'). If you are on soil, the corner bracket/base leg will go into the ground at general assembly.

19. The rear end is now almost complete. Before tightening all nuts check the corners to ensure they are tightly up against each other and that all the vertical bars are tight up against the angle of the rear end cill and corner bars. Tighten all nuts; the rear end is now complete.

# DOUBLE DOOR END ASSEMBLY

## Components required

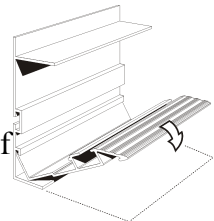
- Door end cill
- Built in base cill
- 3 End glazing bars
- 2 Rectangular plates with 3 holes
- 2 Short horizontal braces
- 2 Roof corner bars (marked 'R')
- 2 Side corner bars (unmarked)
- 1 Main door track support
- 1 Top door track
- 2 Diagonal angles
- 2 Base legs/corner brackets (approx. 400mm long)

You will also require 2 eave plates and 1 ridge plate. These are packed with the casement stay and are separate from the main bag of fittings.

From the main bag of fittings you need: nuts and bolts, glazing beading and gusset plates – 1 large (ridge plate) 2 small (eave plates). Remember, these plates are **not** in the pack of fittings but are taped together with the casement stays elsewhere in the box!

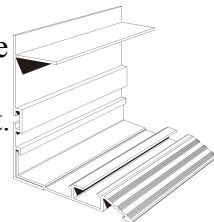
PROCEDURE: The format for the double door end is identical to the rear end assembly up to and including step 10 so please refer to those items in the previous pages.

1. Now attach the small built in base section to the corner bars, leaving a space for the doors in between.



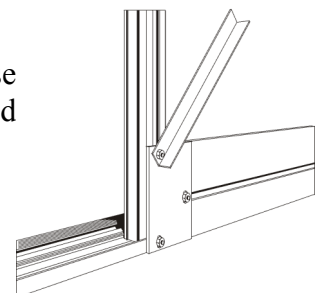
2. Now engage the door end cill with the 2 built in base cills by pushing the angle of the cill under the locator as shown in the diagram. At this stage the cill will move freely left and right but will remain located to the built in base cill.

3. Slide 2 bolts into the bottom of each glazing bar and 3 bolts (only 1 if greenhouse to be sited on soft ground) into the free end of each built in base section. Attach the 2<sup>nd</sup> bolt in the glazing bar to the hole in the door end cill, but do not put a nut on yet.



4. Attach the rectangular plate (with 3 slotted holes) to the 2 bolts inserted in the glazing bars and the last bolt inserted into the base ensuring that the glazing bar is tight down into the angle of the door end cill. Attach the diagonal angle to the top bolt of the rectangular plate, and then to the bottom bolt of the eaves gusset plate. The 2 unoccupied bolts in the base sections will be used to anchor the greenhouse to the floor.

5. Attach a corner bracket/base legs to each end of the rear end built in base and the outside ends of the 2 front built in base sections. These will be used later to attach the sides to the end assemblies.



6. Slide 2 bolts into the top of the 2 long glazing bars. Attach the short horizontal brace to the 1st pre inserted bolt of the long glazing bars and then in turn attach the other end of the horizontal brace to the **top bolt** of the gusset plate. **(Key point).**

7. Attach the main door track support (shaped like a letter Z) to the 2nd pre inserted bolt in the long glazing bars. This 'Z' shaped bar must be fitted with the two outside slots facing upwards (as illustrated) **not** downwards. The position to fix the main door track support is at the top of the long glazing bar at the point where it meets the roof corner bar (using the pre fabricated hole in the roof corner bar).

8. Stand the frame up and bolt the door track to the main door track support by inserting 3 bolts into the bolt slot of the door track. Position the bolts through the 3 holes in the door track support above the door opening. Position the top door track centrally and then tighten up.

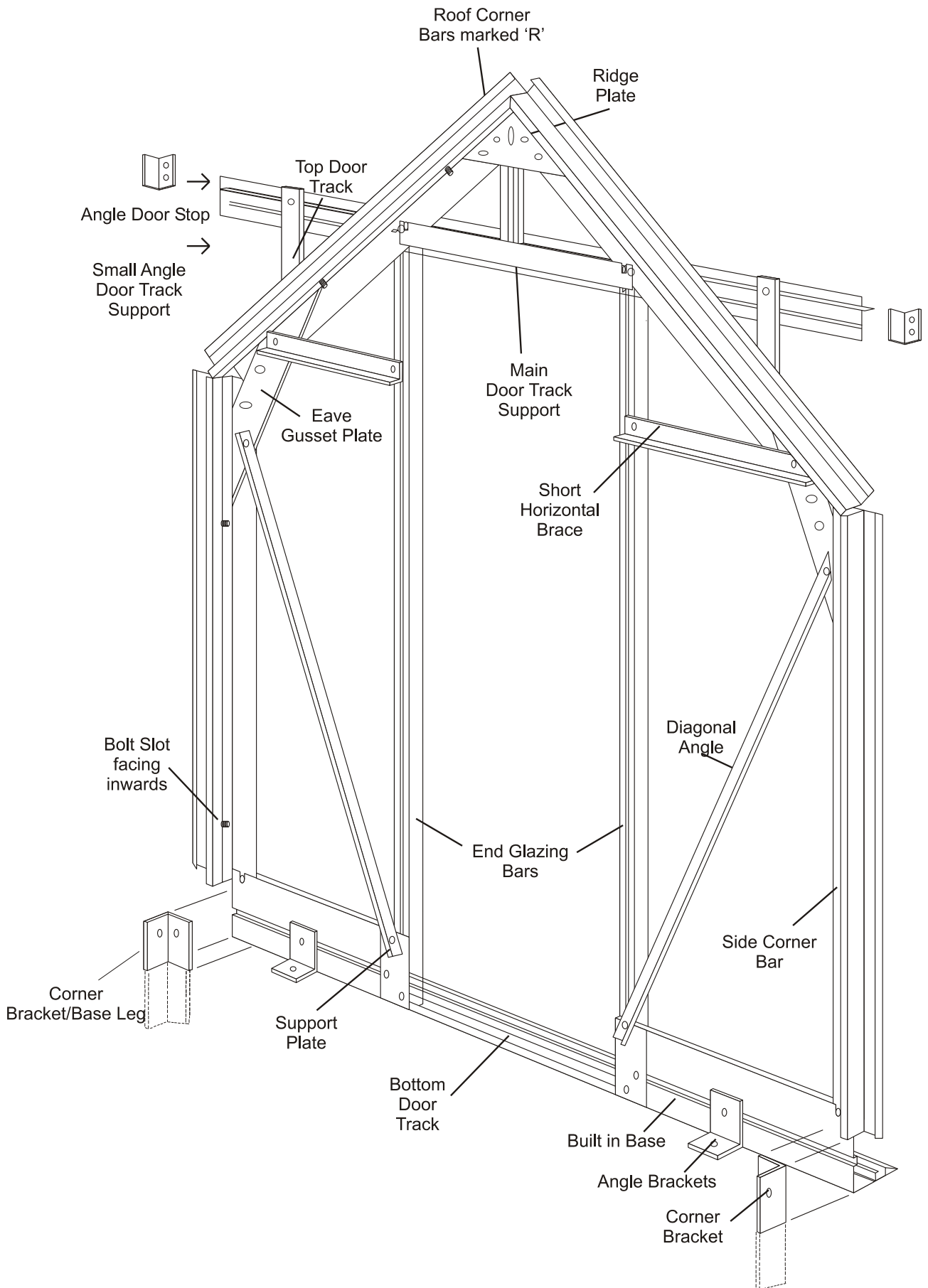
9. Now fit the small glazing bar above the door track to the hole in the centre of the door track support, and then to the middle (of 5) hole in the ridge gusset plate.

10. Check that all joints are tight and all braces are in position, and then tighten up all nuts. The end is now complete.

N.B. Please note carefully the correct position of the main door support. The slotted holes at either end are facing skywards NOT downwards. **(Key point.)**

You have now completed the 4 main frames of the structure which can now be joined together. You need not do this procedure on the base but any flat surface near the greenhouse site. If your base is prepared however, you can carry out the assembly there to save lifting it on later. But before this we construct the vents and doors.

# DOUBLE DOOR ASSEMBLY





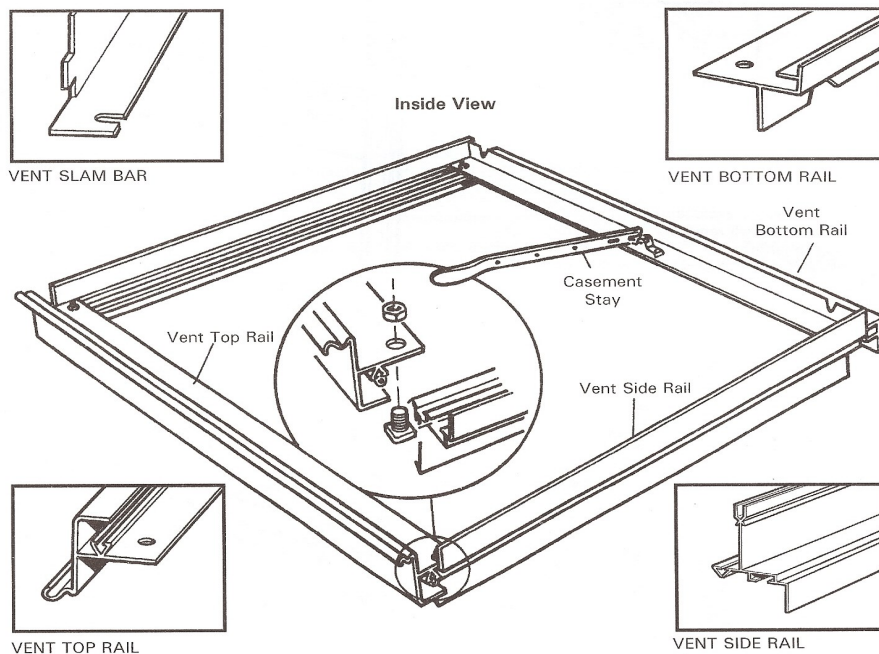
## ROOF VENT ASSEMBLY

The roof vent pack has 5 pieces of aluminium: and from the main box of fittings you require 6' of glazing beading, 4 nuts and bolts, 2 casement stay pins, 1 casement stay and 6 M4 stainless steel nuts and bolts.

### PROCEDURE:

1. Identify the slam door and attach the 2 stay pins to the outer side of the angle using the M4 stainless steel nuts and bolts.
2. Lay the 4 edge pieces of the vent on a level surface as though you were on the inside of the vent (with the bolt slots of the side bars uppermost and the 'v' slots of the bottom rail uppermost. The top rail is arranged in such a way that the squared off end is to the bottom and the hooked hinge uppermost).
3. Slide the glazing beading into the slots in the side and top rails and trim to suit.
4. Insert a bolt into each end of the side rail bolt slots, put these bolts through the holes in the top and bottom rails, add nuts and lightly tighten. Check that all joints are secure and that the vent is square, and then tighten up the nuts.
5. Fit the casement stay using the M4 stainless steel nuts and bolts, putting the bolts through the holes in the saddle of the stay and through the 2 elongated holes in the bottom rail. Hold the nuts in place and tighten the bolts with a screwdriver.

Do the same with the other vents.



**Do not fit the vent at this stage.**

**Video's on vent assembly are on our website [www.elite-greenhouses.co.uk](http://www.elite-greenhouses.co.uk)**

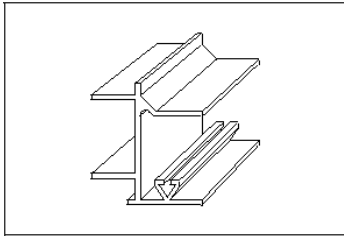
## DOOR FRAME ASSEMBLY

Each Door consists of:

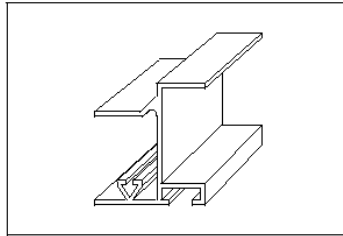
- 1 unhandeD door post
- 1 handed door post (handed post for left door is different profile to the handed right hand door post)
- 3 infill panels (1 with pre fabricated lock hole) for lock barrel
- 1 top and bottom door panels
- 3 panels of glass which must be fitted during door assembly. **It is not possible to fit glass after the door is built.**

From the main bag of fittings you require;

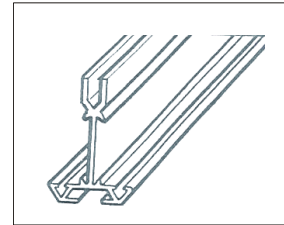
- 2 door wheels
- 1 clip on nylon door skid (this might already be fitted to the bottom door panel)
- 2 lengths of black brush draught excluder with PVC carrier
- Door lock, self tapping screws and spring washers
- 12' glazing beading
- Door handles
- 3 PVC Glass strips



HANDED DOOR POST  
RIGHT HAND DOOR



HANDED DOOR POST  
LEFT HAND DOOR



UNHANDED  
DOOR POST

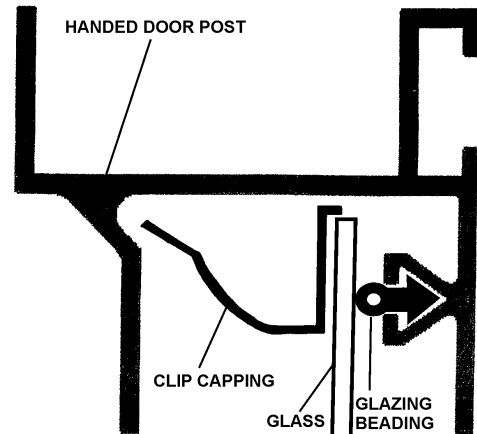
### Left hand Door (viewed from outside)

**Identify the correct door posts.** The handed door post for the left hand door has a bolt channel, whereas the handed door post for the right hand door post does not. **(Key point).**

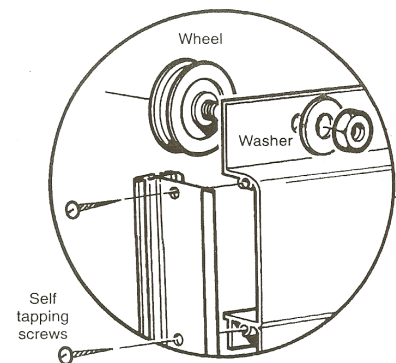
1. Place one unhandeD post and the handed post for left hand door on a level surface roughly two feet apart with the bolt slots facing downwards. (UnhandeD door post on the left, handed door post on the right). The top of each side post has two screw holes in it, the bottom has three. **(Key point).** Slide the glazing beading into the groove of each bar i.e. only one length of glazing beading per bar.
- 
2. Place the top, bottom and 3 infill panels in position as shown by the position of the screw holes in the side pieces and the panels. The top panel has the greenhouse name on it. The bottom panel has the edge for the door skid to fit on. The lower infill panel locks on to the bottom panel. The infill panel for the left hand door **does not** have a pre fabricated hole for the lock barrel.
  3. Fix the left hand door post to the door panels by screwing through the door side pieces into the holes provided in the edge of the panels with the self tapping screws. The screws will go in more easily and with out danger of trying to go crooked if you can put a small amount of grease on the screw before assembling the doors. Alternatively, you could insert the screws into the screw eyes of the door panels before assembling the door; this would have the effect of pre-self tapping the panels prior to assembly, making assembly easier.
  4. **GLASS MUST BE FITTED TO EACH DOOR BEFORE THE 2ND DOOR POST IS FITTED—KEY POINT**

5. Before fitting the unhandled door post, offer the glass panels to the door (see glazing plan in booklet for glass size guide on door), slide them in from the side. Carefully attach the unhandled door post in the same way as before, ensuring the glass is sitting in the correct position (sitting on the beading channels of the door posts) before tightening the screws.

6. Make sure all angles are square and tighten all screws. Now insert 2 glazing clips to the glass on the unhandled door post. The handed door posts are clipped using the 6 pieces of clip capping (no metal clips) found in the greenhouse box (3 per door). The clip capping should be cut to the length of the glass, and pushed into the cavity between the frame of the door and the glass, so as to wedge the glass to the back frame of the door. See diagram for final resting position of the clip capping.



7. Fix each door wheel into position by pushing the bolt provided through the centre of the wheel and then through the hole in the top door panel from underneath (i.e. from the inside of the door). Put the washer over the bolt and secure with the nut provided, tightening until there is no movement on the bolt. The nuts are lock-nuts and are harder to put on than normal nuts in general assembly. The wheel will revolve freely because it has ball bearings in it. **The wheel has a collar protruding from the centre, this collar goes against the inside face of the top door panel. (See picture).**



8. Slip the nylon door skids on each of the bottom panels. This may already have been done prior to delivery. After fitting the doors (see later in the booklet), you may need to lower the door skid so that it engages with the bottom door cill to allow smooth movement of the door. Lower the skid on each door and insert a self tapping screw at each end of the skid to reinforce the position.

9. Build the right hand door using the remaining handed and unhandled door post. Viewed from the outside, the handed door post will be on the left of the door, while the unhandled door post will be on the right. At this point you must decide the height you would like your door lock. The hole to take the door lock is on the left hand side of the infill panel. You can decide to fit this panel to the 2nd or 3rd panel down. **Make sure you fit the glass before final fixing of the door.** See glazing plan towards the back of this booklet.

10. Thread the stainless steel backed brush extruder into the PVC carrier. This may already have been done prior to delivery.

11. Turn the doors over and insert the black brush draught excluder in the groove (bolt slot) in the unhandled door posts. Insert a nut and bolt at the bottom of each unhandled door post and tighten so that the brush will not slip down when the door is in its upright position. Cut off the surplus brush and carrier at the top of the bar.

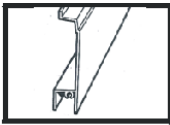
12. Do not fit the door to the gable at this stage – wait until the structure is fully assembled prior to glazing.

**Video's of the assembly can be found at [www.elite-greenhouses.co.uk](http://www.elite-greenhouses.co.uk)**

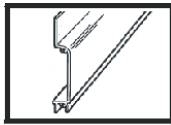
# DOOR FRAME ASSEMBLY



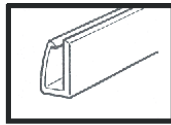
DRAUGHT EXCLUDER



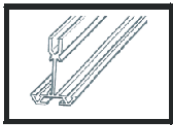
DOOR INFIL PANEL



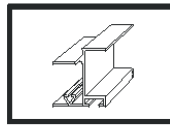
DOOR TOP/  
BOTTOM PANEL



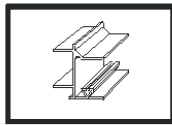
DOOR SKID



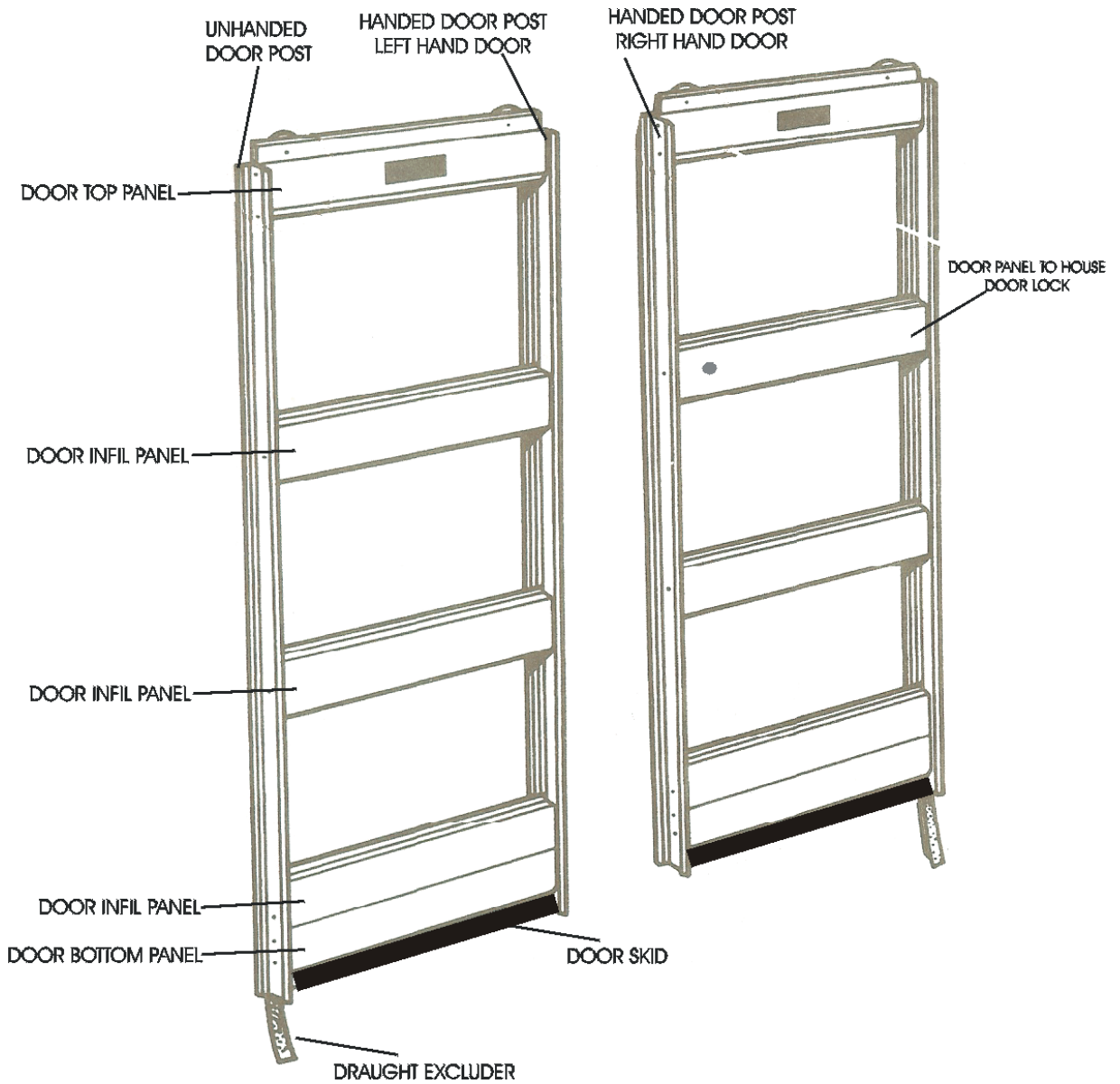
UNHANDLED  
DOOR POST



HANDED DOOR POST  
LEFT HAND DOOR



HANDED DOOR POST  
RIGHT HAND DOOR

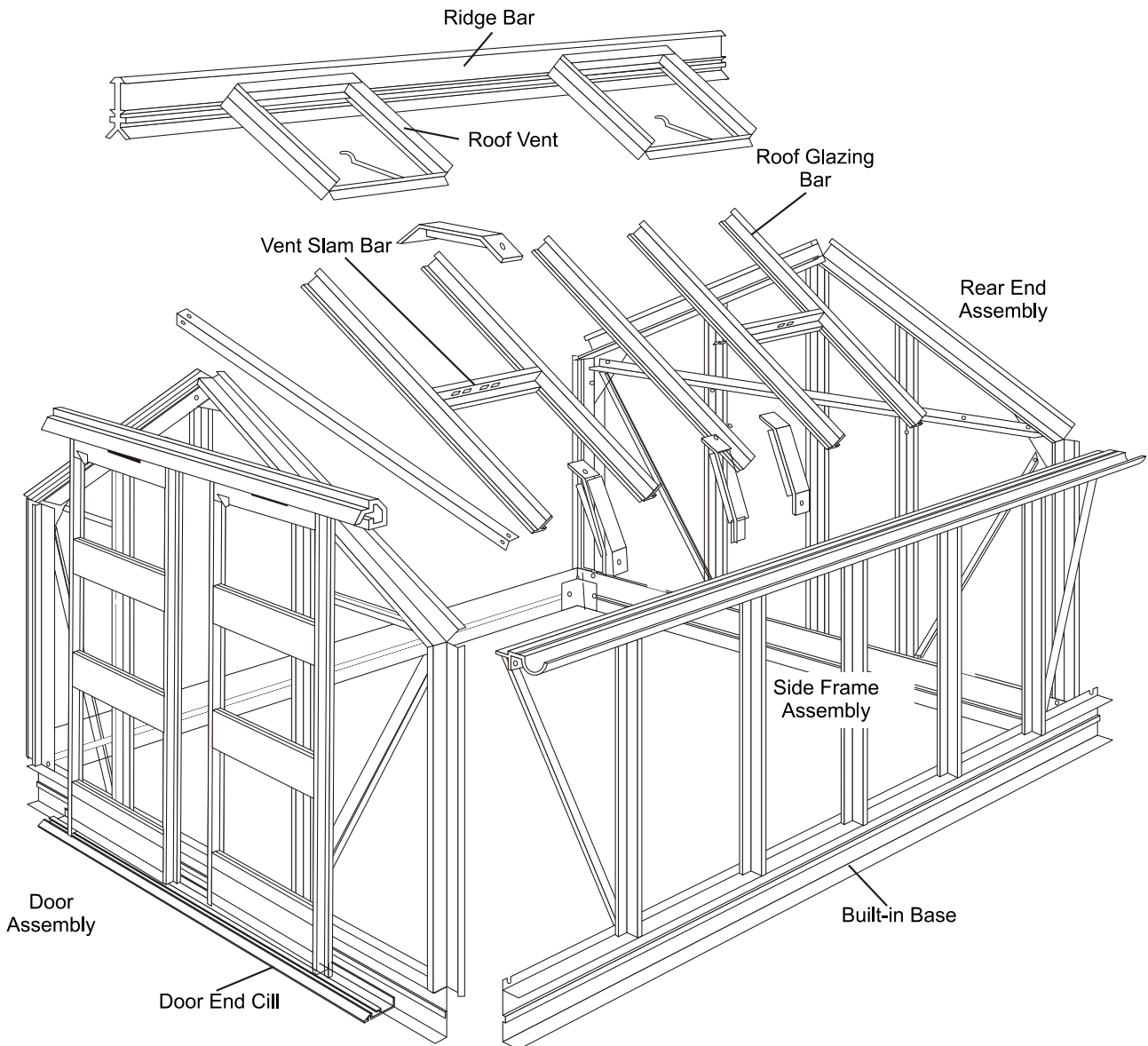


# ASSEMBLY OF THE GREENHOUSE UNIT

## PROCEDURE:

1. With the help of a willing assistant, stand up the rear gable and one of the sides. Standing on the inside of the structure with the gutter facing away from you, insert the eave/gutter bar into the gap between the corner bars, so that the inside flanges which form the angle of the roof and side line up with the bolt slots in the corner bars. **(Key point).**

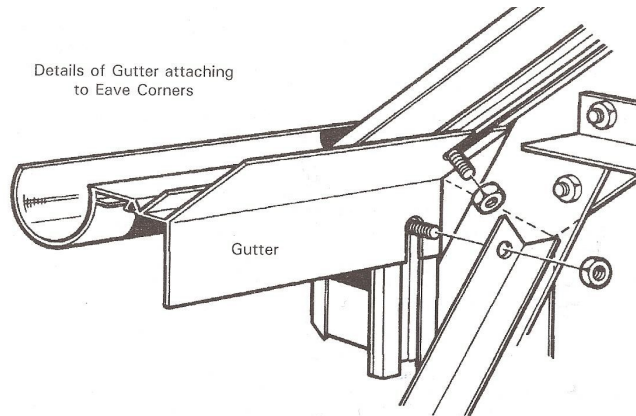
Undo the nuts holding the 2 bolts you inserted in the corner bars and slide them into the slotted holes in the flanges. Put a nut on the top bolt, put the side diagonal brace on the bottom bolt and then the nut and tighten up.



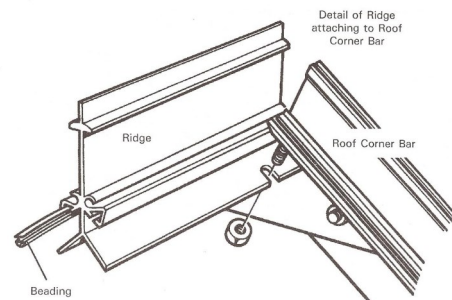
2. Now stand up the door end assembly and repeat the above procedure.

3. Stand up the other side frame and repeat the operation outlined above at both corners.

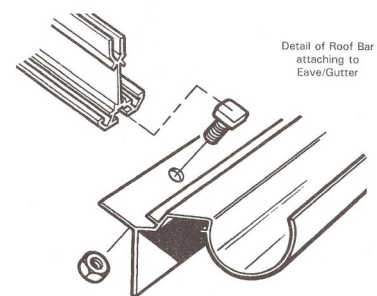
4. The bottom built in base cill of the sides attaches to the corner bars in a similar way. Undo the nuts and bolts inserted in the gable end assembly, move the built in base cill under the corner bar so that the elongated hole in the vertical flange of the built in base cill lines up with the bolt slot in the corner bar. Move the bolts down the slot into the slotted hole, put a nut on and tighten up, ensuring that the corner bar is pushed right down into the angle of the built in base cill. Do the same at the other 3 bottom corners.



5. The ridge bar is fitted next, but first you must thread the glazing beading into the 2 grooves on the ridge. **(Key point)**. Lift the ridge bar up to the apex and standing on a pair of sturdy and safely placed stepladders push the ridge into the small gap between the roof corners so that the 2 flanges which form the angle of the roof are tight up against the inside edge of the corner bars. The vertical part of the ridge is outside and pointing skywards. Undo the nuts and bolts previously inserted during the gable end assembly and push them upwards into the slotted holes of the ridge. Tighten the nuts.



6. The roof bars can now be attached to the structure **but first you must slide the glazing beading into the bars and trim to suit. (Key point)**.



Attach the bars firstly at the ridge, sliding a bolt into the bolt slot of the roof bars and placing the bolt through the holes in the flanges of the ridge. Put a nut on and immediately prior to tightening ensure that the roof bar is pushed up hard against the ridge. Do not attach the bottom of the bars to the eave until all the roof bars are bolted to the ridge. **(Key point)**.

7. Now attach the bottom of the roof bars to the eave/gutter bar into the holes in the upper flange. Start with the middle bars either side of the ridge. You will need to insert extra bolts into each bar that has a vent opening and a cantilever tee-bar brace.

The 4x7 and 6' x 7' has no cantilever tee bar brace.

The 8' x 7' has 2 small tee-bar braces – one each side.

The 10' x 7' has 4 small tee-bar braces – 2 each side.

The 12' x 7' has 3 small tee-bar braces – 3 in the roof and 6 large tee-braces – 3 each side.

The 14' x 7' has 10 large tee-bar braces – 4 each side and 2 in the roof.

The 16' x 7' has 13 large tee-bar braces – 5 each side and 3 in the roof.

The 18' x 7' has 16 large tee-bar braces – 6 each side and 4 in the roof.

The 20' x 7' has 19 large tee-bar braces – 7 each side and 5 in the roof.

You must remember to insert one extra bolt per cantilever T-bar brace and one per vent per bar. For example the 8' x 7' would have 3 extra bolts on the middle bar on one side of the ridge and 2 on the middle bar on the non vent side. In addition one extra bolt would be needed on the bar next to the middle where you require the vent to go.

If you have purchased a partition with your greenhouse you will be 2 roof bars short of a full pack. Omit one each side of the ridge at the point where the partition is to be situated i.e. at the same place where you omitted the side glazing bars (see later text for partition details).

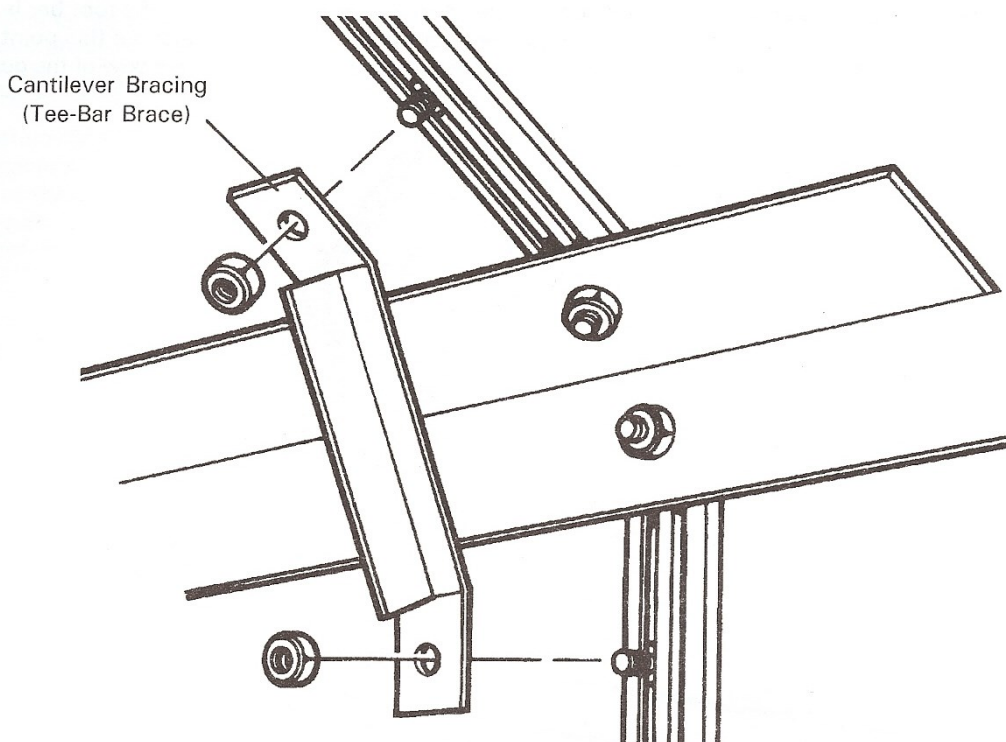
Before tightening the nuts that hold the roof bar to the eave you must ensure that the roof bar is tight up against the small flange immediately above the gutter. **(Key point)**. Failure to observe this point and the previous one of keeping the roof bar tight up to the ridge could result in a slight outward bow of the gutters and a slight downwards dip of the ridge.

8. At this point you will need to lift the structure onto a firm footing if you haven't already done so.

9. On the 4', 6', 8', 10' and 12' models there are 2 roof diagonal braces. On the 14', 16', 18' and 20' models there are 4. You attach these to the point where the ridge bolts to the corner bars at the rear end. The angle travels diagonally down to the first glazing bar at the eave/gutter. You fit one each side at the rear of the greenhouse. If you have the longer house you put another 2 at the front end.

10. You can now attach the T-bar cantilevers which bolt to the side bars and roof bars as indicated above.

**Before tightening these cantilevers up make sure there is no sag in the ridge or outward bow in the eave. (Key point). If you do have this problem you must straighten it out before tightening the cantilevers up. A bow or sag can easily be removed with 2 people pushing the gutters towards each other until straight, hold it in position whilst a third person tightens up the cantilevers.**



## **SECURING GREENHOUSE TO PERMANENT BASE**

The main structure is now complete and it must now be fitted onto its base for securing down.

### **SQUARING UP**

You must make sure that the structure is level and square. Put one pane of glass (a 610x610mm piece would be sufficient) in each corner of roof, each pane must be level with the small glass retaining lip just above the gutter and be running parallel with the roof glazing bars. Each corner must be the same. If one corner is out, the corner diagonally opposite will also be out. By carefully pushing and pulling each corner diagonally you will be able to see the frame move in and out of square with the glass.

### **HARD STANDING**

Having established the square of the greenhouse, drill the patio or concrete in the required positions, fit plastic plugs (not supplied as standard) and screw the brackets (attached during subassembly) firmly to the ground using 35mm x 8mm round head screws (not supplied as standard).

### **SOIL FLOOR**

Determine the square of the greenhouse as described above, dig holes approx. 1 spade depth in the corners, make a mix of concrete and put a couple of shovelfuls around the base of each stake. When the concrete has gone off backfill with the soil excavated earlier on.



# PARTITION

If you purchased a partition it is at this point that you construct the frame in situ. In the box you will find packs marked

“partition corner bars”

“partition door end built in base cill”

“partition door end”

“partition door track”

“partition door panels”

“partition door posts”

You will also require a number of fittings from the box:

2 eave gusset plates

2 base plates

1 ridge plate

Glazing beading

Nuts and bolts

## PROCEDURE:

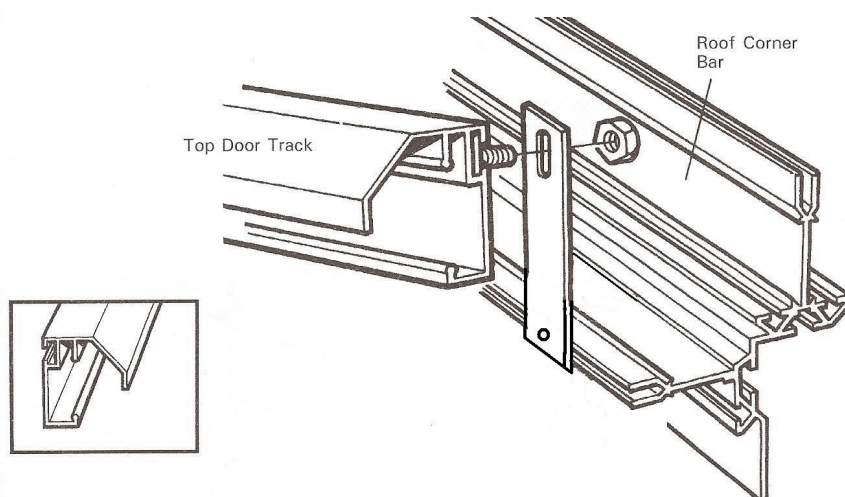
1. Starting with the corner bars, identify the roof and side, left and right hands as you did earlier.
2. Each bar has a saw cut approx. 20mm into the bar from each end, but apart from that they are identical. Insert glazing beading as before – but this time into all 3 grooves of the corner bar. **(Key point)**.
3. Having established where the partition is going you will need to make the holes in the gutter, ridge and built in base cill slots. Do this by carefully hack sawing down into the hole to form the slot.
4. Take the left hand side bar, insert 2 bolts into each of the 2 bolt slots, and then offer it up to the eave/gutter and cill so that the flange of the built in base cill and the eave are inserted into the saw cut. **(Key point)**.
5. Slide the 2 bolts into the bolt slot facing inwards, to the holes in the built in base cill and eave/gusset. Put a nut on and finger tip tighten. Do the same with the left hand roof corner bar having first inserted 2 bolts into each bolt slot. (Don't forget to ensure that the 'R' is at the ridge and not at the eave) now do the same with the other side and roof corner bars.
6. Next, offer the gusset plates to the corner bar at the point where they meet. Slide the bolts in the facing bolt slot towards the gusset plates and line up the holes in the gusset plate with the bolts in the facing bolt slot and in the flange of the corner bar. Insert 2 bolts through the gusset plate and flange (middle 2 holes), put a nut on – finger tip tight. Do not put the nuts on the upper and lower bolts of the eave gusset plates at this stage. **(Key point)**.
7. The built in base pieces can now be attached to the facing bolt slot of the partition corner bar (in the same way you did during the original door assembly).

8. Now attach the built in base to the 2 side base sections of the greenhouse. Firstly bolt an corner bracket/base leg on each end of the partition built in base. If you are on flags or concrete cut off the surplus metal of the legs. Attach it to the side base walls by inserting a bolt into the bolt slot of the side base. Line the base leg angle up with the bolt slots, put nuts on and prior to tightening move the partition base in or out to line up with the built in base cill. Tighten the nuts.

9. You can now attach the 2 vertical glazing bars.

10. Thread the glazing beading into the channels and trim to suit. Put 3 bolts into each bolt slot, attach to the bottom cill by inserting another bolt into the slot and pushing it through the hole in the bottom cill. Moving to the top of the bar insert another bolt into the bolt slot and put through the hole in the roof corner bar. Put a nut on finger tip tight. Do the same with the other glazing bar.

11. Utilising the extra 3 bolts inserted into each bar, attach the horizontal and diagonal bracing bars in the same way as the original door end. Likewise with the door track support attach as before. The partition doors should be assembled in exactly the same way as the double door frame assembly earlier in the booklet. The doors in a partition are a little shorter than a standard door to facilitate full opening. They are assembled and hung in the same way as the double doors are assembled and hung earlier in the plan.



## EXTERIOR DOOR TRACK

This top door track has no holes in, but 1 bolt slot. For double doors, you must have the door track centrally positioned. Insert 3 bolts into the bolt slot and line them up with the 3 holes in the door track support, put the nuts on and tighten up. To move the door track into the correct position, fit the door (see below for door fitting) onto the track and by slightly releasing the nuts holding the door track support you can move the door(s) up and down until they are correctly into the bottom guide. In the bag of fittings, you will find 2 small flat bars which each have 2 holes of different size. Attach the larger of the 2 holes in the flat bar, to each end of the top door track using the bolt channel at the back. Before tightening, slide the flat bar along the door track until the smaller hole in the flat bar intersects the self tapping screw groove in the roof corner bar. Tighten all bolts, and repeat the procedure at the other end of the track (double door only).

## PARTITION DOOR TRACK

This door track is fitted in exactly the same way as the exterior door track so the instructions above apply..

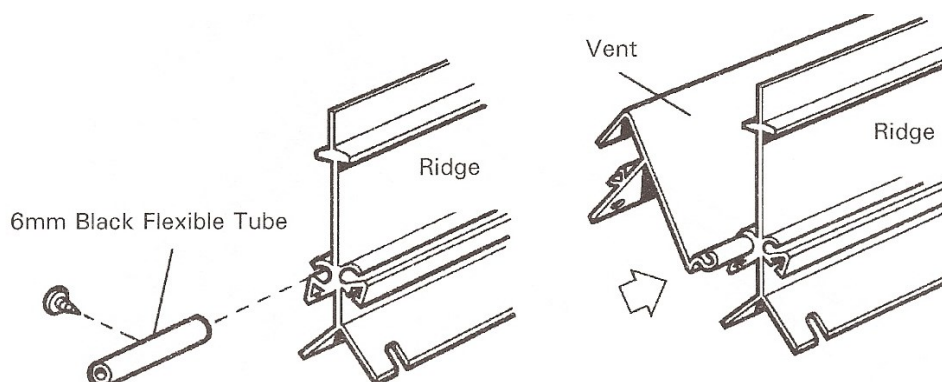
N.B. The small flat bar illustrated is fitted pointing **downwards** for the partition. (**Key point**).

The small glazing bar above the middle of the door can now be fitted. Put the glazing beading into the grooves and trim to suit. Insert 2 bolts into the bar and put them through the holes in the top door track and apex gusset plate. Put nuts on and tighten up.

## NOW YOU FIT THE VENT TO THE RIDGE

Before sliding the vent into the ridge, slide a piece of black tube into the vent hinge socket. Slide the vent into position, insert a small self tapping screw into the tube approximately half way along then tighten the screw. The tube will expand and lock into position thus preventing sideways movement of the vent. N.B. There is no hole for the screw but it will easily push into the tube and screw up (**Key point**). You only require one tube per vent on the left side of the vent socket (viewed from inside the greenhouse).

Having slid the vents from the end of the ridge to the desired position, you can now fit the 'slam bars' to the 2 glazing bars. Utilise the bolts you inserted during general assembly and position the 'slam bars' just under the vent allowing the casement stay to effectively close. The slam bar can be adjusted later to facilitate good opening and closing of the vent.



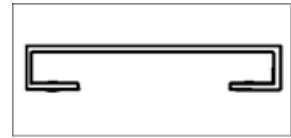
## FITTING THE DOORS TO THE STRUCTURE

The doors slide onto the frame from the left and right hand side.

For the left hand door, put the door bottom rail into the bottom door track and slide to the right, feed the first wheel into the upper door track and move further to the right until the black draught excluder butts up to the end block glazing bars. Carefully ease the door past the block glazing bar and feed in the second wheel. Push further to the right until the draught excluder butts up to the end block glazing bar. The door will now run quite freely. Fit the right hand door from the right hand side in the same way. To square up the doors with the spacing, undo the upper bolts holding the door track. There is a little play to facilitate "fine tuning" of the door.

## FITTING THE DOOR HANDLES

The handles are fitted to the infill panel on each door (choose between 1st or 2nd panel down). Position the handle centrally, and mark the hole position. Drill 7mm diameter holes (2 holes per door), then fit the handles, and secure with a nut and bolt.



DOOR HANDLE

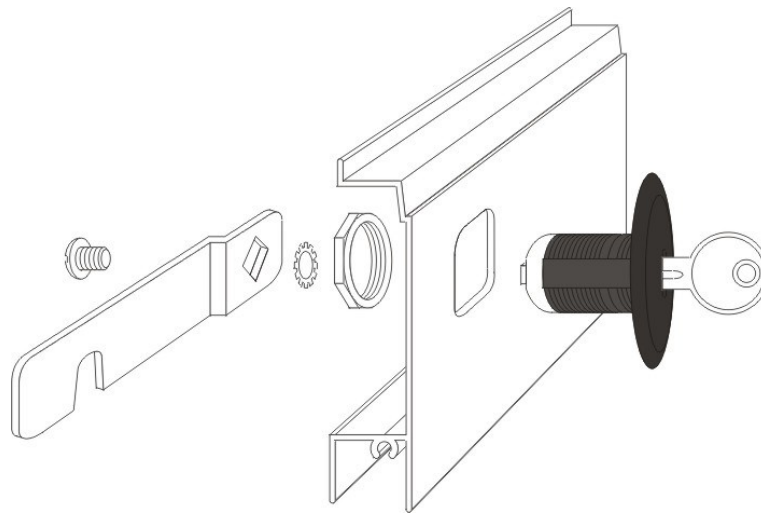
## FITTING THE DOOR LOCK

The door lock must be fitted after the doors are in position (**Key Point**). Undo the ring bolt from the door lock, and insert the barrel through the hole in the panel from the outside. Reattach the ring bolt to the barrel on the inside, and tighten.

Now attach the cam lever, washer and screw to the door lock from the inside position of the door.

The lock will turn through 90 degrees both ways, so you must ensure the cam (when fitted) is pointing skywards (unlock position) and horizontal (locked position)

Now using a cropped head bolt, attach the domed pin to the bolt channel of the handed door post on the left hand door (viewed from outside). Move the pin up or down in the channel so that the notch on the cam locates comfortably when horizontal. Tighten all components.



## FITTING THE RAMP

The final aluminium piece of the greenhouse is the door end ramp cill. The ramp is attached to the door end cill by engaging the nub of the door end cill to the 'C' groove of the ramp. The ramp is now rotated to horizontal. Drill a hole at each end approx. 20mm in from the end of the ramp and into the floor. Plug and screw.



If you are fitting onto soft ground, you must ensure that a solid material is underneath the ramp to avoid damage when you step on the ramp to enter the greenhouse. You can lay a row of bricks sunk to ground level, a concrete flag, a piece of aluminium base pressed into the ground to ground level or something similar. You can then screw the ramp into the support material for a secure fixing.

## **FINISHING OFF**

To prevent the door from sliding past its opening, you must fix 2 angle brackets to the door end assembly.

Insert a cropped head bolt into the bolt channel at the top of the left hand glazing bar (viewed from the inside) and fix an angle bracket as shown in the picture below.

The bracket must be fitted at the same height as the door panel so that, as the door moves left or right, the bracket prevents the door from moving too far along the top door track.

Repeat at the bottom of the door.

Repeat for the 2nd door.

To facilitate smooth running of the door, fit 1 flat bar at each end of the top door track.

The flat bar has 2 holes of different size.

Loosely fix the larger hole to the bolt channel at the back of the top door track using a short bolt and allow the flat bar to hang vertically down.

Move the flat bar along the top door track until the small hole in the flat bar meets the self tapping screw groove in the roof corner bar.

Fix the small hole in the flat bar to the corner bar using a self tapping screw.



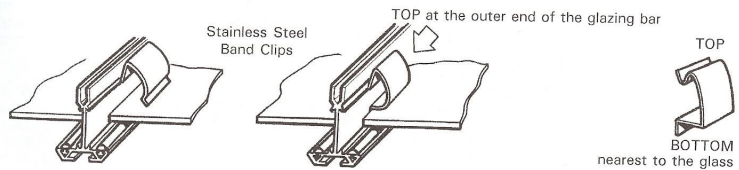
# HORTICULTURAL GLAZING

Always handle glass with extreme care as failure to do so can result in injury.

Start with the bottom pane of glass on the side, ref A (610 x 610mm) (24" x 24"). Insert 4 stainless steel clips as illustrated, 2 on either side of the pane. The upper 2 clips approx. ½" (13mm) from the top edge of the glass, the bottom 2 approx. 8" (200mm) from the bottom edge of the glass. Put one overlap clip on the upper edge of the low pane of glass with the long "tail" outside and the short return inside.



Offer the next pane of glass ref. B (610 x 457mm) (24" x 18") to the panel, sitting the pane of glass onto the 2 upper clips of the panel below. Exerting a little pressure on the upper B pane with one hand, bend up the tail of the overlap clip to form a hook or letter "S" (see diagram).

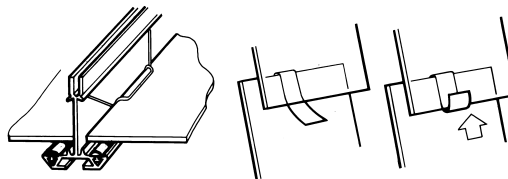
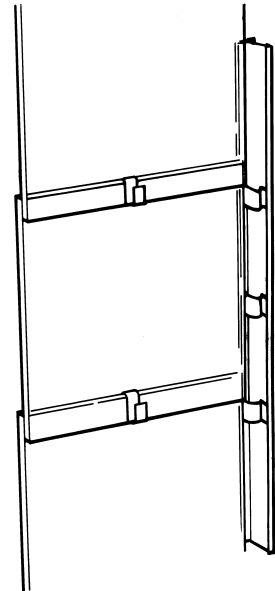


Put 2 clips on each side of the pane of glass, the upper 2 clips ½" (13mm) from the top of the pane B. The bottom 2 clips 8" (200mm) from the bottom of the pane, i.e. from the overlap.

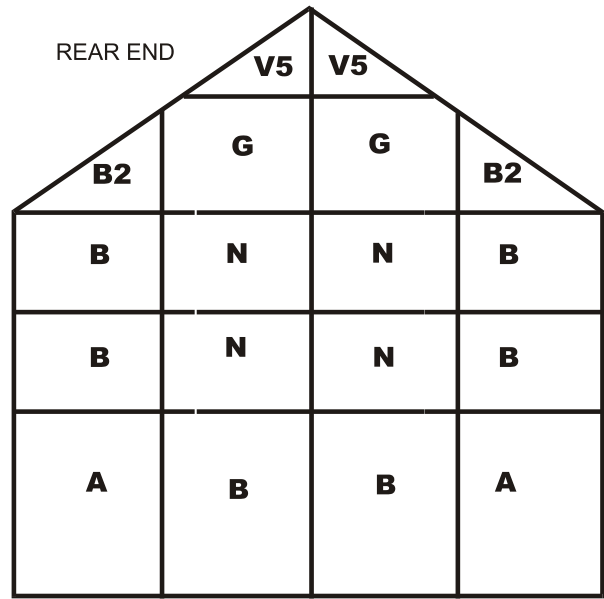
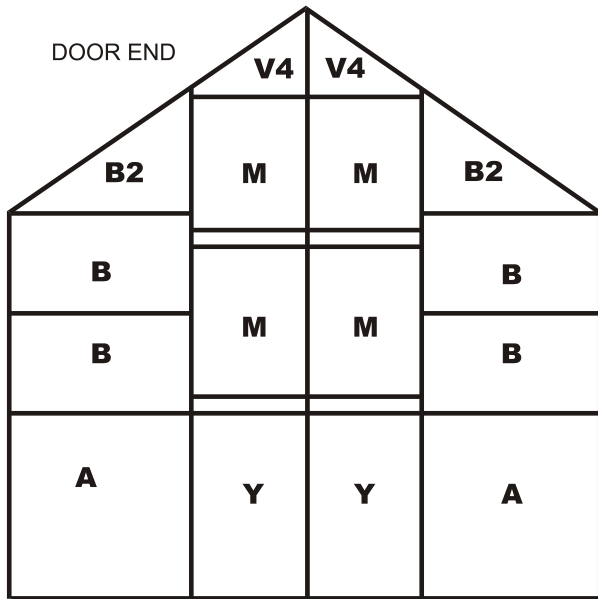
Repeat this procedure for the upper pane of glass ref. B and for the rest of the greenhouse glazing application, referring to glazing chart for the precise location of each pane of glass.

N.B. The 13mm overlap may need to be slightly more or less depending on the tolerance of the glass.

N.B. There are a small number of wire clips which you use behind the door and under the vents instead of the band clips.

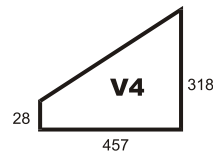
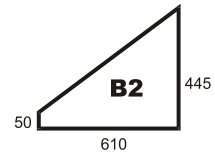


# HORTICULTURAL AND MULTI-SHEET TOUGHENED GLASS



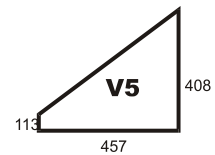
ROOF

A	VENT A	VENT A	A	A
B	B	B	B	B
F	F	F	F	F



SIDE

B	B	B	B	B
B	B	B	B	B
A	A	A	A	A



N.B.  
P.V.C MUNTINS APPLY ONLY TO TOUGHENED GLASS AND ARE NOT NEEDED FOR HORTICULTURAL GLASS.

	A	B	F	G	M	N	Y	B2	V4	V5	TOTAL
4 x 7	12	22	4	2	4	4	2	4	2	2	58
6 x 7	16	28	6	2	4	4	2	4	2	2	70
8 x 7	20	34	8	2	4	4	2	4	2	2	82
10 x 7	24	40	10	2	4	4	2	4	2	2	94
12 x 7	28	46	12	2	4	4	2	4	2	2	106
14 x 7	32	52	14	2	4	4	2	4	2	2	118
16 x 7	36	58	16	2	4	4	2	4	2	2	130
18 x 7	40	64	18	2	4	4	2	4	2	2	142
20 x 7	44	70	20	2	4	4	2	4	2	2	154

REF	SIZE
A	610 x 610
B	610 x 457
F	610 x 267
G	300 x 457
M	450 x 457
N	457 x 457
Y	450 x 610

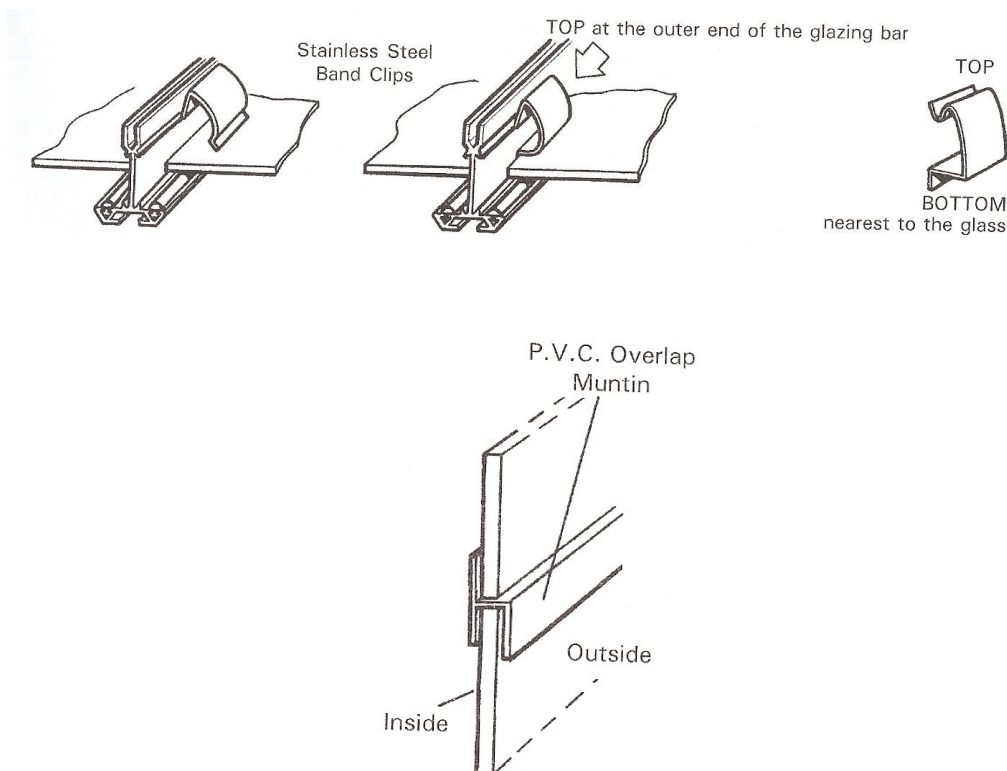
Louvre windows replace pane A with 1 x 610 x 140 (packed in louvre box with the 5 louvre blades) plus the louvre frame.

## TOUGHENED GLASS

If you have ordered P.V.C. Bar Capping, you must read the instruction sheet for Bar Capping installation. (FOUND IN THE BOX CONTAINING BAR CAPPING).

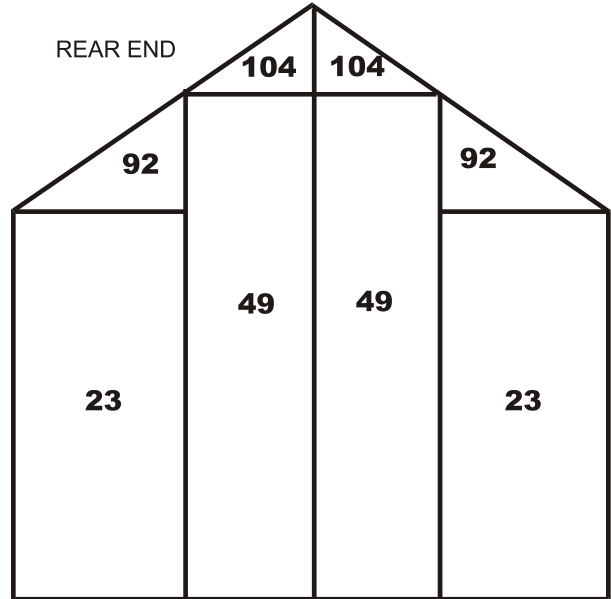
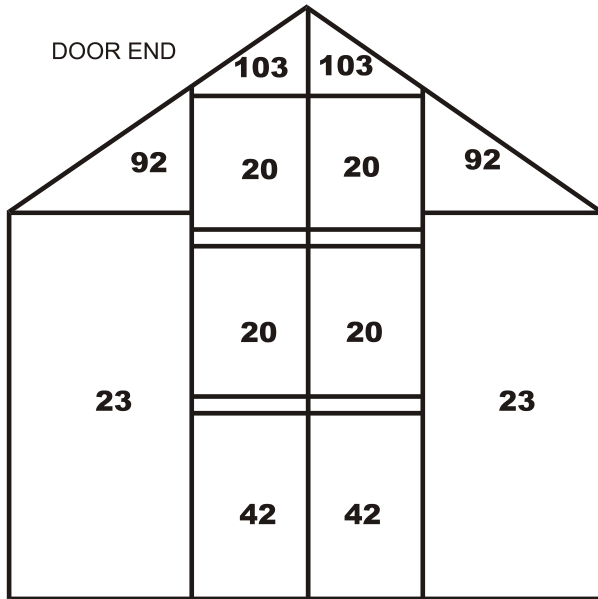
The main differences in application between the two types of glazing are:

1. Toughened glass is in large sheets.
2. There are no overlaps: where there are two or more panes in a section they are butt jointed with a P.V.C. overlap strip—(called a muntin) - you do not use muntins if you have multi-sheet (or small pane) toughened glass.
3. See the diagram for the position of the different sizes.
4. The glass is clipped onto the frame in the same way as the horticultural glass is, but use 8 clips per large pane.
5. Put the P.V.C. overlap muntin on top of the lower pane making sure you have differentiated between the inside and outside of the P.V.C. overlap muntin (see diagram below). The next pane sits on top of the overlap muntin and is clipped in as normal.

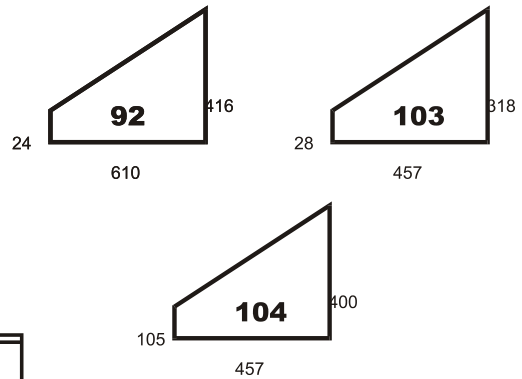
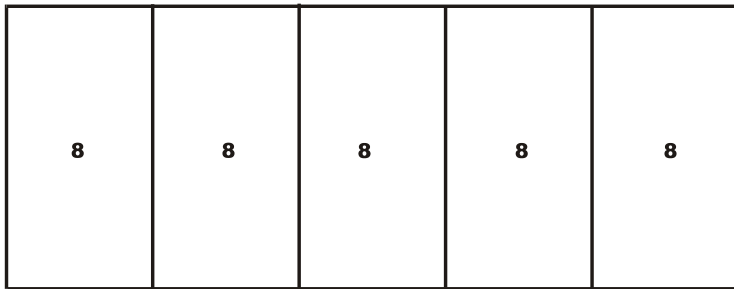




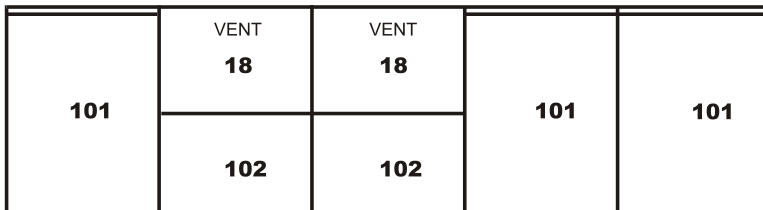
# FULL SHEET TOUGHENED GLASS



SIDE



ROOF



	8	18	20	23	42	49	92	101	102	103	104	TOTAL
4 x 7	4	1	4	4	2	2	4	3	1	2	2	29
6 x 7	6	1	4	4	2	2	4	5	1	2	2	33
8 x 7	8	2	4	4	2	2	4	6	2	2	2	38
10 x 7	10	2	4	4	2	2	4	8	2	2	2	42
12 x 7	12	2	4	4	2	2	4	10	2	2	2	46
14 x 7	14	3	4	4	2	2	4	11	3	2	2	51
16 x 7	16	4	4	4	2	2	4	12	4	2	2	56
18 x 7	18	5	4	4	2	2	4	13	5	2	2	61
20 x 7	20	6	4	4	2	2	4	14	6	2	2	66

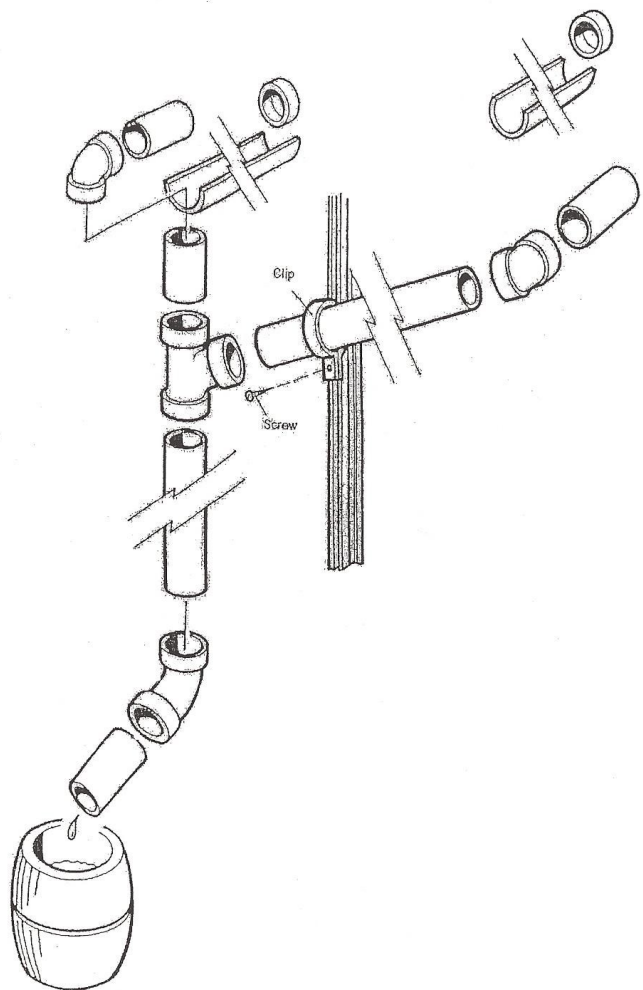
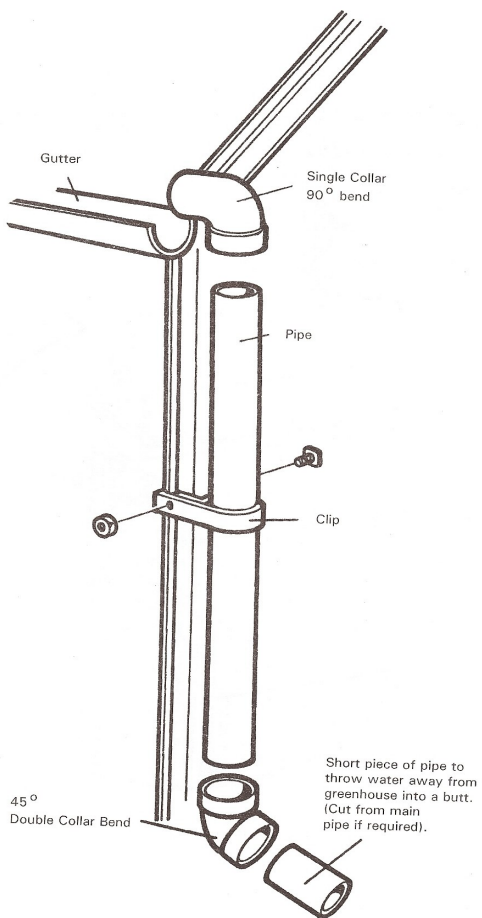
REF	SIZE
8	610 x 1489
10	610 x 904
18	610 x 610
20	450 x 457
23	610 x 1456
42	450 x 610
49	457 x 1780
101	610 x 1310
102	610 x 715

N.B. If you have a louvre, it must be fitted on one of the sides of the greenhouse it can not be fitted to either gable. The louvre must be sandwiched between two panes of glass. **(Key point)**. To fit the louvre, replace 1 glass panel ref 8 with 1 piece 610 x 140 (found inside louvre box with louvre blades), the louvre itself and 1 pane ref 10.

**YOUR GREENHOUSE IS NOW COMPLETE!**

# OPTIONAL EXTRA

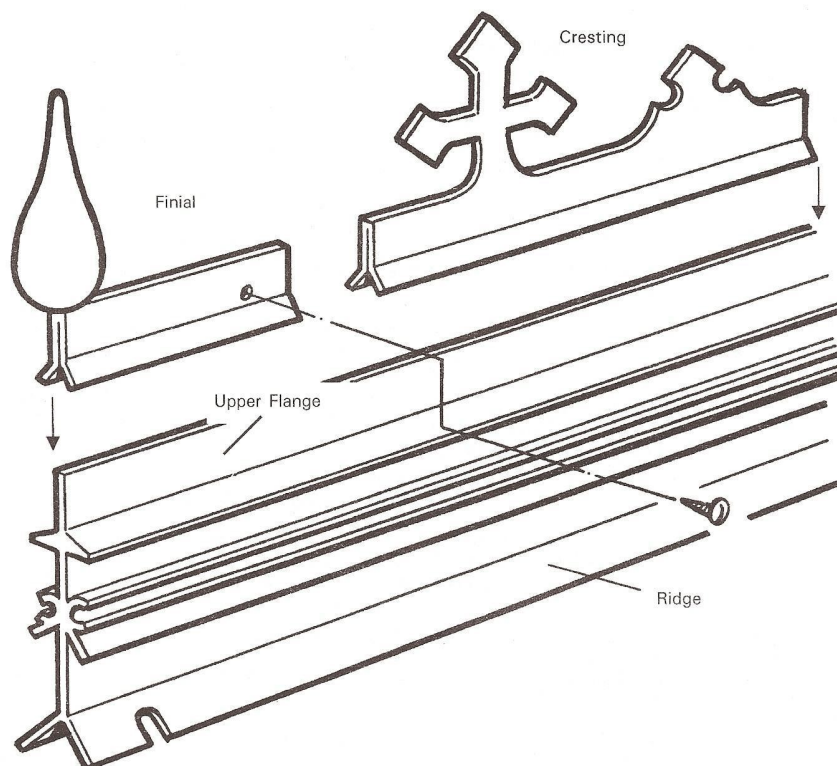
# RAINWATER KITS



## OPTIONAL EXTRA

### FINIAL AND CRESTINGS DETAIL

Place the finial onto the upper flange, level with the end ridge. The slot in the lower part of the finial sits on top of the upper flange. Do likewise with the ridge cresting.



The other end of the ridge has the 2<sup>nd</sup> finial fitted in a similar manner to the 1<sup>st</sup> if this 2<sup>nd</sup> finial overhangs the ridge by up to 25mm (1") you can move the 1<sup>st</sup> finial and cresting's so there is an equal overhang of 12.5mm (1/2"). Insert the small self-tapping screw into the pre-drilled holes of the two end finials and tighten until the screw butts up to the upper flange of the ridge, locking the finial in place.

If the overhang of the 2<sup>nd</sup> finial is greater than 25mm (1") you can easily trim the end down with a hacksaw to make a flush finish at the end of the ridge.

