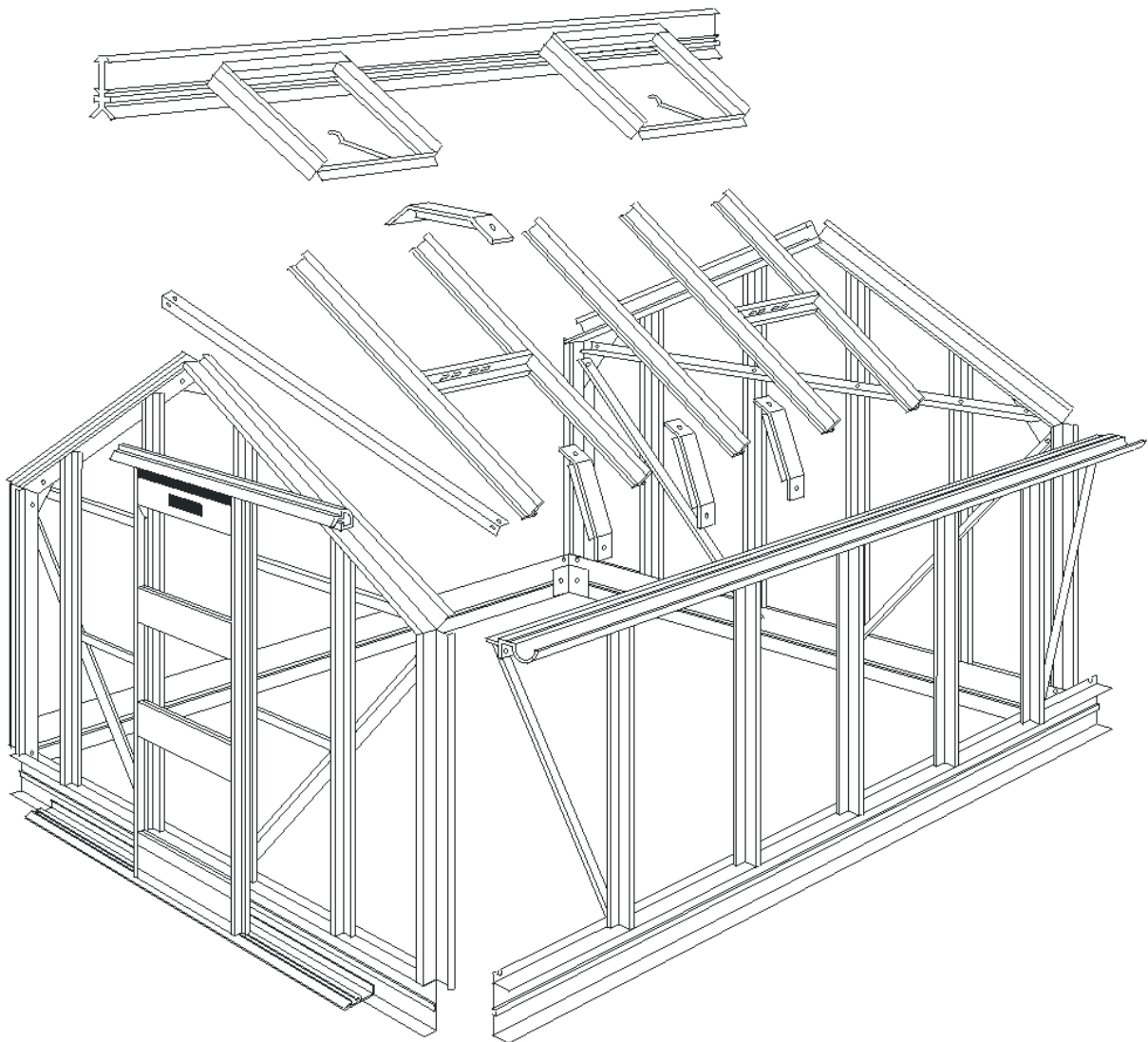




INSTRUCTIONS & ILLUSTRATIONS FOR THE  
**8'5" WIDE BELMONT**



**ELITE GREENHOUSES LTD**

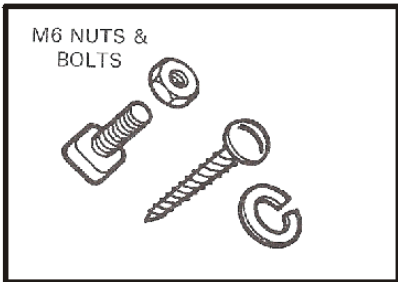
BENT SPUR ROAD, KEARSLEY, BOLTON BL4 8PD

TEL: 01204 791488 FAX: 01204 862412

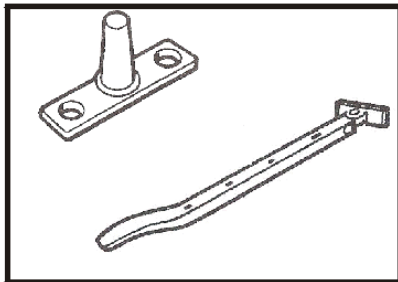
[enquiries@elite-greenhouses.co.uk](mailto:enquiries@elite-greenhouses.co.uk)

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

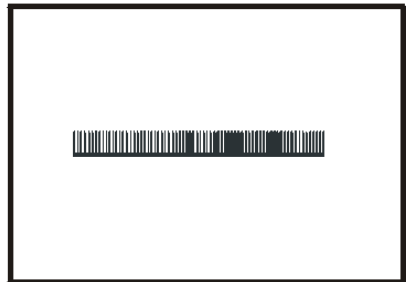
**FITTINGS WITHIN THE KIT (NOT TO SCALE)**



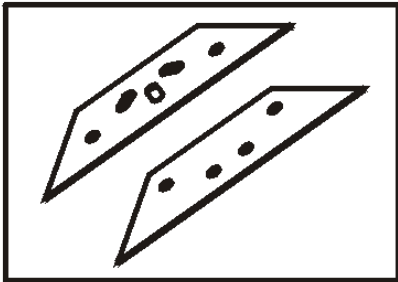
**M6 NUTS & BOLTS**  
**SELF TAPPING SCREWS**  
**SPRING WASHER**



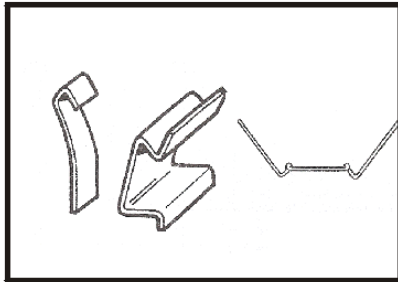
**CASEMENT STAY + PINS**



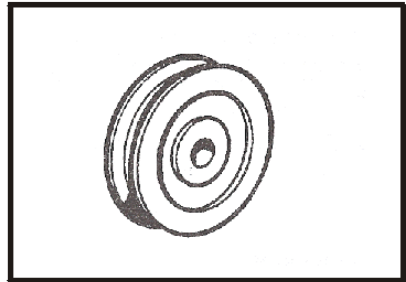
**DRAUGHT EXCLUDER**



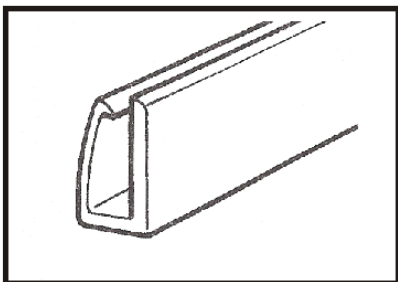
**APEX & EAVE GUSSET PLATES**



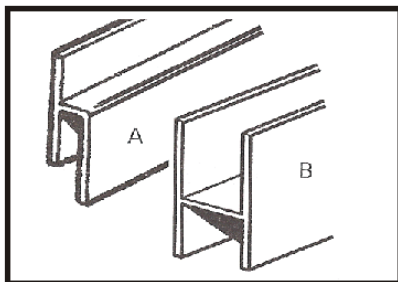
**OVERLAP, SPRING + WIRE CLIPS**



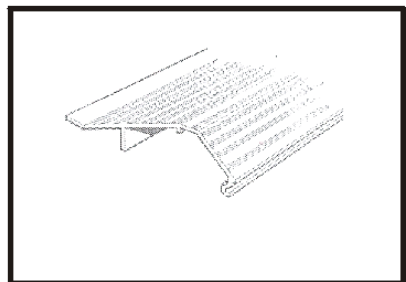
**DOOR WHEEL**



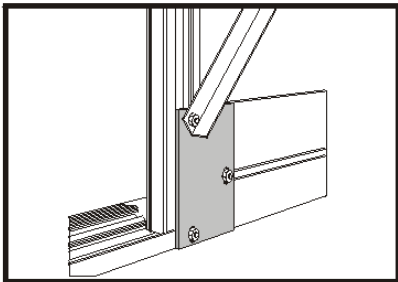
**BLACK DOOR SKID**



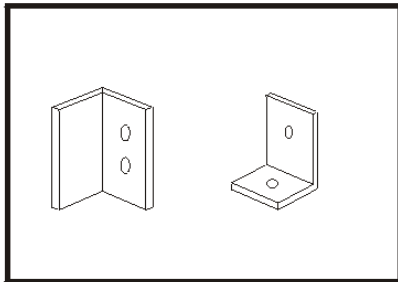
**A=MUNTIN B= ROOF SPACERS**



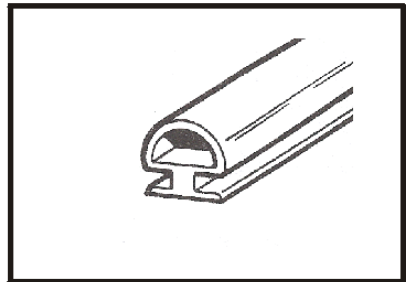
**RAMP**



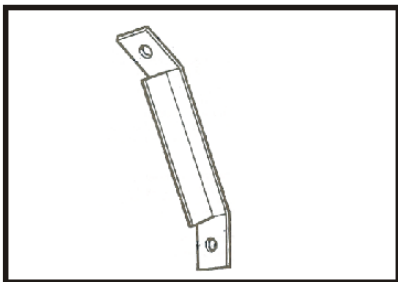
**DOOR END PLATE**



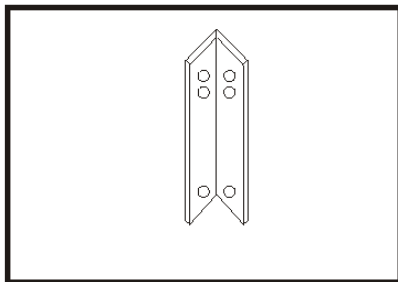
**DOOR STOP & ANGLE BRACKET**



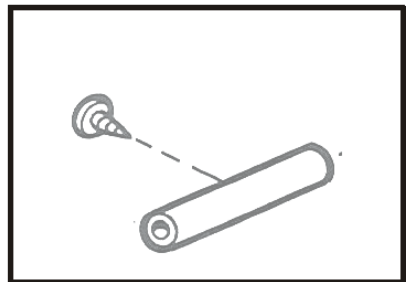
**NEOPRENE BEADING**



**CANTILEVER BRACE**

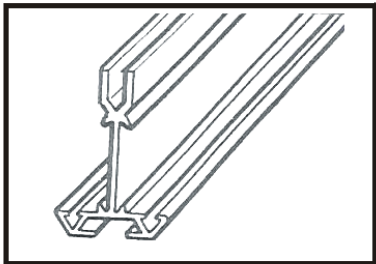


**BASE LEGS**

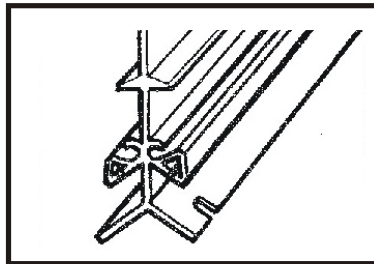


**VENT STOPPER**

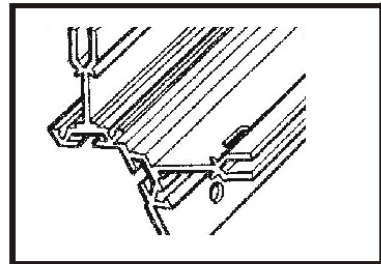
COMPONENT DRAWINGS (NOT TO SCALE)



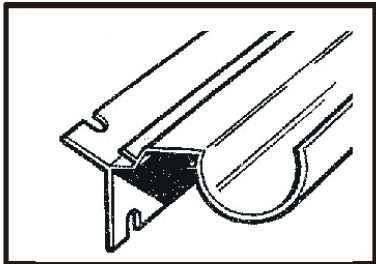
GLAZING BARS AND DOOR POSTS



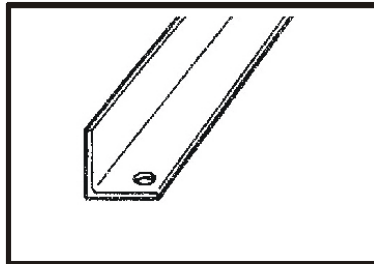
RIDGE



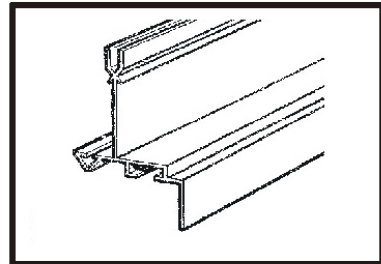
CORNER BAR



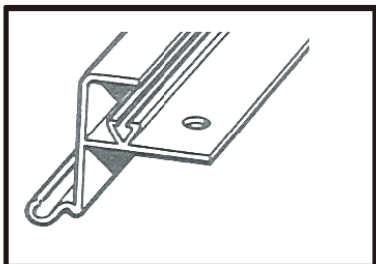
EAVES BAR/GUTTER



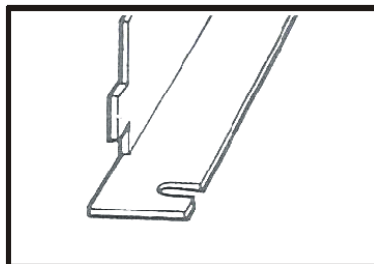
BRACING ANGLE



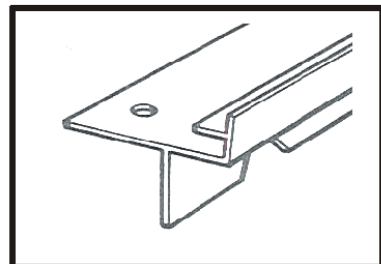
VENT SIDE RAIL



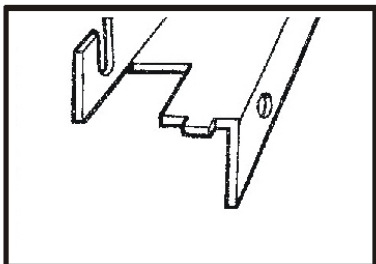
VENT TOPRAIL



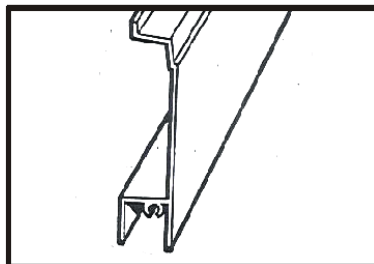
VENT SLAM BAR



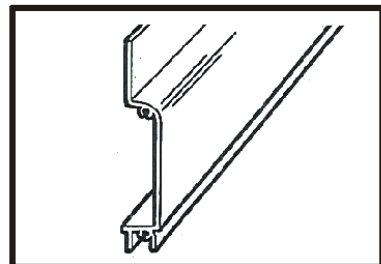
VENT BOTTOM RAIL



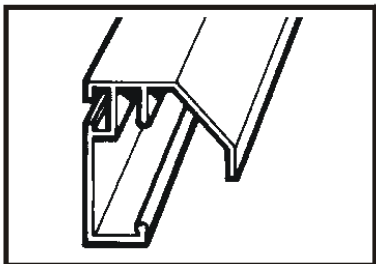
DOOR TRACK SUPPORT



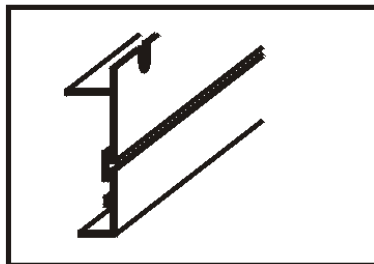
DOOR INFIL PANEL



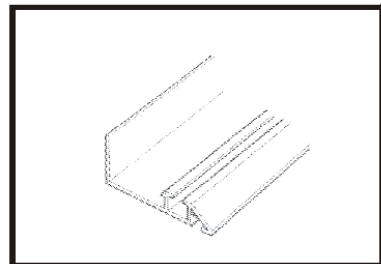
DOOR TOP/BOTTOM PANEL



TOP DOOR TRACK



BUILT IN BASE



DOOR END CILL

## PARTS LIST

		6 x 8	8 x 8	10 x 8	12 x 8	14 x 8	16 x 8	18 x 8	20 x 8
1	Ridge	1	1	1	1	1	1	1	1
2	Gutter/Eave	2	2	2	2	2	2	2	2
3	Side built in base	2	2	2	2	2	2	2	2
4	Side bracing angle	4	4	4	4	6	8	8	8
5	Door end built in base	2	2	2	2	2	2	2	2
6	Door end cill	1	1	1	1	1	1	1	1
7	Rear end built in base	1	1	1	1	1	1	1	1
8	Rear end horizontal angle	1	1	1	1	1	1	1	1
9	Short door end glazing bar	2	2	2	2	2	2	2	2
10	Long door end glazing bar	2	2	2	2	2	2	2	2
11	Door end bracing angle	2	2	2	2	2	2	2	2
12	Short horizontal angle	2	2	2	2	2	2	2	2
13	Medium horizontal angle	2	2	2	2	2	2	2	2
	<b>8 - 12 taped together and marked "door end"</b>								
14	Short rear end glazing bar	2	2	2	2	2	2	2	2
15	Long rear end glazing bar	2	2	2	2	2	2	2	2
16	Diagonal angle	2	2	2	2	2	2	2	2
	<b>13, 14 &amp; 15 taped together and marked "rear end"</b>								
17	Corner bars in 2 packs of 4	8	8	8	8	8	8	8	8
18	Roof bars	4	6	8	10	12	14	16	18
19	Side bars	4	6	8	10	12	14	16	18
20	Roof bracing angle	2	2	2	2	4	4	4	4
21	Roof vent pack*	1	2	2	2	3	4	5	6
22	Door panel pack**	1	1	1	1	1	1	1	1
23	Door posts (in pairs). Double door has 2 pairs	1	1	1	1	1	1	1	1
24	Cantilevers T-Bar brace - small large	- -	2 -	4 -	3 6	- 10	- 13	- 16	- 19
25	Bag of fittings	1	1	1	1	1	1	1	1
26	Glazing beading	250'	300'	350'	400'	450'	500'	550'	600'
27	Gusset plates – eave/ridge	4/2	4/2	4/2	4/2	4/2	4/2	4/2	4/2
28	Door end ramp	2	2	2	2	2	2	2	2
29	Casement stays	1	2	2	2	3	4	5	6
30	Top door track	1	1	1	1	1	1	1	1

\* 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, 3 intermediate panels and 1 door track support. The double door panel set does not have the door track support in it – it has double the amount of panels.

## HELPFUL HINTS AND ADVICE

- Please do take your time and be sure to read all instructions carefully before assembling.
- Consider purchasing the Elite Construction pack to help with the installation – contact dealer for details.
- 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 lock 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.
- 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.

- 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.

## **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:

1. SIDE FRAME – Two off.
2. REAR GABLE – One off.
3. DOOR GABLE (single or double) – One off.
4. ROOF VENT – One for 6 x 8, two for 8 x 8, 10 x 8, 12 x 8, three for 14 x 8, four for 16 x 8, five for 18 x 8, six for 20 x 8.
5. DOOR(S) – One off 2' 0" wide unless you have a double door model in which case it is two off at 1'6" wide.
6. 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 8' side as an illustration. The procedure is identical for a 6' x 8' and 20' x 8' 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 subassembly 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**). The 6', 8', 10' and 12' models have 2 angle tie bars each side, the 14' model has 3 each side and the 16', 18' and 20' has 4 each side.

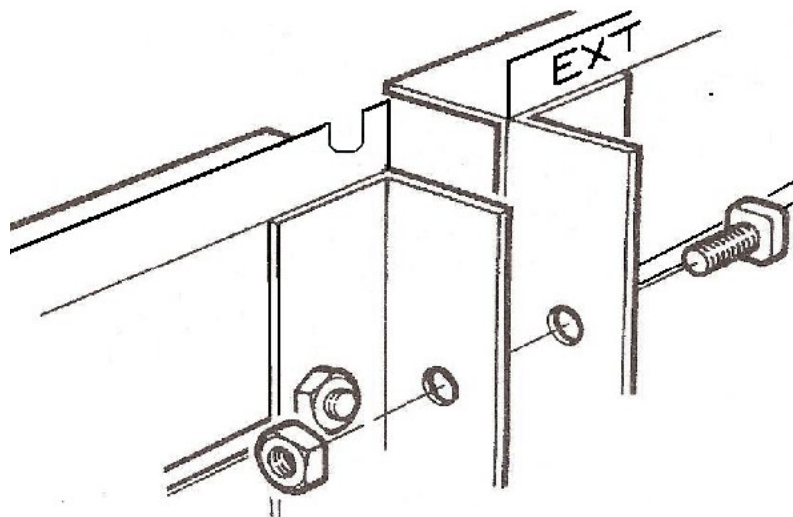
Do not attach the angle tie bar to the end of the eave/gutter at this stage.

7. Put nuts on bottom bolts and lightly tighten.
8. Do the same with the other side frame assembly.
9. Make sure that the glazing bars reach both the built in base cill and the eaves in each case. Tighten all nuts.
10. If you intend to fit any Elite accessories (louvers, shelf, staging) they will be packed with ½ head bolts to enable them to be retro fitted. You do not need to pre insert any bolts for these accessories.
11. 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. Insert an extra nut and bolt at each end of the built in base. These will be used to fix the base leg (corner bracket )during general assembly.

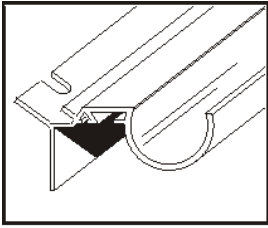
If your greenhouse is over 12'5" in length, you will need to attach the side base sections together to form the length of your greenhouse. You will notice that you have 4 side base pieces, 2 of which will be un-fabricated at 1 end. These 2 sections are handed sections and must be fitted to the correct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

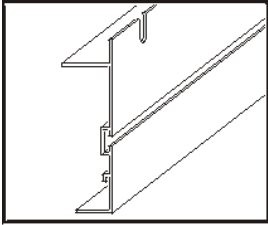
To attach the 2 base pieces together you must attach 2 base legs (corner bracket) back to back, bolt them together and attach the vacant end of each base leg to the bolt channel of the base section as shown. Your gutter section will be in one piece and will not need to be joined (except where greenhouse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



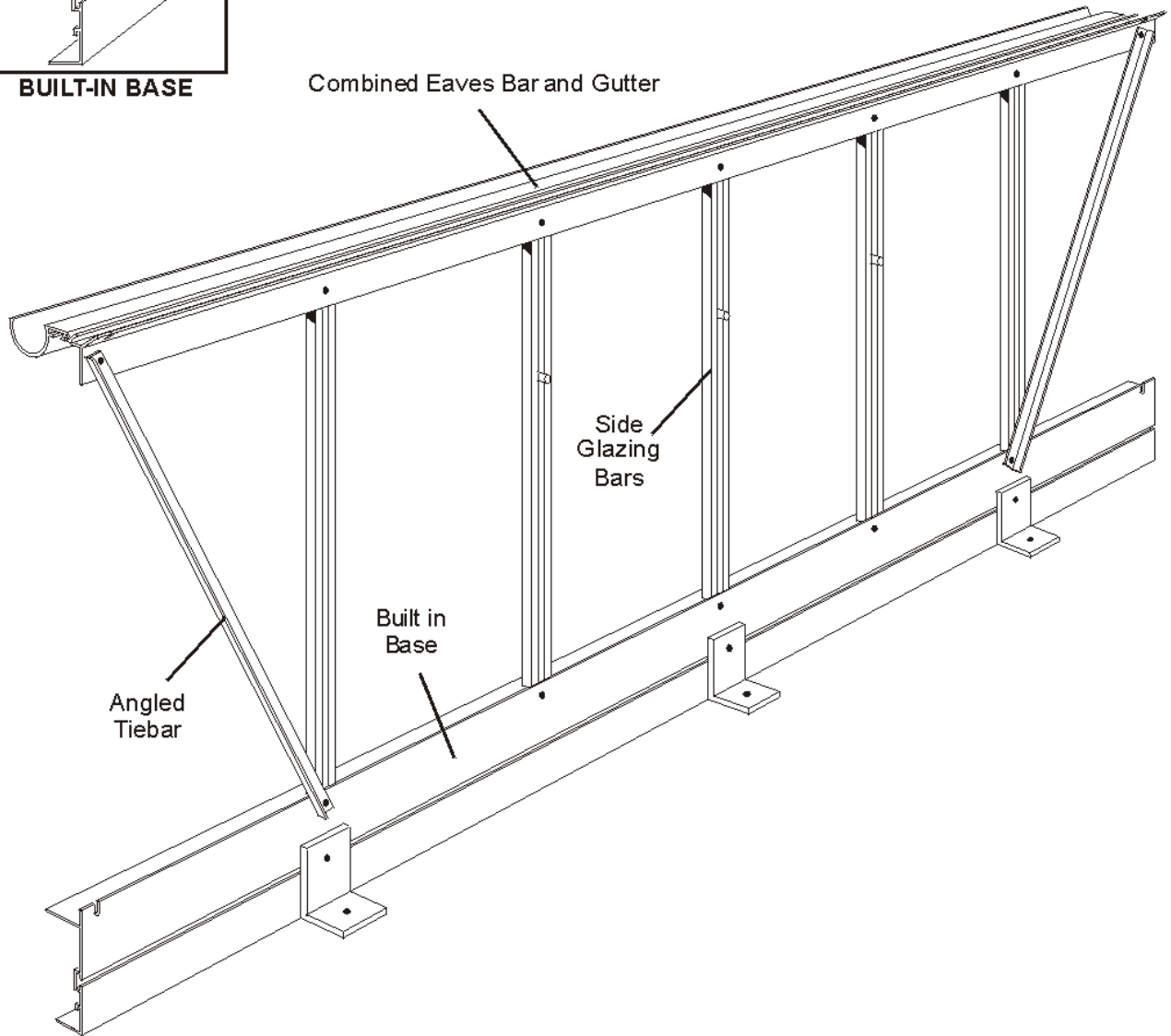




**EAVES BAR GUTTER**



**BUILT-IN BASE**

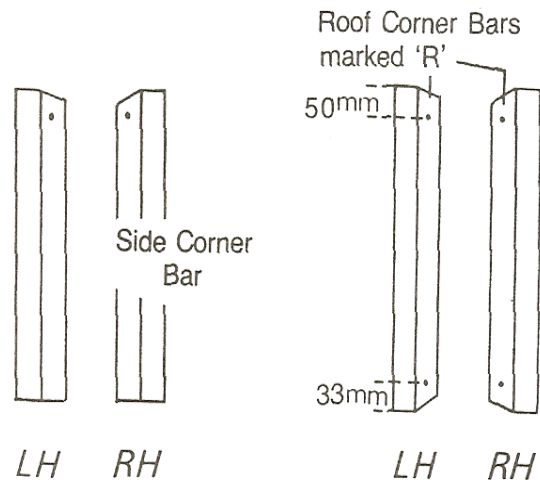


**WELL DONE! YOU HAVE SUCCESSFULLY COMPLETED THE 2 SIDE FRAMES!**

## 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 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.



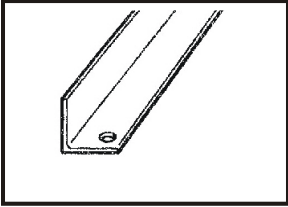
Starting with the pack of corner bars split the tape holding them together and first identify the 2 roof bars from the 2 side bars. The side bars have one hole and one mitre, both at one end. The other end has no hole and is square cut. The roof bars have 4 or 5 holes in the flange and are mitred at 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)**.

1. 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.

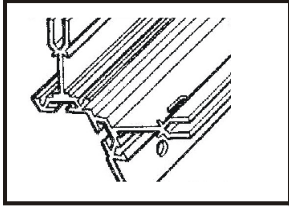
2. Split the pack labelled 'rear end' and slide the glazing beading into the 4 vertical glazing bars and the 4 corner bars, taking care not to stretch the material. Trim off any surplus level with the end of the bars. N.B. The corner bars have 3 grooves to receive the glazing bead; do not put any in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



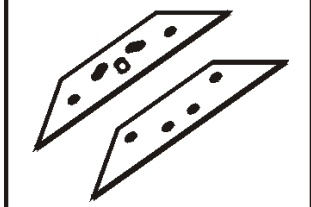
# REAR END ASSEMBLY



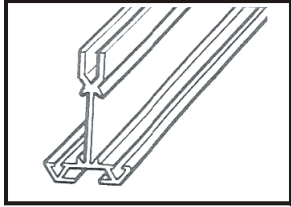
BRACING ANGLE



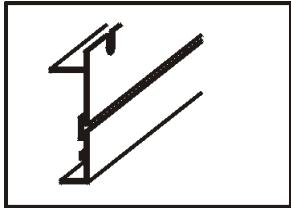
CORNER BAR



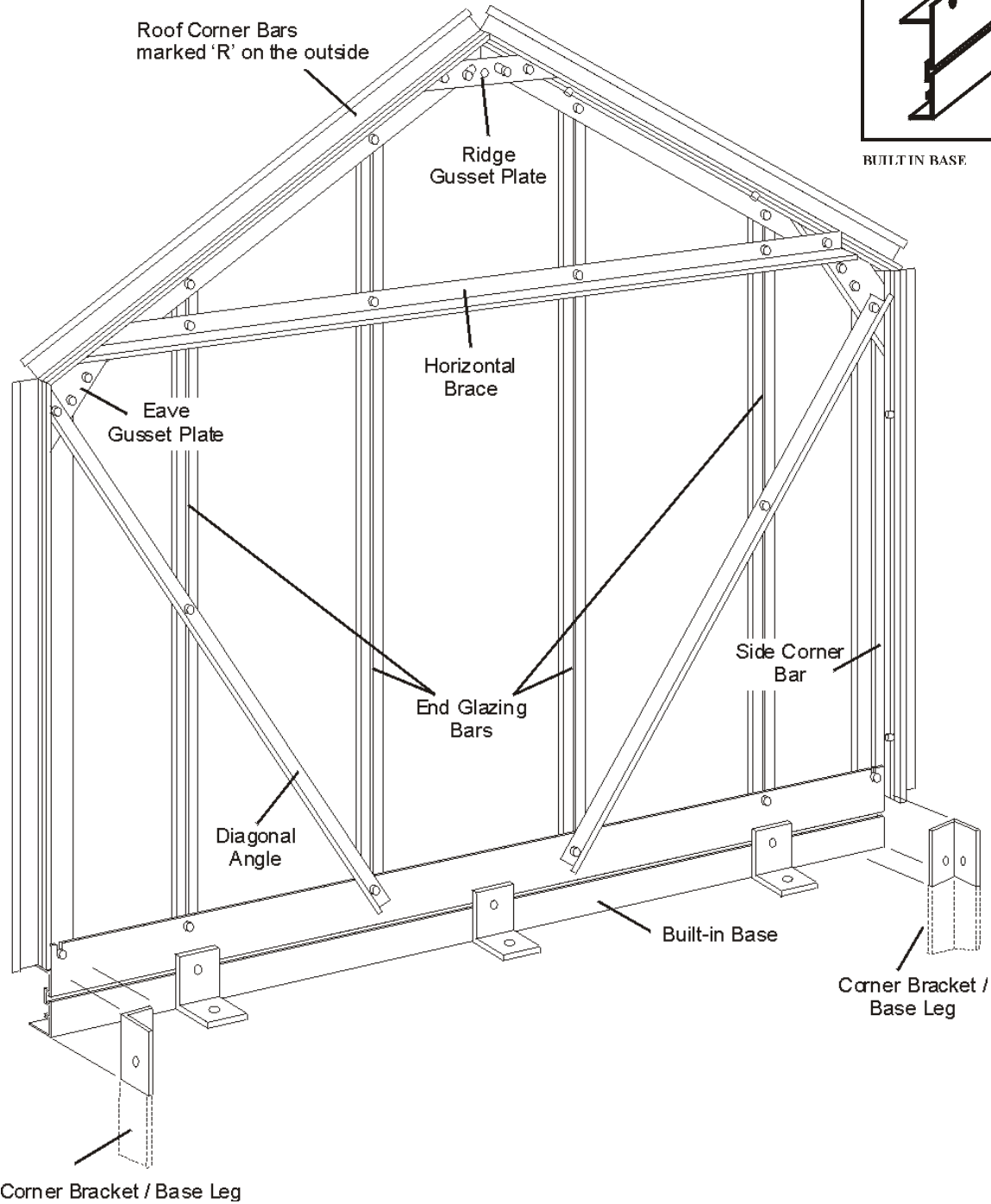
APEX & EAVE GUSSET PLATES



GLAZING BARS AND DOOR POSTS

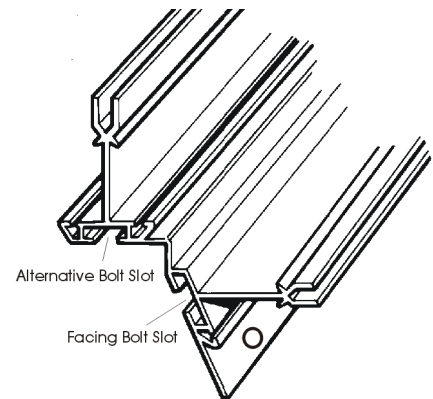


BUILT-IN BASE



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)**.

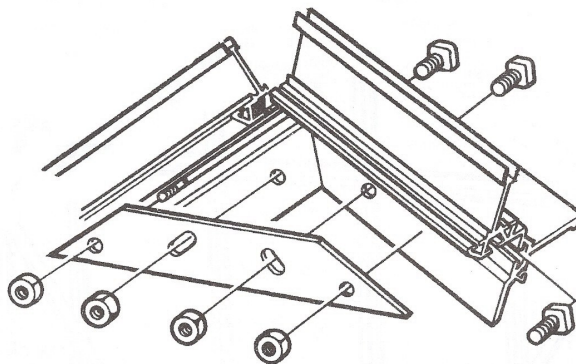
4. Slide 2 bolts into each corner bar bolt slots (facing bolt slot as labelled on picture) 1 at the top and 1 at the bottom. Put a nut on and lightly tighten, leaving them approx. 2" from the end of each bar. These will be used later in the general assembly.



5. Starting at the apex (2 corner bars opposite each other marked 'R') slide 1 bolt into the alternative bolt slot i.e. the one that is facing upwards and is set at 90° to the facing bolt slot – 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 facing bolt slot. 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 top 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. Before putting a nut on the bottom hole of the gusset plate, attach an angle from the previously opened pack (rear end). The bottom of the angle will fix to the built in base cill later.

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 built in base 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 4 vertical glazing bars to the built in base cill in a similar manner to 11 above, the two longer bars to the middle holes, and the shorter ones to the outer holes. Before attaching the nuts to the longer bars place the bottom of the diagonal angles (1711mm long) onto the bottom bolt and put a nut on finger tip tight only. 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 two glazing bars.

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.

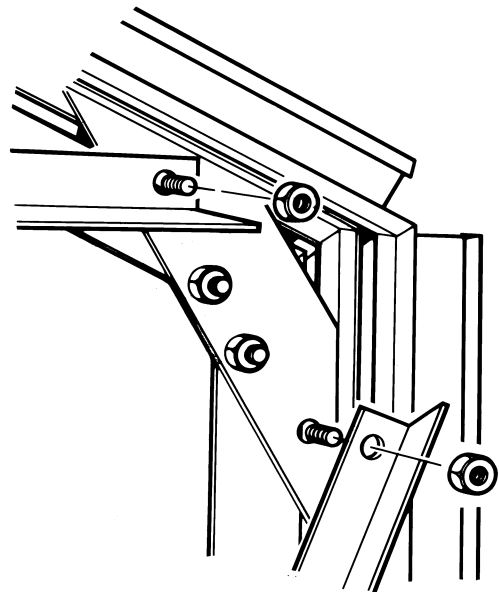
15. You can now attach the 4 vertical glazing bars to the roof/corner bars. Slide the last bolt in each bar you inserted in 13 above to the end of each bar and insert them through the holes in the flange of the roof corner bar, place the nuts on and finger tip tighten.

16. Attach the diagonal angles to the 2 shorter glazing bars. Slide the 1st 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 and leave loose. **(Key point)**.

17. Now attach the horizontal brace to the 4 upright glazing bars utilising the unoccupied 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 hard standing (concrete, flags etc), 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.



# SINGLE DOOR ASSEMBLY

## Components required

Door end cill

Built in base cill

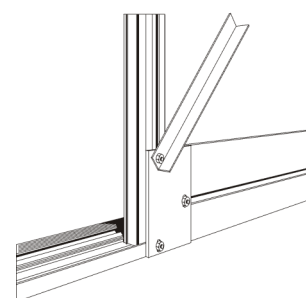
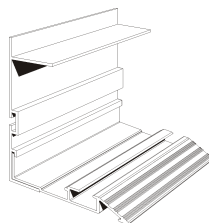
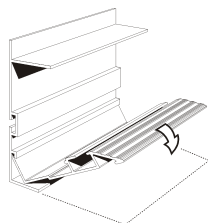
- 4 End glazing bars
- 2 Rectangular plates with 3 holes
- 2 Short horizontal braces
- 2 Long horizontal braces
- 2 Roof corner bars (marked 'R')
- 2 Side corner bars (unmarked)
- 1 Main door track support – taped with the door panels
- 1 Top door track
- 1 Small angle door track support
- 2 Base legs / 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 single 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.

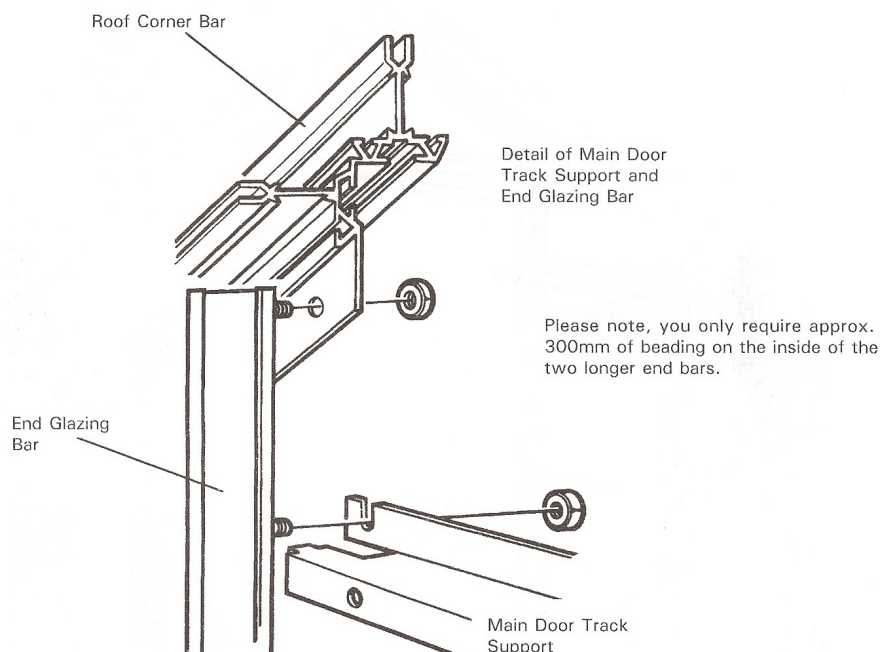
1. Now attach the small built in base section to the corner bars, leaving a space for the door(s) in between.
2. Now engage the door end cill with the 2 built in base cills by pushing the angle of the cill under the locator as shown in the diagram. At this stage the cill will move freely left and right 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. **Remember, the door end glazing bars are 95 mm longer than the rear end ones and do not sit on top of the base (as the rear end glazing bars do), they go down the side of the base and attach to the bottom cill. (Key point).**
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.



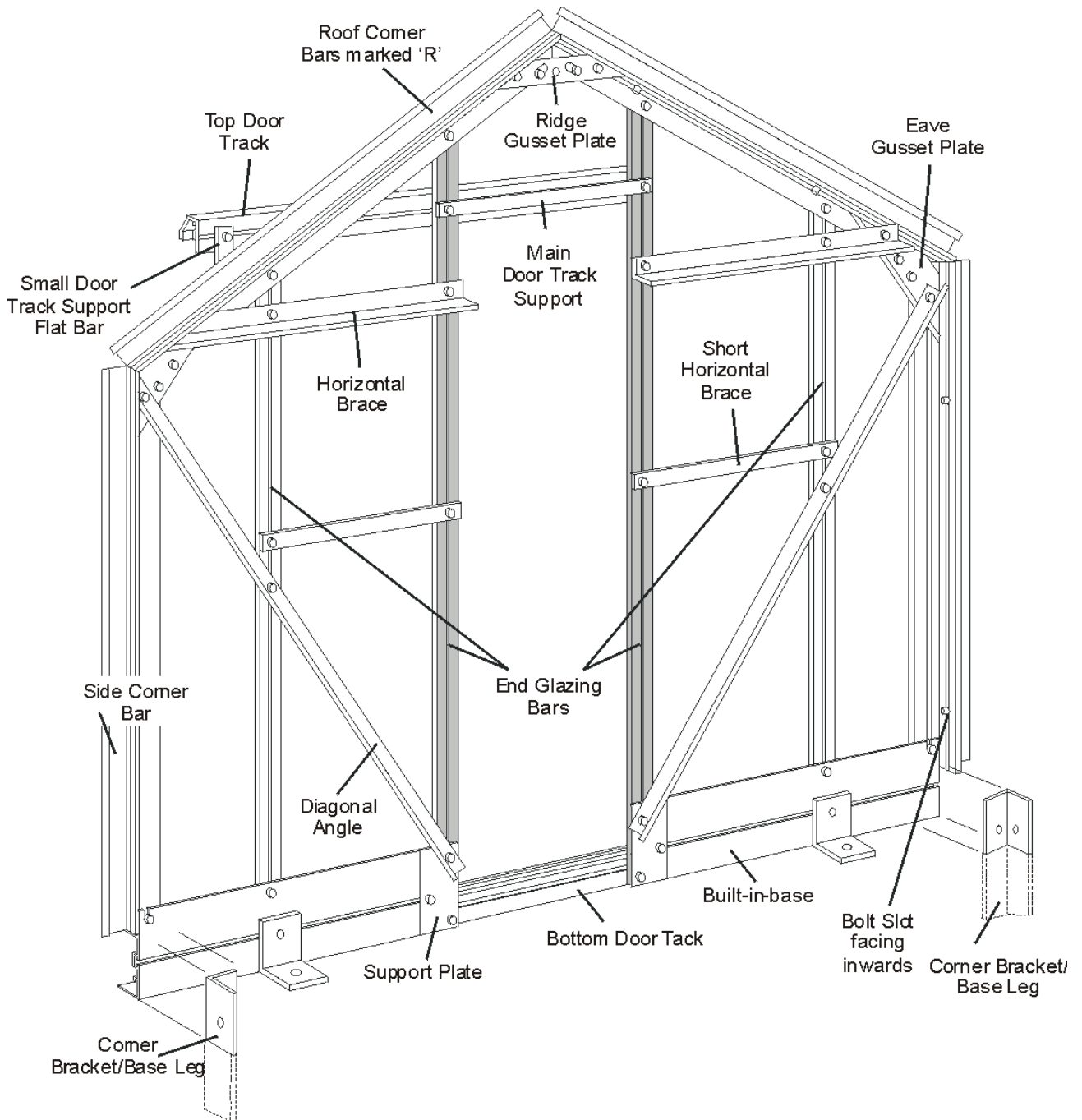
5. Attach a corner bracket/base legs to the outside ends of the 2 front built in base sections. These will be used later to attach the sides to the end assemblies.
6. Slide 4 bolts into the top of the 4 glazing bars (for double door, do not insert any bolts into the smallest glazing bar to be fitted over the door). Attach the short horizontal brace to the 2<sup>nd</sup> pre inserted bolt of the shorter glazing bars, and then to the 1<sup>st</sup> pre inserted bolt of the longer glazing bars. Then attach the longer horizontal brace to the 3<sup>rd</sup> bolt of the shorter glazing bars and the 2<sup>nd</sup> bolt of the longer glazing bars. The long horizontal brace must also attach the **top bolt** of the gusset plate. **(Key point)**.
7. Attach the 1<sup>st</sup> pre inserted bolt in the shorter glazing bars into one of the pre drilled holes in the middle of the diagonal brace.
8. Attach the main door track support (shaped like a letter Z) to the 3<sup>rd</sup> pre inserted bolt in the long glazing bars. This 'Z' shaped bar must be fitted with the two outside slots facing up wards (as illustrated) **not** downwards. **(Key point)**.
9. 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.
10. For the double door, do not fit the small glazing bar above the door track at this stage. This will be done when the doors are fitted.
11. 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)**.

Please note, you only require approx. 200mm of beading in the inside 'v' groove of the long door end glazing bars.



# SINGLE DOOR ASSEMBLY





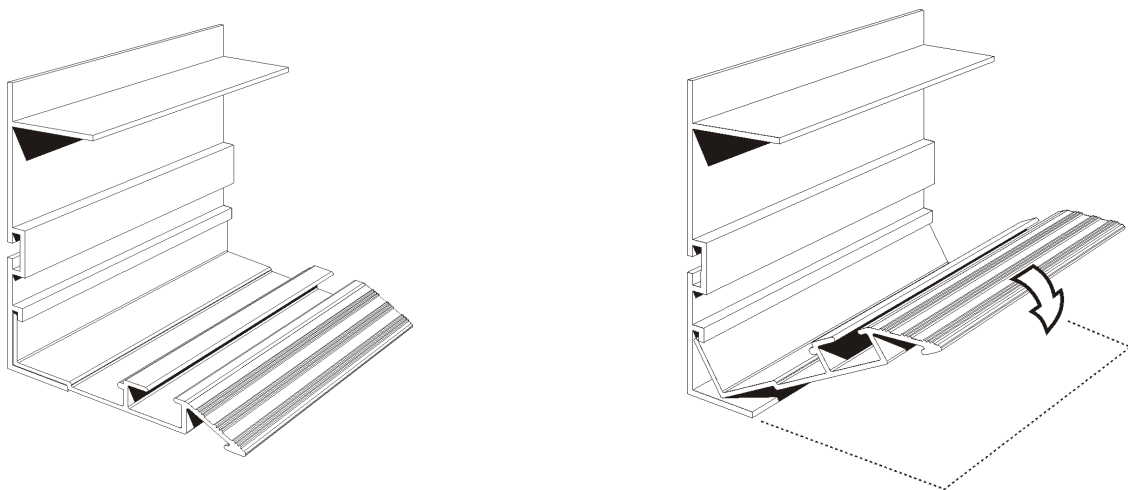
## DOUBLE DOOR ASSEMBLY

If you have purchased a double door for your greenhouse the procedure for construction of the gable is identical to the single door model. There are, however, a small number of differences outlined as follows:

The horizontal and diagonal angle braces are a little thicker and are made from unequal angle.

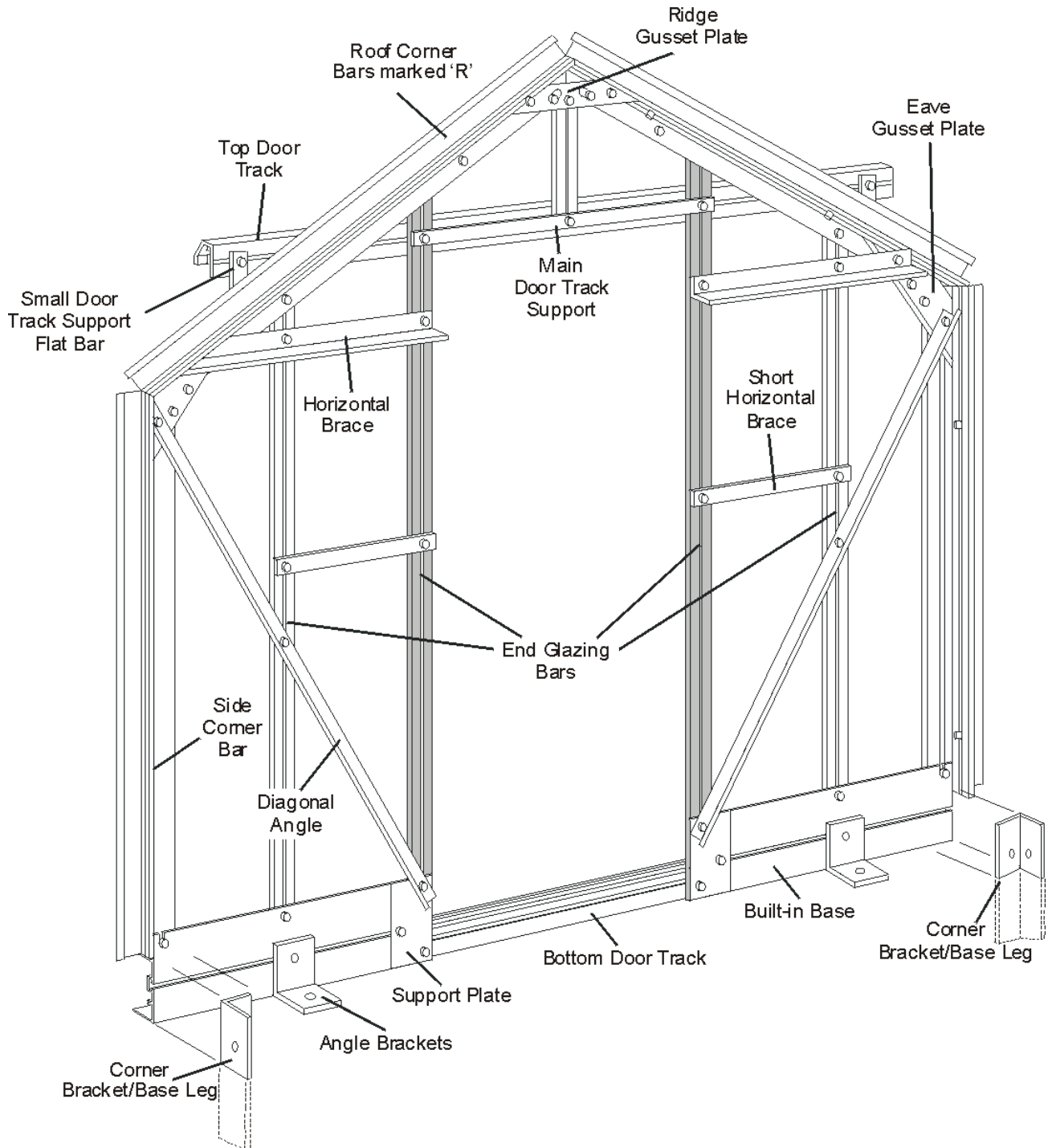
### PROCEDURE:

1. Follow the text and drawings on the single door end pages as the construction is the same apart from some bars being shorter, longer and thicker.
2. Having fitted the main door track support in a similar way to the single one, you **must not** fit the short glazing bar that goes above it at this stage. **(Key point)**. This will be fitted later when the doors have been installed (see later text). Do not fit the top door track at this stage.



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

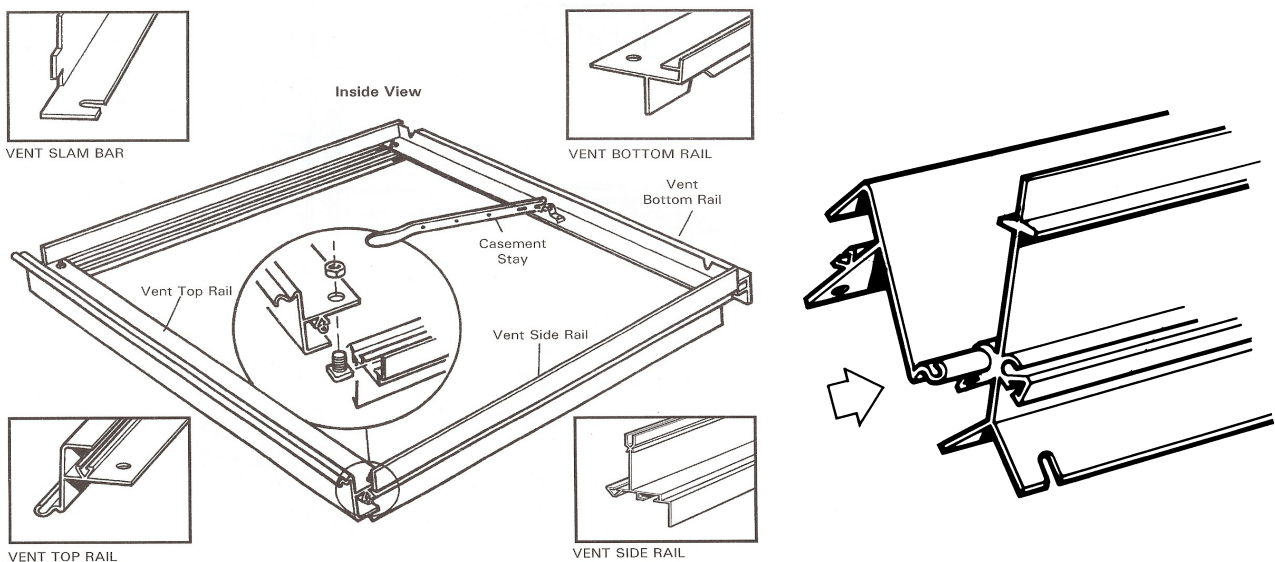


## ROOF VENT ASSEMBLY

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  
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

The vents can be positioned onto the ridge after general assembly by sliding them along the ridge from the end and locating them to the desired position.

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

## SINGLE DOOR FRAME ASSEMBLY

Components consist of:

2 door glazing bars

3 infill panels (1 with oval hole for lock barrel)

2 top and bottom door panels

From the main bag of fittings you require

2 door wheels

1 clip on nylon door skid (this might already be clipped to the bottom door panel)

2 lengths of black brush draft excluder inserted into a pvc extrusion

Self tapping screws and spring washers.

Door Lock, cam and pin

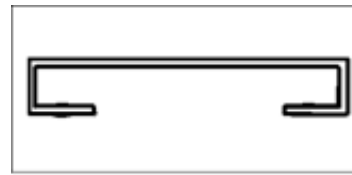
Door handle

Door Keep

1. Place the two side bars on a level surface roughly two feet apart with the bolt slots facing downwards. The top of each side piece has two screw holes in it, the bottom has three (**Key point**). Slide the glazing beading into the V grooves that face inwards towards the door panels. (Not in the outside V groove).
2. Place the top, bottom and three 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 skids to fit on. The lower infill panel interlocks with the bottom panel. The infill panel with lock can fit on either the 2<sup>nd</sup> or 3<sup>rd</sup> panel down
3. Fix the door together 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 without 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 the assembly making assembly easier.
4. Make sure all the angles are square and tighten all the screws.
5. 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 the 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.**
6. Slip the nylon door skid on the bottom panel (this might have been done for you). If you find the door does not engage properly with the bottom door cill, simply lower the door skid and fix using a self tapping screw
7. Turn the door over and insert the black brush draught excluders in the groove (bolt slot) in each side piece of the door. Push up to the top of the door and trim off the surplus at the bottom. Insert a nut and bolt at the bottom of each door post and tighten so that the brush will not slip down when the door is in its upright position.
8. Do not fit the door at this stage, wait until the structure is fully assembled prior to glazing, as instructed later in the booklet. The lock should be fitted to the door after the door is in position on the greenhouse.

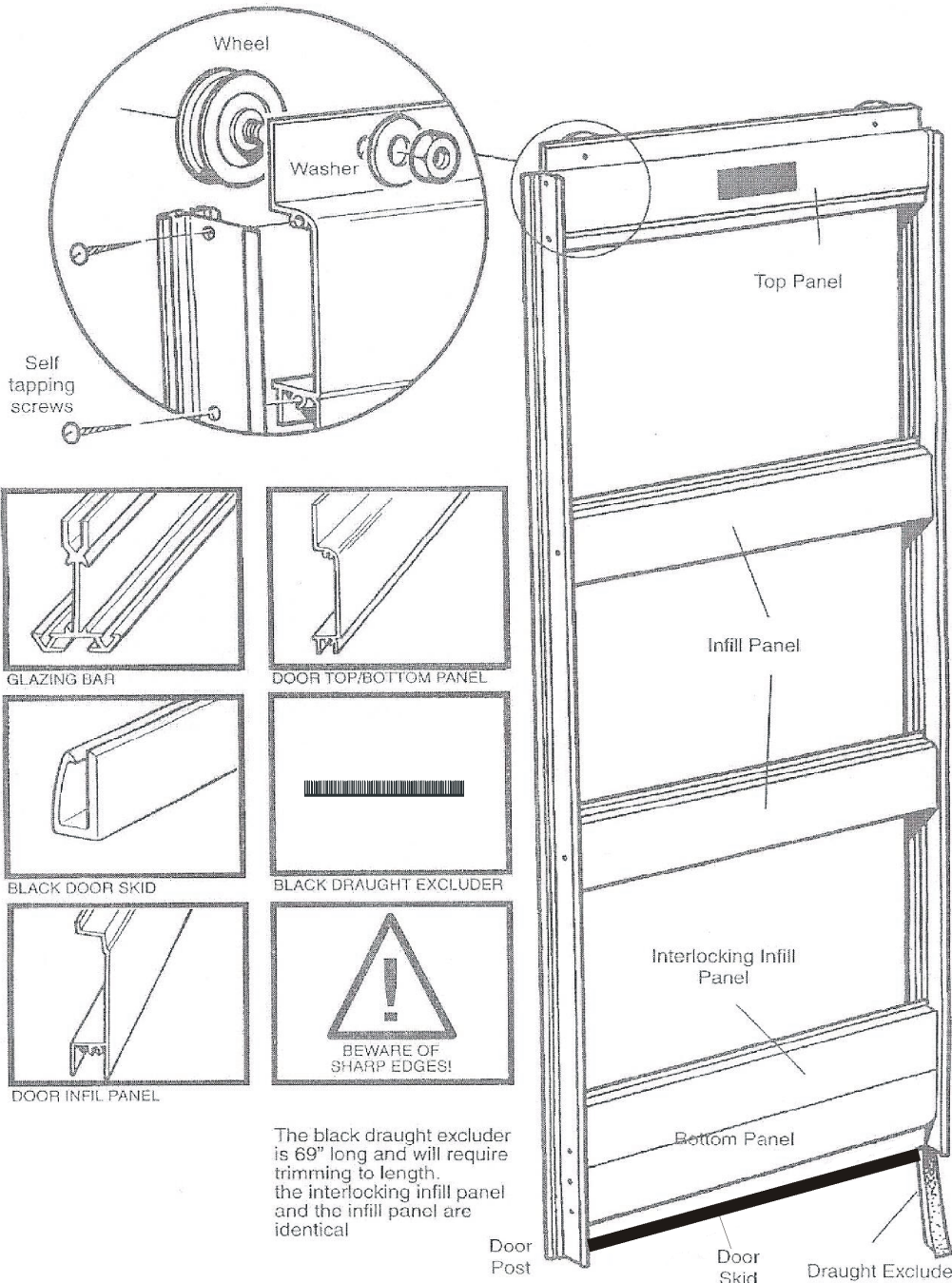
# FITTING THE DOOR HANDLES

The handle is fitted to the infill panel on the 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 handle, and secure with a nut and bolt.



DOOR HANDLE

## DOOR FRAME



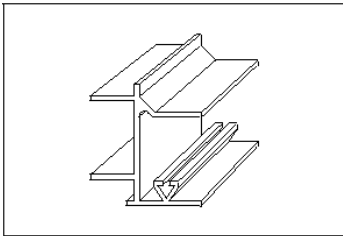
## DOUBLE DOOR FRAME ASSEMBLY

Each Door consists of:

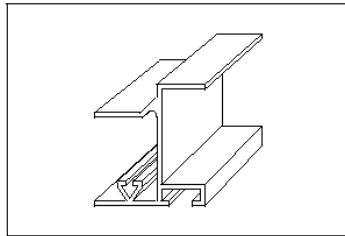
- 1 unhanded door post
- 1 handed door post (handed post for left door is different profile to the handed right hand door post)
- 3 infill panels (1 with pre fabricated lock hole) for lock barrel
- 1 top and bottom door panels
- 3 panels of glass which must be fitted during door assembly. **It is not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

From the main bag of fittings you require;

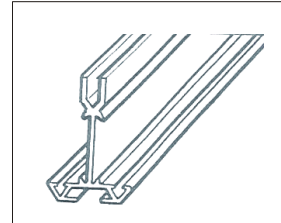
- 2 door wheels
- 1 clip on nylon door skid (this might already be fitted to the bottom door panel)
- 2 lengths of black brush draught excluder with PVC carrier
- Door lock, self tapping screws and spring washers
- 12' glazing beading
- Door handles
- 3 PVC Glass strips



HANDED DOOR POST  
RIGHT HAND DOOR



HANDED DOOR POST  
LEFT HAND DOOR



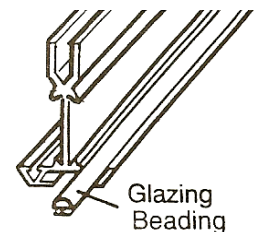
UNHANDED  
DOOR POST

### 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.

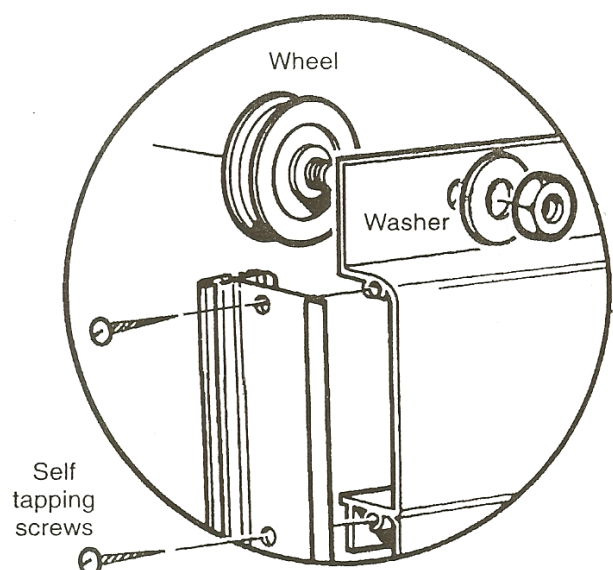
2. Place the top, bottom and 3 infill panels in position as shown by the position of the screw holes in the side pieces and the panels. The top panel has the greenhouse name on it. The bottom panel has the edge for the door skid to fit on. The lower infill panel locks on to the bottom panel. The infill panel for the left hand door **does not** have a pre fabricated hole for the lock barrel.



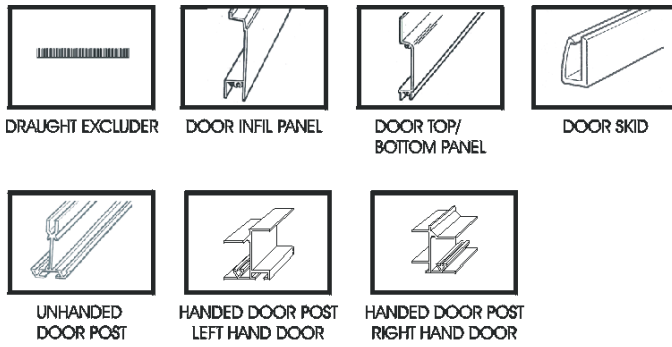
3. Fix the left hand door post to the door panels by screwing through the door side pieces into the holes provided in the edge of the panels with the self tapping screws. The screws will go in more easily and with out danger of trying to go crooked if you can put a small amount of grease on the screw 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**

- 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 other side of the door is clipped using a pvc glass strip (or clip cap). Cut the strip to the correct length and push into the cavity between the glass and the handed door post. The cap when fitted acts as a wedge to prevent movement of the glass. Metal clips are not fitted to this bar.
  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 below).**
  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.
  13. Door handles can now be fitted.

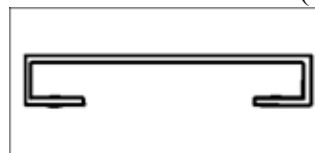


# DOOR FRAME ASSEMBLY



## 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.

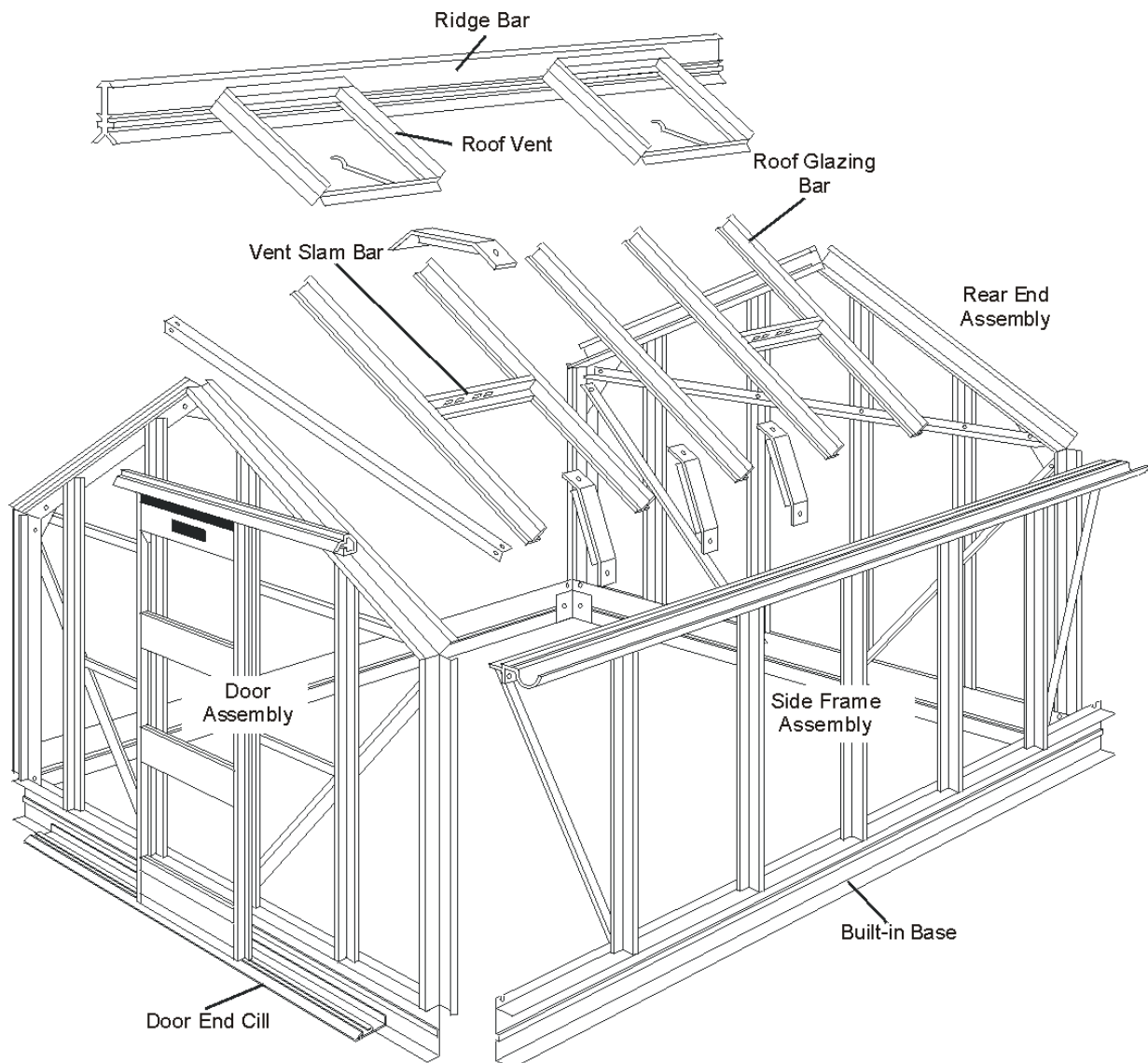


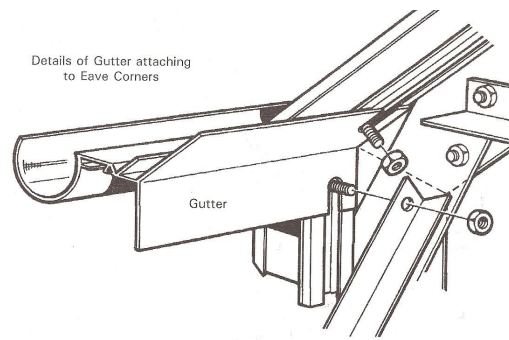


# ASSEMBLY OF THE GREENHOUSE UNIT

## PROCEDURE:

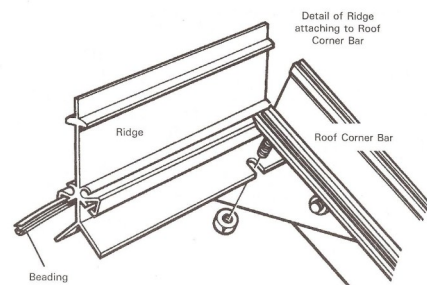
1. With the help of a willing assistant, stand up the rear gable and one of the sides. Standing on the inside of the structure with the gutter facing away from you, insert the eave/gutter bar into the gap between the corner bars, so that the inside flanges which form the angle of the roof and side line up with the bolt slots in the corner bars. **(Key point)**.
2. 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.



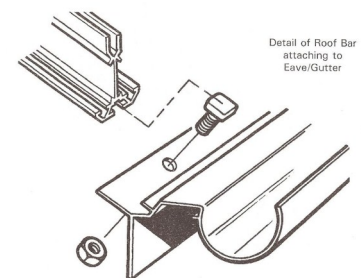


3. Now stand up the door end assembly (double or single door end are attached in the same way) and repeat the above procedure.
4. Stand up the other side frame and repeat the operation outlined above at both corners.
5. The bottom built in base cill of the sides attaches to the corner bars in a similar 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.

6. 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.



7. 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)**.

8. Start with the middle bars either side of the ridge. Moving to the bottom of each roof bar, you will need to insert extra bolts into each bar that has a vent opening and a cantilever tee-bar brace. Please note, the bolt you insert into the roof bar to take the cantilever must match the position of the same bolt in the side glazing bar. Now attach the bottom of the roof bars to the eave/gutter bar into the holes in the upper flange.

The 6' x 8' has no cantilever tee bar brace.

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

The 10' x 8' has 4 small tee-bar braces – 2 each side.

The 12' x 8' has 3 small tee-bar braces – 3 in the roof and 6 large tee-braces – 3 each side.

The 14' x 8' has 10 large tee-bar braces – 4 each side and 2 in the roof.

The 16' x 8' has 13 large tee-bar braces – 5 each side and 3 in the roof.

The 18' x 8' has 16 large tee-bar braces – 6 each side and 4 in the roof.

The 20' x 8' has 19 large tee-bar braces – 7 each side and 5 in the roof.

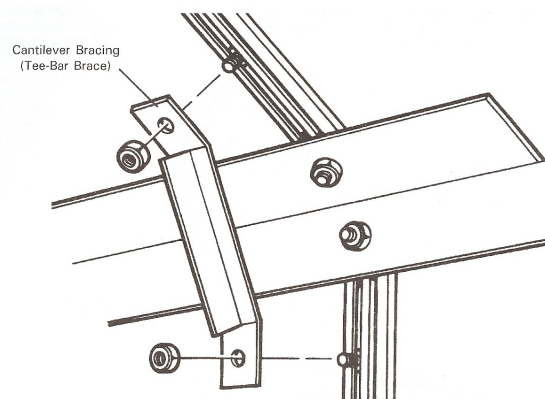
You must remember to insert one extra bolt per cantilever T-bar brace and one per vent per bar. For example the 8' x 8' would have 3 extra bolts on the middle bar on one side of the ridge and 2 on the middle bar on the non vent side. In addition one extra bolt would be needed on the bar next to the middle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

9. At this point you will need to lift the structure onto a firm footing if you haven't already done so.
10. On the 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.
11. You can now attach the T-bar cantilevers which bolt to the side bars and roof bars as indicated in point 8.

**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

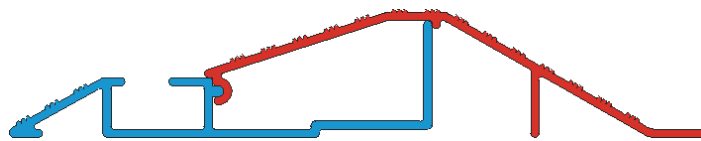
Having established the square of the greenhouse, drill the patio or concrete in the required positions, fit plastic plugs (not supplied as standard) and screw the brackets (attached during subassembly) firmly to the ground using 35mm x 8mm round head screws (not supplied as standard).

## 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 dig out a couple of shovelfuls around the base of each stake. When the concrete has gone off backfill with the soil excavated earlier on.

## 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.

# 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

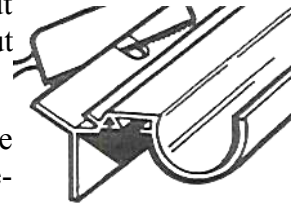
- “partition corner bars”
- “partition door end built in base cill”
- “partition door end”
- “partition door track”
- “partition door panels”
- “partition door posts”

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

- 2 eave gusset plates
- 1 ridge plate
- Glazing beading
- Nuts and bolts

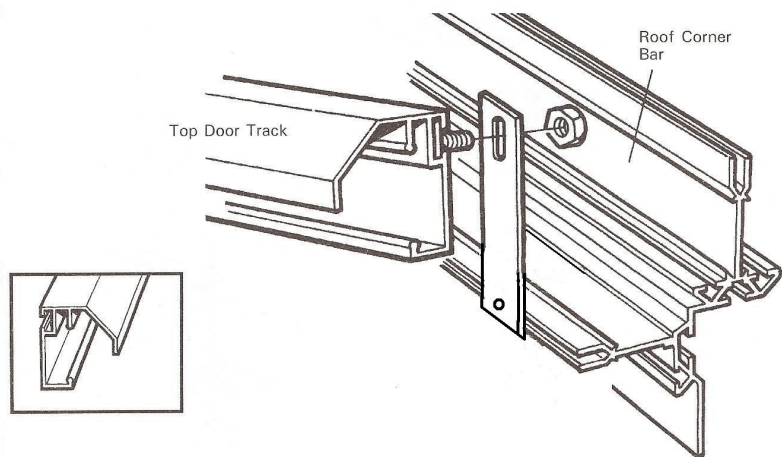
## PROCEDURE:

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 cill 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 anchor bracket 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 4 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 3 glazing bars.
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 has 2 narrow doors and 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.

For both single, double and partition door ends you can now fit the upper door track.



## EXTERIOR DOOR TRACK

This top door track has no holes in, but 1 bolt slot. The door (single) slides centre to right.. 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 instruction for door fitting later in the booklet) 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. You have 2 narrow doors, so you must position the door track centrally and install the same as the double door procedure above.

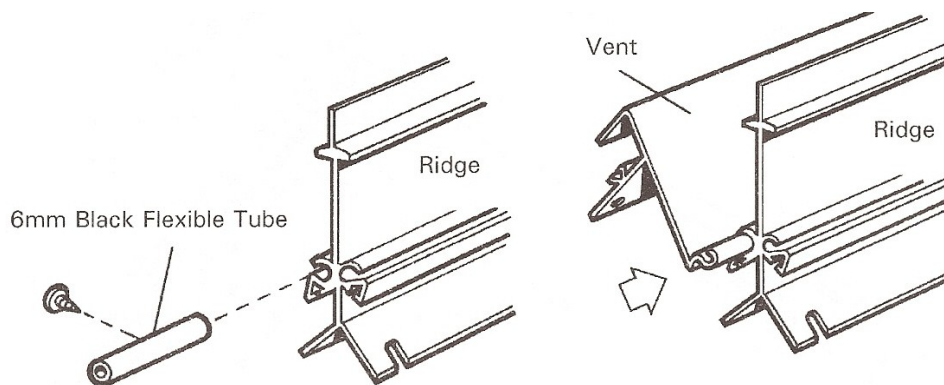
N.B. The small flat bar illustrated is fitted pointing **downwards** for the partition (**Key point**).

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 DOOR TO THE STRUCTURE

The door slides onto the frame from the left hand side.

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 glazing bars. Carefully ease the door past the glazing bar and feed in the second wheel. Push further to the right until both draught excluders are butting up to both end glazing bars. Carefully ease the door past the two glazing bars. The door will now run quite freely. If you have a double door, the right hand door is fitted from the right hand side of the door track in the same way. To square up the door(s) with the spacing, undo the upper bolts holding the door track. There is a little play to facilitate "fine tuning" of the door. N.B. Sometimes the door can be a little stiff prior to glazing but once the glass has been inserted (the last job of the construction) the extra weight will make for smooth running. (**Key point**).

## FITTING THE KEEP FOR THE LOCK SINGLE DOOR

The cam on the lock must locate onto a door keep which is fitted to the left hand glazing bar (when viewed from outside) of the door gable end.

The keep has 2 horizontal slots on one face. Insert 2 cropped head bolts into the bolt channel of the left hand glazing bar and line up with the slots in the keep.

Close the door to the keep and adjust the height of the keep until the cam on the lock locates in the long oval slot.

The picture shown is viewing the keep from the inside.



## 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.





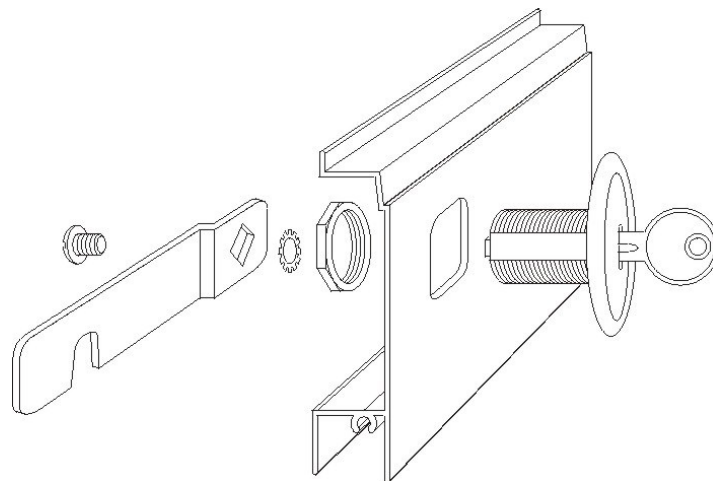
## FITTING THE DOUBLE DOOR LOCK

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.



## 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.

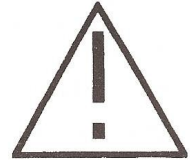
Move the flat bar along the top door track until the small hole in the flat bar meets the self tapping screw groove in the roof corner bar.

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

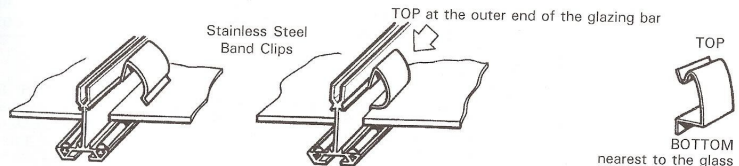
# HORTICULTURAL GLAZING

Always handle glass with extreme care as failure to do so can result in injury. There is a choice of glazing:

- 3mm horticultural in standard panes.
- 3mm toughened in larger panes.
- 3mm toughened in standard panes.



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 1/2" (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.



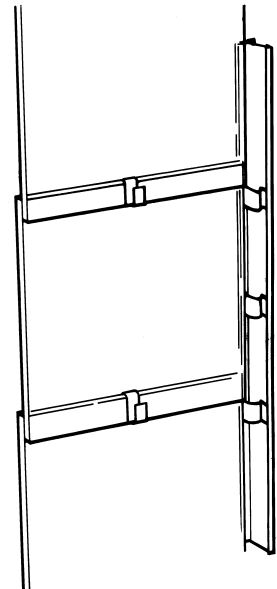
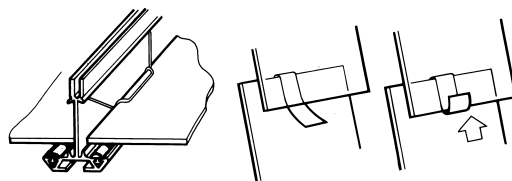
Offer the next pane of glass ref. B (610 x 457mm) (24" x 18") to the panel, sitting the pane of glass onto the 2 upper clips of the panel below. Exerting a little pressure on the upper B pane with one hand, bend up the tail of the overlap clip to form a hook or letter "S" (see diagram).

Put 2 clips on each side of the pane of glass, the upper 2 clips 1/2" (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.

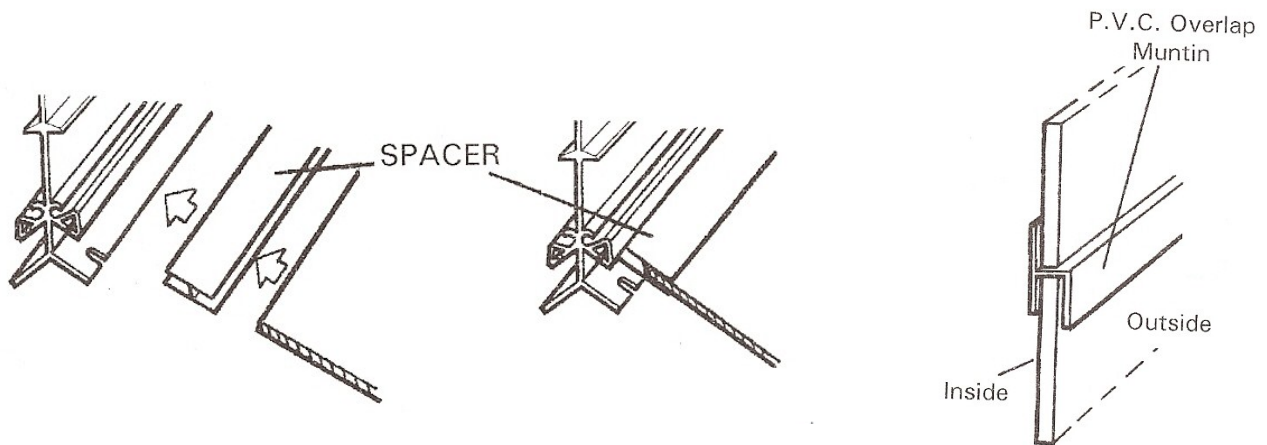


## TOUGHENED GLASS

### IF YOU HAVE ORDERED PVC BAR CAPPING, YOU MUST READ THE INSTRUCTION SHEET FOR BAR CAPPING INSTALLATION (FOUND IN THE BOX CONTAINING BAR CAPPING)

With single sheet toughened glass the traditional overlap system used with the horticultural glass is replaced by a rigid P.V.C muntin. Position the muntin on top of the lower pane of glass taking care to have the inside and outside as indicated. Put the next pane on top of the muntin (into the rebate) and clip the glass in, as previously described. If you have ordered bar capping, you will find the bar capping installation instructions with the bundle of capping. Do not use the stainless steel band clips if you are using bar capping, use the wire clips instead. **(Key point)**.

There are enough stainless steel clips in your kit for 10 clips per large pane of toughened glass over 1.2m.



### GLASS SPACER

The roof glass is fitted by utilising a PVC roof spacer as illustrated.

Place the vent spacer onto the top of the roof pane (thus increasing the overall length of the glass). NB. The spacer can increase the glass size by 9mm or 11mm depending which way round you fit it. It is designed this way to allow for the glass/alloy tolerances. Offer the glass to the glazing bars pushing it upwards towards the ridge. In order to fit the spacer end of the glass under the beading in the ridge, you need to lift the glass up from the bottom whilst simultaneously pushing upwards until the spacer is firmly 'inside' and touching the ridge.

# HORTICULTURAL AND MULTI-SHEET TOUGHENED GLASS

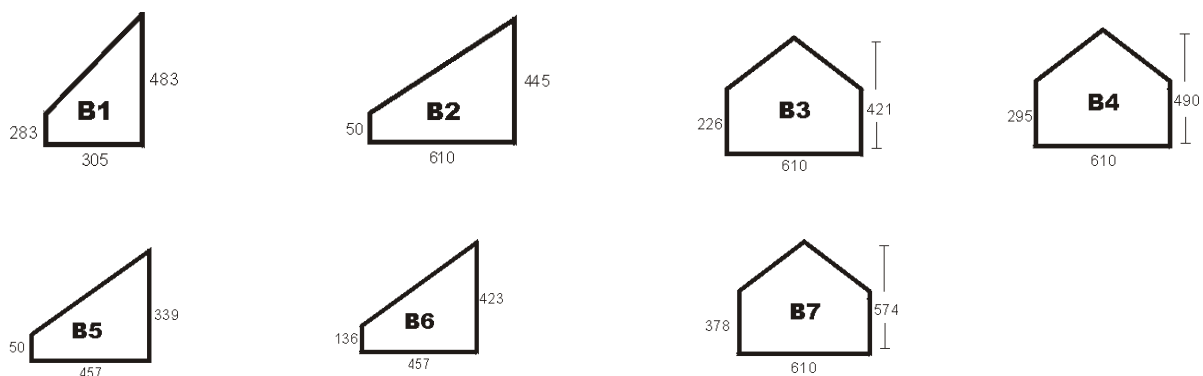
## 1. Single door

	A	B	E	B1	B2	B3	B4	TOTAL
<b>6 X 8</b>	24	30	8	4	4	1	1	72
<b>8 X 8</b>	28	38	8	4	4	1	1	84
<b>10 X 8</b>	32	46	8	4	4	1	1	96
<b>12 X 8</b>	36	54	8	4	4	1	1	108
<b>14 X 8</b>	40	62	8	4	4	1	1	120
<b>16 X 8</b>	44	70	8	4	4	1	1	132
<b>18 X 8</b>	48	78	8	4	4	1	1	144
<b>20 X 8</b>	52	86	8	4	4	1	1	156

REF	SIZE
<b>A</b>	610 X 610 (24 X 24)
<b>B</b>	610 X 457 (24 X 18)
<b>E</b>	610 X 305 (24 X 12)
<b>M</b>	457 X 450 (18 X 17 3/4 )
<b>N</b>	457 X 457 (18 X 18)
<b>Y</b>	450 X 610 (17 3/4 X 24)
<b>G</b>	300 X 457 (12 X 18)

## 2. Double Door

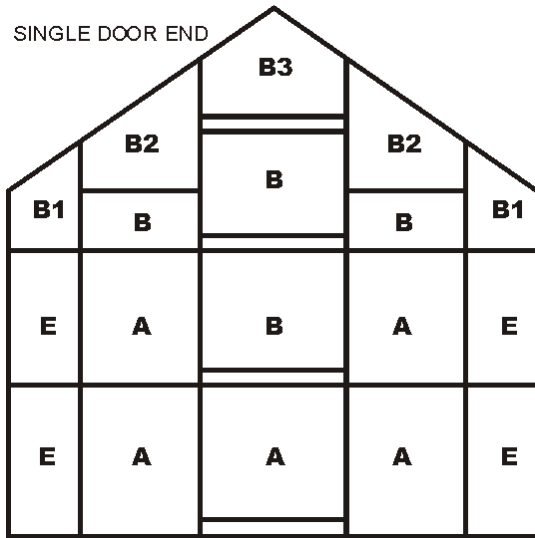
	A	B	E	B1	B2	B4	B5	B6	M	N	Y	TOTAL
6 X 8	19	30	8	4	2	1	2	2	4	2	2	76
8 X 8	23	38	8	4	2	1	2	2	4	2	2	88
10 X 8	27	46	8	4	2	1	2	2	4	2	2	100
12 X 8	31	54	8	4	2	1	2	2	4	2	2	112
14 X 8	35	62	8	4	2	1	2	2	4	2	2	124
16 X 8	39	70	8	4	2	1	2	2	4	2	2	136
18 X 8	43	78	8	4	2	1	2	2	4	2	2	148
20 X 8	47	86	8	4	2	1	2	2	4	2	2	160



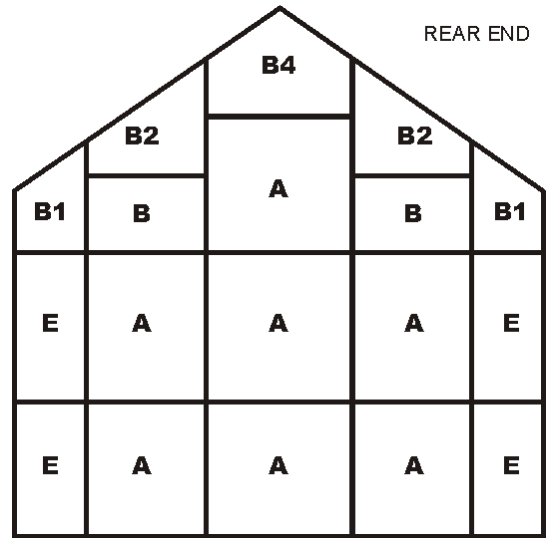
Louvre windows replace pane A with 1 x 610 x 140 (packed in louvre box with the 5 louvre blades) plus the louvre frame.

# HORTICULTURAL AND MULTI-SHEET TOUGHENED GLASS

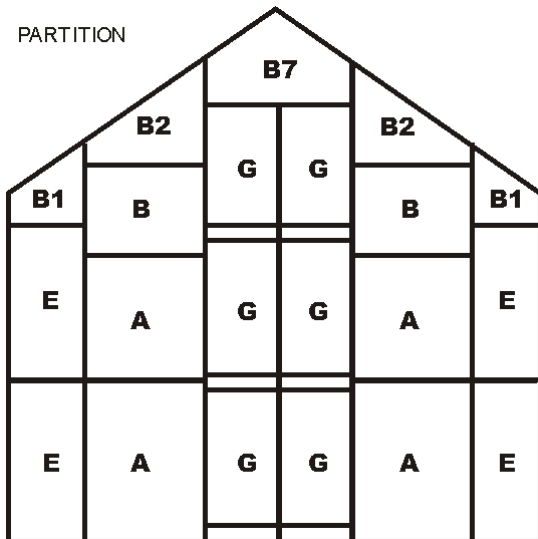
SINGLE DOOR END



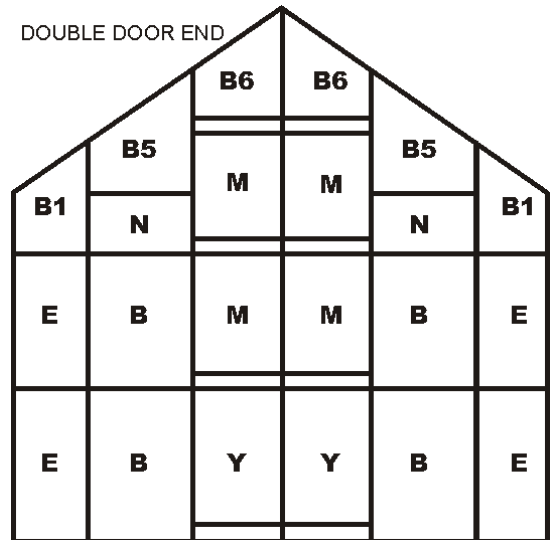
REAR END



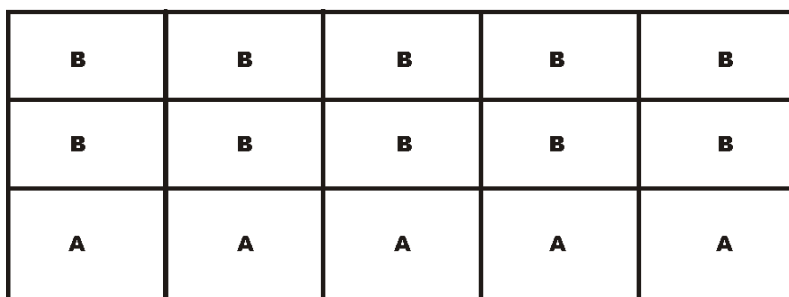
PARTITION



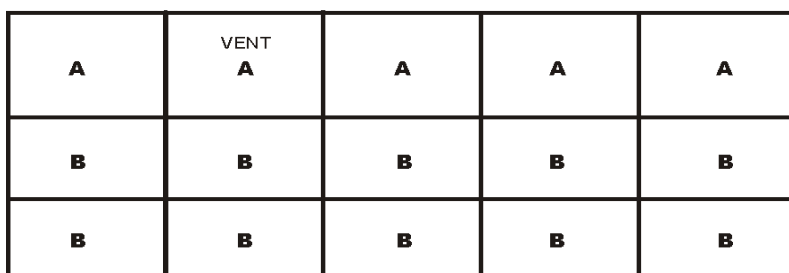
DOUBLE DOOR END



SIDE



ROOF



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

# FULL SHEET TOUGHENED GLASS

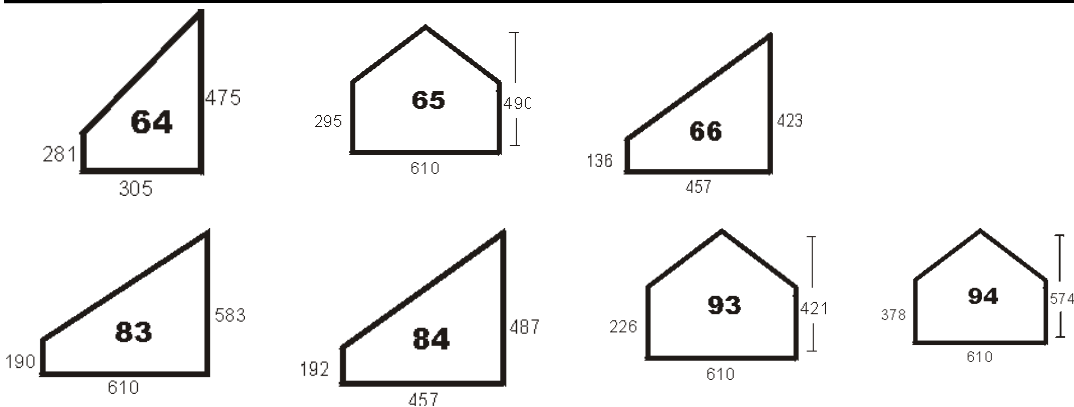
## 1. SINGLE DOOR

	8	10	11	18	19	56	64	83	93	65	TOTAL
6 X 8	16	1	4	2	2	1	4	4	1	1	36
8 X 8	19	2	4	3	2	1	4	4	1	1	41
10 X 8	23	2	4	3	2	1	4	4	1	1	45
12 X 8	27	2	4	3	2	1	4	4	1	1	49
14 X 8	30	3	4	4	2	1	4	4	1	1	54
16 X 8	33	4	4	5	2	1	4	4	1	1	59
18 X 8	36	5	4	6	2	1	4	4	1	1	64
20 X 8	39	6	4	7	2	1	4	4	1	1	69

REF	SIZE
8	610 X 1489
10	610 X 904
11	305 X 1197
18	610 X 610
19	610 X 457
20	450 X 457
41	457 X 1489
42	450 X 610
52	300 X 457
56	610 X 290

## 2. DOUBLE DOOR

	8	10	11	18	19	20	41	42	56	64	65	66	83	84	TOTAL
6 X 8	14	1	4	1	-	4	2	2	1	4	1	2	2	2	40
8 X 8	17	2	4	2	-	4	2	2	1	4	1	2	2	2	45
10 X 8	21	2	4	2	-	4	2	2	1	4	1	2	2	2	49
12 X 8	25	2	4	2	-	4	2	2	1	4	1	2	2	2	53
14 X 8	28	3	4	3	-	4	2	2	1	4	1	2	2	2	58
16 X 8	31	4	4	4	-	4	2	2	1	4	1	2	2	2	63
18 X 8	34	5	4	5	-	4	2	2	1	4	1	2	2	2	68
20 X 8	37	6	4	6	-	4	2	2	1	4	1	2	2	2	73



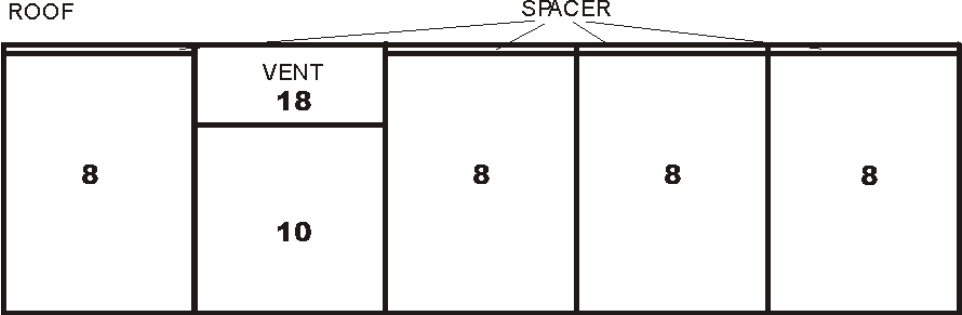
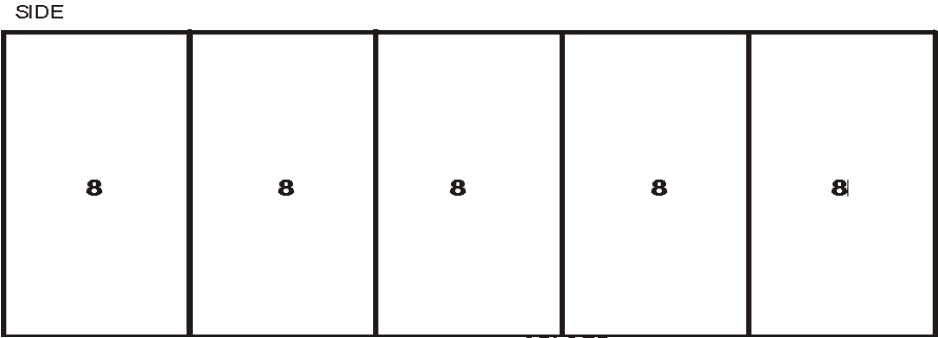
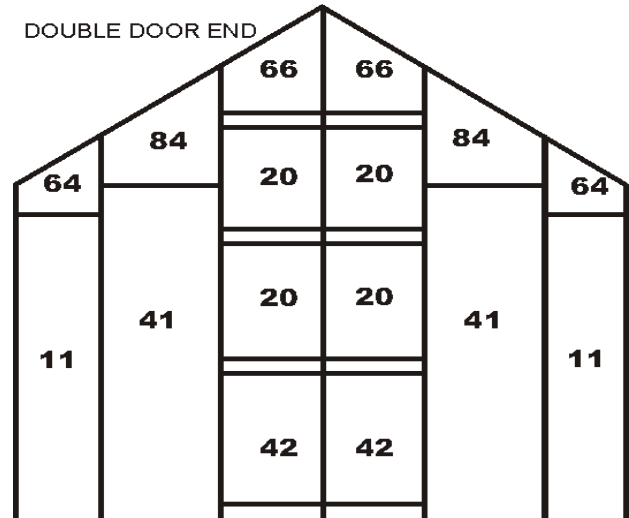
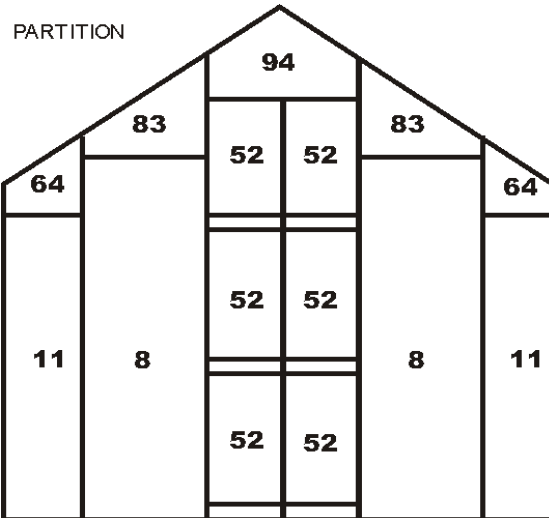
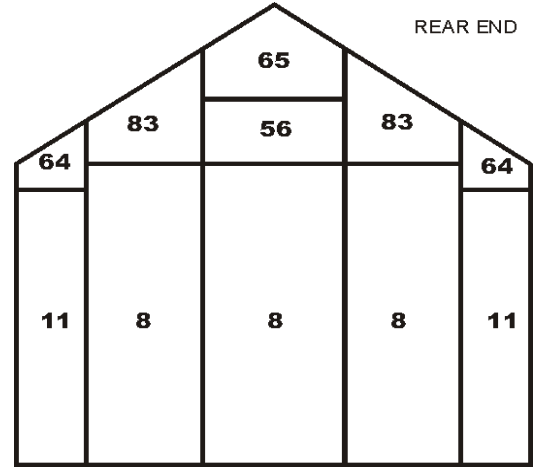
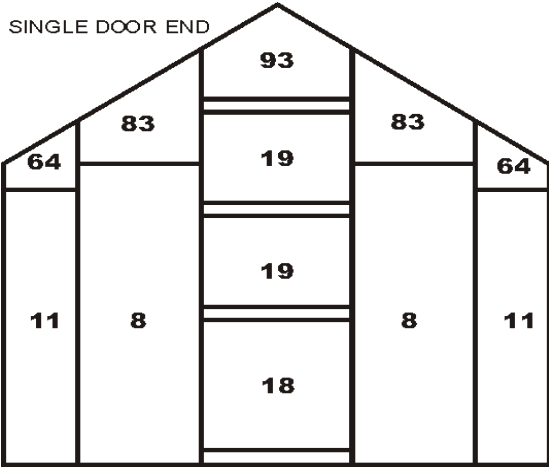
**Some of the quantities on this page will alter with the addition of louvres, extra roof vents and a partition. A picking list of exact requirements for 'your' greenhouse will be issued to you with your delivery paperwork.**

N.B. IF YOU HAVE A LOURVE

The louvre must be sandwiched between two planes of glass. **(Key point).**

To fit the louvre, replace 1 glass panel ref 8 with 1 piece 610x140 (found inside louvre box with louvre blades), the louvre itself and 1 pane ref 10.

# FULL SHEET TOUGHENED GLASS



**YOUR GREENHOUSE IS NOW COMPLETE**

If you have purchased any accessories such as staging, louvre, auto vents, rain water kits etc..., they will have their own detailed instructions in their packaging.

ELITE 1502