



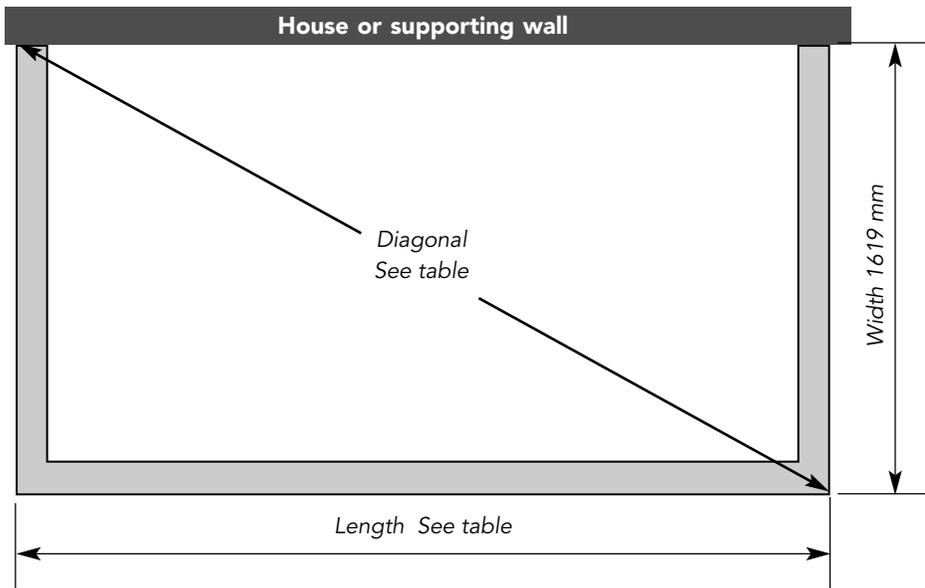
Lean-To

Assembly Instructions

LEAN-TO

Robinsons Lean-To Greenhouse Base Plan

This is a copy of our Lean-To greenhouse base plan. Dimensions shown are all external and allow for a small overhang, (as shown in the diagram at the foot of the page) suitable for brick or concrete perimeter bases.

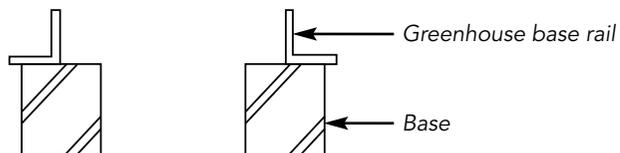


It is acceptable for the base to be oversized if laying paving slabs or a concrete base. The base plan is an example of the L5x8 Model

EXTERNAL DIMENSIONS (mm)

MODEL	Width	Length	Diagonal
L5 x 6	1619	2012	2583
L5 x 8	1619	2632	3090
L5 x 10	1619	3252	3633
L5 x 12	1619	3872	4197

THE BASE MUST BE FLAT, LEVEL AND SQUARE



Robinsons Introduction / Tools / Contents

It would be useful to read at least the following introduction before attempting to assemble any parts. Please read each section fully before commencing each stage.

It is not possible to erect this Lean-To alone, it is therefore essential that you have an assistant throughout.

Please note that all Lean-To's of 24ft. or more in length must be bolted down to a continuous concrete base or strip foundation.

Parts Identification

All the way through these instructions end profile identification charts (I.D. Chart) are on each page for your reference so that you can identify the parts, it is not advisable to mix parts from various boxes especially when extensions are involved.

Tool List

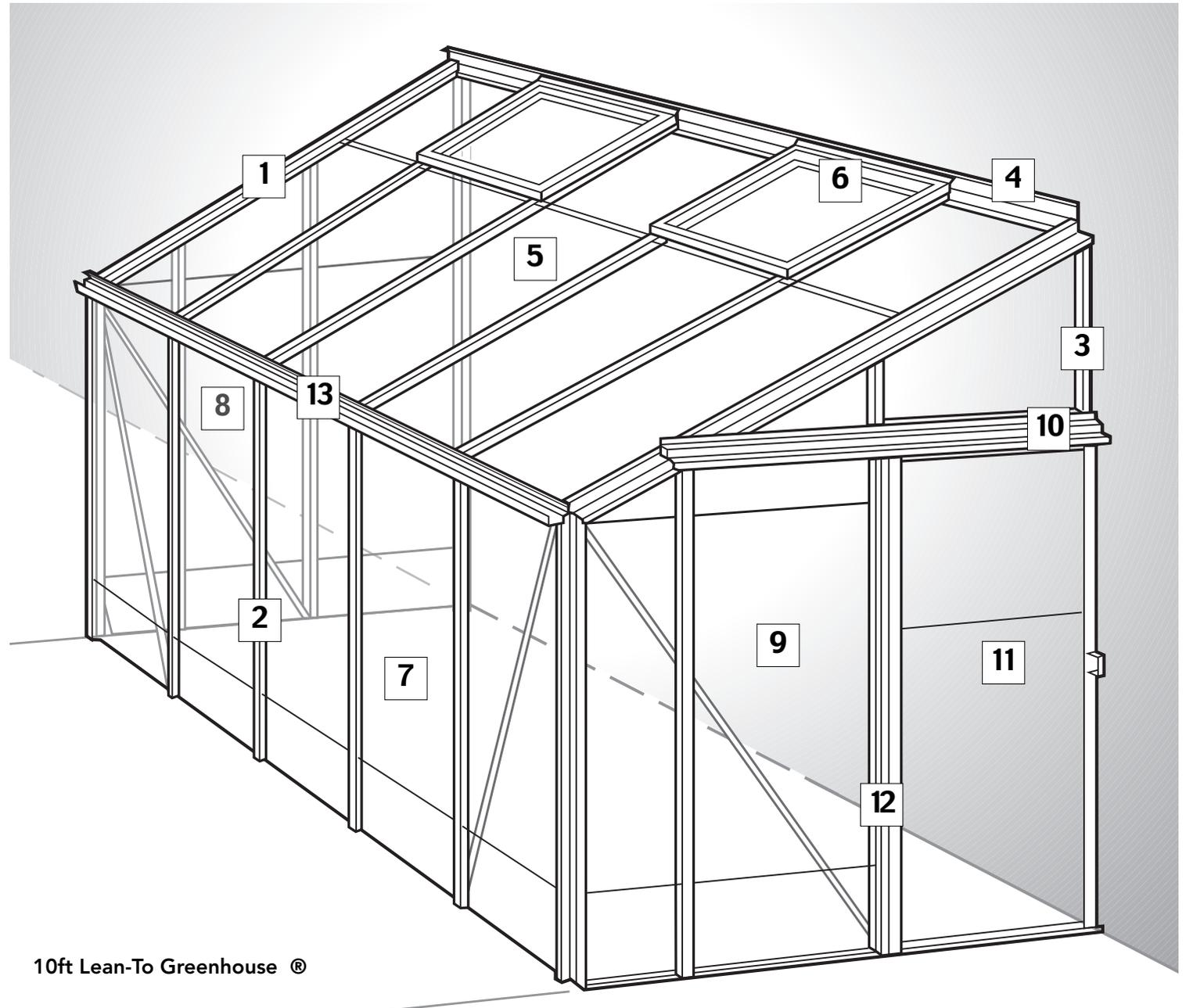
To assemble your Lean-To greenhouse you will need the following:

- | | |
|--|--|
| 1 Spirit level approx. 1m | 1 Screwdriver 20/25cm |
| 1 10mm A.F. Spanner | 1 Tape measure |
| 1 Sharp knife or good pair of scissors | 1 Electric hammer drill |
| 2 5mm dia. drill bits | 1 7mm dia. masonry drill bit |
| 1 Trowel or small spade | A quantity of sand, ballast and cement |

Contents	Page No.	Contents	Page No.
General order of assembly	4	Assembling the door	11
Assembly of roof front and ends	5	Fitting the door	11
The roof	5	Final finishing	12
The front	6	Fitting extensions	13
The ends	6	Identification Charts	14/15/16
Fixing frame to wall	7	Glazing Plans	17
Securing the base	7	3 Slat Staging assembly instruction	18
Glazing the roof	7	7 Slat Staging assembly instruction	19
Assembling and fitting the vent	7	10 Slat Staging assembly instruction	20
Glazing the front	8	Louvre installation instruction	21
Glazing the plain end	9	Plates & partition assembly instruction	22
Glazing the door end	10		

General order of assembly

1. Assemble Roof
2. Assemble Front
3. Assemble Ends
4. Fix Frame to the Wall and Secure the Base
5. Glaze the Roof
6. Assemble and Fit Vent
7. Glaze the Front
8. Glaze the Plain End
9. Glaze the Door End
10. Fit the Door Frame
11. Assemble the Door
12. Fit the Door
13. Final Finishing

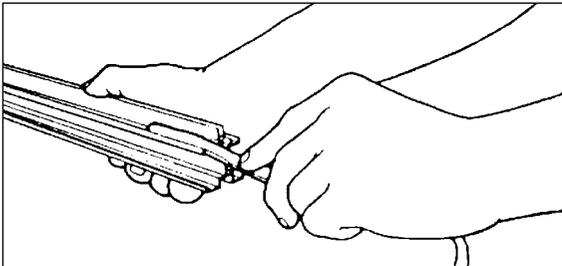


ASSEMBLY OF ROOF, FRONT & ENDS

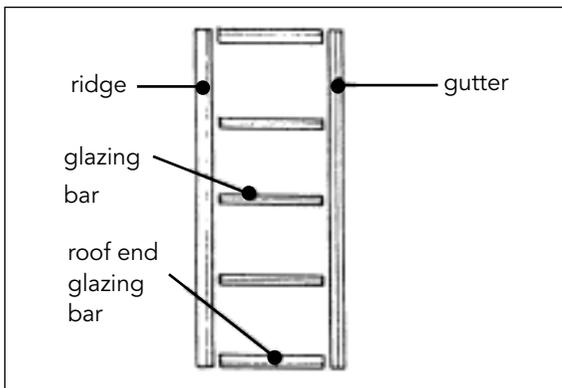
NOTE: IDENTIFICATION OF ALL PARTS AND SECTIONS CAN BE FOUND ON THE ID CHARTS (PAGES 14 - 16).

THE ROOF

- 1 Identify the ridge member (no.1 on ID chart), roof glazing bars (No. 2 ID chart), roof end glazing bars (No. 3) and the eaves gutter (No. 4 ID chart). For help with identification, roof glazing bars are the same length as roof end glazing bars.
- 2 Thread PVC glazing strip (No. 5 ID chart) into the grooves provided on the roof glazing bars and the inside groove only of the roof end bars. Cut to full length taking care not to stretch the PVC strip. A little water or washing up liquid used as a lubricant may help; especially in winter months.

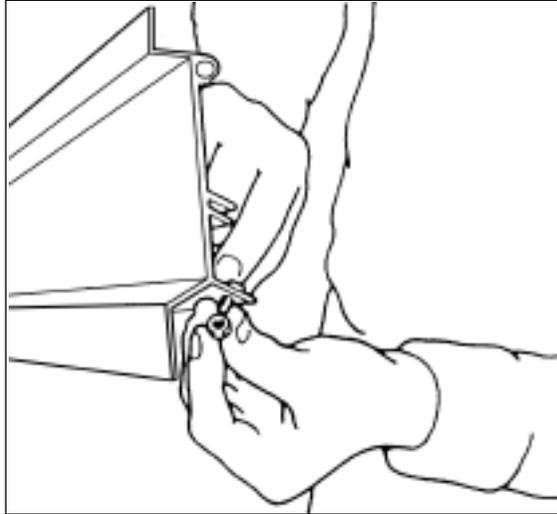


- 3 Lay out the parts roughly in position with PVC strip facing upwards.

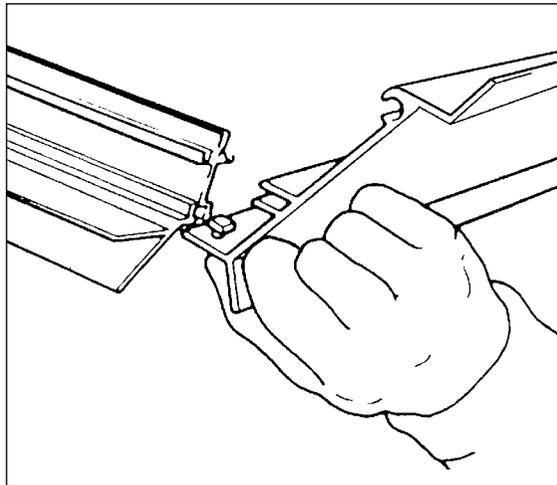


NOTE: If fitting an extension please refer to page 13.

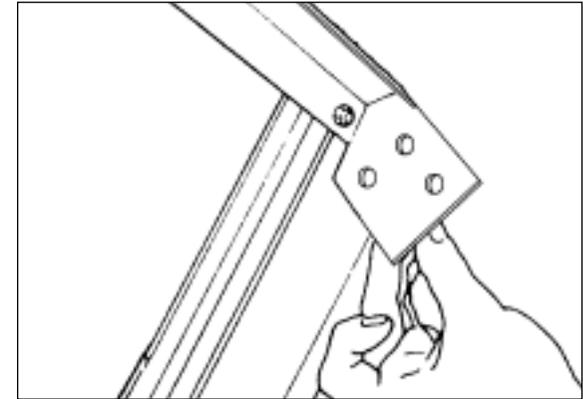
4. Insert short square headed bolts (No. 6 ID chart) into the holes provided in the ridge member and loosely fit nuts.



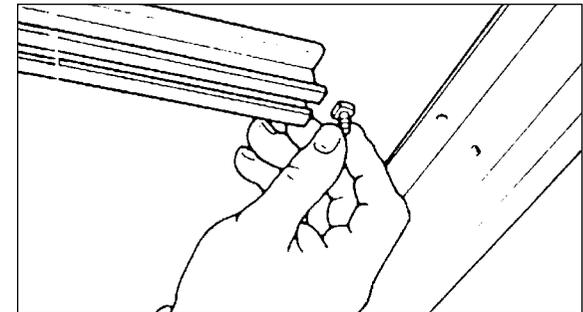
5. Slide glazing bars and roof end glazing bars onto bolt heads and push home fully. Tighten nuts securely taking care not to over tighten.



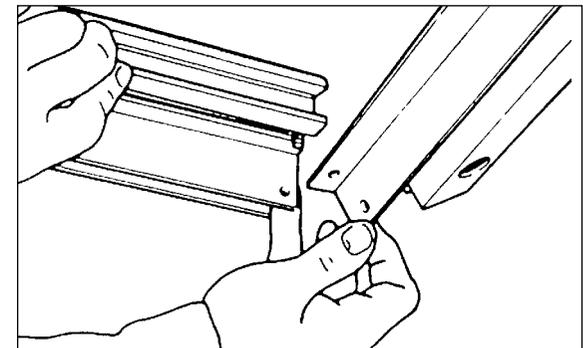
6. Fit apex plate (No. 7, ID chart) to both ends as shown and tighten securely.



7. Slide short bolts into opposite ends of roof glazing bars and roof end glazing bars.



8. Offer up eaves gutter to bolts and, taking care to push fully home, tighten securely both roof glazing bars and roof end glazing bars.

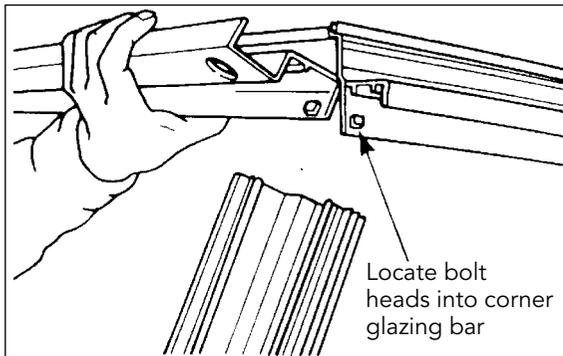


THE FRONT

- Identify Front and Corner Glazing Bars (Nos. 2 and 8, ID Chart) and lay out roughly in position. Thread PVC Glazing Strip into the grooves provided in all glazing bars. Fit PVC strip only to the inside grooves of corner glazing bars.

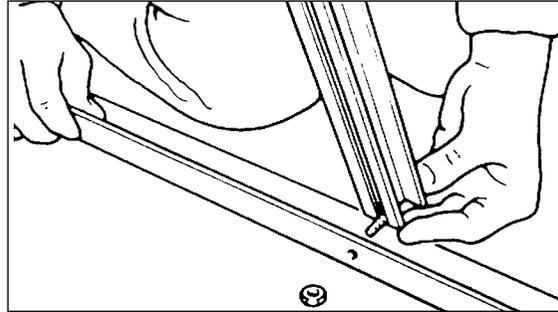
NOTE: If fitting an extension read page 13.

- Loosely fit nuts and bolts in all remaining holes in the roof assembly taking care that square bolt heads face outwards. Fit long bolts (No. 9, ID Chart) in the end holes of the eaves gutter and in the bottom hole of the roof end glazing bar. A strengthening brace will be fitted to the long bolts at a later stage.
- Lifting the eaves gutter slide a centre intermediate glazing bar onto the previously fitted bolt and tighten the nut securely.
- Fit remainder of intermediate glazing bars.
- Slide corner glazing bars (No. 8, ID Chart) onto the bolts previously fitted in end of gutter and bottom of roof end glazing bar.



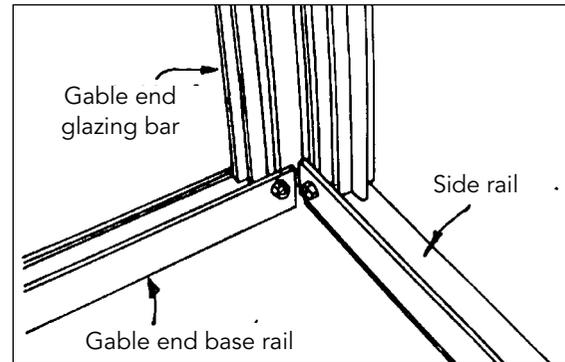
- Slide long captive bolts up each of the side glazing bars (including corners) and lock temporarily in position approximately half way up.
- Identify base angle (No.10, ID Chart), place in position and attach to bottom of glazing bars using bolts previously locked in position.
- Push the ridge up into its correct position by

locating the longest glazing bars (one at each end) onto the two bolts in the apex plates (holes for the door post in both glazing bars) prop against the wall at this stage for safety.

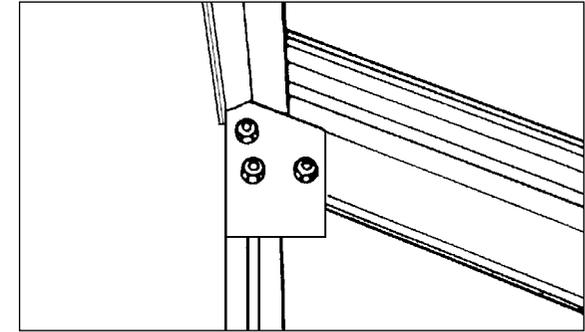


THE ENDS

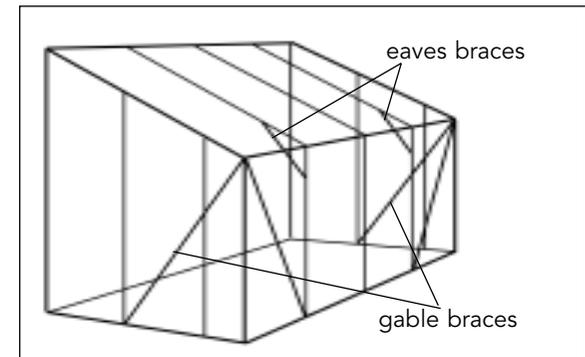
- Identify end gable base rail. (No. 11, ID Chart) and loosely fit long bolts to end hole, at door end.
- Fit corner glazing bar and long glazing bar to gable base rail as shown. Locate and fit door guide and threshold (No. 47, ID Chart).



- Identify second end gable base angle (No.11, ID Chart) and, remembering to slide an additional short bolt into corner and long glazing bars for fitting the end purlin at later stage. Repeat procedure as for door end base rail.
- Identify plain end glazing bars (No.2, I.D. Chart) (door end glazing bars are the same) and slide up onto bolts in roof end glazing bar.



- Slide a short bolt approximately half way up each bar and temporarily lock in position. Then slide a long bolt up each bar and attach these to the base angle and secure to top and bottom.
- Identify and fit front and gable braces (No. 12/12a, ID Chart) as shown. The long bolts at the top of the corner glazing bars and at the bottom of the glazing bars will be long enough to accommodate the braces. Also fit short tube braces to inner side roof glazing bars (No. 13, ID Chart)



- Identify plain end purlin member (No.14, ID Chart) and using short captive bolts previously fitted, offer up purlin to glazing bars and corner glazing bars. Secure approximately 250mm (10") down from eaves use spirit level to check that purlin is level before securing. The braces should pass behind the purlin.

NOTE: Inset corner closures at this stage (Refer to instruction 76).

FIXING FRAME TO THE WALL AND SECURING THE BASE

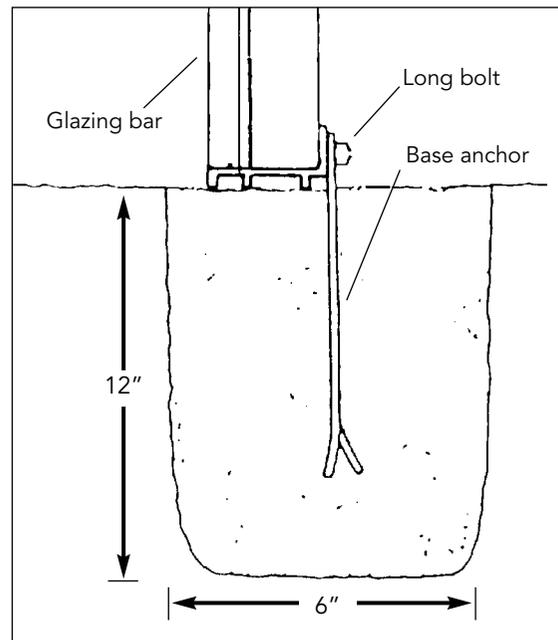
The complete frame can now be positioned on its final site and fixed to the wall.

24. Butt completed frame tightly against wall and mark exact vertical position for long glazing bar on wall. It is important at this stage that a spirit level should be used to ensure frame is level and square.
25. Holding the plain end bar in its vertical position, check with spirit level, drill through the centre of the bar with a 5mm twist drill ensuring that this hole lines up with the centre of a brick, not mortar and continues into wall to mark position of hole. Four holes should be made in this way equally spaced starting 6" / 13.5cm from the top and bottom.
26. Pull frame away from wall and fit Sealband strip provided. Cut strip to required lengths, leave a small gap at each hole to allow screws to pass through. Remove backing paper from strips and fit between holes.
27. Now drill the wall with 8mm masonry drill, at the points marked, to at least the depth of the round headed screws. Fit rawplugs supplied.
28. Repeat stages 24 to 27 for long glazing bar at other end. Position frame against the wall loosely fitting screws through the wall glazing bars into the rawplugs.
29. To fix ridge to wall drill 5mm holes top and bottom centrally between each glazing bar.

NOTE: A small V groove is provided the length of the ridge to locate your drill tip. continue drilling slightly into the wall to mark position.

30. Remove loosely fitted end glazing bar screws, pull frame with ridge away from wall to enable you to drill all holes marked for the ridge with an 8mm masonry drill (to at least the depth of the screws provided). Fit rawplugs. At this stage it is recommended that the base be secured.
31. Ensure that the frame is square and that the site is level.

32. Identify the base anchors (No.15, I.D. Chart) or base brackets (No.15a, I.D. Chart) and lay out at the base of each glazing bar on the ends and every other glazing bar on the front. (Only one anchor required at each corner - not two.)
33. Dig out a hole below each glazing bar 6"x6"x12" deep and secure base anchors to bolts as shown.
34. Screw both the long glazing bars and the ridge to the wall
35. Now concrete in each anchor and allow to set.



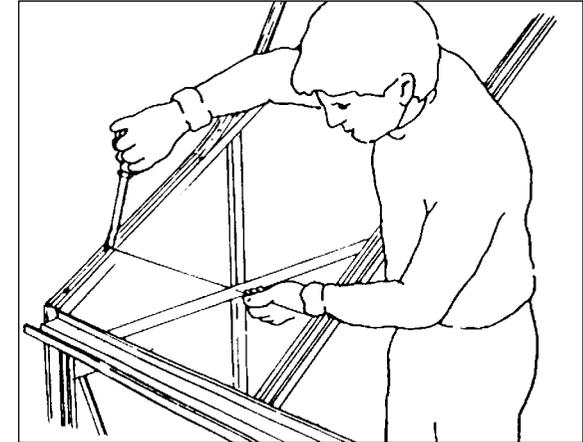
GLAZING THE ROOF

NOTE: The roof glass is over-lapped

NOTE: All bar caps are factory cut to lengths required. Having positioned bottom cap, tap head of bottom screw to ensure it engages in the correct position.

36. With reference to the glazing plan identify roof glass and PVC corner bar capping (No.16 I.D. Chart). Secure in position shown using self tapping screws

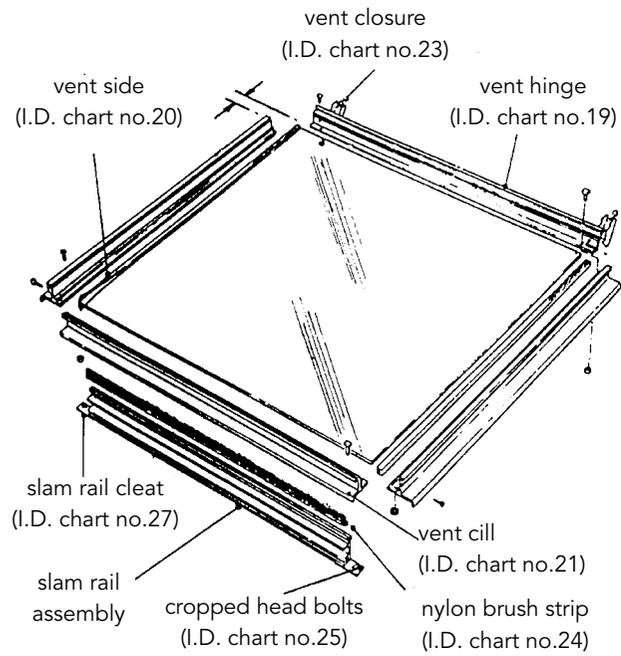
(No.17 I.D.Chart). Note that the bar capping, when butted up against the gutter, will stop short of the glass. This is to allow the next row of sheets to overlap.



Continue fitting first sheets to each bay using standard PVC bar capping (No.18 I.D. Chart) for intermediate roof glazing bars and corner capping at the opposite end.

ASSEMBLING THE VENT

37. Identify the vent kit(s) and assemble with a standard size pane of glass (610 x 610mm). Do not at this stage attach the slam rail assembly, this will be attached when the roof glazing is complete.
38. Fit both side vent members to vent hinge, using M6 x 10 bolts. Slide glass into side vents and into hinge. Then fit cill member in place and fix using M6 X 10 bolts. Finally, using No. 8 X 12 self tapping screws, fix at each corner, ensuring the vent hinge closures are in place. On all models use silicone around the perimeter of the glass to seal any gaps, checking first that the vent is square.



NOTE: See separate instruction leaflet in opener box.

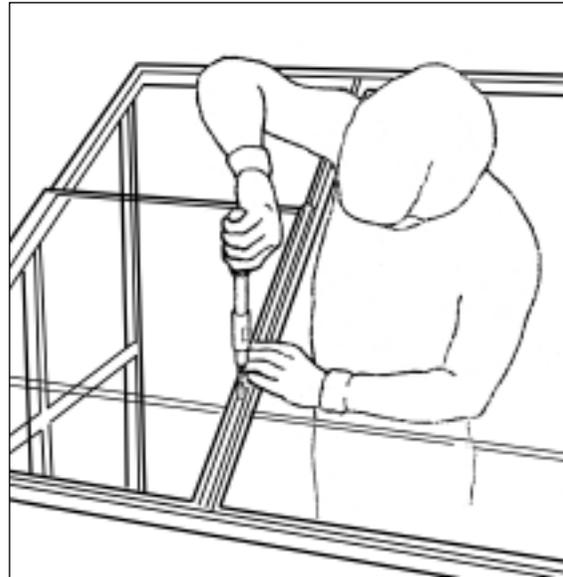
39. At this stage, slide first a vent stop (No.22 I.D. Chart), then the assembled vent, followed by a further vent stop, into the groove provided in the ridge. Do not secure at this stage.

NOTE: If you are fitting more than one vent per side, slide all vent stops and vents in at this stage.

40. Decide on the position for the vent(s) and secure all top sheets up to the vent aperture. All top sheets should be pushed into the ridge member. Fit bar cap covers after securing top sheets.

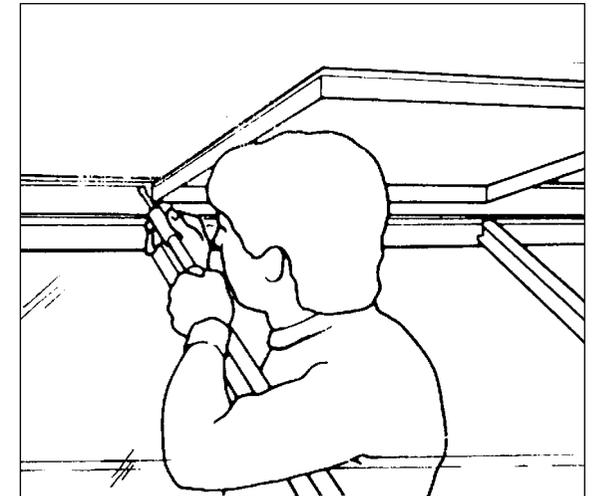
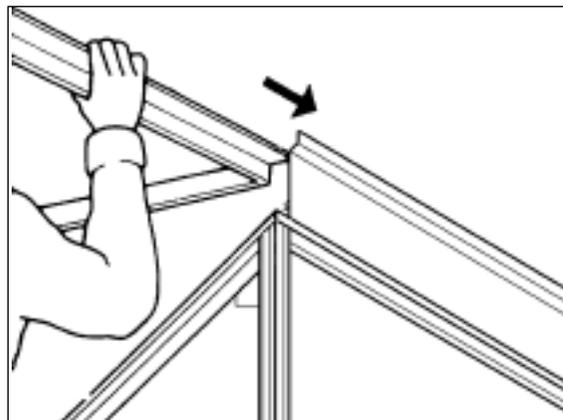
41. Position vent over aperture, slide vent stops up each side and secure both stops firmly.

42. Identify the slam rail (from vent kit) and slide the brush strip along its length, protruding each end by approximately 5mm. Then using standard M6 X 10



bolts and nuts attach the fixing cleats (No. 27, ID Chart). Next identify 2 cropped head bolts (No. 25, ID Chart) and ensuring that they are located into the glazing bars on either side of the vent, slide rail down onto edge of glass, tighten nuts to secure.

NOTE: See separate instruction leaflet in opener box for full details.



GLAZING THE FRONT

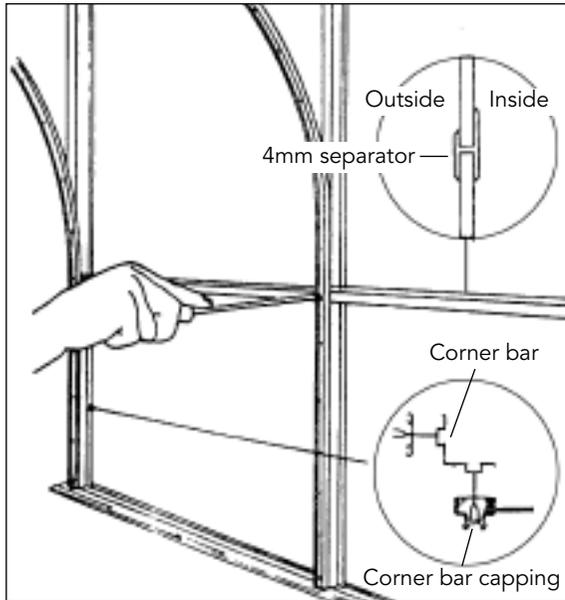
NOTE: Glass on the front is butt jointed using separator strips

43. With reference to the glazing plan identify glass base panels, PVC standard and corner bar cappings (No. 16 / 18, ID Chart), black or white separator strips for glass (No 26 ID Chart). Bar cappings will be shorter than front glazing bars by 16mm.

44. Starting from one corner, position first base panel fitted with 4mm white or black separator strip.

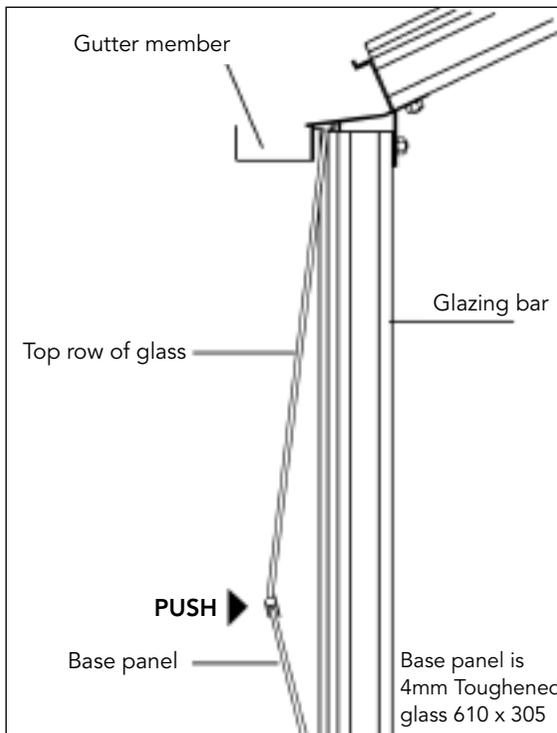
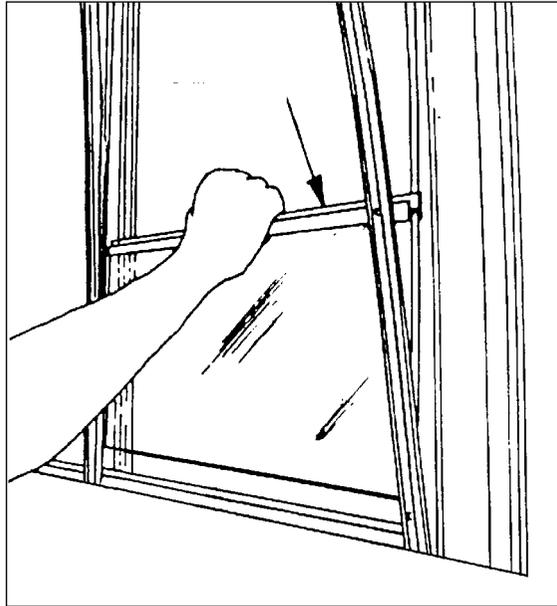
Select corner bar capping and secure with bottom self tapping screws (No.17, ID Chart) only at this stage.

45. Continue fitting the base panels finishing the row with another bar capping.
46. With reference to the glazing plan fit the first full row of small glass sheets complete with separator strip and secure with further self tapping screws.
47. Secure panes in position one side only by screwing all self tapping screws into the bar capping and fit bar cap covers (18a I.D. Chart)
48. Repeat instructions 47 until side glazing is complete, finishing the side with a further corner bar capping.

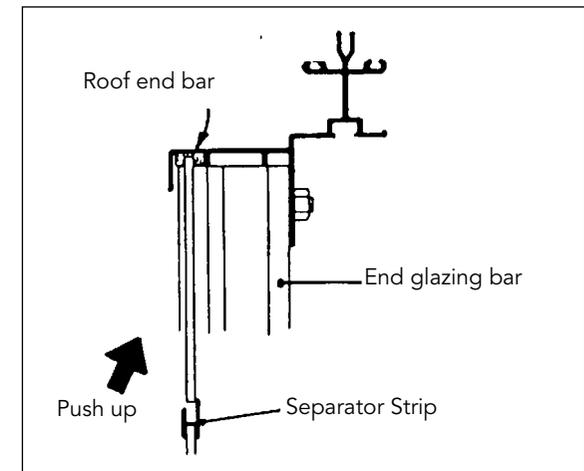
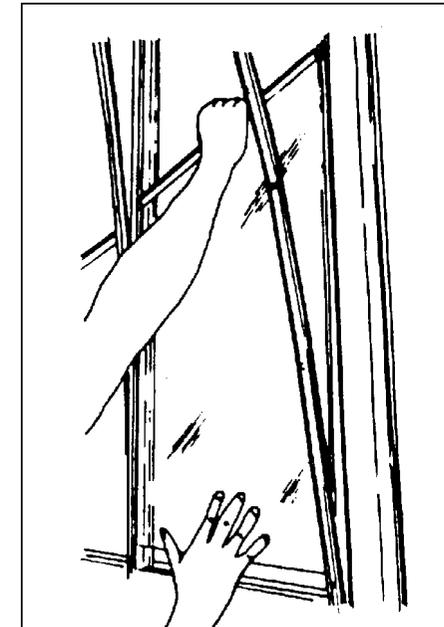


GLAZING THE PLAIN END

49. Locate and roughly lay out corner bar cappings and standard cappings. Corner caps are used against the wall.
50. Following established procedure, fit all base panels and all glass panes up to (but not including) the top angled sheets and secure as work proceeds.



51. With reference to the glazing plan, identify the top angled sheets and fit by pushing up into the roof end bar recess, and align bottom edge with separator strip allowing glass to drop in. Secure all bar cappings.



GLAZING THE DOOR END

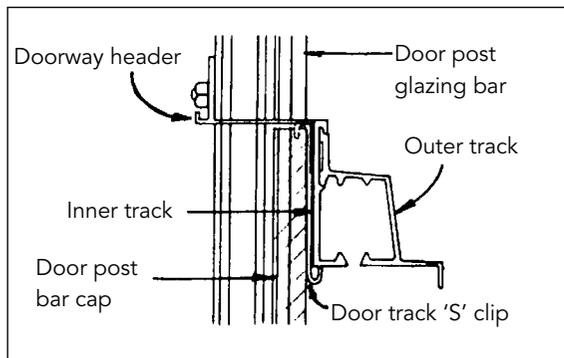
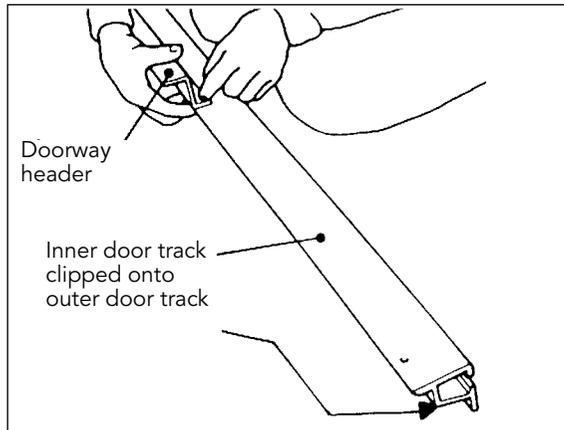
52. With reference to the glazing plan, follow the established procedure to glaze the door end of the greenhouse up to (but not including) the door aperture.

NOTE: The corner bar cap and covers supplied for the door post glazing bars are supplied in single door pack.

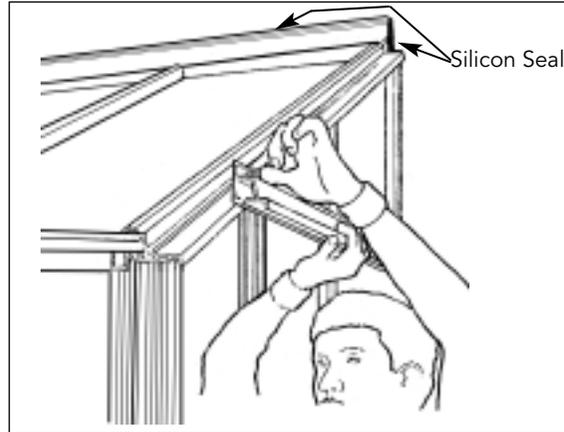
FITTING THE DOOR FRAME

53. Identify the inner and outer door tracks (Nos. 31 /32 ID Chart) and assemble on the ground with door header (No.35 I.D. Chart) as shown using long bolts.

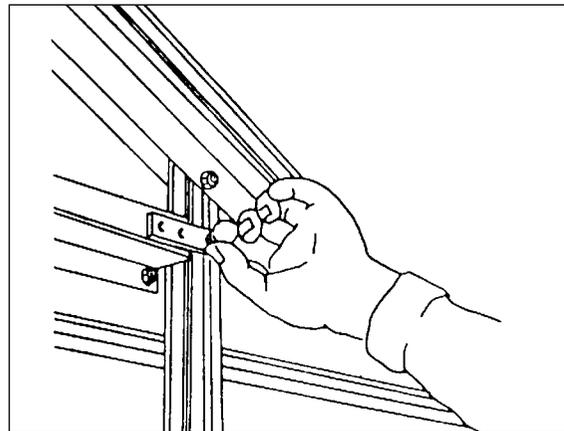
54. Identify the track support cleat (No. 33, ID Chart) and attach to roof end glazing bars using long bolts.



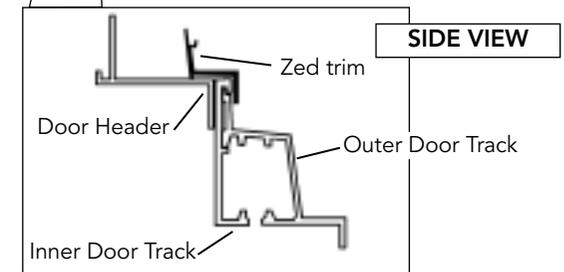
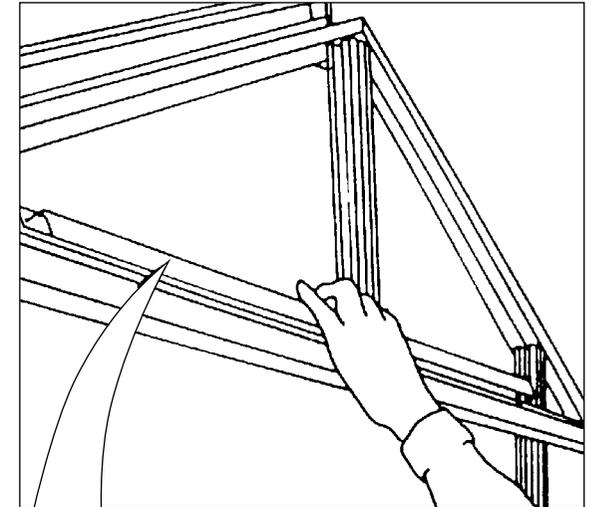
55. Offer up to the complete track assembly and attach to the track support cleats as shown, using long bolts. The door track should rest on the door track 'S' shaped clips (No. 30, ID Chart).



56. On the inside of the greenhouse, pick up the spare nut and bolt previously slid into the front glazing bars and connect the doorway header attachment plate (No. 34, ID Chart) to the back of the doorway header and glazing bar using short bolts.



57. Identify the zed trim (No. 36, ID Chart) and position on top of the track as shown. The final apex glass can now be fitted using established procedure. Secure the zed trim and glass together with short bar capping.

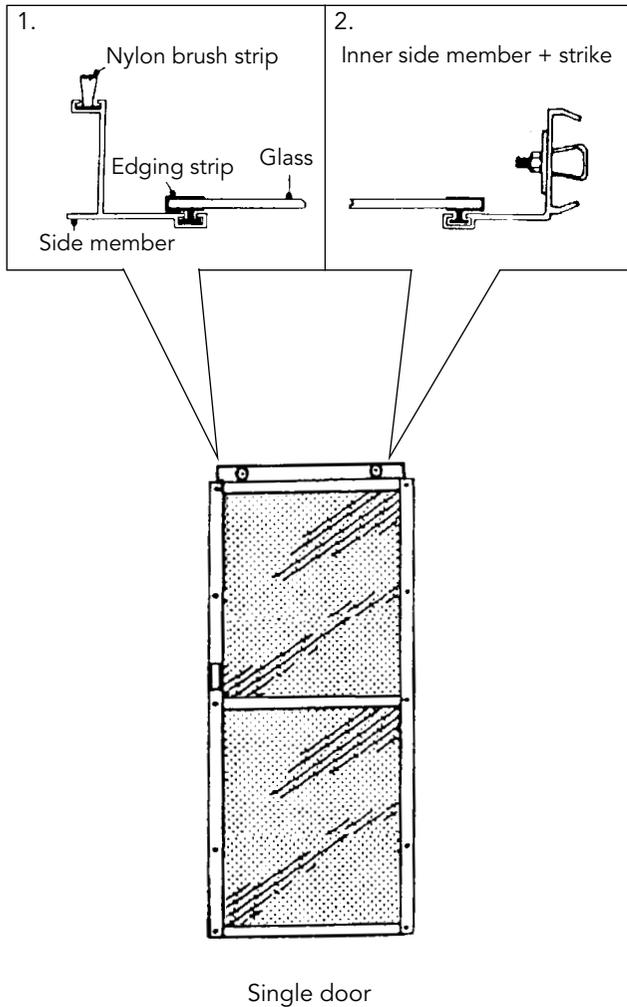


The door frame is now complete.

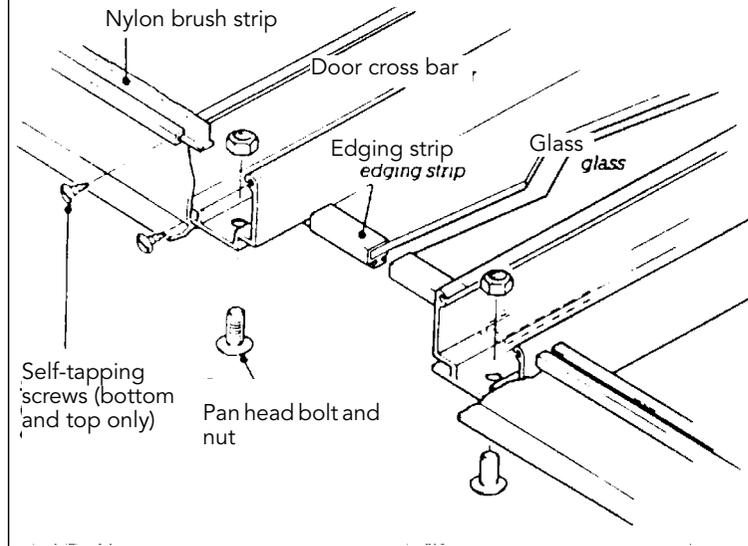
ASSEMBLING THE DOOR

58. Identify the door side members 2 of (No. 37, ID Chart) for a single door.
59. Select the bottom door crossbar (No. 38 ID Chart), position this between the side members and loosely fix using pan head bolts.
60. Take bottom size (922 X 555mm) door sheet glass panel and slide into position between side members, so that it engages in cross bar recess.
61. Slide another door cross bar in position and bolt door to side members.
62. Select 812 X 555 mm glass pane, fit white PVC edging strip (No. 42, ID Chart) to both sides. These strips should be 8mm short at each end.

ASSEMBLING THE DOOR



CONSTRUCTION DETAILS



63. The top cross bar (No. 43, ID Chart) is fitted in the same way as the previous, with the wheels facing upwards.
64. Fit the nylon door glide (No. 44, ID Chart) to the bottom cross bar.
65. Repeat steps 58 to 64 for other door (if double doors required).
66. Slide the nylon brush strip (No. 24, ID Chart) into groove on the door side members (on a single door both sides). These should seal against the door post bar caps when the doors are closed. Crimp the bottom of the groove to prevent the brush strip from sliding out.
67. Screw door side members to the top and bottom bars using self tapping screws. (No. 45, ID Chart)
68. Tighten all the pan head bolts and nuts. The strike plate (No. 41, ID Chart) which was temporarily fitted earlier can now be fixed in its final position. Line up the hole in the plate so that the door lock engages.

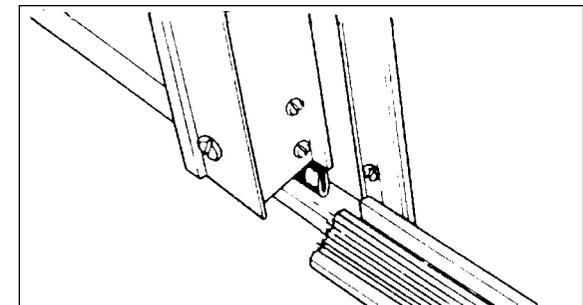
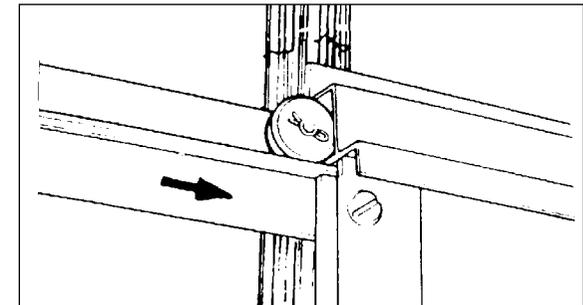
FITTING DOOR

69. Slide door wheels into top track, at the same time ensuring the nylon door glide engages into the door guide.

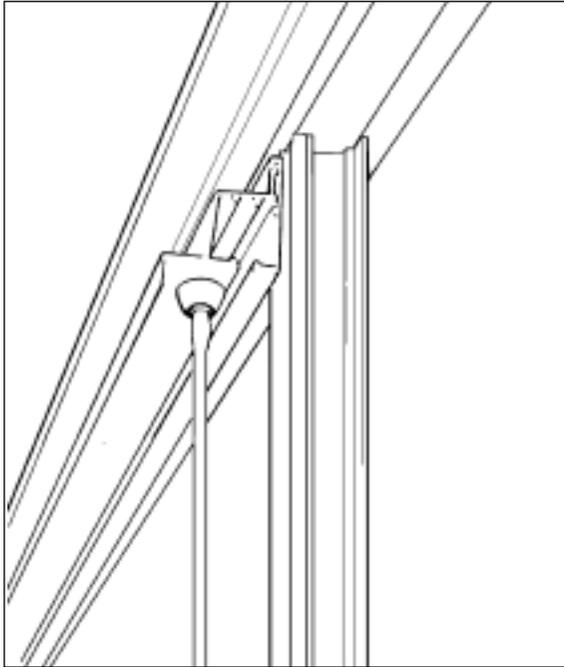
See diagram below

70. Slide on completely and check that the door runs freely. If not then check that the outer door track is sitting squarely on the inner track. If the doors still fails to run freely then remove them and inspect the nylon door glide to see if there is an excessive burr on the ends where they are cut, if so, remove burr and refit the doors.

71. It may also be necessary to make a final adjustment to the lock. When the doors are running to your satisfaction, fit a rubber door stop to end of the track in the hole provided using M4 x 10mm stainless steel nut, bolt and washer. The rubber stop should sit on the inside of the track.



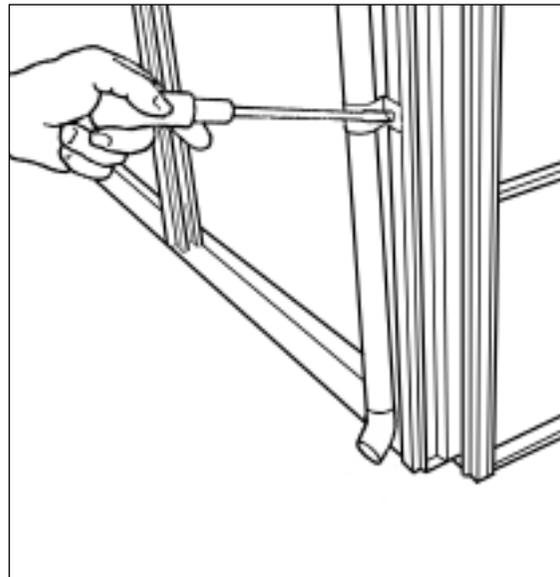
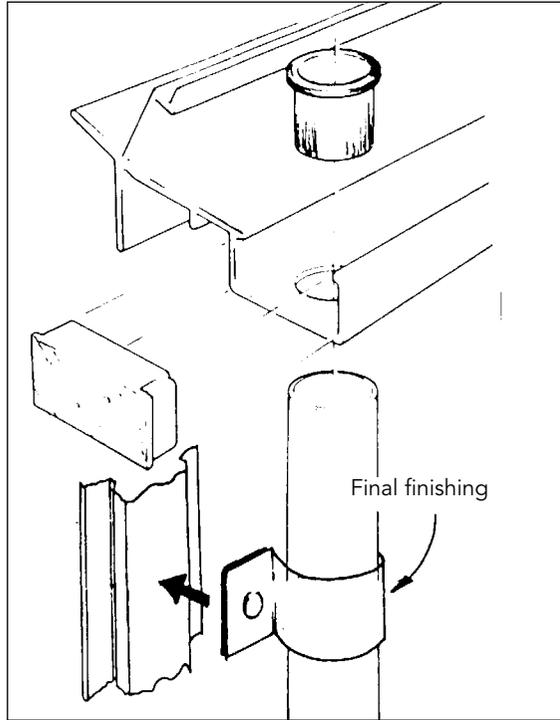
72. Open doors fully and position door threshold (No. 47, ID Chart) over base rail and door guide. Tap down firmly until it locks in position.



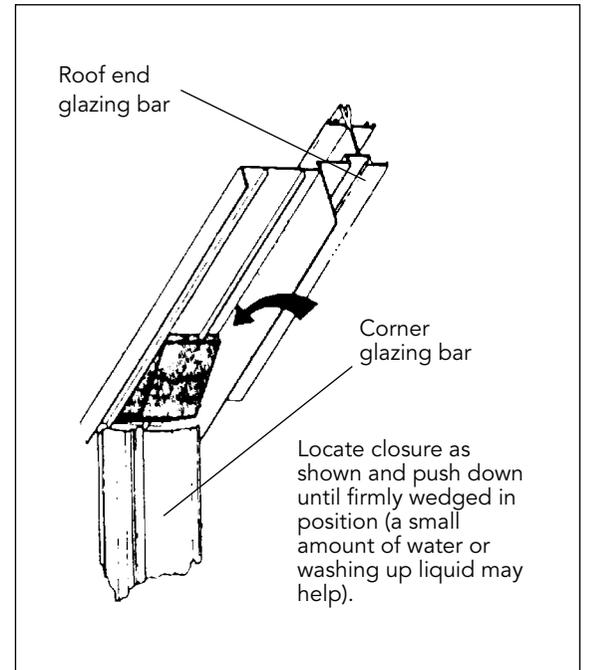
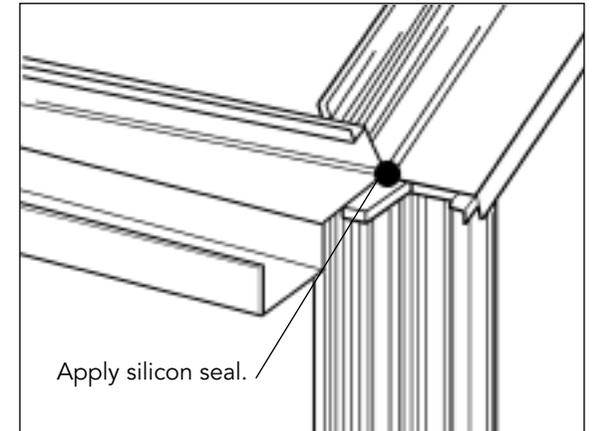
FINAL FINISHING

Your Lean-To greenhouse is now basically complete and requires a few finishing touches.

- 73. Identify moulded door track covers (No. 48, ID Chart) and ridge finial covers. Secure in position by pushing home plastic bosses into appropriate location points.
- 74. Locate gutter outlet stubs (No. 49, ID Chart) and having decided on the position for your rain water pipes, fit these at the down pipe end. Now fit the blanking grommets (No. 50, ID Chart). Then fit the stop ends (No. 51, ID Chart) all round.
- 75. Finally identify and fit the angled rainwater pipe outlet (No. 52, ID Chart), push pipe up onto the outlet stub and screw rain water pipe bracket into the bar capping after bending it around the pipe.



76. Fit eaves rail/gutter closure as shown before fitting roof glazing. Eaves rail closures come in pairs (No. 54, I.D. Chart) and should be cut with a sharp knife before fitting. Finally, when the building is complete,



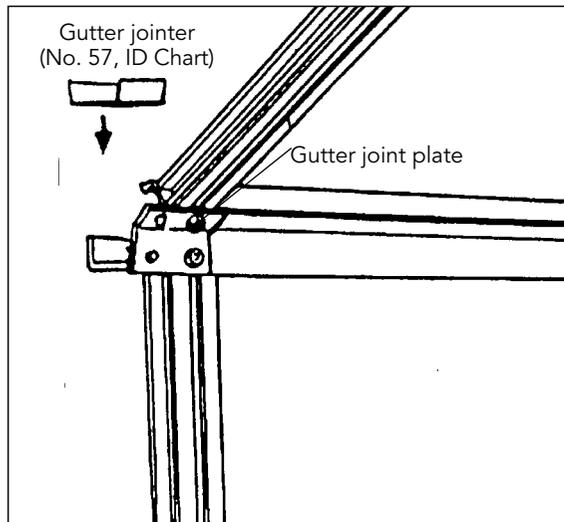
fit roof end glazing bar closure as shown.

FITTING EXTENSIONS

Extensions for lean-to models always go to the right when viewed from the front.

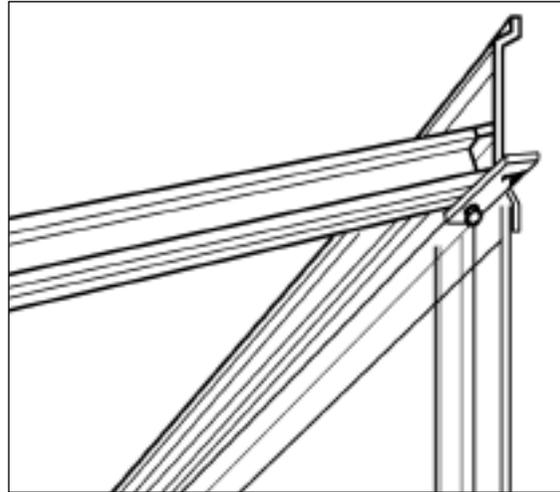
If you have been supplied with an extension module, your main building will differ in that the roof end and corner glazing bars (on the end to which the extension will be fitted) are replaced with standard front and roof glazing bars from the extension module kit. These should be fitted using long bolts throughout. Continue therefore erecting the main building frame, using the main instructions up to number 29. When the main frame is complete, continue as follows:

77. Identify and fit gutter joint plate, base rail and ridge

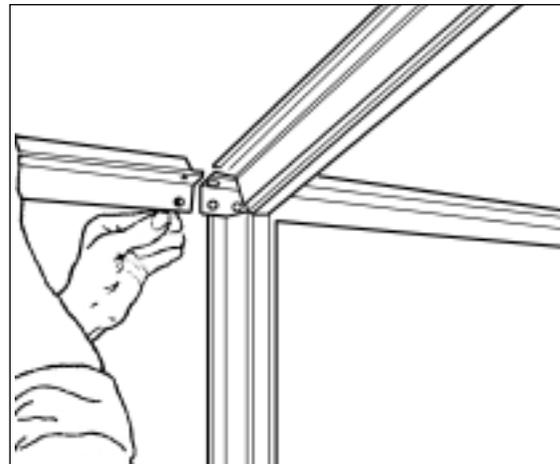


connecting plate (Nos. 55, 56, ID Chart) and seal all joints.

When fitting extension ridge, gutter and side cills, the



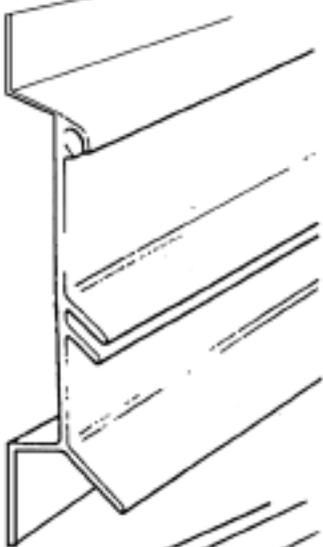
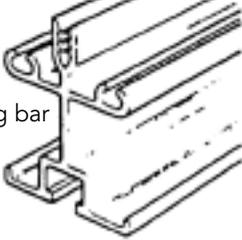
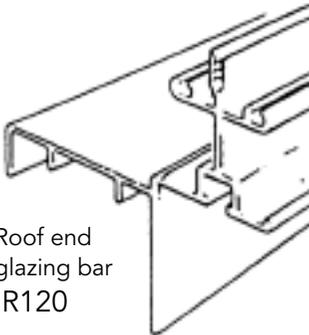
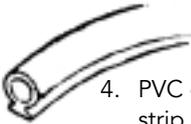
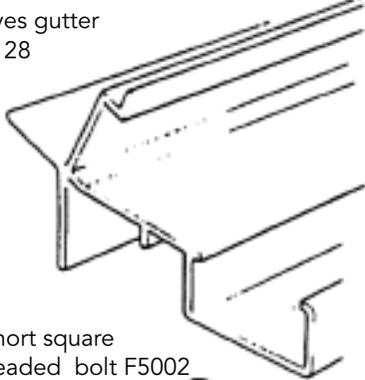
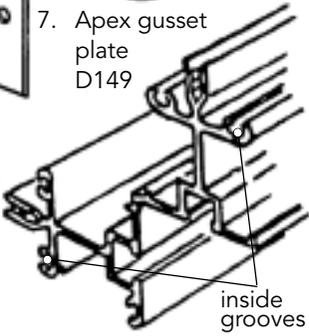
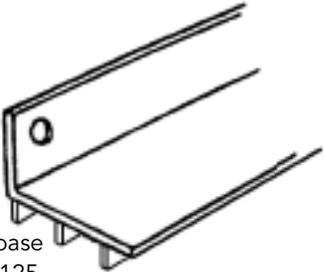
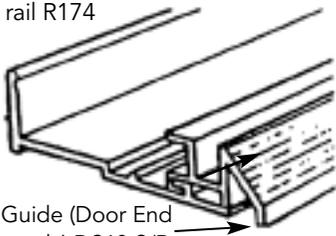
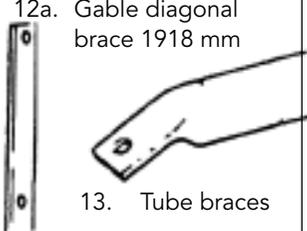
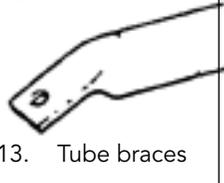
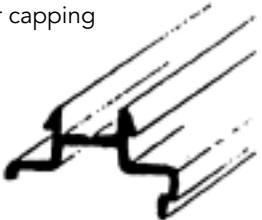
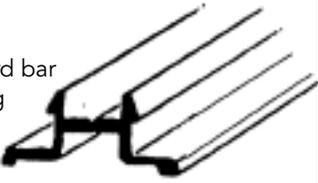
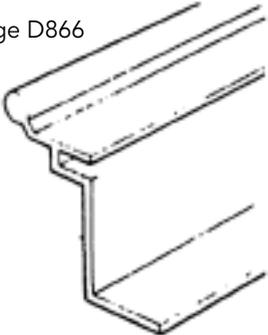
586mm hole centres at one end of the component must abutt the main greenhouse. The glazing bar centres will then be correct at 620mm



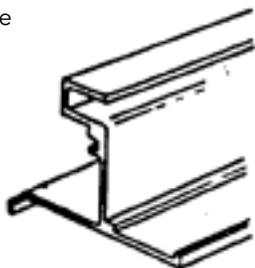
78. Assemble the extension using established procedure.

79. Offer up extension to main building and secure with short bolts.

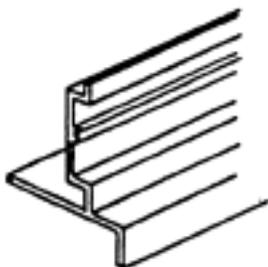
Your lean-to greenhouse is now ready to be secured in position and glazed. Please refer back to the main instructions.

<p>1. Ridge member R118</p>  <p>2. Glazing bar R112</p>  <p>3. Roof end glazing bar R120</p>  <p>4. PVC glazing strip D231</p> 	<p>5. Eaves gutter R128</p>  <p>6. Short square headed bolt F5002 nut F5006</p>  <p>7. Apex gusset plate D149</p>  <p>8. Corner glazing bar D048</p>  <p>9. Long square headed bolt F5003 nut F5006</p>  <p>10. Side base rail R125</p> 	<p>11. Door and plain end gable base rail R174</p>  <p>Door Guide (Door End only) DS60 S/D</p>  <p>12. Diagonal brace 1784mm</p>  <p>12a. Gable diagonal brace 1918 mm</p>  <p>13. Tube braces</p>  <p>14. Plain end purlin member</p>  <p>15. Base anchor D106</p>  <p>15a. Base bracket</p> 	<p>16. Corner bar capping R318</p>  <p>17. No 8 x 12mm self tapping Pozidrive screws FS6017</p>  <p>18. Standard bar capping R316</p>  <p>18a. Bar cap cover R317</p>  <p>19. Vent hinge D866</p> 
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20. Vent side
D863



21. Vent cill
D862



22. Vent stop D220
Screw FS6060



23. Vent closure
D205



24. Nylon brush strip

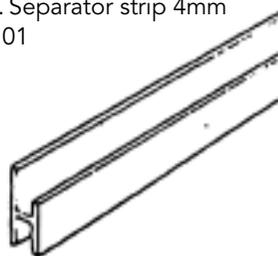
25. Cropped head
bolts

F5001

F5006



26. Separator strip 4mm
D101



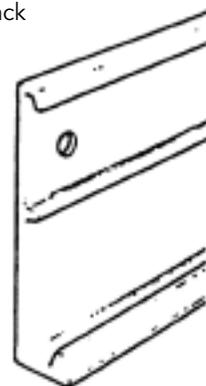
27. Slam rail
cleat
D114



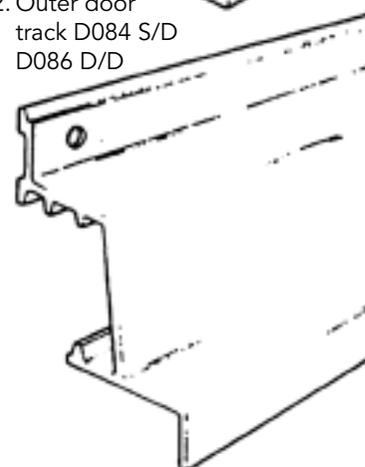
30. Door Track
'S' clip
D845



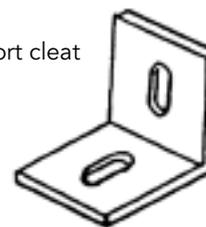
31. Inner door track
D083 S/D
D083 D/D



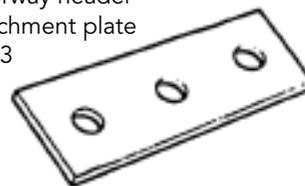
32. Outer door
track D084 S/D
D086 D/D



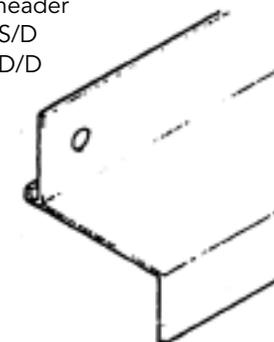
33. Track support cleat
D154



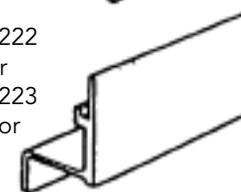
34. Doorway header
attachment plate
D163



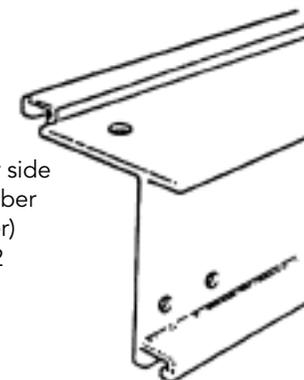
35. Door header
D864 S/D
D865 D/D



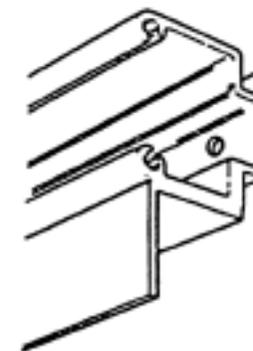
36. Zed trim D222
Single door
Zed trim D223
Double door

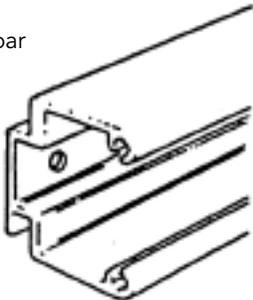
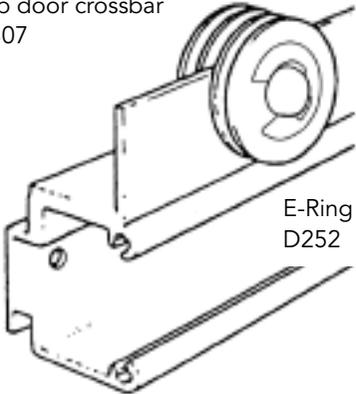
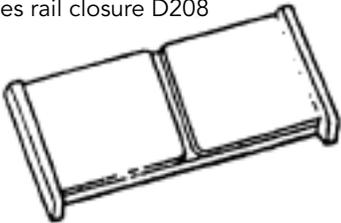
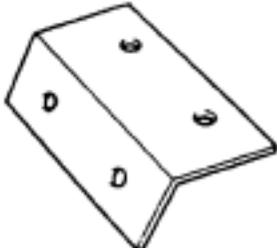
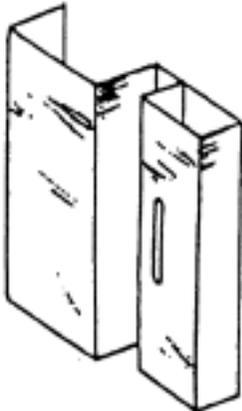
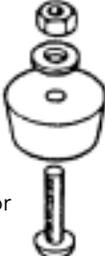
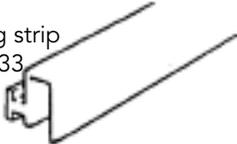
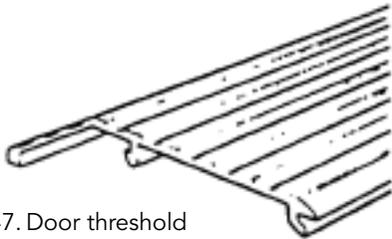
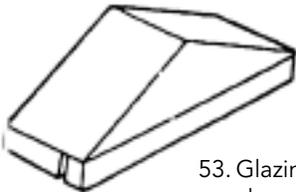


37. Door side
member
(outer)
D092



38. Bottom
door
crossbar
D097



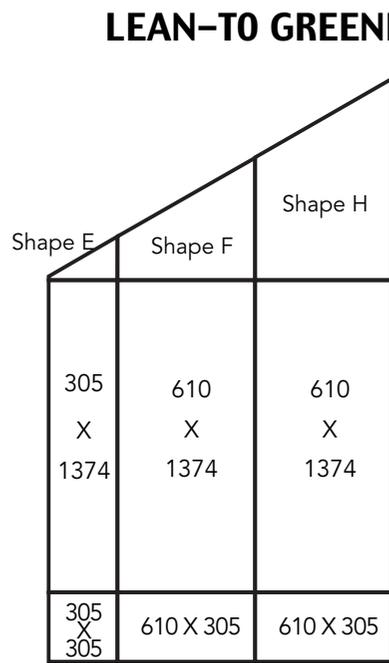
<p>39. Door crossbar D095</p> 	<p>43. Top door crossbar D307</p>  <p>E-Ring D252</p>	<p>48. Moulded door track cover D204</p> 	<p>54. Eaves rail closure D208</p> 
<p>40. M6 x 10mm span head bolts D263</p> 	<p>44. Nylon door glide D225</p> 	<p>49. Gutter outlet stub D201</p> 	<p>55. Gutter joint plate D158</p> 
<p>41. Single door strike plate D842</p> 	<p>45. Self tapping screws FS6016</p>  <p>46. Rubber door stop D312</p> 	<p>50. Blanking grommit D214</p>  <p>51. Stop end D202</p> 	<p>56. Ridge and base rail connecting plate</p> 
<p>42. PVC edging strip D232 & D233</p> 	<p>47. Door threshold D087 S/D</p> 	<p>52. Rainwater pipe outlet D207</p>  <p>53. Glazing bar closure D206</p> 	<p>57. Gutter joiner D171</p> 

TOUGHENED GLASS ONLY 4mm

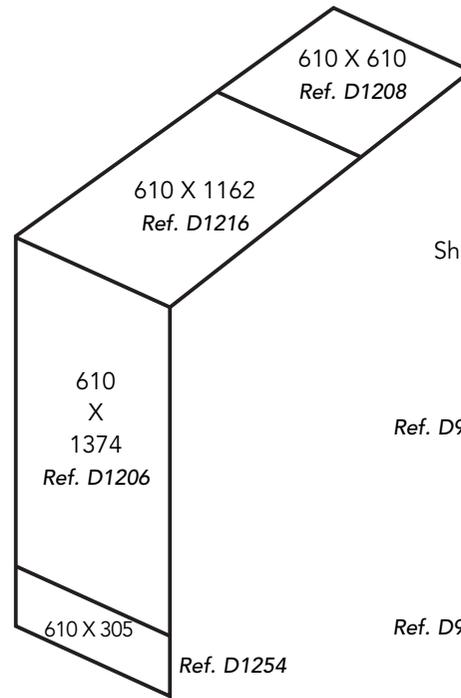
Glazing Plan

Measurements in mm.

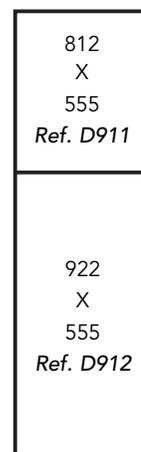
LEAN-TO GREENHOUSE



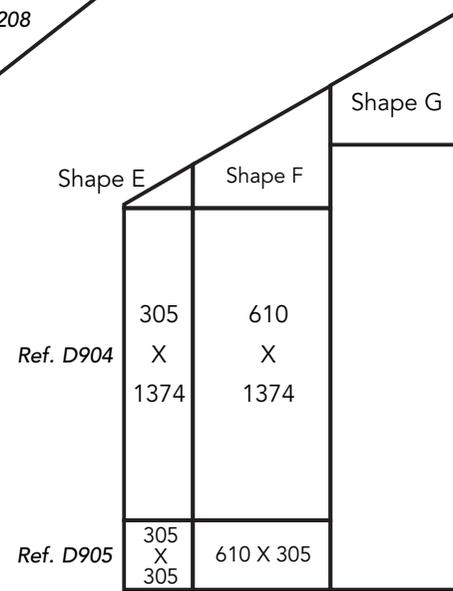
Plain End



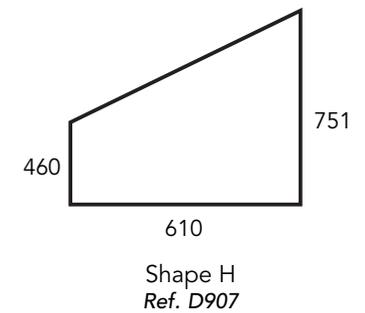
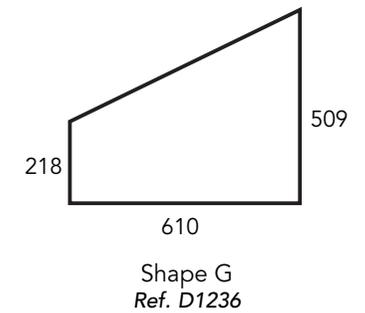
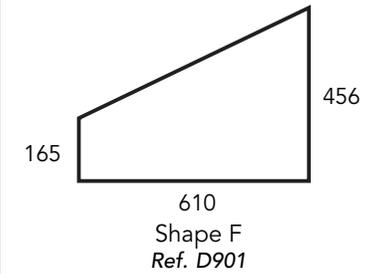
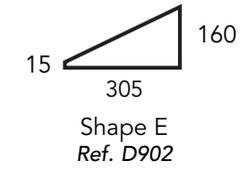
Side/Roof



Single Door



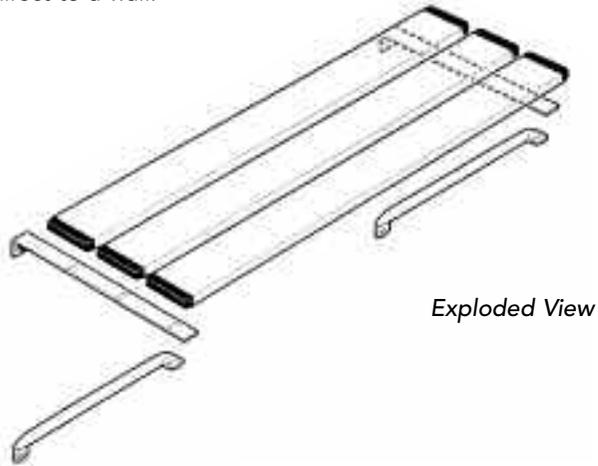
Door End



TOUGHENED GLASS ONLY 4mm

3-Slat - 11" · 28cm Deep Shelf

May be fixed to aluminium greenhouse glazing bars or direct to a wall.

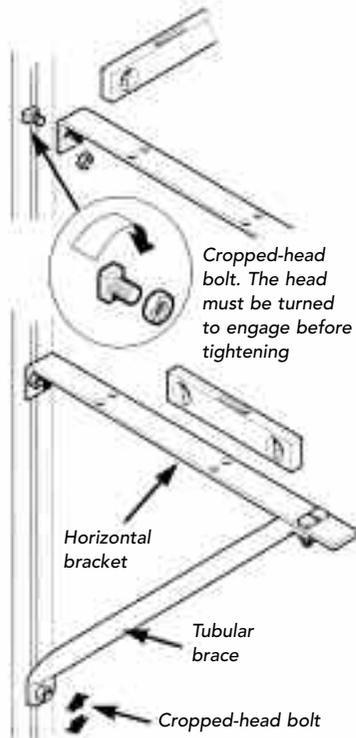


Exploded View

ONE

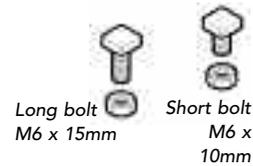
Fix the horizontal brackets to aluminium greenhouse glazing bars spaced at approx. 2ft (60cm) centres using cropped-head bolts. Ensure these are correctly engaged in the nut groove before tightening. Ensure adjacent brackets are level.

Temporarily secure the top of each tubular brace to the end of the horizontal bracket. Position and fix the lower end of each brace so that the bracket is level.



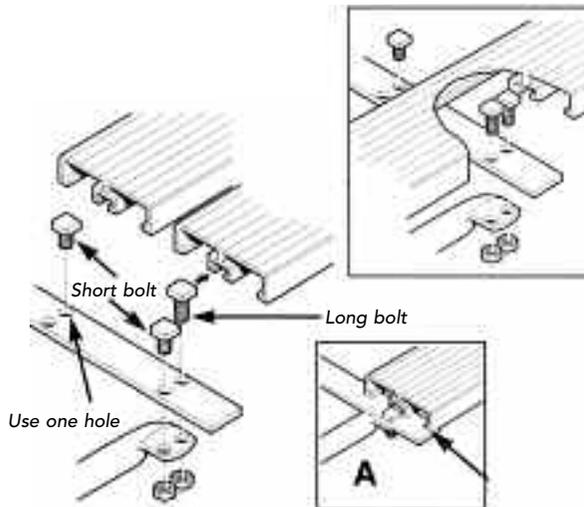
TWO

Feed bolts as required into central groove on underside of slat.



Bolt requirement:
 Front slat - 1 long bolt each end, plus 2 long bolts for each mid-bracket.
 Other slats - 1 short bolt for each bracket.

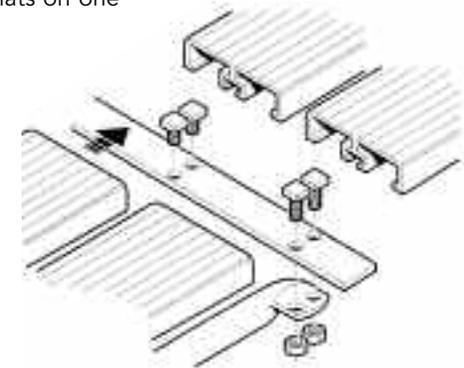
Secure each slat in turn starting from one end (see detail A). On front slat ensure that the long bolts go through the tubular braces.
 A short bolt (beyond end of slat) completes fixing of outer braces.



THREE

Joining two sections

The shelf may be easily extended as required by joining slats on one bracket.

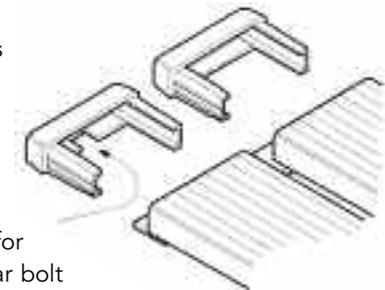


FOUR

At ends of runs

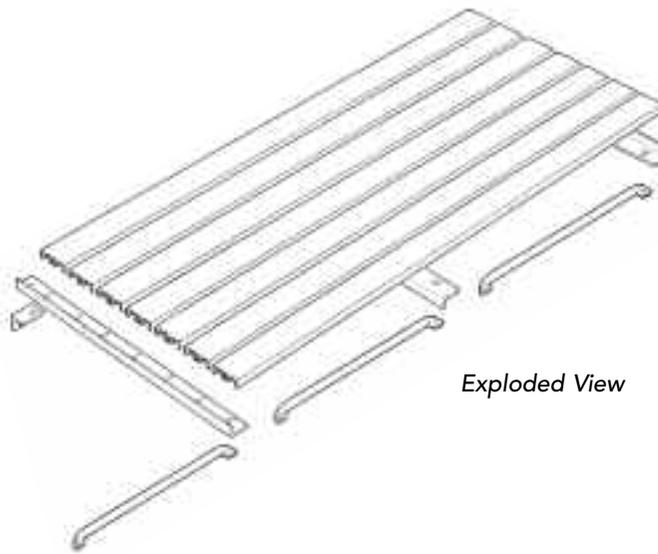
Push end bungs into slat to finish.

Remove cut out, with sharp knife, on bung for front slat to clear bolt head.



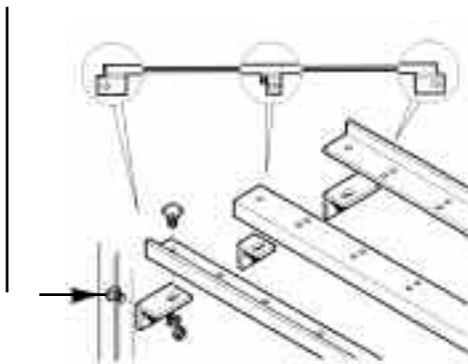
7-Slat - 25" · 63.5cm Deep Shelf

May be fixed to aluminium greenhouse glazing bars or direct to a wall.



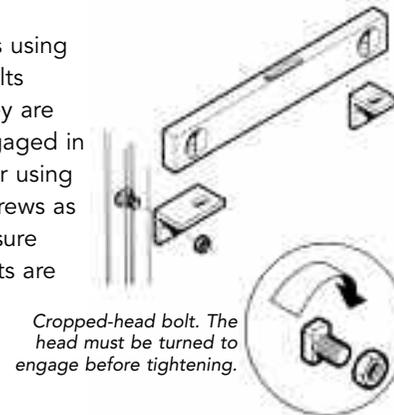
Greenhouse Fixing

Using the nut groove in aluminium glazing bars at approx. 2ft (60cm) centres. Use the appropriate cleat as indicated.



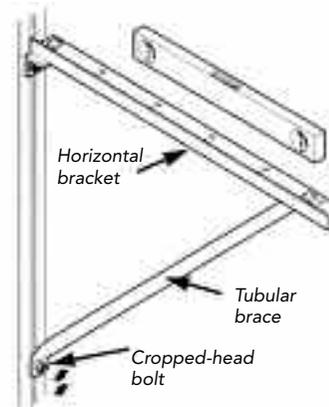
ONE

Fix the wall cleats using cropped-head bolts (ensuring that they are correctly fully engaged in the nut groove) or using wall plugs and screws as appropriate. Ensure adjacent brackets are level.



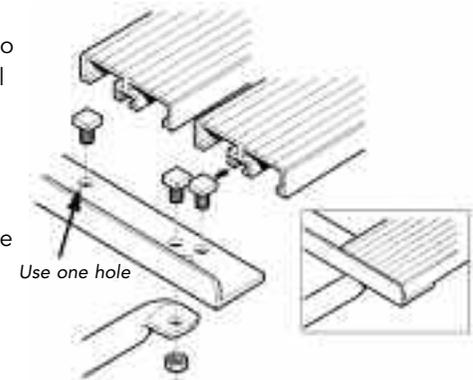
TWO

Fix the horizontal brackets ensuring the flanges close off the ends of the slats. Secure the top end of the tubular brace to the single hole near the end of the bracket. Position and fix the lower end of the brace so that the bracket is level.



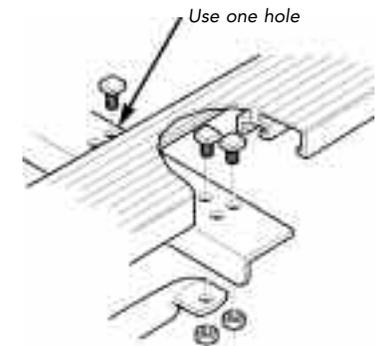
THREE

Secure slats to the horizontal brackets as shown. The bolt heads slot into the central groove in the underside of each slat. Feed in extra bolts, one for each end and one for the centre.



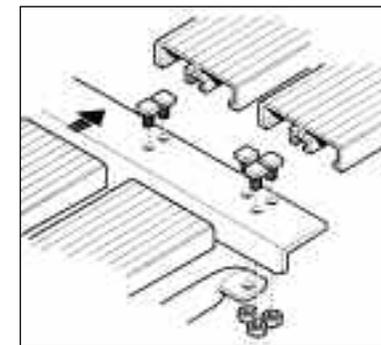
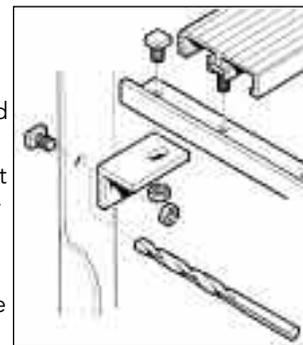
FOUR

The central horizontal bracket is mounted with flat top on to which the slats are fixed. The second of each pair of holes is only used for joining slats (see below). Once all the slats have been assembled, check for squareness and then securely tighten all nuts with a 10mm spanner or nut driver.



Fixing into greenhouse corners where there is no nut groove

The glass must be removed prior to drilling 7mm holes in the glazing bar to accept the offset cleat and tubular brace. This will provide clearance for typical greenhouse bracing. In rare cases it may be necessary to shorten the length of the slats using a hacksaw.

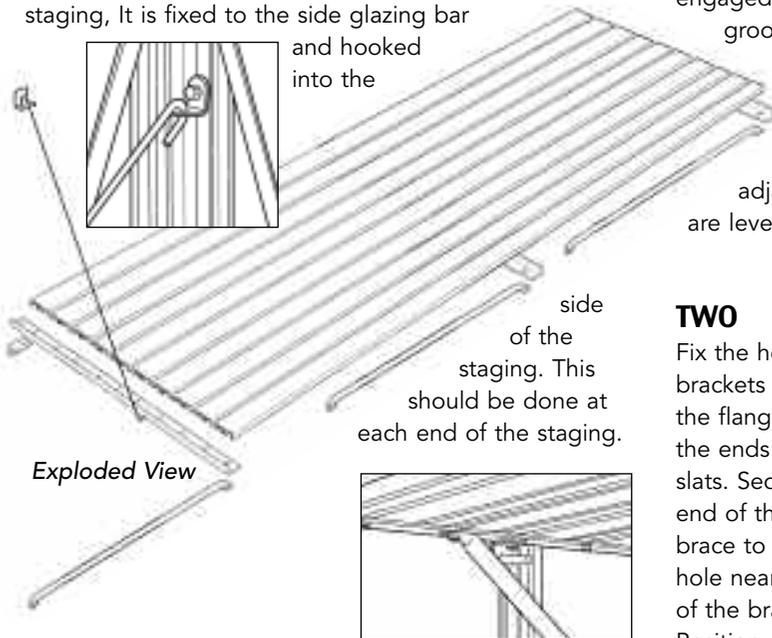


Joining two sections of staging

The offset cleat at the join has to be replaced with small intermediate cleat. The horizontal bracket is then turned over so that the flat top supports the end of the two sets of slats. Secure each slat with a bolt.

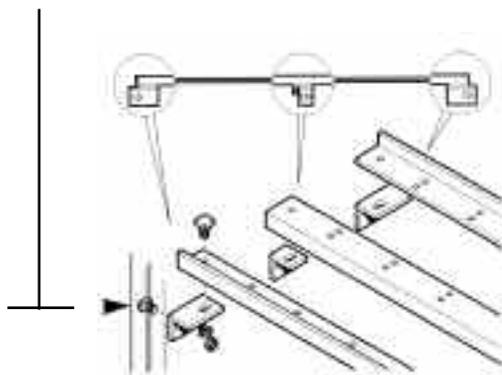
10-Slat - 37" · 94cm Deep Shelf

May be fixed to aluminium greenhouse glazing bars or direct to a wall. Extra support is supplied for this staging, It is fixed to the side glazing bar and hooked into the



Greenhouse Fixing

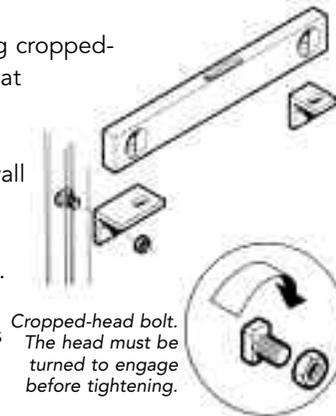
Using the nut groove in aluminium glazing bars at approx. 2ft (60cm) centres. Use the appropriate cleat as indicated.



ONE

Fix the wall cleats using cropped-head bolts (ensuring that they are correctly fully engaged in the nut groove) or using wall

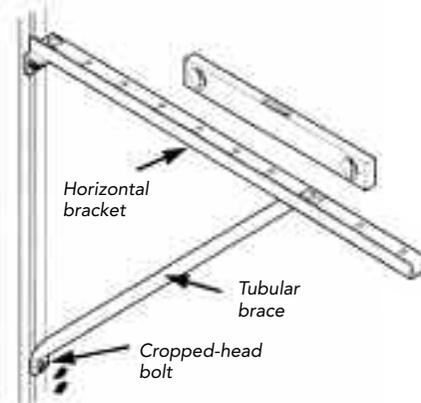
plugs and screws as appropriate. Ensure adjacent brackets are level.



Cropped-head bolt. The head must be turned to engage before tightening.

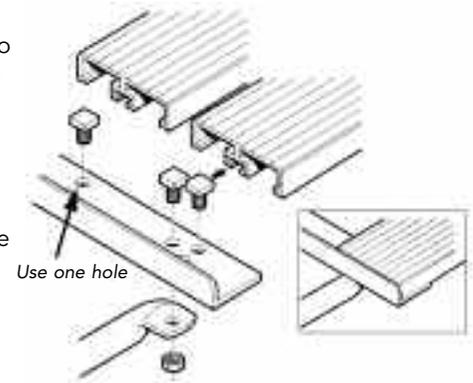
TWO

Fix the horizontal brackets ensuring the flanges close off the ends of the slats. Secure the top end of the tubular brace to the single hole near the end of the bracket. Position and fix the lower end of the brace so that the bracket is level.



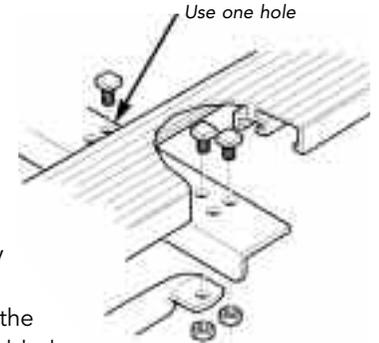
THREE

Secure slats to the horizontal brackets as shown. The bolt heads slot into the central groove in the underside of each slat. Feed in extra bolts, one for each end and one for the centre.



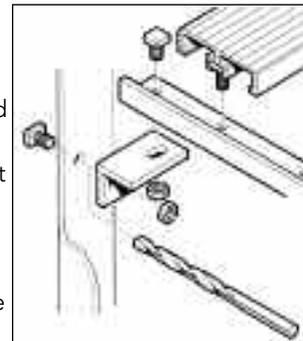
FOUR

The central horizontal bracket is mounted with flat top on to which the slats are fixed. The second of each pair of holes is only used for joining slats (see below). Once all the slats have been assembled, check for squareness and then securely tighten all nuts with a 10mm spanner or nut driver.



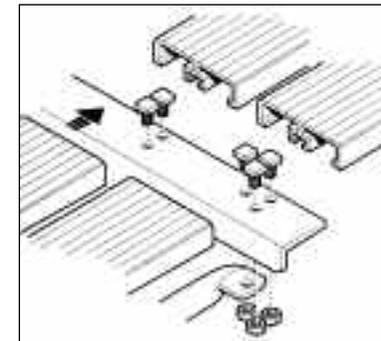
Fixing into greenhouse corners where there is no nut groove

The glass must be removed prior to drilling 7mm holes in the glazing bar to accept the offset cleat and tubular brace. This will provide clearance for typical greenhouse bracing. In rare cases it may be necessary to shorten the length of the slats using a hacksaw.



Joining two sections of staging

The offset cleat at the join has to be replaced with small intermediate cleat. The horizontal bracket is then turned over so that the flat top supports the end of



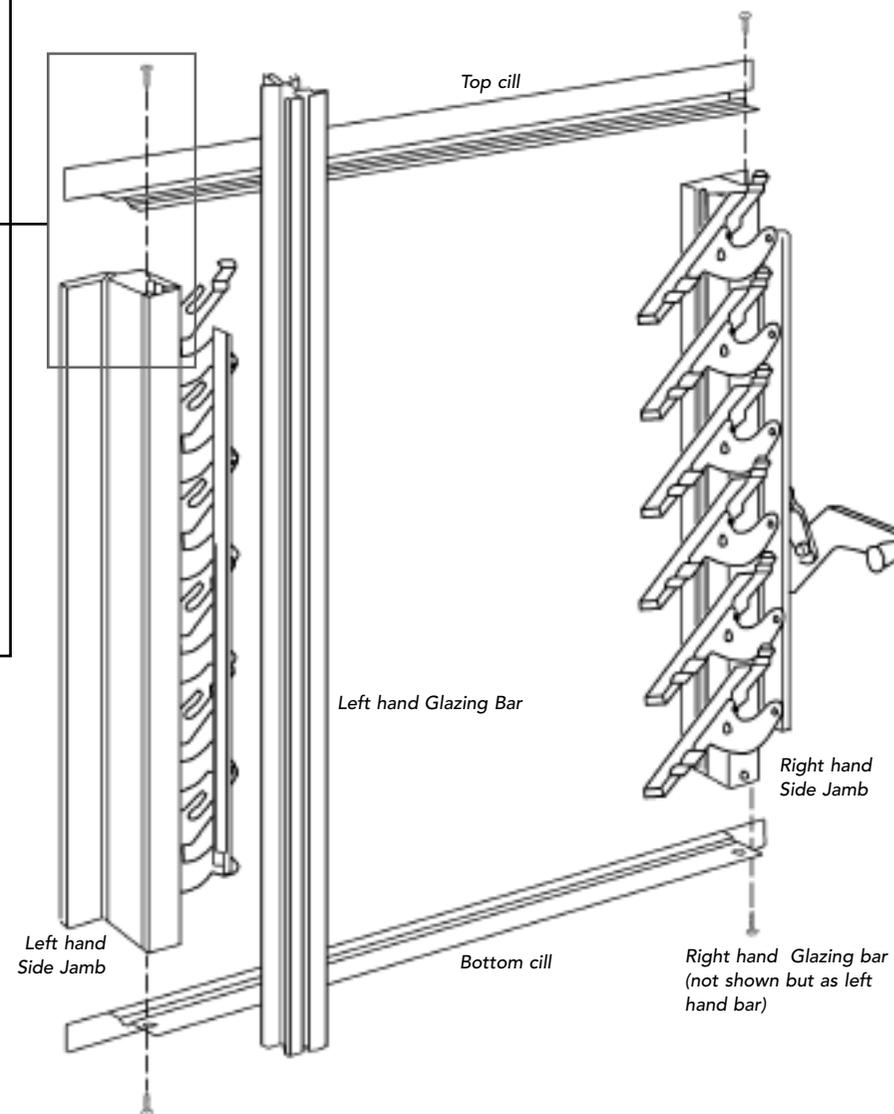
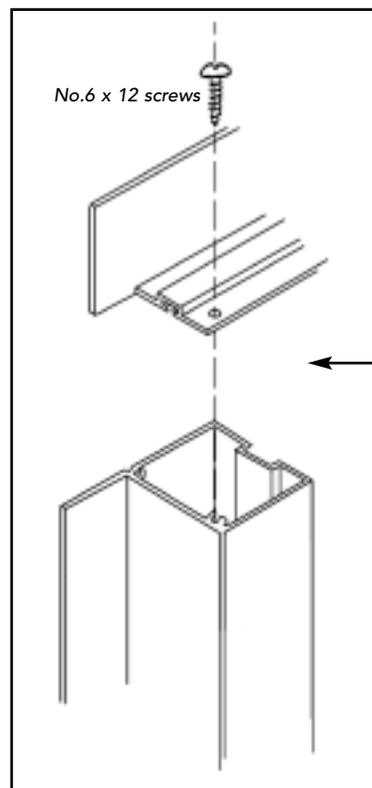
the two sets of slats. Secure each slat with a bolt.

Robinsons Louvre Installation Instructions

D361 Louvre Kit

INSTALLATION

- 1 Screw self-tapping screws through holes in the top and bottom cill members into the 'C' groove of the side jambs to form a complete frame.
- 2 From outside the greenhouse, fit the frame in place, fixing into position using the plastic bar caps and screws.
- 3 Open the louvre and slide glass blades into position from inside the greenhouse. To avoid excessive movement of glass, bend the retaining clips so that the louvre blade is firmly gripped.



CONTENTS OF KIT

Part No.	Description	No. Required
-	Instructions	one
D168	Louvre jamb set	one
D166	Louvre side member	two
D165	Louvre top/bottom (rubber fitted)	one (pair)
D362	Louvre smalls pack consisting of:	
	FS 6013 N0.6 x 12 self-tapping screws	four
D729 T/G	Louvre glass - 100 x 525mm (4mm thick)	six

LOUVRE INSTALLATION

Robinsons Right Angle Corner Plates

Right Angle Corner Plates

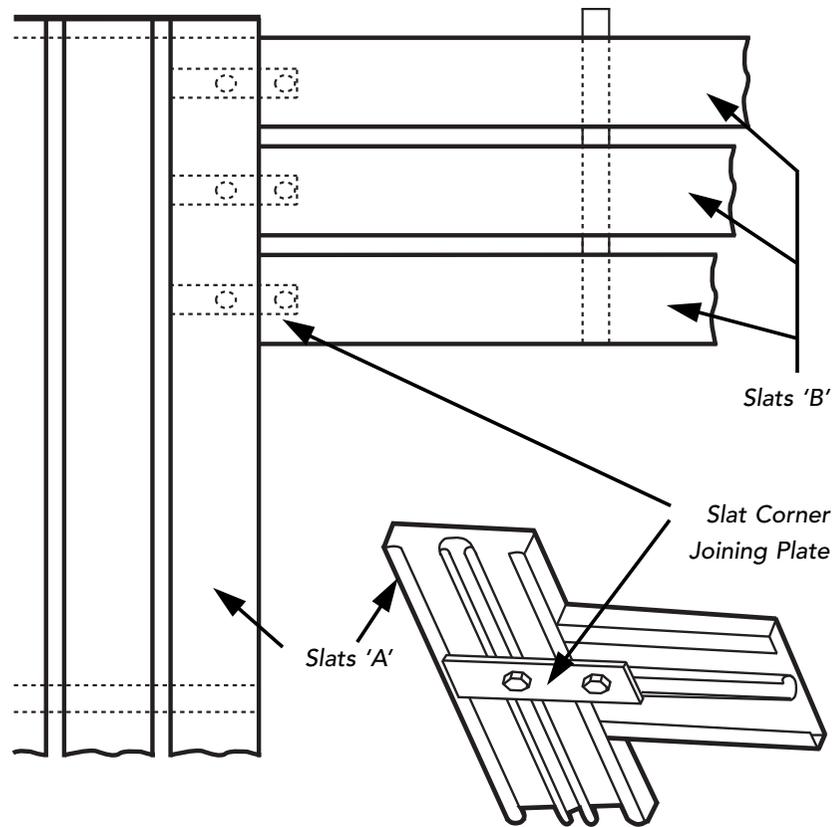
For Right Angle Joining of Slats slide square head bolts into Slat 'A' (one per slat to be joined).

Slide one square head bolt (per Slats 'B') and secure with Slat corner Joining Plate on underside.

Check space between Slats are correct and that Slats 'B' are hard up to Slat 'A' prior to tightening the bolts.

NOTE:

You may have to reduce the length of Slats 'B' to suit.



Underside View





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