EVOLUTION OCTAGONAL

ALTON
Cedar Greenhouses

9x12
Instruction Manual

Made in the United Kingdom

Please read all instructions before proceeding

09/23

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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.
- DIY assembly - 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.

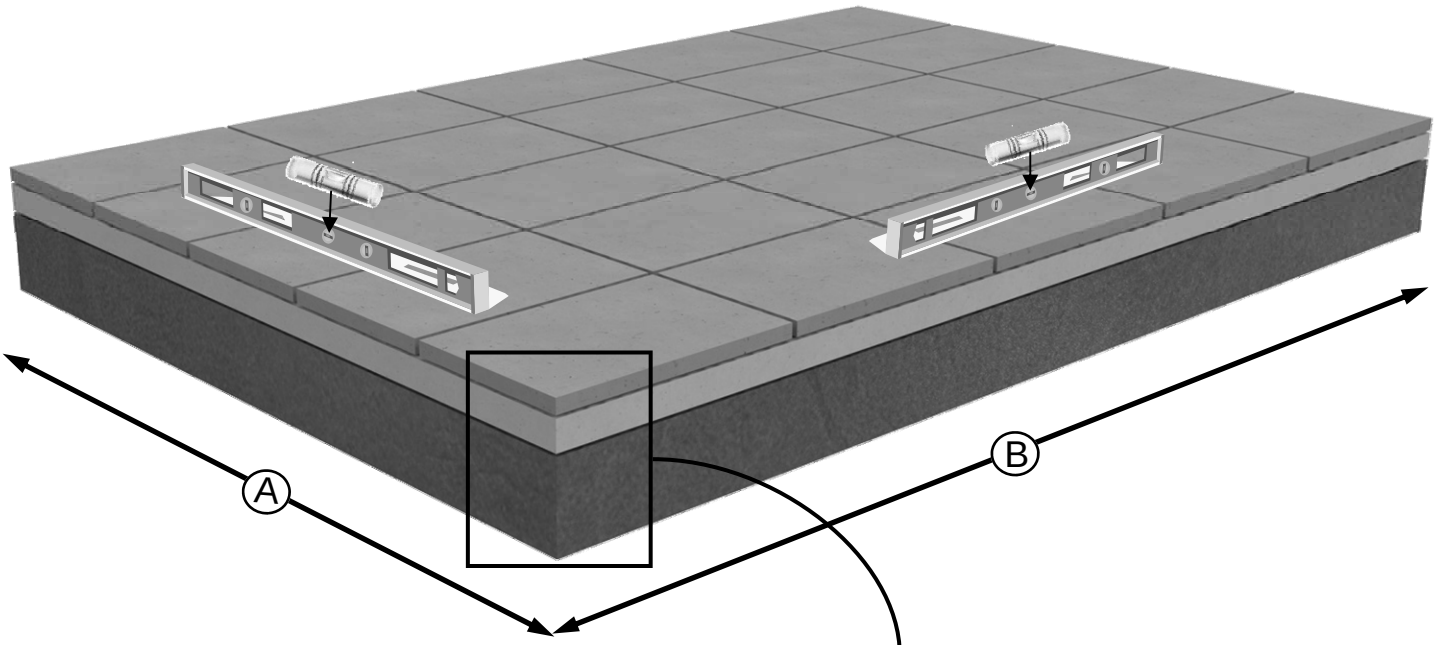
Site Preparation

- 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 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

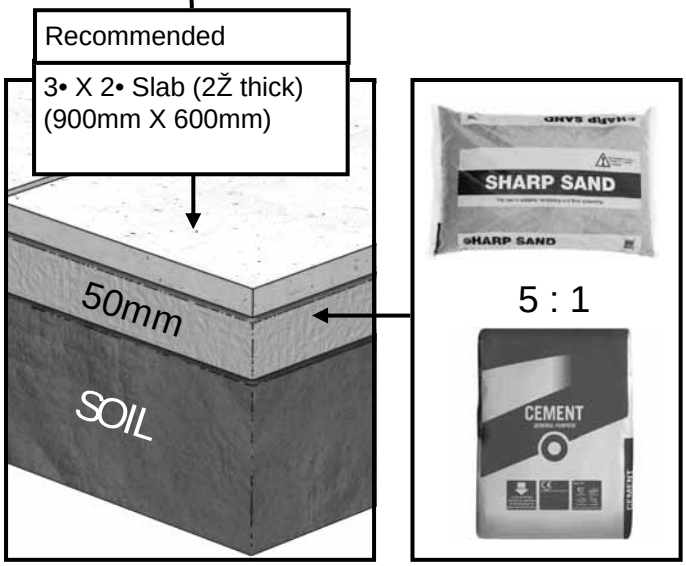
- Please bear in mind that assembling your greenhouse can be time consuming. You may need to spread the construction over two or more days. We recommend that you avoid leaving the building partially glazed. If you ever have to leave your greenhouse half assembled and not anchored down, weigh it down 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 and are correct before your fitter comes onsite. 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 the latter pages of his manual.
- Remember this is a natural timber product. Cedarwood can vary from white through shades of pink to dark brown colours, this natural variation is a characteristic of cedar. The wood will soak up some water to start with and some staining may occur. This will settle down over time and the greenhouse will really blend with its surroundings. If you want to avoid this and give your greenhouse a more permanent finish you could apply an oil or spirit based product (it would be best to do this before glazing!).

Base Preparation



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)
9•2Ž - 2800mm	11•10Ž - 3612mm	3000	4500



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

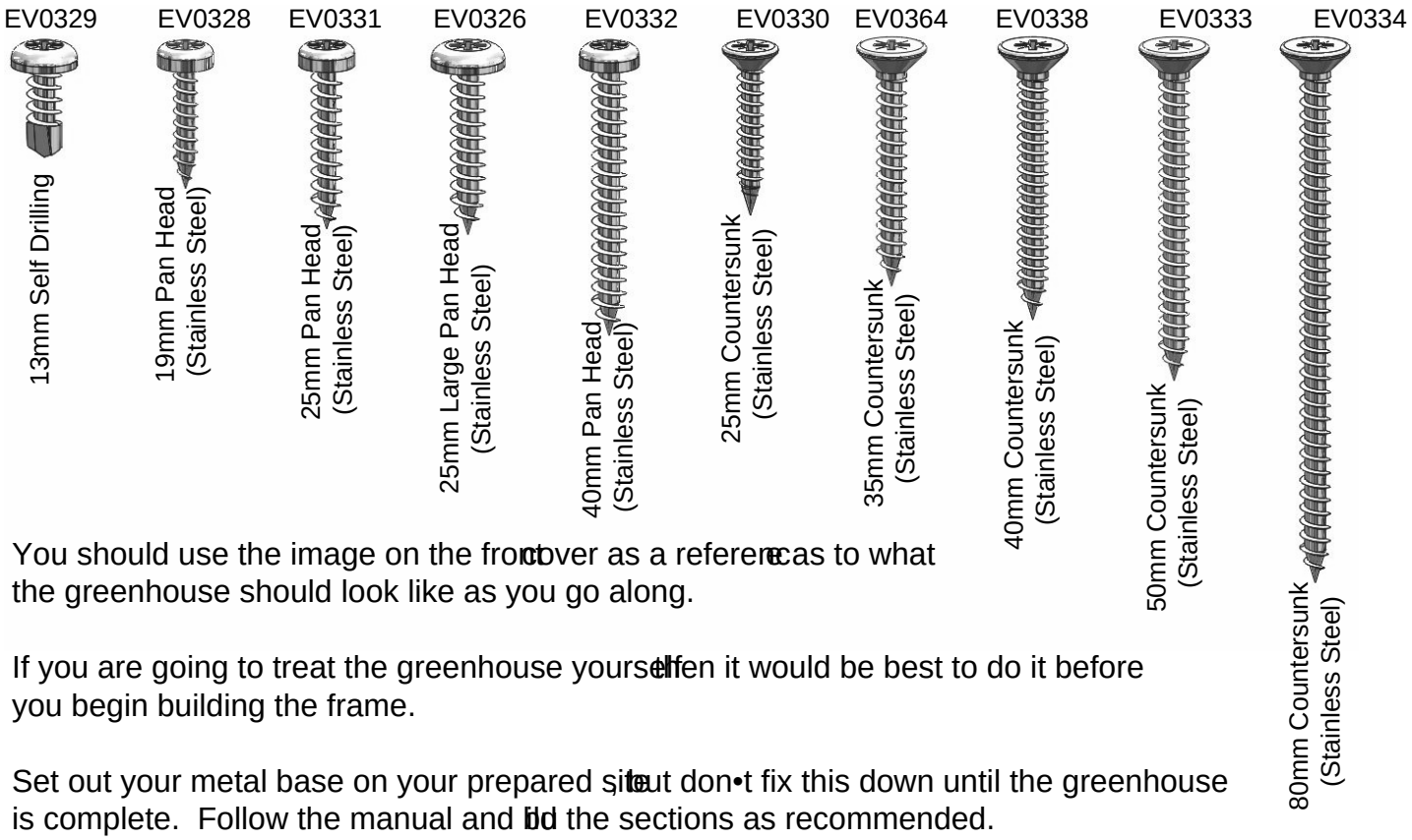
1

Overview

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

Spirit Level	Pozidrive No. 2 Screwdriver Bit
Pencil	Cordless Screwdriver (2 would be ideal, 1 to drill and 1 to screw)
4mm Drill Bit	Hammer
Hammer Drill	Step ladders
7mm Masonry Bit	Tape Measure

There are 10 types of screws used in the construction of the greenhouse. These are as follows:



You should 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.

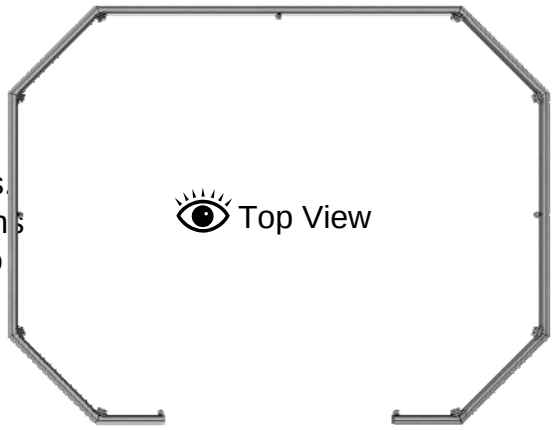
When screwing through one piece of timber into another it is always recommended to pre-drill the first piece. This will prevent the timber from splitting which could weaken the structure.

Glazing the structure is very simple but be very careful of the edges of the glass as the pane will break into tiny pieces if you catch an edge on a hard surface such as concrete. You should also wear suitable gloves when handling the glass (it also helps to keep it clean).

Option of gluing joints. This is not required for strength but you may do it if you wish. However bear 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.

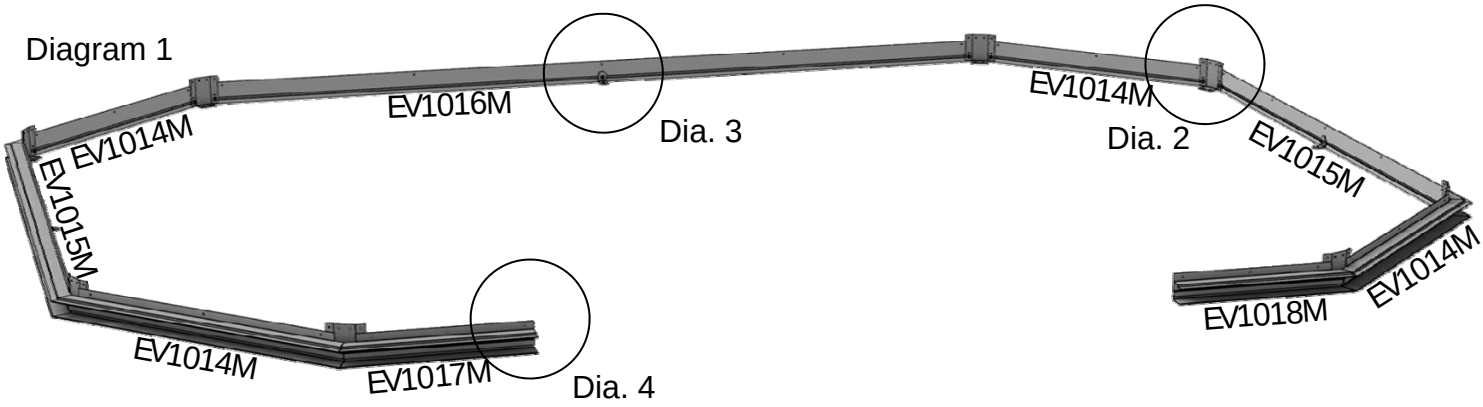
Read through the rest of this manual before starting, you are less likely to miss something doing this and you will have a better understanding of how it all works.

Base Assembly



Lay out your aluminium base sections as diagram 1 shows. The base brackets (EV1001M) attach to the base sections using the M6 bolts supplied (diagram 2). The bolts slot into the bolt channel in the aluminium base and fix through the largest hole in the base bracket. Also slide in bolts and use them to attach five small base brackets (D174M), one in the middle of each EV1016M / EV1017M (diagram 3) and one either side of the door opening (diagram 4).

Diagram 1



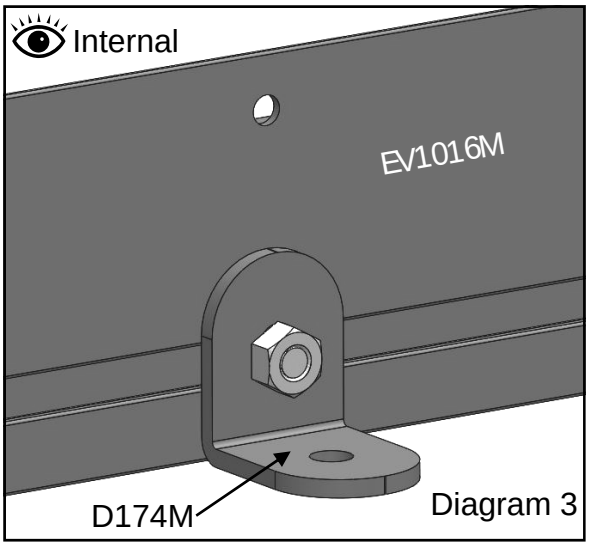


Diagram 3

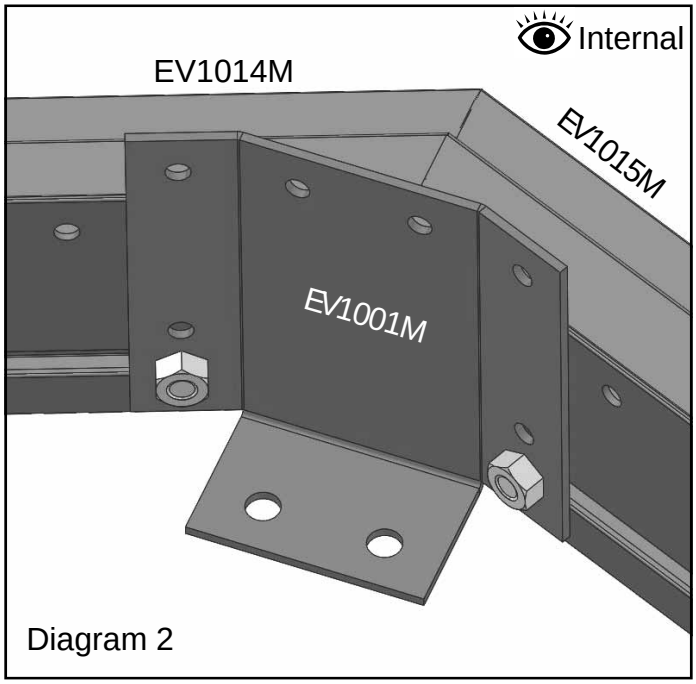


Diagram 2

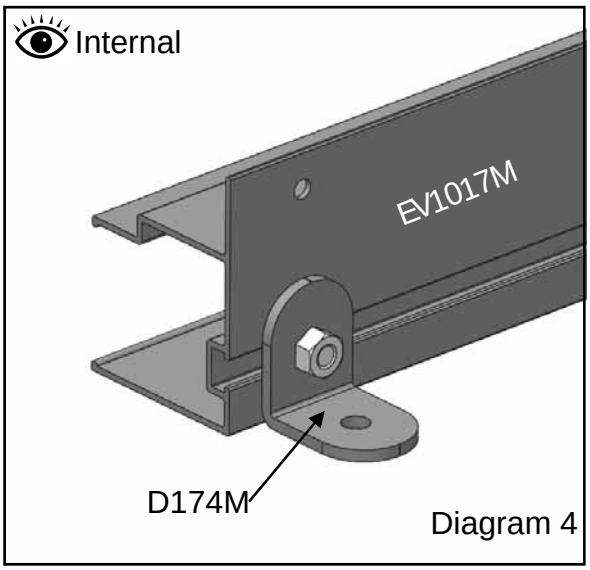


Diagram 4

Side Assembly

Start by attaching the cast eaves brackets (EV1000M) to four eaves rails (EV0953). First of all drill pilot holes through the eaves bracket into the end of the eaves bar. Be careful not to drill all the way through the rail! Once the bracket is firmly in position fix with the 40mm Countersunk (CSK) screws (diagrams 5 and 6).

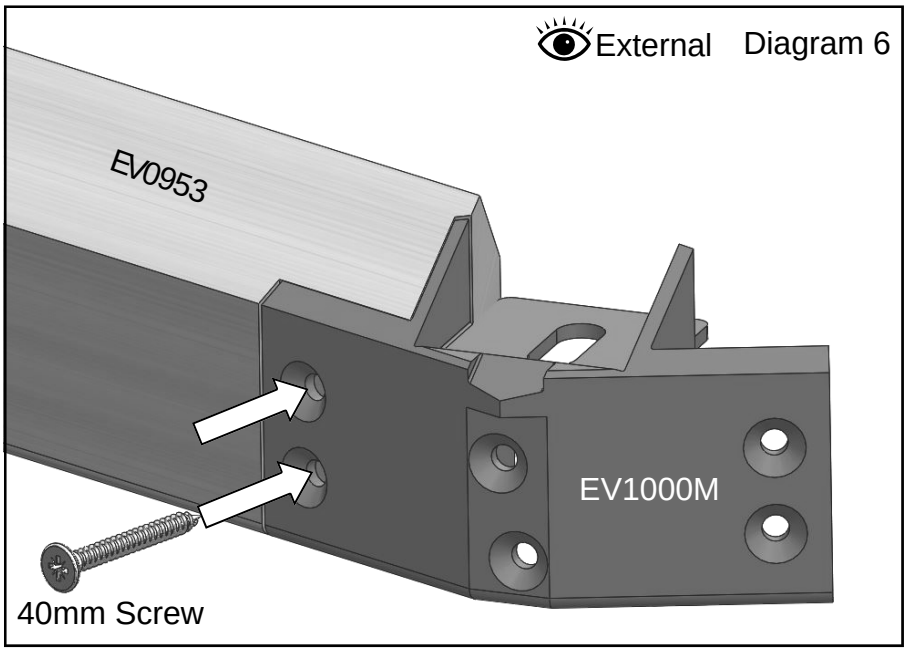
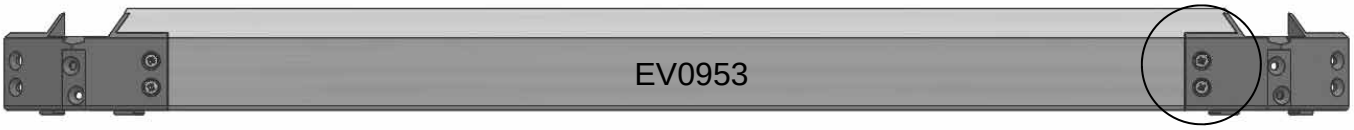


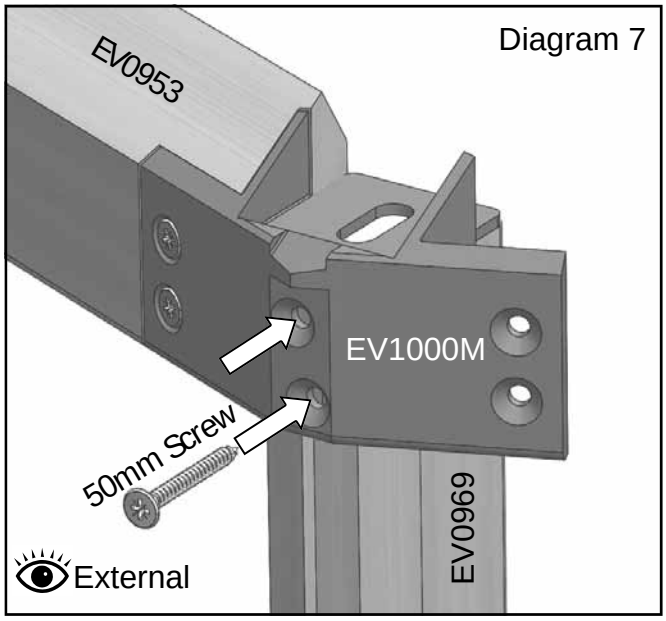
Diagram 5

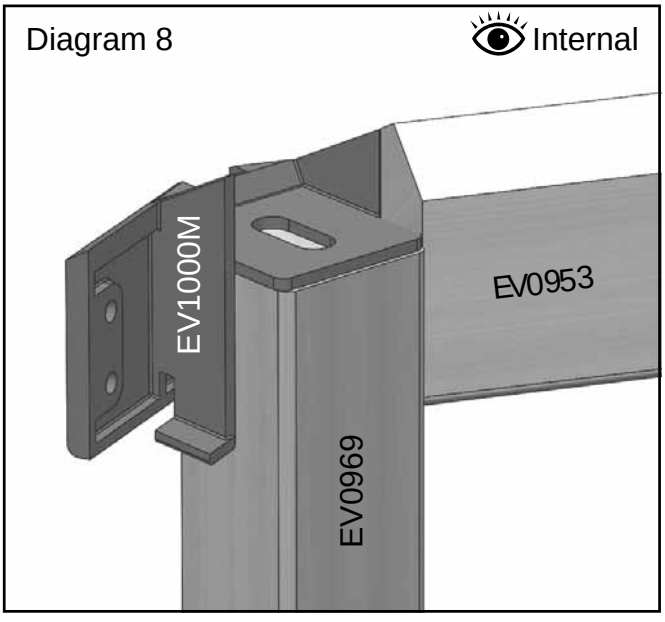
X 4

Dia. 6



Once you have attached all the cast eaves brackets you can fix two standard side glazing bars (EV0969) to each of the prepared eaves rails. Make sure the glazing bar is tight into the bracket (diagrams 7 and 8), drill pilot holes and fix using 50mm CSK screws. Don't over tighten these screws as it may make it difficult to glaze later in the build.





4

Side Assembly

Diagram 9

With the side glazing bars attached (diagram 9) you can now insert the mid rail (EV0956). Drill a pilot hole through the side of the glazing bar and fix with an 80mm screw (diagram 10). Fix both ends of the mid rail like this.

X 4

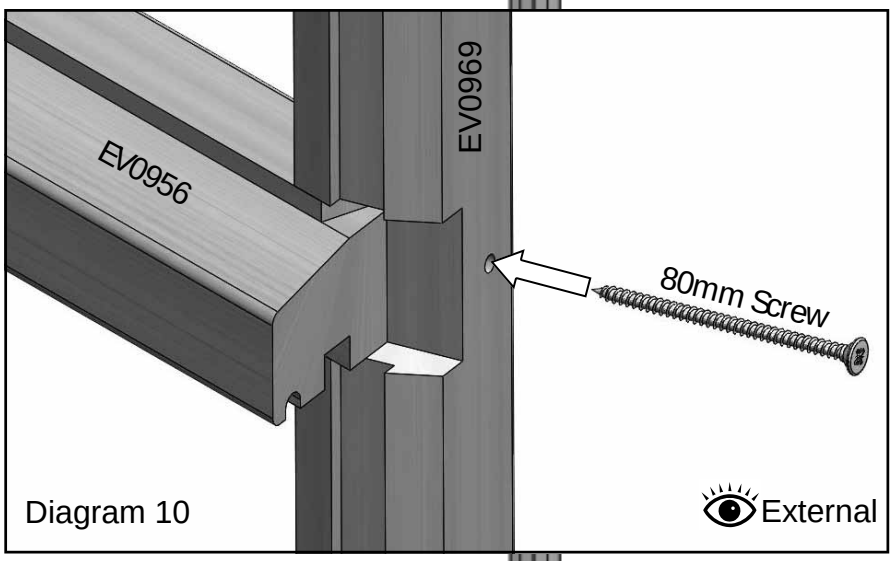


Diagram 10

Next slot the cill intoplace. This is not fixed at this stage, it is secured later in the build (diagram 11). Assemble four identical frames like this.

Dia. 10

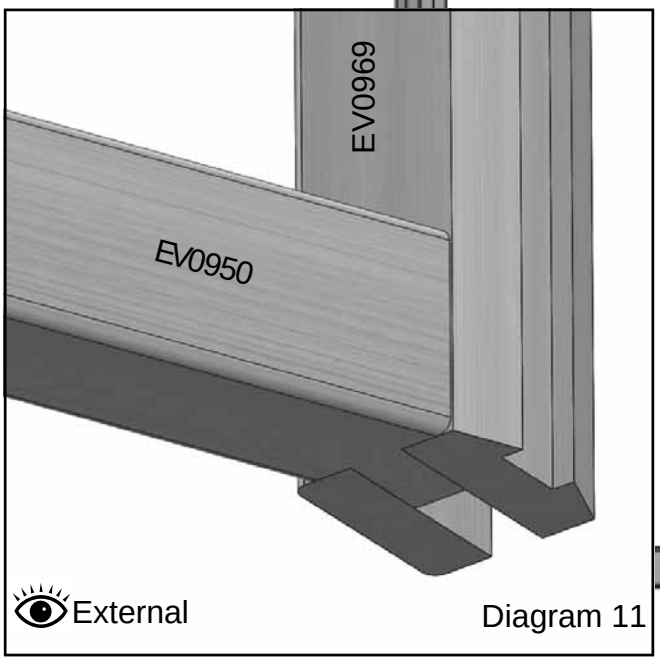


Diagram 11

Dia. 11

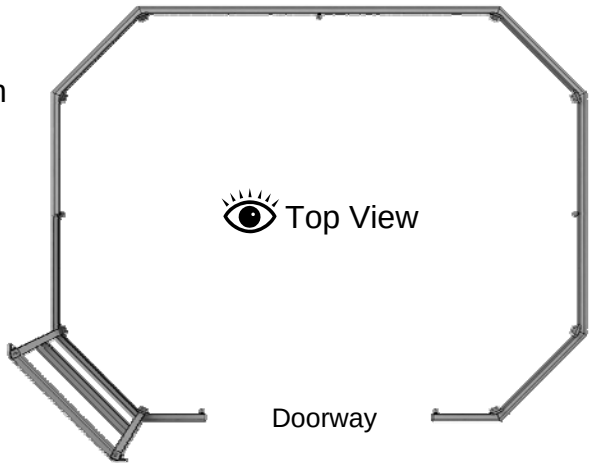
4

Side Assembly

Now you have four 2• side frames assembled you can start assembling the greenhouse sides on the aluminium base. Place the first side assembly to the left of the door, position this on the base and either ask a helper to hold it in place or secure it to a step ladder.

With this in place you will then need to slot a cill section (EV0952) in next to it ready for the next side frame (diagram 12).

Do NOT fix any frames or cills to the aluminium base, this is done after the door installation on page 19.



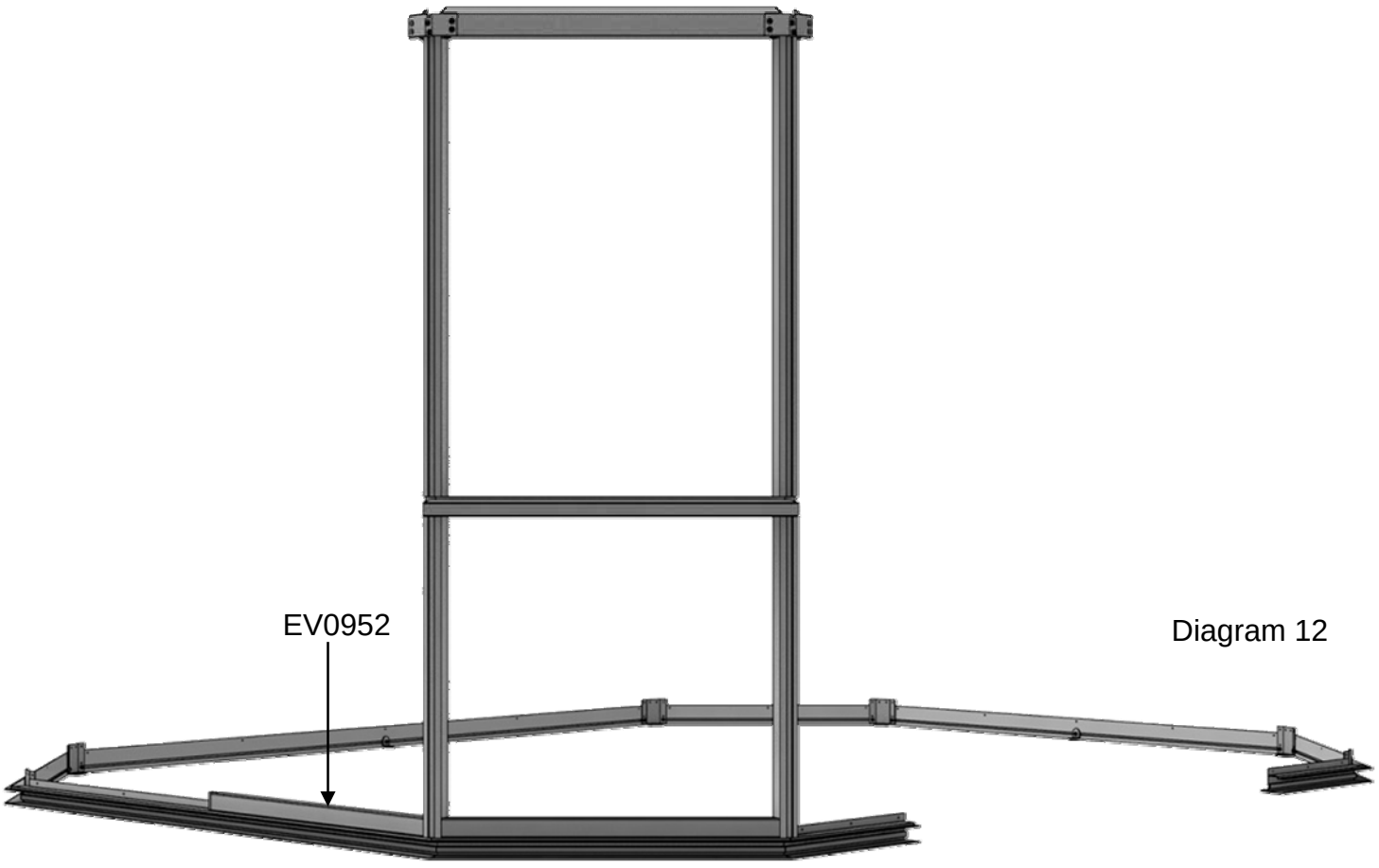
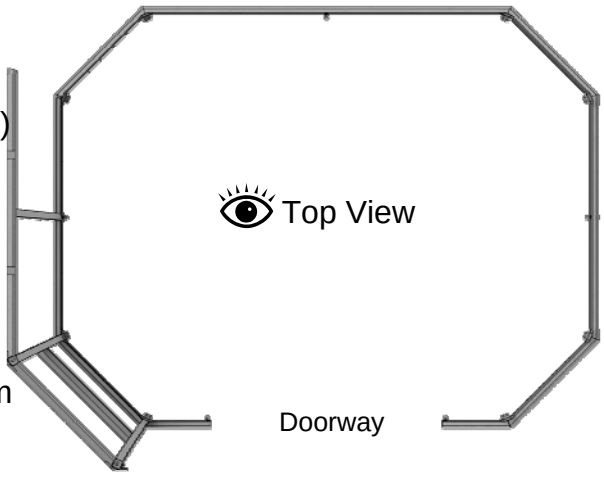


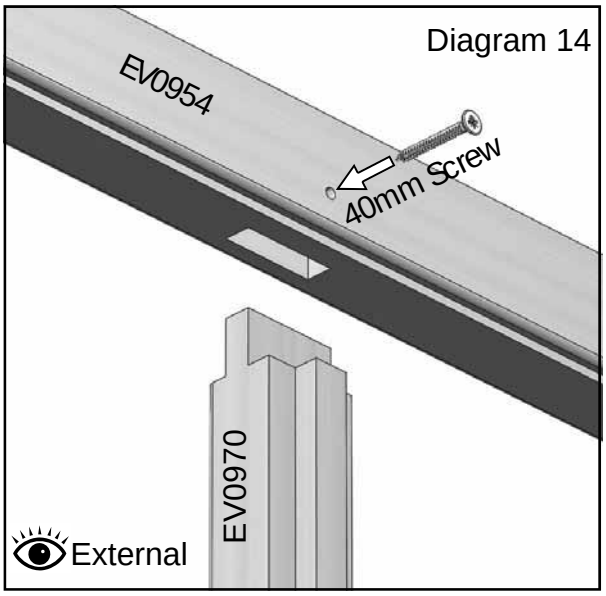
Diagram 12

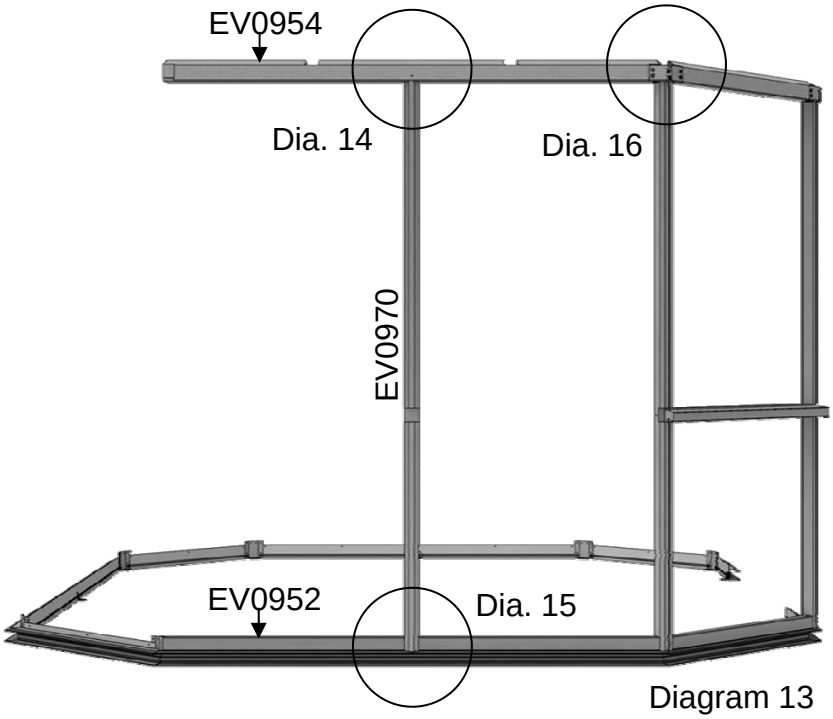
Side Assembly

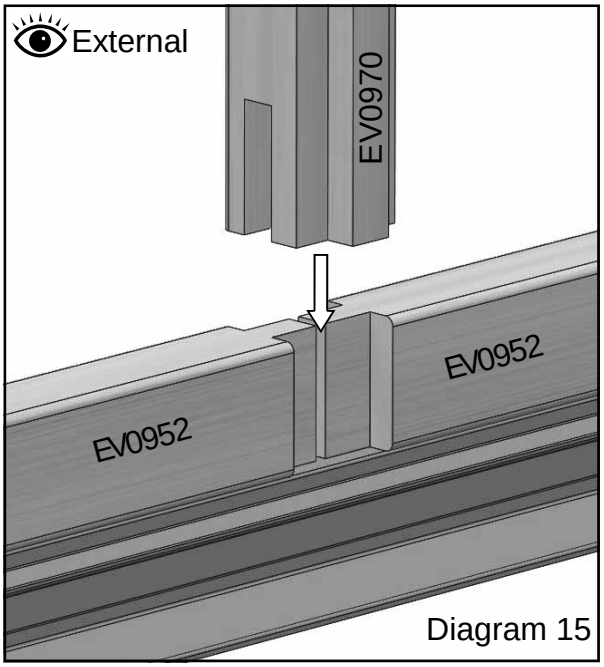
You now need to attach the standard glazing bar (EV0970) to the 4• eaves section (EV0954). Drill a pilot hole in the outside face of the eaves bar into the mortice hole, then slot the top of the glazing bar into the mortice hole and fix with a 40mm countersunk screw (diagram 14).

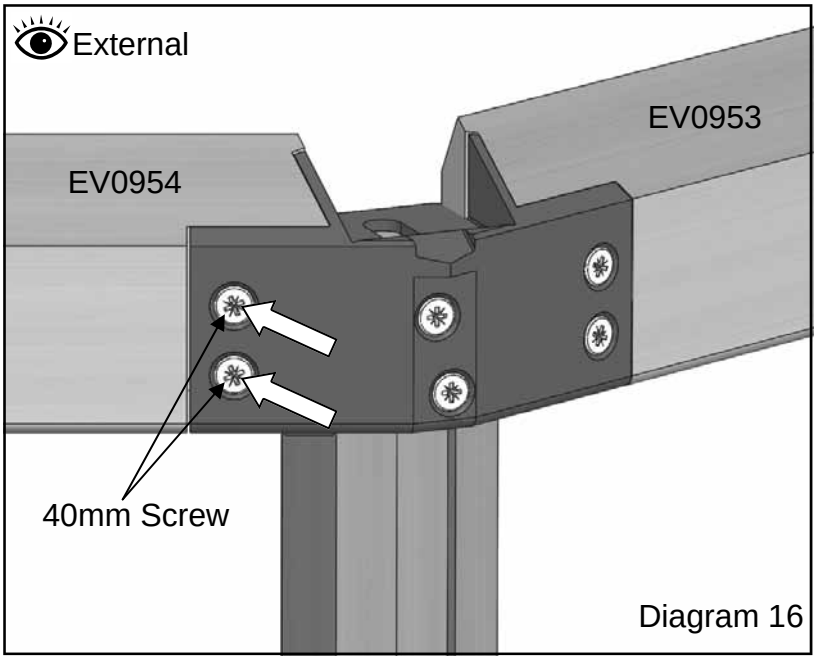
Slot the assembly into place, locating the bottom of the glazing bar onto the tenons of the cill sections (diagram 15). Drill the pilot holes in the end of the eaves bar again and then fix with 40mm CSK screws (diagram 16).











Side Assembly

Pilot drill and attach the next standard 2• side frame.

With this in place you will then need to slot a cill section (EV0952) next to it ready to repeat the previous page diagrams 14 through to 16. Continue working like this in a clockwise fashion until all four of your 2• side sections are in position. There is a special straight cut cill for the rear middle (EV951), see diagram 18,and a special 6• rear eaves bar (EV0955).

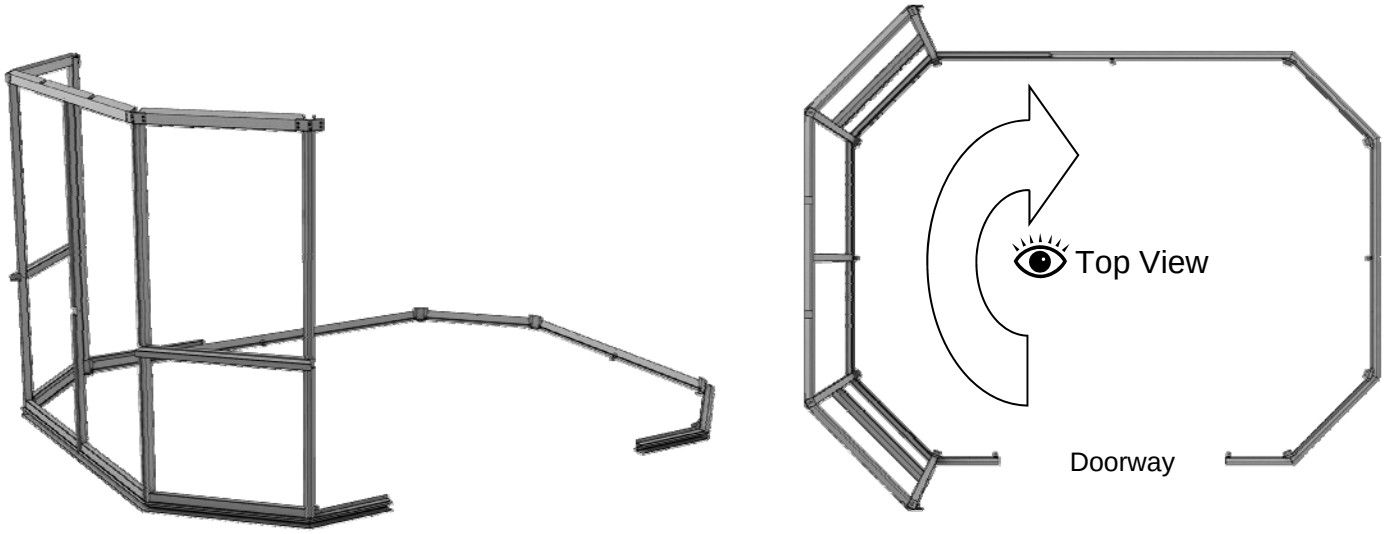


Diagram 17

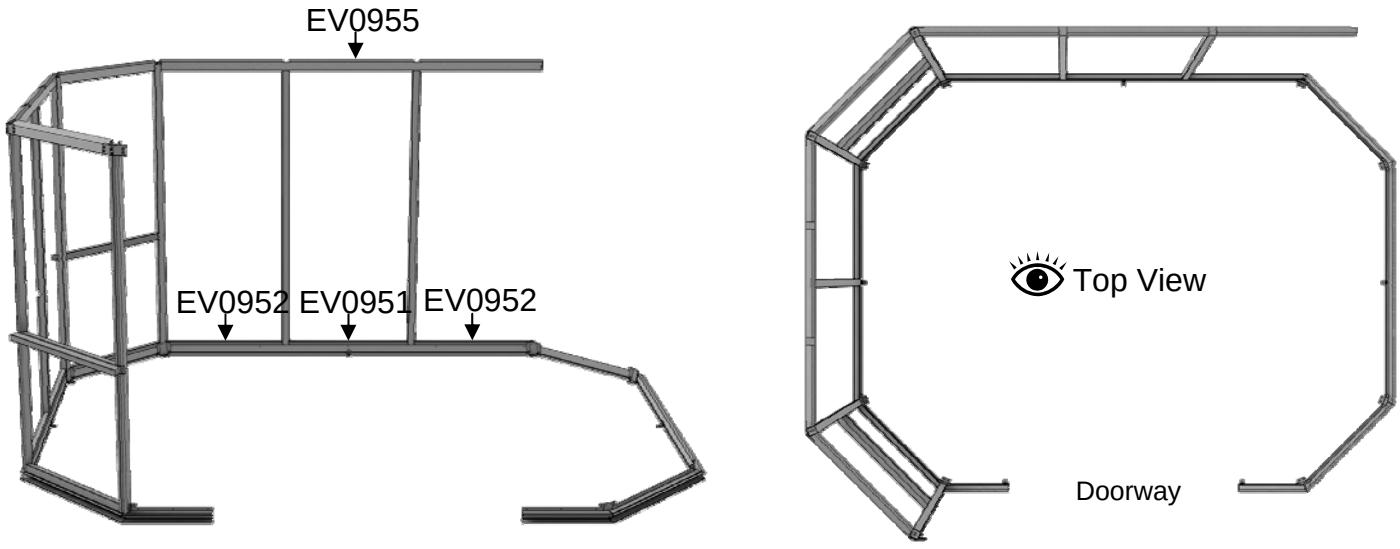


Diagram 18

Side Assembly

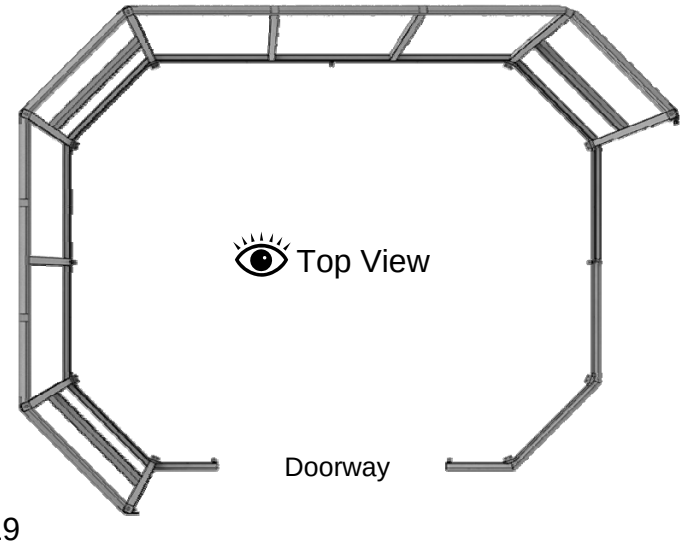
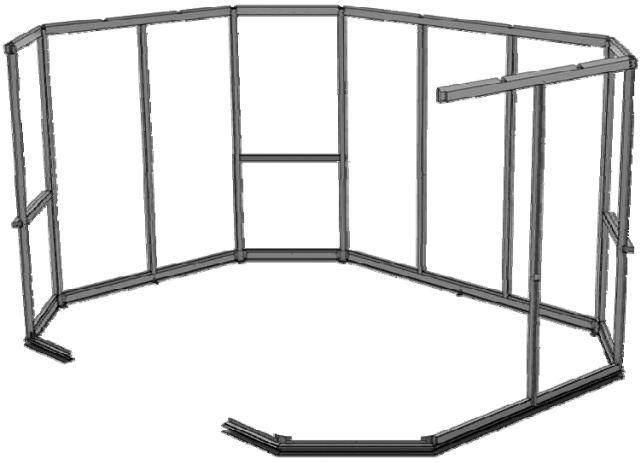


Diagram 19



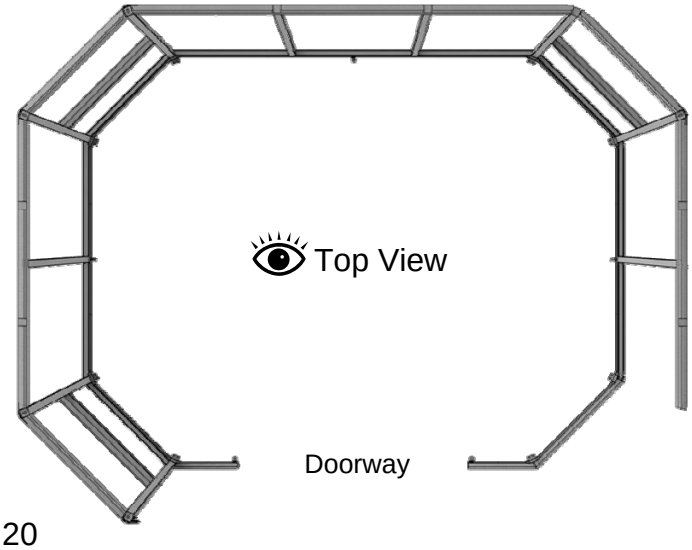
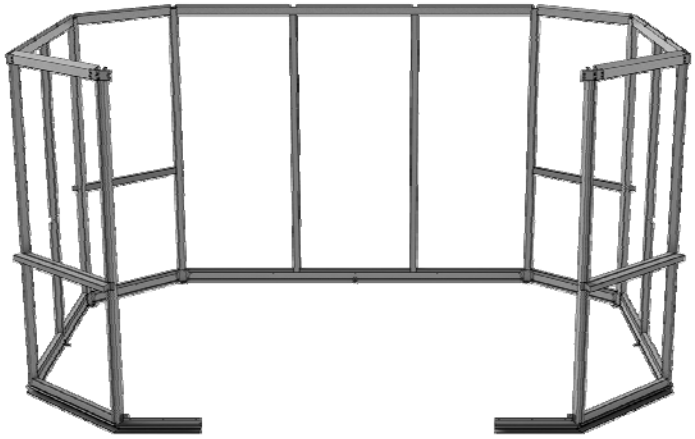


Diagram 20



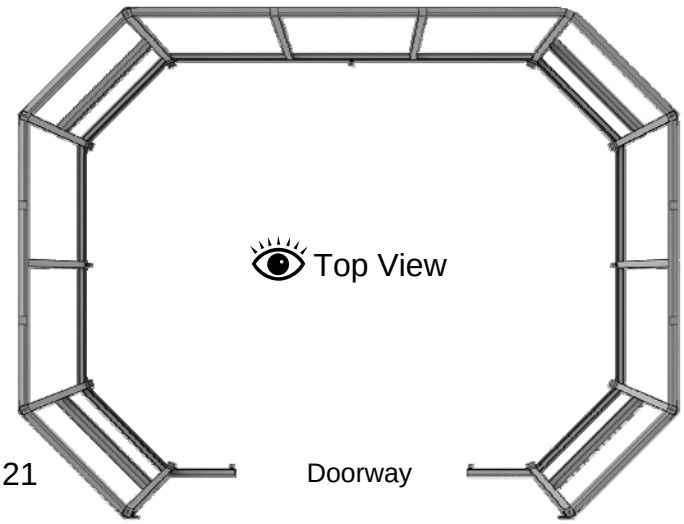
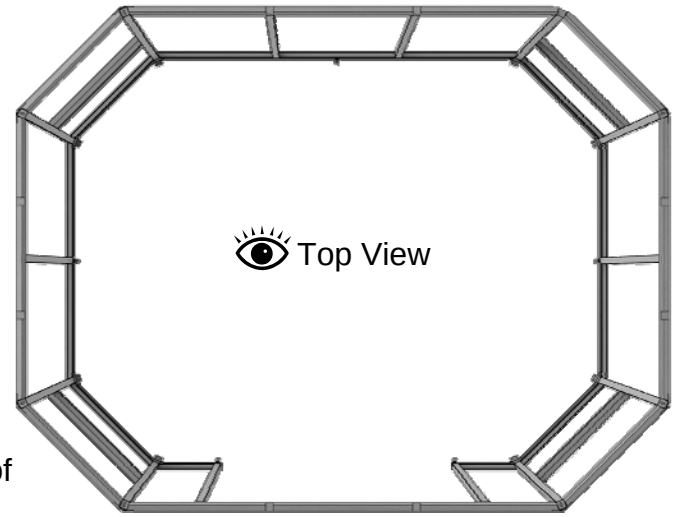


Diagram 21

4

Side Assembly



You now need to attach the last two glazing bars (EV0970) onto the front eaves section (EV1036). Drill two pilot holes in the outside face of the eaves bar into the mortice holes, then slot the top of the glazing bars into the mortise hole and fix with 40mm countersunk screws (diagram 23).

Slot the assembly into place, locating the bottom of the glazing bar onto the tenons of the cill sections (EV1035) (diagram 24). Drill pilot holes in the end of the eaves bar again and then fix with 40mm CSK screws.

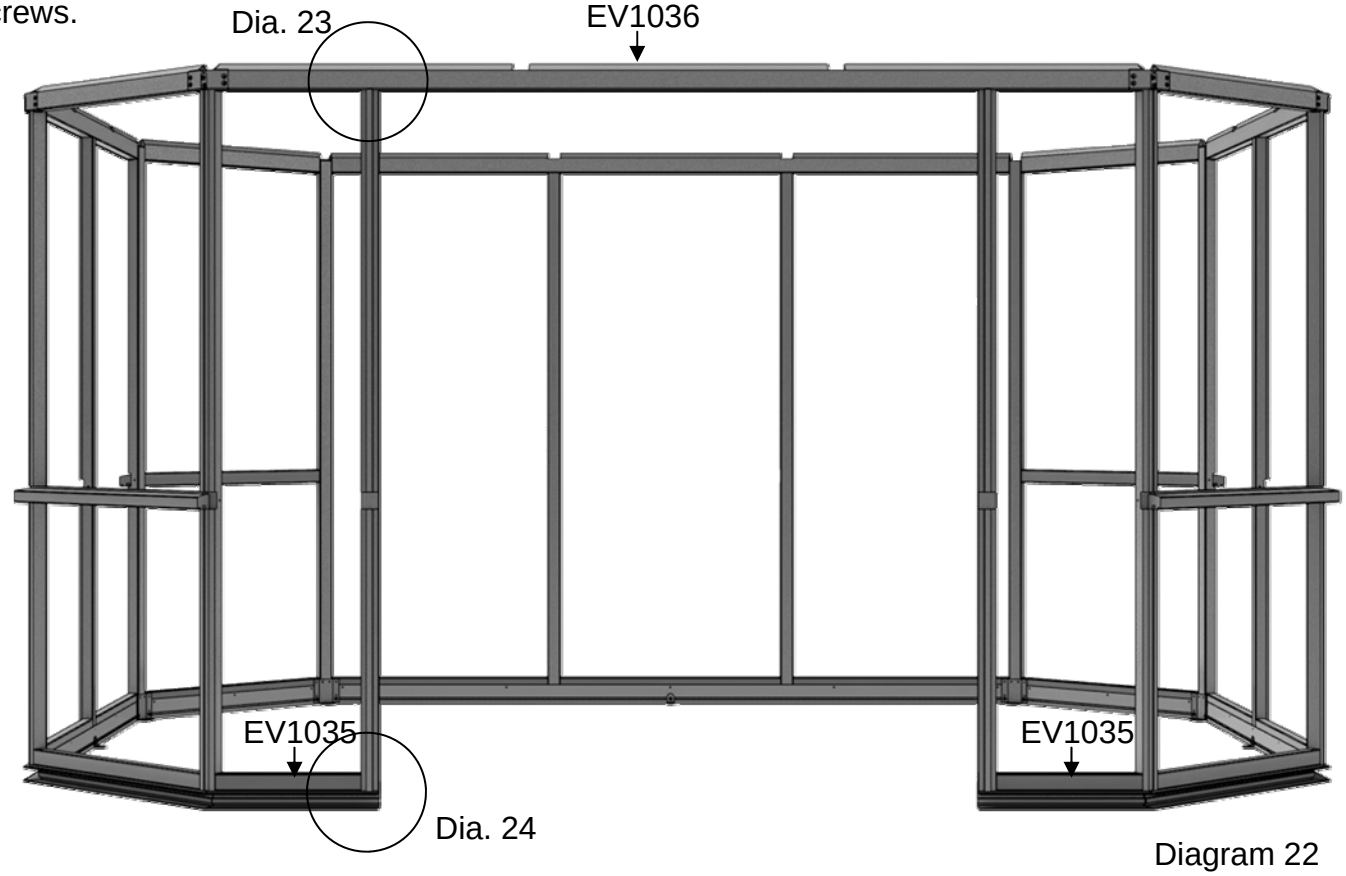


Diagram 22

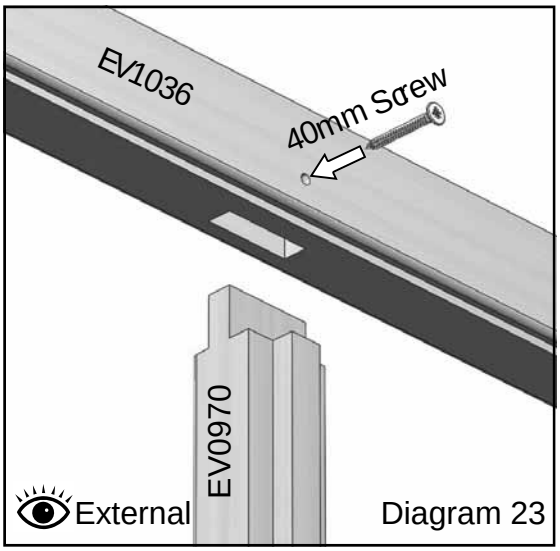


Diagram 23

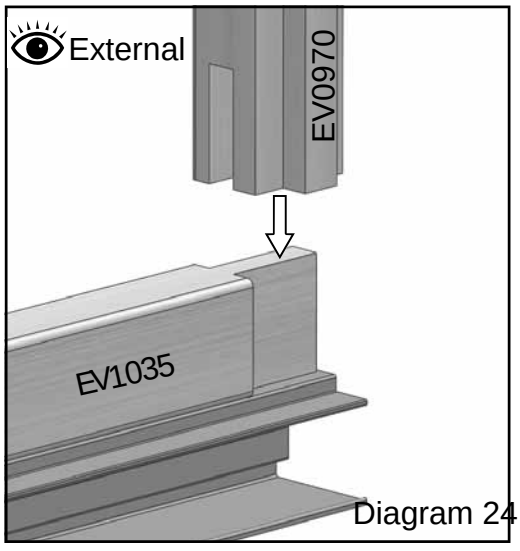
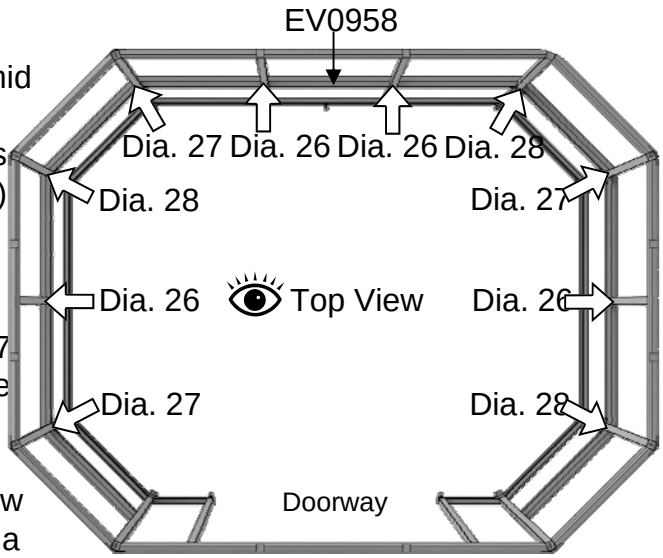


Diagram 24

4

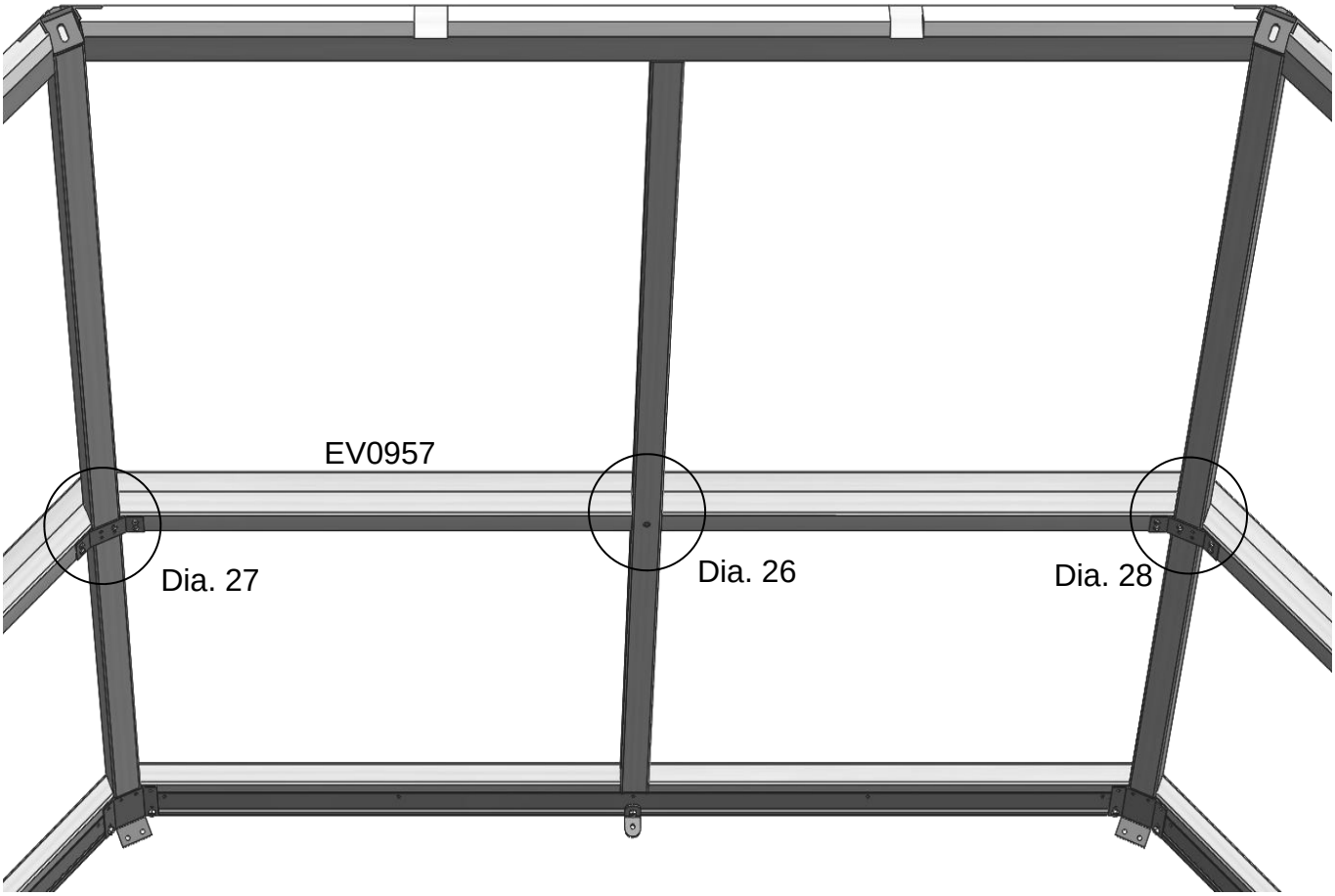
Side Assembly



Now slot the two 4• mid rails (EV0957) and the 6• mid rail (EV0958) into position. Drill a pilot hole through the inside face of each of the (EV0970) glazing bars and fix with a 50mm countersunk screws (diagram 26).

The mid rail brackets (EV0959) can be fitted with 40mm Pan head screws, note that the screw positions on the mid rail brackets are different in diagram 27 (left hand) and 28 (right hand). This is to leave space for the staging brackets.

There is also an order to inserting the screws, follow the order on the diagrams as it makes installing them a little easier. 1 and 2 go into a fixed mid rail that was part of a 2• side frame, and 3 and 4 go into the loose end of the mid rail and 5 always picks up the loose mid rail through the tenon.



Internal Diagram 25

4

Side Assembly

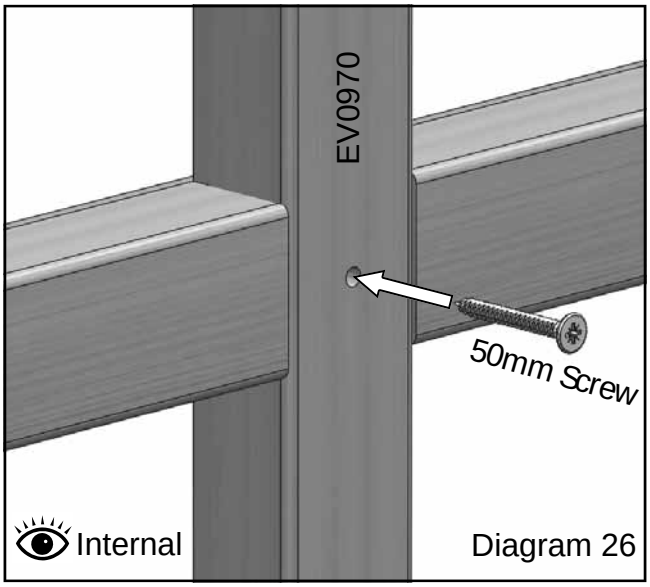


Diagram 26

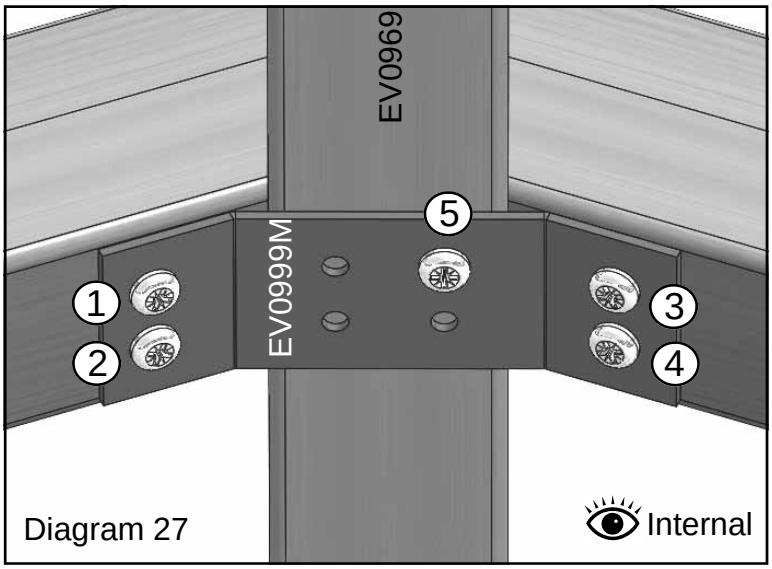


Diagram 27

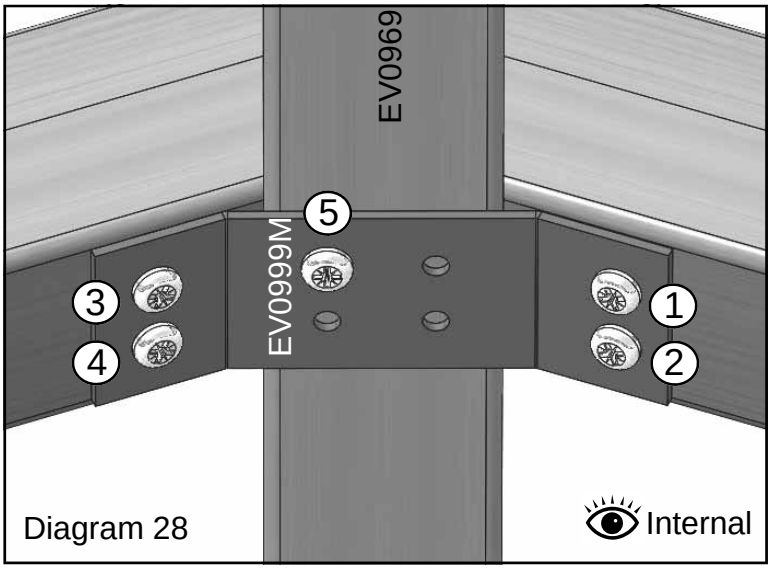


Diagram 28

4

Side Assembly

Next install the short rail sections to the left and right of the door (EV0961 & EV0962). Slot theses into place and fix with mid rail brackets (EV0999M), diagrams 27 & 28 on the previous page. Then drill a pilot hole through the sides of the glazing bar to the left and right of the doorway and secure the mid rail with an 80mm CSK screw (diagram 30).

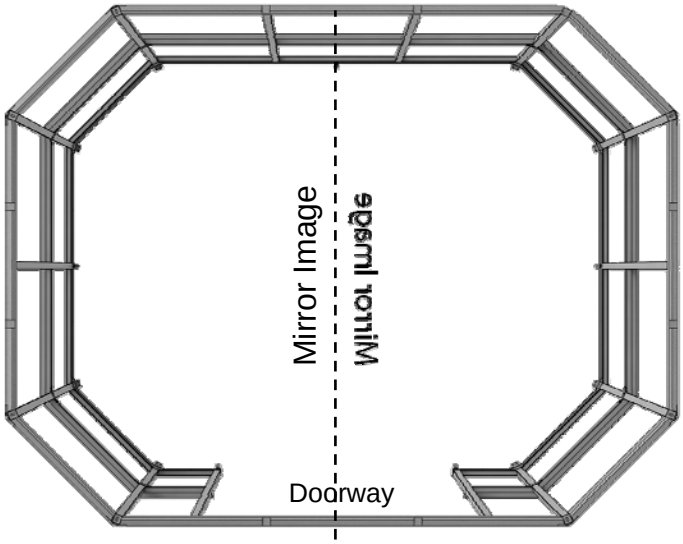
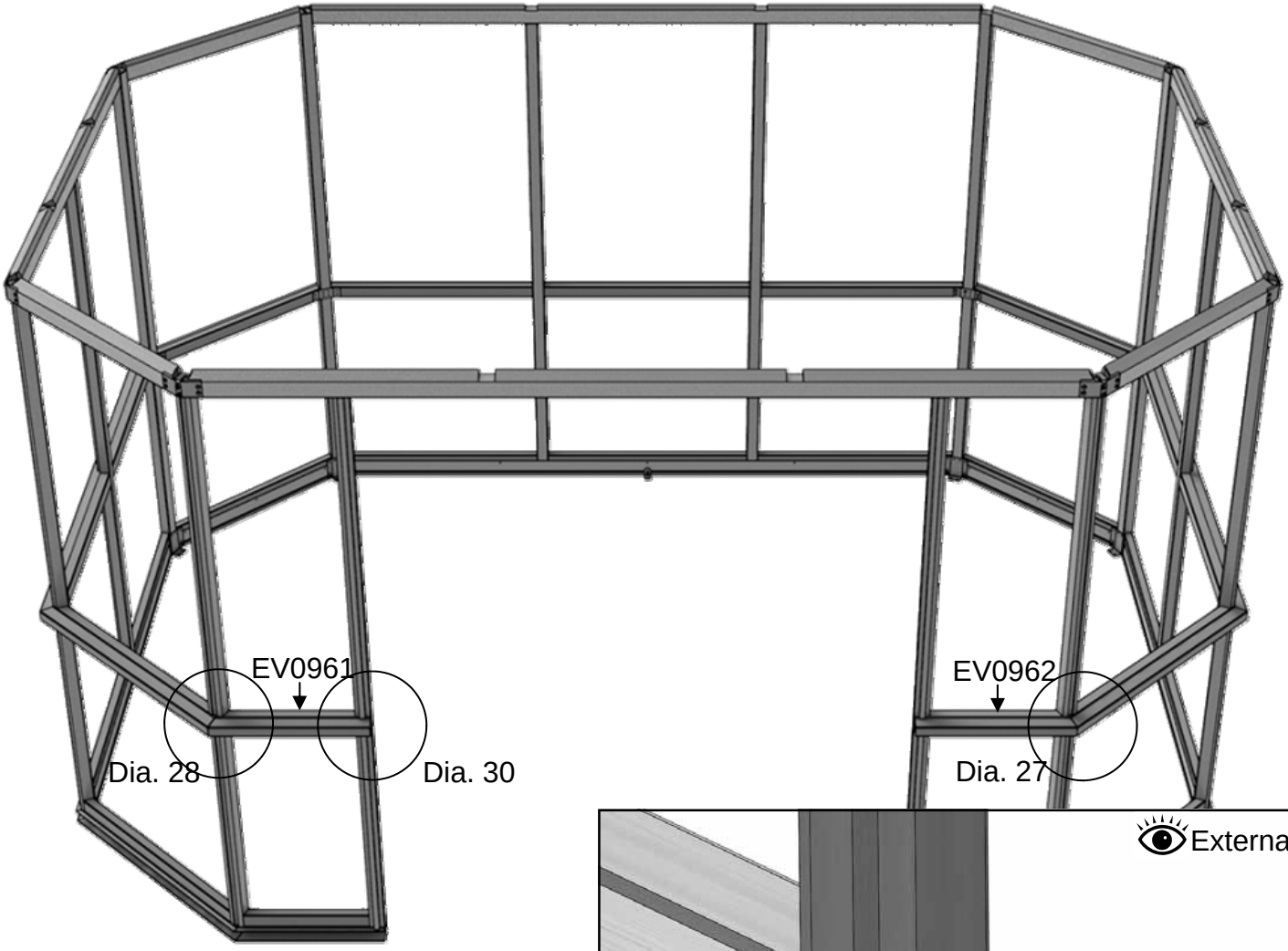


Diagram 29



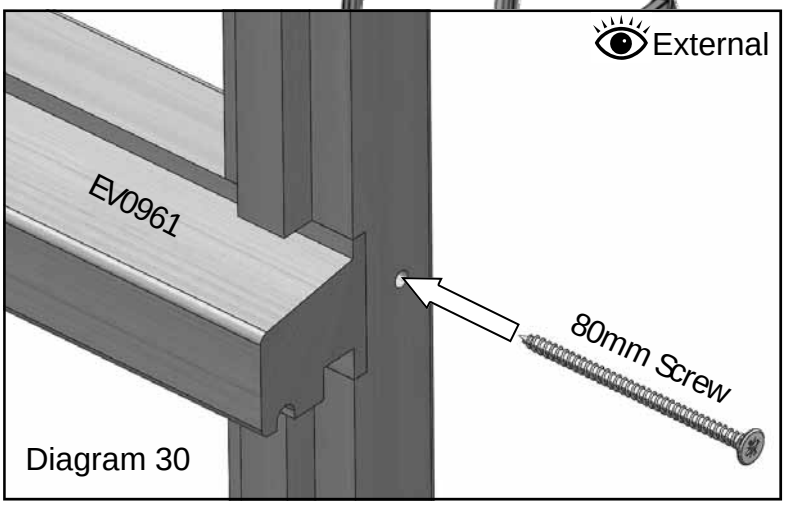


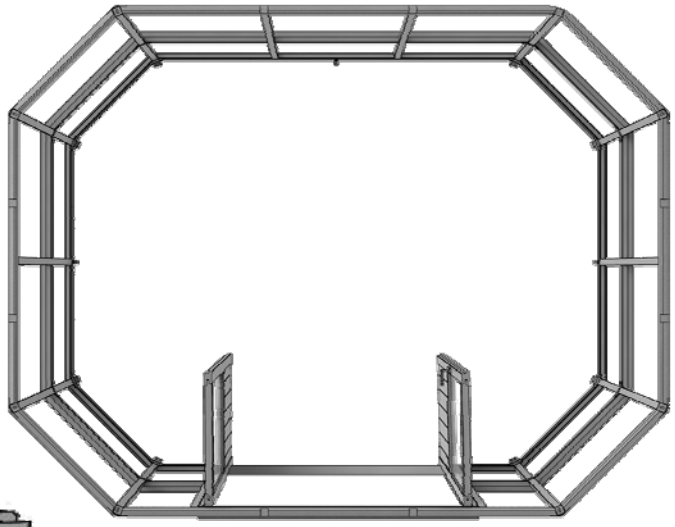
Diagram 30

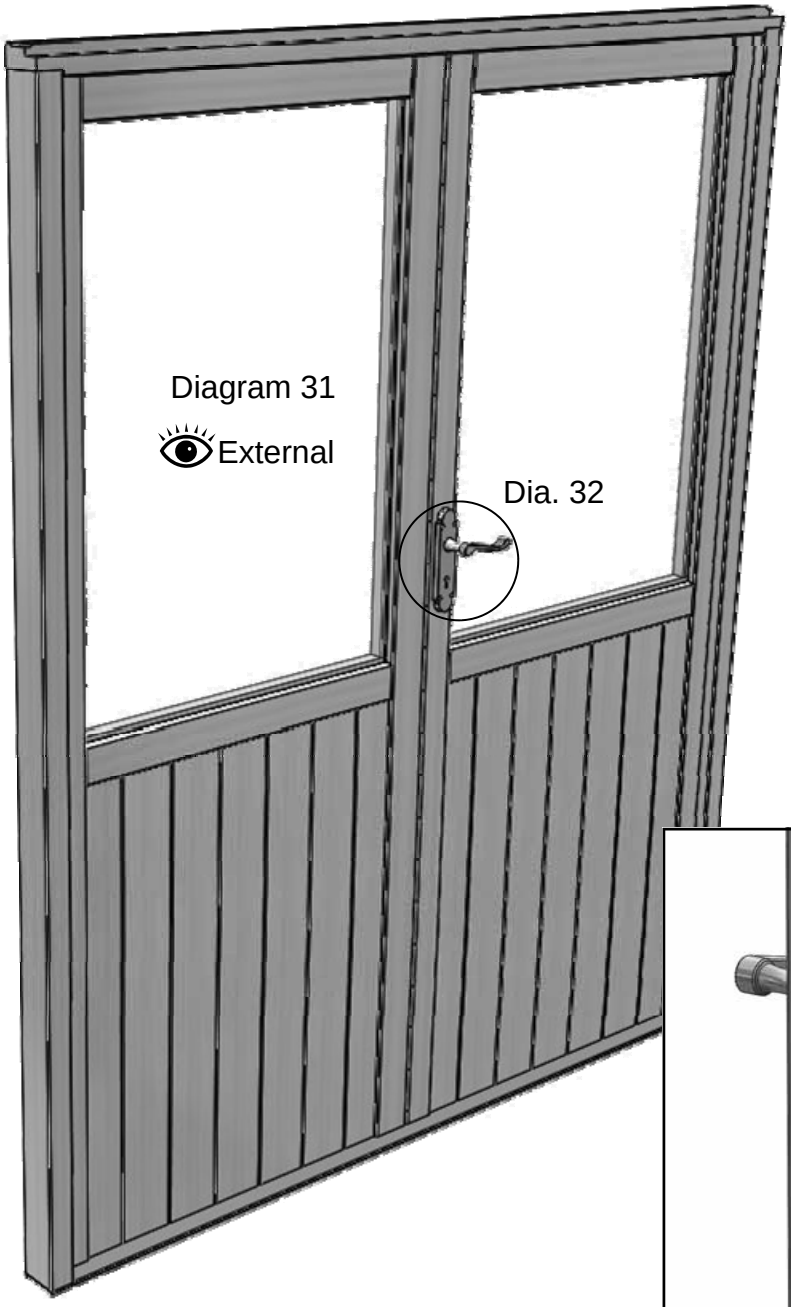
4

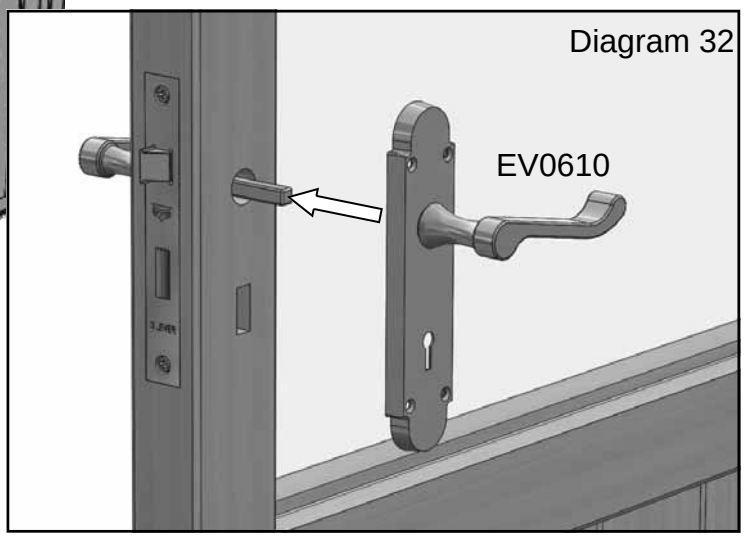
Door Installation

Before you can install the door section you need to fit the door handles (EV0610). Slide the spindle through the lock to give you the position of the handle on the door.

Fix the handle with the 3.5 x 25mm countersunk screws supplied (diagram 32).







Door Installation

Slot the door section into the assembly, the internal faces should be flush. Once in position drill pilot holes and fix with 50mm CSK screws (ESV0333), suggested locations shown by the arrows in diagram 33.

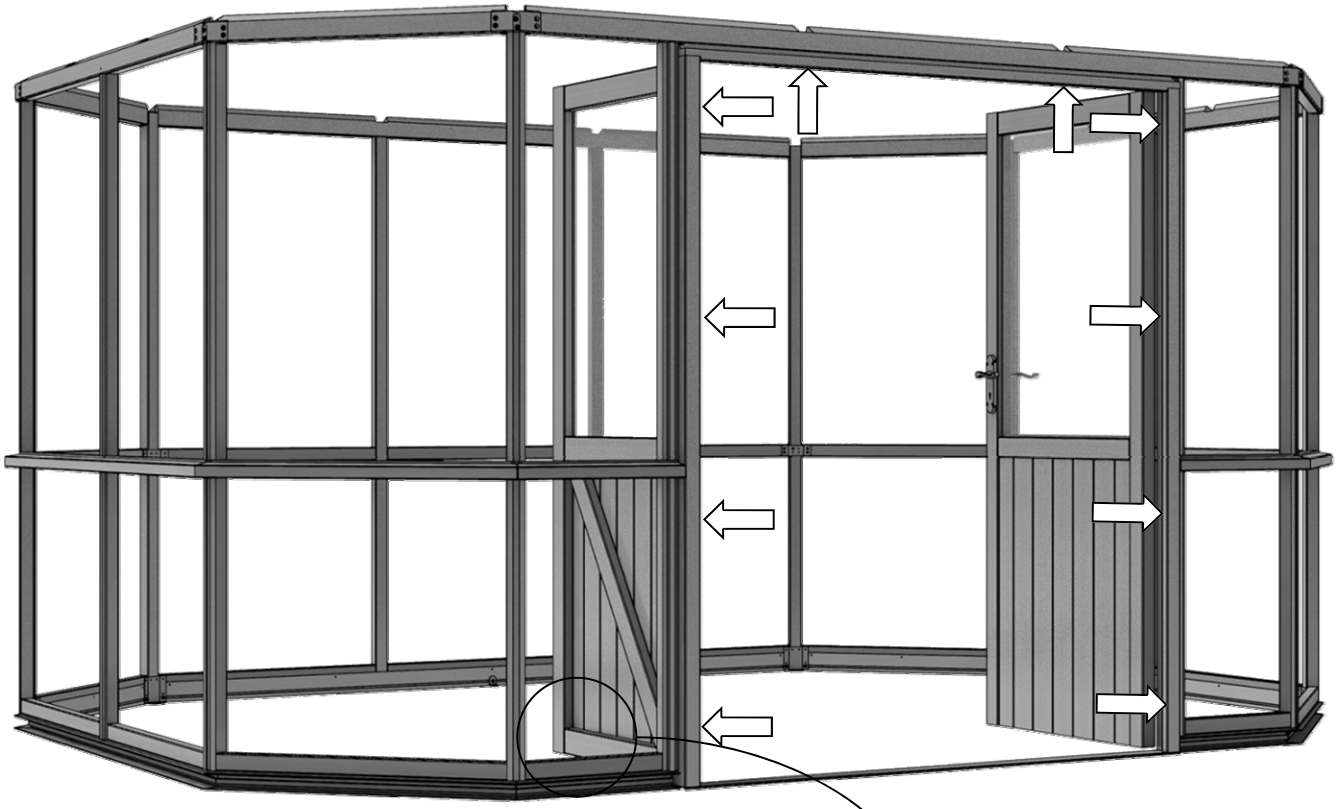


Diagram 33

When the door is fixed in position you can install the lower door stop to the rear of the slave door. Push the stop foot up into the body as far as it will go, you can then position the door stop on the door so the foot is 10-25mm off the floor. Fix this with 3.5 x 25mm countersunk screws.

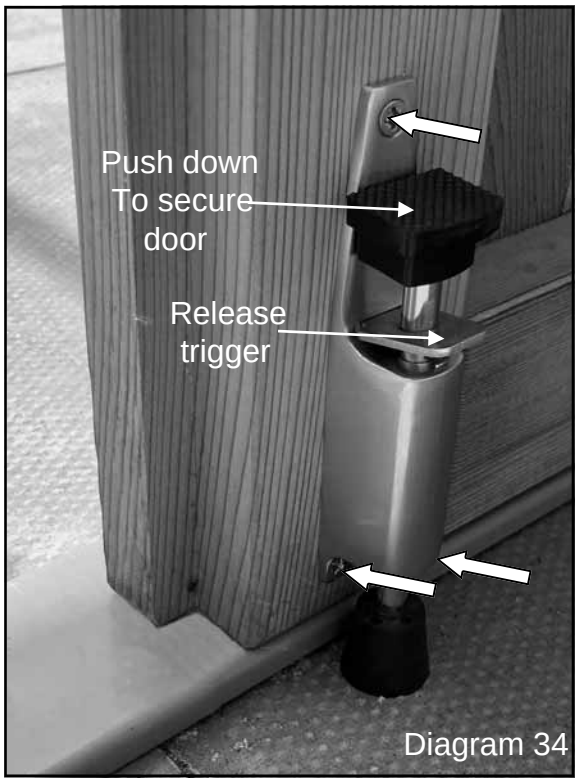
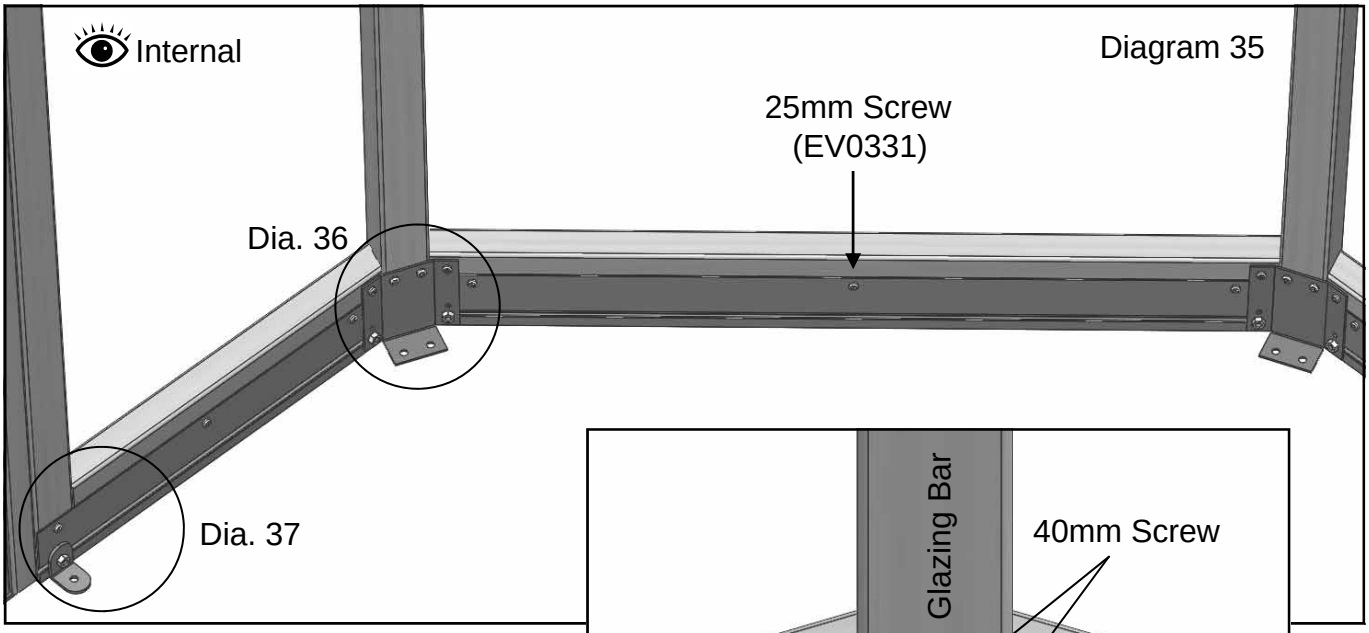


Diagram 34

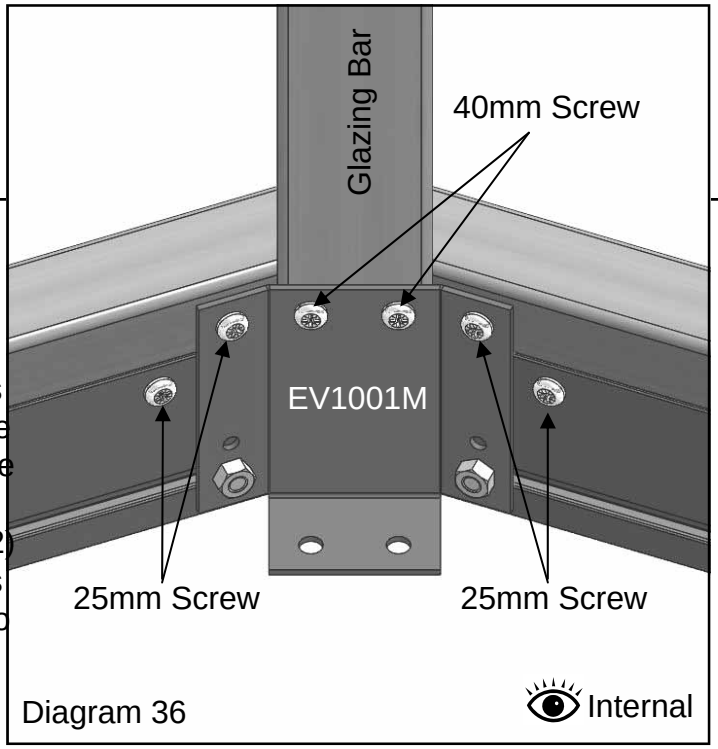
5

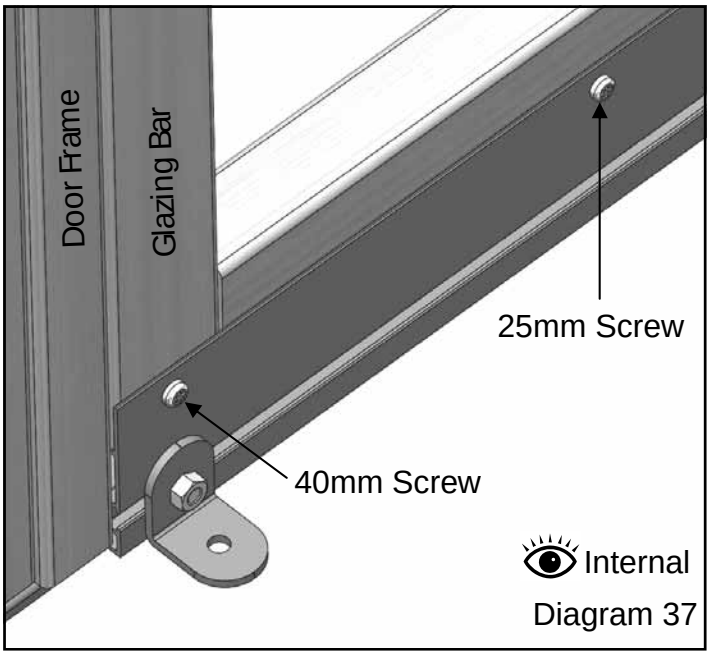
Fix to Aluminium Base



With the door frame fixed to the assembly you can now fix the aluminium base to the greenhouse frame. Follow the examples in diagrams 35, 36 and 37, these show what size screw should be used. On each base bracket, its best to start by fixing the 40mm Pan head screws (EV0332) followed by the 25mm Pan head screws (EV0331). You may find you need to loosen the nuts slightly to get the best fit, remember to tighten them again afterwards.

Important: Only use 25mm Pan head screws for screwing into the cill sections.





Board Installation

Optional low Level louvre? See special help sheet.

If you have purchased the optional low level louvre you can either fit it now or simply leave out the board where you want the louvre to be positioned and fit it later.

To fit the boards slot the top edge into the mid rail (the top of the board has the baton closest to the edge), then push the bottom of the board in until it touches the frame. The board will drop slightly and the bottom baton will rest on the cill.

Work your way around the building until all the boards are in place. Once in position you can fix them with the cedar panel capping (EV0979), diagram 41 is the capping is used all around the building apart from either side of the door and in the middle of the 4 sides where special (EV0985) capping is used (diagram 40). Fix the capping in place with 40mm Pan head screws.

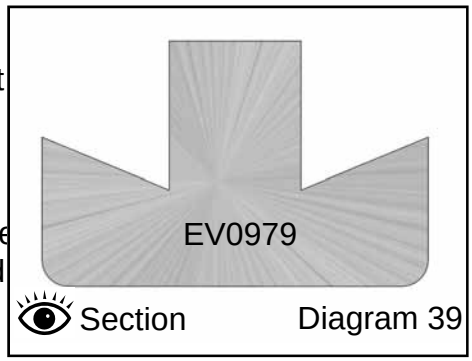


Diagram 39

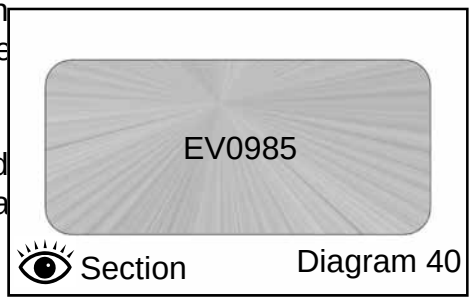


Diagram 40

Diagram 41

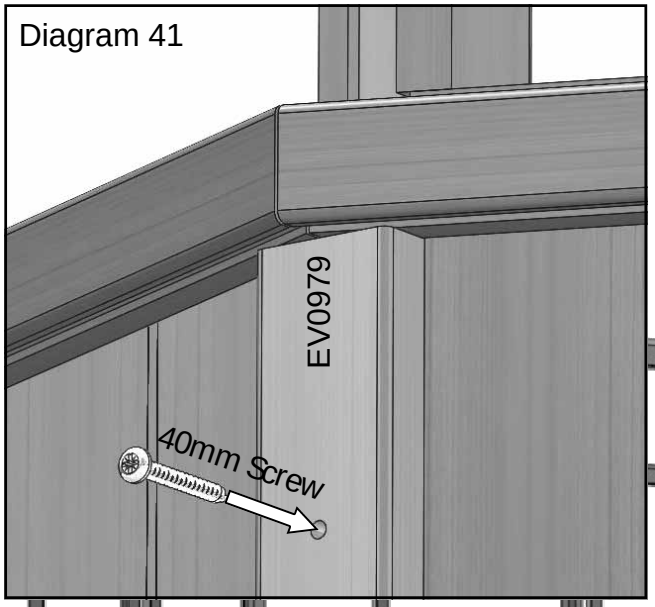
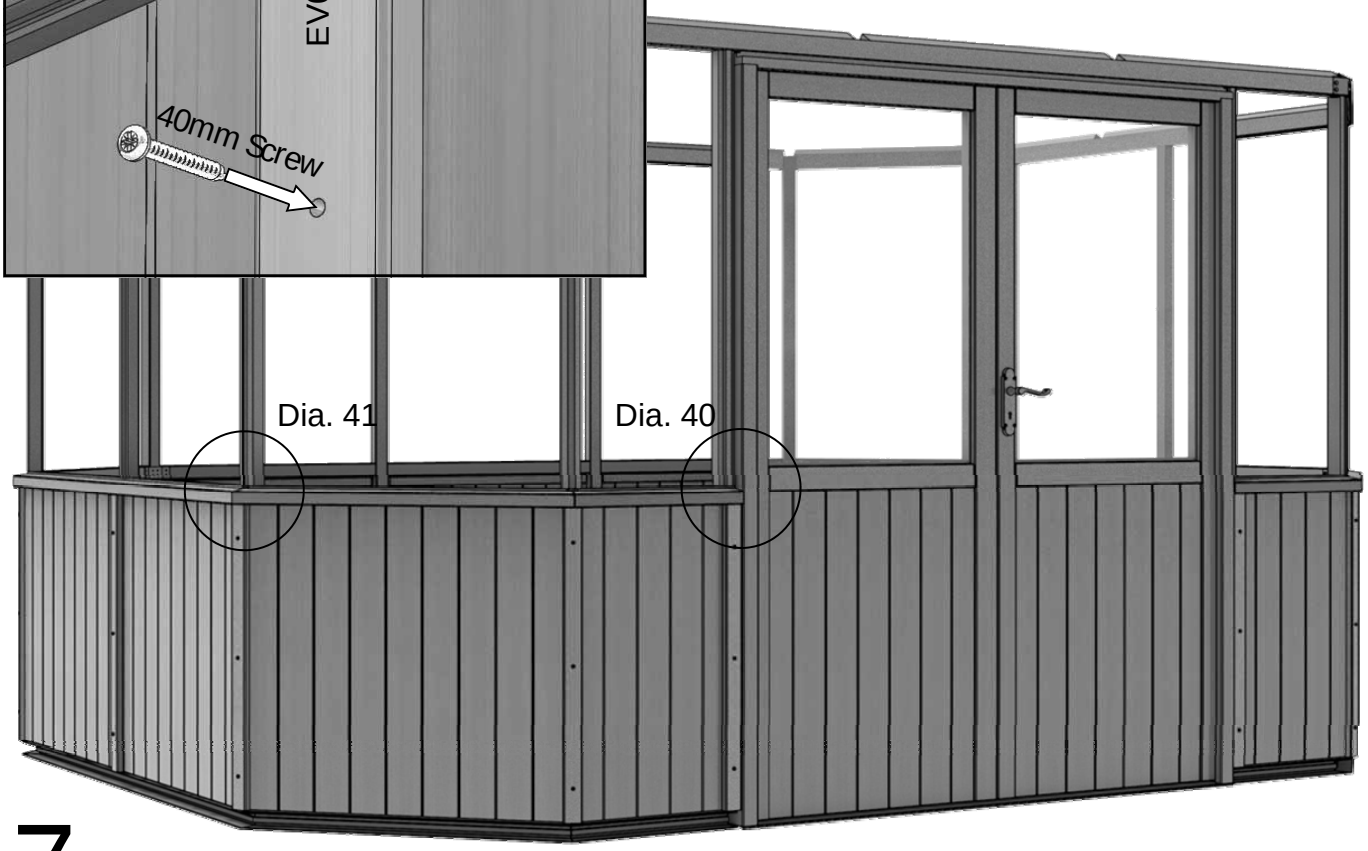


Diagram 38



7

Roof Assembly

Once you have all the sides built up with the door in position you can then begin assembly of the lower roof structure (diagram 42).

Lay the lower roof frame components out on the ground. Assemble by attaching the roof glazing bars (EV0966) to the corner brackets (EV1005) and then the corner brackets to the lower frame horizontals (EV1080 / EV1082) using eight (EV0364) 35mm countersunk screws (diagram 43) .

Repeat the above until the lower roof frame is complete.

Diagram 43

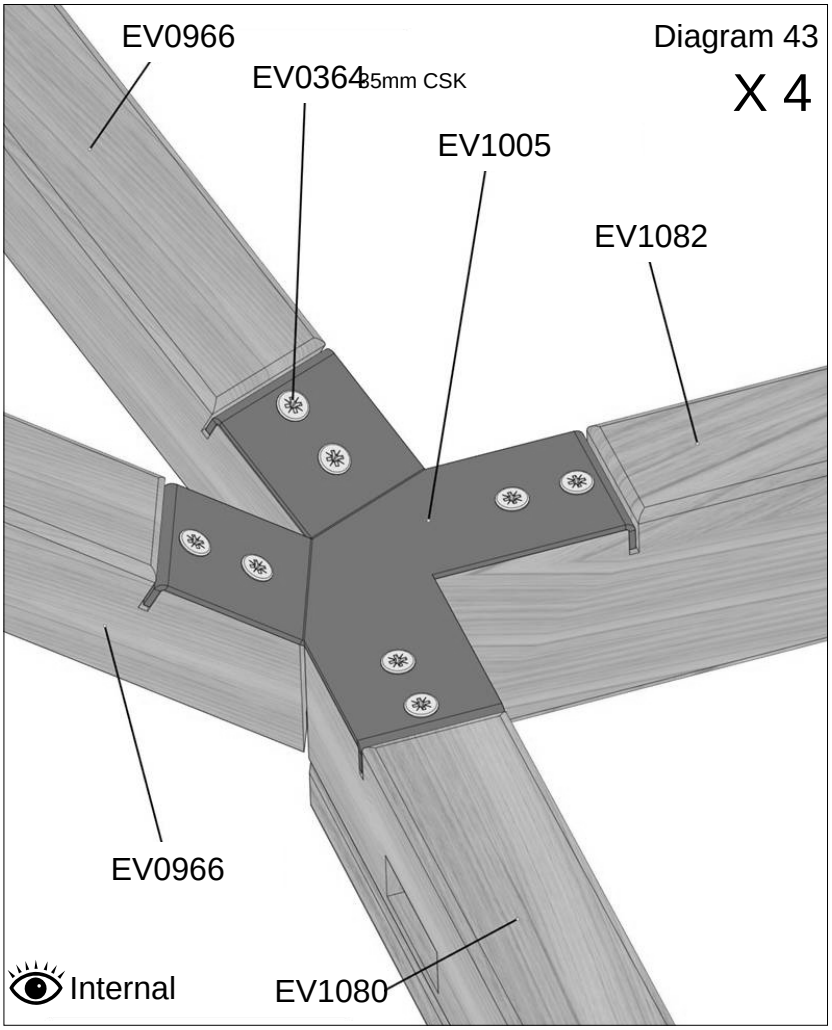
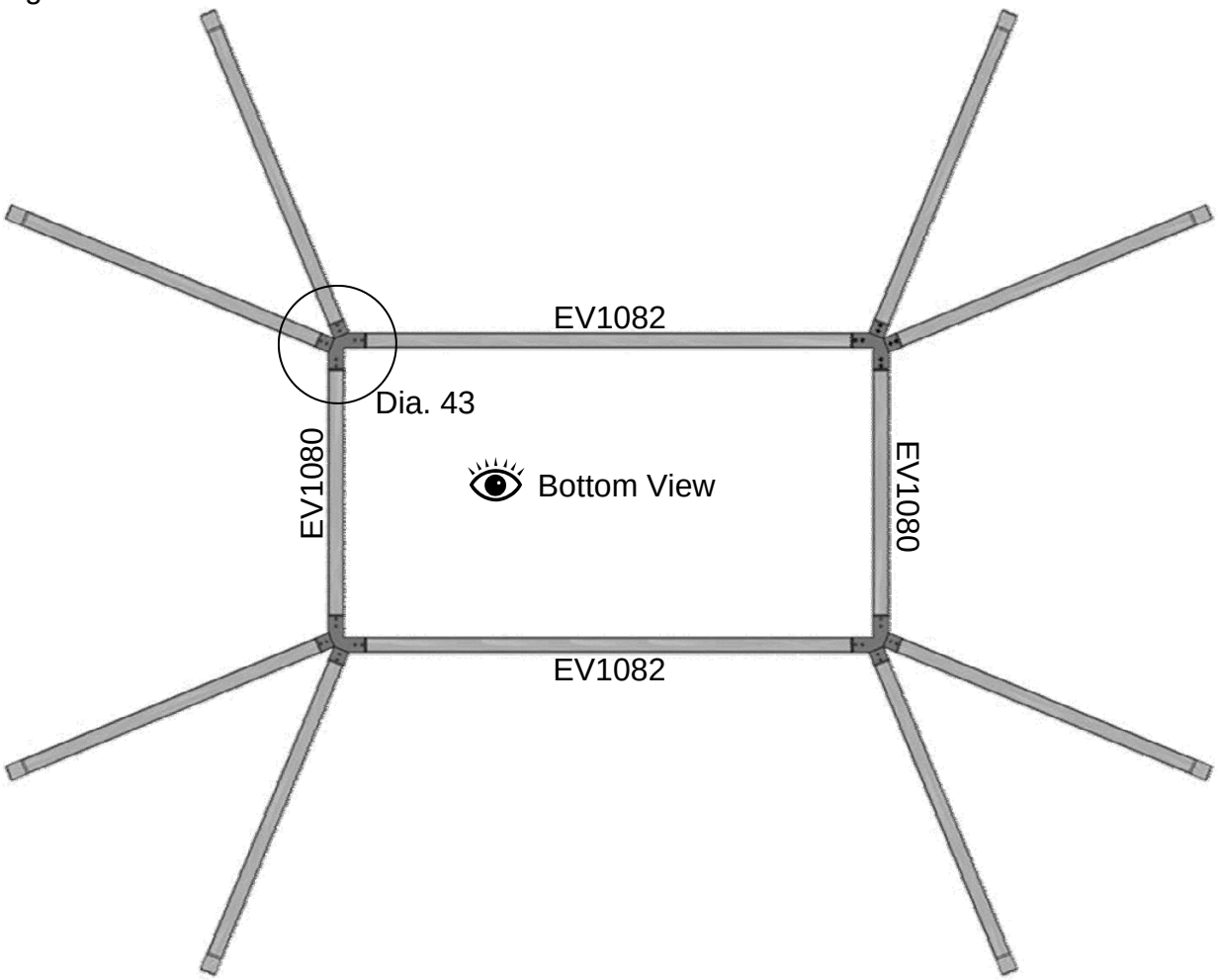


Diagram 42



Roof Assembly

With help position the lower roof frame assembly onto the building (diagram 44).

See diagrams 45 and 46 for the fixing down of the roof bars to the sides making sure they are pulled tight into the side glazing bars leaving no gap. When in position drill vertically down in the location shown in diagrams 46 and 47. Then fix with a 80mm CSK screw.

Work your way around the building until all roof bars are fixed.

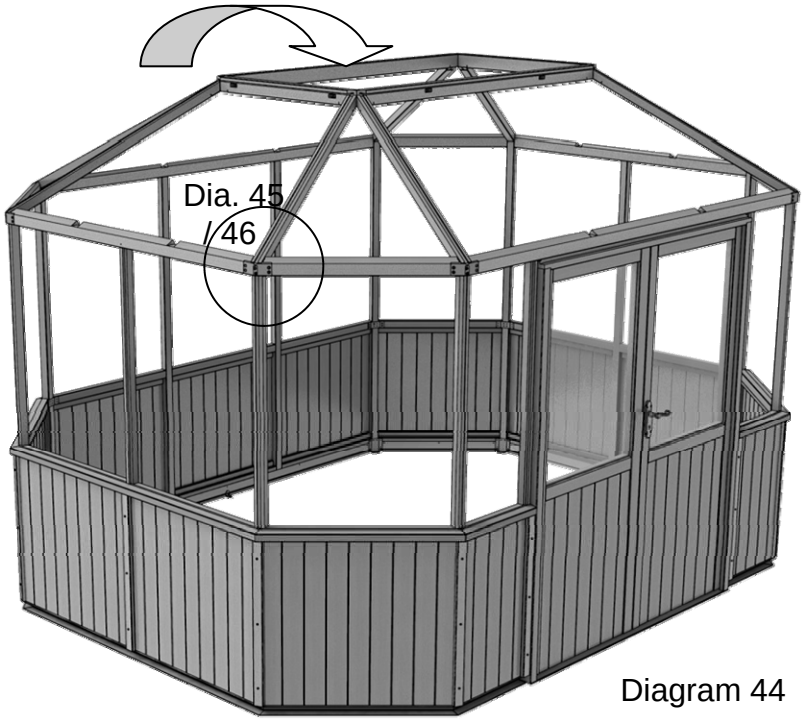
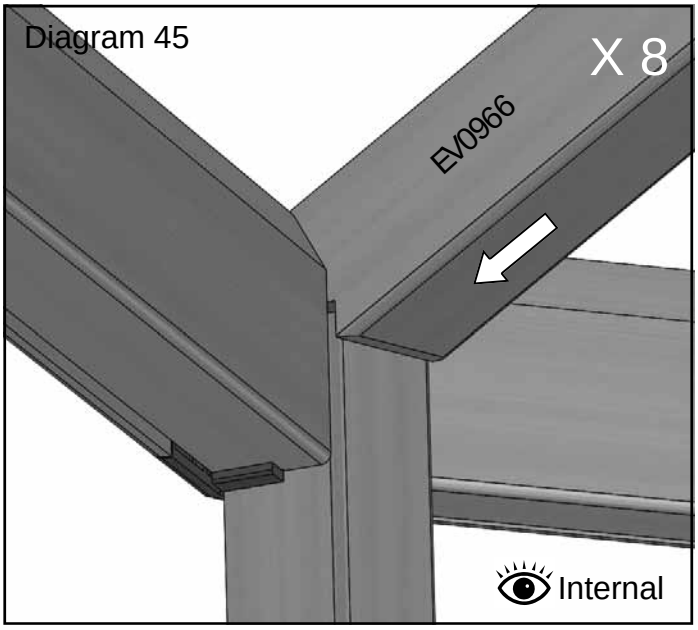
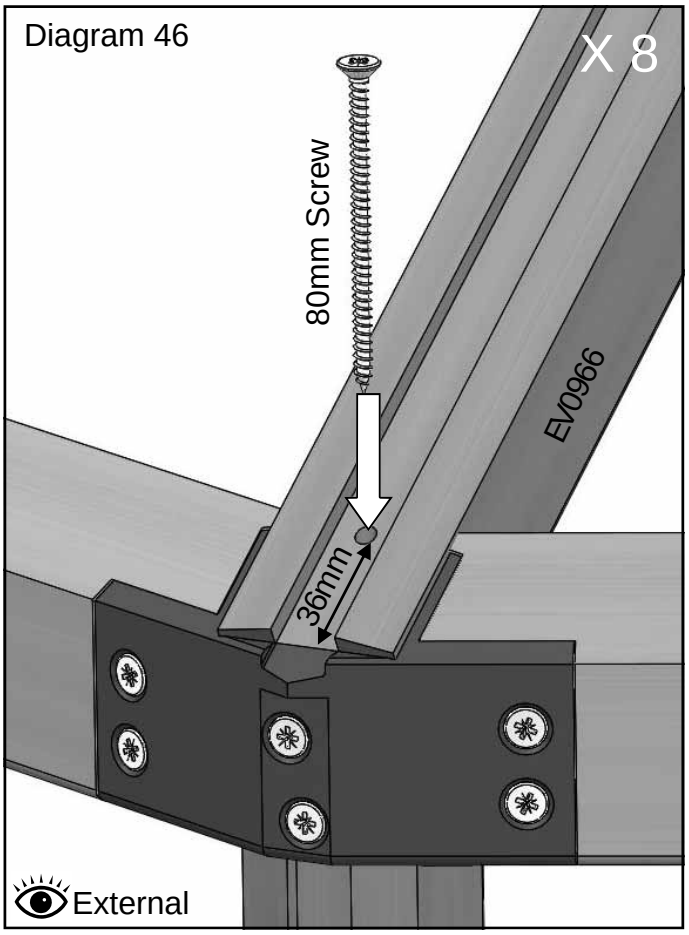
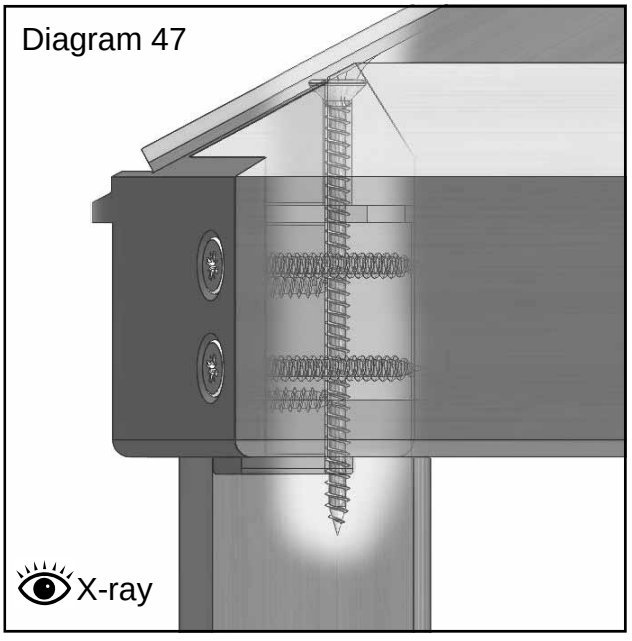


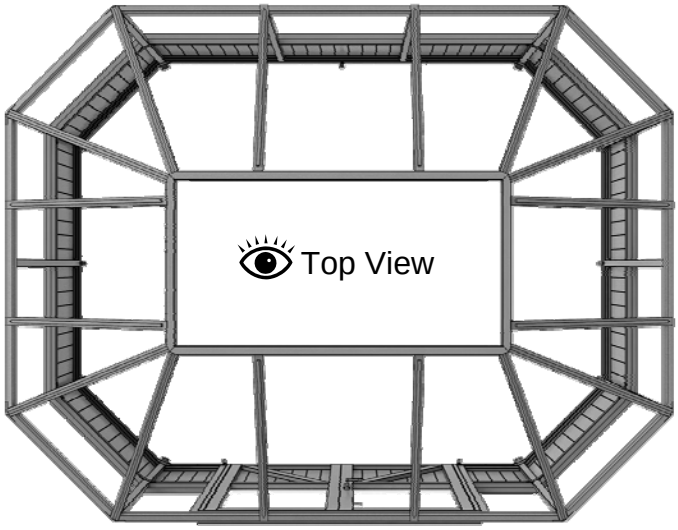
Diagram 44







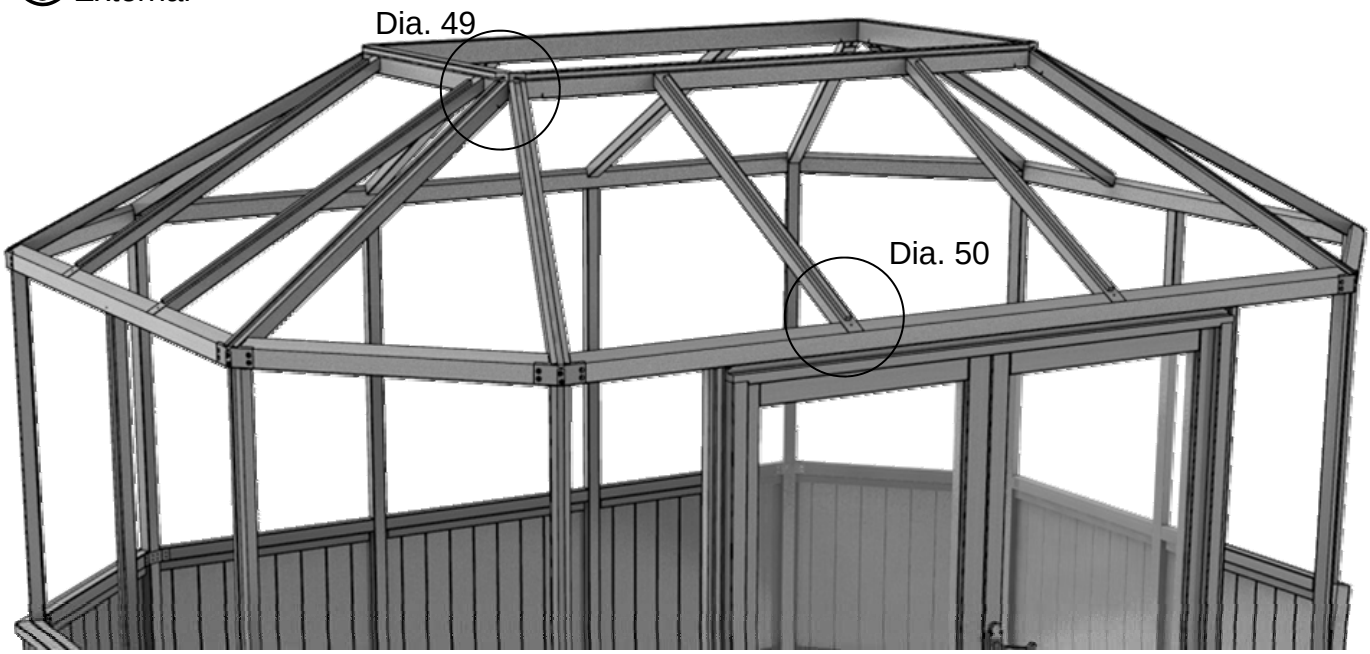
Roof Assembly

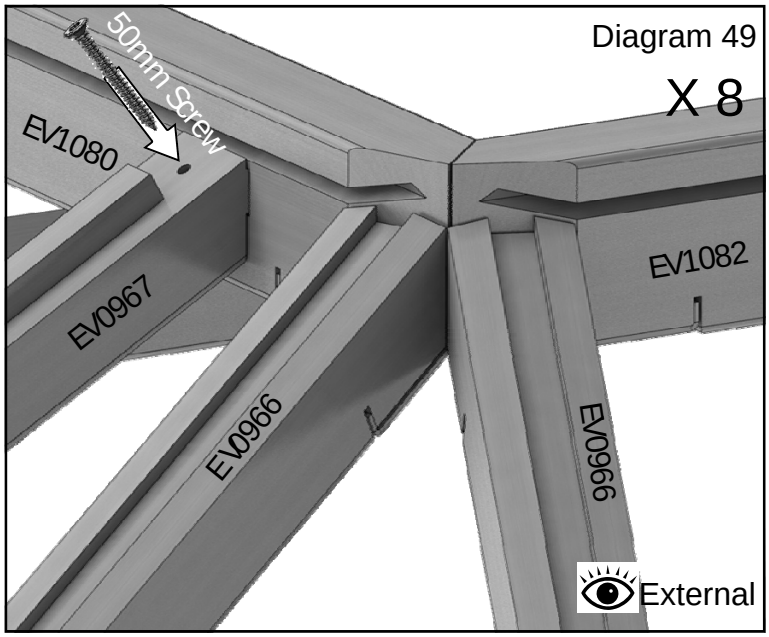


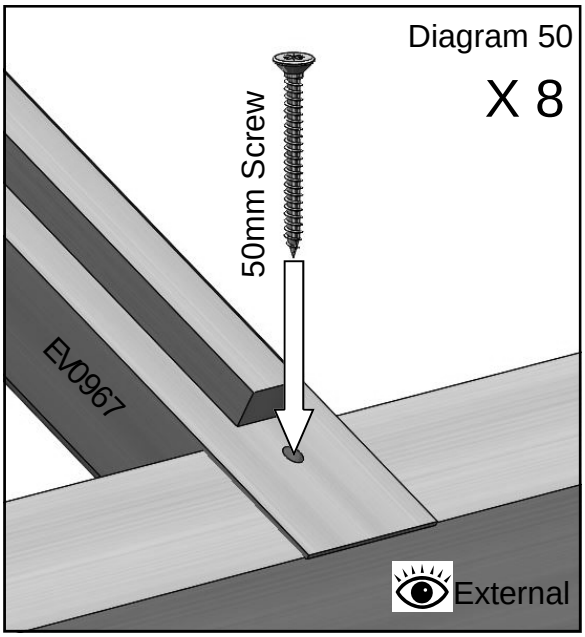
Slot the eight middle roof bars (EV0967) into place locating them firstly into the lower frame horizontals (EV1080 / EV1082) and then lowering them down onto the trench in the eaves bars, see diagram 48.

Drill pilot holes top and bottom and fix with 50mm CSK screws (diagrams 49 and 50).

Diagram 48

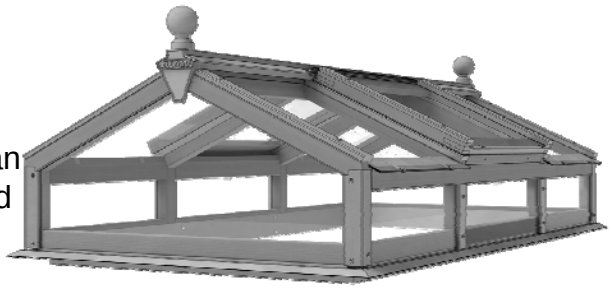






8

Lantern Assembly



Now that the main frame has been assembled you can begin to construct the lantern top which once assembled will be lifted on whole.

Begin lantern assembly by constructing its gable ends. Drill accurately placed pilot holes first (diagrams 51… 53), note these screw heads will be visible externally. Use 50mm CSK screws to fix through the handed (EV1094 / EV1095) lantern side corner mortices to pick up the cill section (EV1089).

Again making sure that the pilot holts are accurately positioned use 50mm screws down through the handed lantern top gable bars (EV1092 / EV1093) into the side corners (diagram 52) .

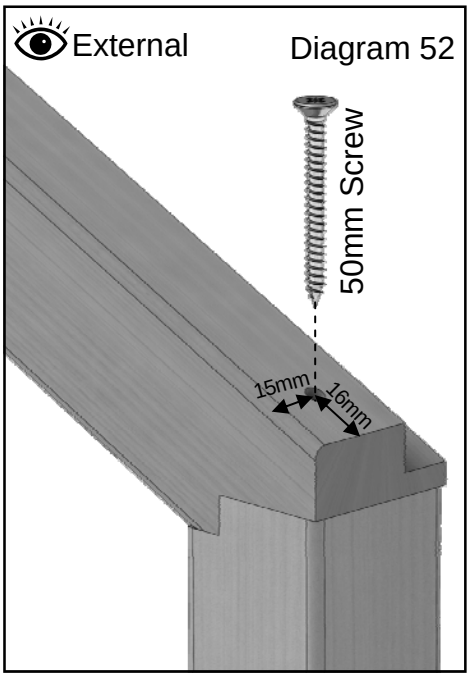
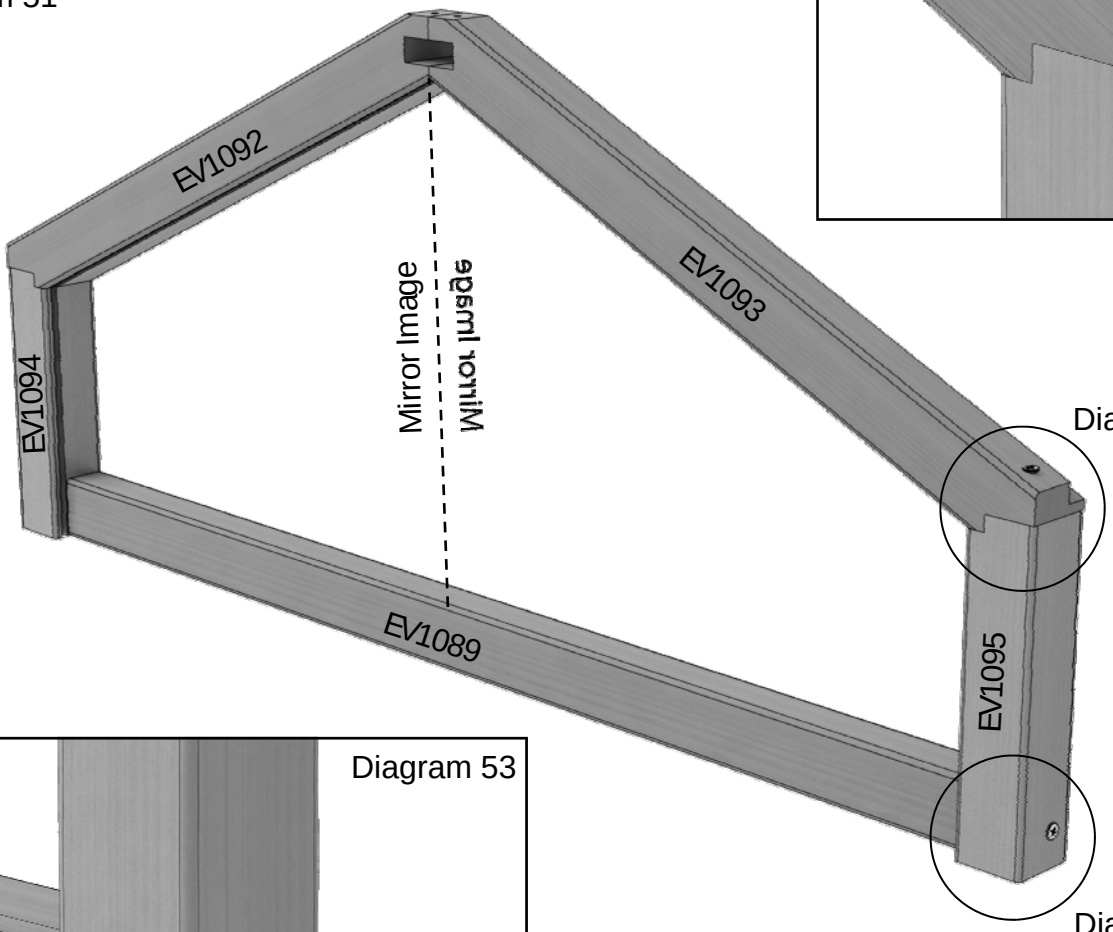
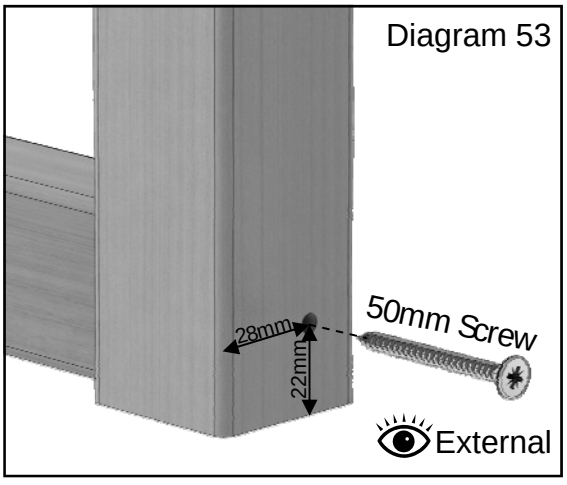


Diagram 51

X 2





9

Lantern Assembly

With both lantern gables assembled you can join them together with the (EV1088) cills, eaves (EV1099) and ridge (EV1091) .

The cill and eaves are bolt fixed through the gable ends with eight 80mm screws. Diagrams 55 and 56 show the optimum positions for the pilot holes, note these screw heads will also be visible externally.

The ridge is fixed to the gable bars with 50mm screws (diagram 57), pilot drill first.

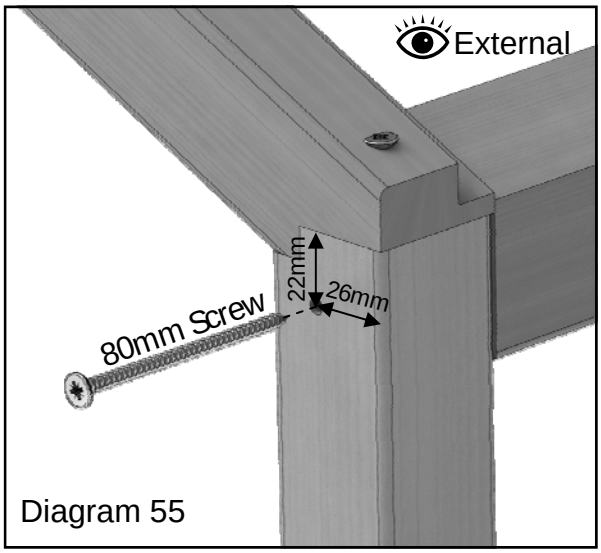
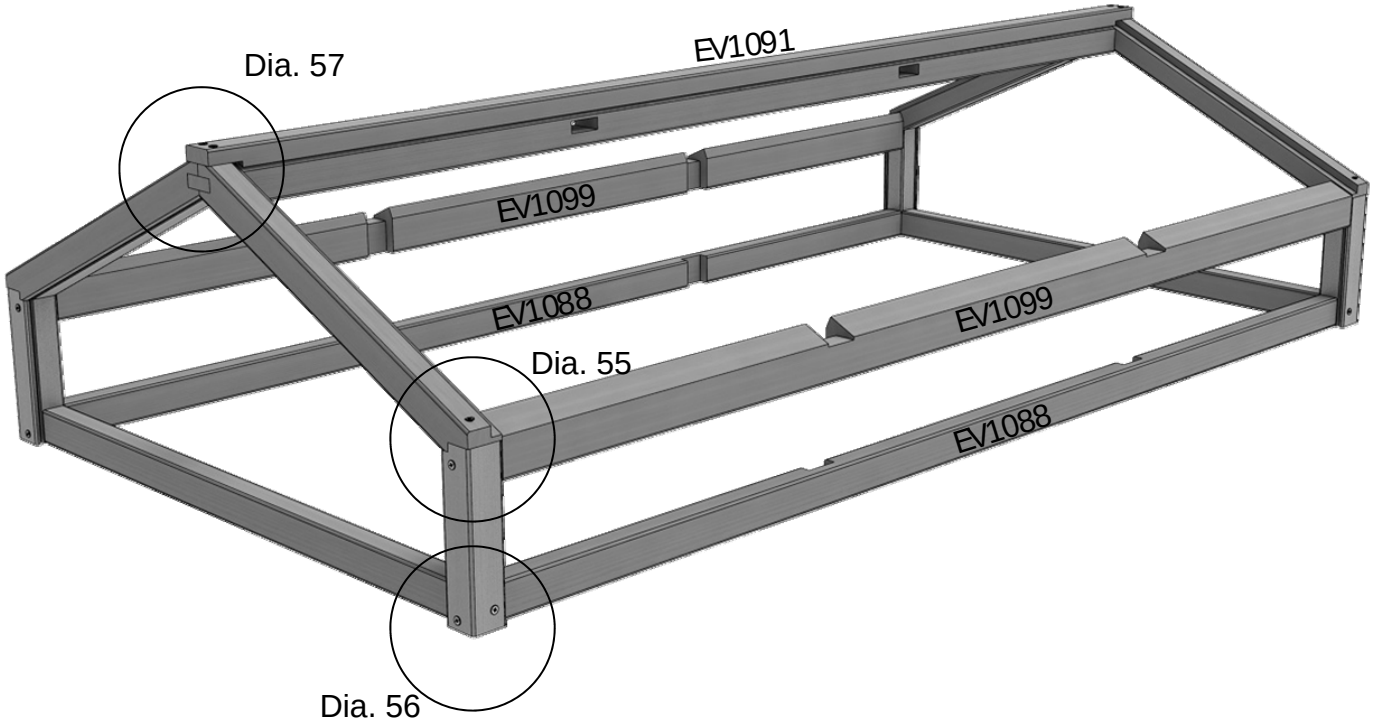
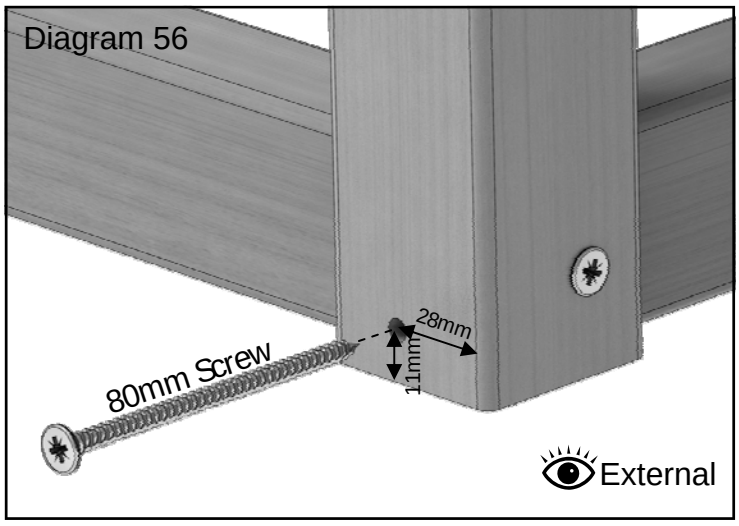
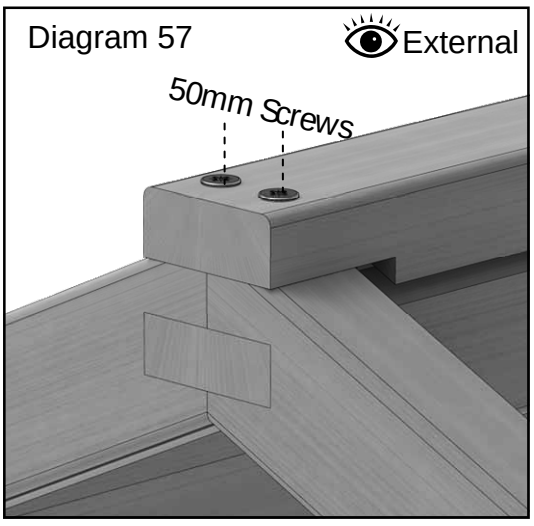


Diagram 55

Diagram 54





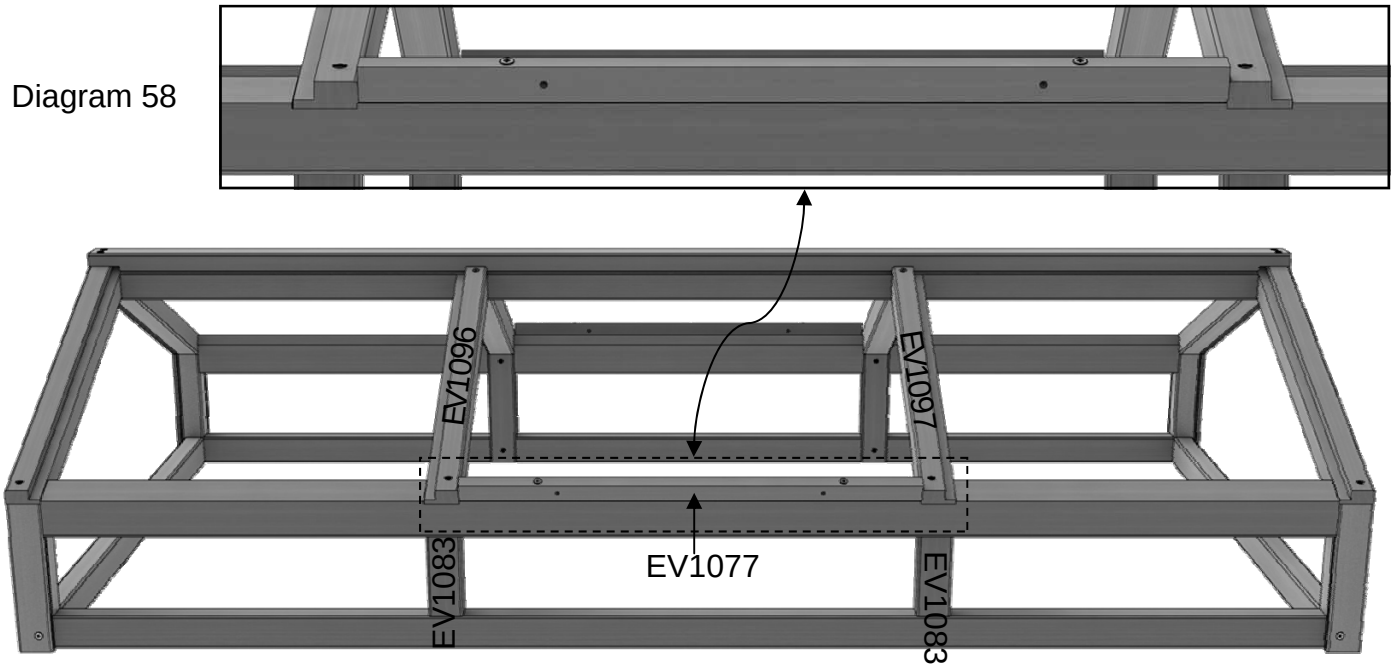


Lantern Assembly

Next add the handed lantern top roof bars (EV1096 / EV1097) and fix again as you did your middle roof bars (refer back to diagrams 49 and 50) using 50mm CSK screws.

Between these bars you can fix the vent slam rails (EV1077) using 50mm CSK screws. When using the optional aluminium capping this should be fitted on the long side face. If using the cedar capping then the short face should be used so the slam rail sits higher (cedar orientation shown in diagram 58).

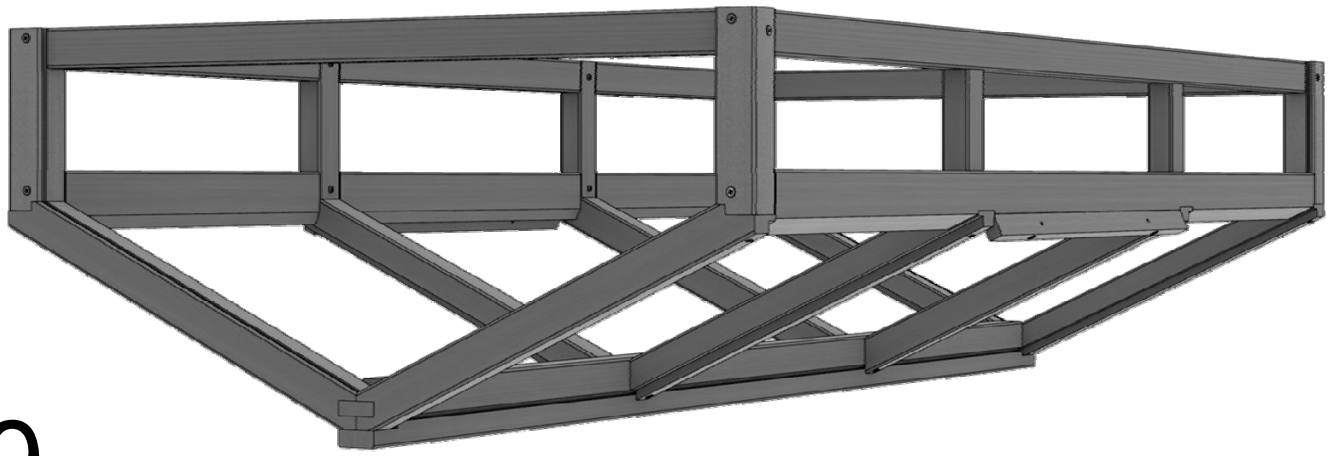
Diagram 58



Important: When attaching the lantern side bars (EV1083) be careful not to pilot drill all the way through from the inside and only use 25mm Pan head screws to attach them top and bottom.

The lantern sides are glazed from below. In order to insert the glass it is easiest to flip the lantern over onto its ridge getting someone to help and then hold during glazing (diagram 59).

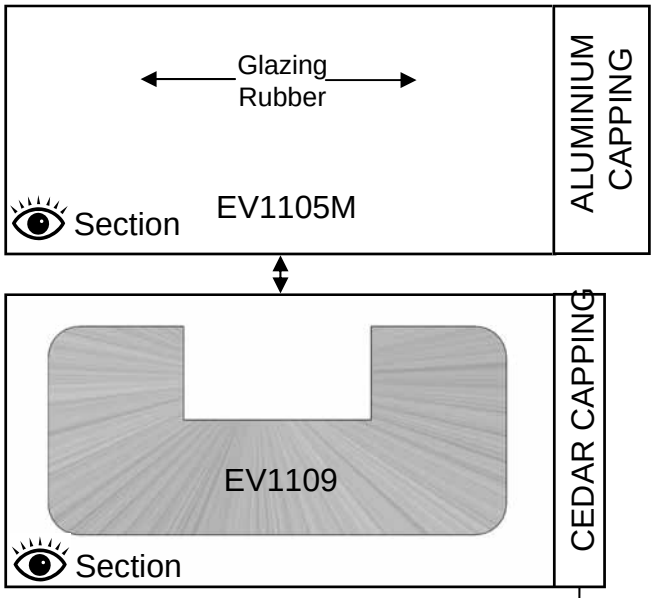
Diagram 59



9

Lantern Assembly

Taking the necessary safety precautions insert the two gable and six side panes into the lantern as shown below, diagram 60. Make sure your helper/s is stabilising the frame as you do this. You will need to use the lantern side bar covers (EV1109 cedar / EV1105M alu) and 40mm pan head screws to hold the side glass in place. With the optional aluminium capping make sure you have slid the glazing rubber into both channels and cut to length (see right).



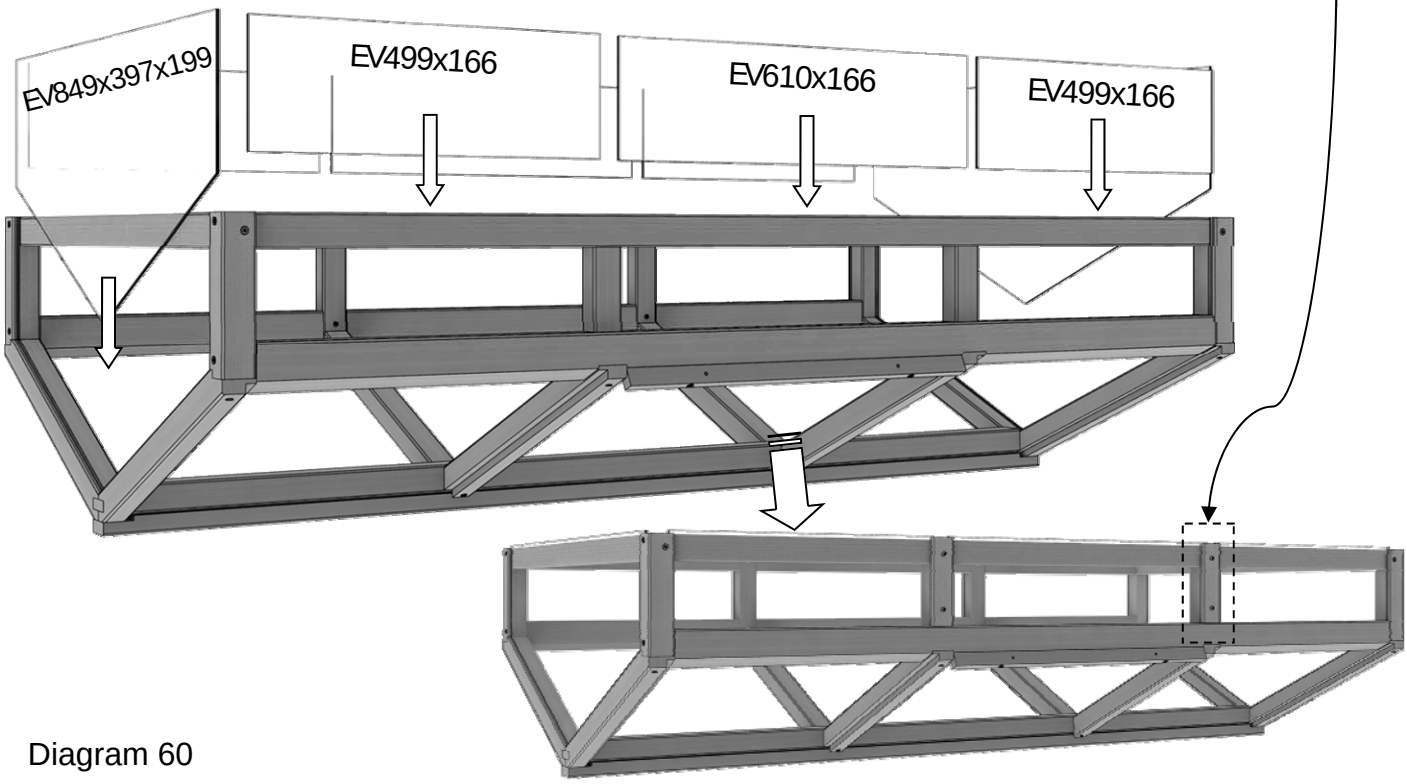


Diagram 60

The gable glass and side glass are retained by four flashing parts (EV1021M / EV1022M), use 25mm pan head screws to fix in place making sure they all meet neatly at the corners, diagram 61.

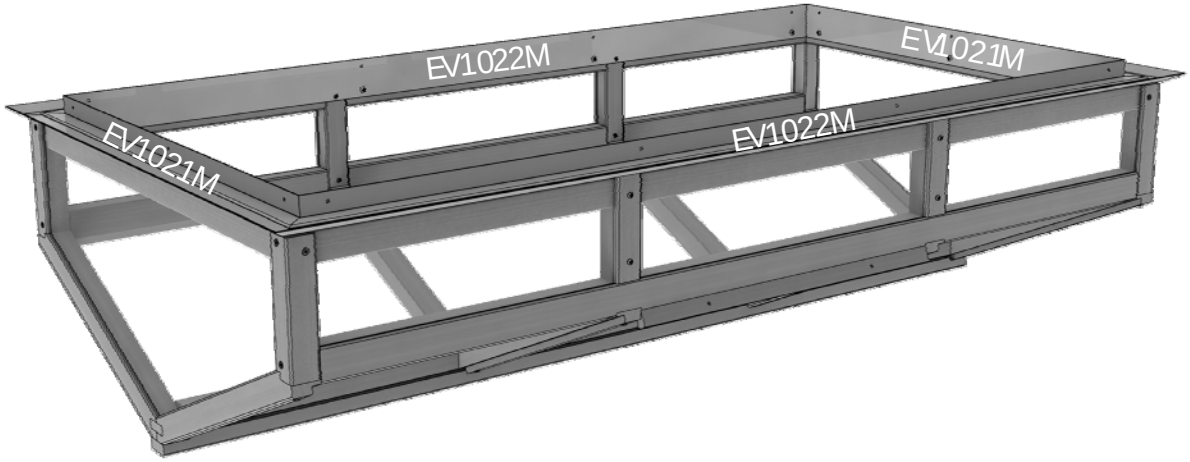
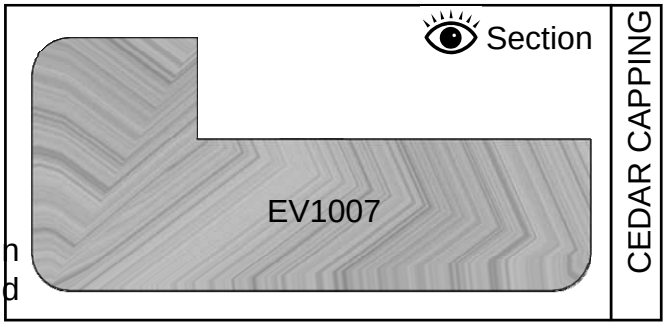


Diagram 61

Lantern Assembly

Having turned the lantern the right way up you need to add its four upper panes (EV509x525). The lantern roof glass is held in place by 2 glass stop (EV0313) per pane and secured with capping on each side using 40mm pan head screws, diagram 62. If you have the optional aluminium bar capping you need to insert the rubber into the rubber channels and trim it to length prior to attachment.

Important: Please make sure that you use the 40mm countersunk (EV0338) screws where the vent/s will be located (two each side), the usual pan headed (EV0332) screws will prevent the vents from closing properly.



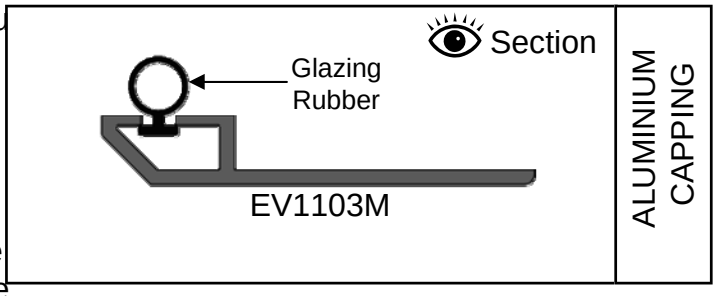
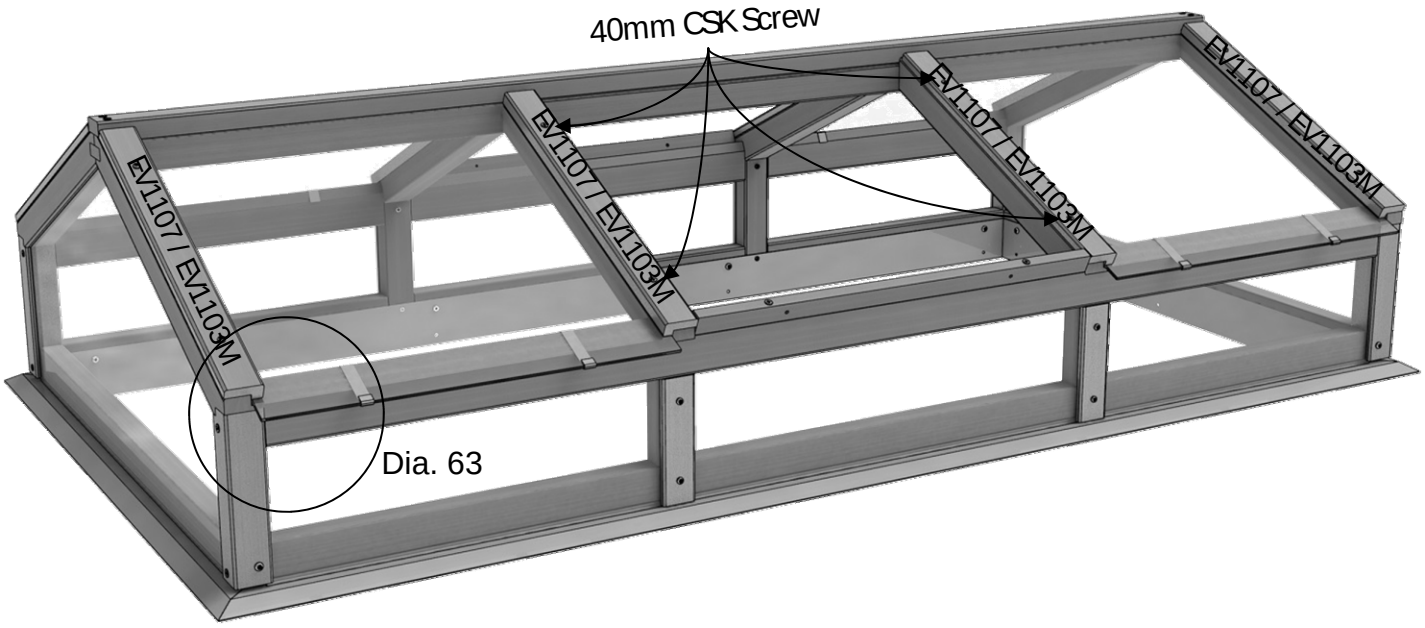
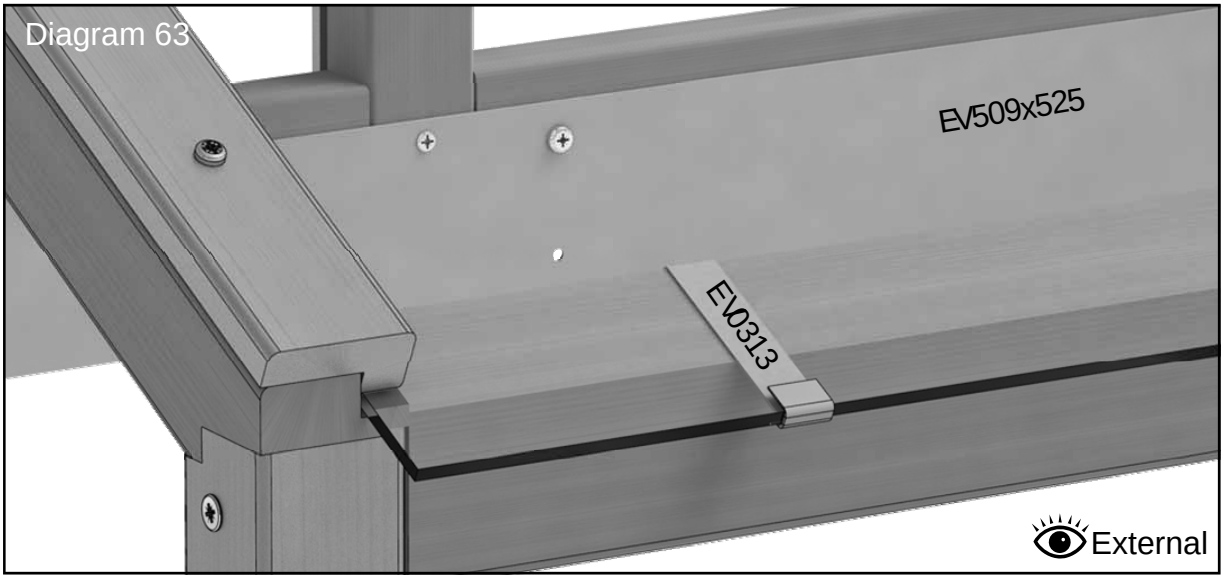


Diagram 62





Lantern Assembly

Now centrally position and fit the ridge cap (EV1101M) through its pre-drilled holes using four 40mm pan head screws (diagram 64).

The end caps (EV0001M) and finials (EV1025M) clamp together with a 15mm M6 bolts. 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 (diagram 65). This can be done once the lantern top is in place if you find it a little heavy to lift but it is easier to do this on the ground.

Important: Prepare the vent hinges (EV0314M) by running a bead of silicone along their back edge (see right). Then position this spaced equally above the openings in the lantern. Use three 13mm self taping screws (EV0329) to secure (diagram 66, 67).

The lantern vents are installed once the lantern is in situ.

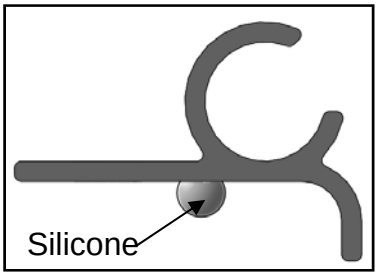


Diagram 64

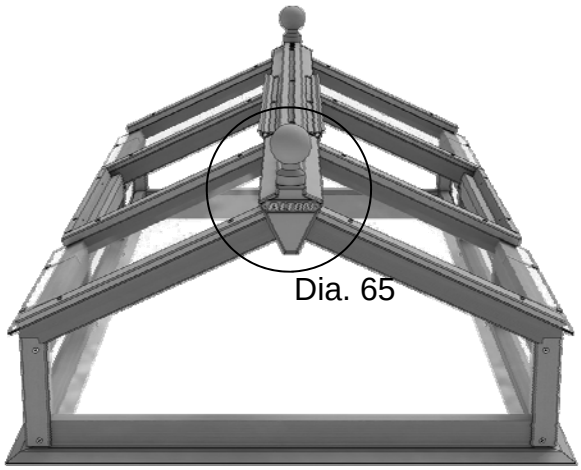


Diagram 65

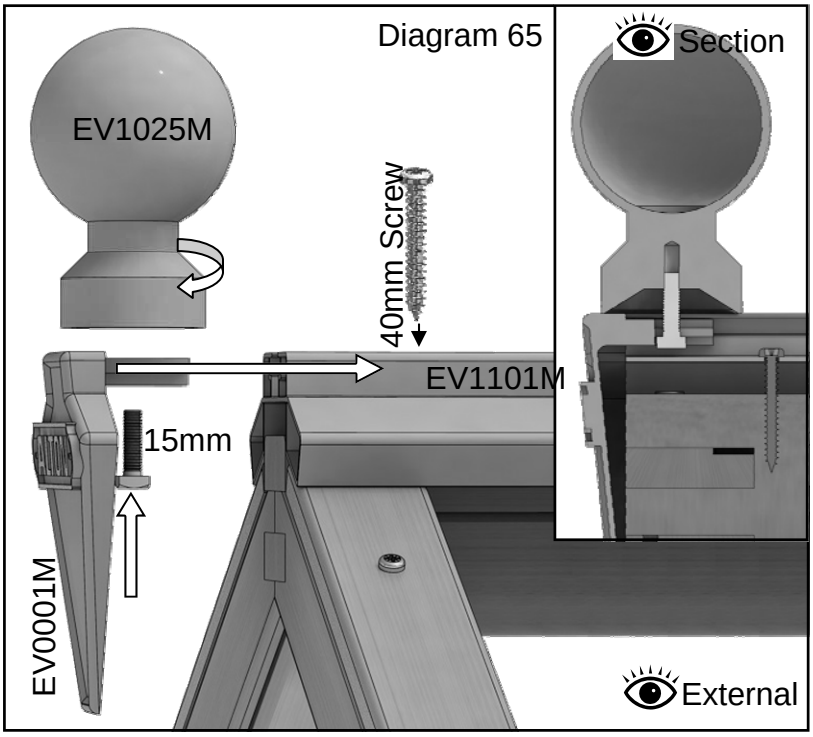


Diagram 66

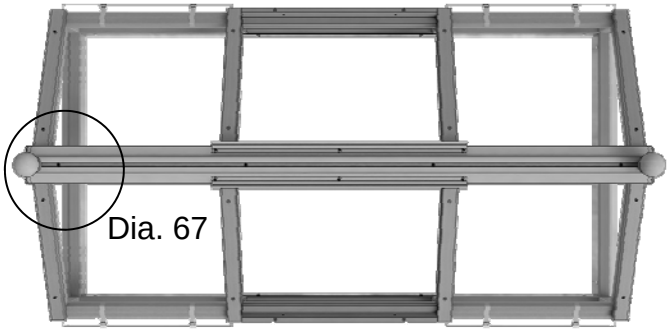
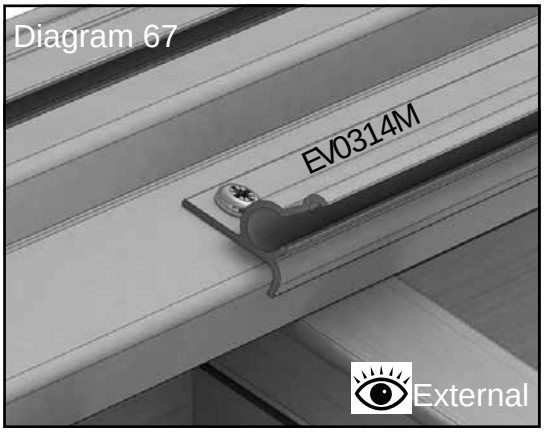


Diagram 67



9

Lantern Attachment

With at least two persons on ladders lift the assembled lantern top above the roof and lower it down onto the greenhouse main frame (diagram 68). The lantern top then fixes to this with fourteen 25mm pan head screws (diagram 69).

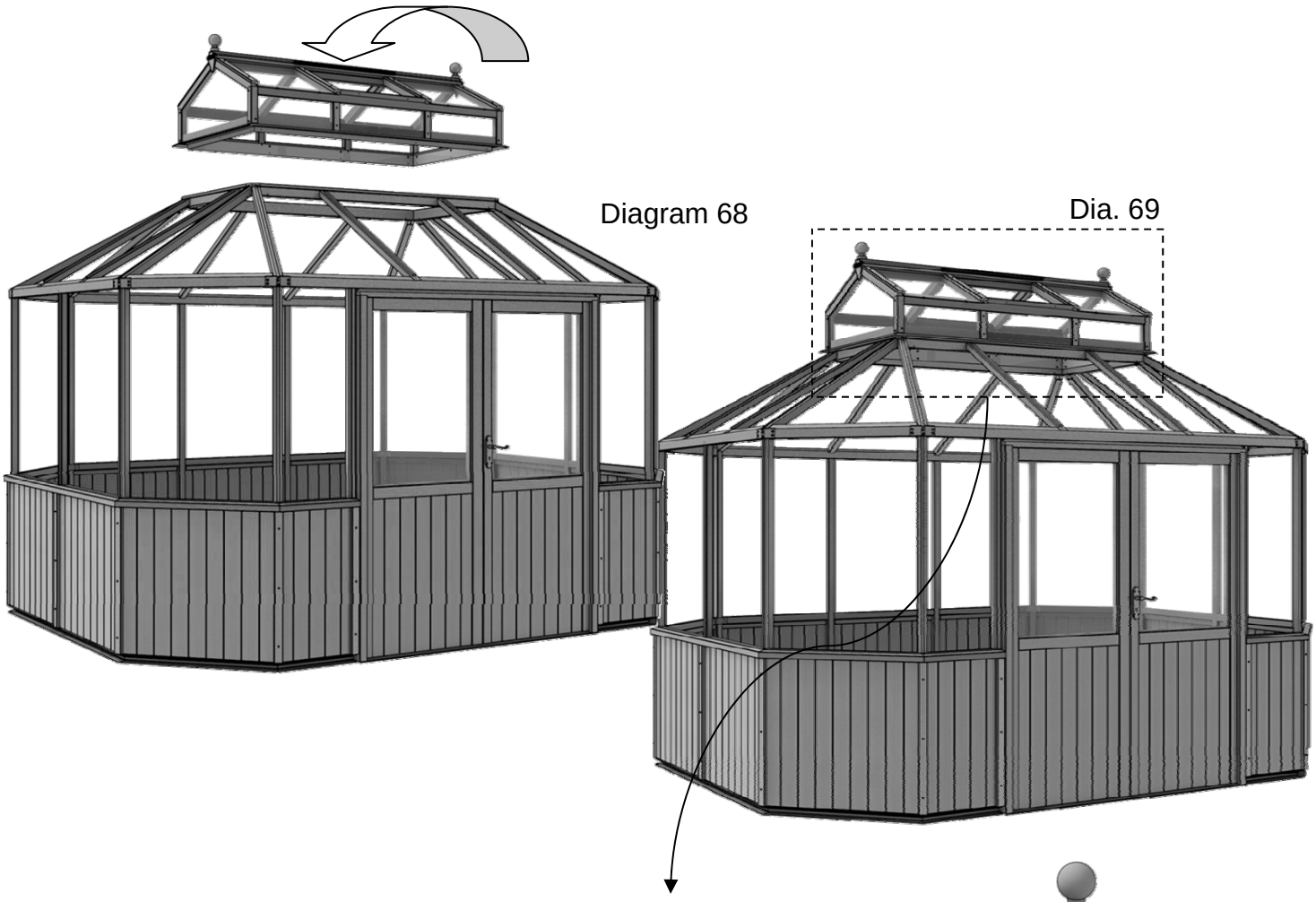
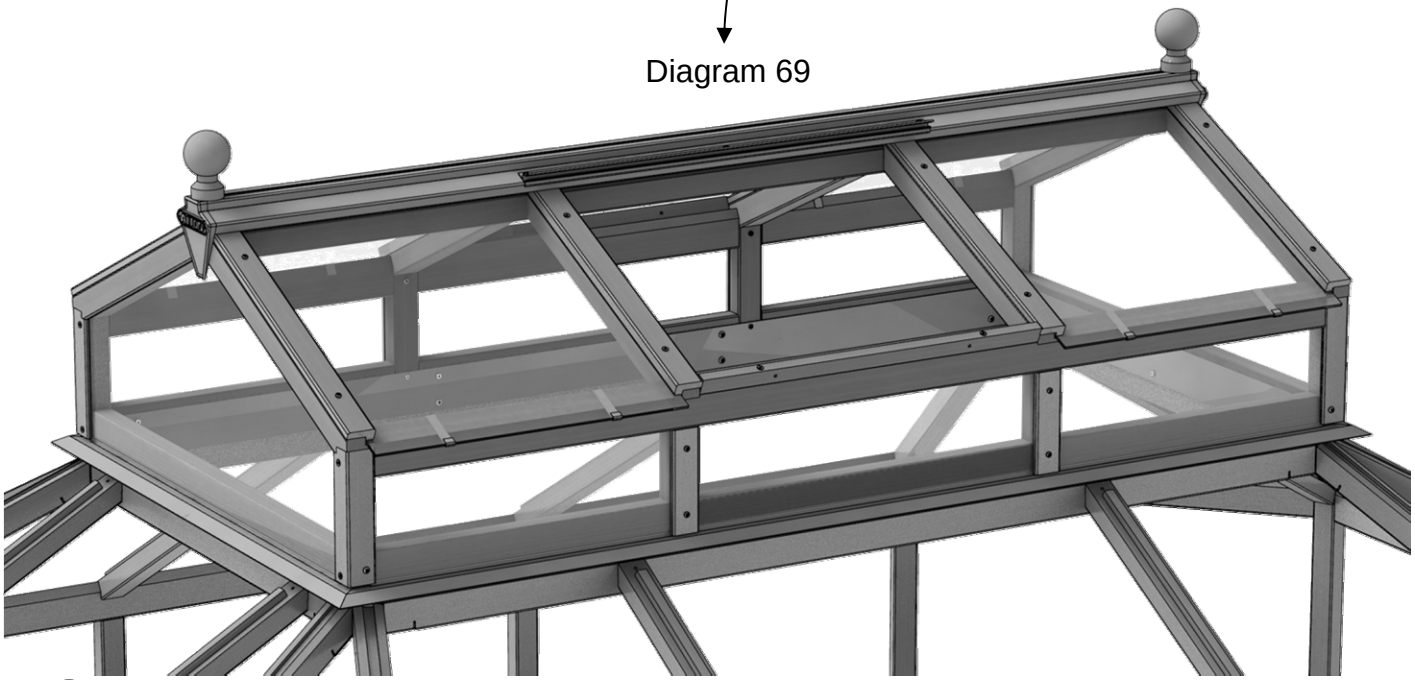


Diagram 68

Dia. 69

Diagram 69



9

Roof Vent Installation

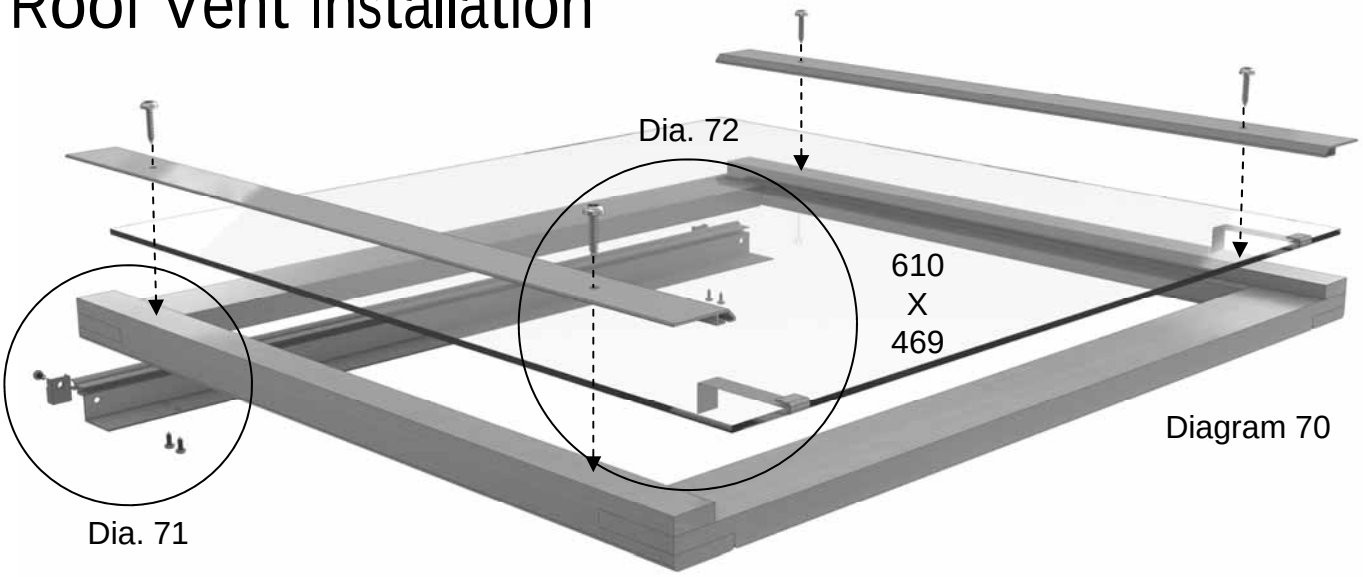
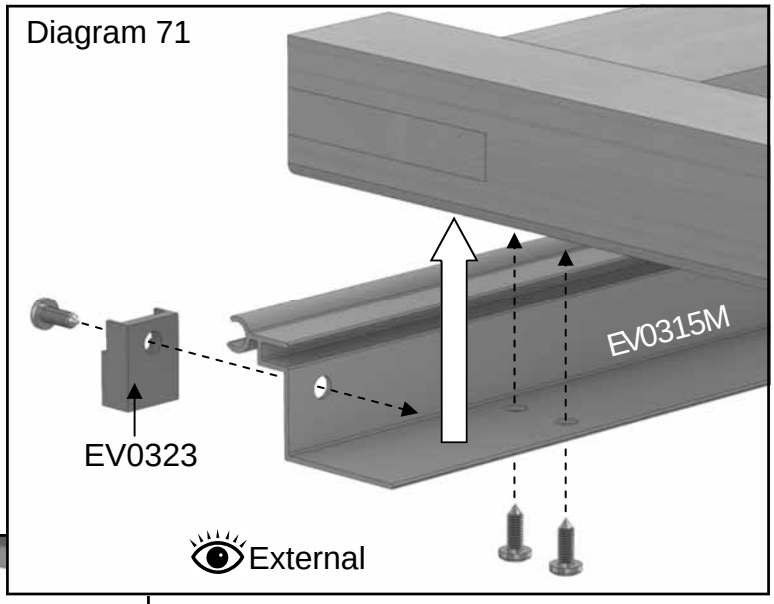
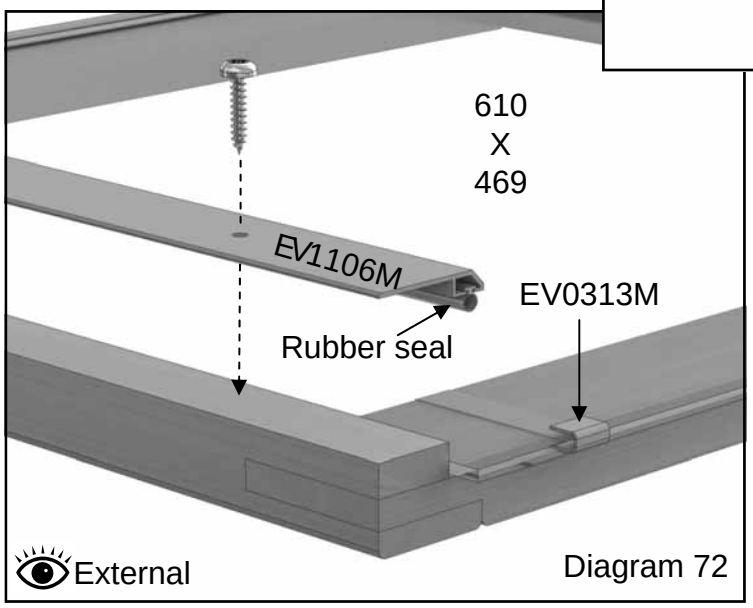


Diagram 70

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 70 and 71. Once this is in place fix the plastic vent filler (EV0323) also with a 19mm screw, its important to make a pilot hole before fixing the plastic filler to prevent splitting.

Now take a 610mm x 469mm 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 72. 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: EV1110)

Roof Vent Installation

Having built the roof vents you can then slide them into the top hinges (EV0314M, diagram 67) from either end, diagram 73. You can now lower the vents until they rest on the lantern roof bars in a central position. Secure in place with the D220 vent barrels and FS6060 bolts each side, diagram 74.

Diagram 73

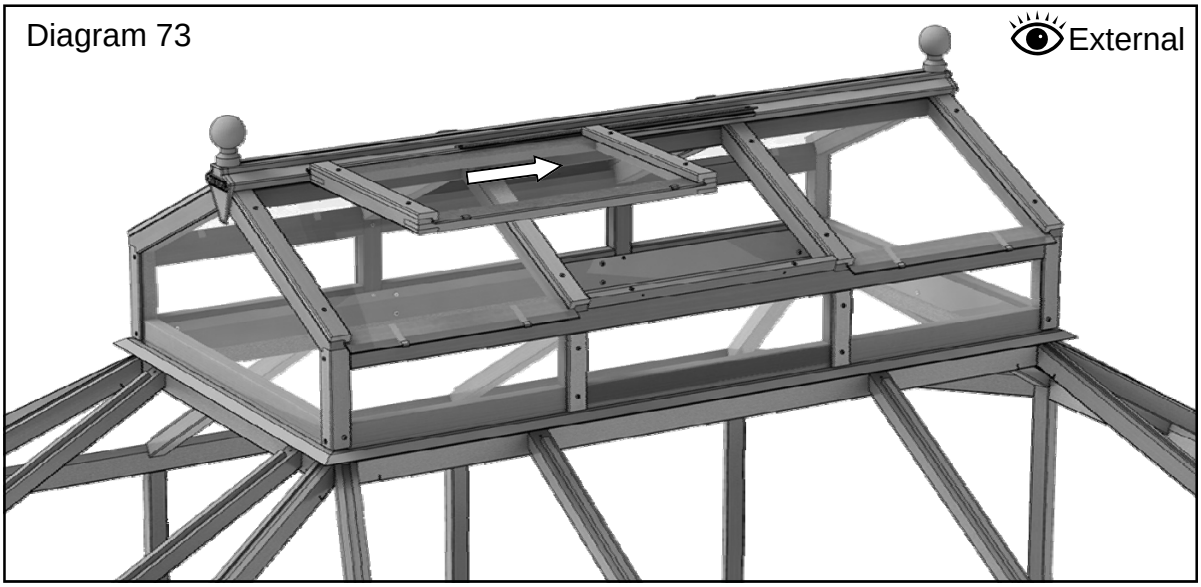
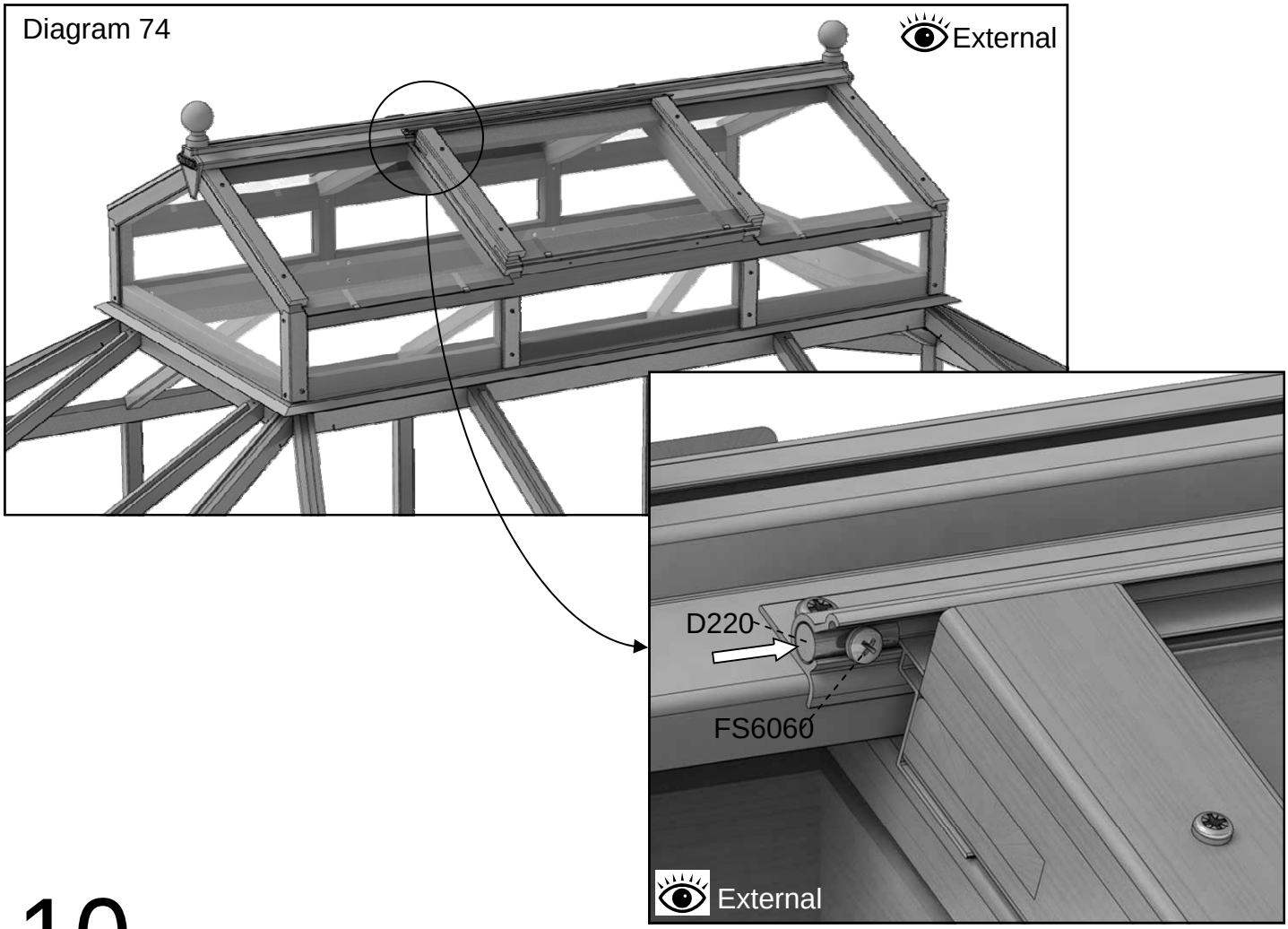


Diagram 74



Roof Vent Installation

Fitting the assembled autovent units is easier if they have been kept cool so they are in their closed position during installation.

The top arm of the auto vents fixes to the vent in the normal way using EV0328 19mm pan head screws, see diagram 76. The bottom arm fixes to the underside of the lantern top eaves rail (EV1099) using EV0331 25mm pan head screws, do this with the roof vent in the closed position so that you get the bracket in the correct position.

Ensure that the autovent mounts are inline with each other so that the autovent does not twist on opening.

Diagram 75 External

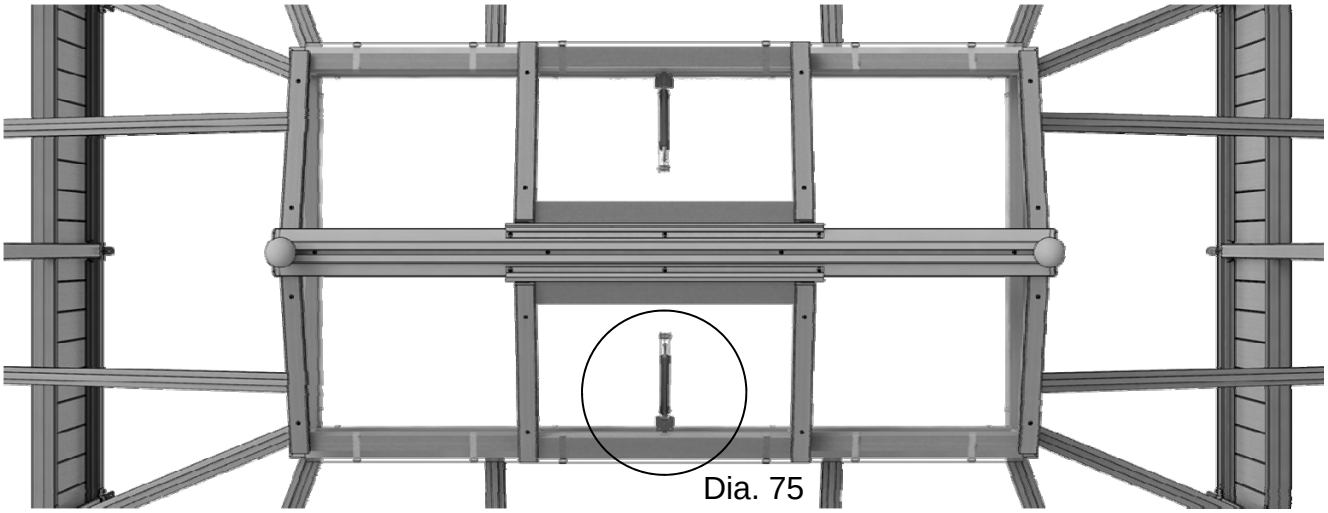
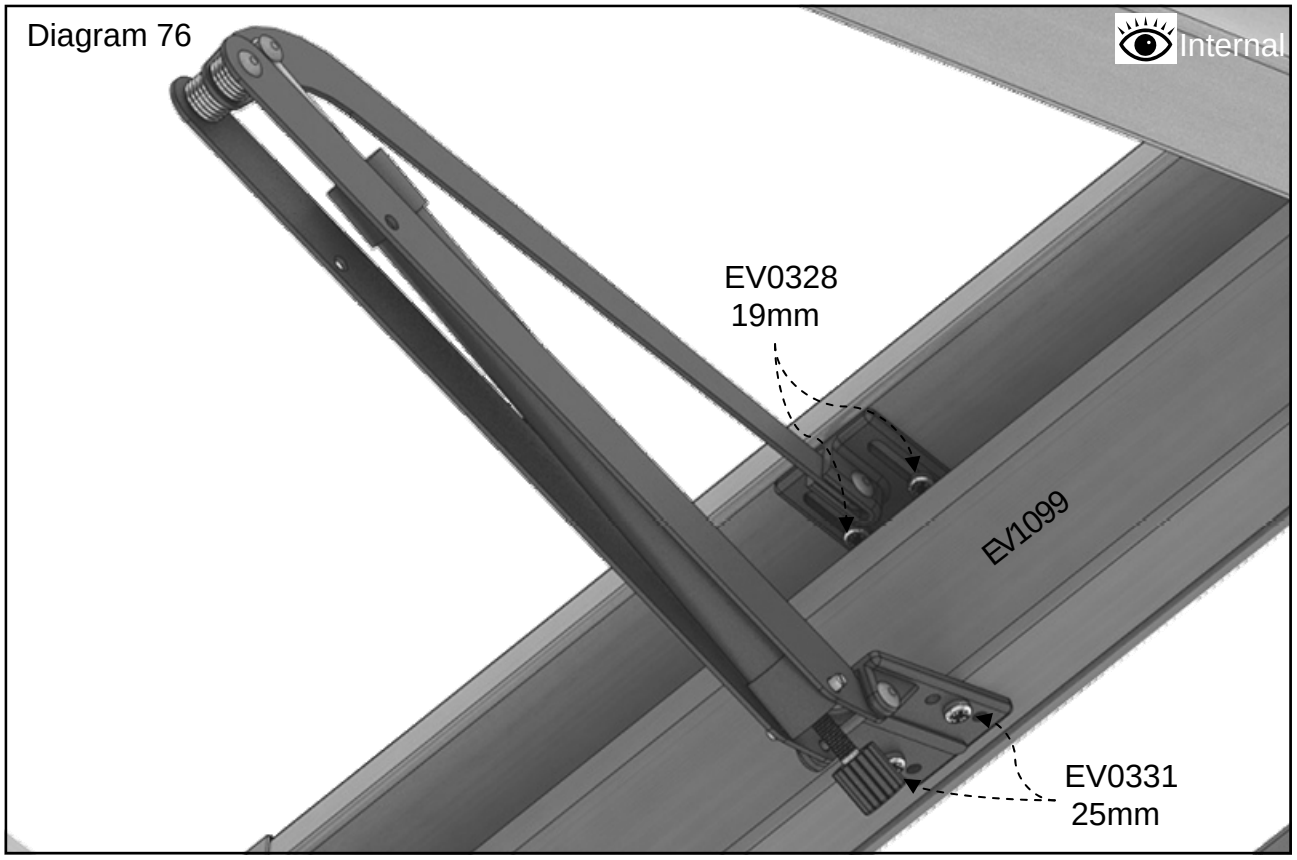


Diagram 76



Louvre Assembly

To start building your louvre you first need to assemble the handed sides. Combine the two side sections with the two inserts, see diagrams 77 to create the side assemblies.

Trim the rubber seal flush with the ends. Attach the top and bottom of the louvre with the 19mm assembly screws in each end. This locates with a screw channel in the side sections (diagrams 78 and 79).

EV0325 - Louvre Kit			
Part Name	Part Number	Size (mm)	Qty
Louvre Top/Bottom	D165M	612	2
Louvre Side Insert	D166M	552	2
Louvre Side	D168LM	552	1
Louvre Side (handle)	D168RM	552	1
Assembly Screw	-	19	4
Louvre Glass	D729TG	100 x 525	6

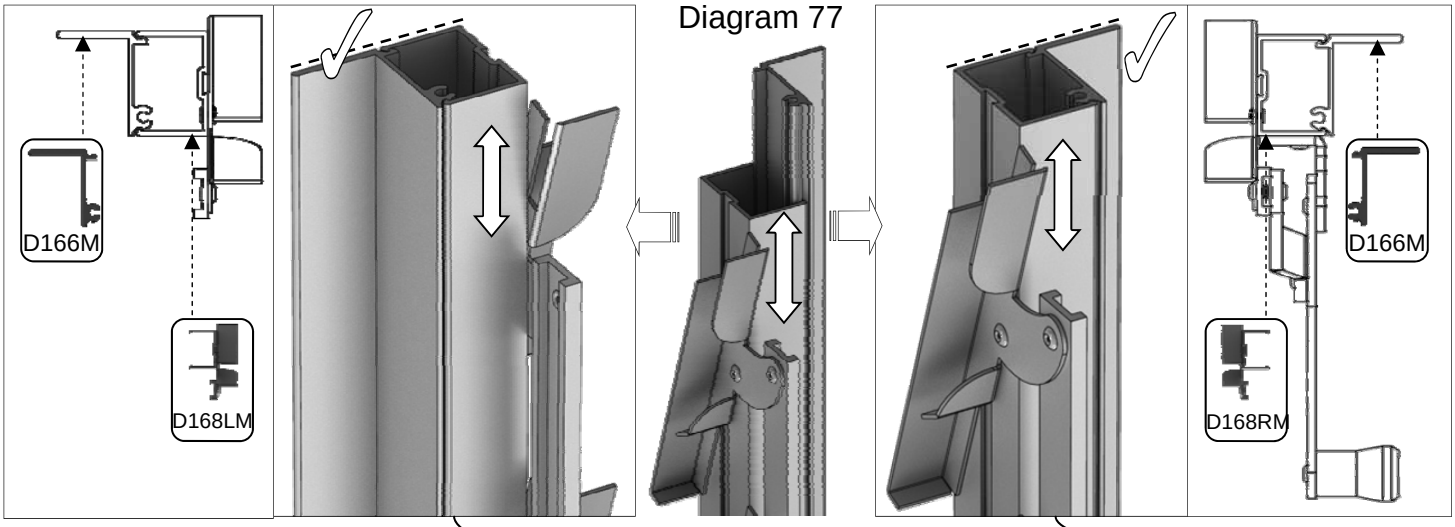


Diagram 77

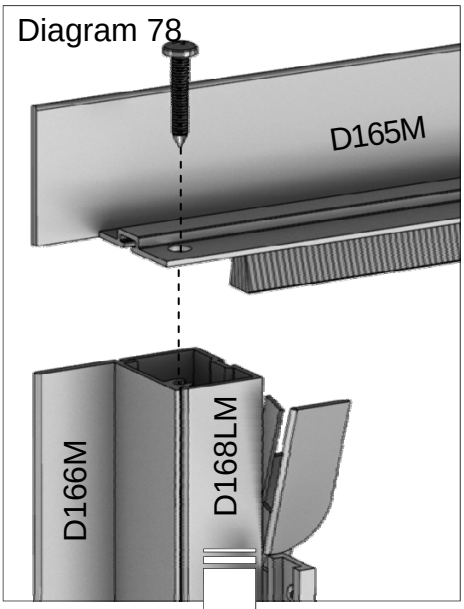


Diagram 78

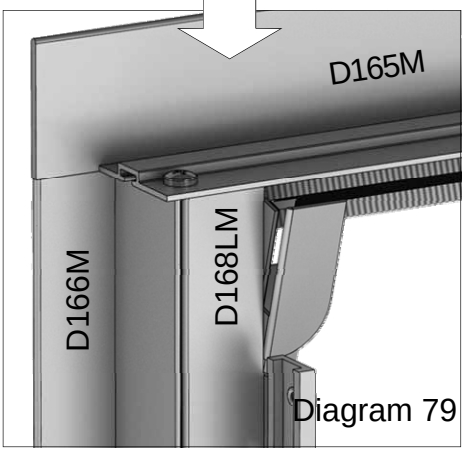


Diagram 79

Dia. 78 / 79

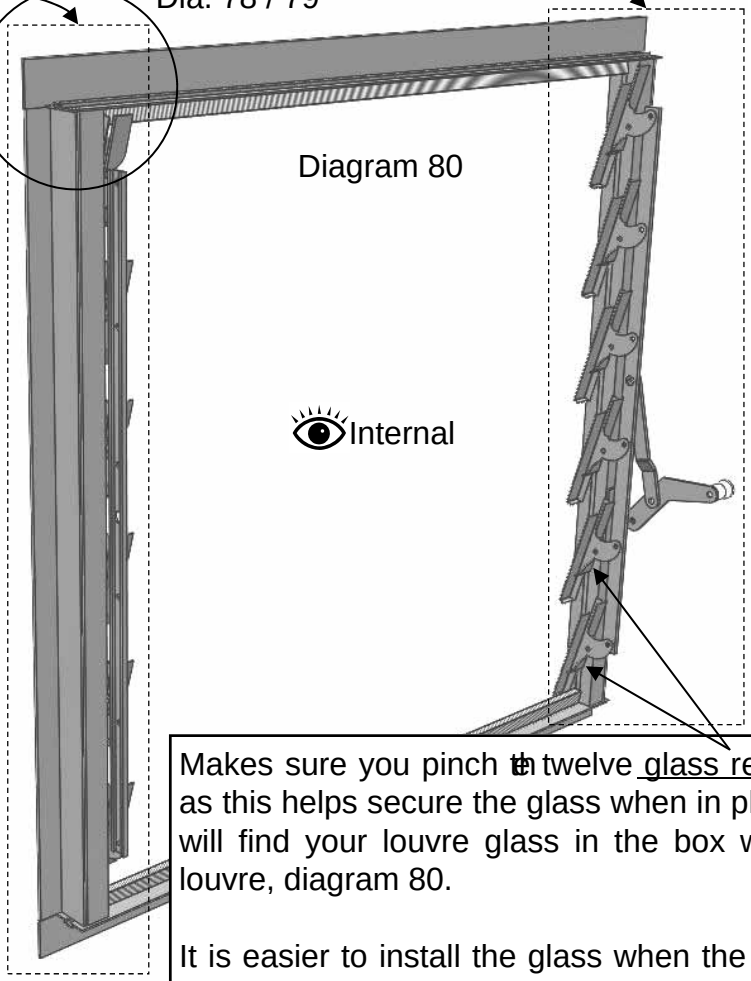
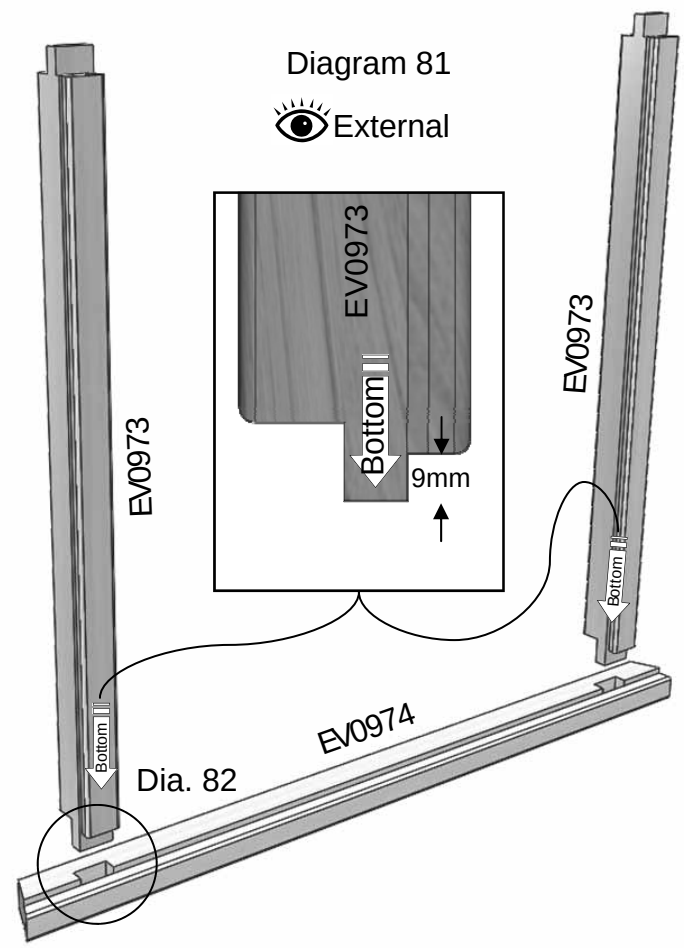


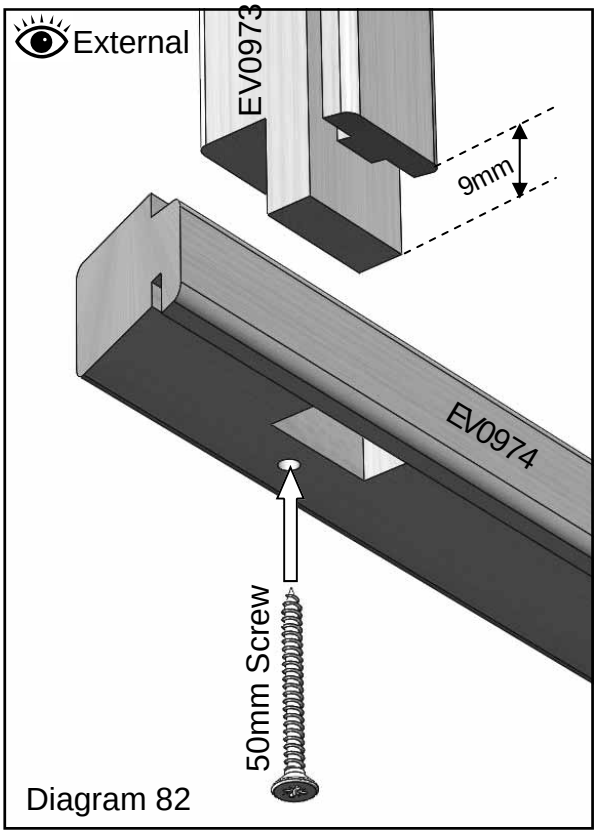
Diagram 80

Makes sure you pinch the twelve glass retainers as this helps secure the glass when in place. You will find your louvre glass in the box with the louvre, diagram 80.

It is easier to install the glass when the louvre is in the frame of the greenhouse.

Louvre Frame Assembly (High & Mid)

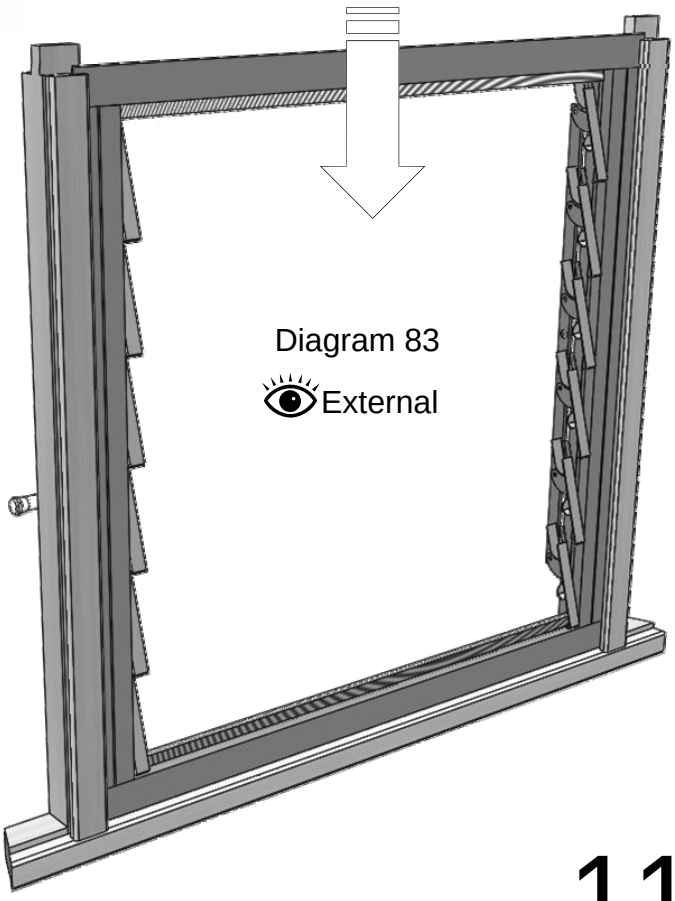




Slot the two louvre frame sides EV0973 into the louvre frame bottom rail EV0974 making sure they are correctly orientated, see 9mm in diagram 81. Drill a pilot hole as shown in diagram 82, just behind the mortice hole. Fix with 50mm CSK screws.

Slot the louvre into the louvre frame (diagram 83).

Important: Make sure that when your inside the greenhouse that the louvre handle is on the right hand side, if it is on the left then your louvre is upside down.



Louvre Frame Assembly

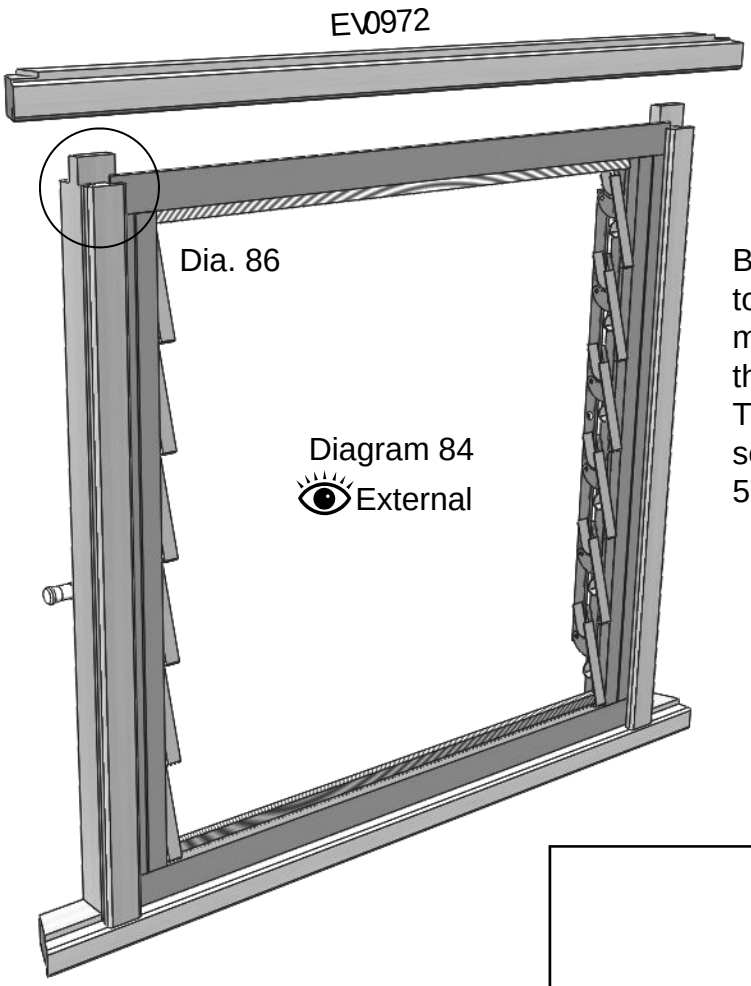
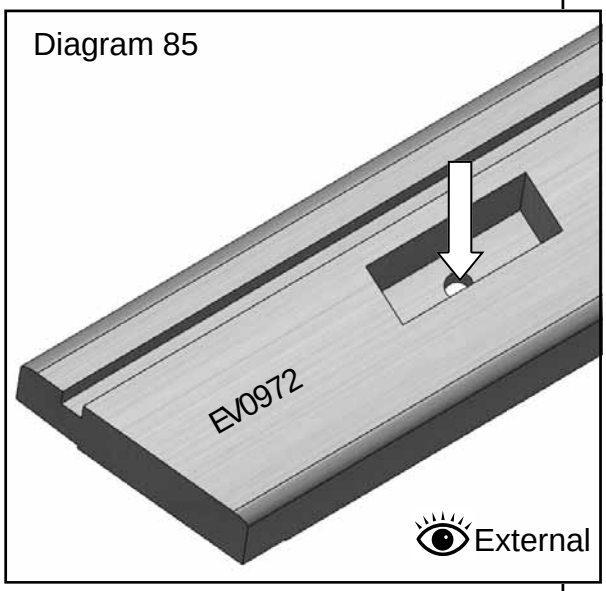
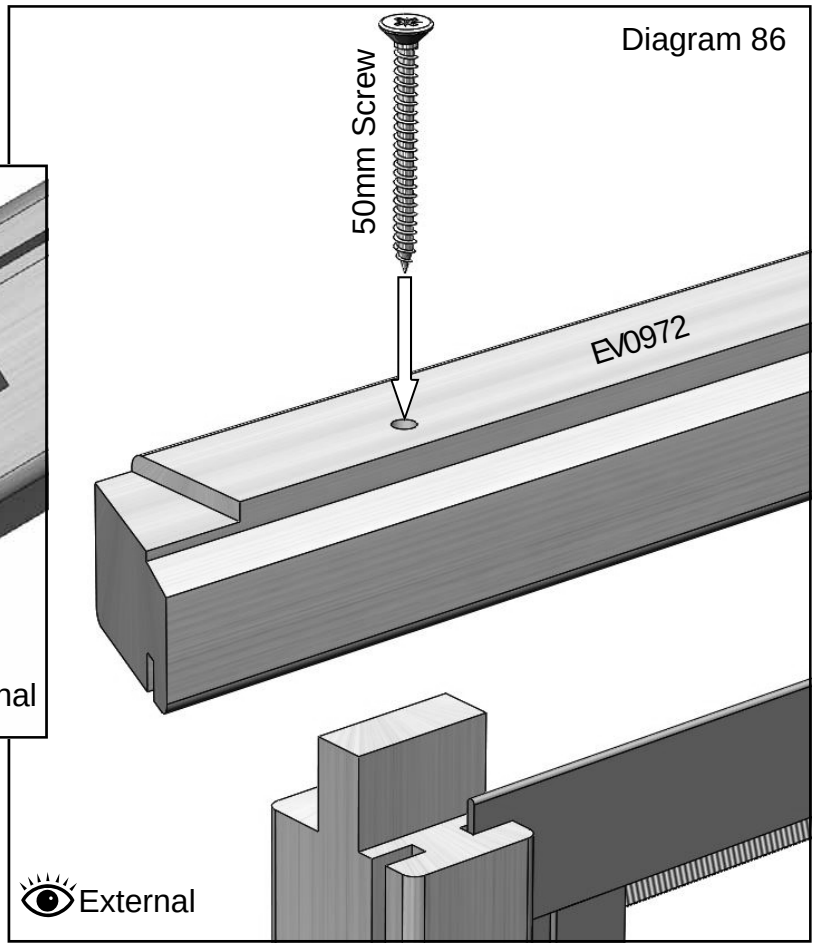


Diagram 84

Before fitting the louvre frame top you need to drill pilot holes through the bottom of the mortice holes (diagram 85). Drill as close to the middle of the mortice hole as possible. Then slot this onto the louvre frame sides to secure the louvre in place. As before, fix with 50mm screws (diagram 86).

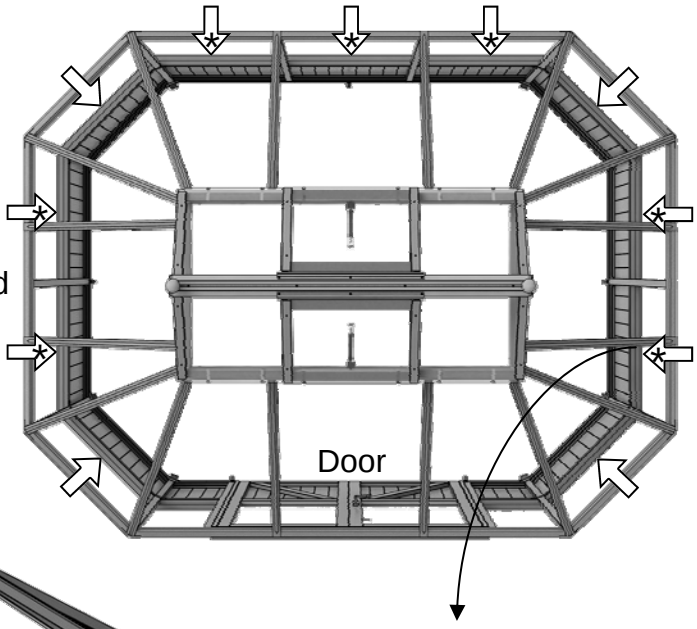




11

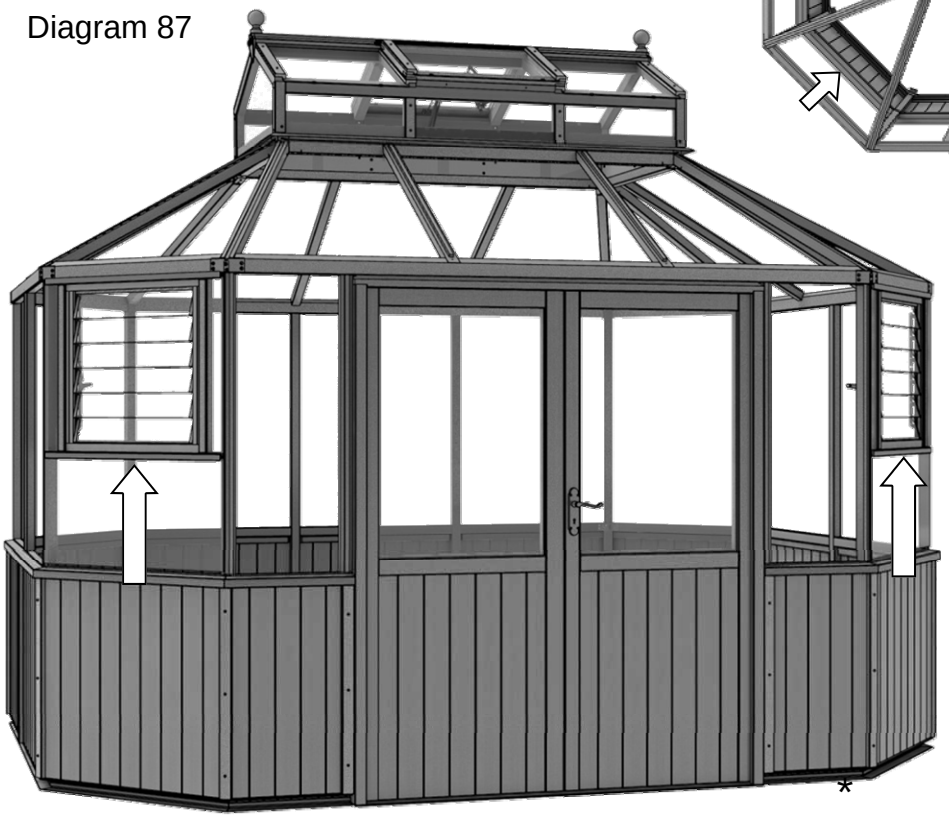
Louvre Positions

As standard you have a choice of installing each louvre at two heights, high level (diagram 87) or mid level (diagram 88). The louvre can be installed at any of the locations indicated by the arrows.



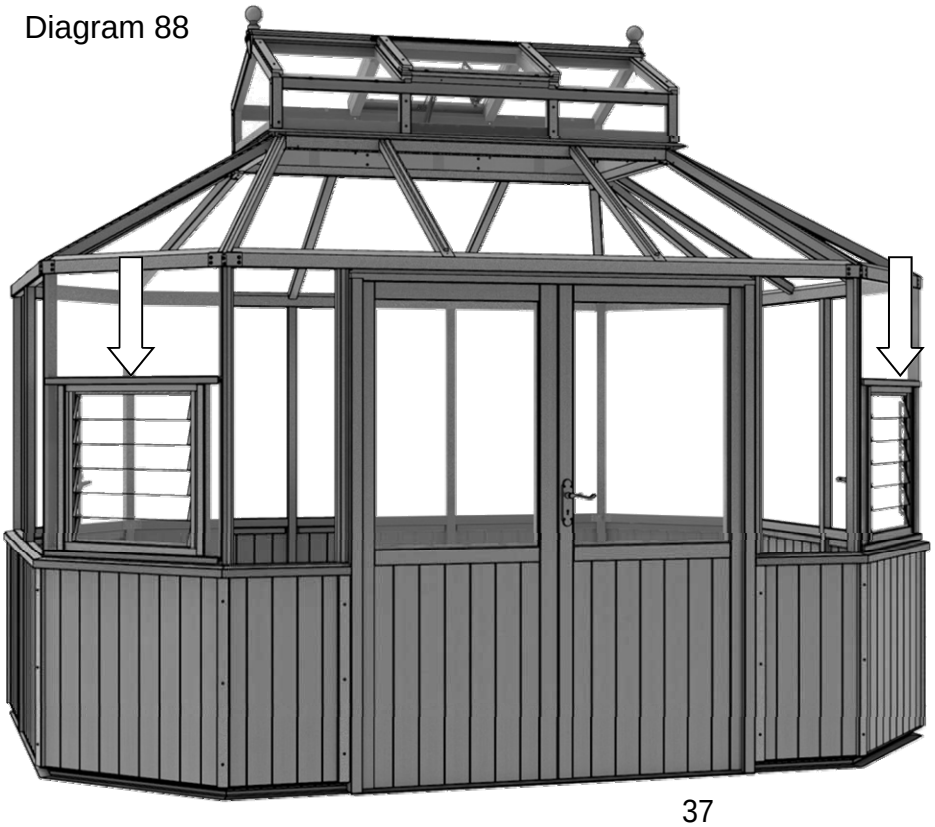
* Requires extra components, request two EV1154M per louvre. Telephone: 01782 385409 or email: info@greenhousepeople.co.uk

Diagram 87



High Level Louvre

Diagram 88



Mid Level Louvre

High Level Louvre Installation

To fit the louvre assembly in the high level position you place the EV795X392 glass under the louvre frame. This should be held in place while the louvre frame is fixed in position, make sure the rebate for the glass lines up with the front of the glazing bar before fixing. Drill pilot holes through the top rail of the louvre frame and secure to the eaves rail with 50mm CSK screws (Diagram 90).

Next, drill pilot holes through the glazing bar (diagram 91), diagram 92 shows the ideal angle of the 80mm CSK screw. Make sure the rebate for the glass lines up with the front of the glazing bar.

Diagram 89

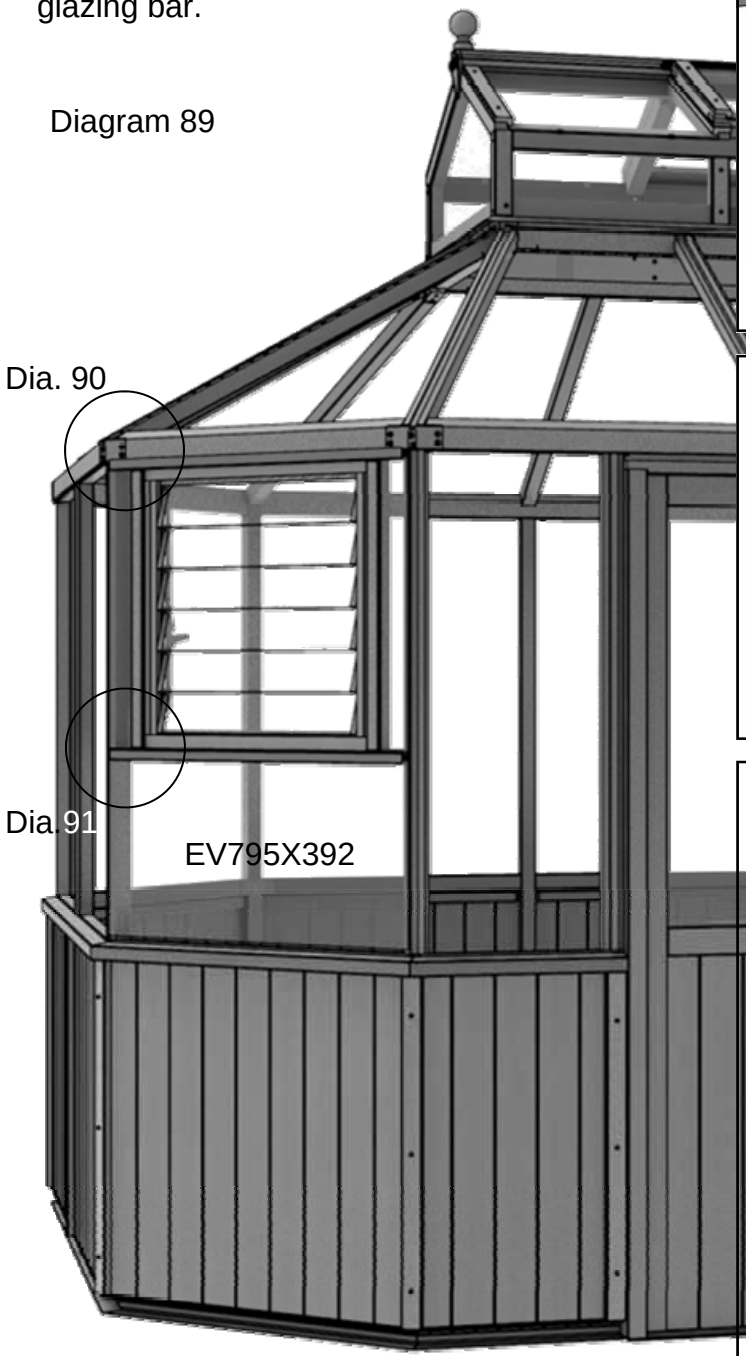


Diagram 90

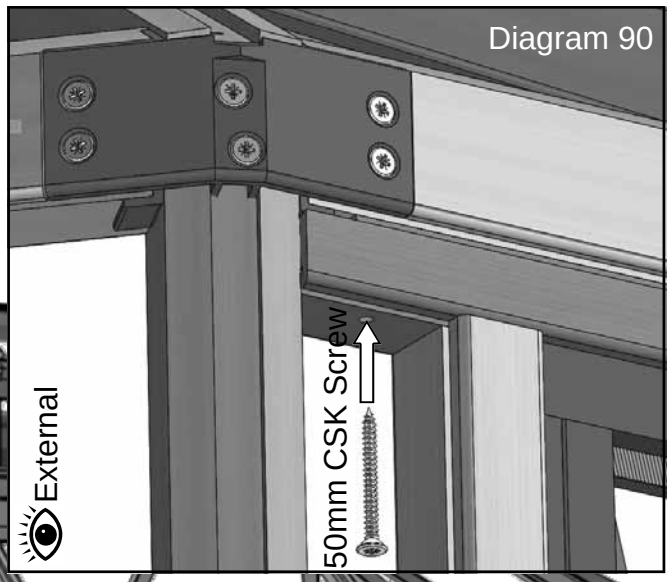


Diagram 91

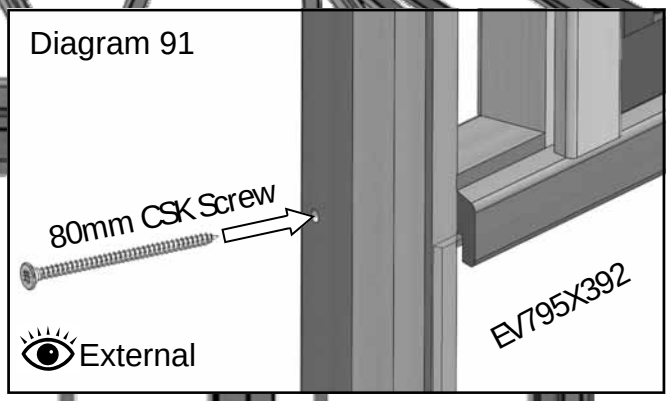
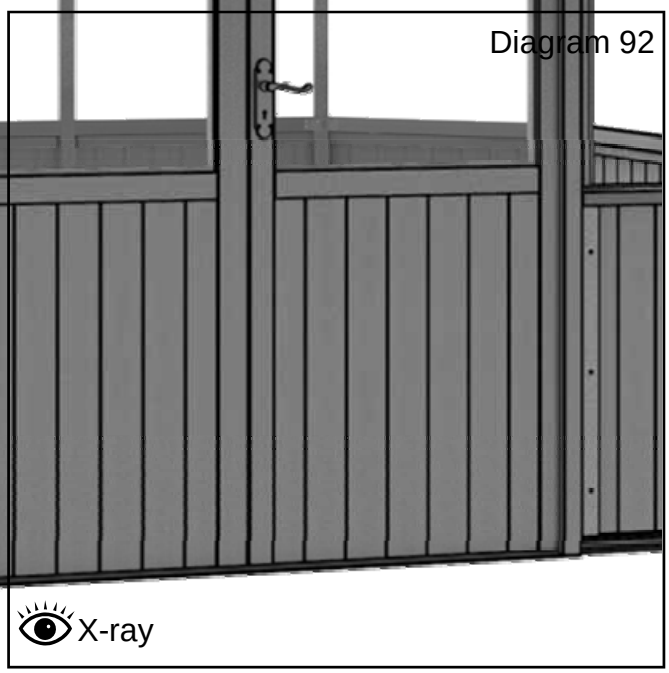


Diagram 92



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Mid Level Louvre Installation

To fit the louvre assembly in the mid level position place the louvre frame on top of the mid rail. Make sure the glass rebate on the louvre frame lines up with the front face of the glazing bar then drill pilot holes through the bottom rail of the louvre frame and secure to the mid rail with a 50mm CSK screws (Diagram 94). Next, drill pilot holes through the glazing bar (diagram 95), diagram 96 shows the ideal angle of the 80mm CSK screw. Again, make sure the rebate for the glass lines up with the front of the glazing bar before fixing. Leave the pane out above the louvre until you are ready to glaze.

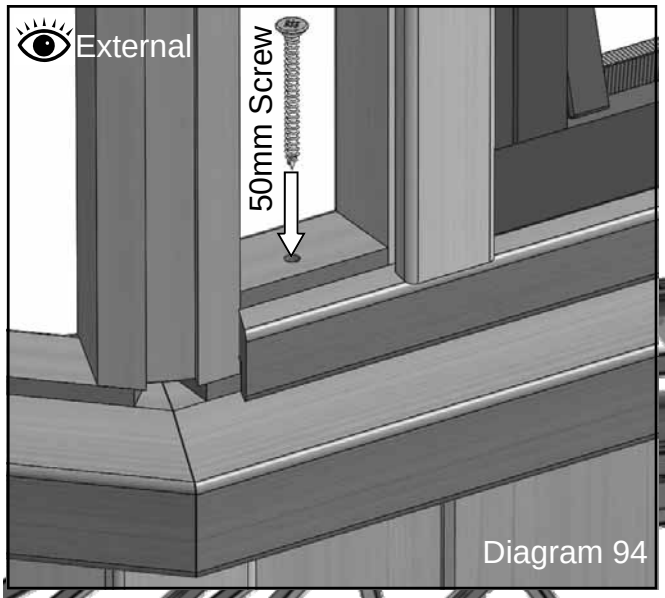
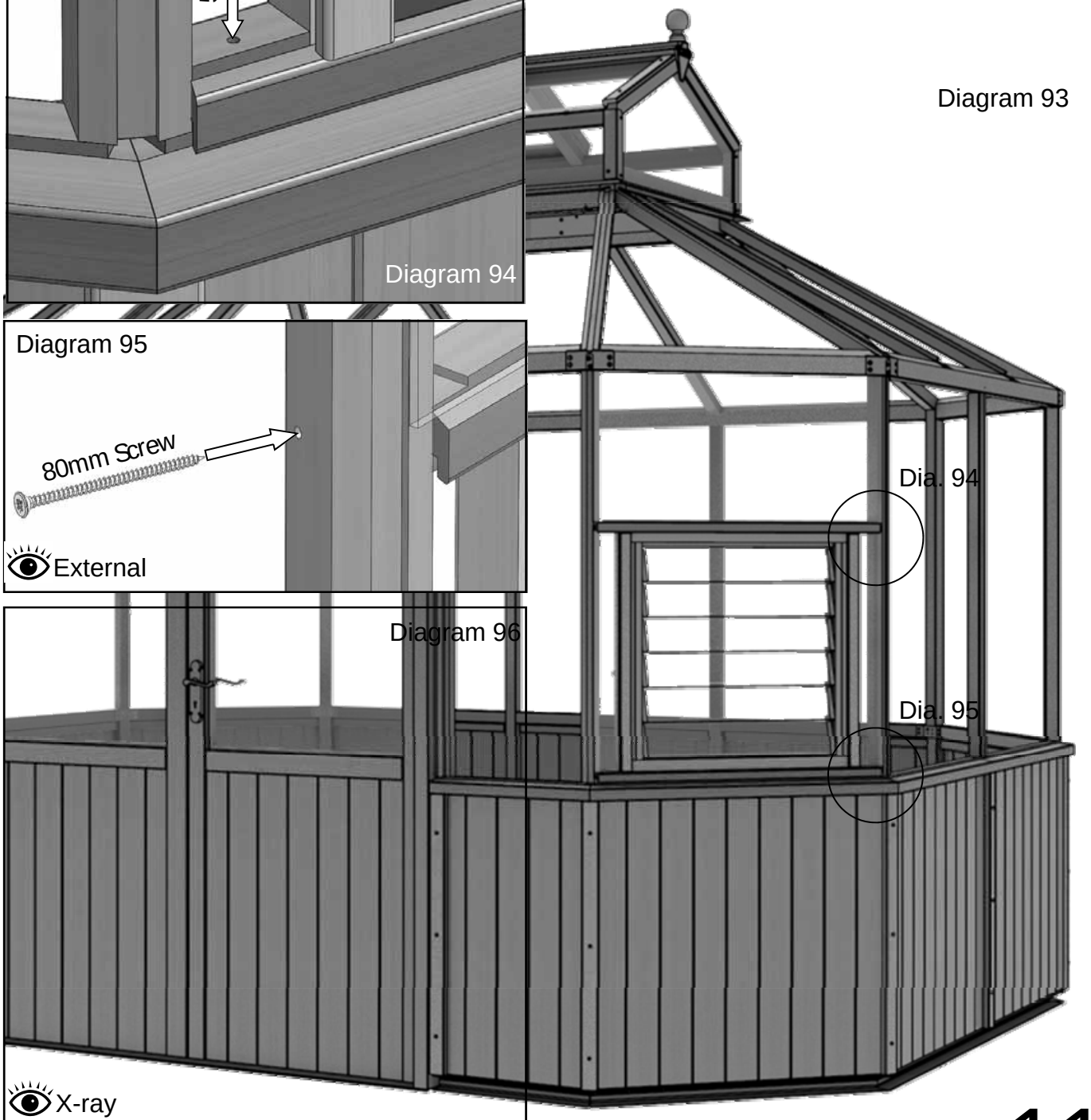


Diagram 94

Diagram 95

Diagram 96

Diagram 93



Glazing (part 1)

If you have the optional aluminium bar capping you need to insert the rubber into the rubber channels and trim it to length (diagram 99). Begin glazing the sides of the building by inserting one of the narrow panes (EV610x76) next to the louvre frame. If you have the louvre in the mid level position as below you also need to install the glass above the louvre (EV795X392).

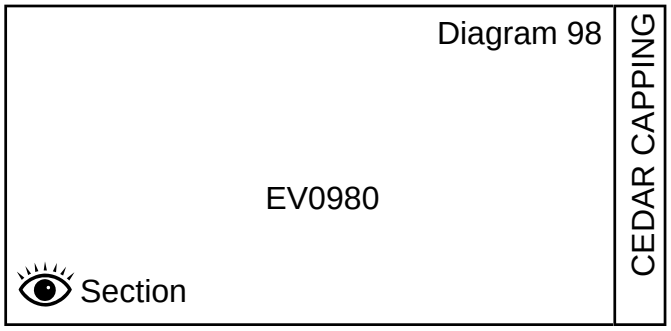
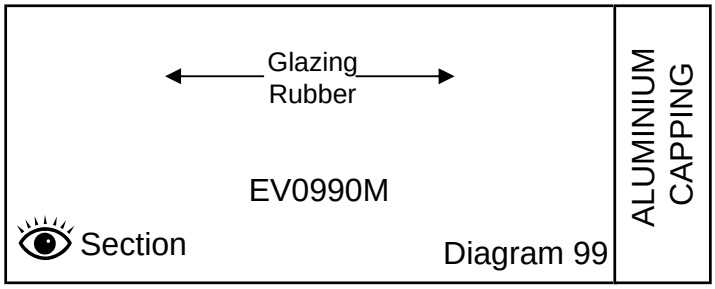
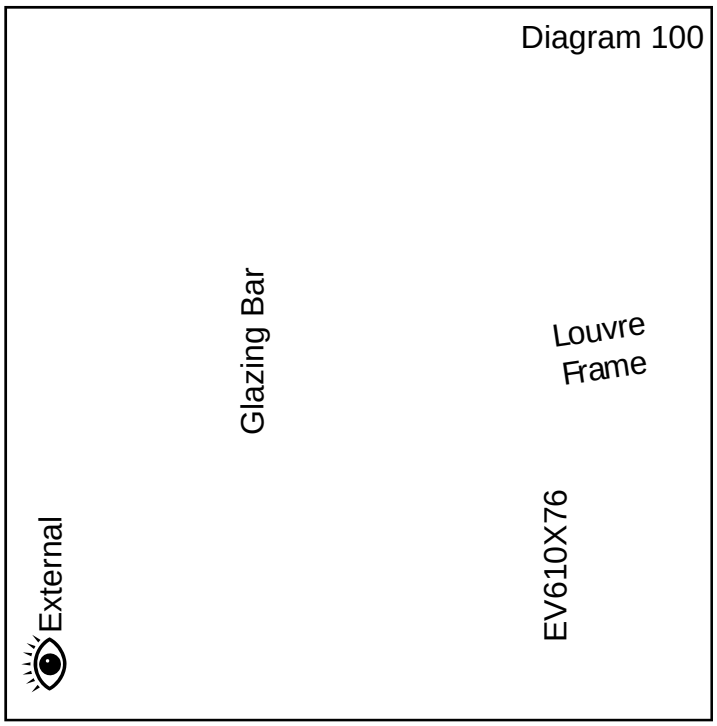
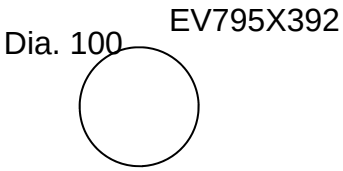


Diagram 97







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