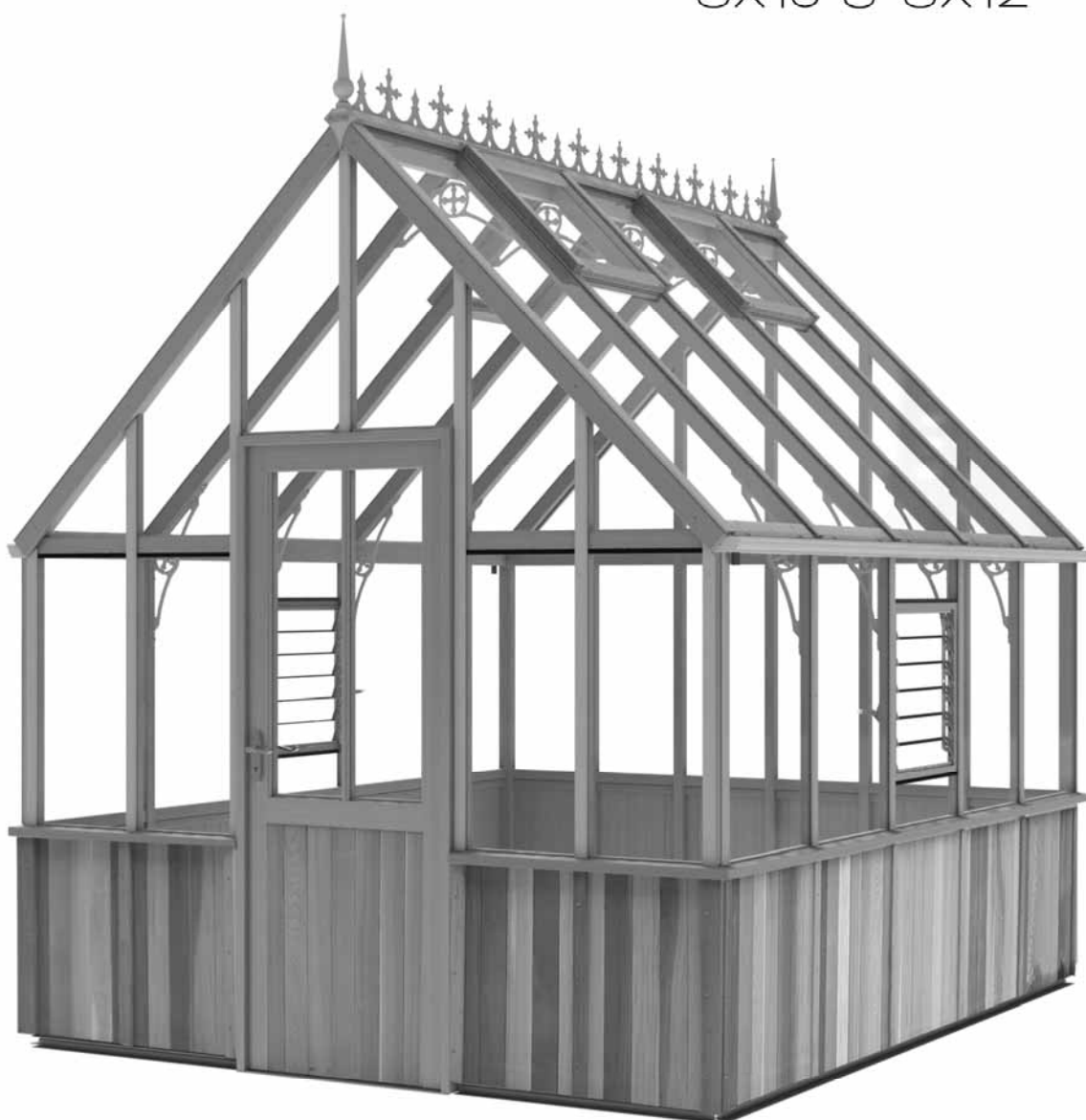




Half Board Instruction Manual

Includes Models: 8x6, 8x8,
8x10 & 8x12





8' Wide Victorian Cedar Greenhouse Assembly Instructions

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Introduction

Thank you for purchasing your new Alton greenhouse. We recommend you familiarise yourself with the instructions and read all safety information before you commence assembly. This instruction manual is also available online at www.greenhousepeople.co.uk in the technical help section should you need to reprint it. Should you require any additional advice you can always call us on 01782 385409.

Safety Warning

- Glass, aluminium and timber can potentially cause injury. Please ensure you wear protective goggles, gloves, headgear and suitable footwear when assembling and glazing the building.
- Please remember that glass is fragile and should be handled with extreme care. Always clear up and dispose of any breakages immediately.
- Do not assemble the greenhouse in high winds.
- For safety reasons and ease of assembly, we recommend that this greenhouse is assembled by a minimum of two people.
- Please clear all lying snow from the greenhouse roof as it can cause the roof to buckle or collapse.

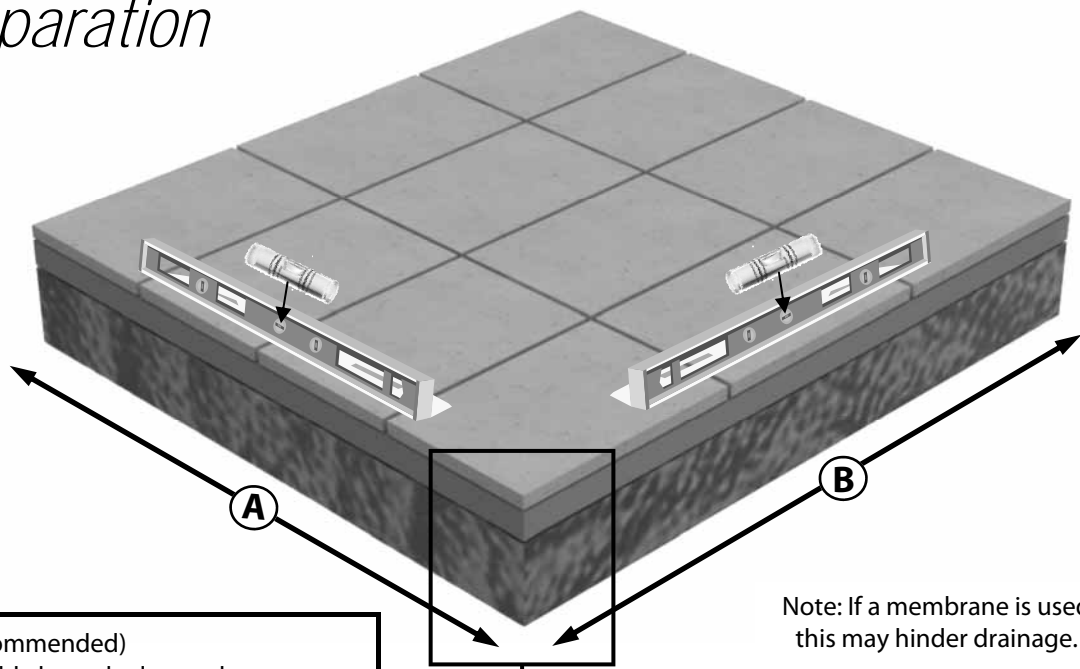
Site Preparation

- When selecting a site for your greenhouse, it is vital that you choose as flat and level an area as possible.
- A concrete or slabbed base will provide the most solid foundation for your greenhouse. A slabbed base would be our preferred choice as this helps with drainage.
- Avoid placing your greenhouse under trees or in other vulnerable locations.
- To minimise the risk of wind damage, try to select as sheltered a site as possible, e.g. beside a hedgerow or garden fence.

Additional Considerations

- Please bear in mind that assembling your greenhouse can be time consuming. You may need to spread the construction over two or more days. We recommend that you avoid leaving the building partially glazed. If you ever have to leave your greenhouse half assembled and not anchored down, weigh it down with slabs or bags of sand to stop the wind moving it.
- You will find it helpful to prepare a large, clean and clear area in which to work in. A garage floor or flat lawn area is ideal.
- If you have arranged for someone to install your greenhouse for you, please check that all components are included. Most parts are numbered and can be identified by a stamp or removable label. Alternatively, the components can be identified by lengths detailed in the packing list in your main cardboard box.
- Remember this is a natural timber product, the wood may soak up some water and some staining may occur. Your Evolution greenhouse is factory dipped in a clear spirit based preservative. We recommend that you re-apply some clear treatment annually particularly on the most exposed areas. If you want to avoid this and give your greenhouse a more permanent finish you could apply an oil based product (refer to manufacturers recommendations for recoating).

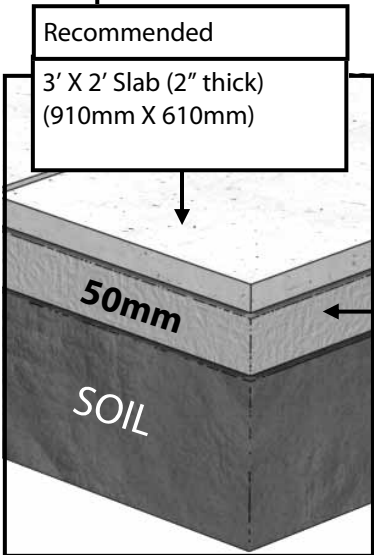
Base Preparation



Note: If a membrane is used this may hinder drainage.

Slab Base Size (Recommended)			
Note: The base should always be larger than your building.			
The measurements given in 'A' and 'B' should only be used as a guide.			
Greenhouse Width	Greenhouse Length	A (mm)	B (mm)
8 ft - 2650mm	6 ft - 1956mm	3600	2700
8 ft - 2650mm	8 ft - 2586mm		3600
8 ft - 2650mm	10 ft - 3216mm		3600
8 ft - 2650mm	12 ft - 3846mm		4500

It is necessary to leave sufficient working room around your greenhouse when you're putting it up and also to allow for the possible need to replace a piece of glass in the future. If possible try and leave a space of 2ft/610mm around the greenhouse.



Note that the door opens inwards so you should not have any higher ground or obstacles inside the front of the greenhouse.

Locate the greenhouse where there is maximum amount of sunlight and avoid if possible any shade from trees, fences or other buildings. Over-hanging branches can be a particular nuisance and should be avoided.

Choose a site where the greenhouse is relatively easy to get to and convenient to bring water to and possibly a supply of electricity.









Finally, and most importantly, choose a site where your Alton Greenhouse will look right so that it will complement your garden.

Overview

To build your new greenhouse you will need the following tools:

Spirit Level	Pencil
PZ2 Screwdriver Bit	Cordless Screwdriver (2 would be ideal, 1 to drill and 1 to screw)
4mm Drill Bit	7mm Masonry Bit
Hammer Drill	Hammer
Wooden/Rubber Mallet	Tall step ladders x 2

There are 8 different types of screws used in the construction of the greenhouse. These are as follows, with examples of where to look out for them:

Fixes the vent hinge to the ridge cover cap		Used on roof vents	Fixes all capping and	Secures Timber Cladding	Fixes glazing bars to ridge and cills	Secures corner joints and the roof glazing bars to the ridge	Fixes the roof glazing bars to the eaves and side glazing bars in one go
EV0329	EV0328	EV0330	EV0331	EV0332	EV0333	EV0334	EV0339
13mm Self Tapping	19mm Pan Head (Stainless Steel)	25mm Countersunk (Stainless Steel)	25mm Pan Head (Stainless Steel)	40mm Pan Head (Stainless Steel)	50mm Countersunk (Stainless Steel)	80mm Countersunk (Stainless Steel)	100mm Countersunk (Stainless Steel)
							

This manual uses a 8 ft x 10 ft greenhouse as an example throughout. Look out for tables and extra diagrams showing the varying sizes. You can use the image on the front cover as a reference as to what the greenhouse should look like as you go along.

If you are going to treat the greenhouse yourself then it would be best to do it before you begin building the frame.

Set out your metal base on your prepared site, but don't fix this down until the greenhouse is complete. Follow the manual and build the sections as recommended.

When screwing through one piece of timber into another it is always recommended to predrill the first piece. This will prevent the timber from splitting which could weaken the structure.

You can build the sides and gables flat on the ground and then with help or using a prop position the first one ready for installation. You then work your way around the greenhouse connecting each section. Once you have completed the gables and sides you can install the ridge and the roof.

Overview

Glazing the structure is very simple but be very careful of the edges of the glass as the pane will break into tiny peaces if you catch an edge on a hard surface such as concrete. You should also wear suitable gloves and goggles when handling the glass (this also helps to keep it clean). It is good practice to pre-load the cedar bar capping with screws and position this around the greenhouse ready for you when you arrive with the glass.

During glazing you will also need to fit the louvre vents so make sure you have these built and ready to slot in. These fit between 2 pieces of glass and are held in place by the capping system.

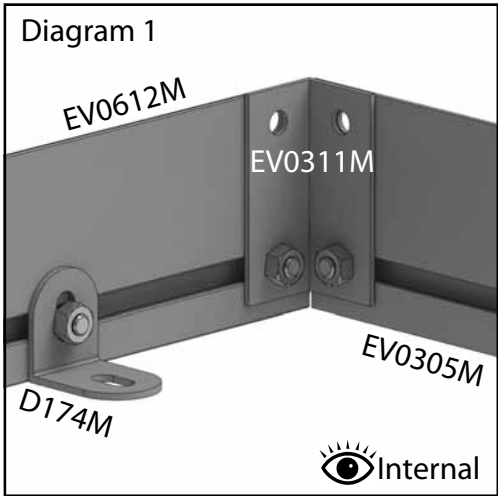
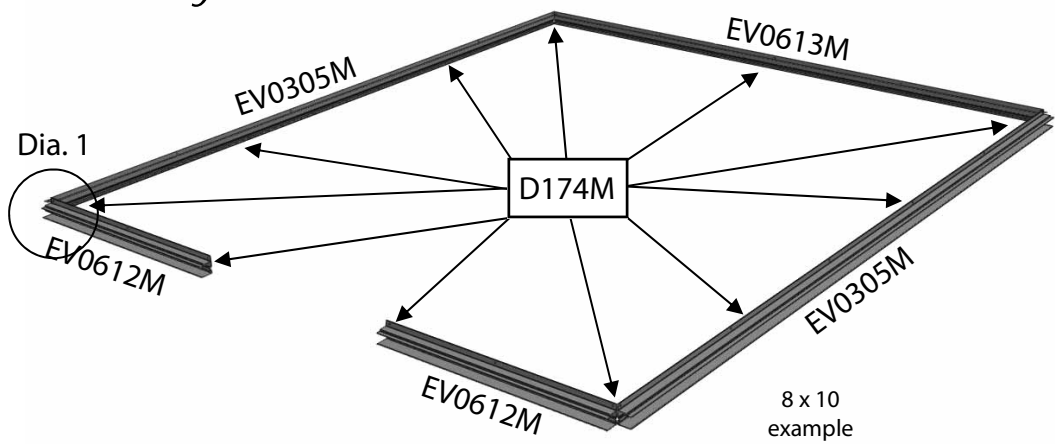
Then fit the roof vents. This is done from the inside, gain access through the opening on a set of steps.

All you have left to do now is fit the gutter and downpipes, think about where you might site a water butt when doing this.

Option of gluing joints. This is not required for strength but you may do it if you wish. However bare in mind if you ever intend to move or adapt the greenhouse in the future this would make it very difficult. The best glue for this would be Poly Urethane Wood Adhesive. Take care when applying this, you only need a very small amount as the glue expands to fill the joint. If you use too much it may seep out of the joint and could be unsightly! Try a test piece before you start.

Read through the rest of this manual before starting, you are less likely to miss something doing this and you will have a better understanding of how it all works.

Base Assembly



Lay out your aluminium base sections as the diagram shows. Use the crop head bolts in the bolt channels for attaching the base brackets (D174M), diagram 1. The base brackets should always be positioned either side of the door, in the corners, in the middle of the rear and equally spaced down the sides. Use the joining bracket in each corner with a standard bolt to join the sections (diagram 1). The top holes will take a 25mm screw when the side cills are fixed to it. Look for the length of building you have in the table below to check what you should be using.

NB. For Extensions refer to separate manual.

6ft long			
Part Name	Part Number	Size (mm)	Qty
Front	EV0612M	653	2
Side	EV0303M	1846	2
Rear	EV0613M	2519	1
Joining Bracket	EV0311M	-	4
Base Bracket	D174M	-	9

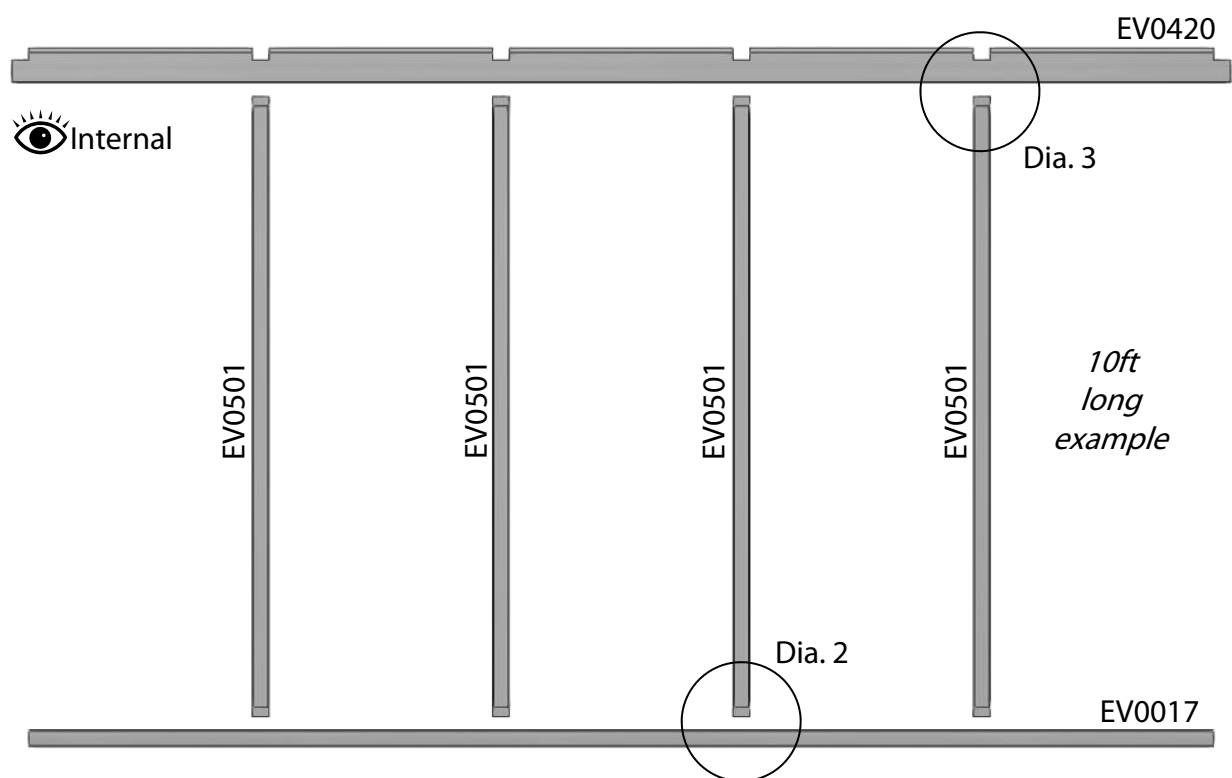
8ft long			
Part Name	Part Number	Size (mm)	Qty
Front	EV0612M	653	2
Side	EV0304M	2476	2
Rear	EV0613M	2519	1
Joining Bracket	EV0311M	-	4
Base Bracket	D174M	-	9

10ft long example			
Part Name	Part Number	Size (mm)	Qty
Front	EV0612M	653	2
Side	EV0305M	3106	2
Rear	EV0613M	2519	1
Joining Bracket	EV0311M	-	4
Base Bracket	D174M	-	11

12ft long			
Part Name	Part Number	Size (mm)	Qty
Front	EV0612M	653	2
Side	EV0306M	3736	2
Rear	EV0613M	2519	1
Joining Bracket	EV0311M	-	4
Base Bracket	D174M	-	11

Side Assembly

To start building your greenhouse begin by laying out the components for your sides flat on the ground like the diagram below. Use the tables below to identify your building length and the components with the part numbers and sizes. First of all drill pilot holes through the bottom of each mortise on the cill section (diagram 3, page 9). Then slot each glazing bar into the mortise holes. These are designed as a tight fit so you may need help with this or maybe use a solid object to push against. Once firmly in position fix with the 50mm screw. Now slot the eaves rail into position (e.g. EV0420). There is no need to fix this yet as it is done at a later stage.

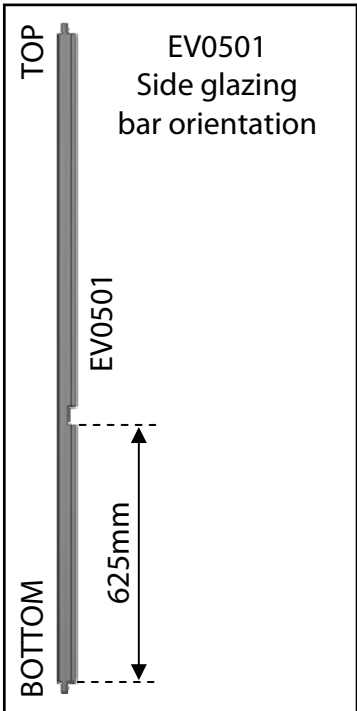


6ft long			
Part Name	Part Number	Size (mm)	Qty
Cill	EV0015	1846	2
Eaves Bar	EV0418	1934	2
Glazing Bar	EV0501	1588	4

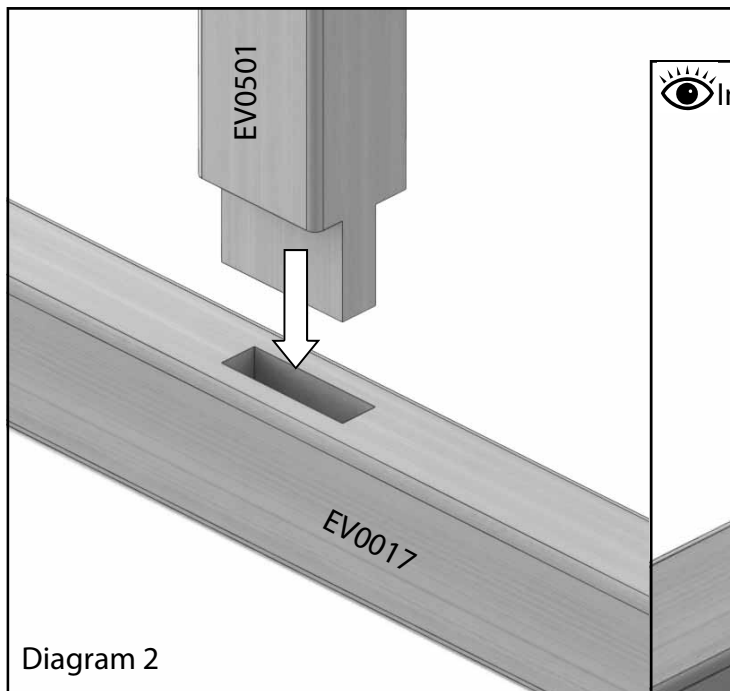
8ft long			
Part Name	Part Number	Size (mm)	Qty
Cill	EV0016	2476	2
Eaves Bar	EV0419	2564	2
Glazing Bar	EV0501	1588	6

10ft long example			
Part Name	Part Number	Size (mm)	Qty
Cill	EV0017	3106	2
Eaves Bar	EV0420	3194	2
Glazing Bar	EV0501	1588	8

12ft long			
Part Name	Part Number	Size (mm)	Qty
Cill	EV0018	3736	2
Eaves Bar	EV0421	3824	2
Glazing Bar	EV0501	1588	10

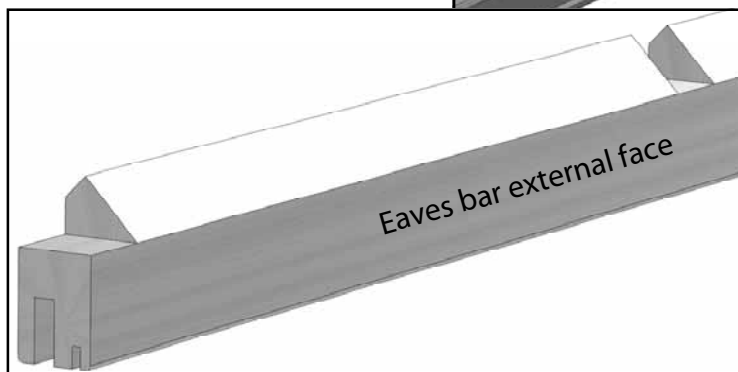
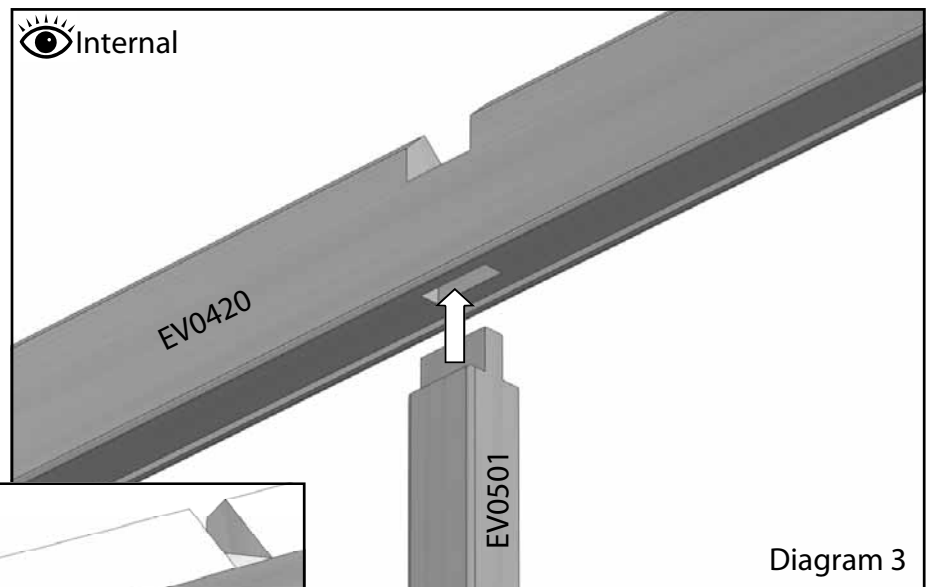
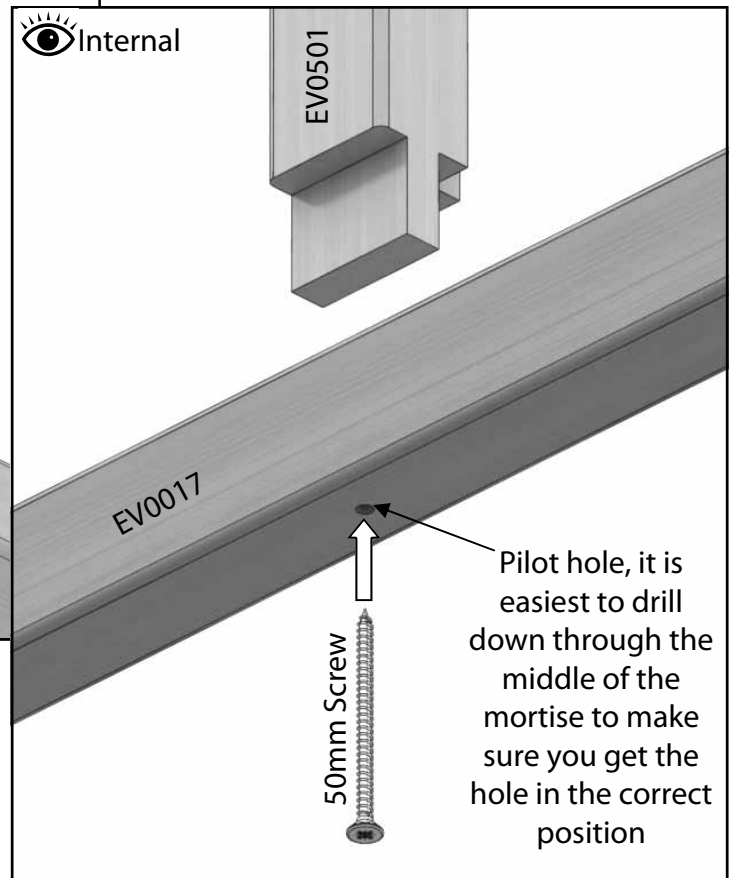


Side Assembly



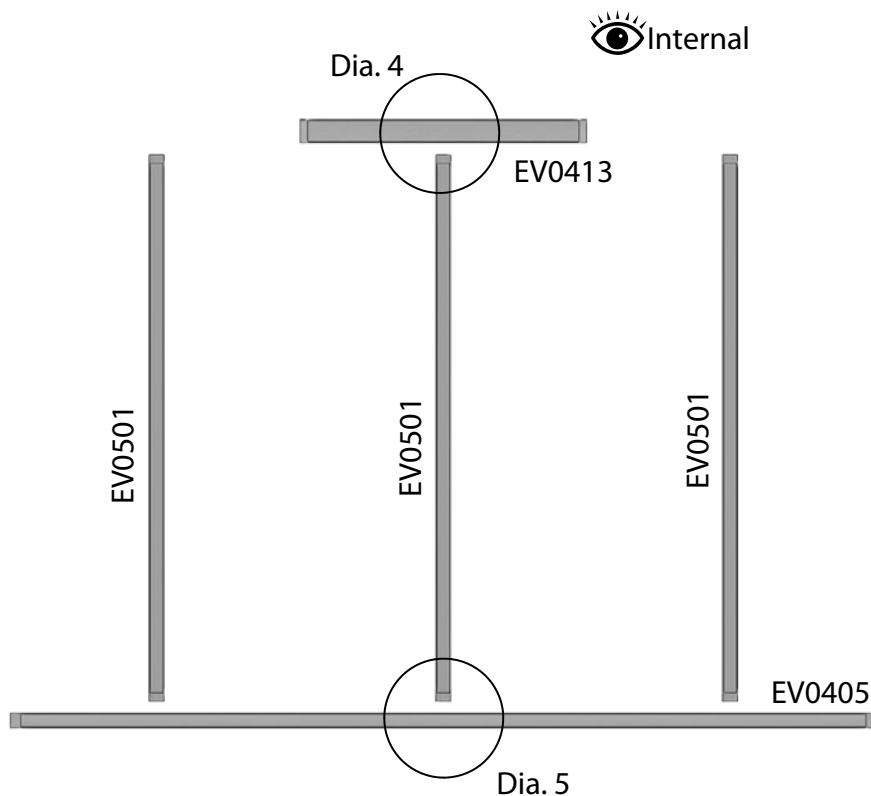
Make sure the side bars are pushed all the way in, you may find they need a light tap with a wooden mallet or something similar.

(If you are going to glue your joints this is the first point you would do this.)



Rear Assembly

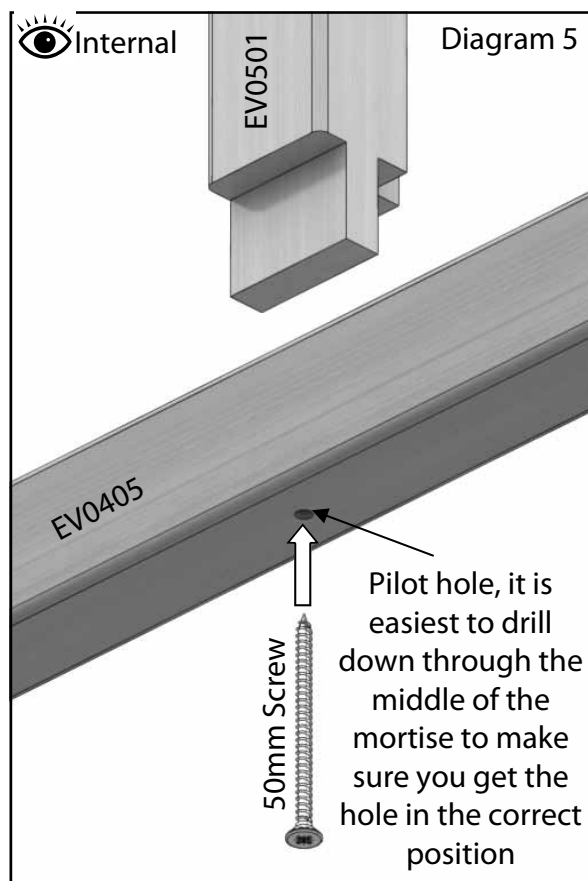
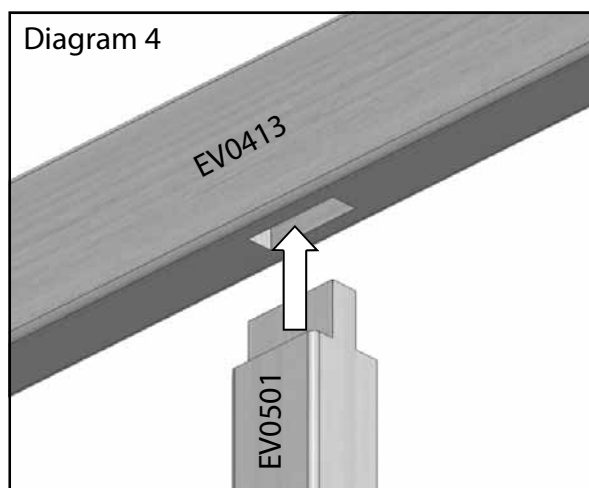
8ft Rear			
Part Name	Part Number	Size (mm)	Qty
Rear Cill	EV0405	2569	1
Roof Corner R	EV0482	1854	1
Roof Corner L	EV0483	1854	1
Side Corner R	EV0056	1650	1
Side Corner L	EV0057	1650	1
Gable Purling R	EV0409	854	1
Gable Purling L	EV0415	854	1
Rear Mid Purling	EV0413	851	1
Standard Bar	EV0501	1624	3
Above Purling R	EV0466	519	1
Above Purling L	EV0465	519	1
Gable Bar R	EV0455	2582	1
Gable Bar L	EV0456	2582	1
Mid Gable Bar	EV0461	1275	1



As with the side cills you will need to drill pilot holes in the bottom of the mortise holes (diagram 5).

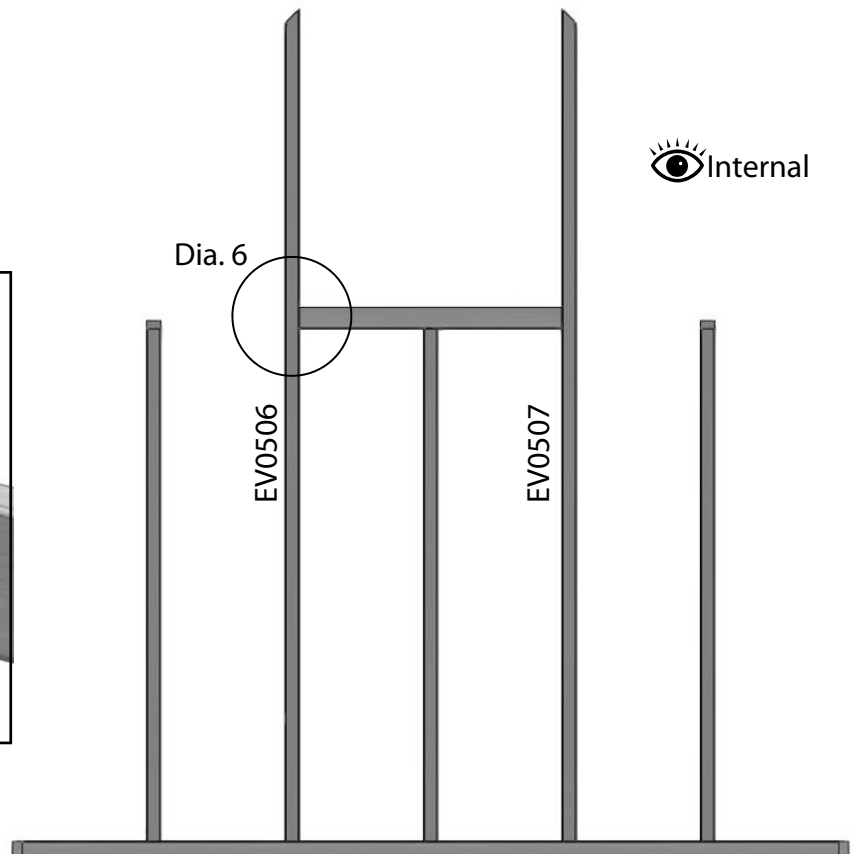
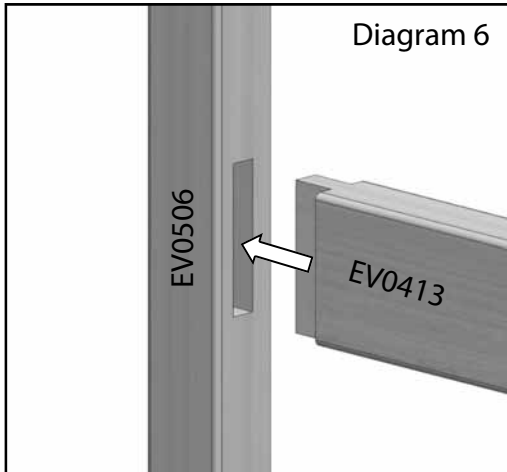
Assemble the gable glazing bars (EV0501) with the rear cill flat on the ground as you did with the side sections. These locate in the two outer mortise holes and the middle mortise hole.

Now slot the middle rear purling (EV0413) onto the central glazing bar, this will be fixed shortly.



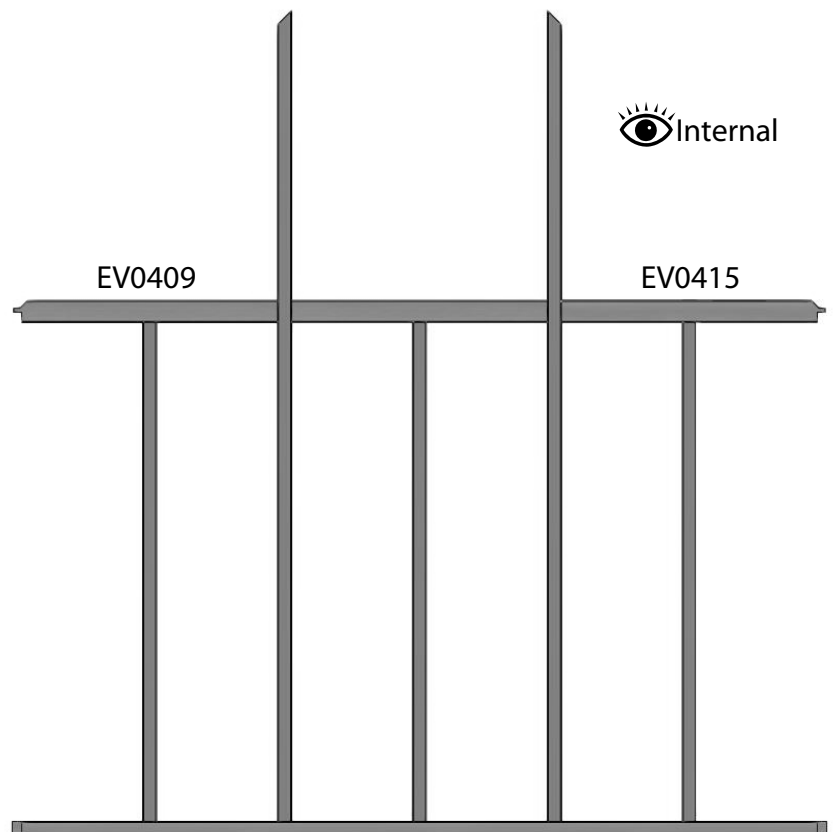
Rear Assembly

Now slot the 2 longer gable bars into the cill. These also need to locate with the middle rear purling (diagram 6).



Next fit both left and right purlings to the standard glazing bars (EV0501). These are handed parts and it is important to fit them the correct way round. The purlings will have rounded edges on one side and square cut edges on the other, the rounded edges should be on the inside of the building fitting flush with the other components. The square cut edges should be outward facing and will be set in slightly from the rebate that takes the glass.

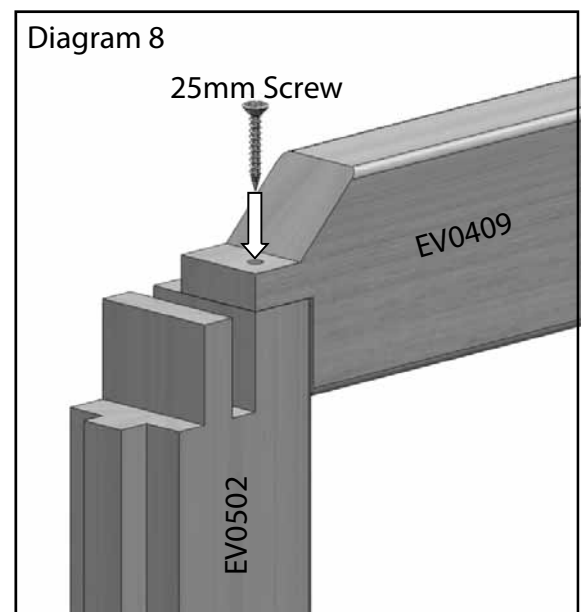
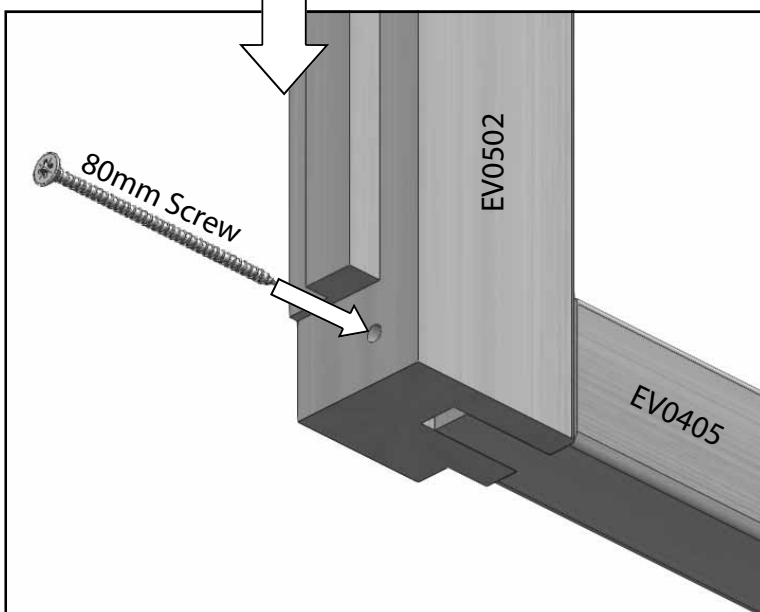
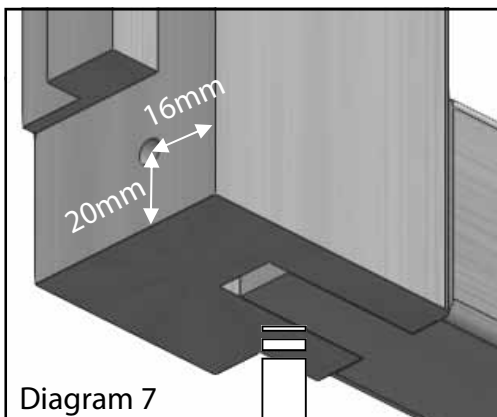
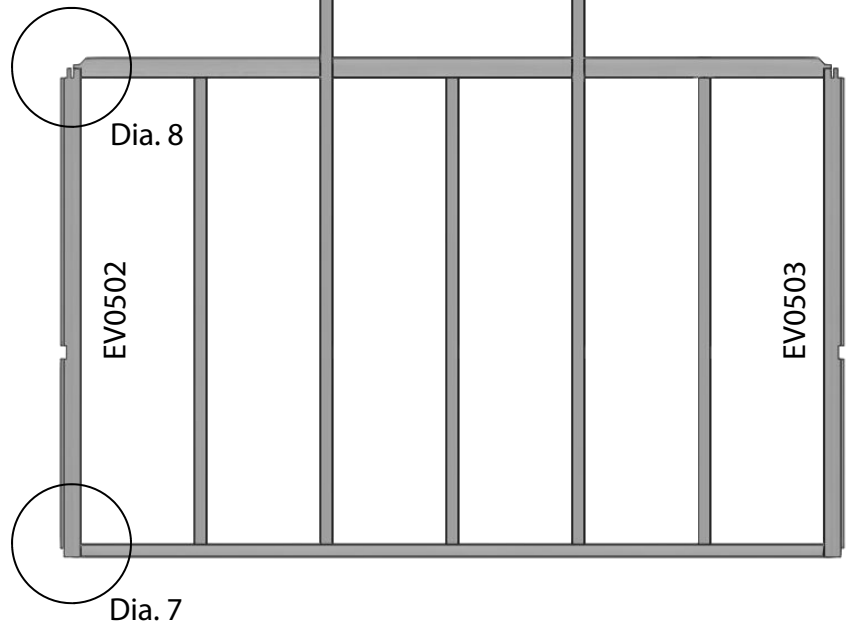
These simply slot in place for now.



Rear Assembly

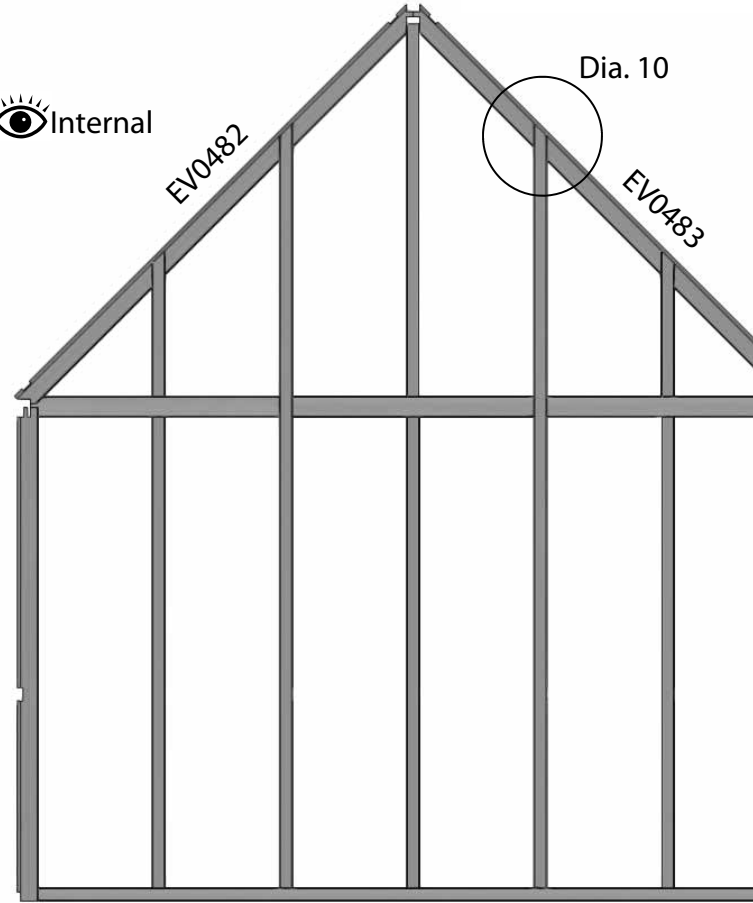
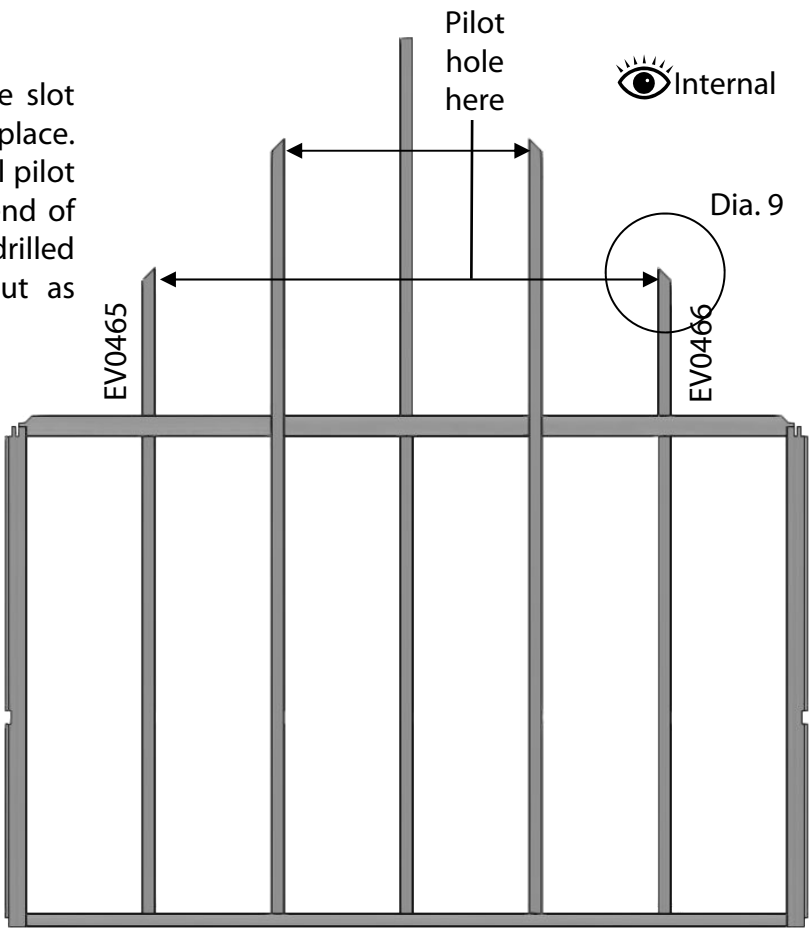
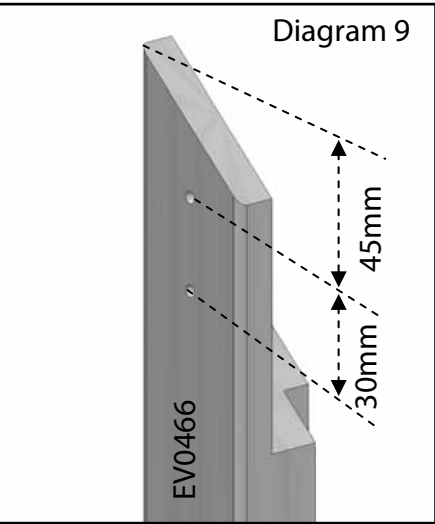
You will need to drill a pilot hole in the bottom of each side corner bar as shown in diagram 7. This should come through half way up the mortise slot. Now slot the side corner bar into place, fix the bottom of the bar with an 80mm screw.

With the top of the bar lined up with the end of the purling (keeping the inside edges flush) drill a pilot hole close to the inside face of the tenon on the purling (diagram 8), then fix with a 25mm countersunk screw. This is only a transit screw so just make sure the joint is nice and tight, a larger fixing will be added later.

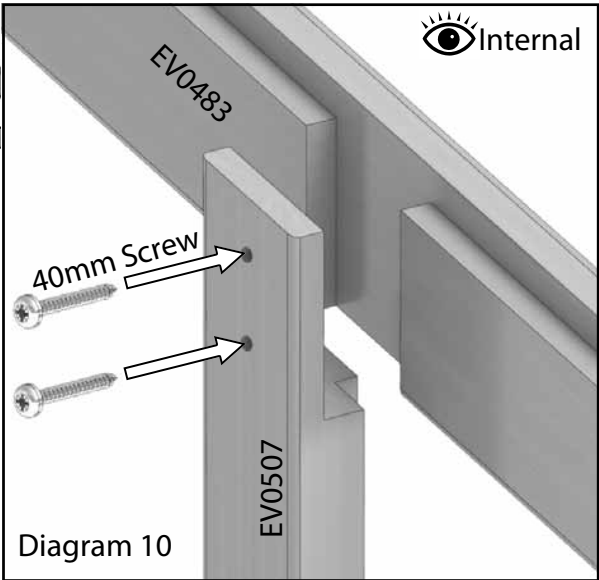


Rear Assembly

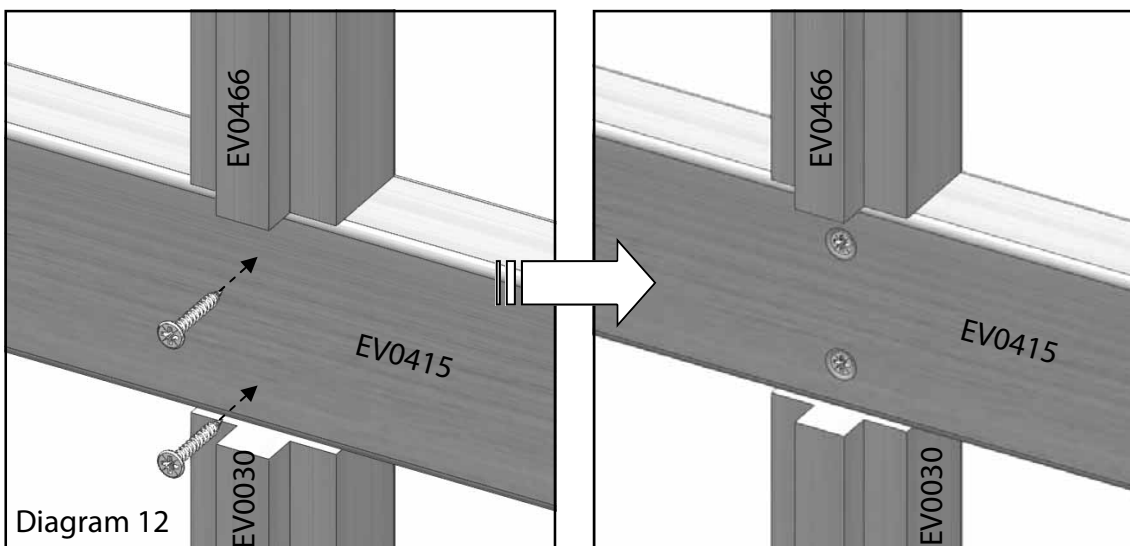
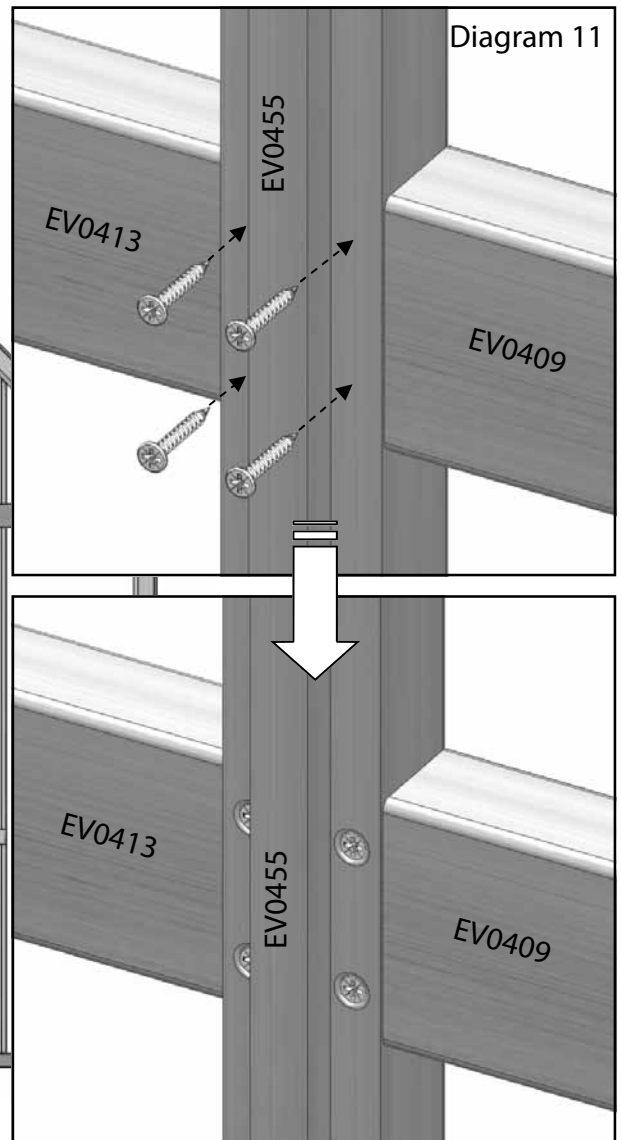
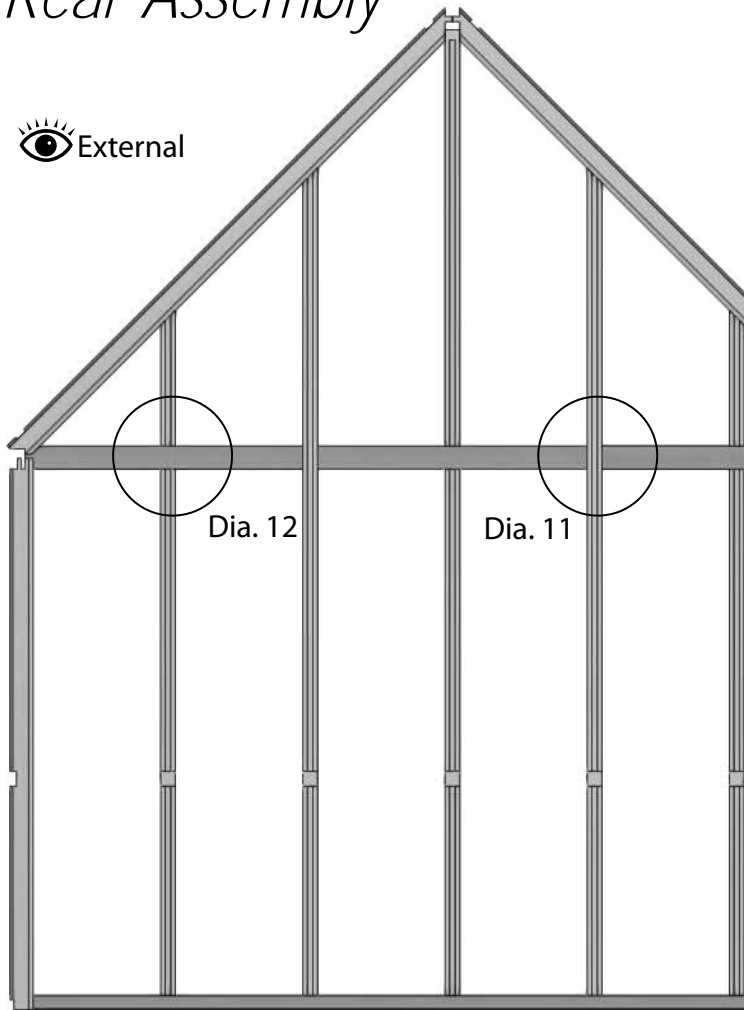
Once the side corner bars are secure slot the above purling glazing bars into place. With all of the gable bars in place drill pilot holes through the lap joints at the end of each bar. The holes should be drilled centrally to the bar and spaced out as shown in diagram 9.



Now slot the two roof corner bars into place, these should be secured with 40mm screws, diagram 10.



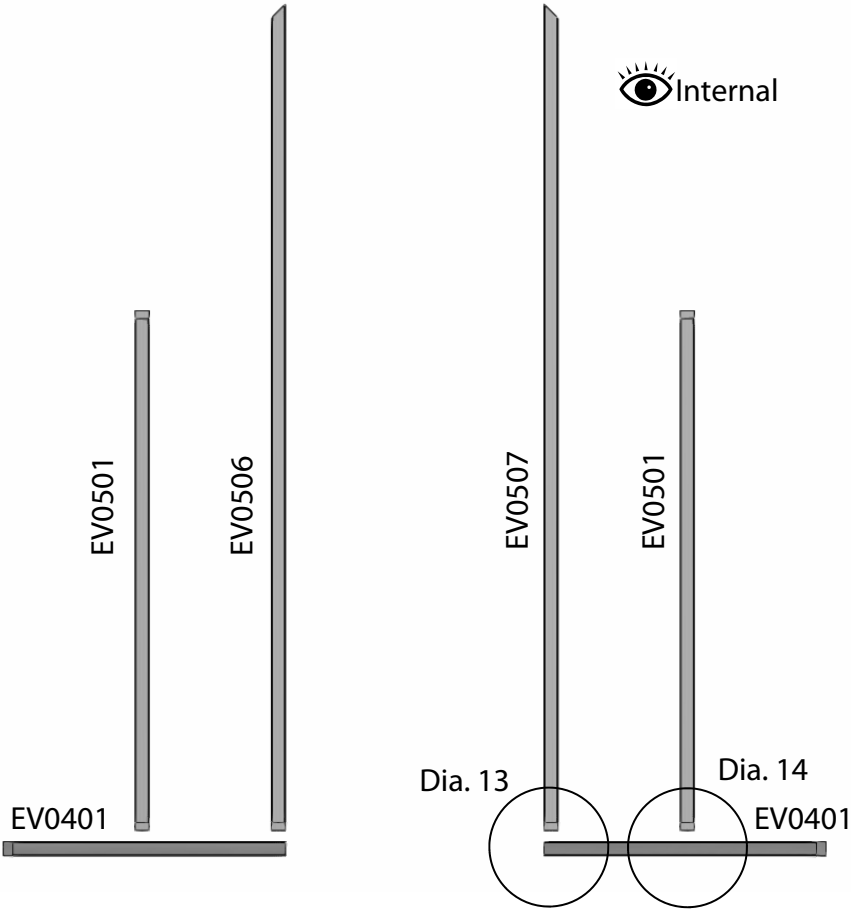
Rear Assembly



With all the components now in place flip the gable end over so you now have the outside edge facing you. Be careful doing this as some of the parts are not completely supported, it is a good idea to have a helper at this point. Now using 25mm countersunk screws fix the purlins to the glazing bars as shown in diagram 11 and 12. Make sure the head of the screws are below the level of the timber so that they don't have any contact with the glass.

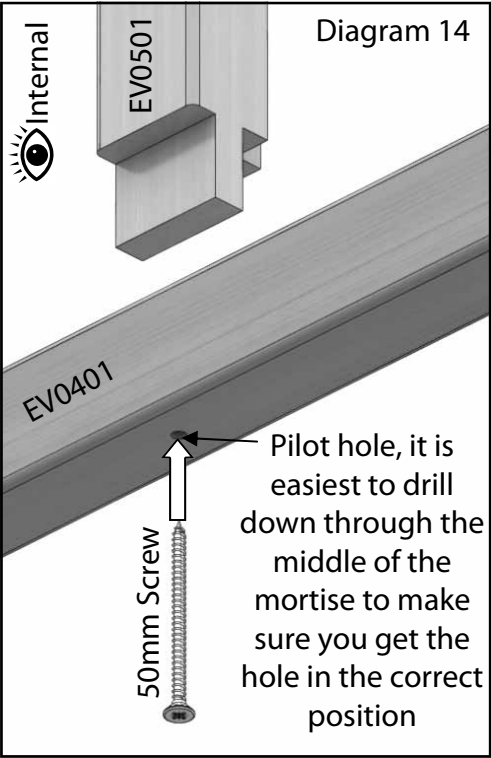
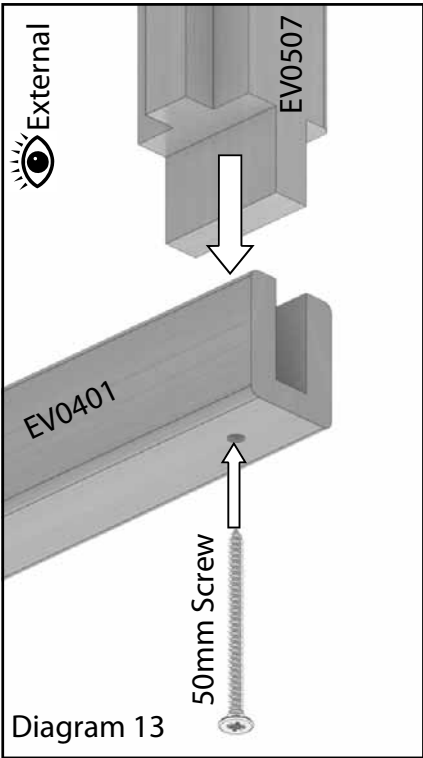
Front Assembly

8ft Front			
Part Name	Part Number	Size (mm)	Qty
Front Cill	EV0401	881	2
Roof Corner R	EV0482	1854	1
Roof Corner L	EV0483	1854	1
Side Corner R	EV0502	1650	1
Side Corner L	EV0503	1650	1
Gable Purling R	EV0409	854	1
Gable Purling L	EV0415	854	1
Standard Bar	EV0501	1624	2
Above Purling R	EV0466	519	1
Above Purling L	EV0465	519	1
Gable Bar R	EV0506	2582	1
Gable Bar L	EV0507	2582	1
Above door	EV0472	935	1

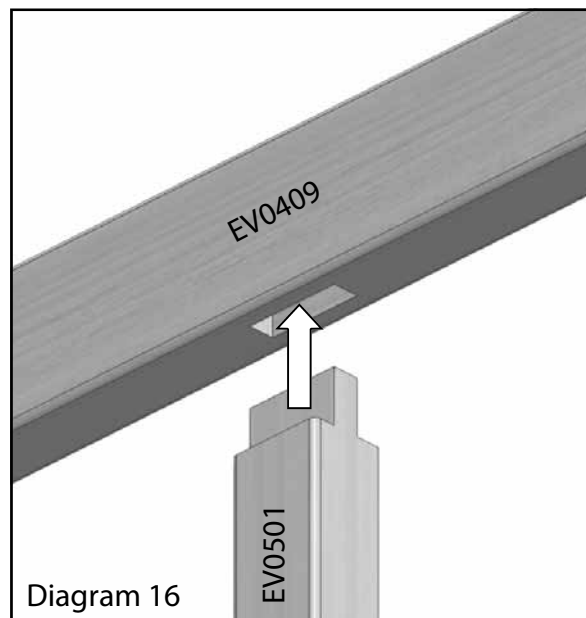
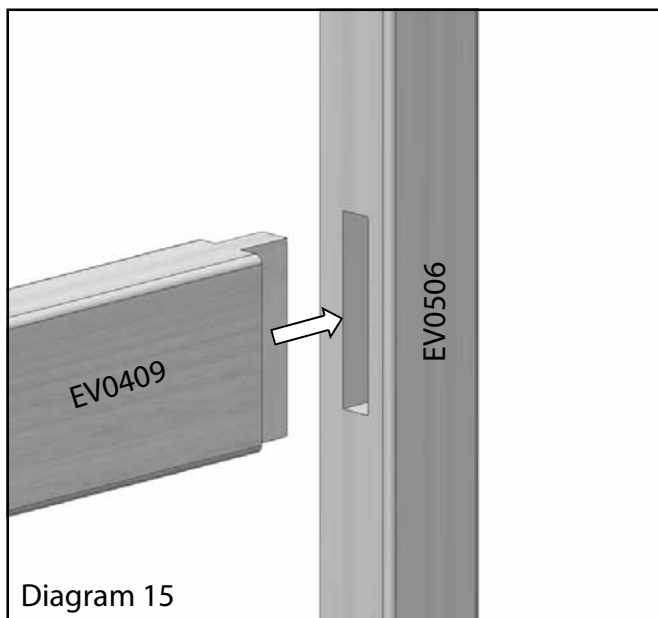
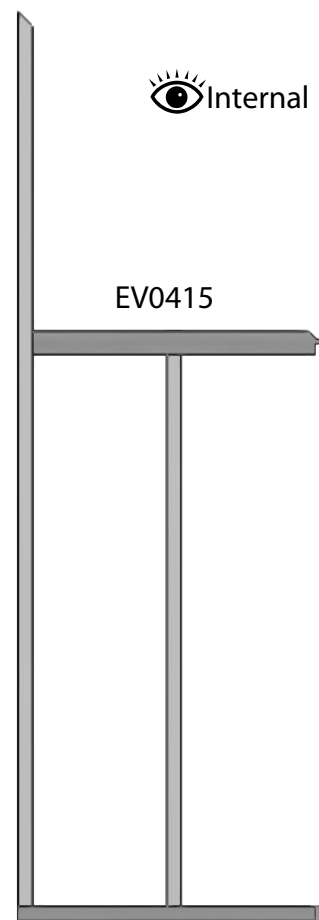
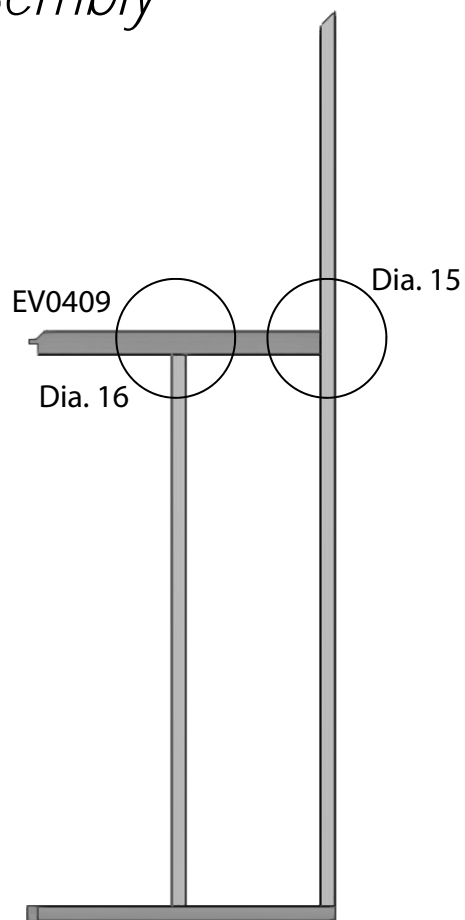


The front gable is made slightly differently to the rear as it is in two halves. It is a good idea to build these side by side to make sure you are fitting the parts in the correct orientation.

As before start by fixing the gable bars to the cills shown in diagrams 13 and 14.



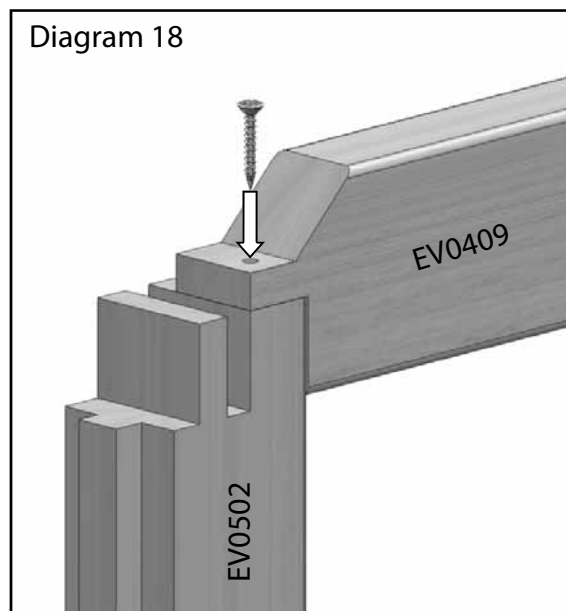
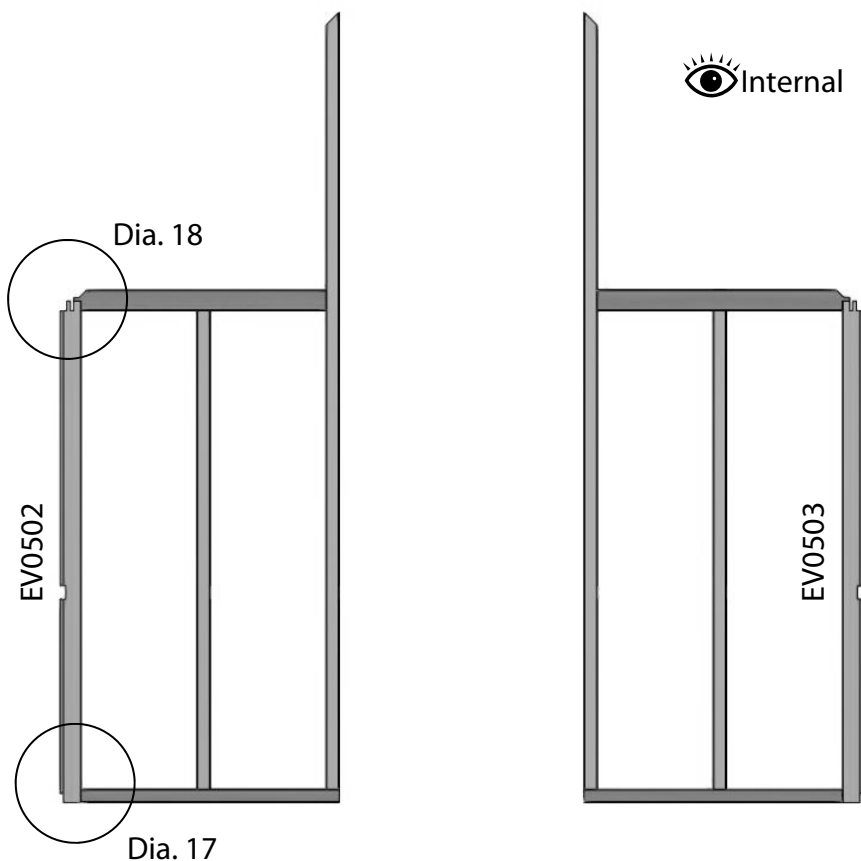
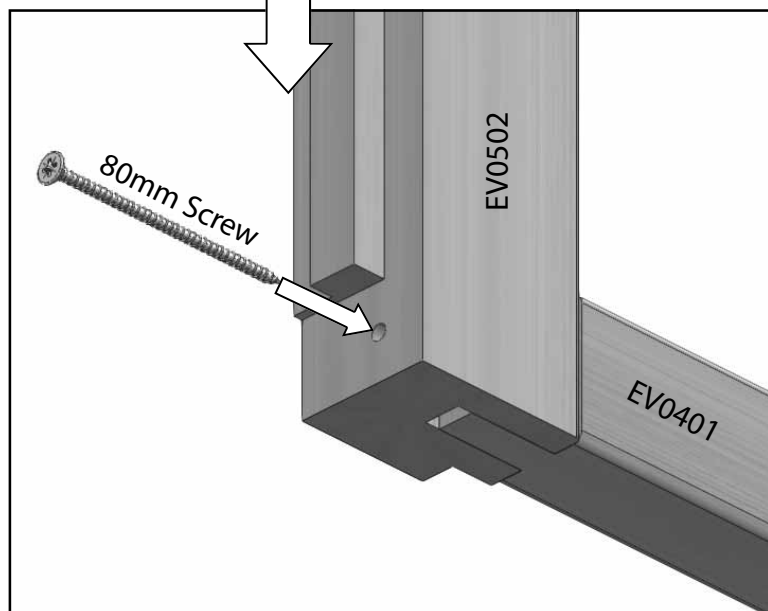
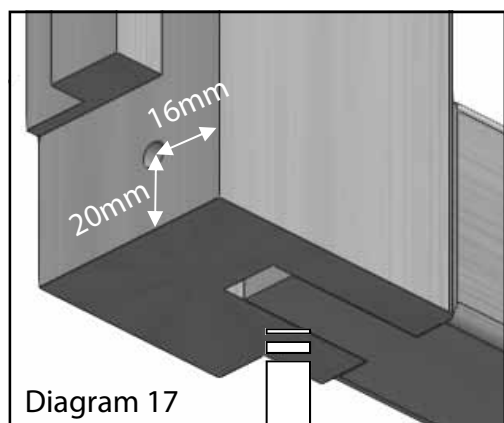
Front Assembly



Now slot the purling bars into place, again as with the rear assembly these will be fixed later.

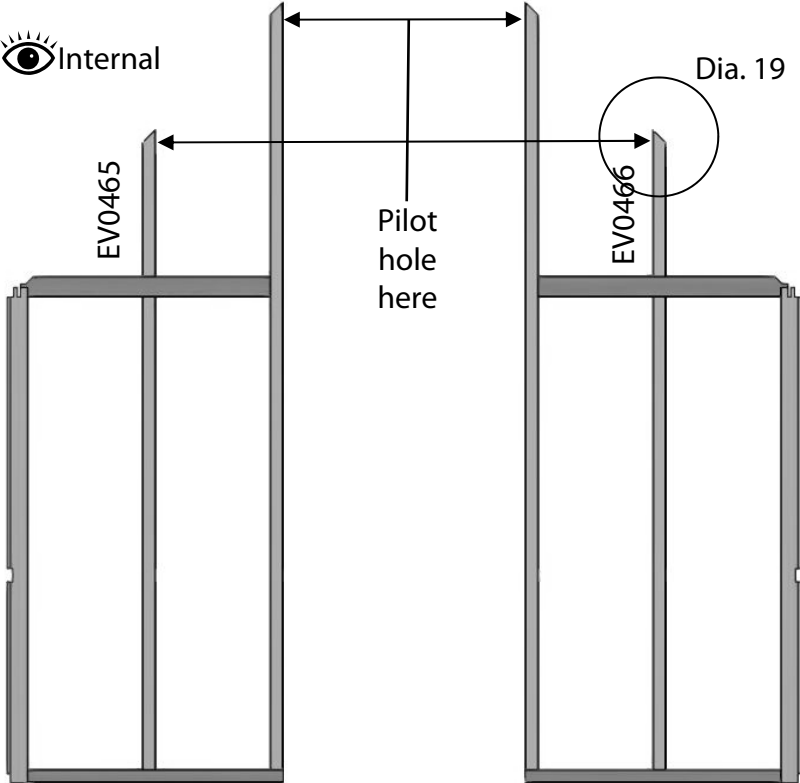
Front Assembly

Drill the pilot holes again as diagram 17 shows. Fix the cill to the corner bar with an 80mm screw.

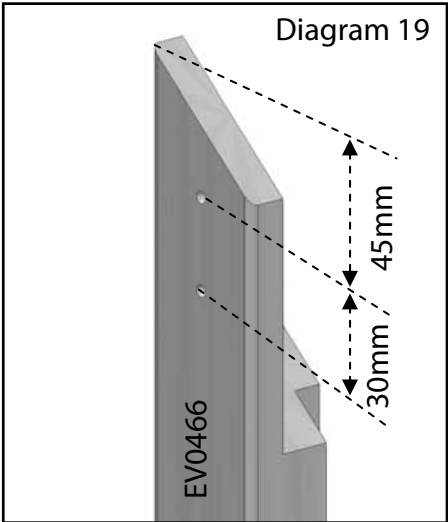


As before (keeping the inside edges flush) drill a pilot hole close to the inside face of the purlings tenon (diagram 18), then fix with a 25mm countersunk screw. This is only a transit screw so just make sure the joint is nice and tight, a larger fixing will be added later.

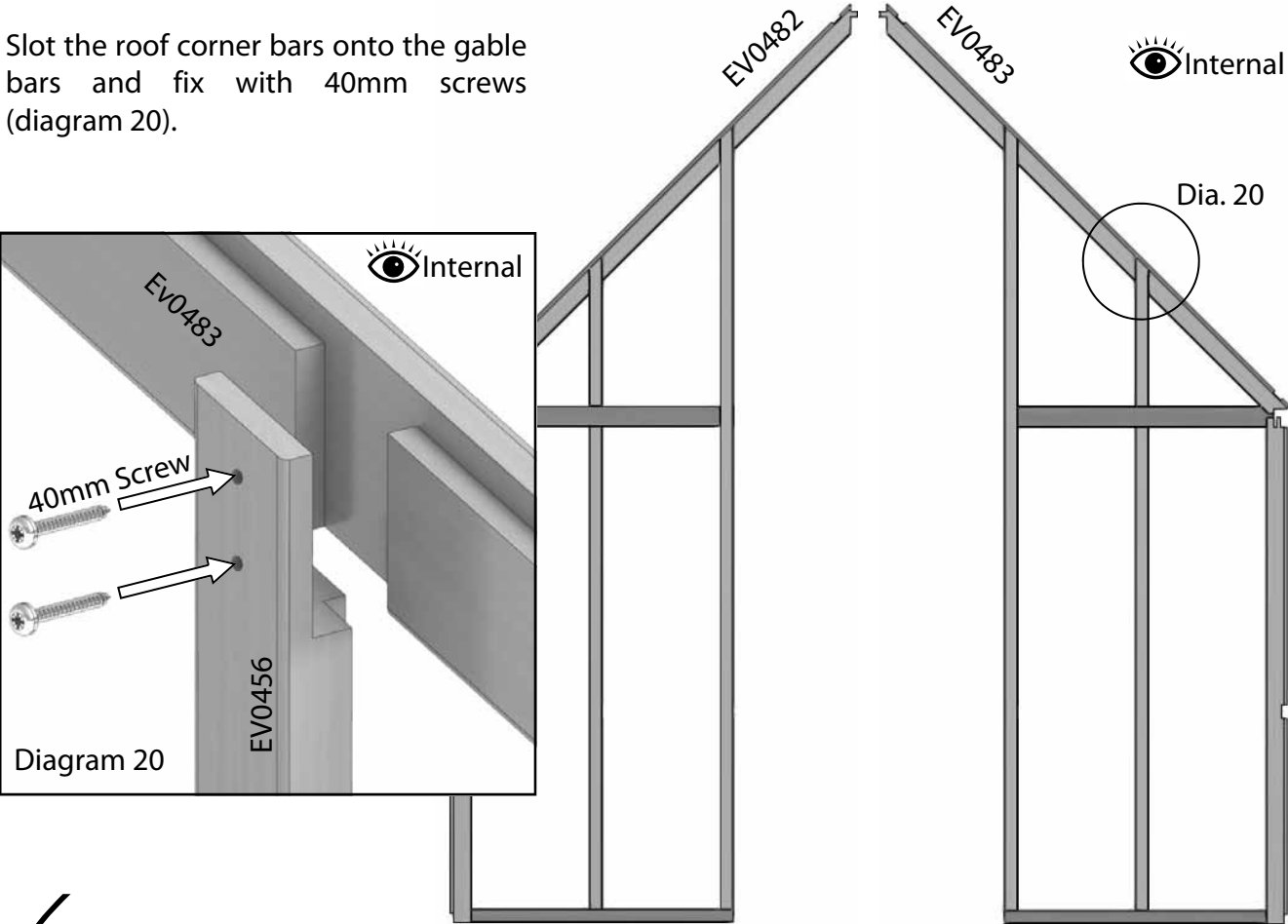
Front Assembly



Slot the above purling glazing bars into place ready to take the roof corner bars. You should now drill the pilot holes shown in diagram 19.



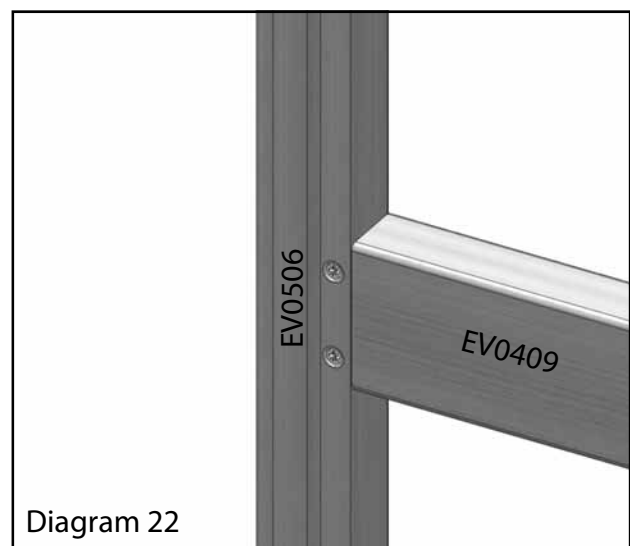
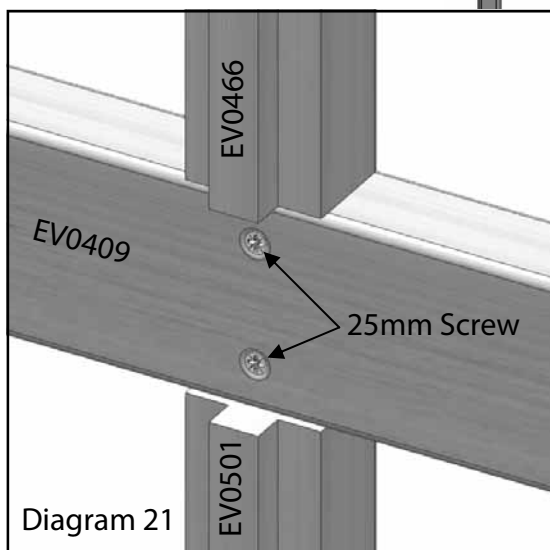
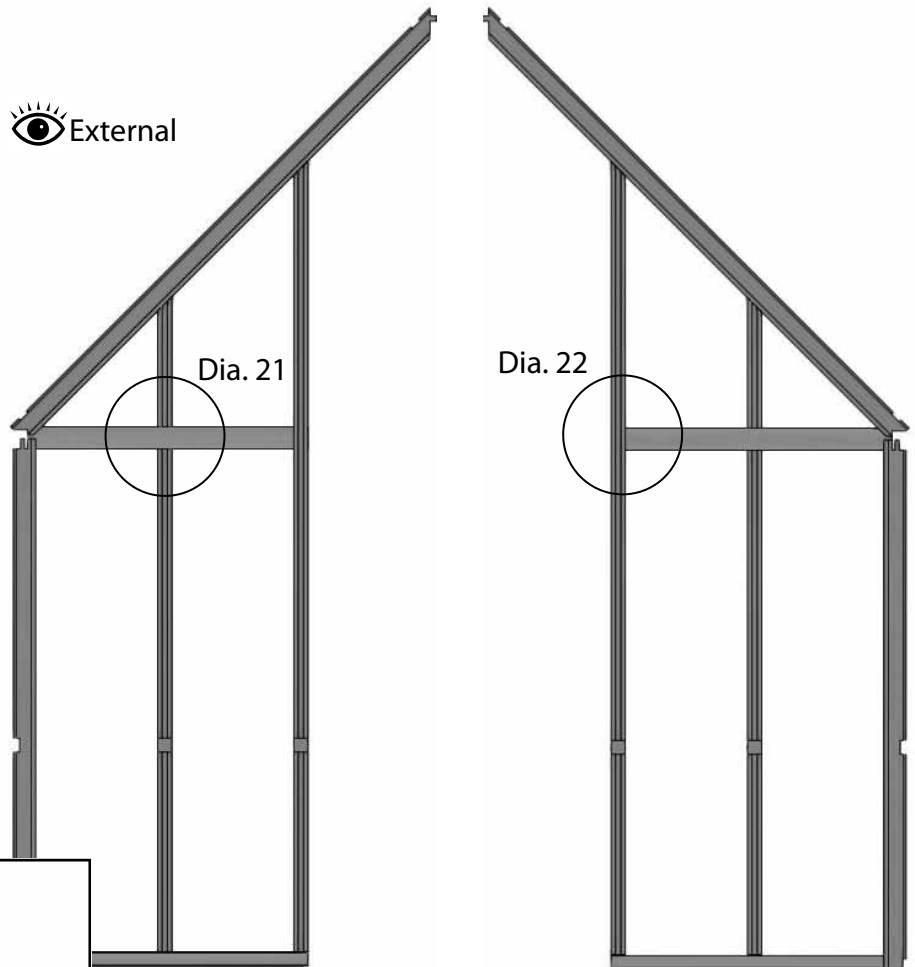
Slot the roof corner bars onto the gable bars and fix with 40mm screws (diagram 20).



Front Assembly



Flip each gable section over so you can fix the purling bars with 25mm countersunk screws (diagram 21 and 22).



NB. If you have an extension refer to the separate manual at this stage and follow the frame construction as the order of construction is slightly different to a standard building.

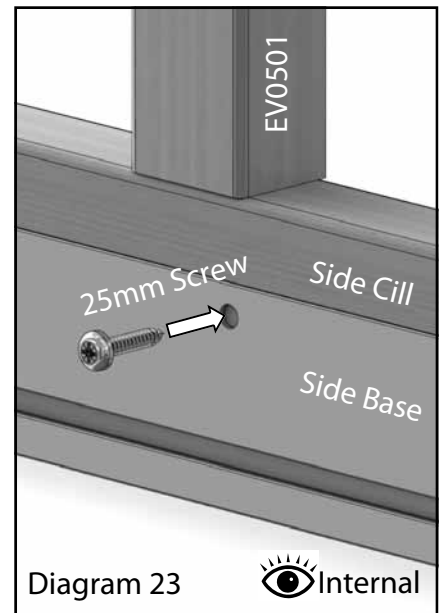
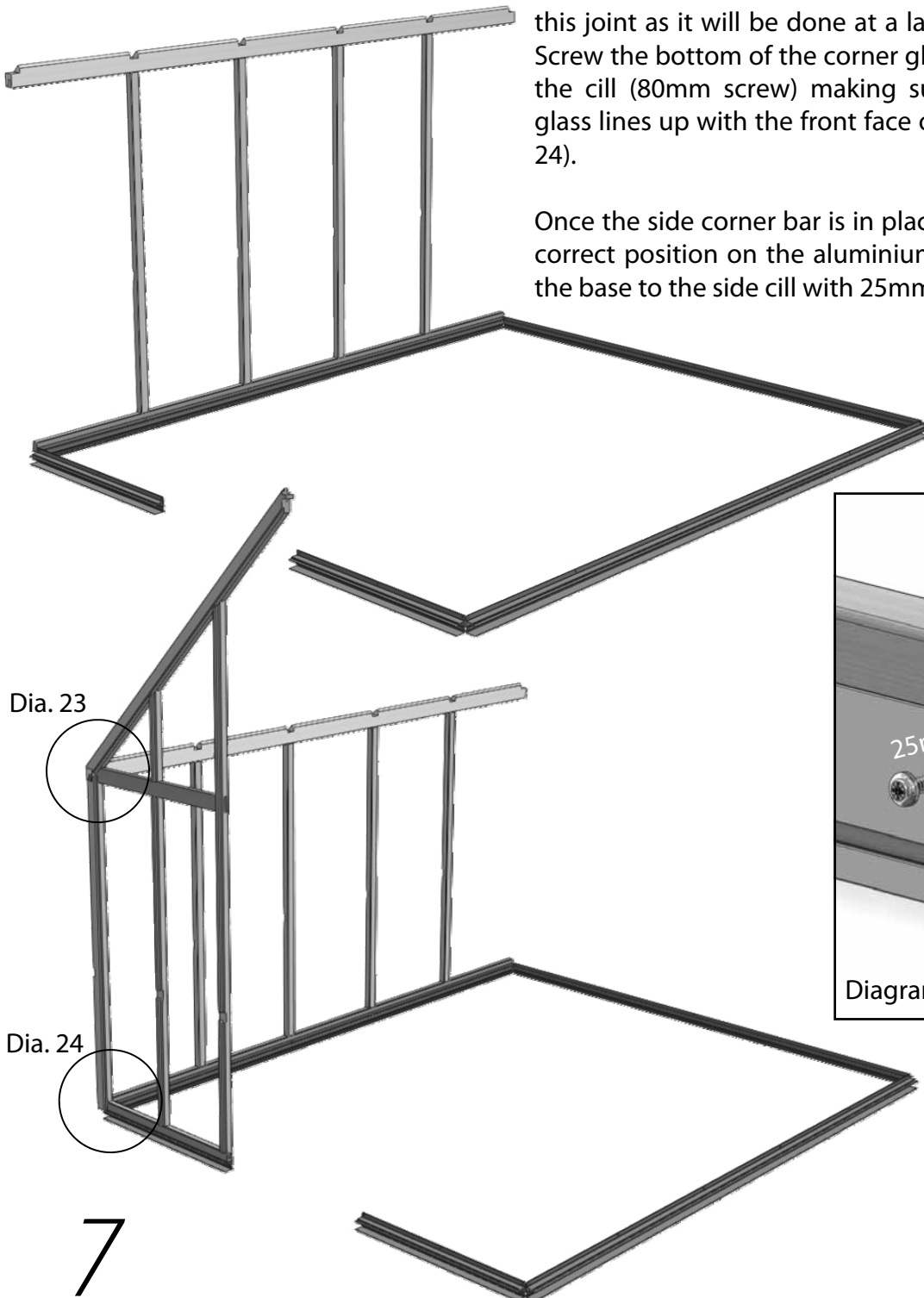
Frame Assembly

Before you position your side section onto the aluminium base you should drill the pilot holes in the bottom of the side corner bars shown in diagram 24. The position of these holes should be about 19mm from the side face and 30mm measured from the bottom end of the bar.

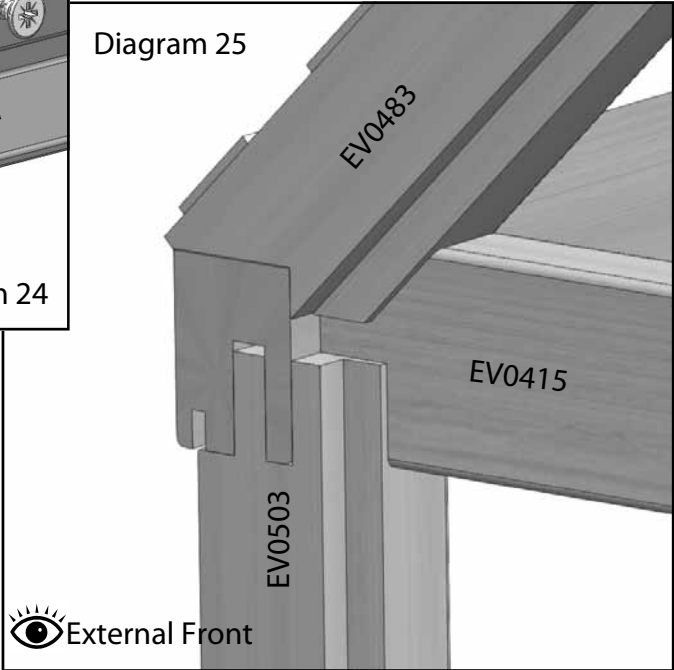
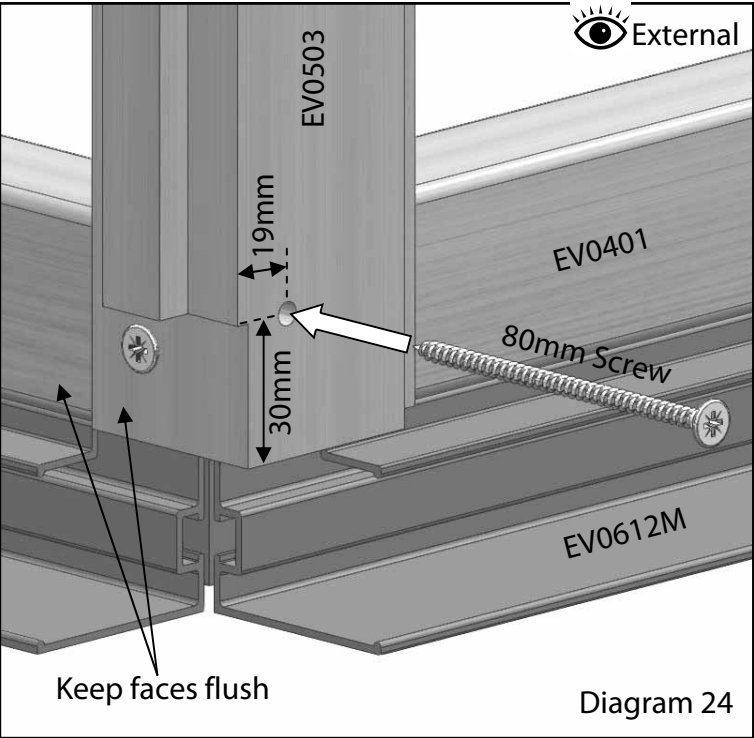
You can now position the side section on the aluminium base, you will need a helper to hold this in place or simply strap it to a set of steps.

Now offer the front gable to the side assembly slotting the corner bar onto the end of the eaves bar, do not fix this joint as it will be done at a later stage (diagram 25). Screw the bottom of the corner glazing bar to the end of the cill (80mm screw) making sure the rebate for the glass lines up with the front face of the side cill (diagram 24).

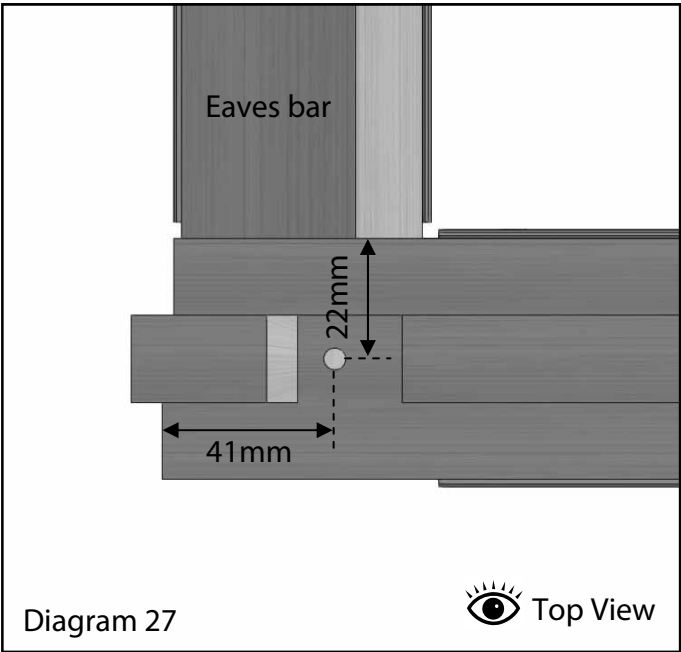
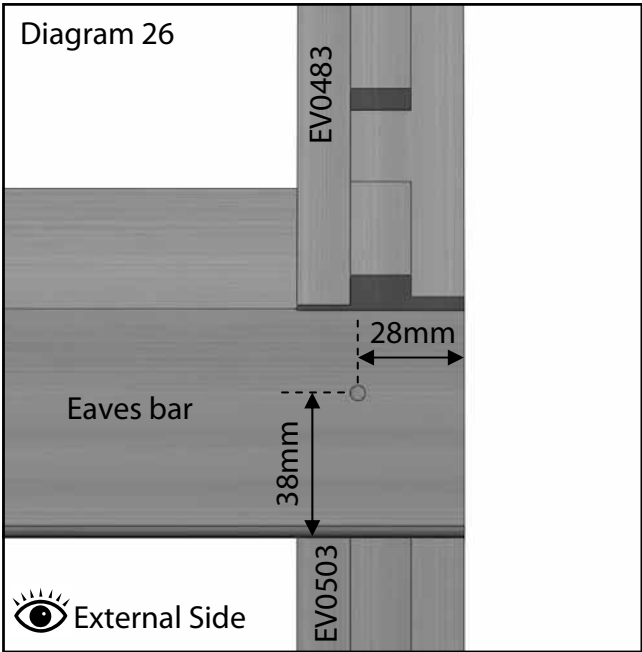
Once the side corner bar is in place this will give you the correct position on the aluminium base and you can fix the base to the side cill with 25mm screws (diagram 23).



Frame Assembly



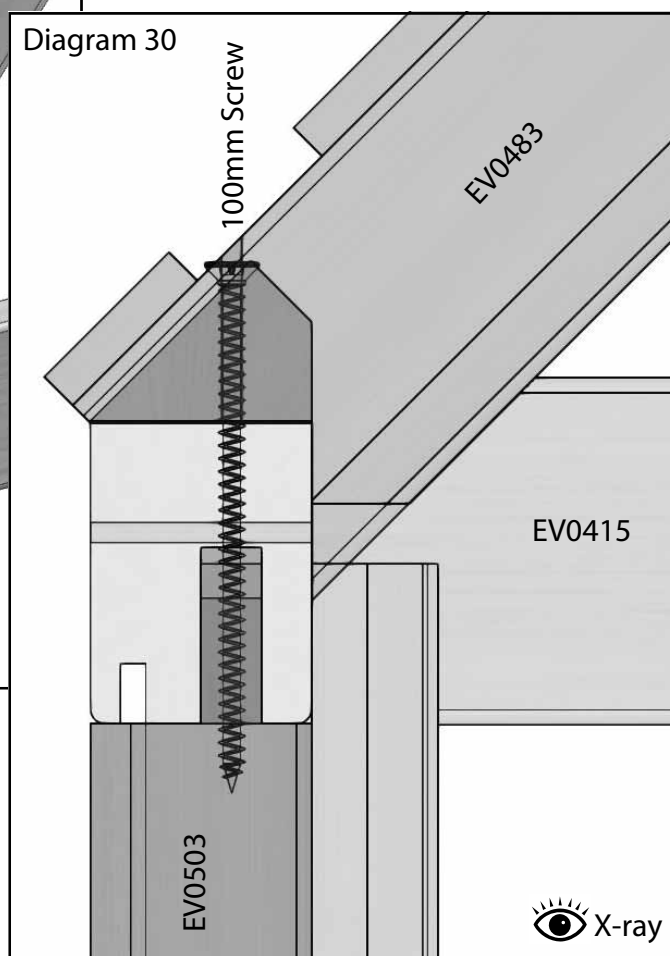
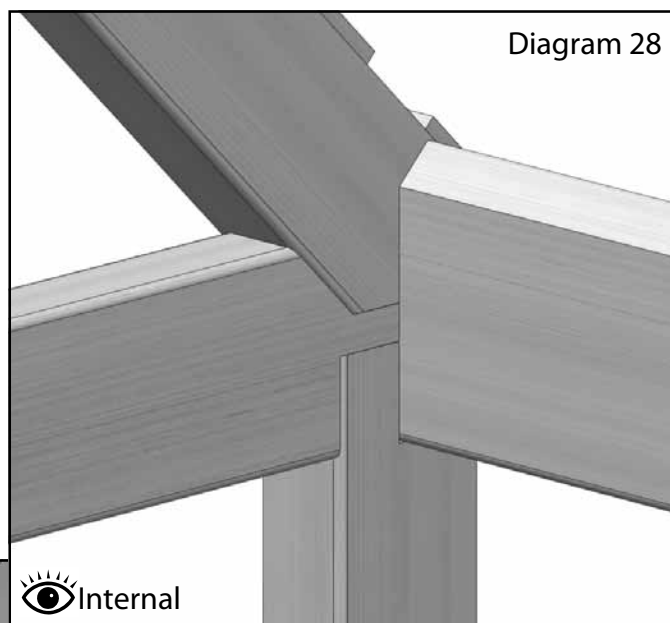
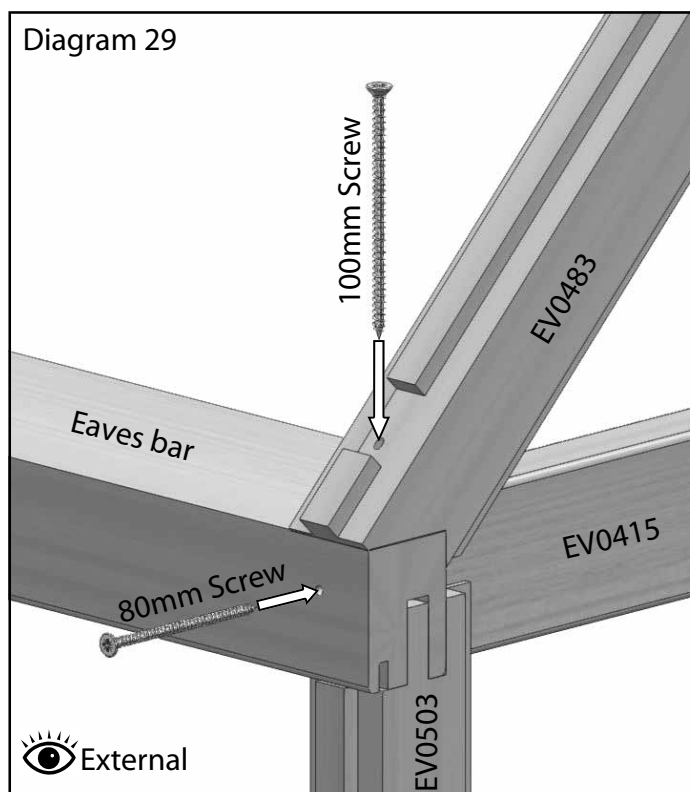
Make sure the side corner bar is located correctly and the front face is flush with the end of the eaves bar, mark out the pilot hole positions shown in diagram 26 and 27. Diagram 29 and 30 on the next page show the direction the holes should be drilled in.



Frame Assembly

Before fixing this corner make sure the inside faces are all flush (diagram 28). When you are happy that the purling is located correctly (it is normal that the purling is set back slightly from the glass rebate on the front of the building) start by inserting the 80mm screw through the side of the eaves bar into the tenon on the end of the purling.

Next insert the 100mm screw vertically down through the roof corner bar into the eaves bar and finally securing the side corner bar (diagram 30).



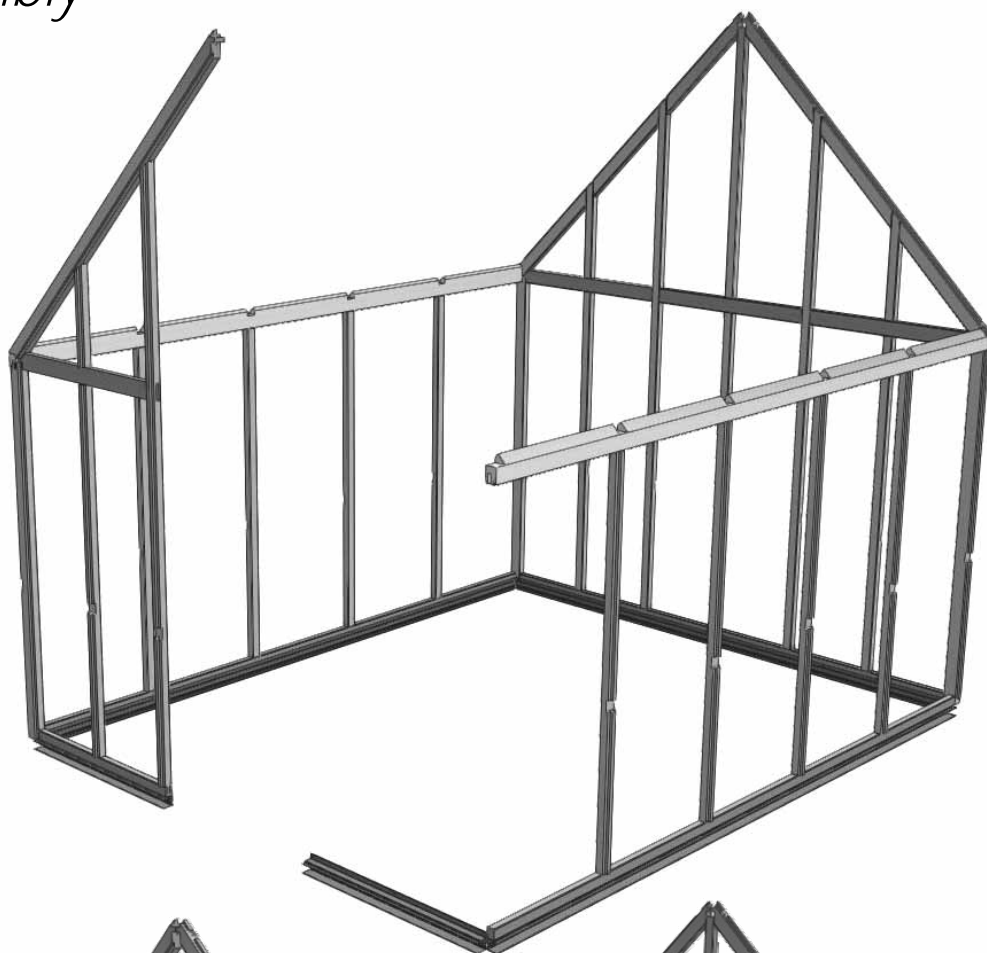
Frame Assembly

With help or using props for extra support, position the rear gable on to the base and repeat the steps from page 20 to 22. It is best NOT to fix the rear gable to the aluminium base at this point as you will want some adjustment when attaching the next side section, but keep this supported at all times.

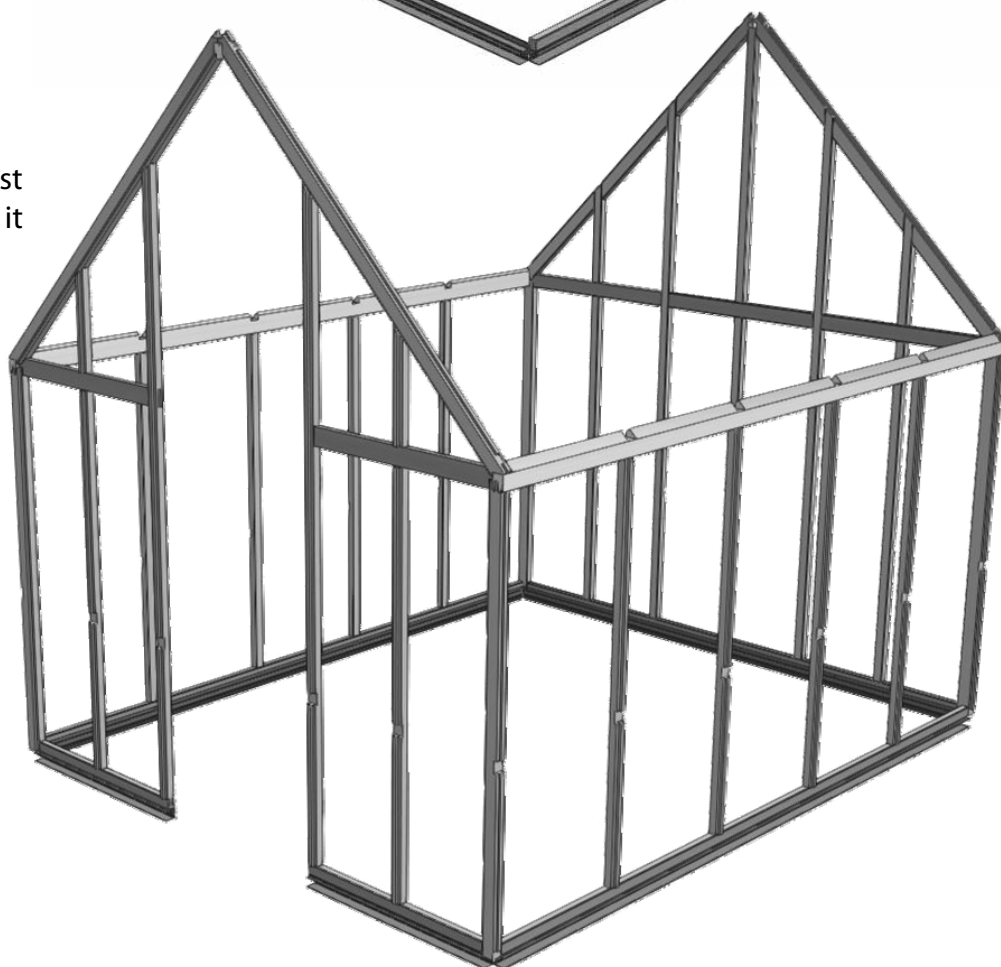


Frame Assembly

Connect the next side as you did before. You may find you need to adjust the corner brackets that hold the aluminium base together to get the corners to meet up correctly. When you are happy with the alignment and have fixed each corner joint you can tighten the nuts on the base corner brackets and fix the timber cills to the base with the 25mm screws.



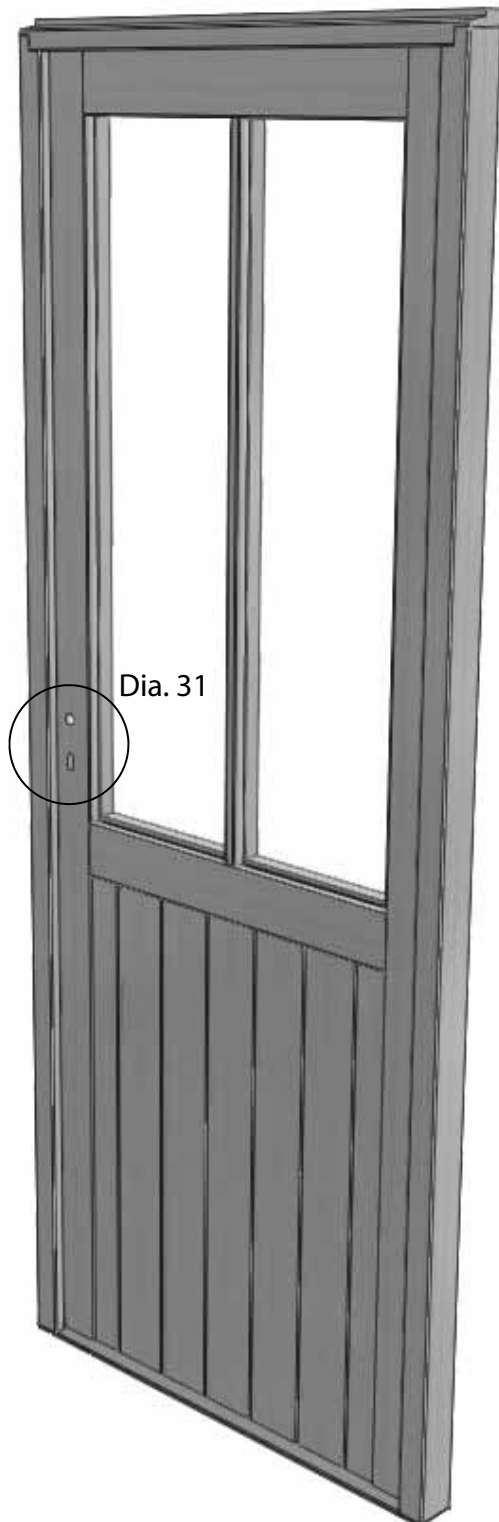
Finally attach the last gable section and fix it to the base.



Door Installation

Your door will arrive already installed in the frame with the lock and lock plate attached. All you need to do is attach the door handle to install this to the building.

Start by sliding the spindle through the top hole in the door (diagram 31), then locate one of the door handles on this and fix with the screws provided. Repeat this on the other side of the door (diagram 32).




 External Views

Diagram 31



Diagram 32

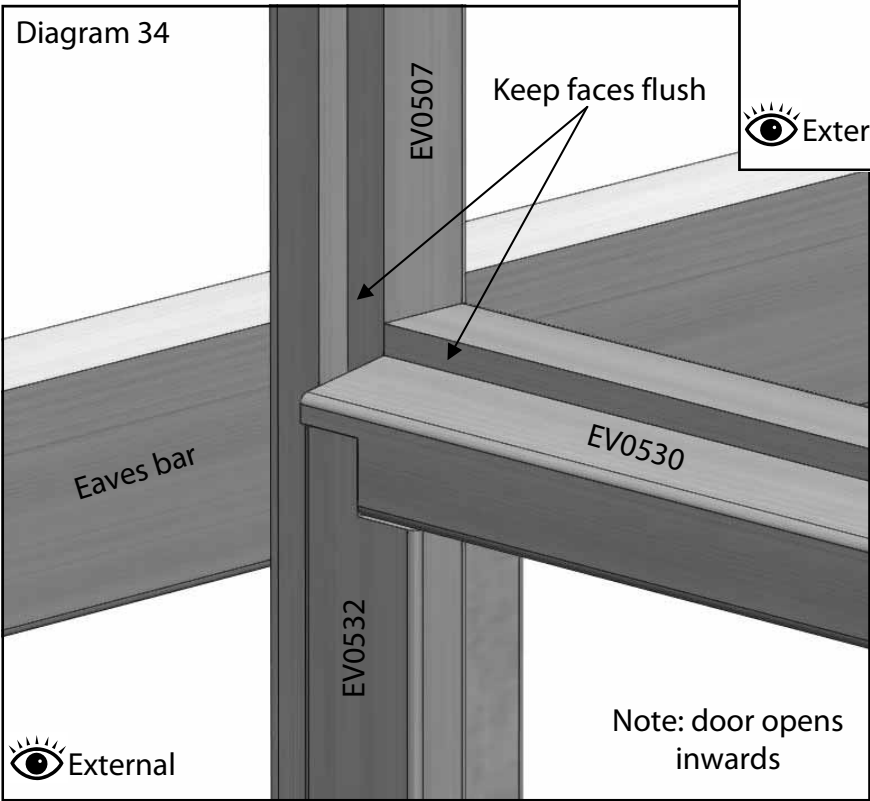
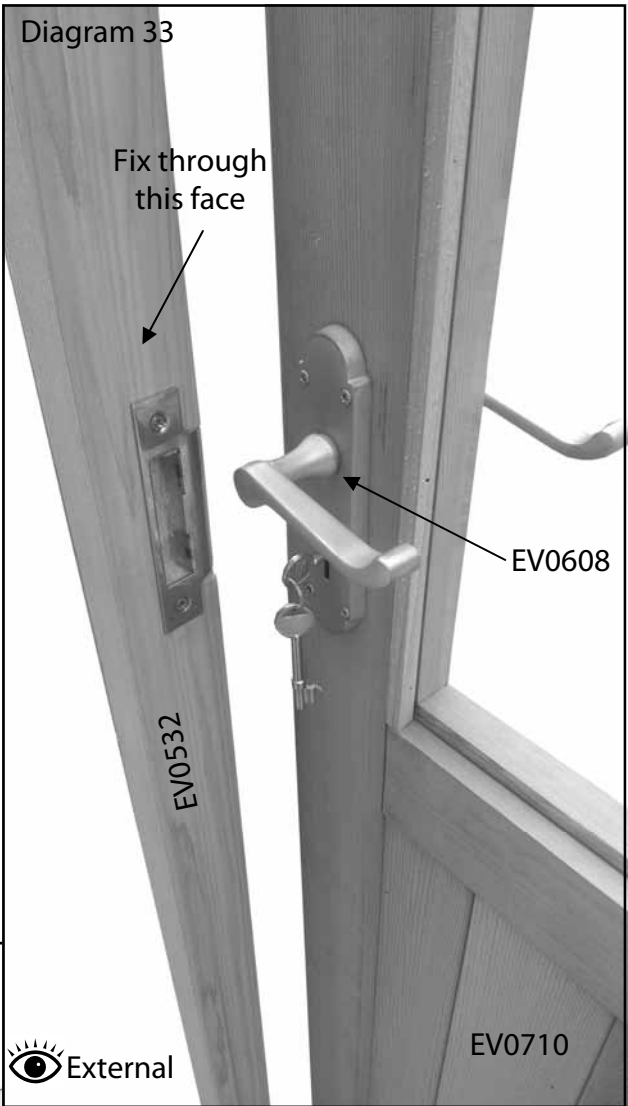
Door Installation

Take the door to the greenhouse frame assembly and slide it into place. Unlock and open the door so that it is 90 degrees to the frame as shown in the illustration on the opposite page.

You will need to pack the outside edge of the open door, ideally with a wedge so you have some adjustment or simply with some scrap cardboard from the packaging. This will help you get the frame in the correct position for fixing.

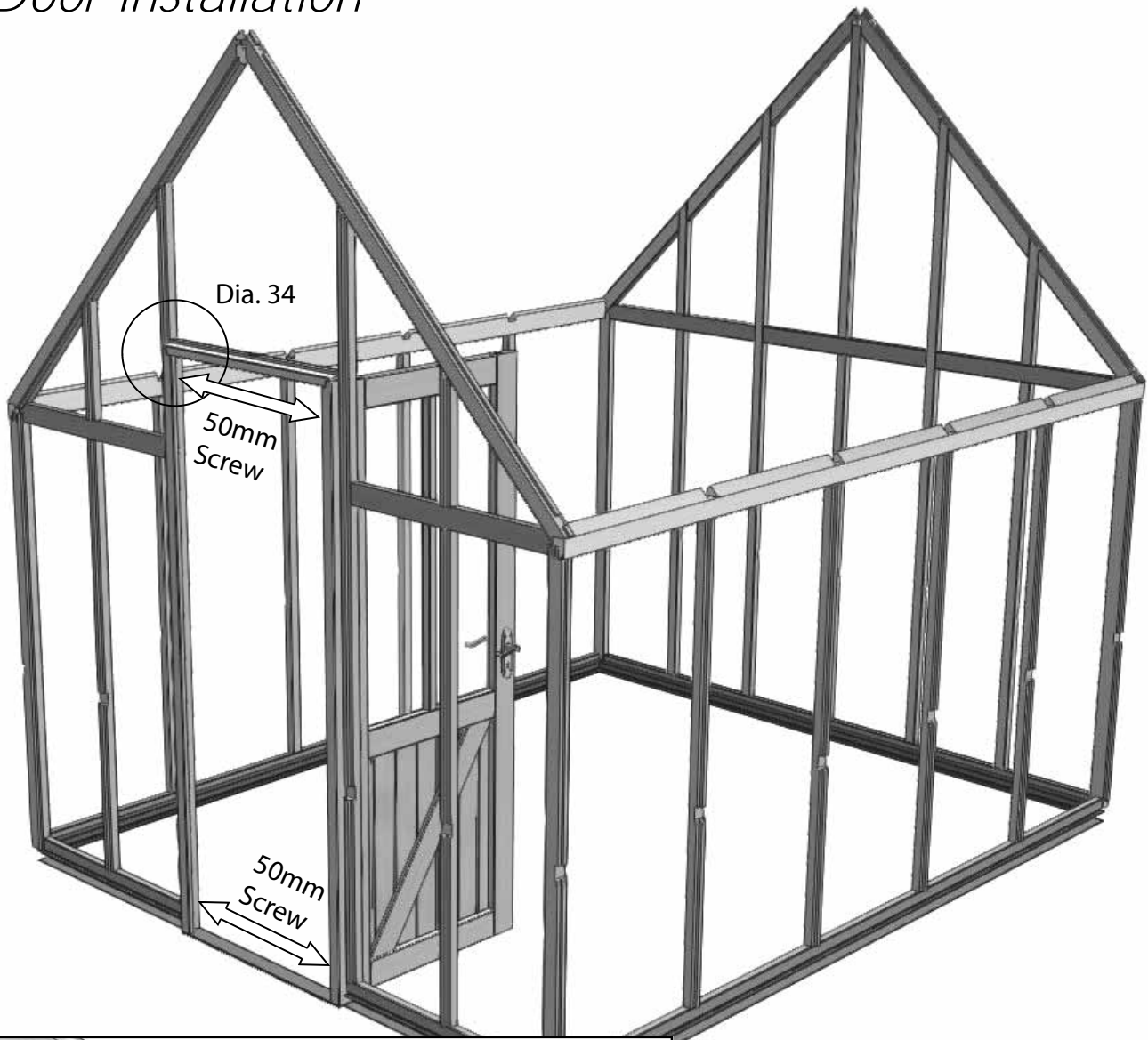
To start with you only need to put 4 fixings in the frame, 1 on either side at the top and the same at the bottom. The 50mm screws should go through the same face that the strike plate is mounted on and where the hinges are mounted on the other side. The back of the frame should line up with the inside face of the gable glazing bar, this should then also mean that the glass rebate on the frame header will line up with the rebate on the gable glazing bars (diagram 34).

When you are happy with the position of the frame fix it with the 50mm screws as shown on the opposite page. This is only an initial fix and adjustments can be made later.



Door Parts		
Part Name	Part Number	Qty
Door Lock	EV0606	1
4" Hinges	EV0607	3
Door Handle Set	EV0608	1
Single Door	EV0710	1

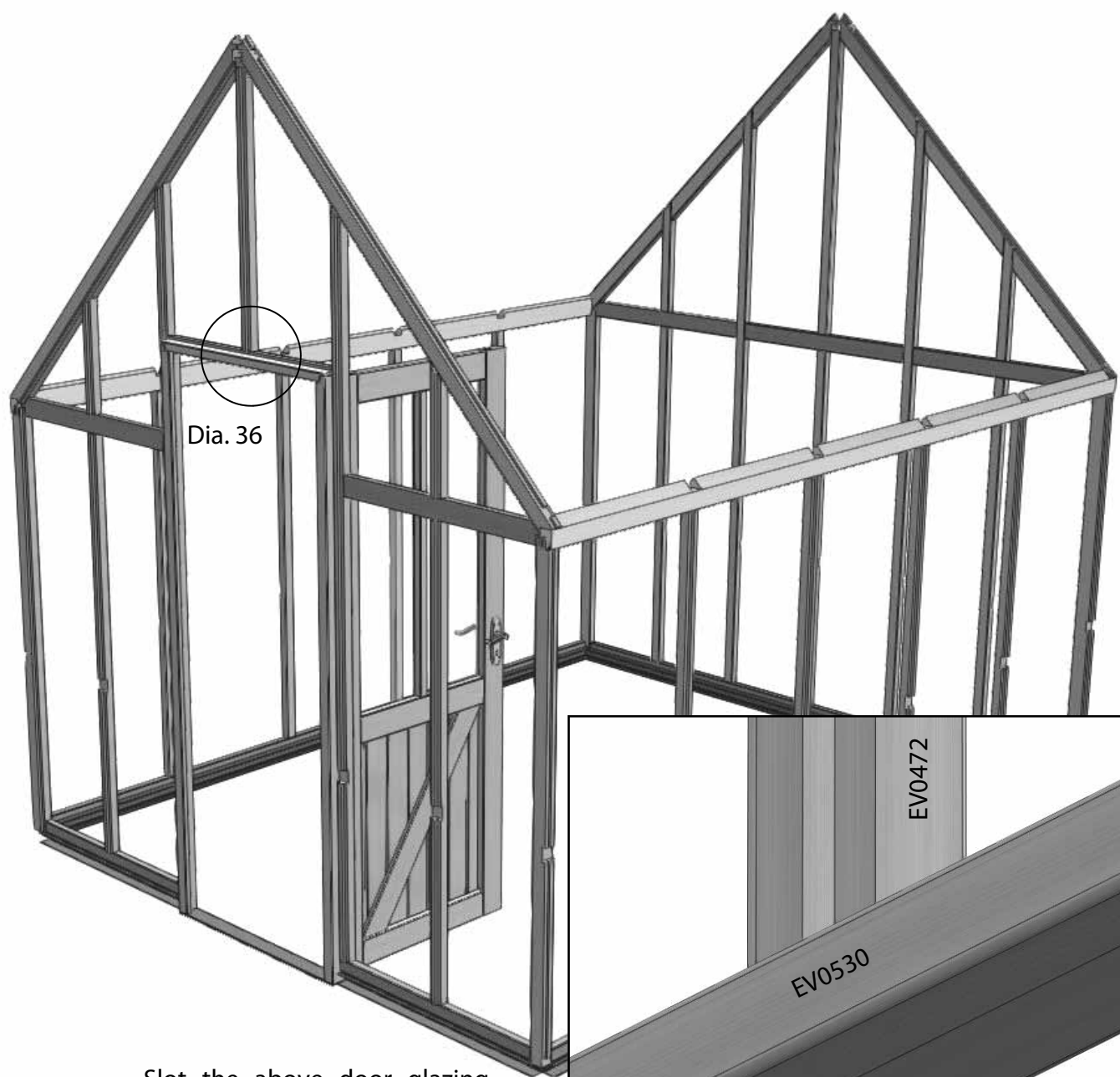
Door Installation



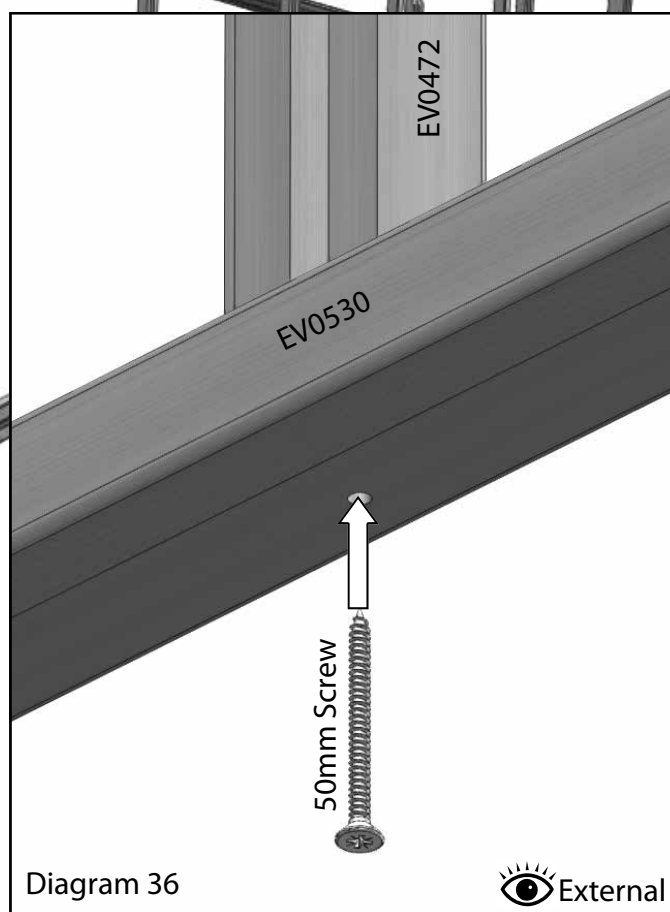
Once the frame is secure drill a pilot hole through the mortise slot in the door frame header (diagram 35).

Diagram 35

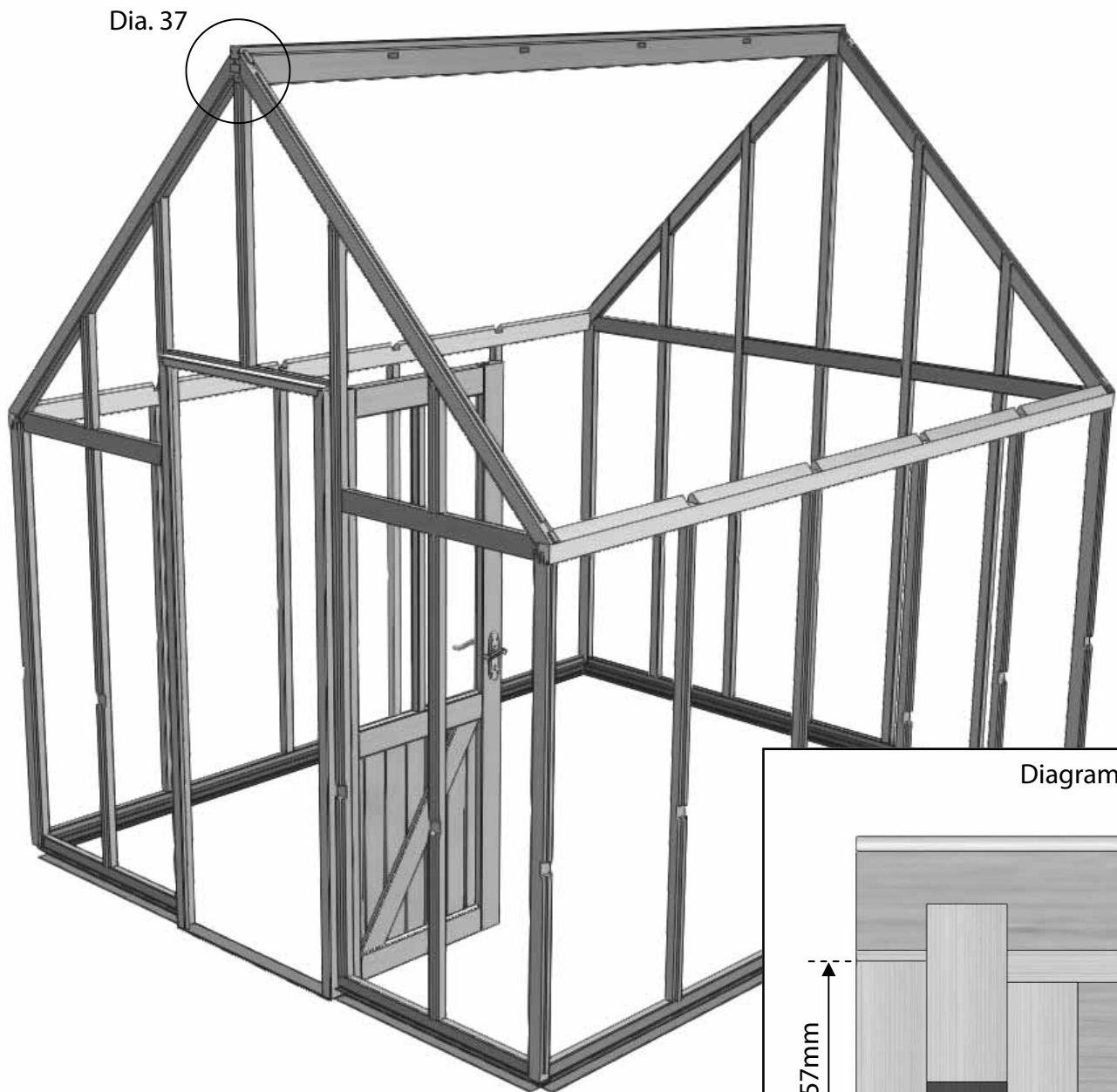
Door Installation



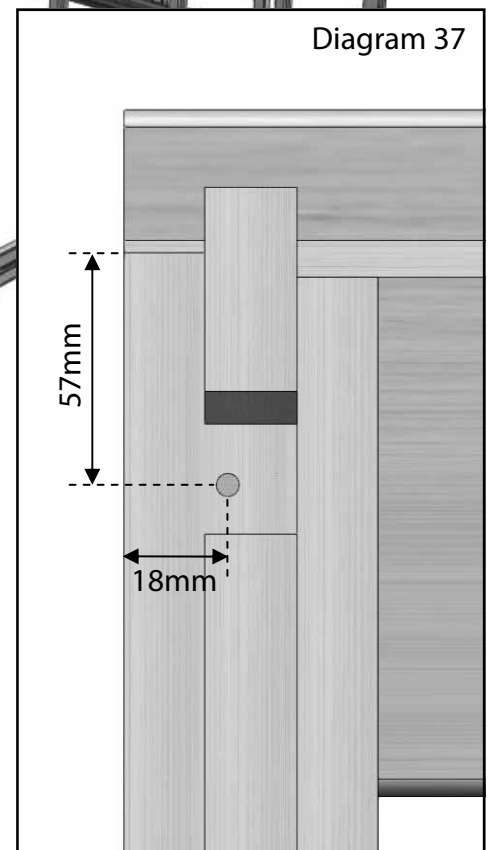
Slot the above door glazing bar into the mortise slot in the door frame header and secure it with a 50mm screw.



Roof Assembly

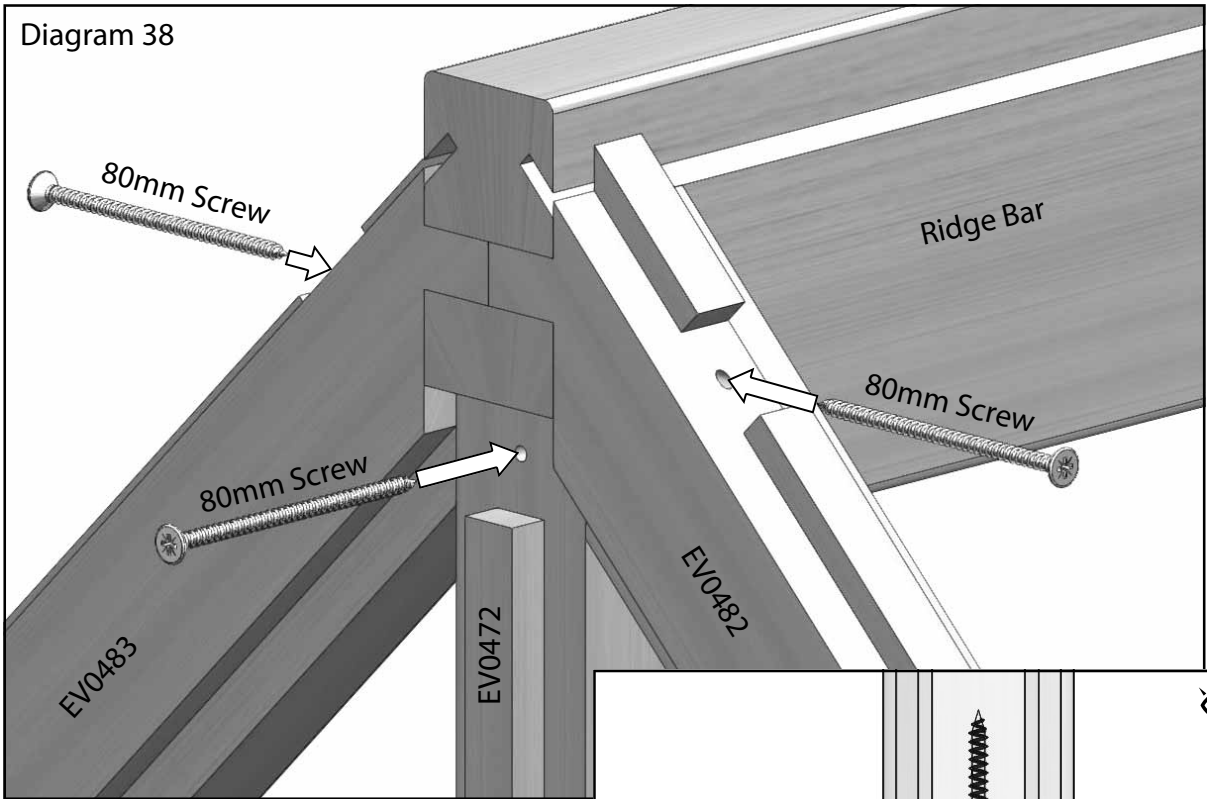


You will need two sets of step ladders at this point and a helper. Slot the ridge bar onto the tenons of the roof corner bars at both ends of the building. The central glazing bars should locate with the ridge bar below this joint (diagram 38). Once in place still with your helper securing one end drill the roof corner glazing bars as shown in diagram 37 to 40. The pilot holes should be drilled horizontally and off centre as shown so that the screw on the other side misses this screw. If you always drill the holes for the roof bars 18mm from the left hand side of the bar this will prevent any problems. Fix the roof bars with 80mm screws (diagram 38).



Roof Assembly

Diagram 38



The central glazing bars should also have a pilot hole drilled and be fixed to the ridge bar with an 80mm screw (diagram 38).

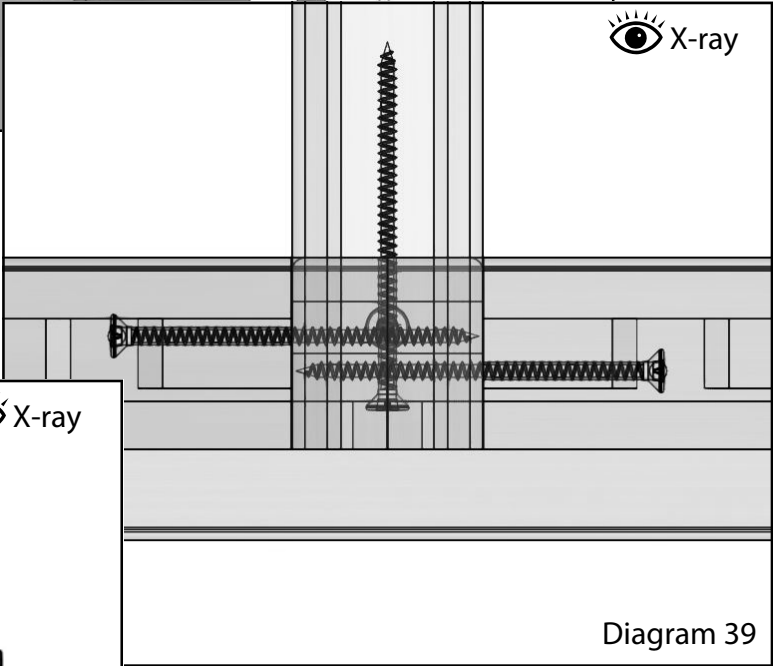
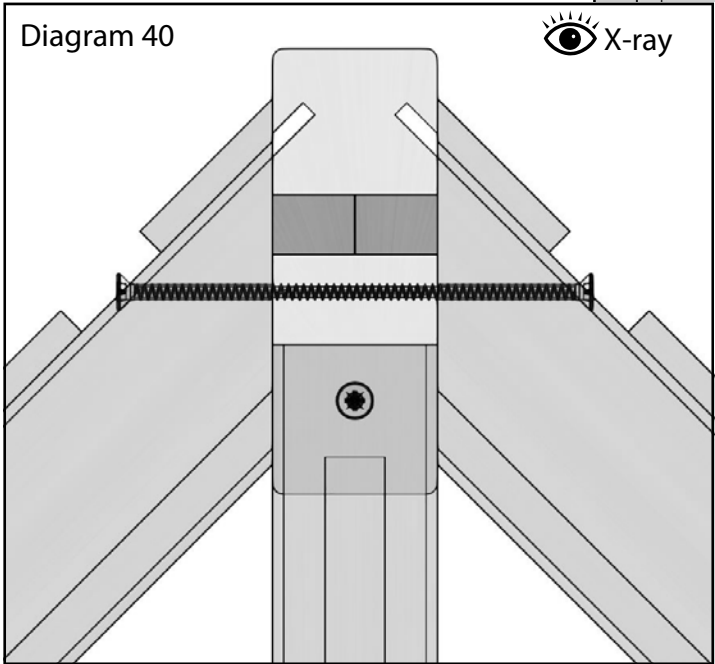
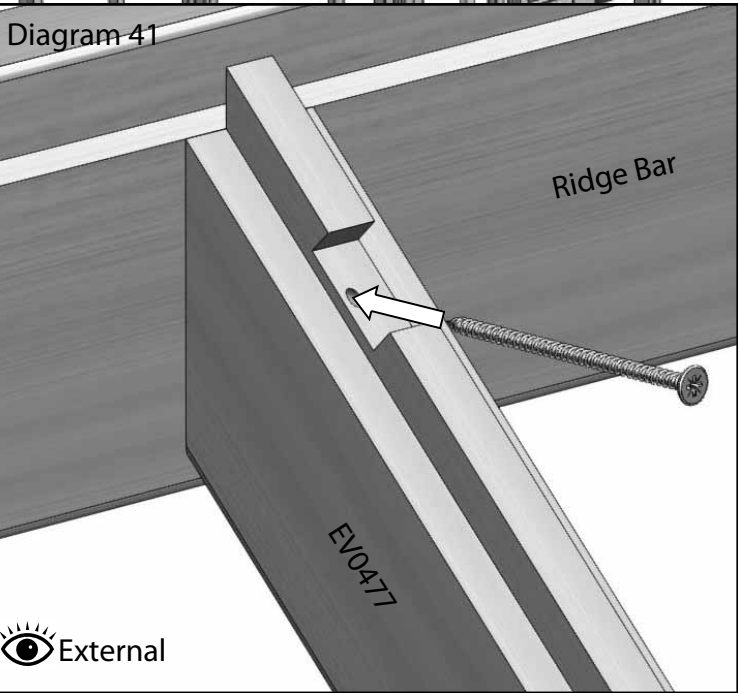
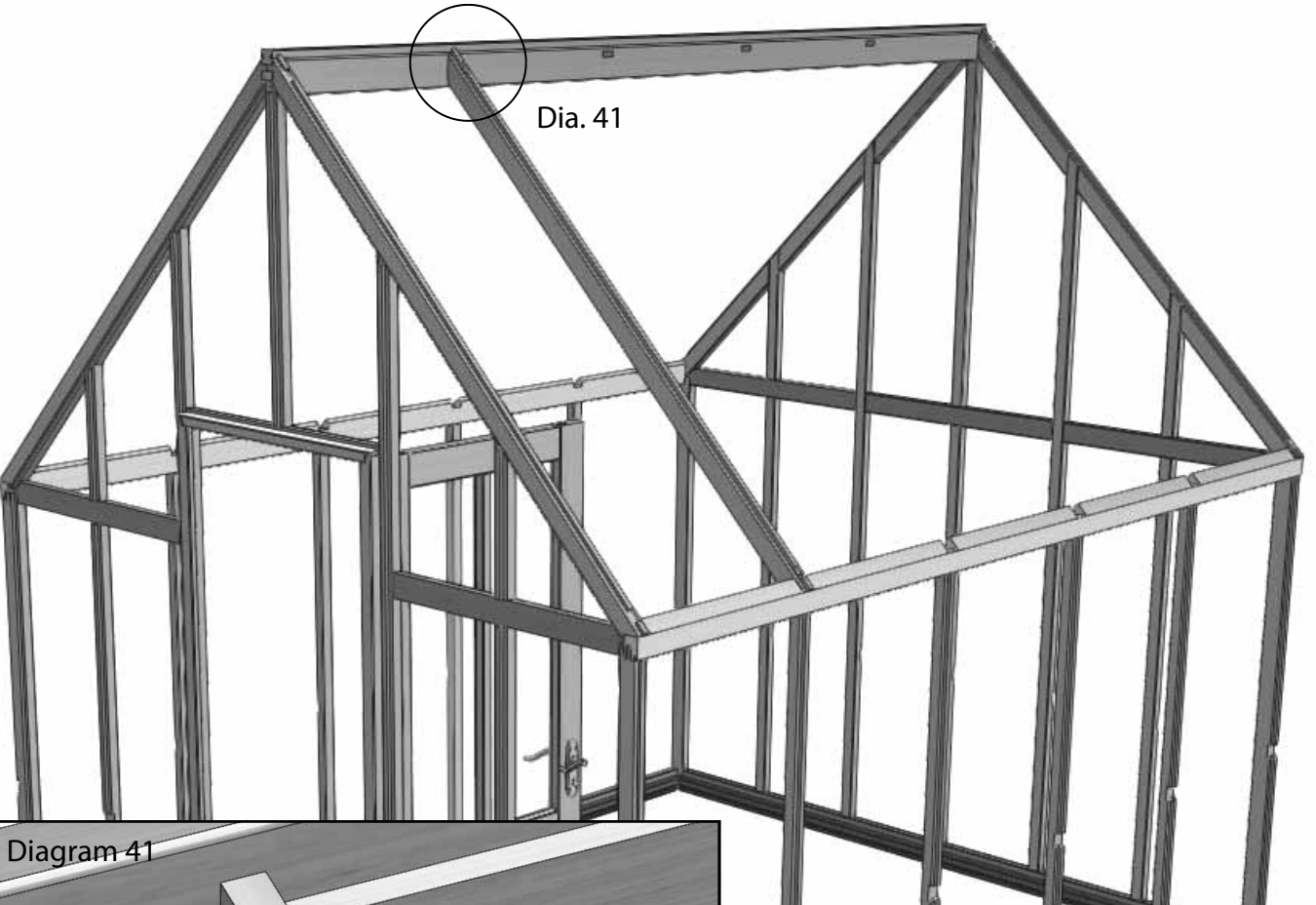


Diagram 40



Roof Assembly

Now the ridge is in place you can install the roof bars. Slot the bar into the ridge first, the tenon may be a little tight so this might require a tap with a wood or rubber mallet. Once this has located correctly locate the bottom of the bar with the trench in the eaves bar. This again may require some persuasion to get this to drop into place. Once the bar is fitted at both ends drill a pilot hole at the top of the bar as shown in diagram 41. This again should be drilled off centre as the roof corner bars were in diagram 37. Now fix with an 80mm screw. Don't fix the bottom until all the roof bars are in place.

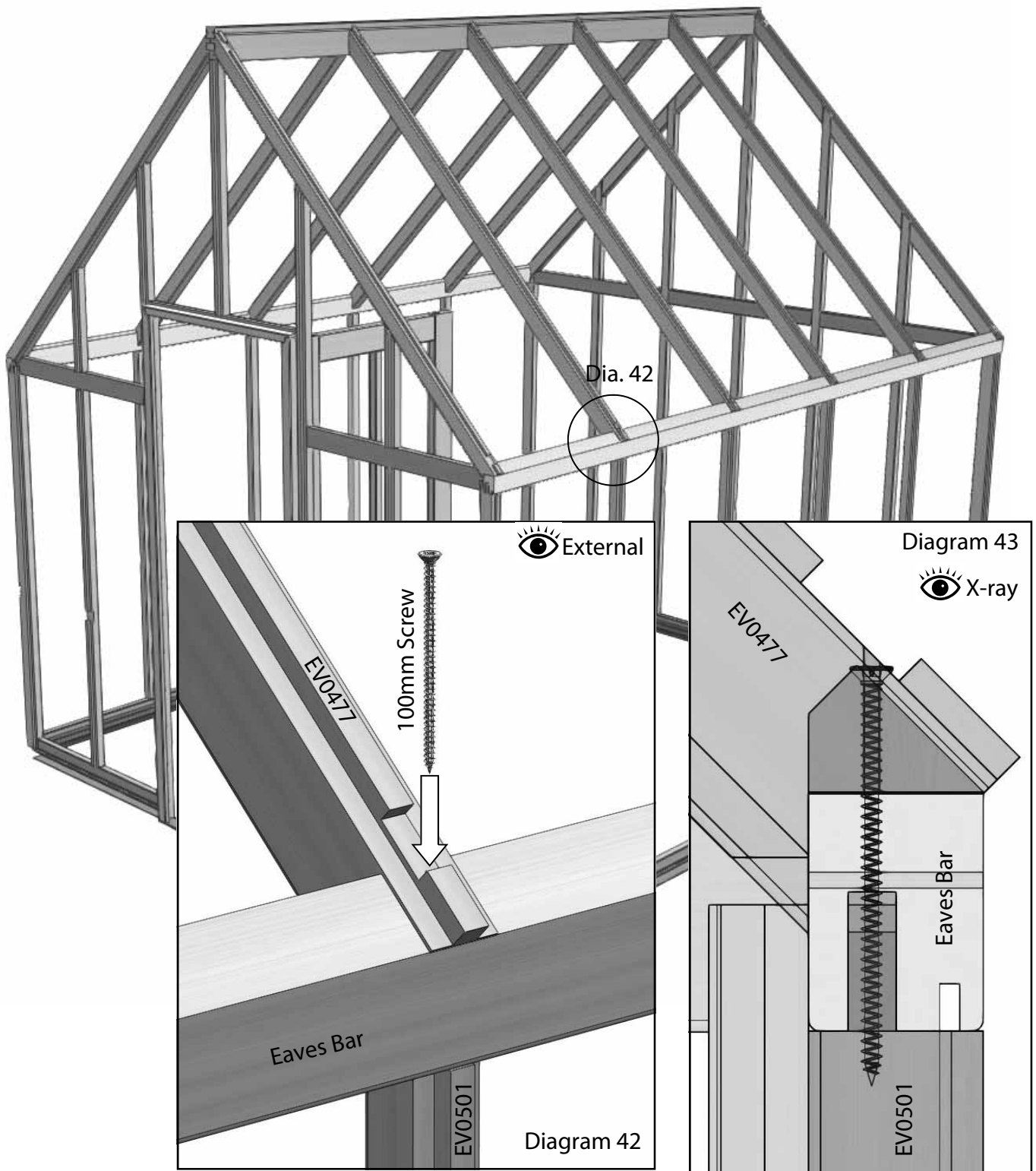


Roof					
Part Name	Part Number	Qty			
Ridge:		6ft	8ft	10ft	12ft
6ft long	EV0444	1			
8ft long	EV0445		1		
10ft long	EV0446			1	
12ft long	EV0447				1
Roof Bars	EV0477	4	6	8	10
Eaves Bracing	EV0537M	4	6	8	10
Ridge Bracing	EV0538M	2	4	6	8

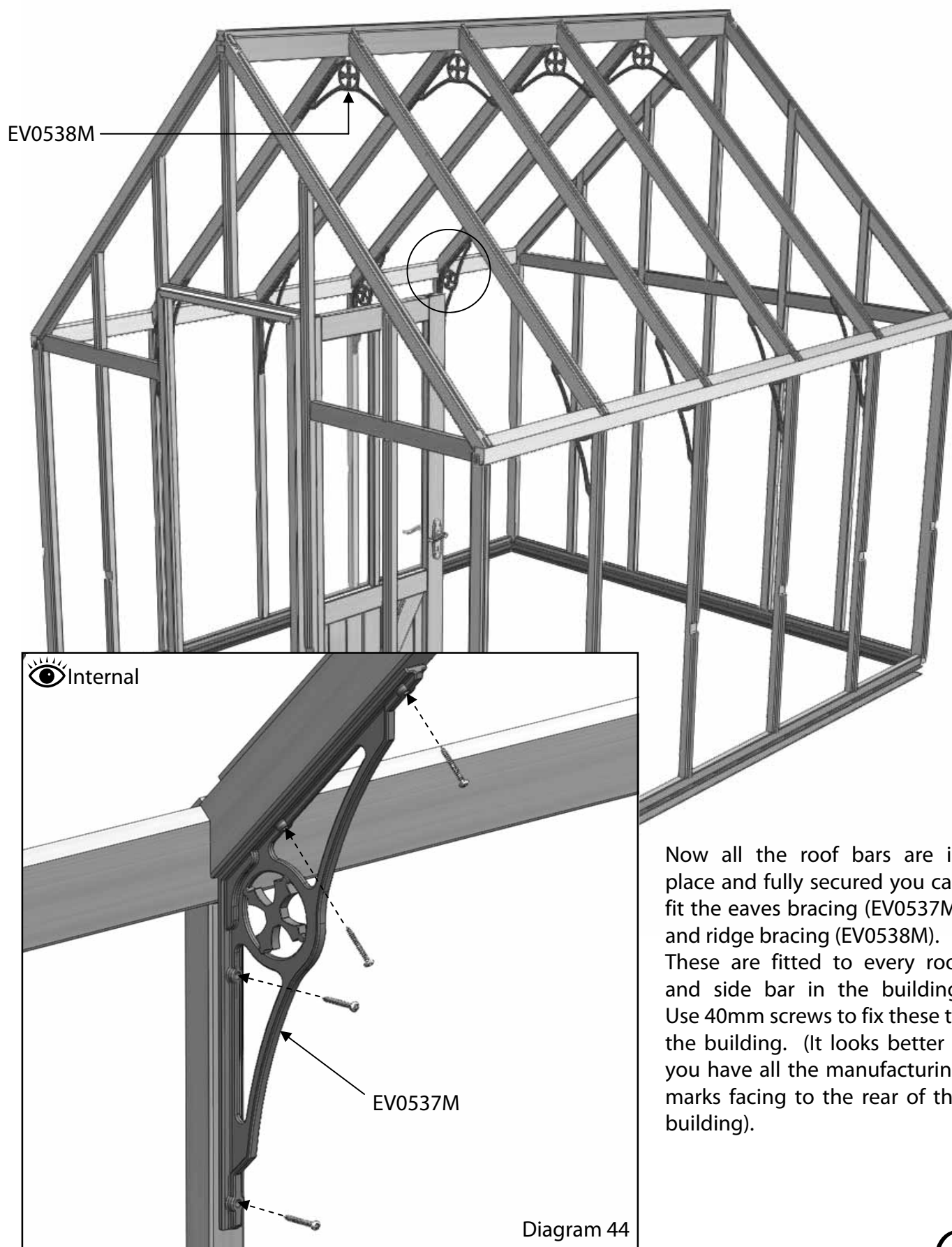


Roof Assembly

With all the roof bars in place drill pilot holes vertically down through the roof bars, refer to diagram 27 (page 21) for the location of this hole. Make sure the roof bars are tight in to the eaves bar on the inside of the building and fix with 100mm screws (diagram 42).

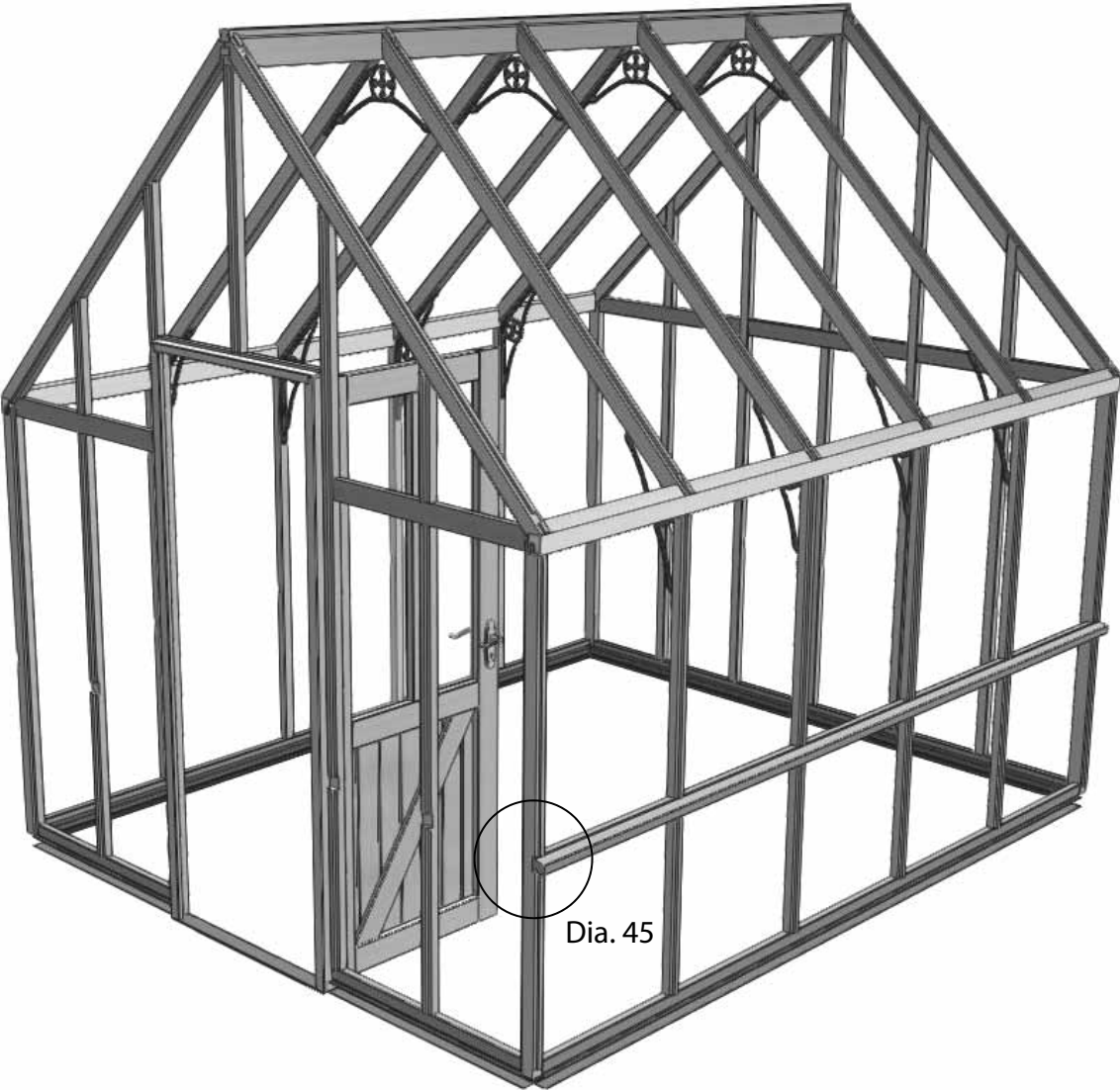


Roof Assembly



Now all the roof bars are in place and fully secured you can fit the eaves bracing (EV0537M) and ridge bracing (EV0538M). These are fitted to every roof and side bar in the building. Use 40mm screws to fix these to the building. (It looks better if you have all the manufacturing marks facing to the rear of the building).

Half Board Installation



Once the greenhouse frame is up and secured to the aluminium base you can install the mid rails, starting with the sides.

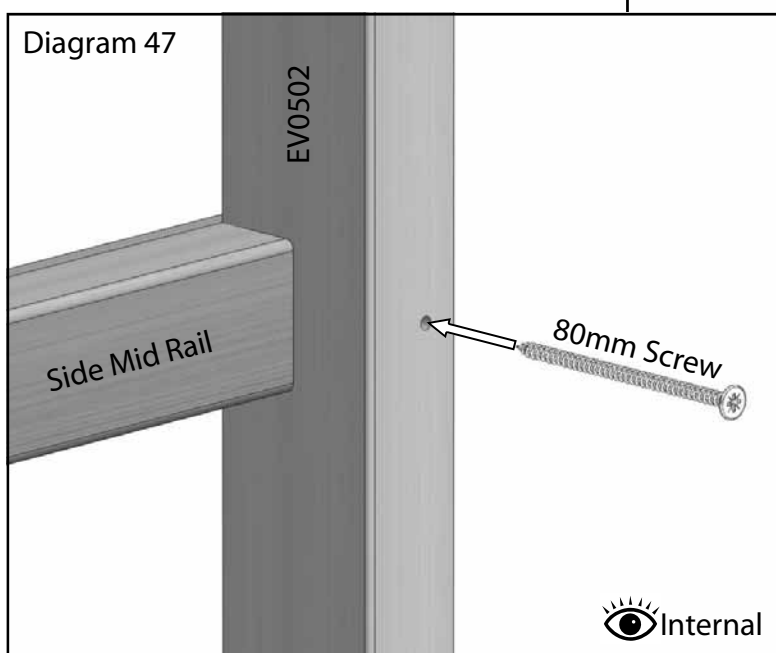
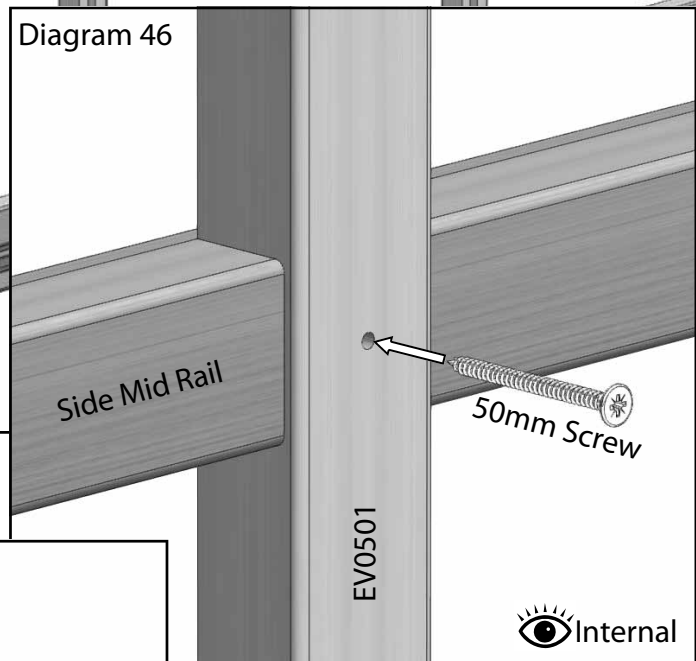
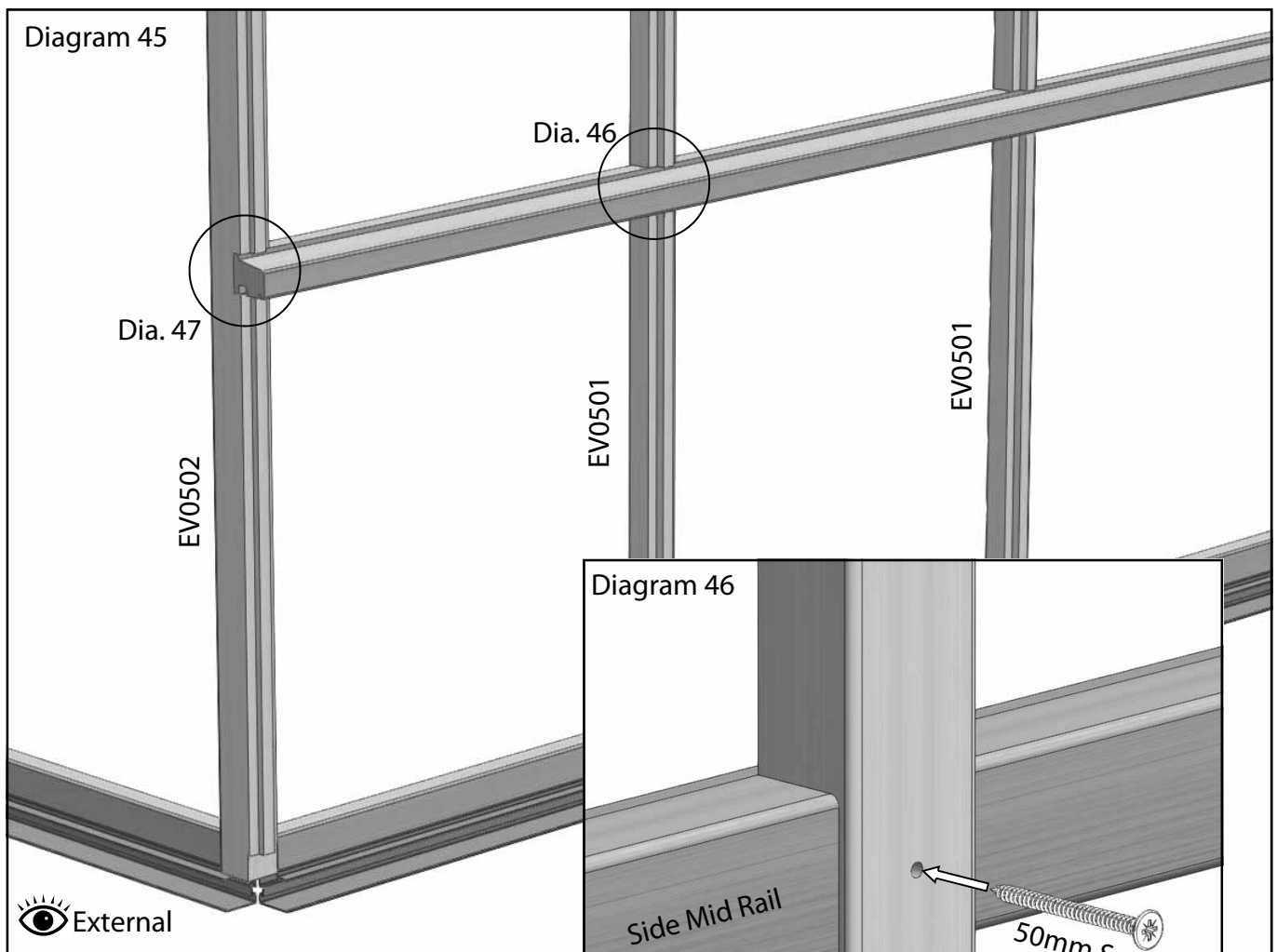
6ft long			
Part Name	Part Number	Size (mm)	Qty
Front R	EV0426	950	1
Front L	EV0427	950	1
Rear	EV0433	2707	1
Side	EV0437	1934	2

8ft long			
Part Name	Part Number	Size (mm)	Qty
Front R	EV0426	950	1
Front L	EV0427	950	1
Rear	EV0433	2707	1
Side	EV0438	2564	2

10ft long example			
Part Name	Part Number	Size (mm)	Qty
Front R	EV0426	950	1
Front L	EV0427	950	1
Rear	EV0433	2707	1
Side	EV0439	3194	2

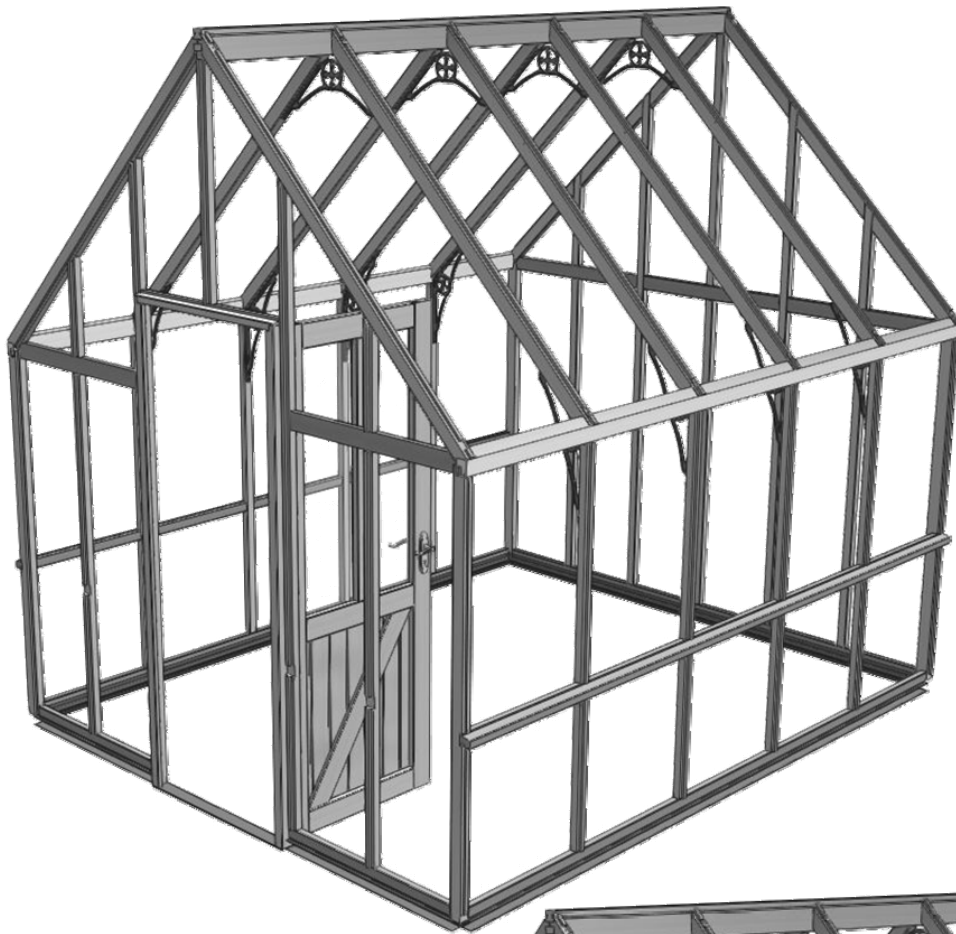
12ft long			
Part Name	Part Number	Size (mm)	Qty
Front R	EV0426	950	1
Front L	EV0427	950	1
Rear	EV0433	2707	1
Side	EV0440	3824	2

Half Board Installation



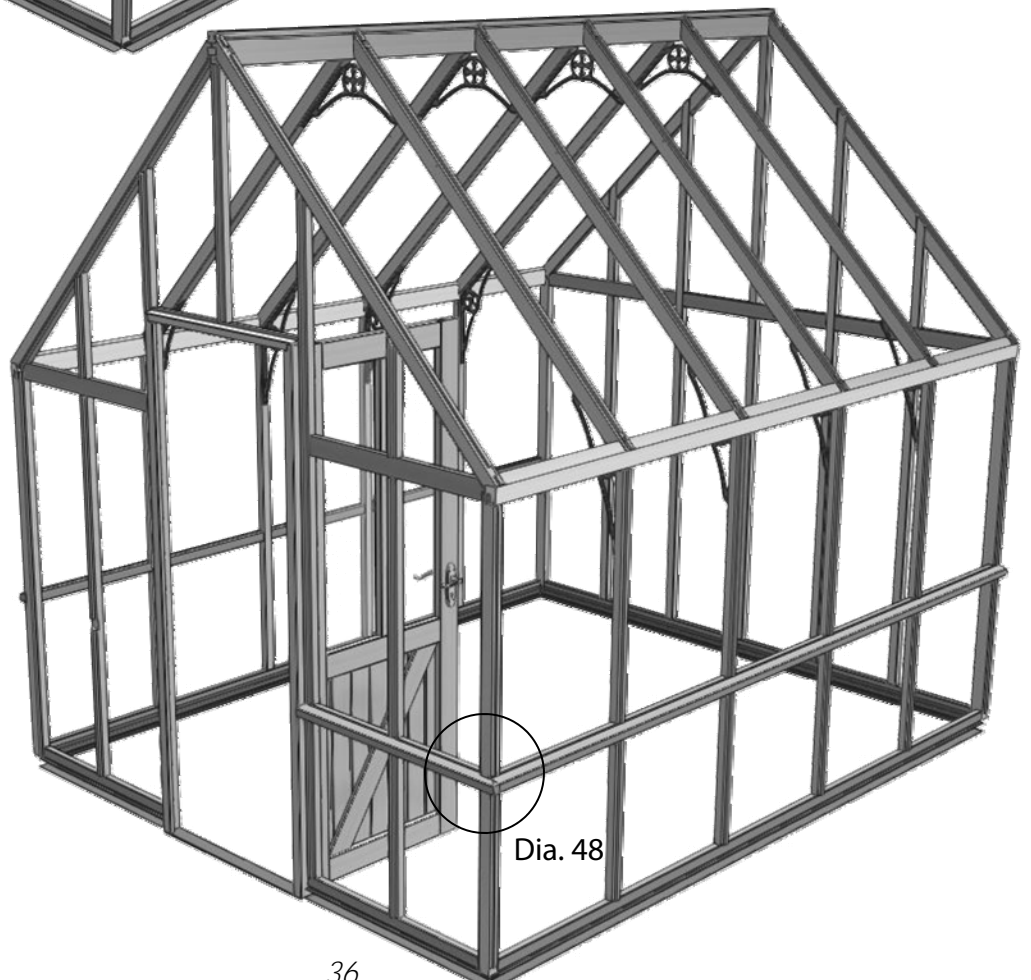
Slot the mid rail onto the side of the greenhouse. Drill pilot holes in the side bars from the inside of the building and fix with 50mm screws. Then drill pilot holes in the corner bars and fix with 80mm screws. Do both sides before attaching the gable mid rails.

Half Board Installation

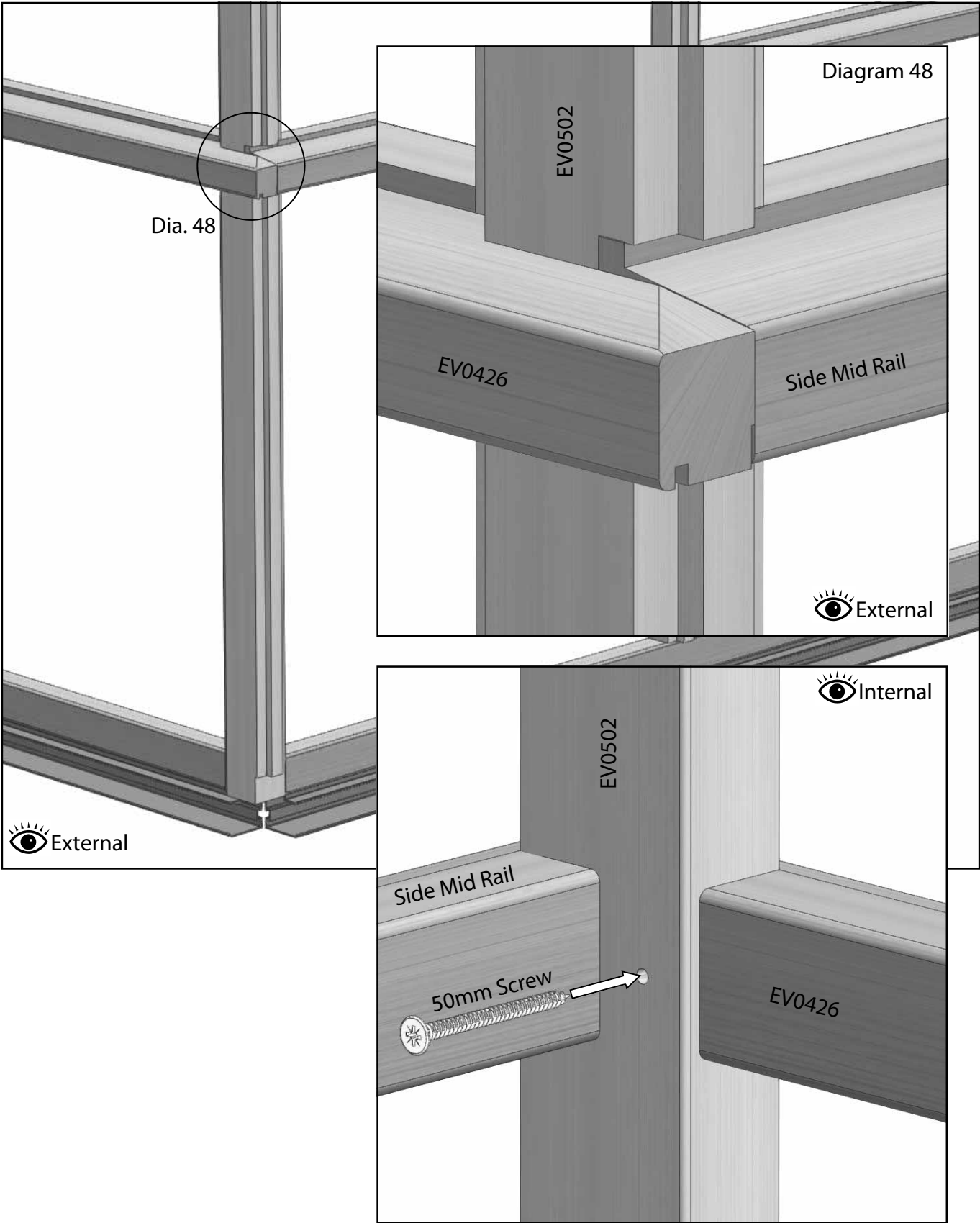


Now Fit the mid rails to the gables. Again slot them into place and drill and fix them with 50mm screws through the gable bars and corner bar.

Make sure the two mid rails are lined up well on the outside before fixing to the corner bar.



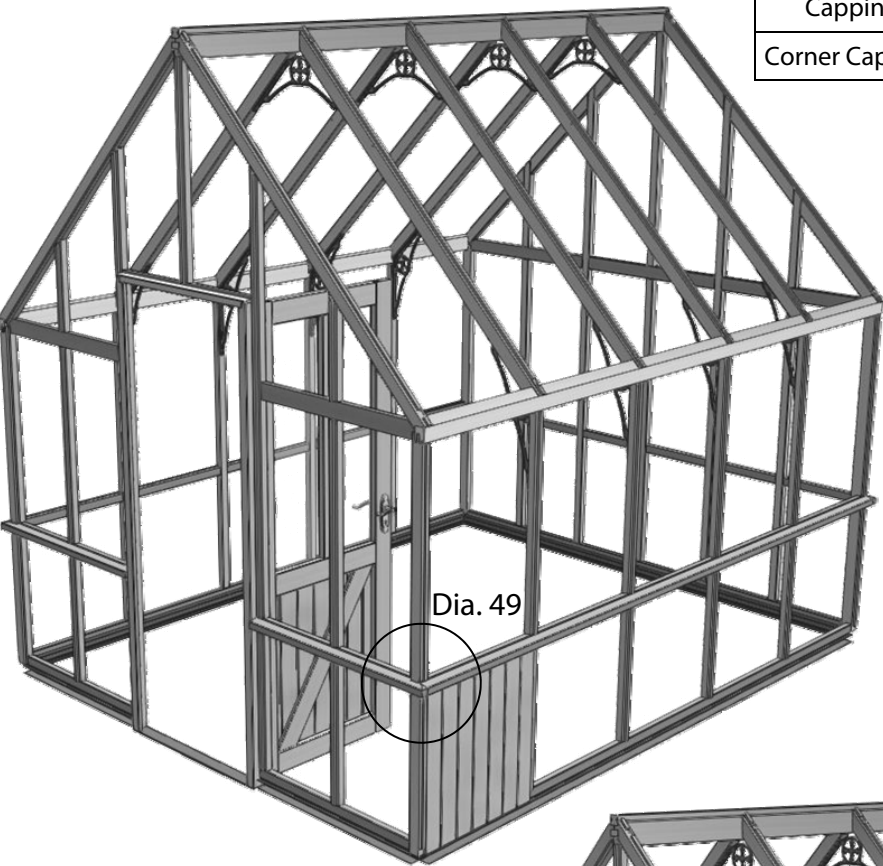
Half Board Installation



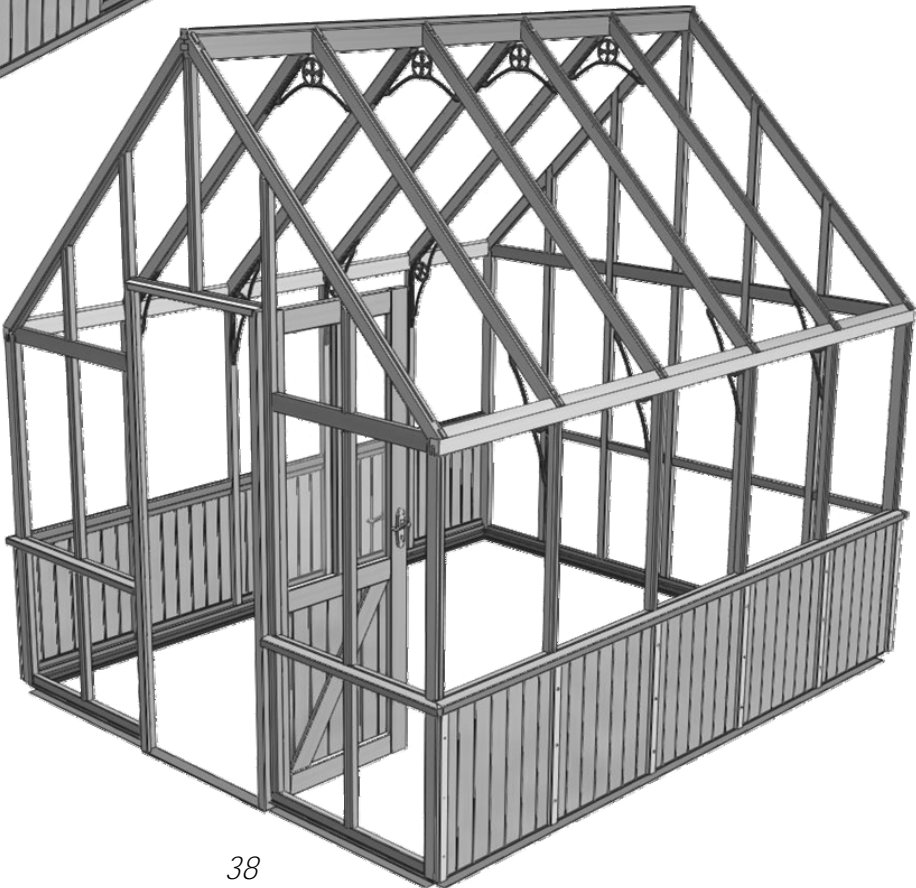
Half Board Installation

You can now fit the panels to the greenhouse frame. Start with the first panel on the side of the building and work your way round. The cedar capping is fixed with 40mm screws. Complete both sides before starting the gable ends.

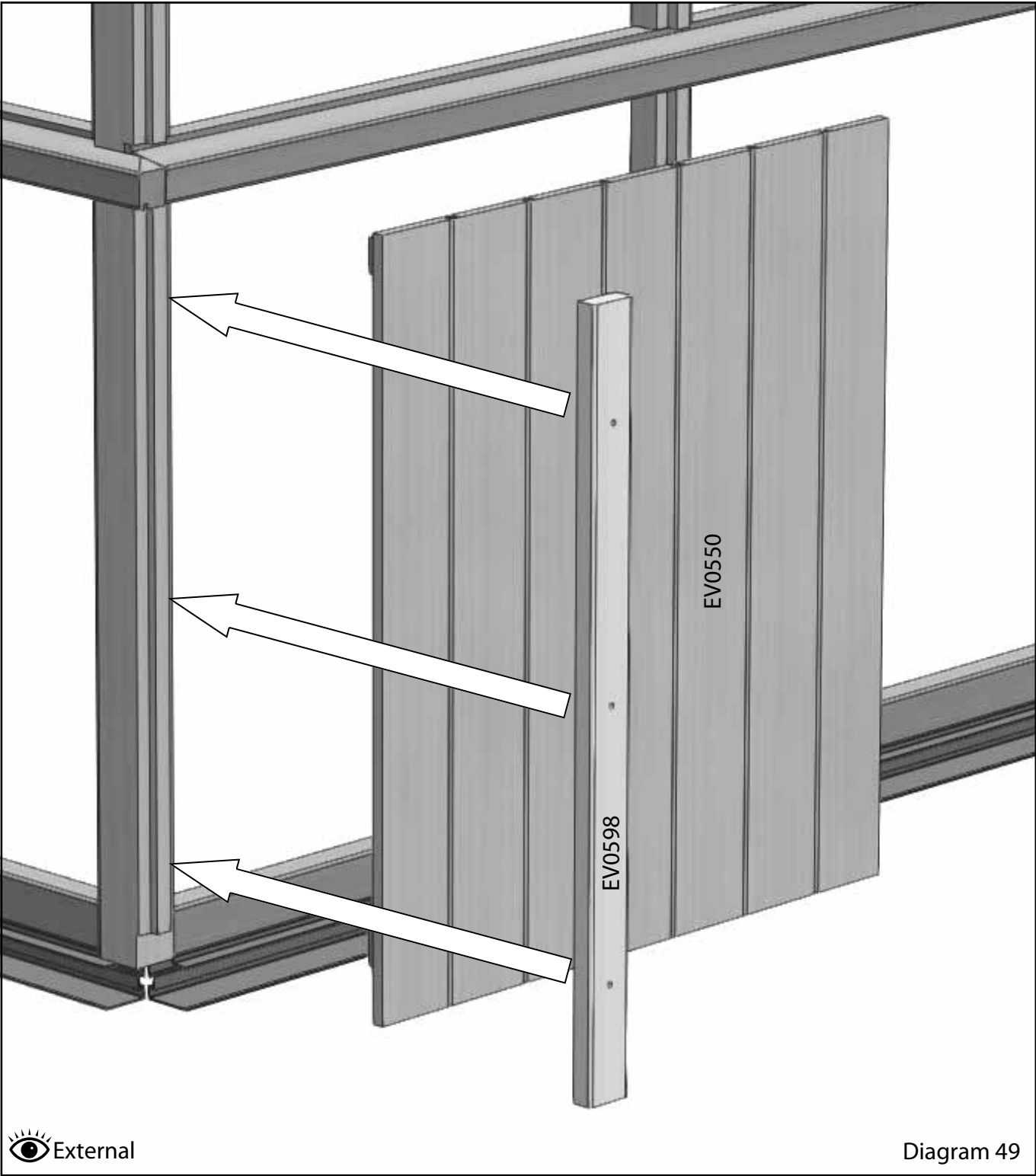
Half Board Panels					
Part Name	Part Number	6ft long	8ft long	10ft long	12ft long
Side Panel	EV0550	6	8	10	12
Gable Panel	EV0551	10	10	10	10
Capping	EV0598	17	19	21	23
Corner Capping	EV0599	4	4	4	4



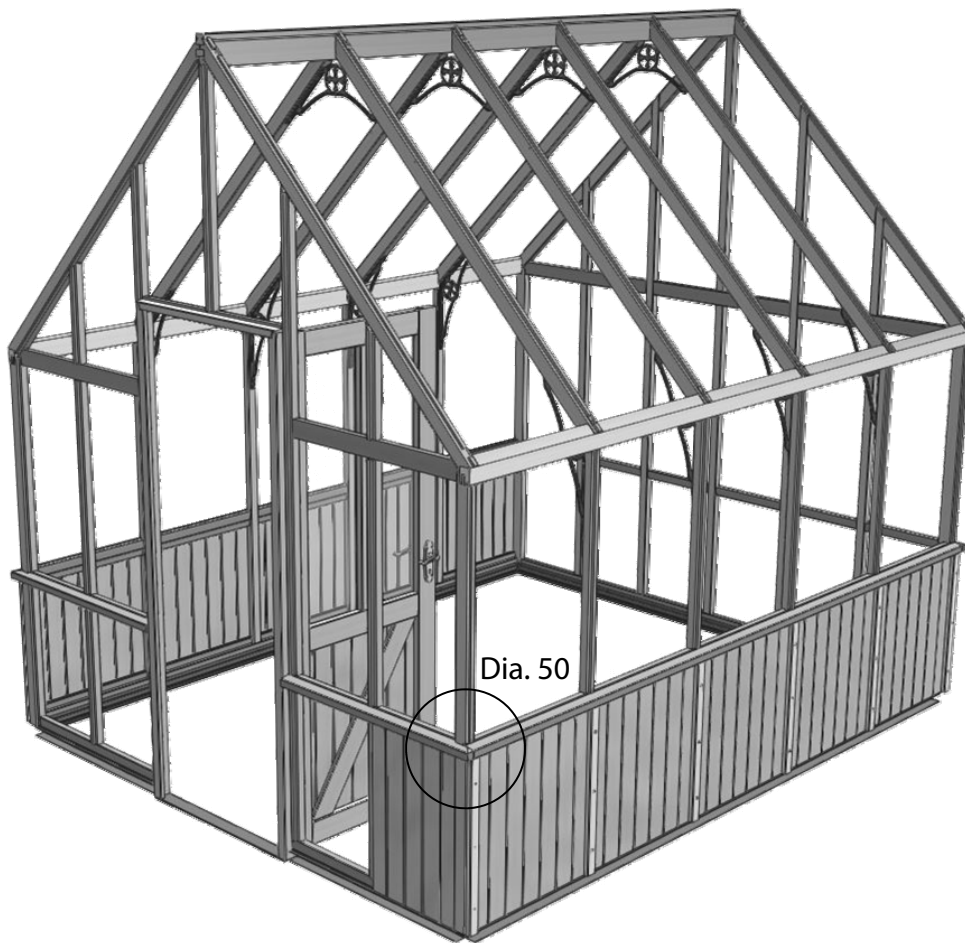
The panel should be inserted with the baton closest to one end at the top. Slot the top edge into the mid rail and push the bottom in until it locates with the cill on the inside. The panel should sit flush in the rebate of the glazing bar.



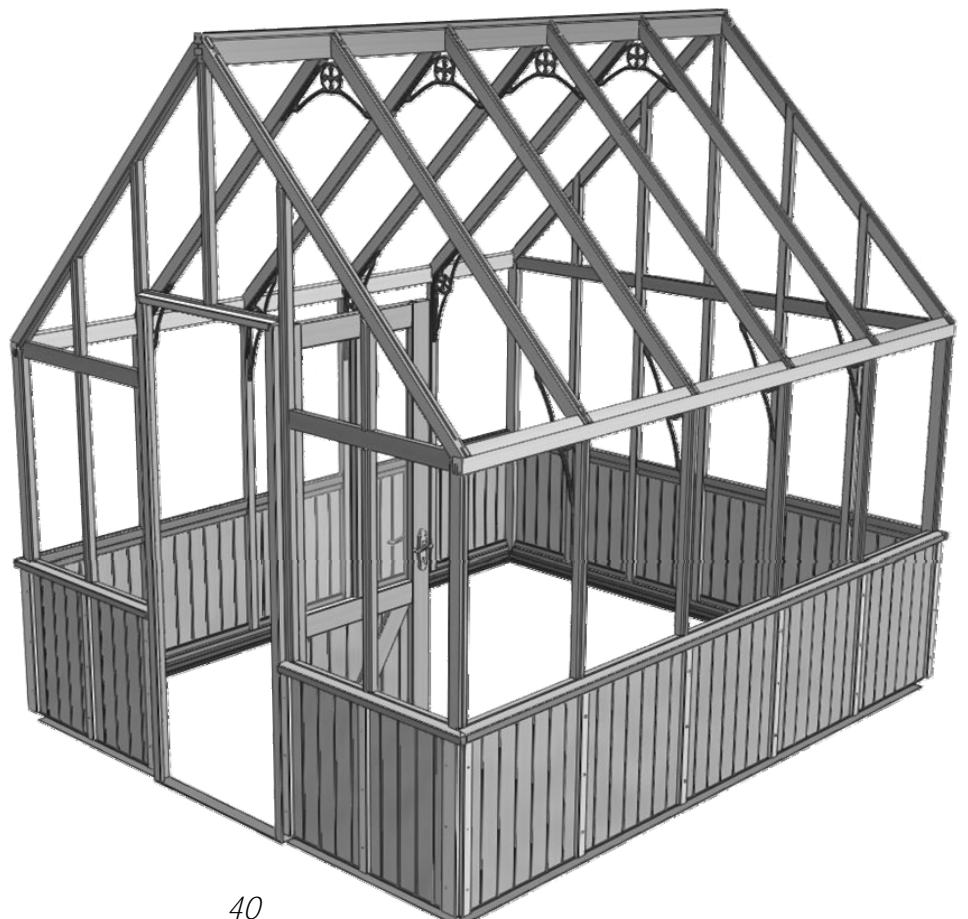
Half Board Installation



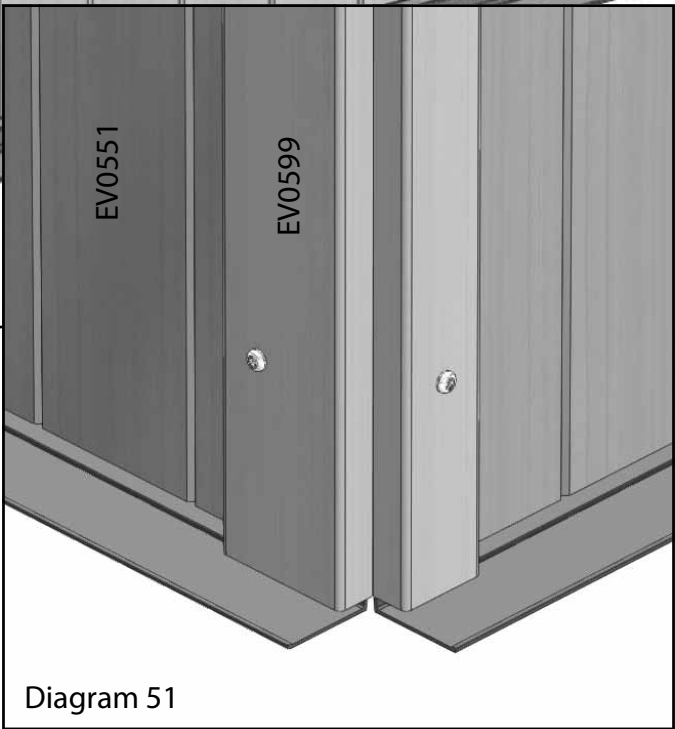
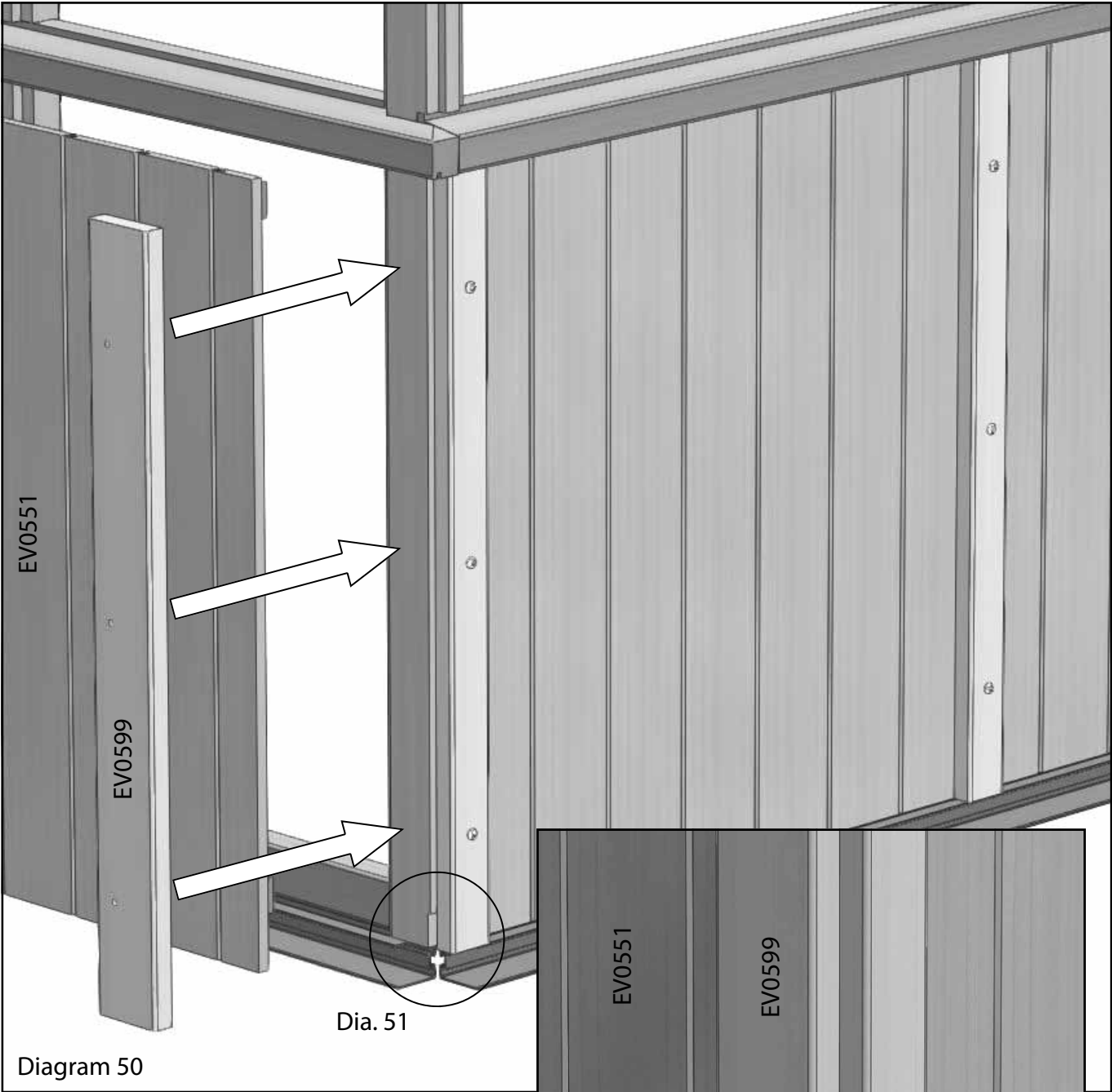
Half Board Installation



All of the capping is the same for the panels apart from the corner capping for the gable ends. This is wider to cover the gap created by the standard cap on the side of the building. It should be fitted up to this capping but not over it (diagram 51).

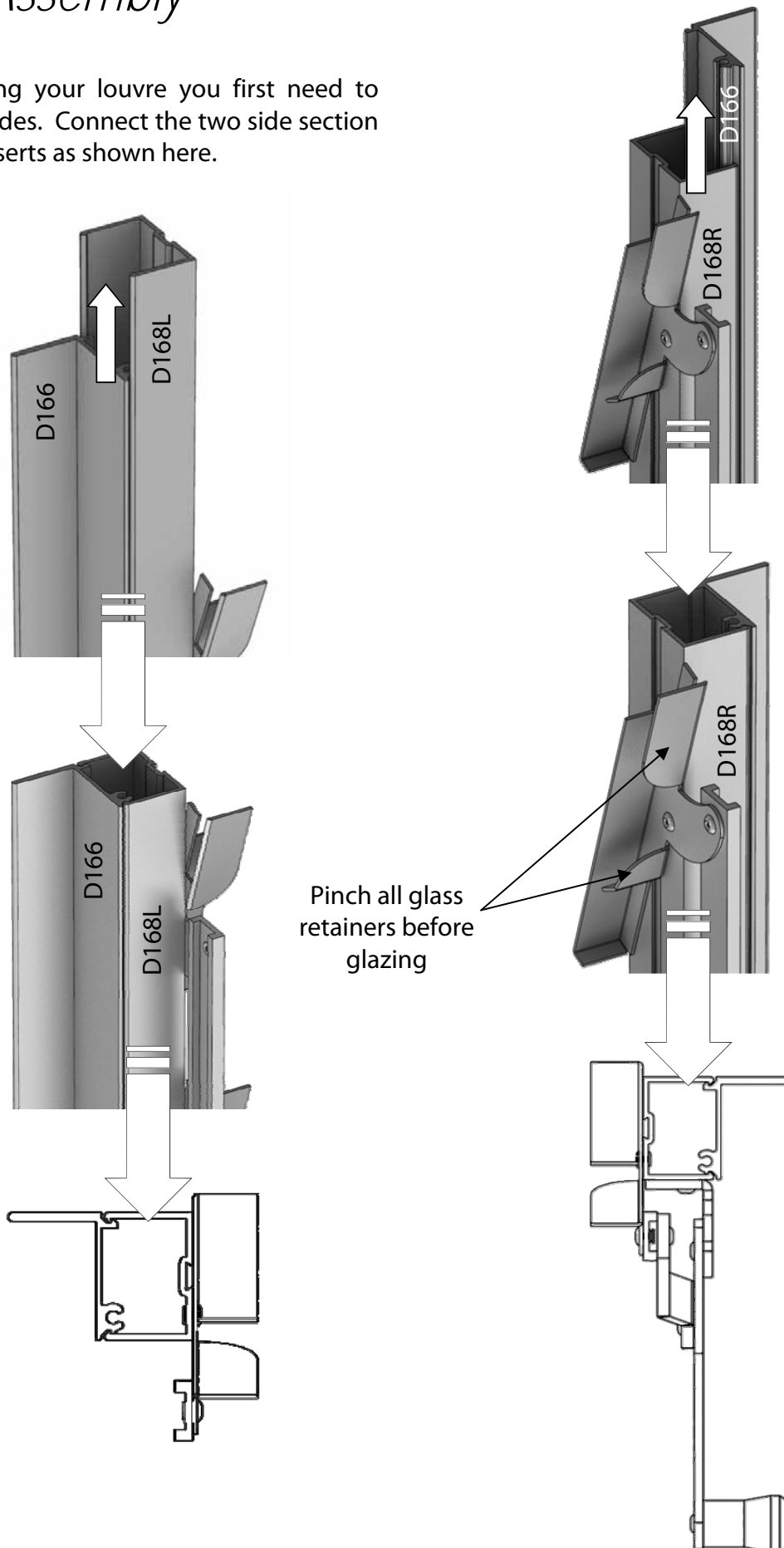


Half Board Installation



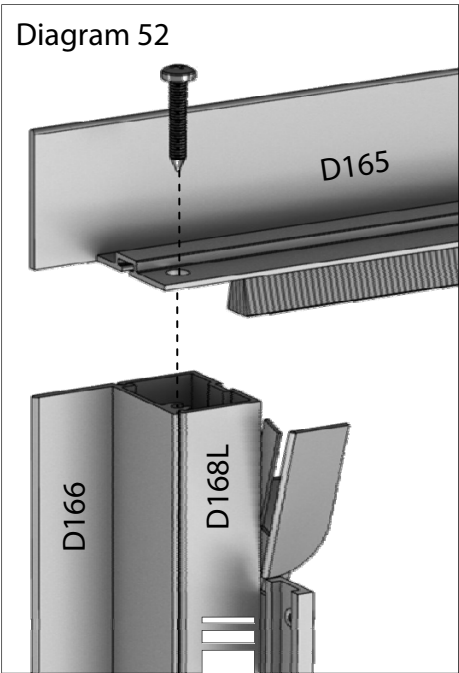
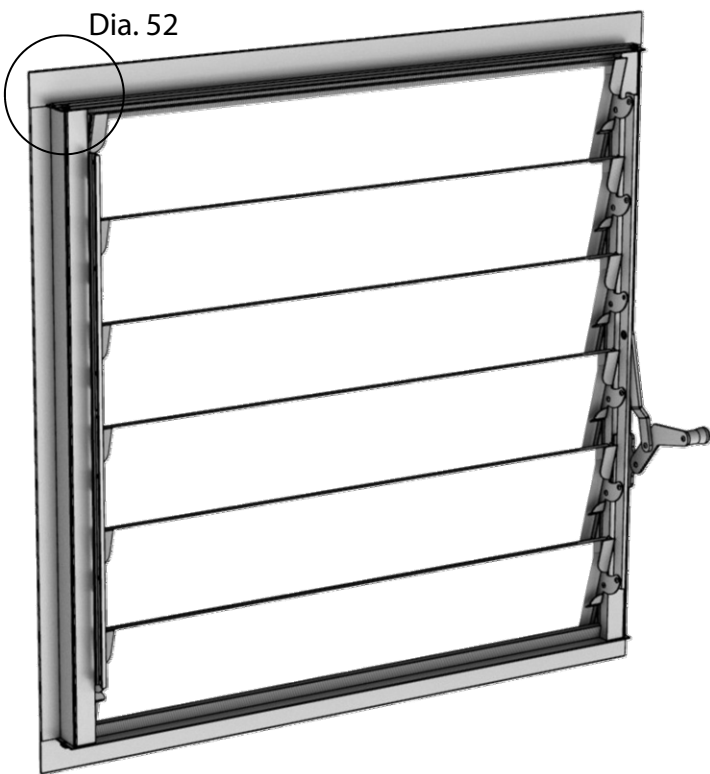
Louvre Assembly

To start building your louvre you first need to assemble the sides. Connect the two side section with the two inserts as shown here.



Louvre Assembly

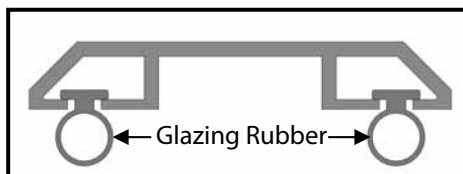
Louvre			
Part Name	Part Number	Size (mm)	Qty
Louvre Top/Bottom	D165	612	2
Louvre Side Insert	D166	552	2
Louvre Side	D168L	552	1
Louvre Side (handle)	D168R	552	1
Assembly Screw	FS6013	12	4
Louvre Glass	D729TG	100 x 525	6



Now you have assembled the side, trim the rubber seal flush with the ends. Attach the top and bottom of the louvre with the 12mm assembly screws. In each end. This locates with a screw channel in the side sections. Makes sure you pinch the glass retainers as this helps secure the glass when in place. You will find your louvre glass in the box with the louvre, you can install this now but it is easier to do so when the louvre is in the frame of the greenhouse.

Glazing *Standard cedar capping or the upgrade aluminium capping?*

If you have the Aluminium capping you need to slide the glazing rubber into channels on the back of the capping. Use a Stanley knife or scissors to cut to length, it is best to use a complete length per side.



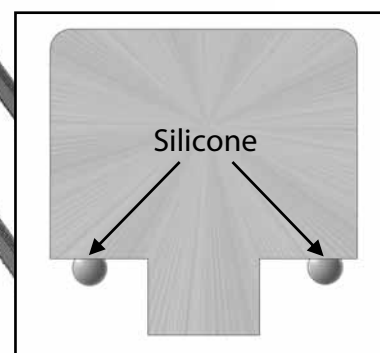
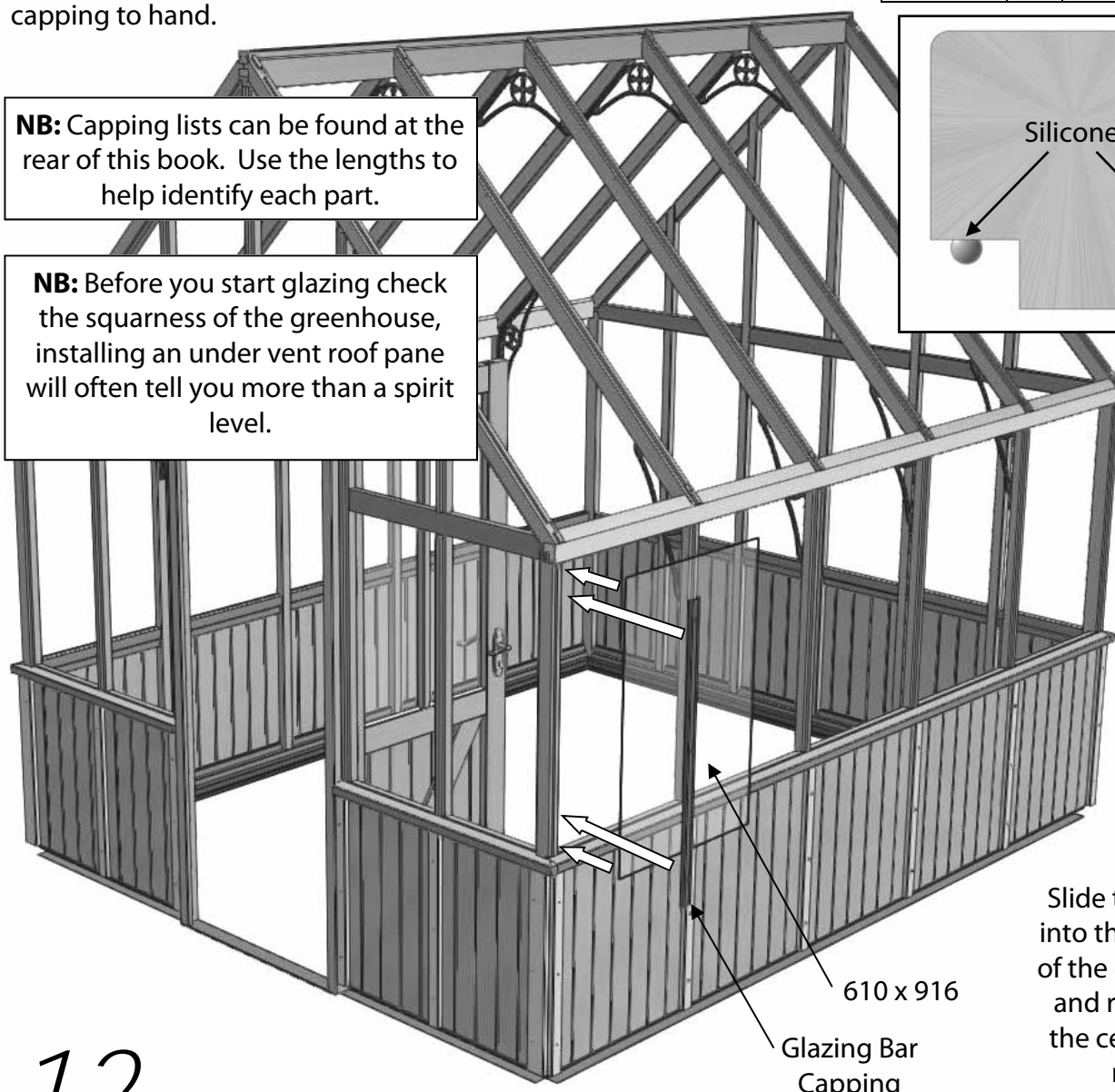
If you have the cedar capping you can pre load each strip with the 25mm screws. Also before you install each pane you need to run a thin bead of silicone up each glazing bar (no greater than 5mm is needed).

All of the capping is pre-cut to length, so sort through it placing the capping around the building close to where you can reach it. Start by glazing the first side section. Make sure you have the first piece of capping to hand.

Glass Size	86	88	810	812
A	4	4	4	4
B	4	4	4	4
C	2	2	2	2
D	2	2	2	2
405x916	10	10	10	10
610x916	5	6	8	10
610x153	2	4	4	4
525x100	6	12	12	12
610x610	1	2	3	4
610x1873	5	6	7	8
610x1256	1	2	3	4
284x1050	2	2	2	2

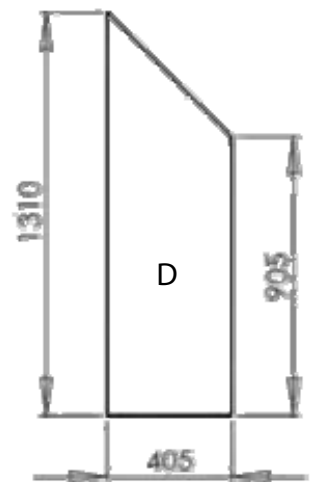
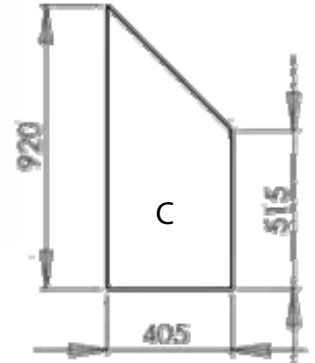
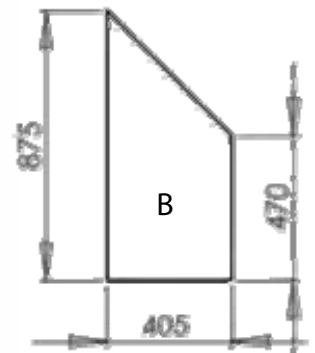
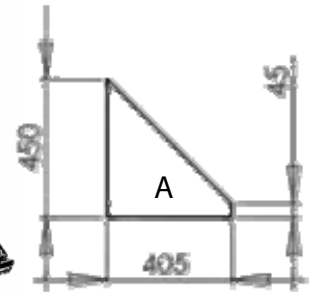
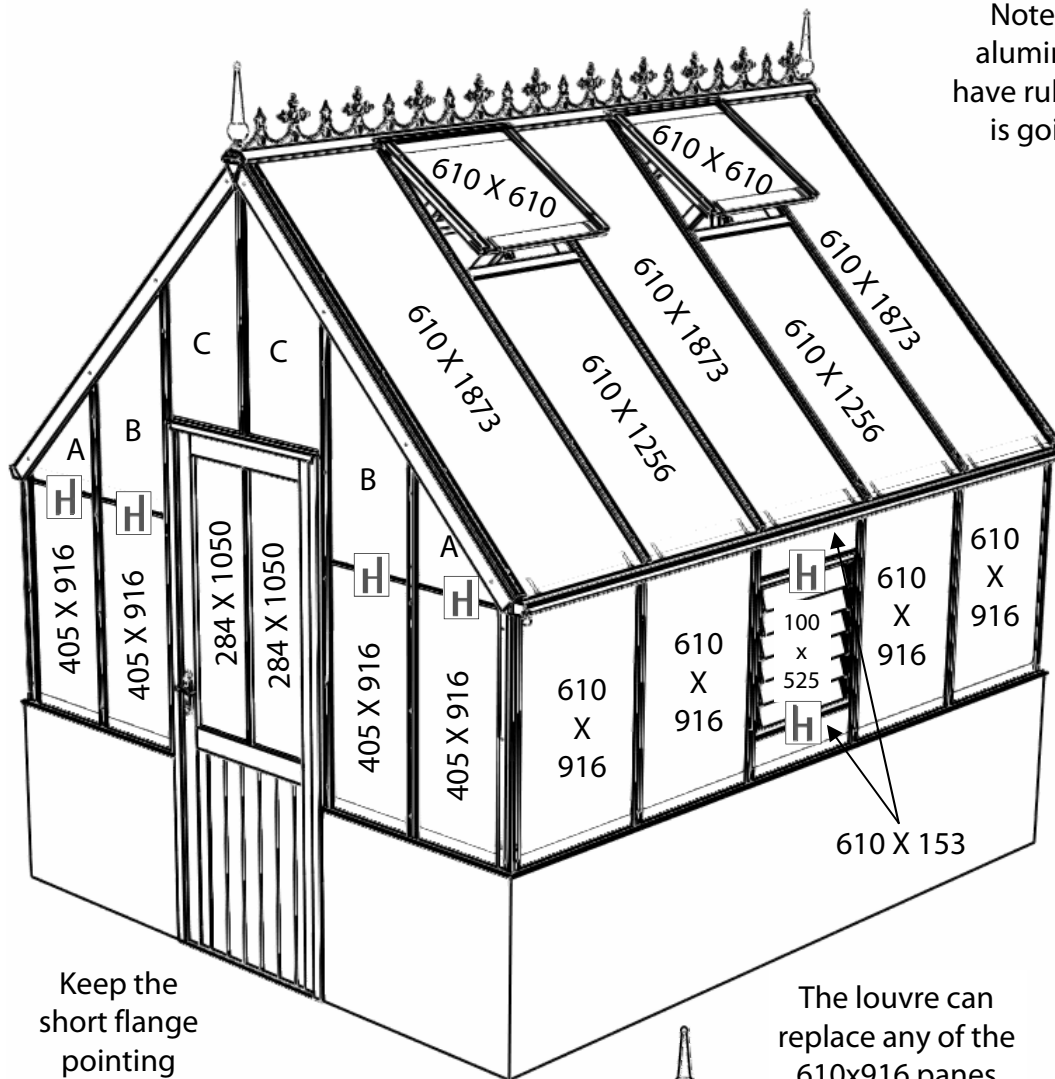
NB: Capping lists can be found at the rear of this book. Use the lengths to help identify each part.

NB: Before you start glazing check the squariness of the greenhouse, installing an under vent roof pane will often tell you more than a spirit level.

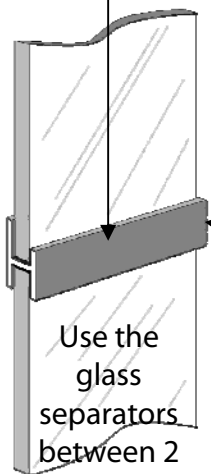


Glazing

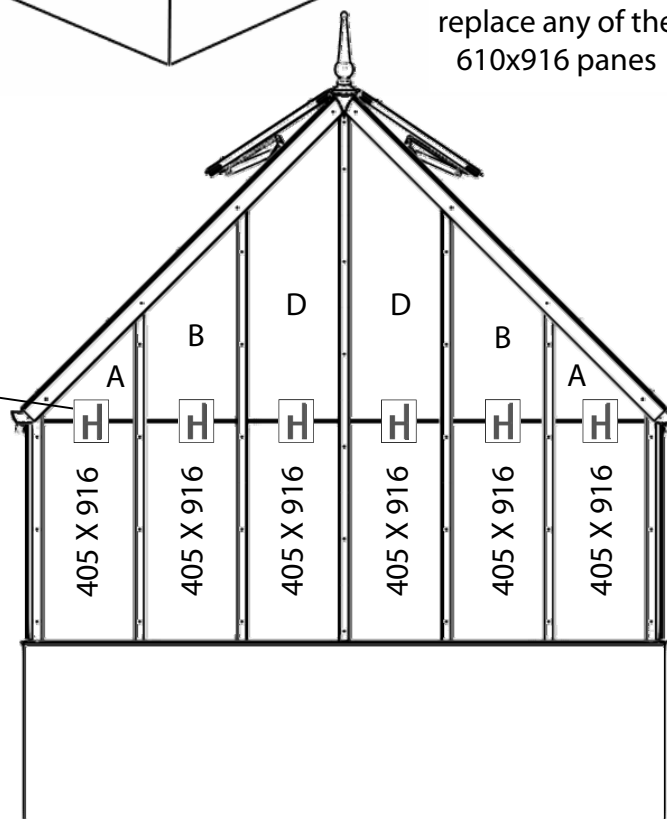
Note: All channels in the aluminium capping should have rubber inserted, even if it is going onto the timber.



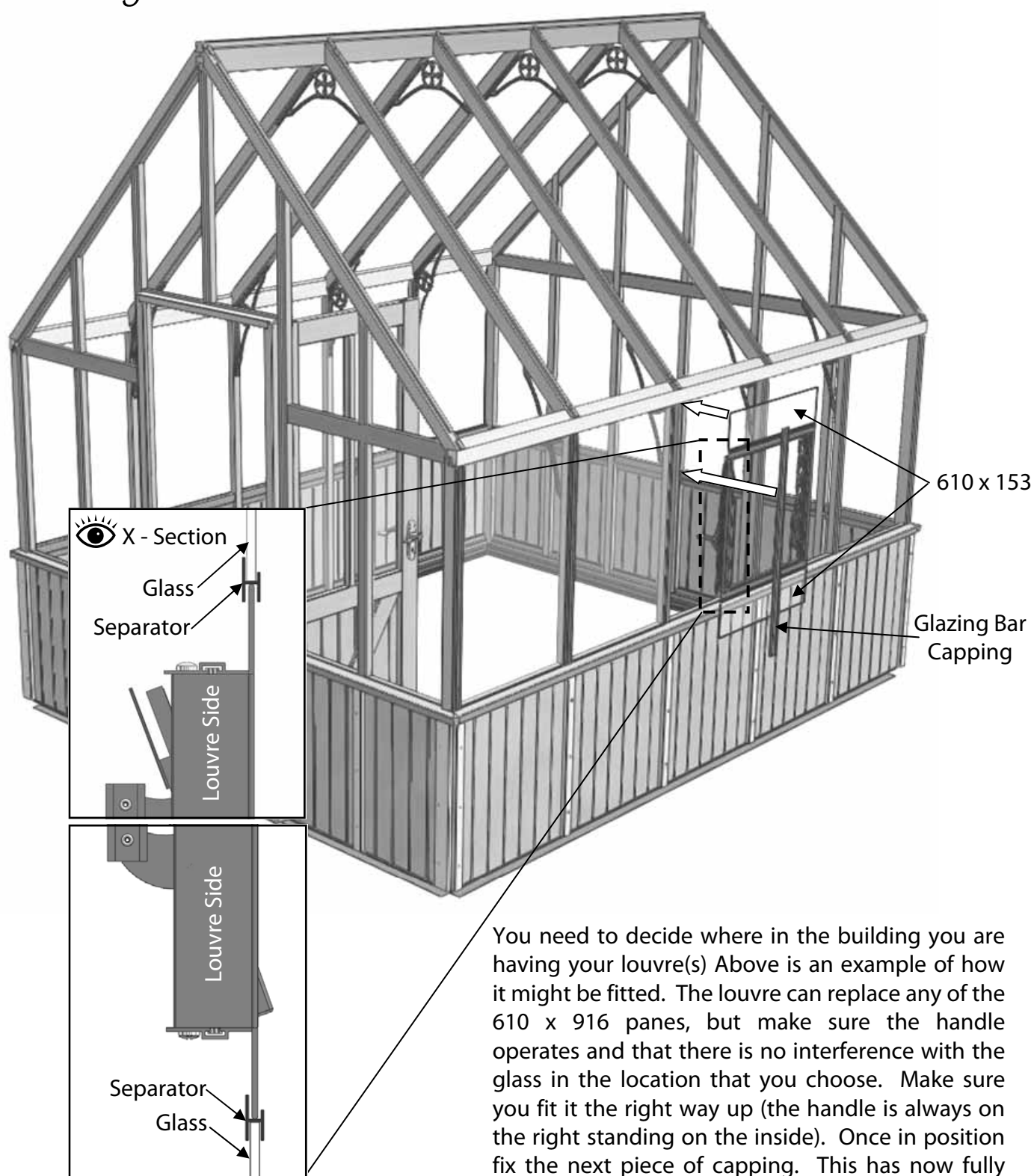
Keep the short flange pointing upwards on the outside.



The louvre can replace any of the 610x916 panes



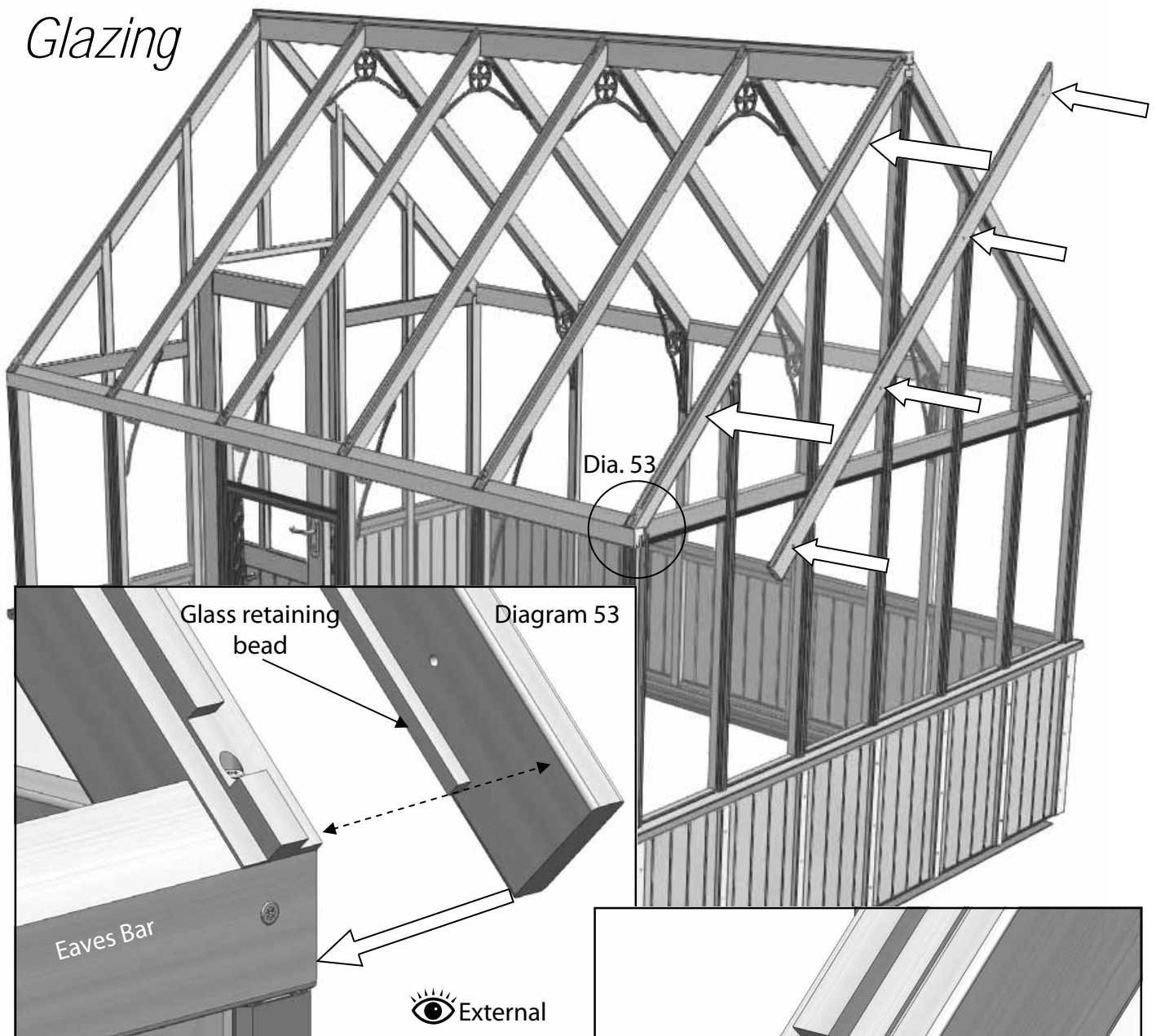
Glazing



You need to decide where in the building you are having your louvre(s). Above is an example of how it might be fitted. The louvre can replace any of the 610 x 916 panes, but make sure the handle operates and that there is no interference with the glass in the location that you choose. Make sure you fit it the right way up (the handle is always on the right standing on the inside). Once in position fix the next piece of capping. This has now fully secured the previous pane and partially secured the current one.

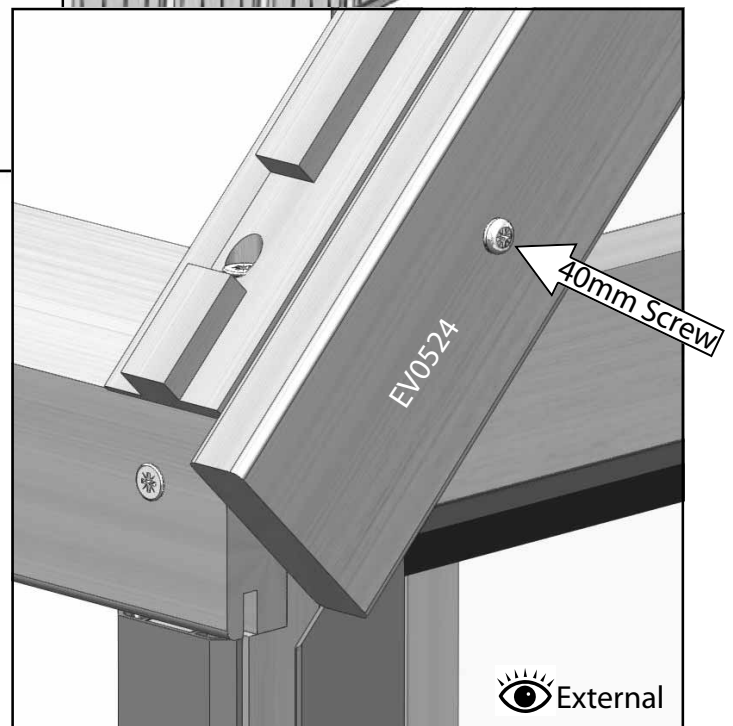
Keep working round the building in the same direction, fitting louvres when needed. If you are right handed it is easiest to work left to right and vice versa!

Glazing



Install the rear glass in the same method as the side glass, the only difference is you have to stack the shaped panes on top using the glass separators. Make sure you have all the glass to hand when you are glazing this section. It is also a good idea to have an extra pair of hands to hold glass in place while you get the next section of glass in place. Always keep the glazing capping flush to the aluminium base level with the bottom of the glass.

Once the vertical capping is on you can fit the roof corner cloaking strips. These are handed as they have glazing beads already attached to them to secure the shaped panes along the top edge, so make sure you have the correct one.



Glazing

Glaze the remaining side sections as before. When you come to the front end glaze this as you did the rear end.

Once all the roof corner cloaking strips have been installed run a bead of silicone all the way down the joint between itself and the roof corner bars (diagram 54).

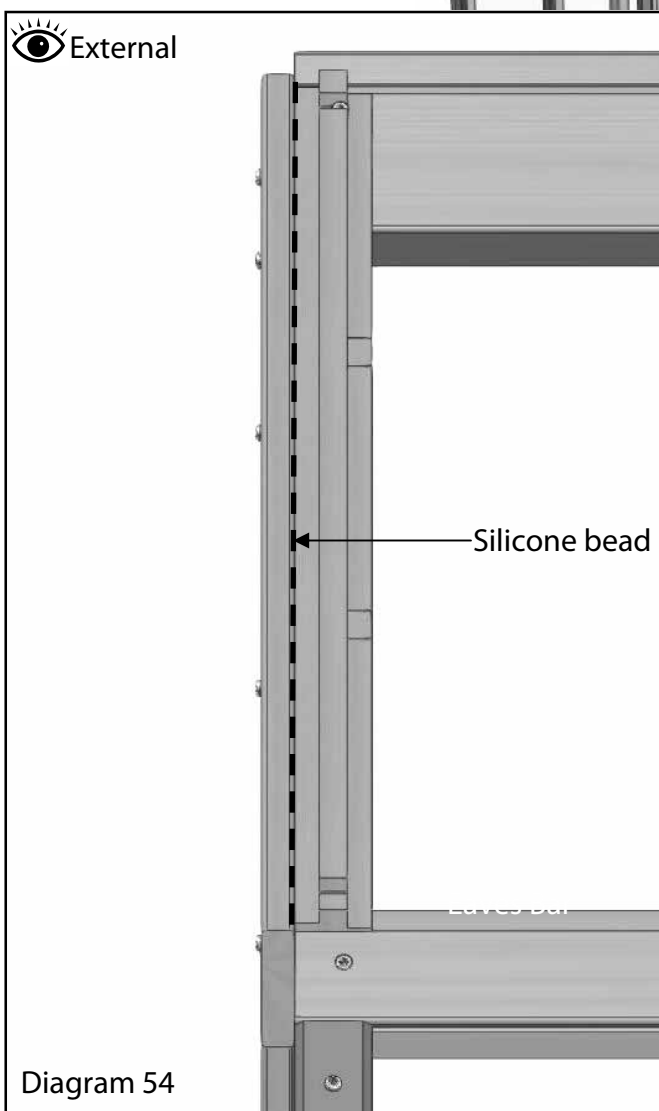
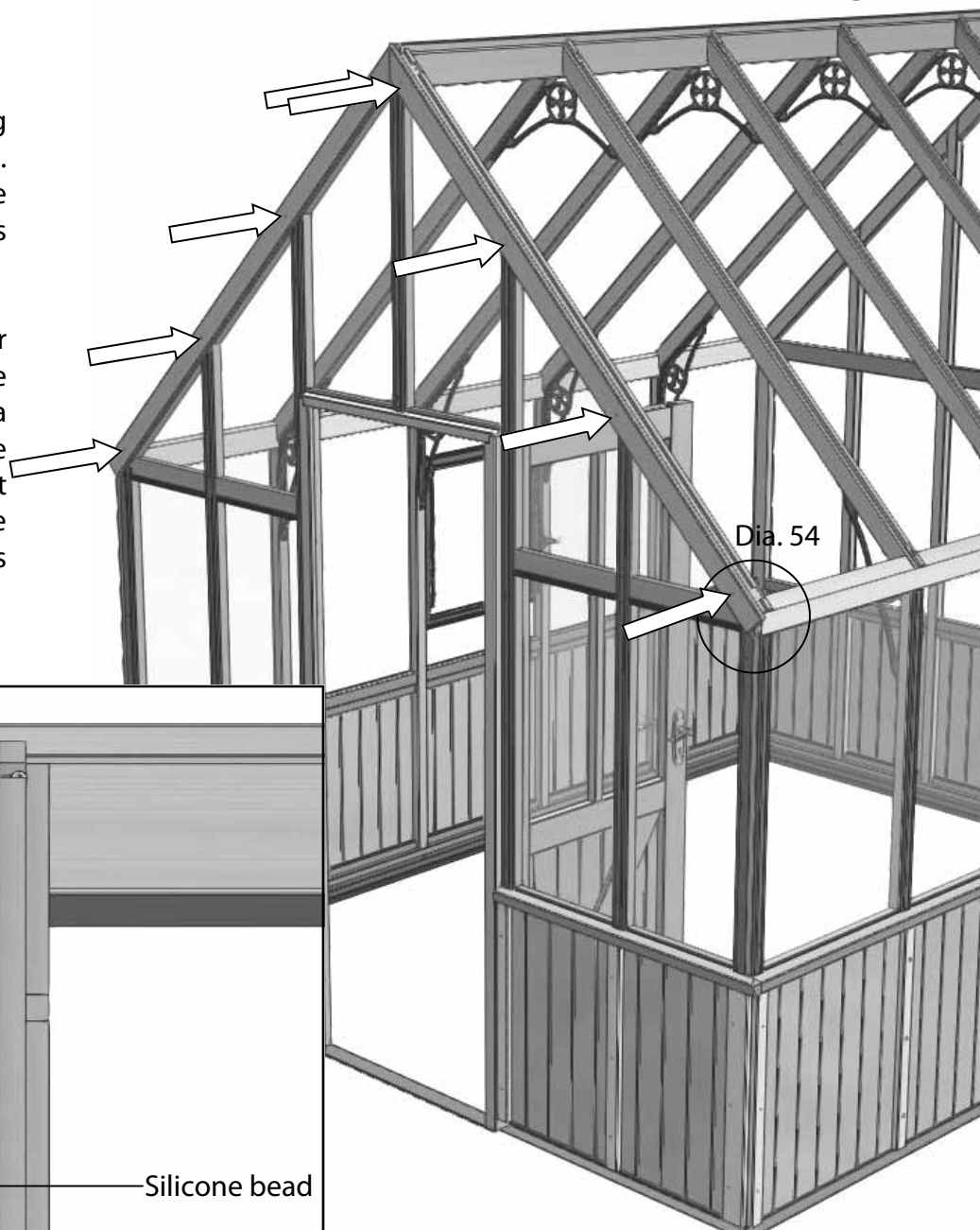


Diagram 54

Next you need to decide on the location of your roof vents. These can NOT be fitted side by side. Once you have decided this start by installing the glass that goes underneath the vent. Use 2 of the glass stops (EV0313M) per pane diagram 55.

Glazing

There are 2 grooves in the slam rail, the one nearest the edge should be used for the aluminium capping and the one nearer the middle for the cedar capping.

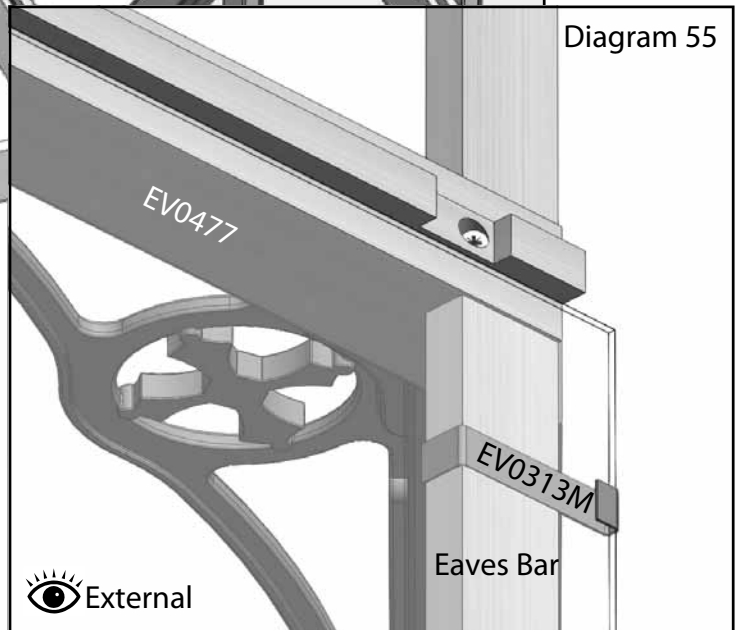
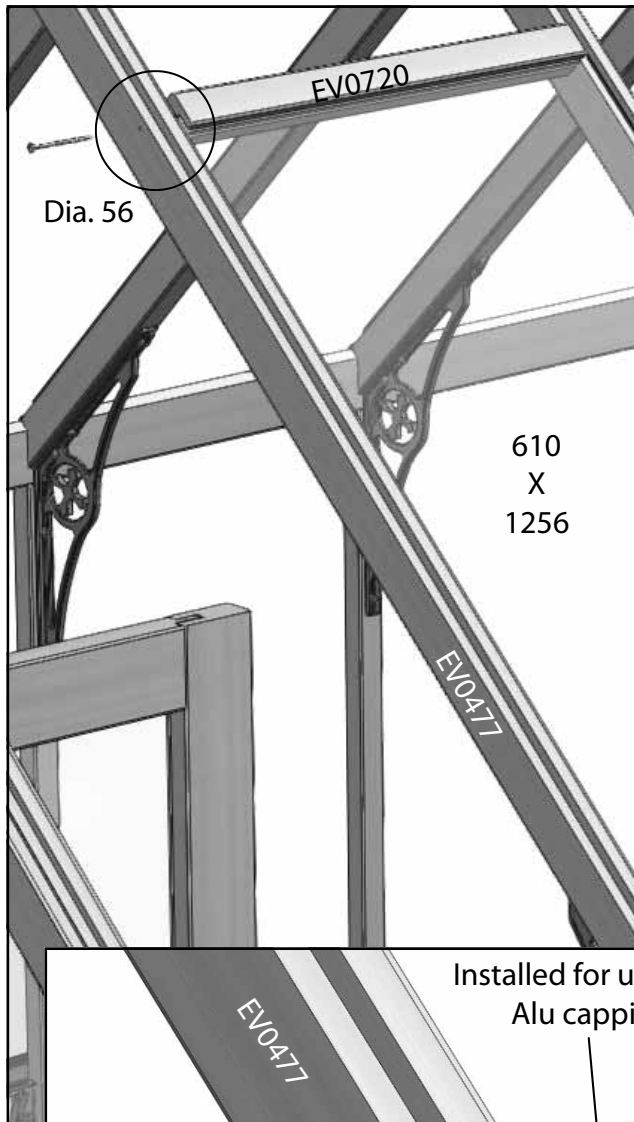
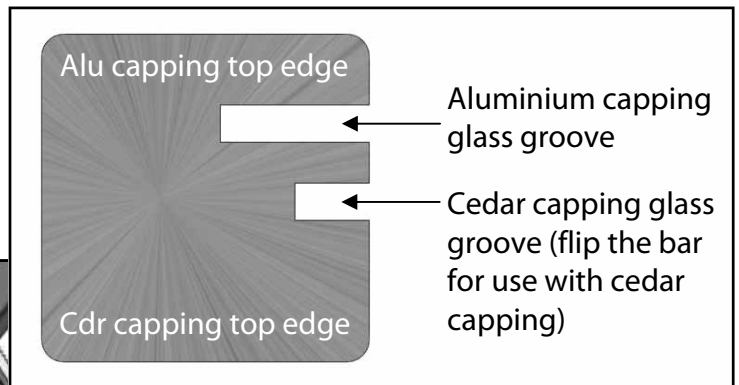


Diagram 55

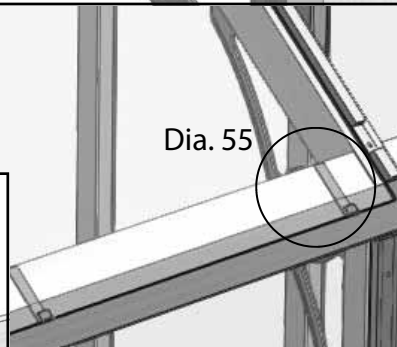
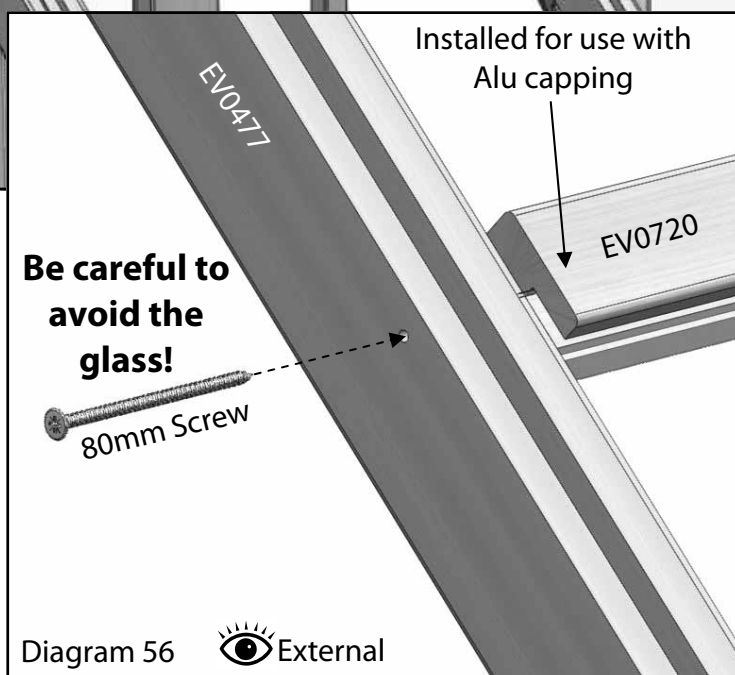


Diagram 56

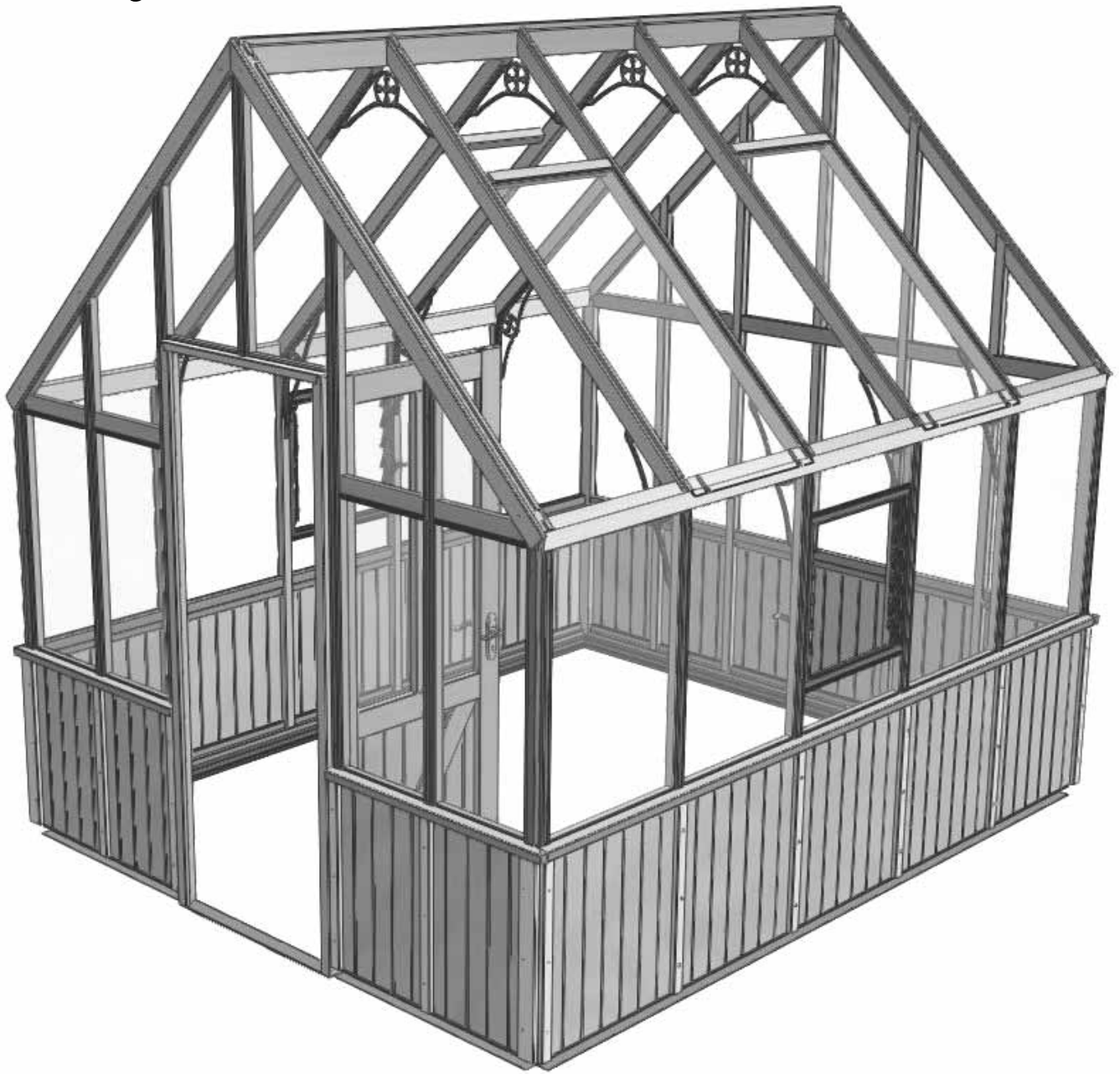
Then position the slam rail (EV0720) on top of this pane of glass. This should be fixed with a 80mm screw, diagram 56 (remember to pilot drill first), sink the head slightly into the timber for a neat finish.

Diagram 56



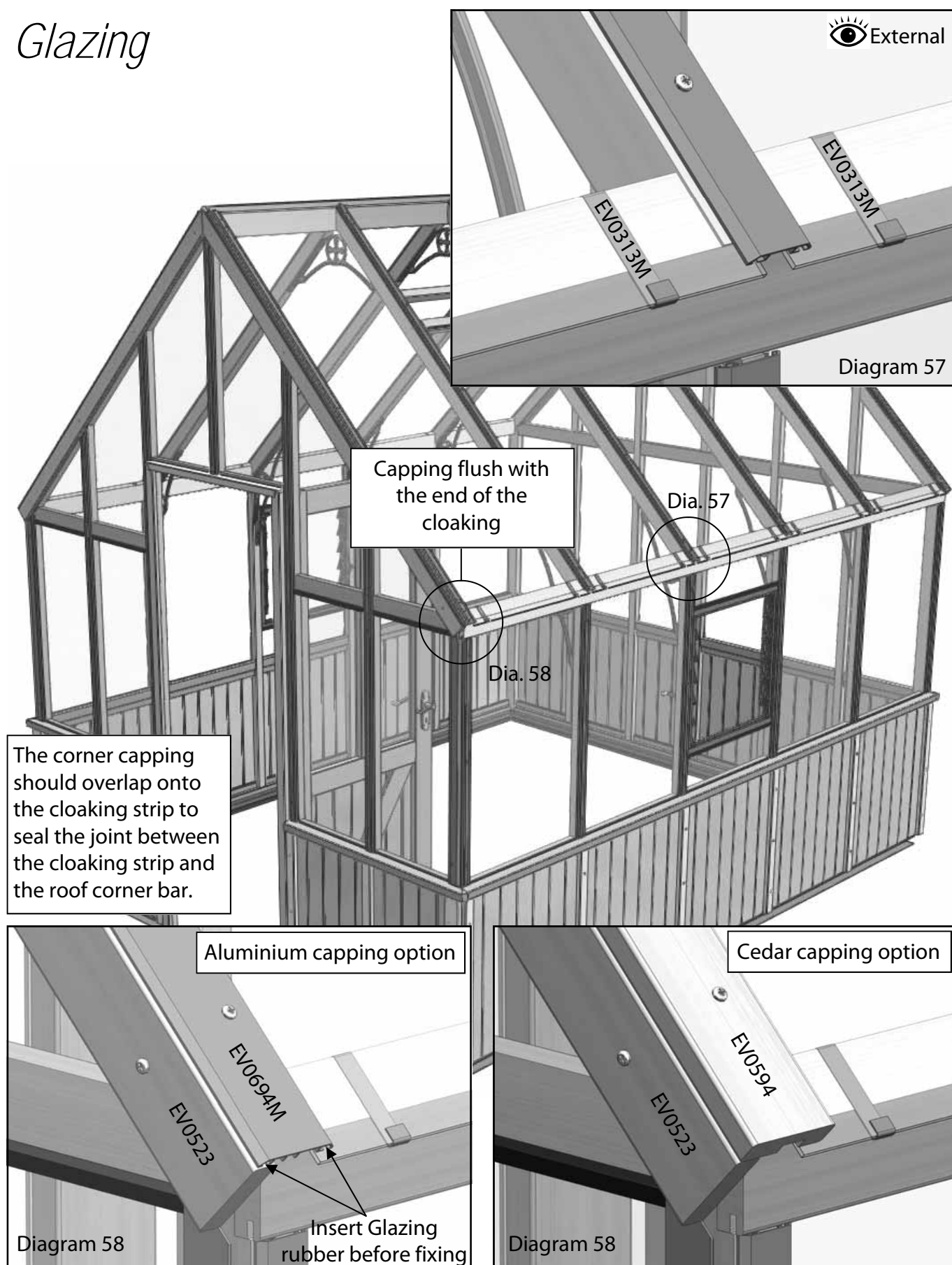
External

Glazing



Now complete the glazing by fitting the roof panes. Slide these all the way up the glazing bars, making sure they tuck into the groove in the ridge. Slot 2 of the glass stops (diagram 55,57) on and lower the pane down onto the eaves bar. This will now support itself while you fix the capping in place. As with the sides work in a loop around the building. The capping for the roof corners is wider than normal to cover the join of the cover strip to the roof corner glazing bar. The capping should also be fitted flush with the bottom edge of the glass at the eaves.

Glazing



Glazing

Dia. 59

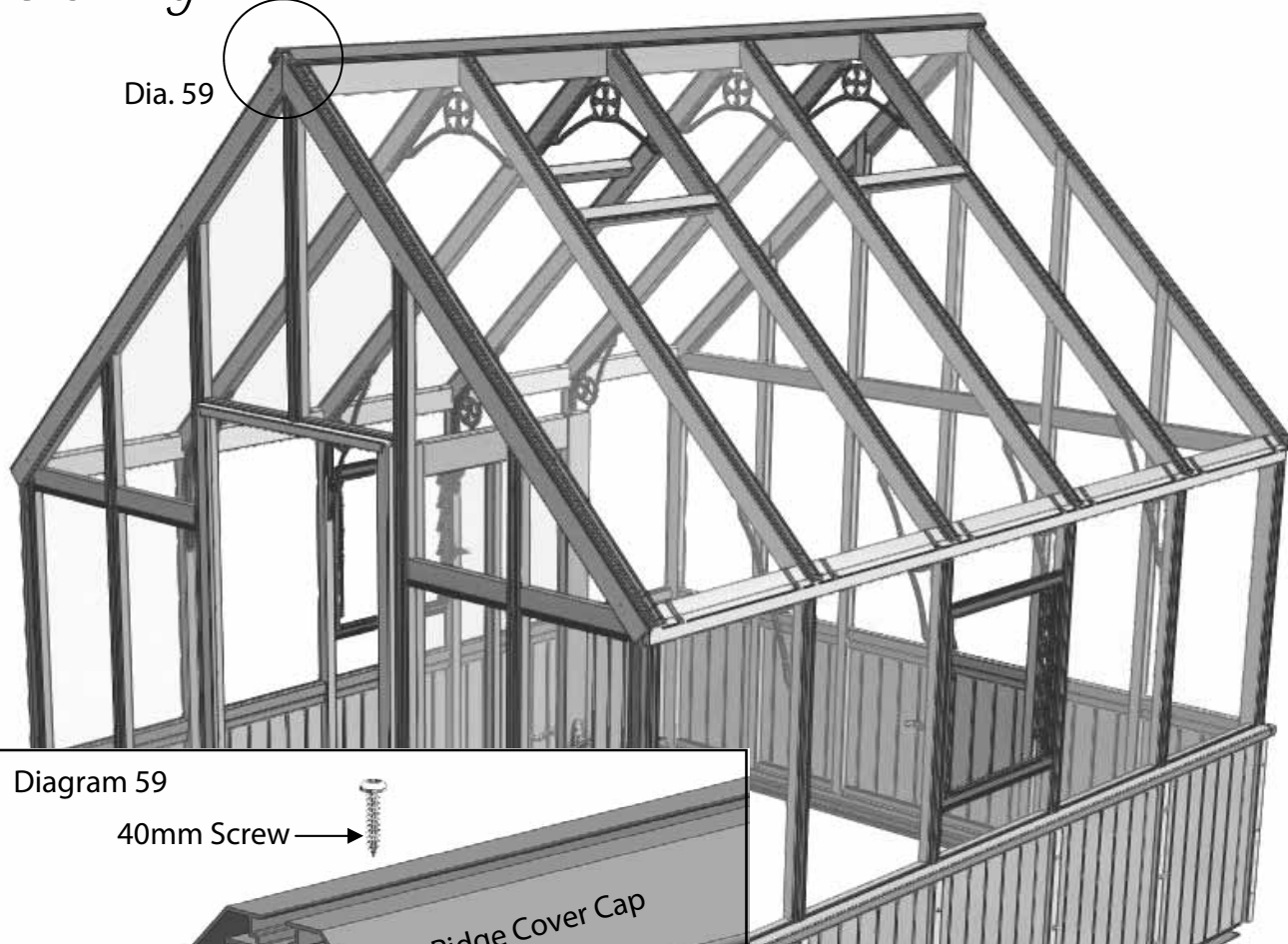


Diagram 59

40mm Screw →



Ridge Cover Cap

EV0594

Cedar capping option

Diagram 59



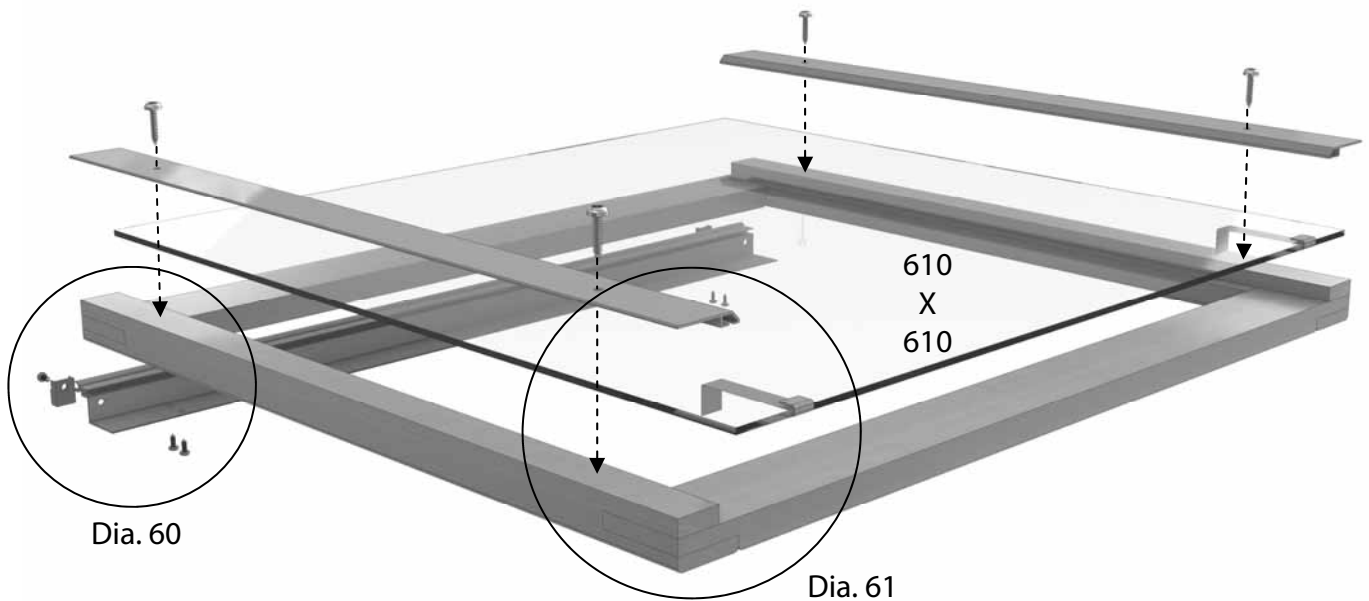
Ridge Cover Cap

EV0694M

Aluminium capping option

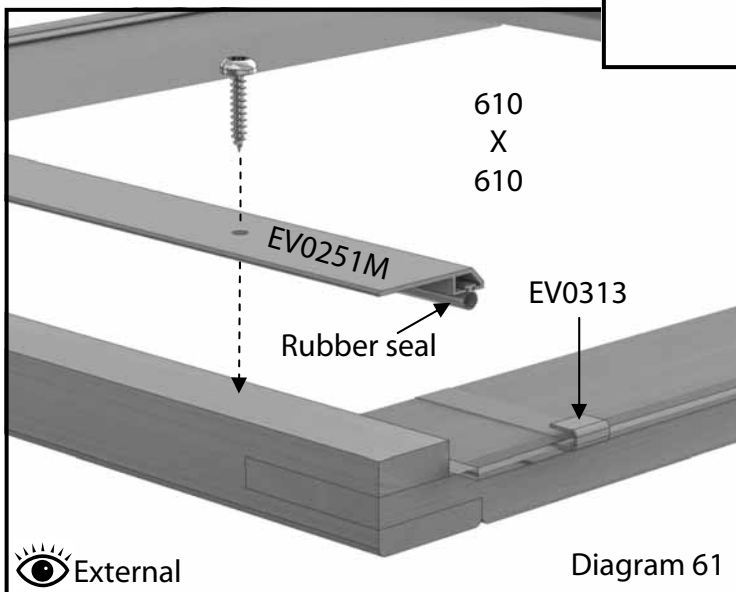
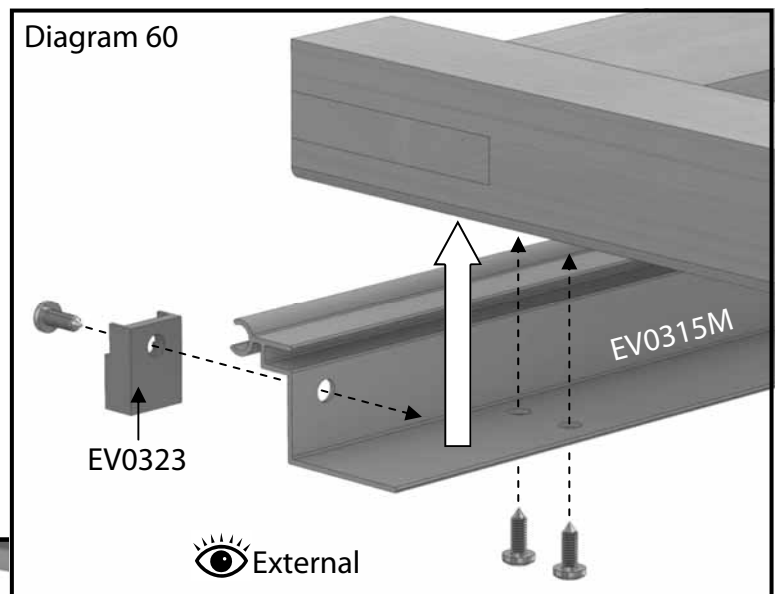
Once all the glazing has been finished you can install the ridge cover cap. This is a universal part that can be used with either cedar or aluminium capping. Simply place this on top of the ridge bar and fix in place using 25mm screws through the pre-drilled holes.

Roof Vent Installation



Take the vent frame that is ready assembled and fix the vent hinge to one end through the 4 pre drilled holes using the 19mm screws, diagram 60. Once this is in place fix the plastic vent filler (EV0323) also with a 19mm screw, its is **important** to make a pilot hole before fixing the plastic filler to prevent splitting.

Now take a 610mm x 610mm pane of glass and locate this in the vent hinge. Before lowering this down completely slot the glass stops onto the open edge.

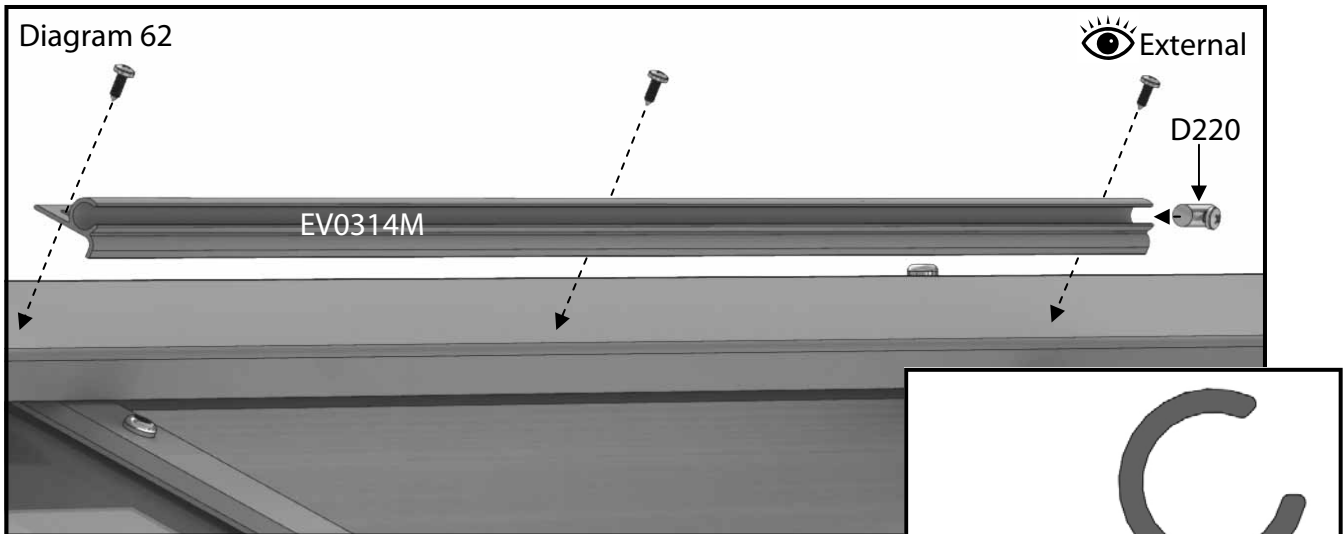


When in position you can fix the glass in place with the vent capping (either cedar or aluminium) using the 25mm screws, diagram 61. Remember if you are using the aluminium capping system you will need to insert the rubber seal before fixing it in place.

(Cedar capping part number: EV0151)

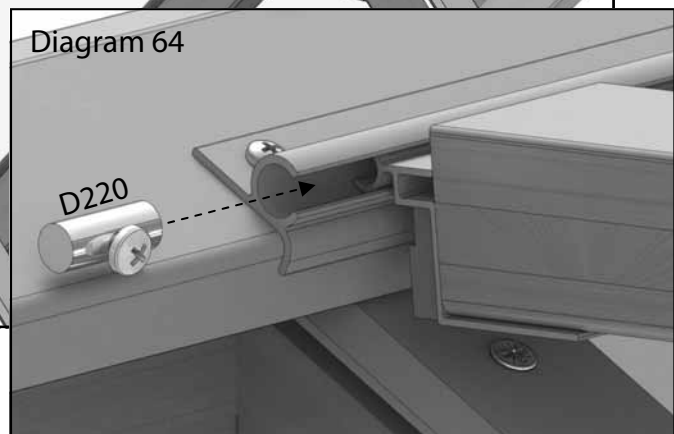
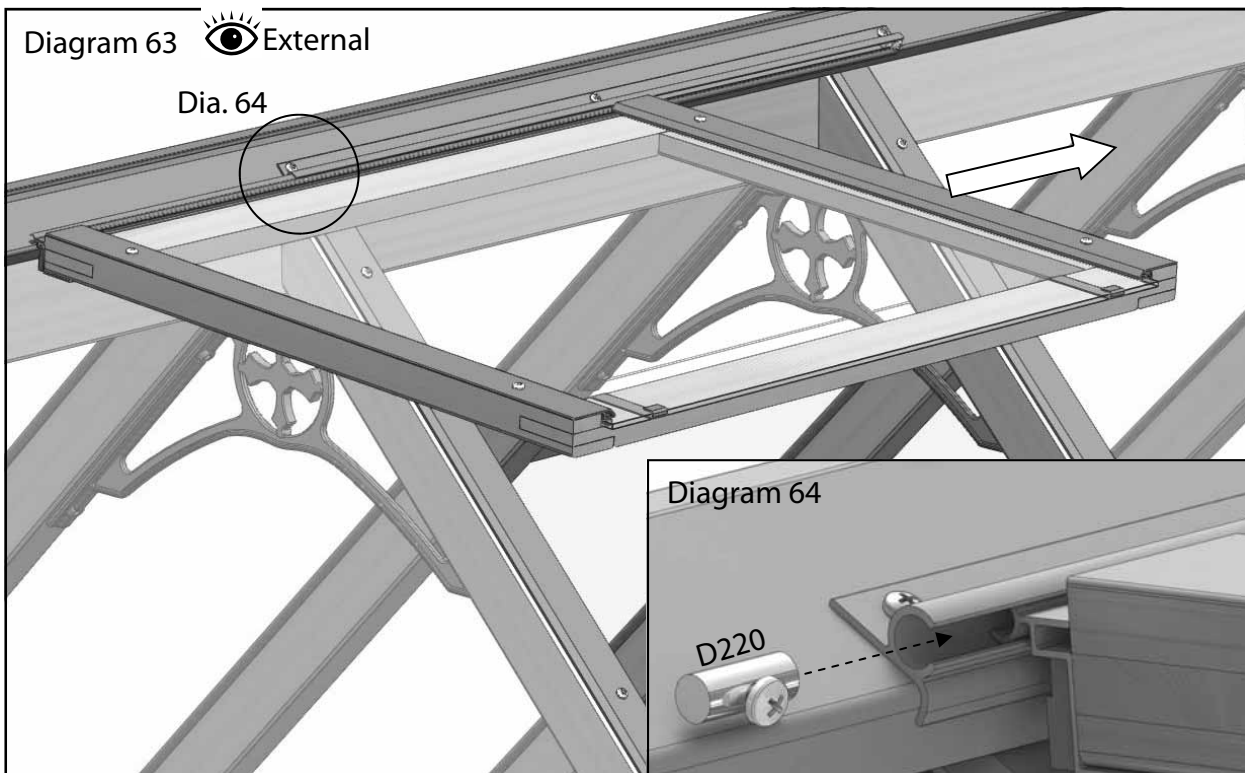
Roof Vent Installation

Once you have assembled the roof vents you can now install them to your building. Prepare the ridge hinge (EV0314M) by running a bead of silicone along the back edge.

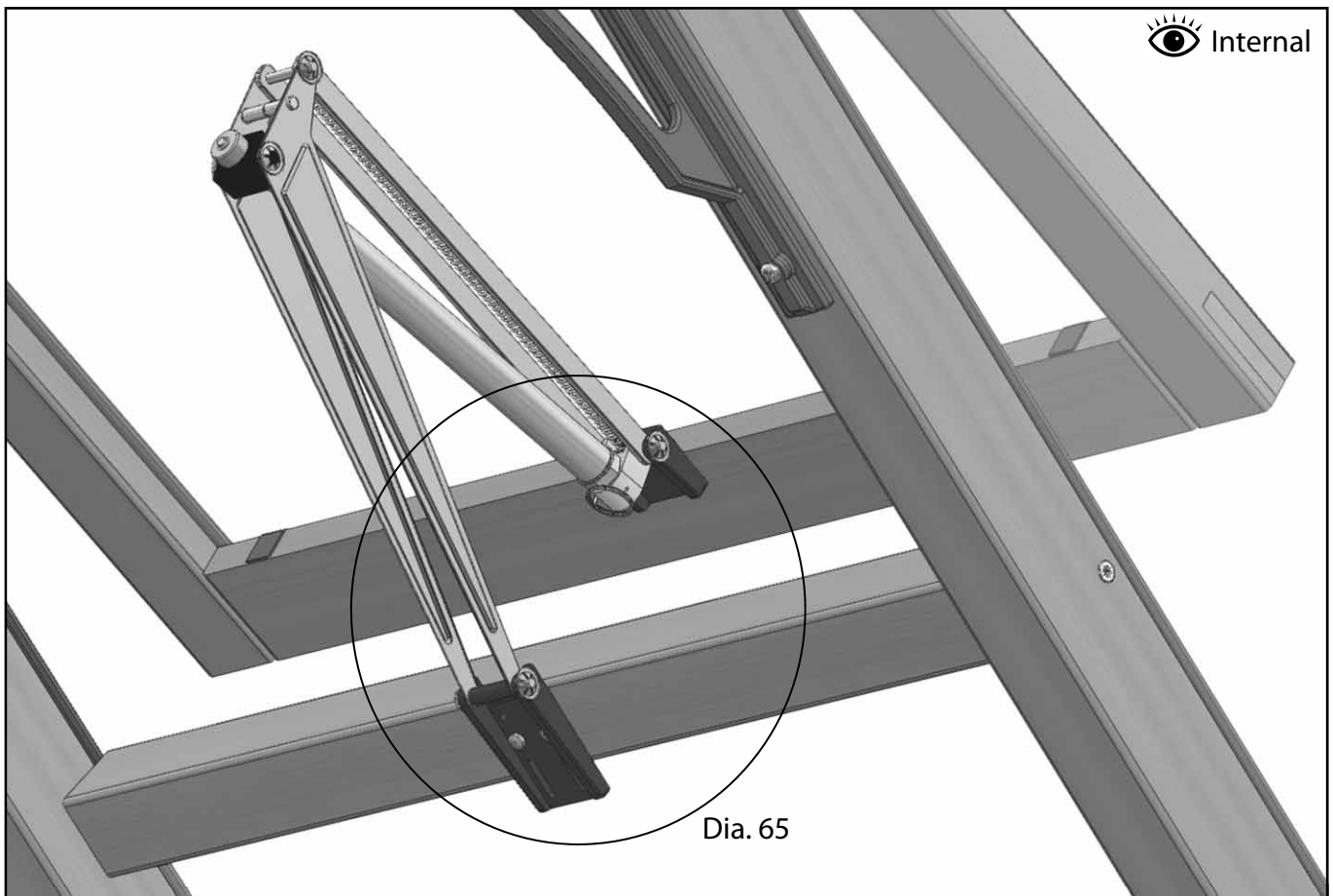


Then position this spaced equally over the opening in the roof. Use the 13mm self tapping screws to fix the hinge section to the ridge cap, the screws will bore their own hole into the aluminium as you screw. Secure one of the vent stops (D220) at one end of the ridge hinge channel.

Next slide the roof vent along the channel of the ridge hinge from one end and secure with another vent stop, diagram 63 and 64. You can now lower the vent until it rests on the roof bars.



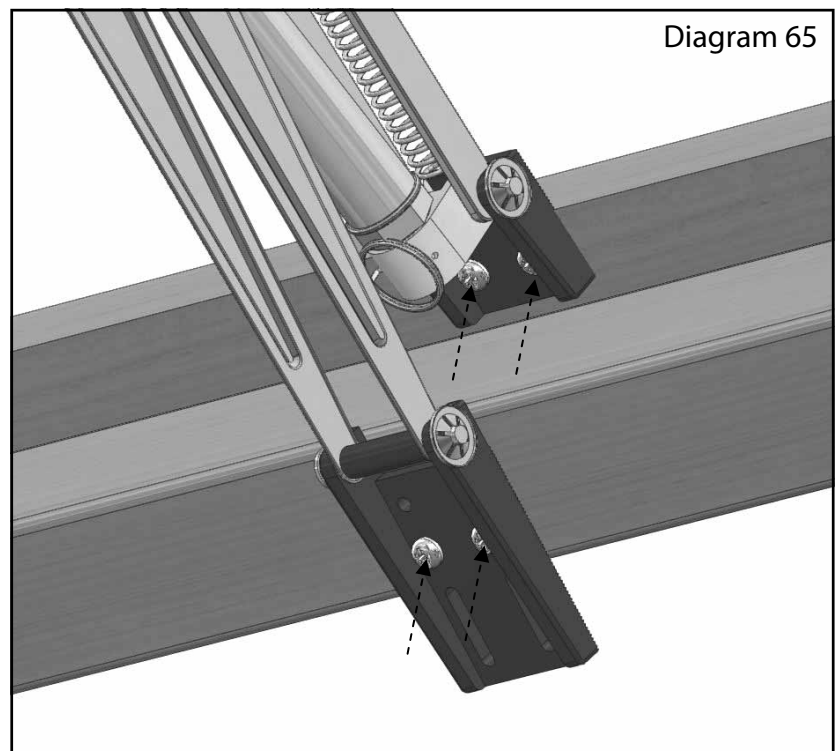
Roof Vent Installation



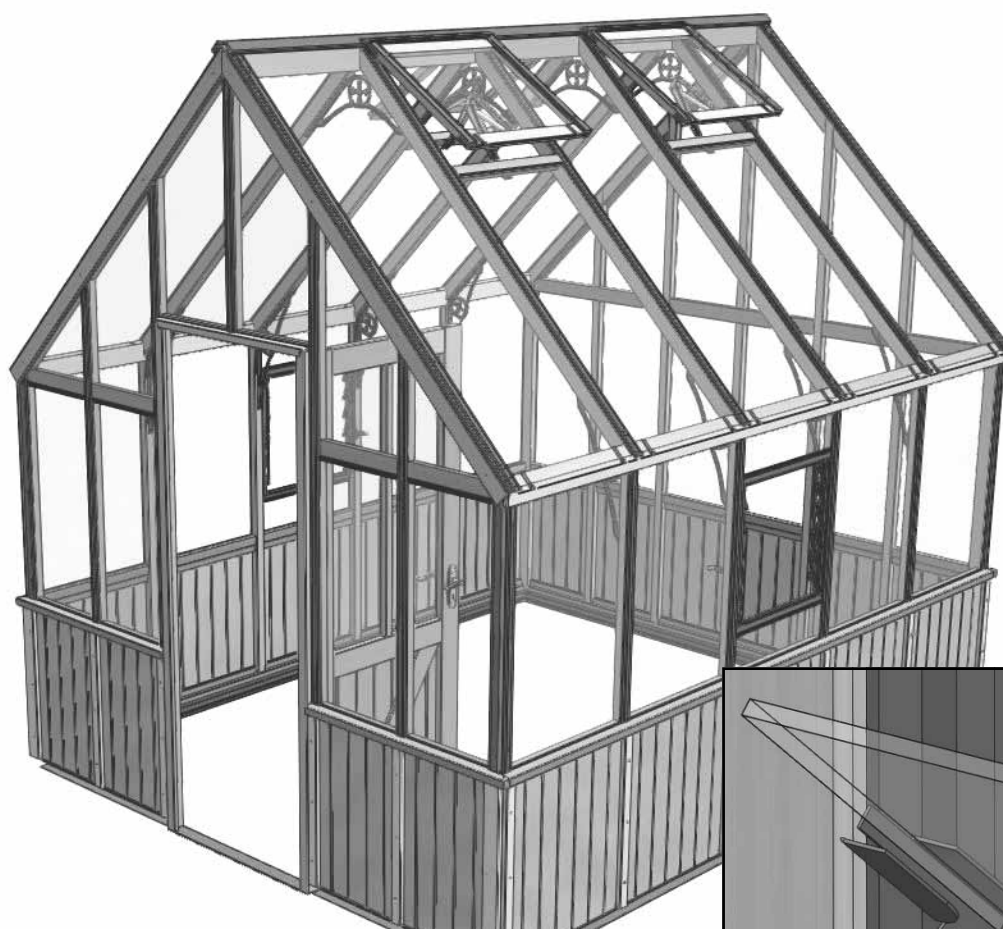
Now fit your autovents to the slam rail and to the bottom of the roof vents, diagram 65. Use 19mm screws to secure the top arm of the autovent to the roof vent, do this with the roof vent in the closed position so that you get the bracket in the correct position.

Adjust the position of the lower arm on the slam rail until the arms of the autovent are parallel with the roof as possible, then fix with 25mm screws.

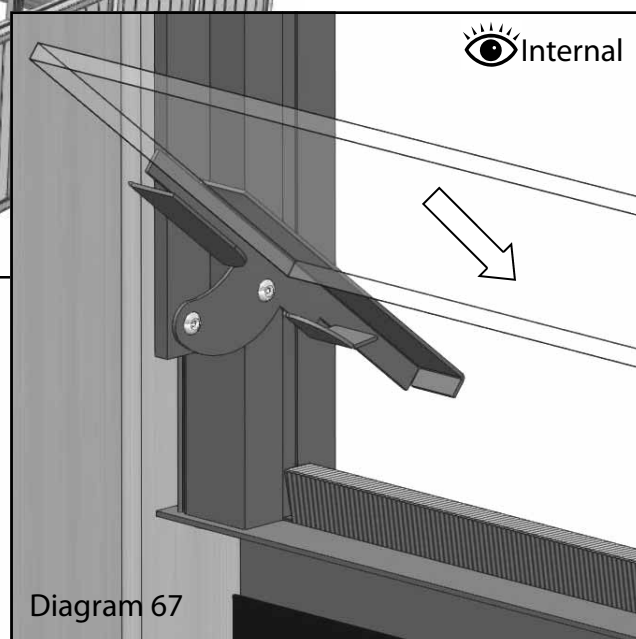
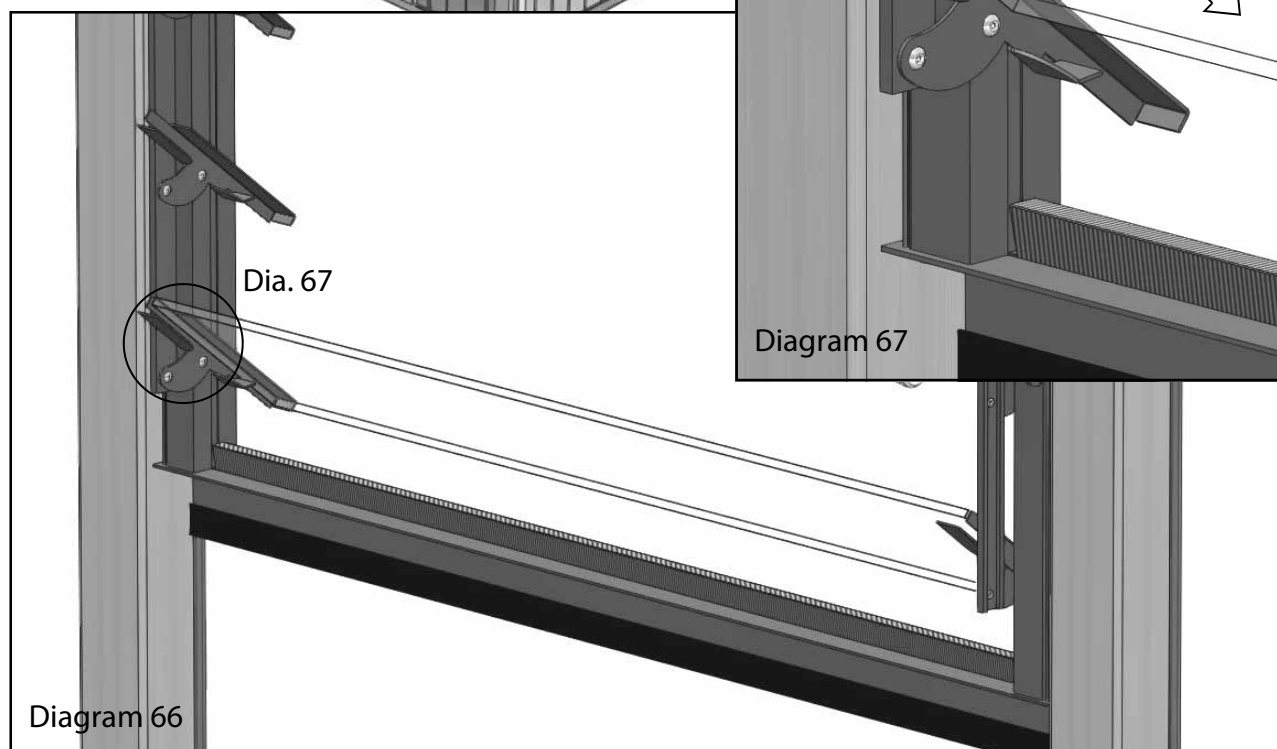
NB. Disregard any fitting instructions in the autovent box and any extra plates or screws as these are for other greenhouses. However you should keep the leaflet as the operating instructions are on there.



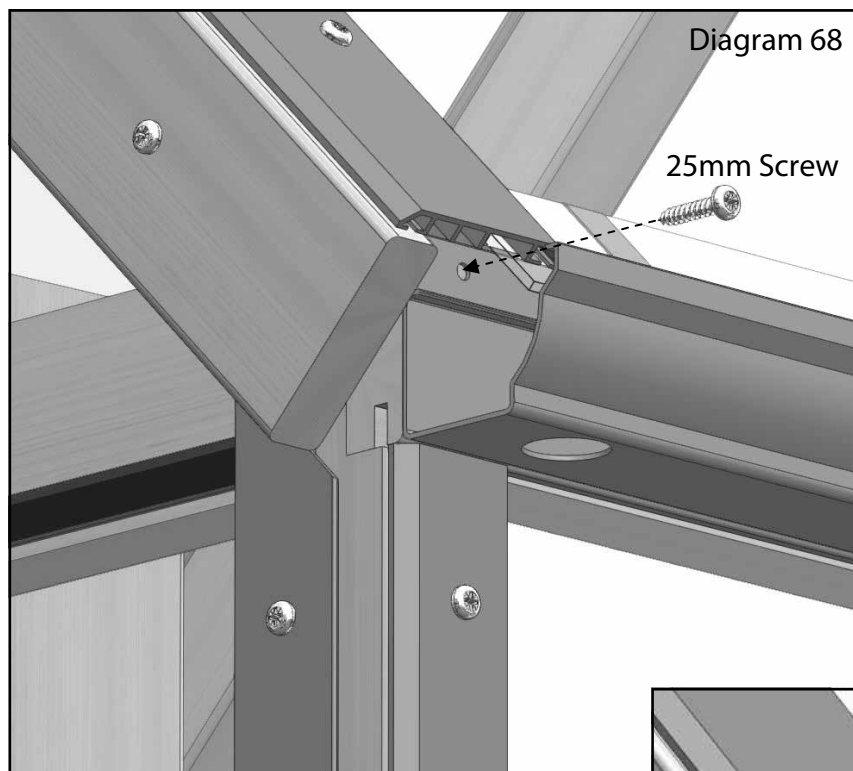
Louvre Glazing



If you haven't already done so you could now install the louvre glass. Make sure the tabs on the glass retainers are pinched slightly so they hold the glass tight. Standing on the inside of the building slot the first louvre slat in until it hits the bottom tab of the retainer. Repeat this until all are installed.



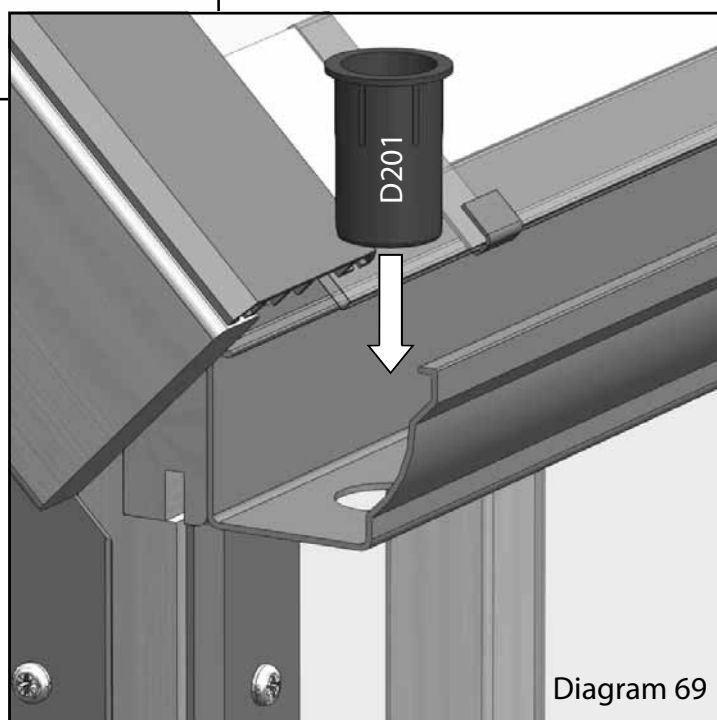
Gutter and Downpipe Installation



With help position your gutter on the side face of the eaves bars, this should be the same length as the eaves bar and fit between the ends of the roof corner bars. Fix it in place with 25mm screws, diagram 68.

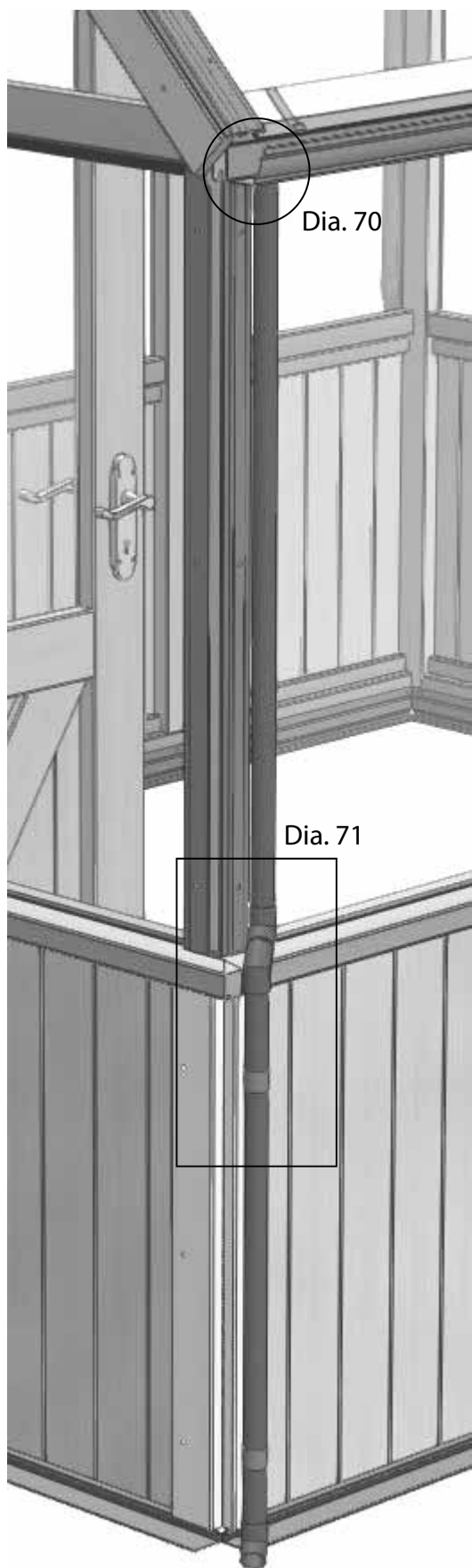
Fit the plastic pipe insert in the end of the gutter you want your down pipe to run out of (diagram 69). Use a small amount of silicone to seal this in place.

Go to the next page to see how the downpipe can be installed.

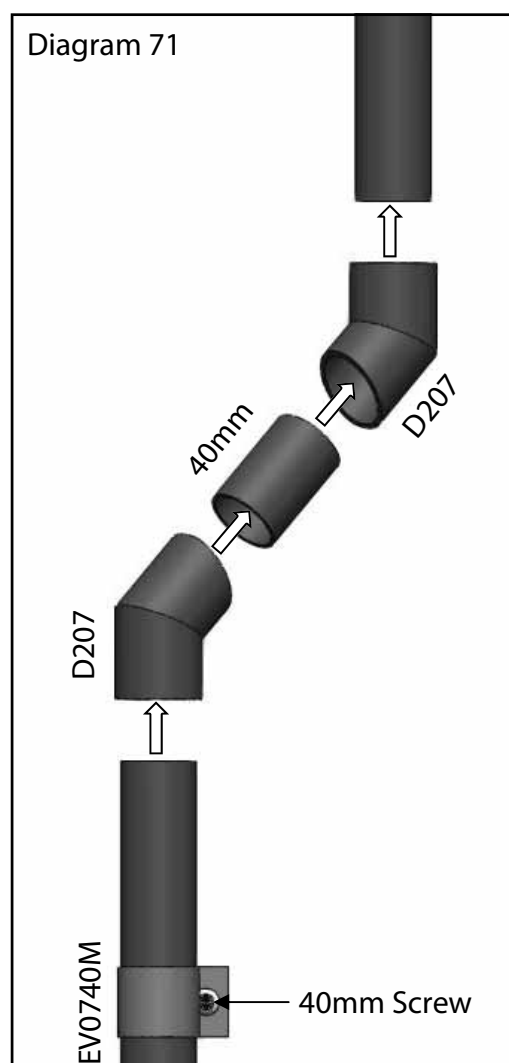
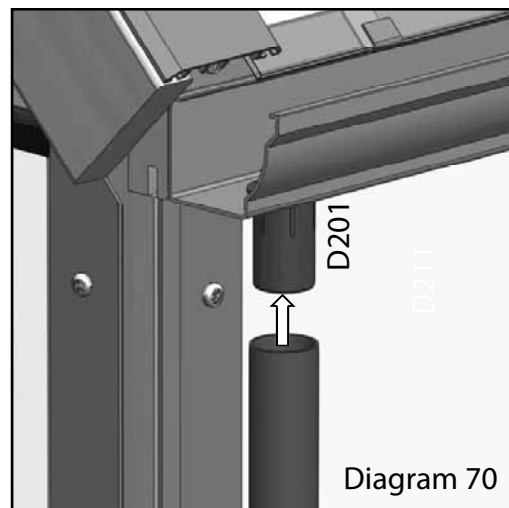
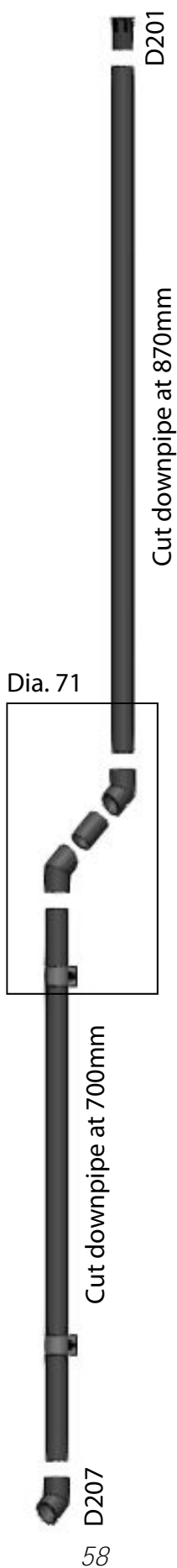


Gutter Parts		
Part Name	Part Number	Qty
Gutter:		2
6ft long	EV0621M	
8ft long	EV0622M	
10ft long	EV0623M	
12ft long	EV0624M	
Stop end RH	EV0535M	2
Stop end LH	EV0536M	2
Bracket	EV0740M	4
Downpipe Outlet	D201	2
Downpipe Shoe	D207	6
Rubber Blank	D214	2

Gutter and Downpipe Installation



To install the downpipes straight to the floor cut the pipe as per the diagrams below. Use a small amount of silicone at each joint. The brackets can share the same hole as the capping for the panels. Use two M6 nuts as washers to space the brackets out so the pipe run vertical.



Gutter and Downpipe Installation

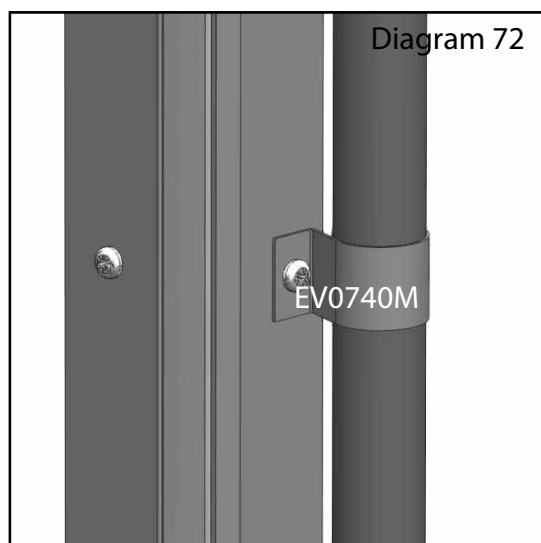


Diagram 72

If you want to connect the pipe to a waterbutt cut the pipe appropriately and simply use the D207 joints to divert the pipe. Its likely you will need to fix the downpipe brackets higher up, again try to use a standard capping screw location. If you have the aluminium capping you may find you wish to use an M6 nut to space the bracket out so the pipe runs more inline with the greenhouse frame.

Pop the small rubber blank into the hole that is not required.

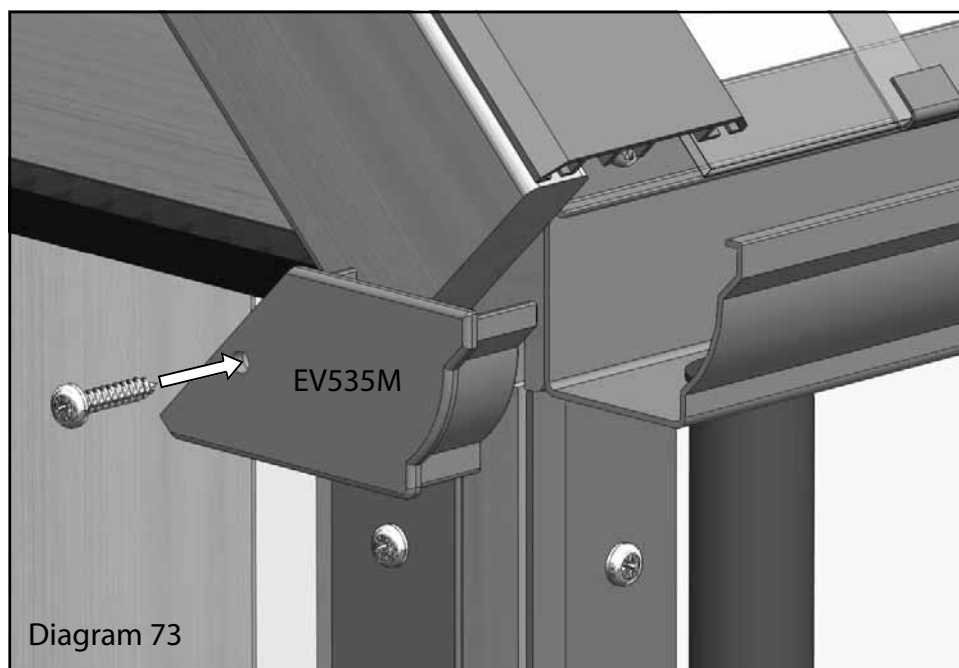
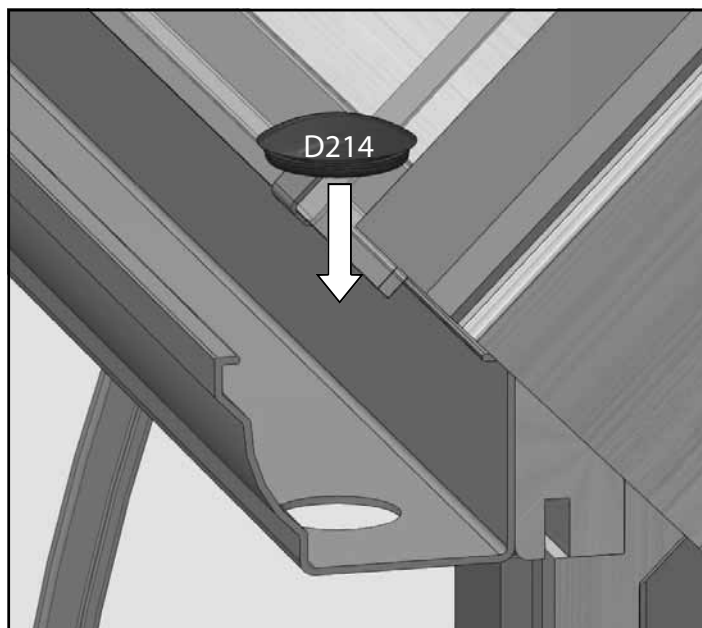


Diagram 73

You can now fit the cast aluminium end stops. These will need a good amount of silicone applied to create the seal to the gutter, any excess should be removed once in place. Fix with one 25mm screw.

Optional Cresting

Dia. 74

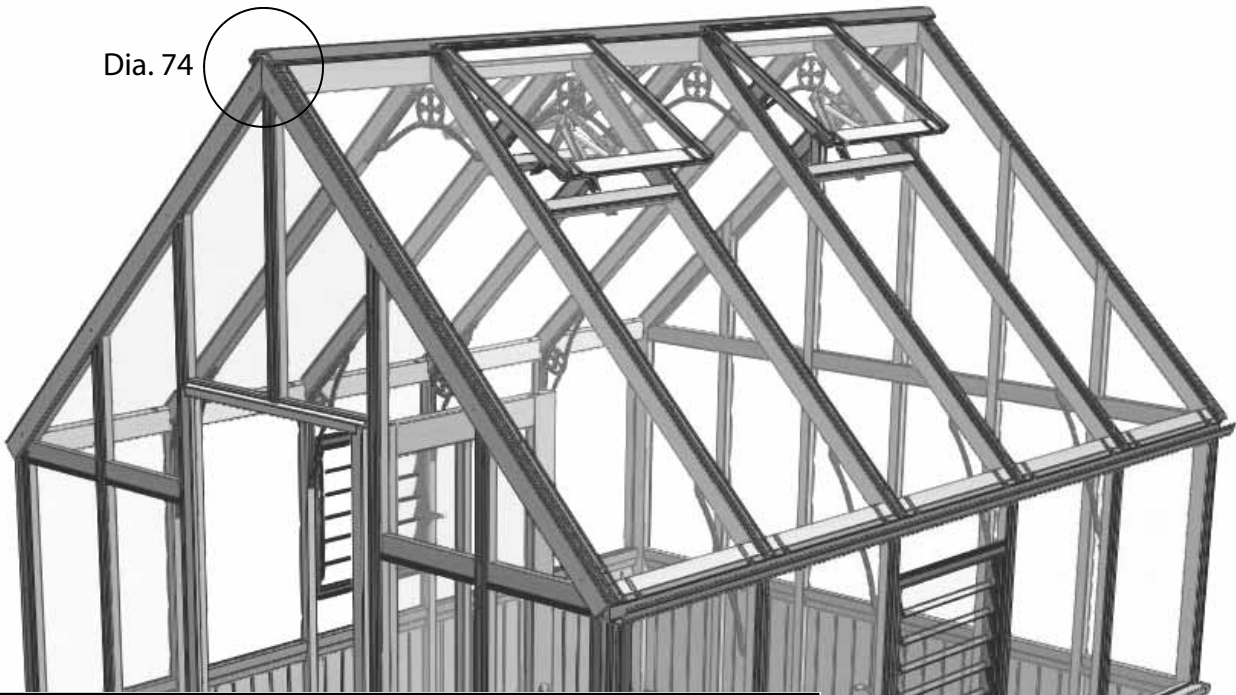


Diagram 74

Dia. 75

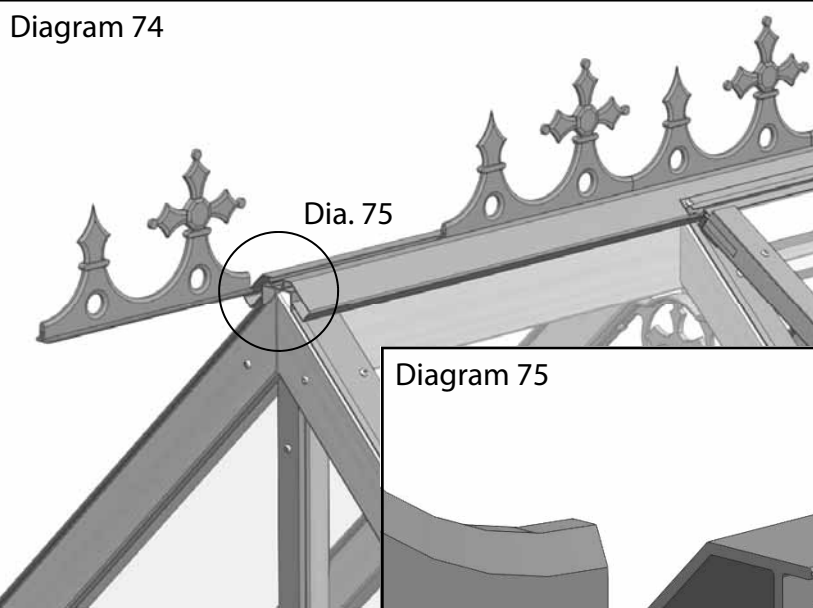
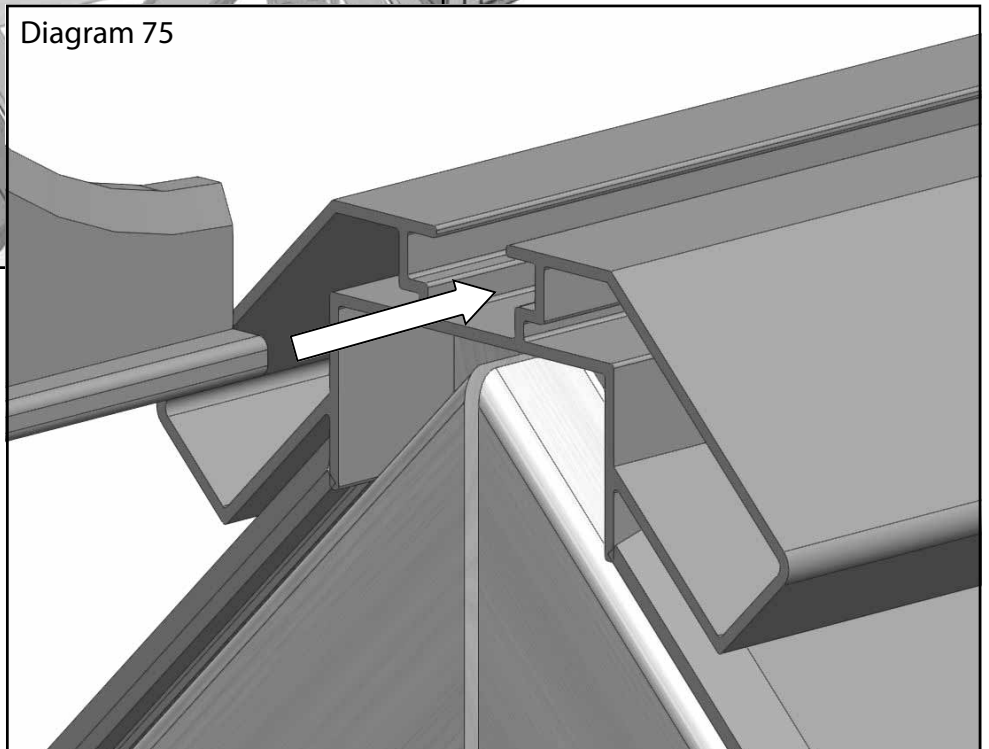


Diagram 75

From one end of the building slide your cresting pieces along the channel in the ridge cover cap.



End cap and Finial

Diagram 76

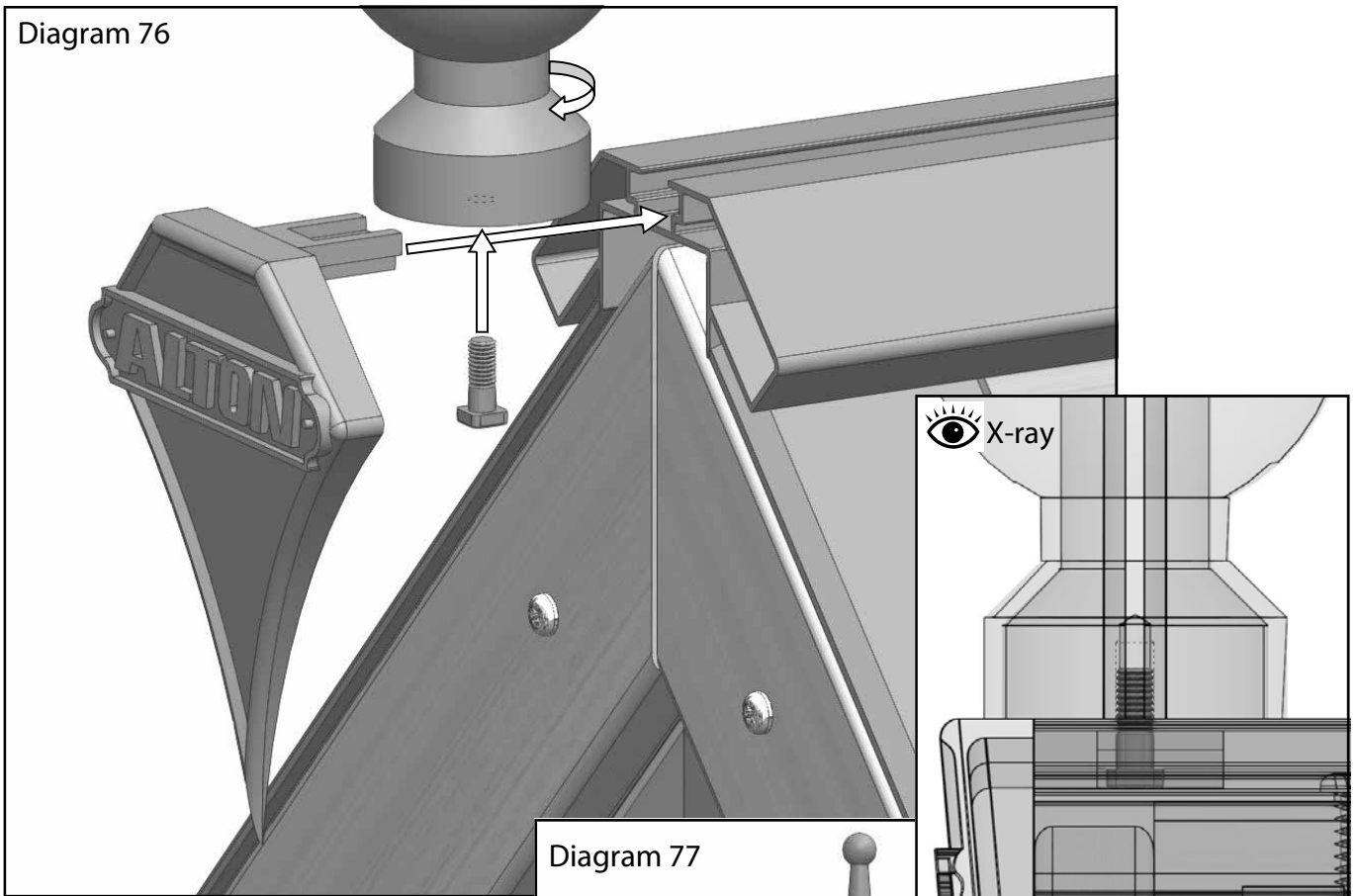
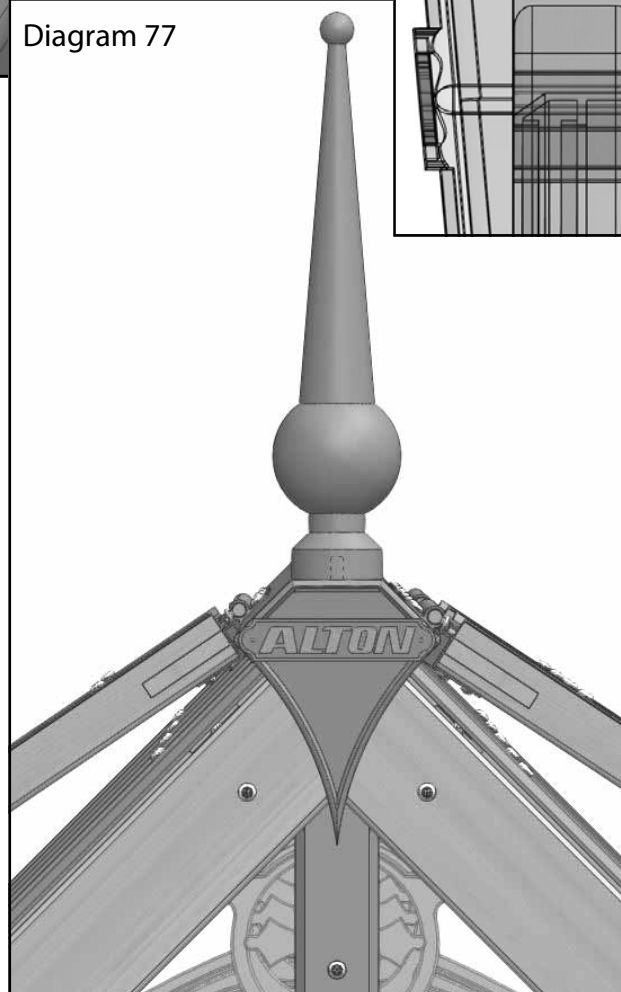
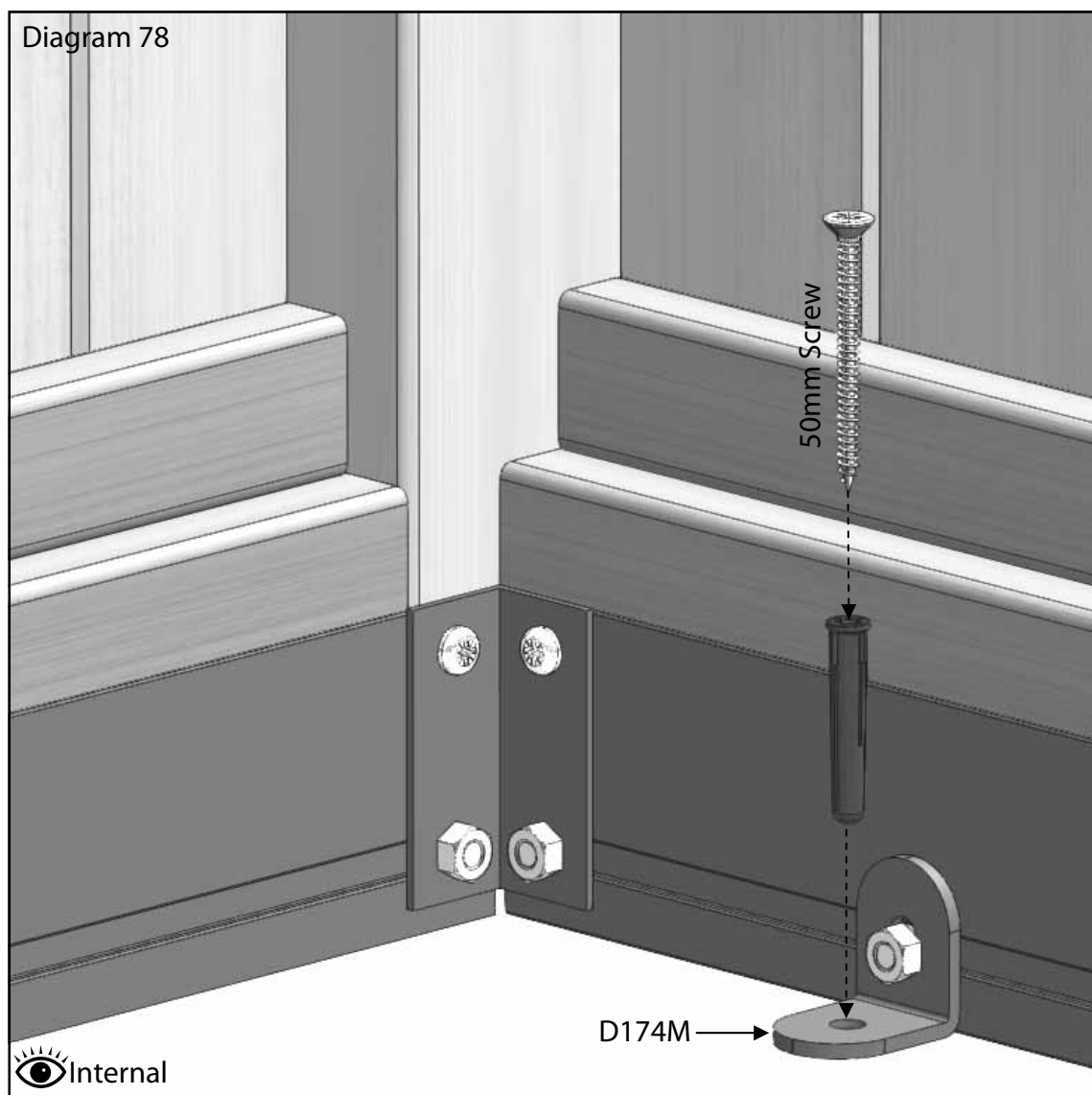


Diagram 77



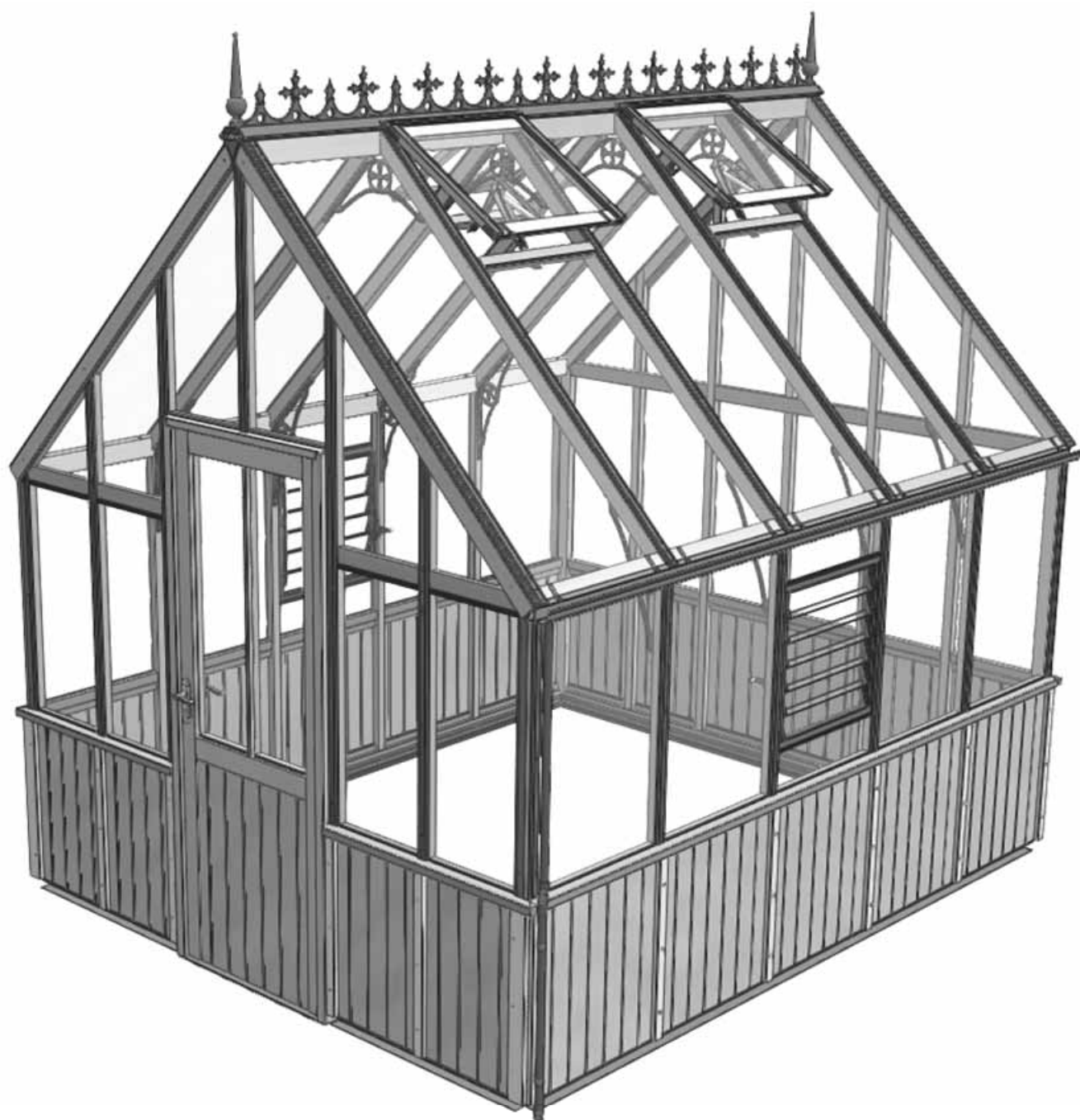
The end cap and finial bolt together with a 22mm M6 bolt. The easiest way to attach this is to slide the end cap onto the end of the ridge cover cap, then slide the bolt on the end cap (the head should locate in the lower recess of the end cap), with the bolt in place you can then screw the finial down onto the bolt.

Finished installation



When you are happy with the final position of your greenhouse and all the sides are vertical and square you can fix the greenhouse to the ground. Use brown rawl plugs, 50mm screws and a 7mm hammer drill to secure it through the base brackets previously attached (diagram 78).

Finished installation



Optional Auto Louvre Installation

Once the louvre is installed in the greenhouse you can replace the manual handle with the automatic unit.

First of all remove the screw to release the arm (diagram 79).

Next Remove the handle from the frame of the louvre (diagram 80).

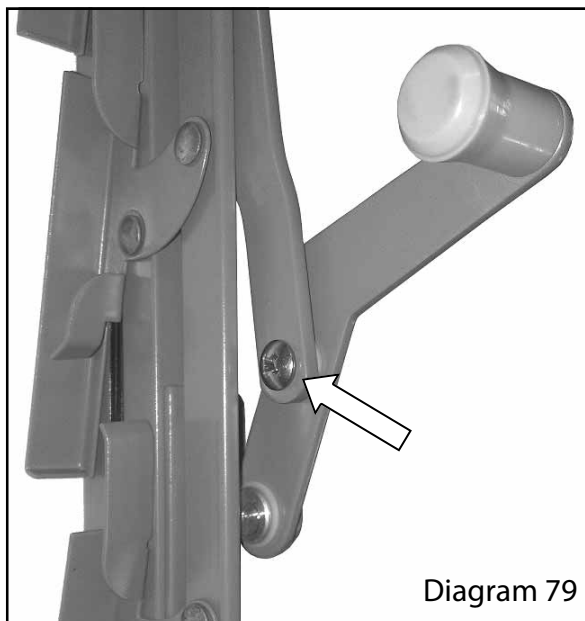


Diagram 79

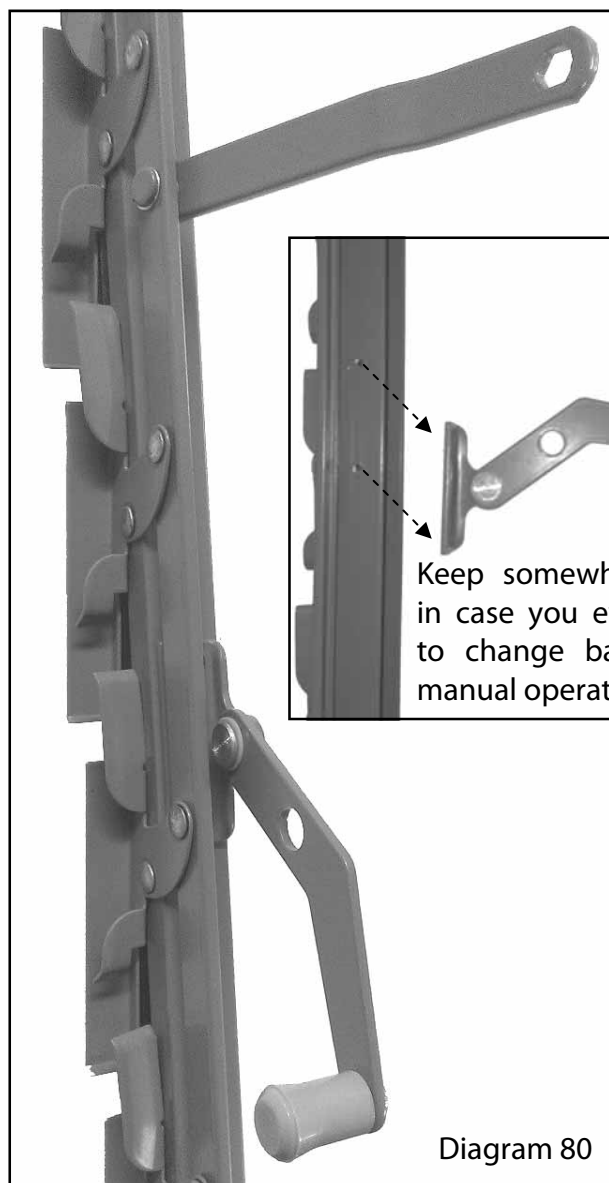


Diagram 80

Diagram 79 shows the parts you need to attach the auto opener.

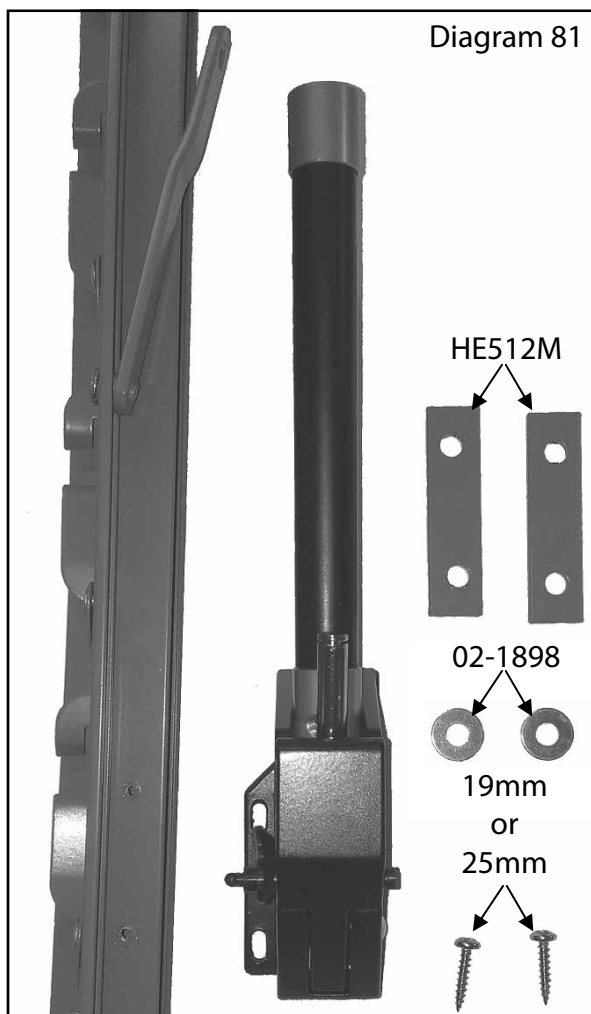


Diagram 81

Optional Auto Louvre Installation

You now need to mark the frame to drill the 2 holes, use a 2.5mm drill bit for this.

Offer the opener up to the frame with the plates and washers and slide the louvre arm into position. This now gives you the correct location for the opener (diagram 82). Once you have marked the frame remove the opener to drill the holes.

Now fix the opener to the frame using the 2 plates and 2 washers (diagram 83). You should have either 19mm or 25mm screws spare from the greenhouse frame for this.

Once fixed in place attached the louvre arm to the opener and hold in place with the plastic pop-on cap (diagram 84).

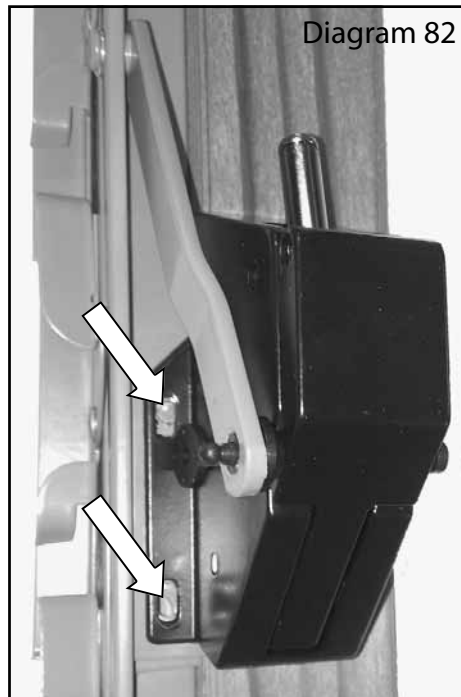


Diagram 82

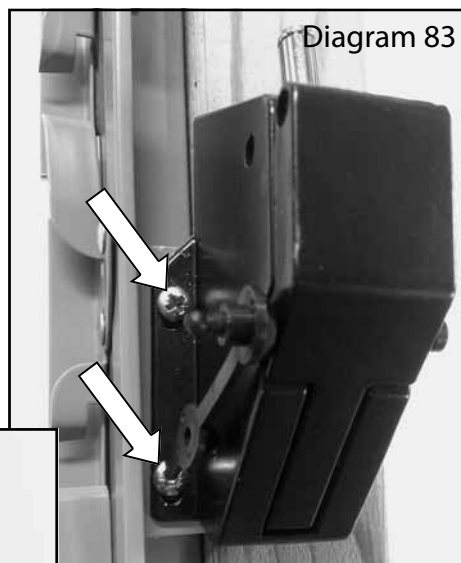


Diagram 83

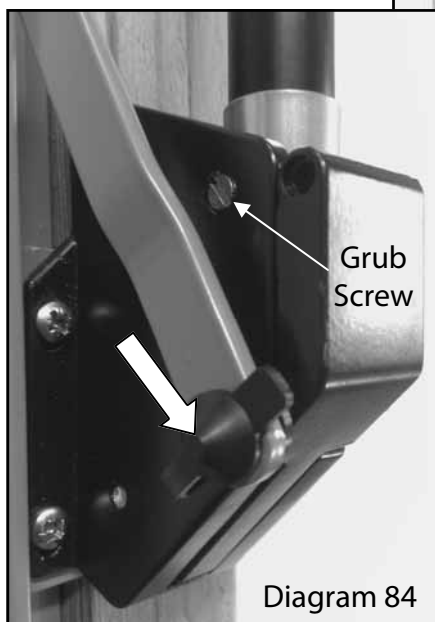


Diagram 84

Now slide the cylinder onto the shaft attached to the body of the opener, secure this in place with 2 grub screws (diagram 84). Finally fit the thumb screw to the end of the cylinder, adjust this to get the desired amount of ventilation (diagram 85).

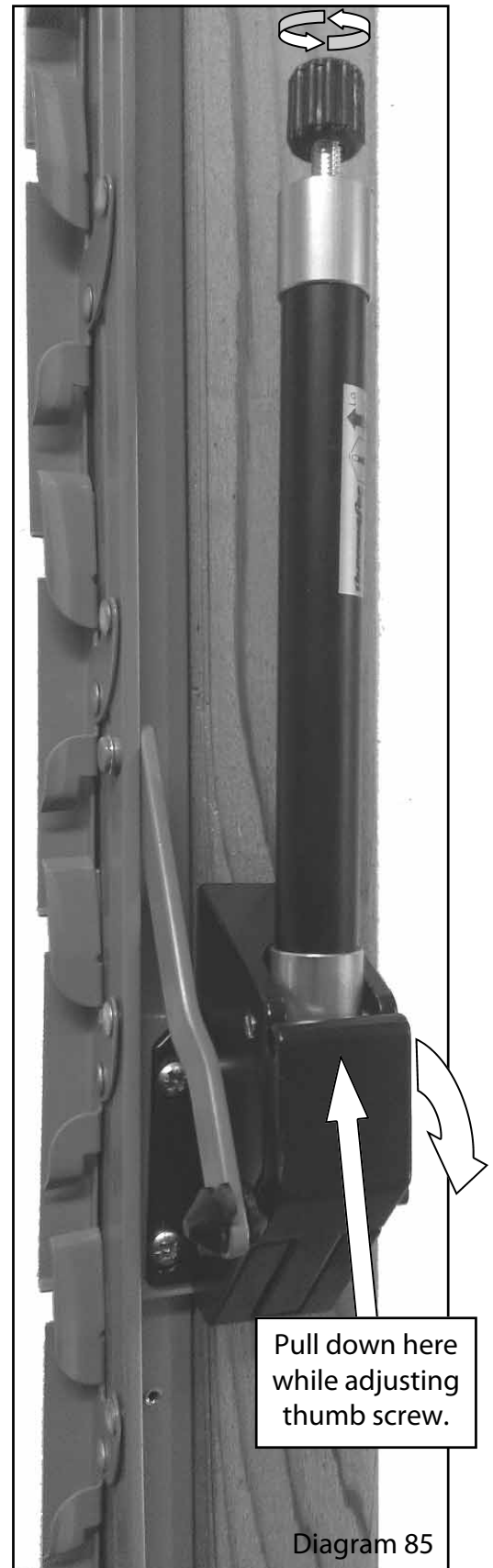


Diagram 85

Parts Lists

See Universal booklet for part lists.

Notes...

