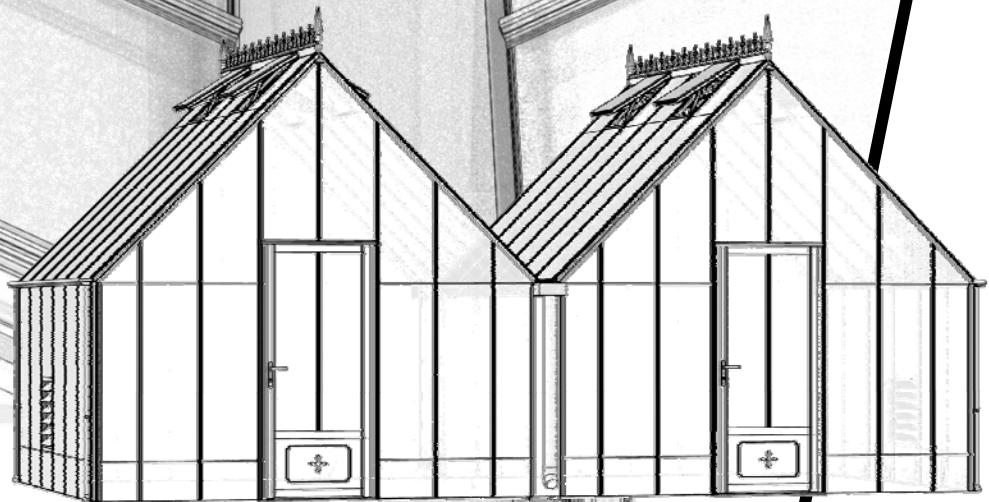
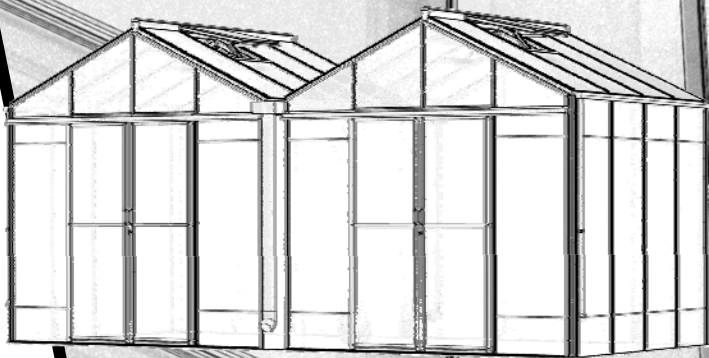


Robinsons
ALUMINIUM GREENHOUSES

Valley Assembly Instructions



Issue 1.1



Thank you for purchasing your new Robinsons 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.robinsonsgreenhouses.co.uk in our technical help section should you need to reprint it. Should you require any additional advice you can always call us on 01782 385409.

These instructions are to be used in conjunction with the main instruction manual/s (read them all before construction begins).

Safety Warning

- Glass and aluminium 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

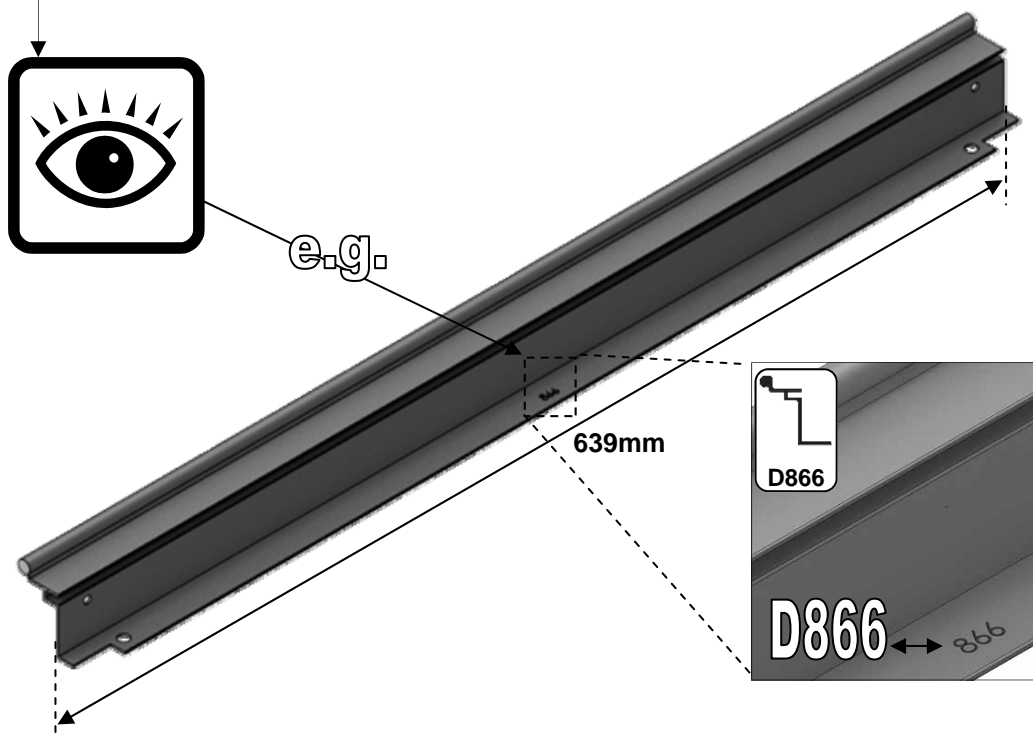
- When selecting a site for your greenhouse, it is vital that you choose as flat and level an area as possible.
- A concrete or slabbed base will provide the most solid foundation for your greenhouse.
- IMPORTANT: Do **not** fix your building down until the building is fully assembled, including glazing.
- 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. Some parts are numbered and can be identified by a stamped or hand written number (without the 'D'). Alternatively, the components can be identified by their distinctive profiles, lengths and quantities detailed in the parts list (see next page).
- Anchoring down your greenhouse should be the final stage of construction (including glazing).
- Once installed your greenhouse requires little maintenance, but to maintain the smooth running of your door(s) WD40 or similar can be applied to the door wheels and lower door guides.

Guarantee

- Your new Robinsons greenhouse is guaranteed for 10 years against faulty manufacture of the framework. This does not include glazing, moving parts, accidental damage or wind damage.



KEY SYMBOL	KEY DESCRIPTION
	EXTERNAL VIEW
	INTERNAL VIEW
	THINK
	CORRECT
	TWIST TO LOCK
	CUT TO LENGTH



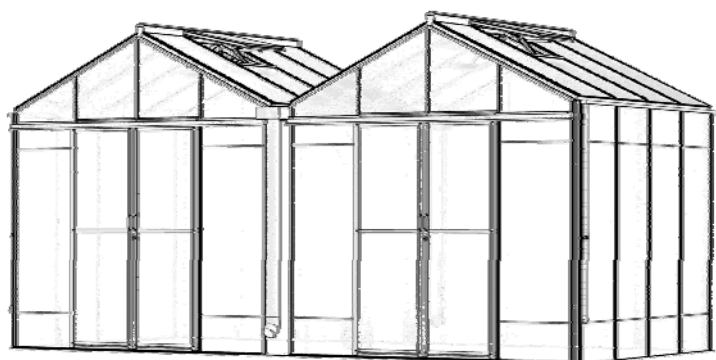
The Robinsons Valley gutter system allows our models to become multi-span allowing for an unlimited width. If used in conjunction with our extension systems (see separate manuals) it enables an open plan greenhouse area of any width or length can be achieved.

The three part valley gutter with independent pivoting roof pitch flanges allows for 10 degree < 45 degree adjustment meaning a multitude of possibilities can be realised, e.g. two adjoining Reach Royales (25° pitches), three adjoining Roedeans (45° pitches), two 6'LT lean-to joining at the valley gutter in a passageway (10° pitches), or even a 5'LT joining onto a Ratcliffe (25° & 45° pitches) etc...

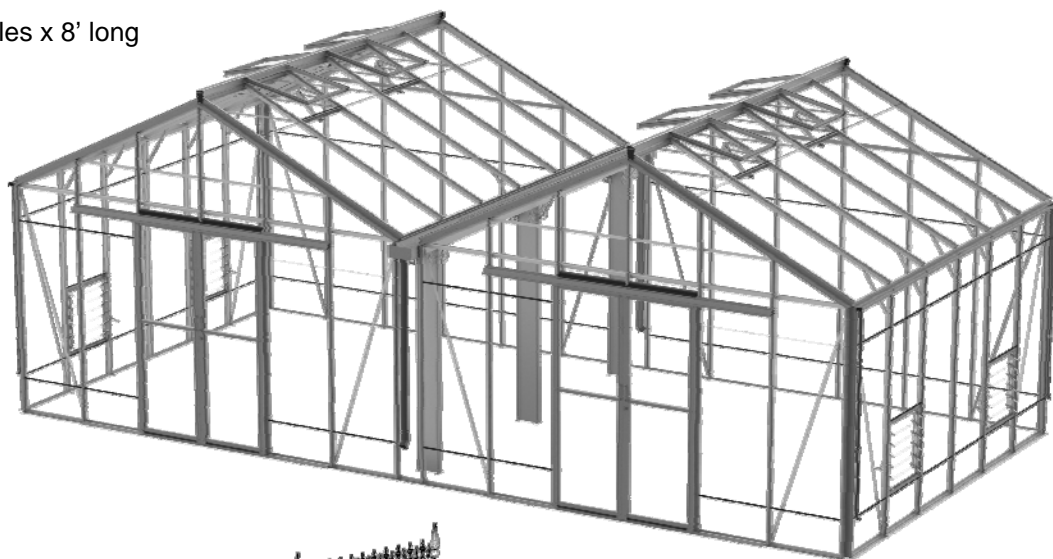


Longer buildings will utilise A-frames (see extension manual/s) to add strength to the overall structure and help the valley gutter tie in with the rest of the frame. A-frames occur where two sections adjoin lengthways, they are attached to standard side and roof bars as well as the valley vertical supports (see next pages for examples). Ornate castings 'D1089' are used to support the gutter from beneath spreading the support of the main uprights. The uprights will be positioned at 4' intervals to give the optimum balance of gutter support and span to span open plan access (6'2" head clearance).

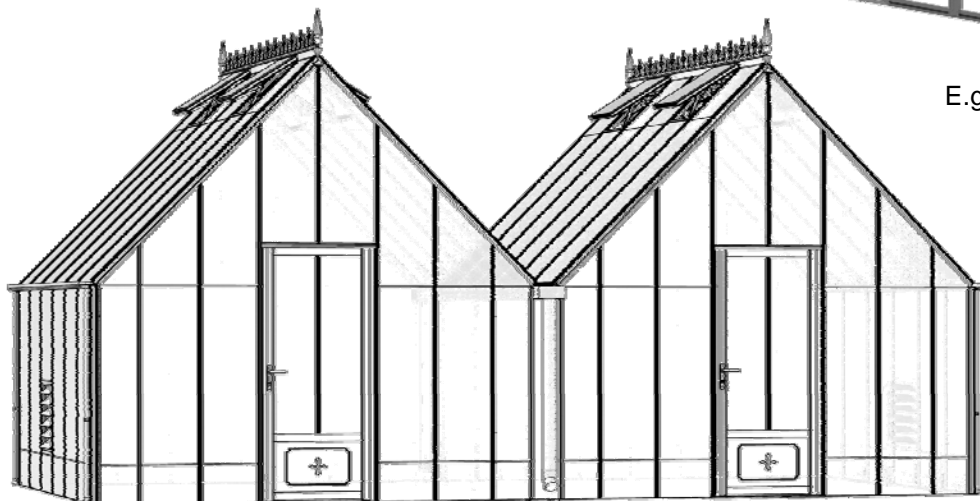
The wide valley gutter channel is designed to be able to easily cope with high rainwater volumes and it can be used to carefully access the valley area/s of the structure for cleaning and maintenance purposes. Take great care when walking in the valley gutter, do NOT stand in the valley gutter until the building is complete and make sure you are not alone. If walking down the valley gutter channel it is advised you run a wooden beam horizontally spanning from ridge to ridge which you can move down the structure with you supporting you as you move. Only one person should access a valley section at any one time (max. weight limit 100Kg) whilst another supervises at ground level. Please do not stand on the valley outlet 'D1082' or the first 200mm of valley gutter which canopies a pane of glass below. On buildings longer than 12' the valley gutter is in more than one length and needs to be very well sealed and joined using the provided extension plates, see page 16, to ensure that the building does not leak, an essential job which should not be rushed. Test all of the gutter joints are watertight with a watering can or a hose if you are working on a dry day.



E.g. Twin span Reach Royales x 8' long

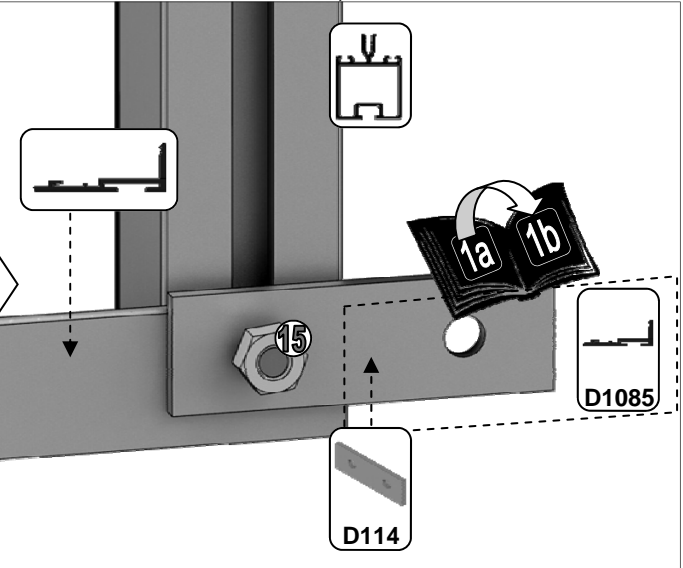
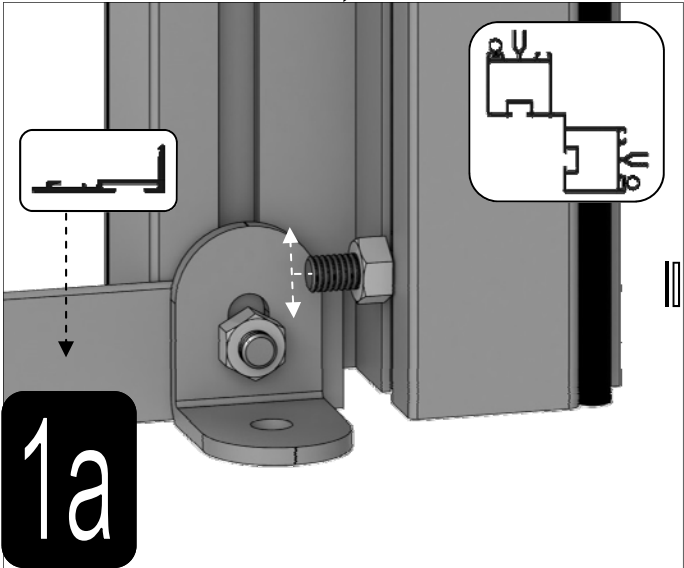
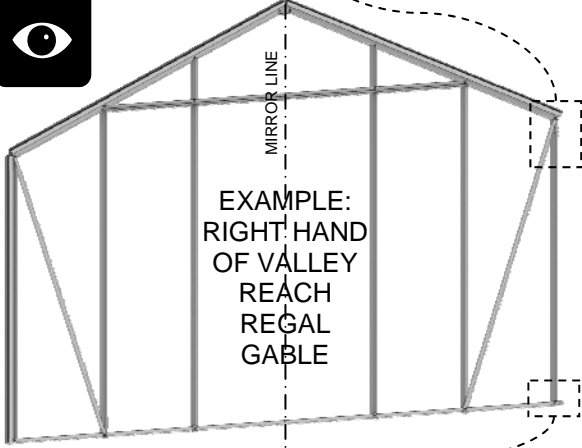
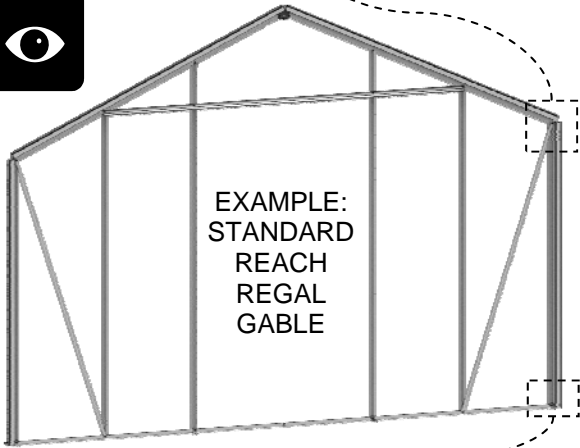
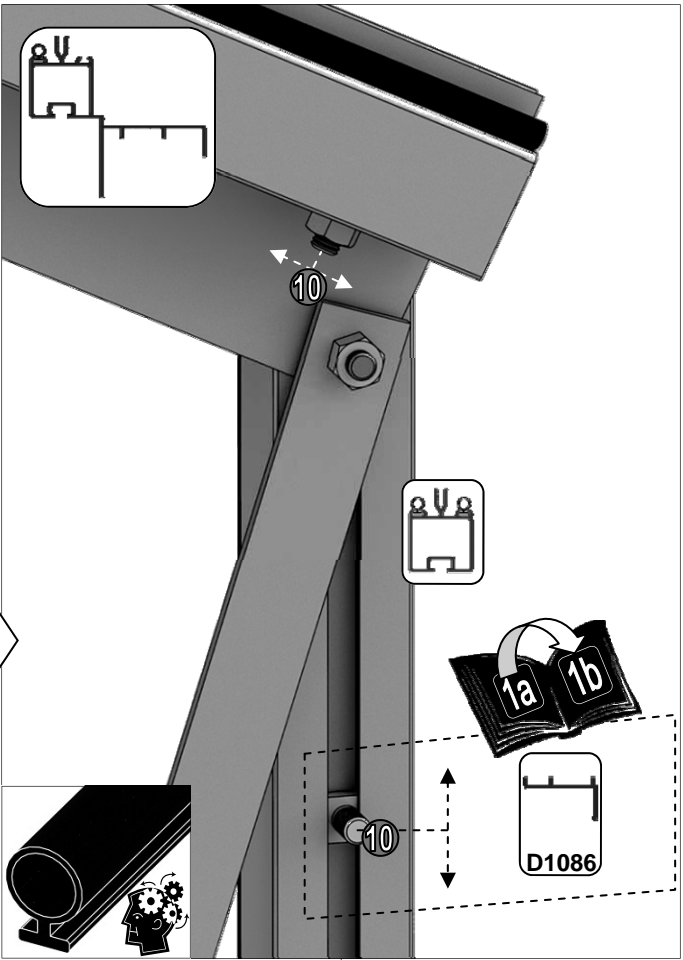
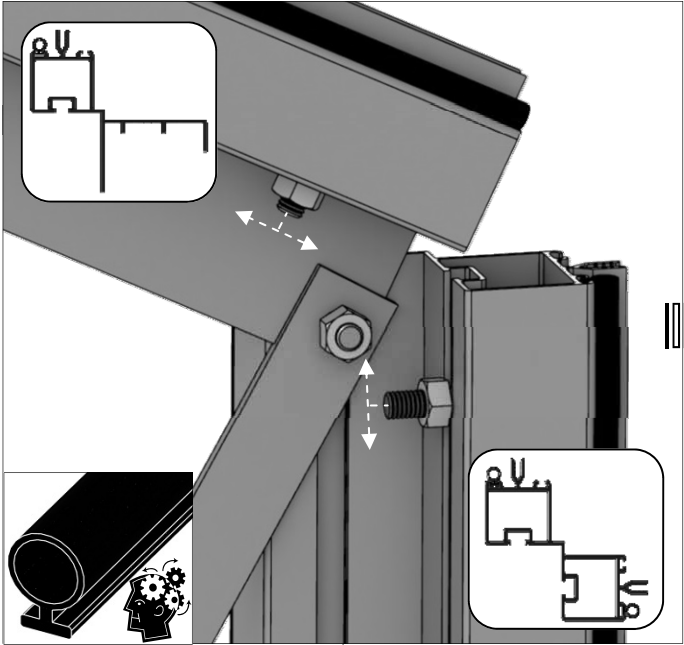


E.g. Twin span Reach Regals x 12' long



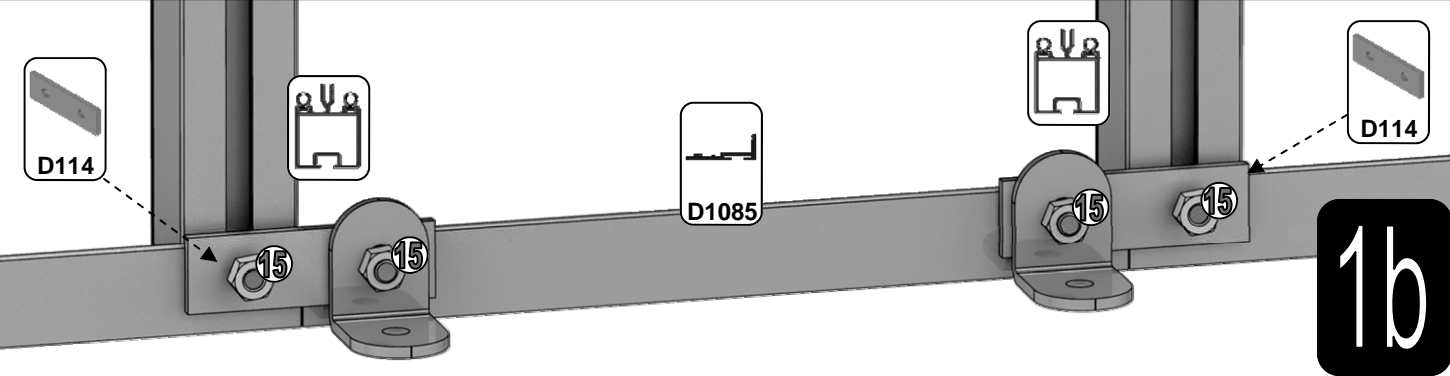
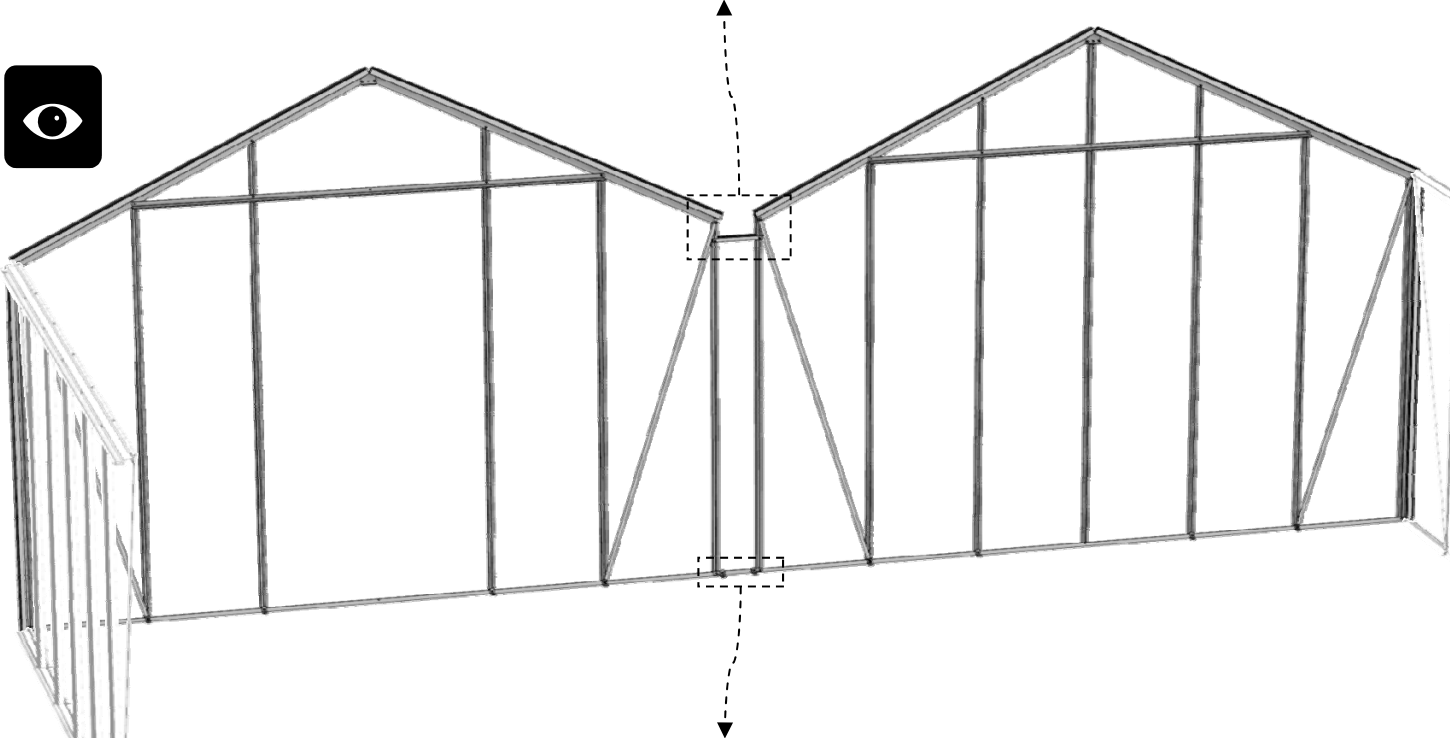
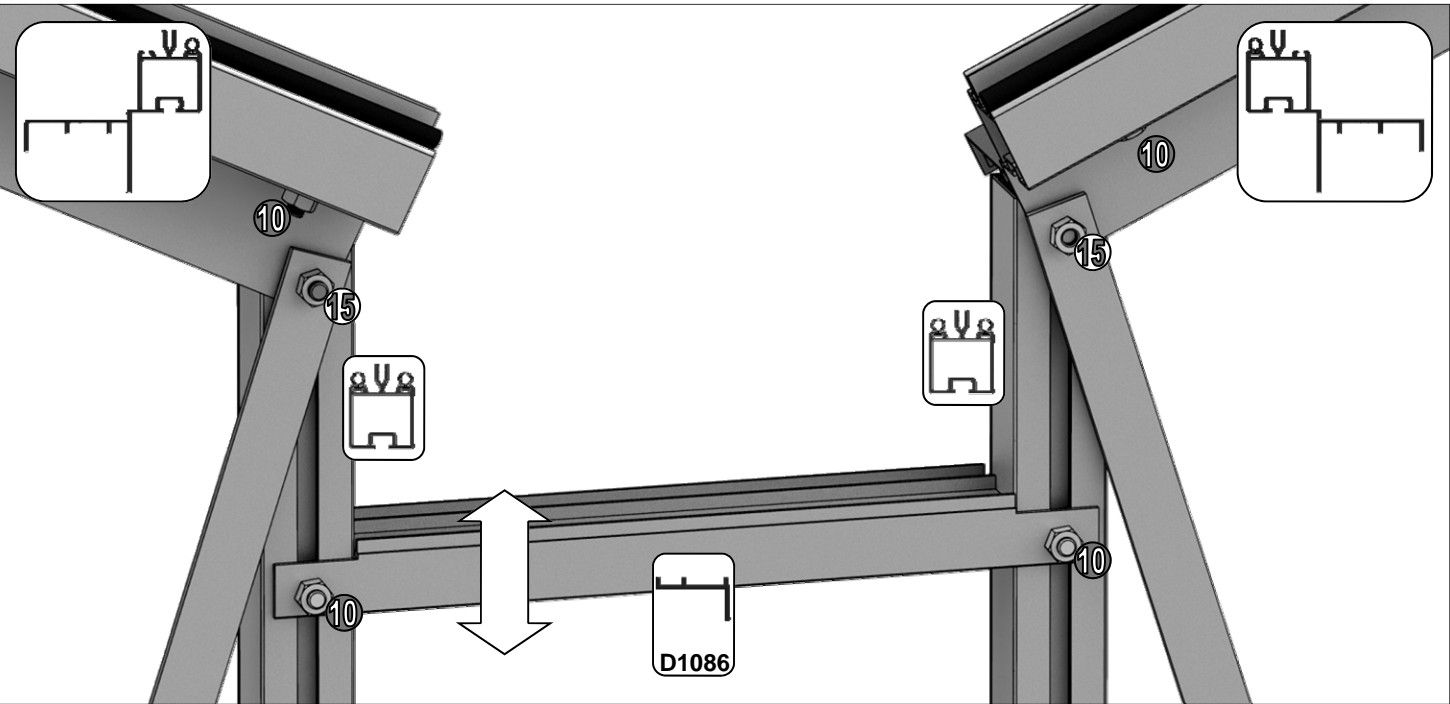
E.g. Twin span Reigates x 12' long

When constructing a Multi-span greenhouse what would usually be a corner bar on a gable end becomes a standard glazing bar either side of a valley gutter channel. The same two strips of rubber which would have been used in the corner can be utilised in the standard glazing bar. An extra 10mm bolt should be slide into each of these glazing bars to allow the valley gutter gable support 'D1086' to be attached. The 'D1086' supports give a set distance to accommodate the valley gutter between spans.



Once you have built your special gables without side corner/s (adjacent the valley only) then you can begin to combine the various gable and side sections. The gable/s can be joined together using the 'D1085' cills and 'D1086' valley gutter eaves support. It is advisable to support the gables and sides using sprags or ladders to stop them buffeting in the wind during assembly.

Alternatively you may wish to build the structure a span at a time thinking of the valley as a fourth side. i.e. One high side connected between two handed valley adapted gables with the supported valley (next pages) acting as the fourth side. This method is particularly helpful in windy conditions or with few persons on site.



GABLE SUPPORT e.g. D1075

The vertical supports (e.g. D1075) intermittently support the weight of the valley gutter, its pivoting flanges and the entire glazed roof structure. They need to be pre-assembled prior to attachment, see below. It is paramount that these vertical supports are set up correctly on a solid foundation as they take the weight at the core of the building.

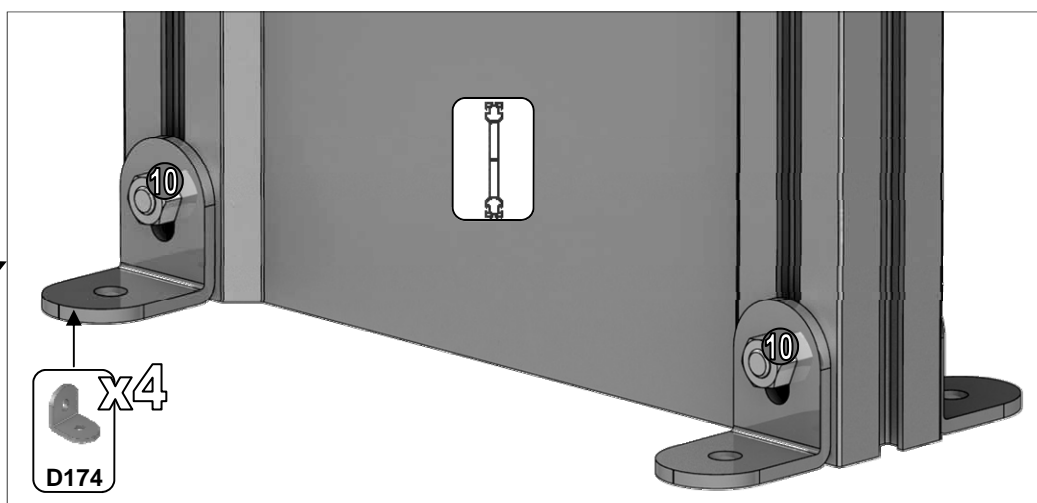
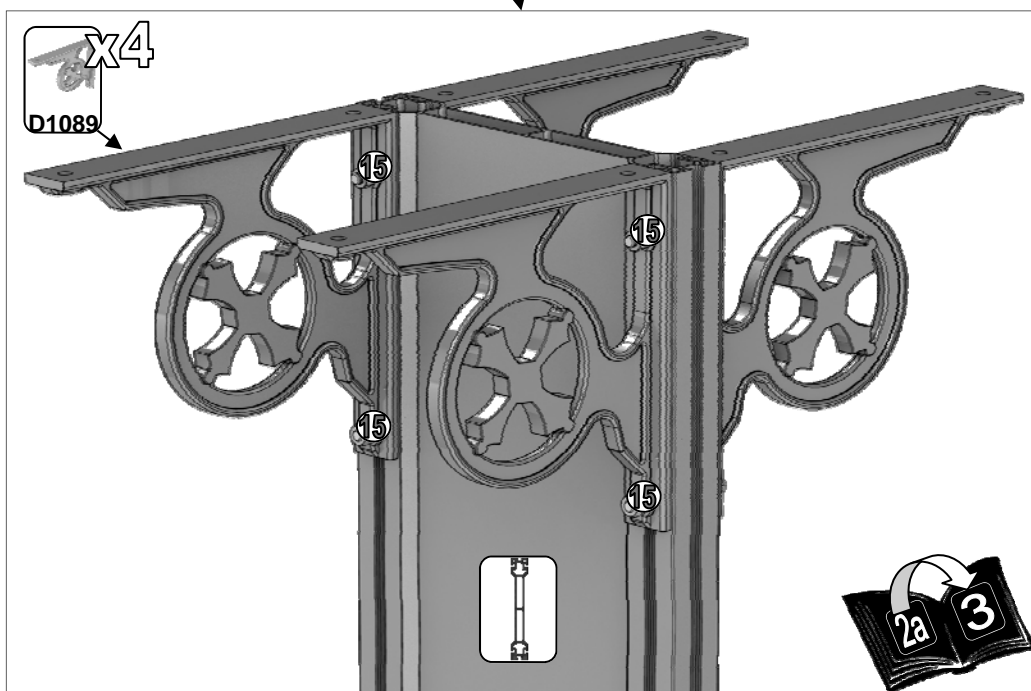
10

15

22

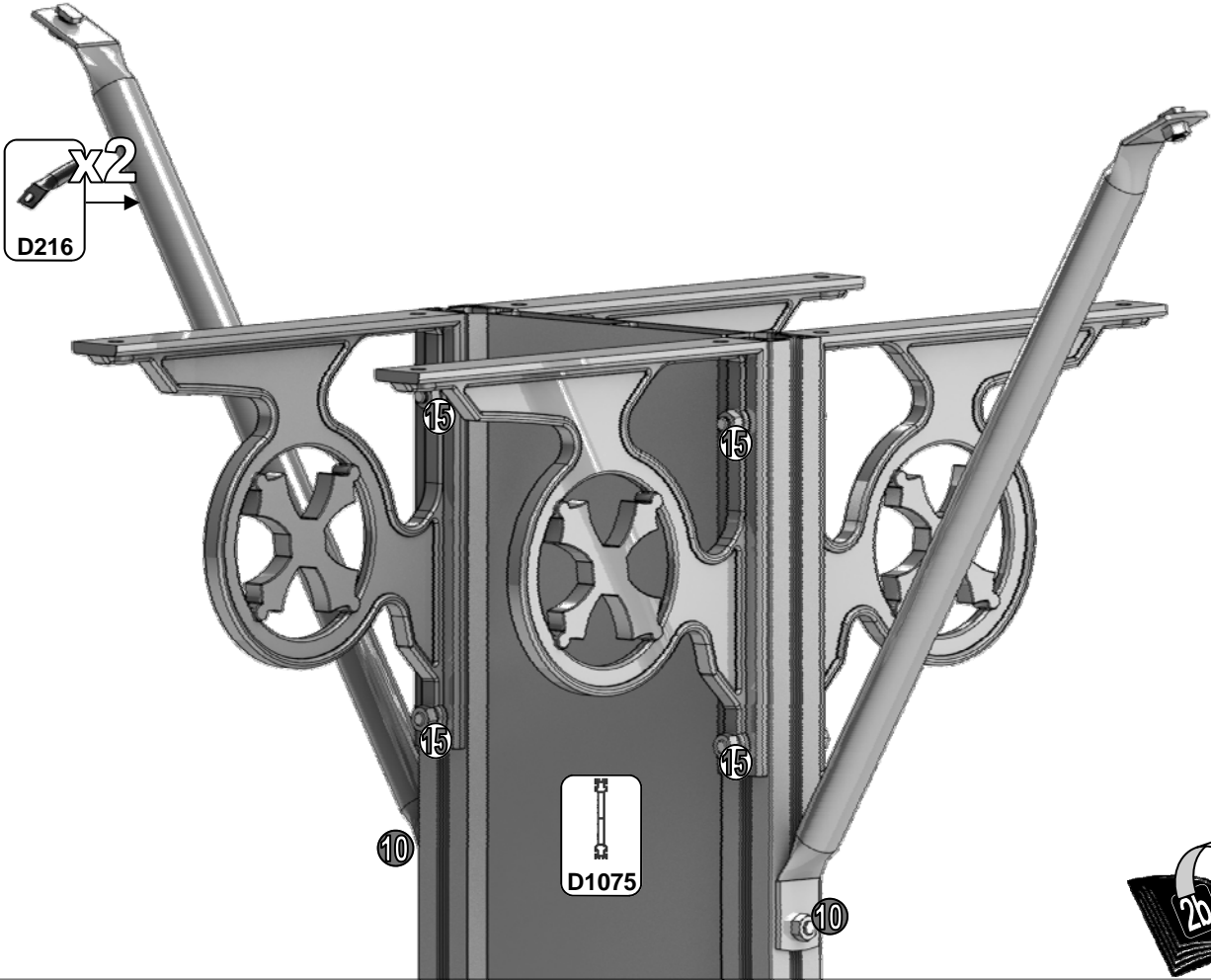


10mm, 15mm or 22mm bolts need to be slid into the appropriate channels on the vertical supports e.g. 'D1075' to allow for; support castings 'D1089', base brackets 'D174' and eaves tubular braces / A-frame components where applicable (see 2b & 2c) to be attached. Throughout the construction of the entire structure think all the time, do I need to slide any bolts into this bar and what length should they be.

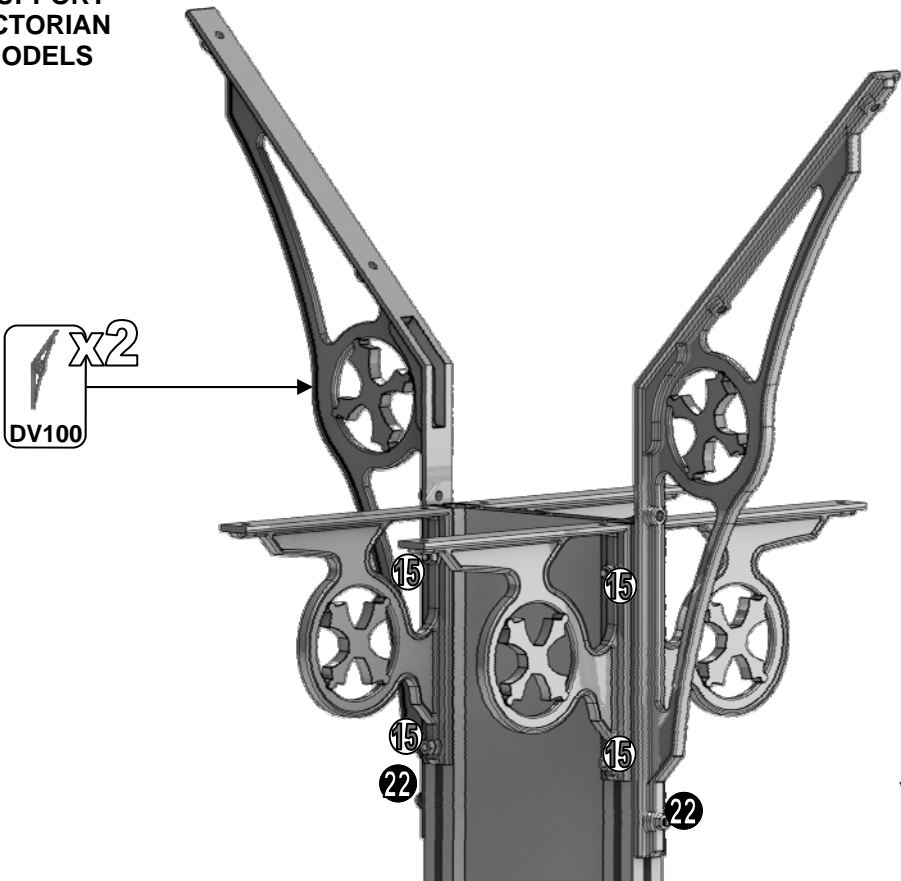


2a

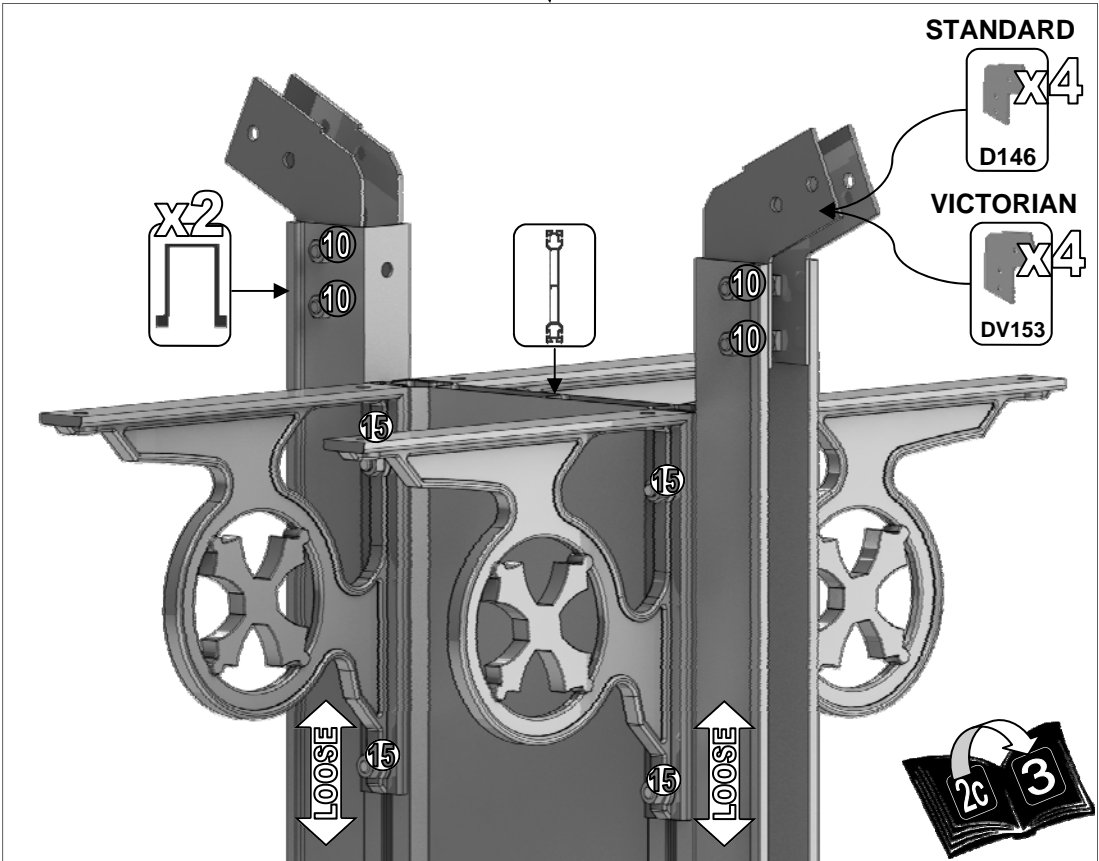
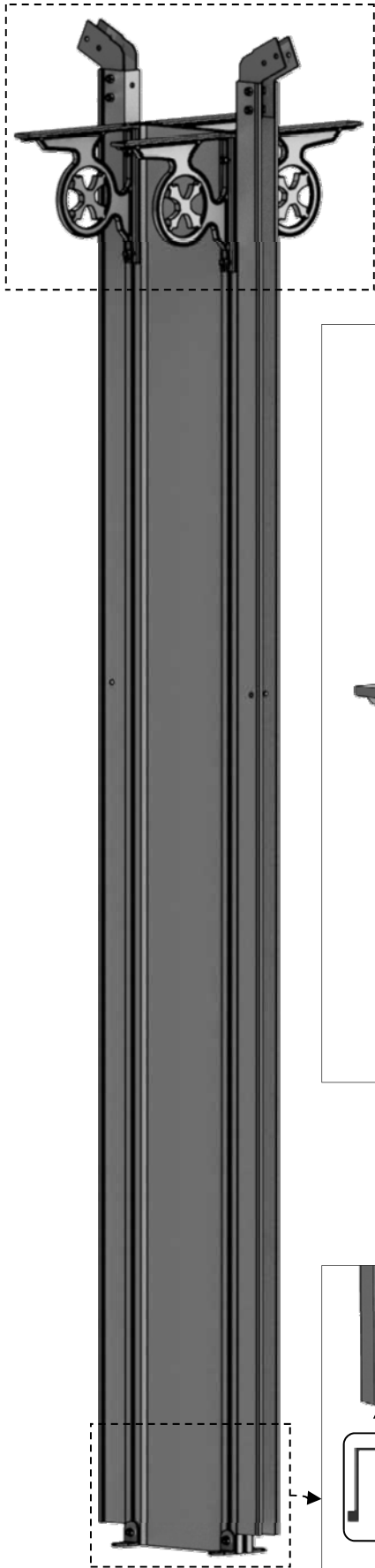
**MID SUPPORT
ON STANDARD 12'
MODELS e.g. D1075**



**MID SUPPORT
ON VICTORIAN
12' MODELS**



EXTENSION SUPPORT
STANDARD / VICTORIAN



2c

Now that you have prepared the valley gutter supports you can start to combine them in situ. The tables below show all valley related parts and their details for standard length and extended buildings. Quantities relate to a twin-span scenario, you can of course have as many spans as you like. See examples throughout sections 3 and 4.

QUANTITIES

Part No.	Section	Size (mm)	6'	8'	10'	12'	6' EX	8' EX	
D1070		3857				1			
D1071		3237			1				
D1072		2617		1					
D1073		1997	1						
D1074		2480							1
D1083		1860					1		
D1076		3757				2			
D1077		3137			2				
D1078		2517		2					
D1079		1897	2						
D1080L		2480							1
D1080R		2480							1
D1084L		1860					1		
D1084R		1860					1		
D1075		1888	2		3		1		
D1085		214	2						
D1086		268	2						
D1087		N/A					1		
D1089		N/A	8		12		4		
D051		1976	4						
D138		1167					4		
D126		445				2			
D146		N/A					8		
D784		1930					4		
D816 PLASTIC		1976	4						
D828 PLASTIC		1978	4						

QUANTITIES

Part No.	Section	Size (mm)	6'	8'	10'	12'	6' EX	8' EX
D114		N/A				4		
D174		N/A	12				16	4
D1082		N/A				2		
D1088 PLASTIC		2000 PIPE				2		
D1090 PLASTIC		N/A				2		
D1091 PLASTIC		N/A				2		
D1092		N/A				2		
D1095		260				2		
EV 0329		13				8		
FS 6006		35						12
FS 6504		M6 S/S						12
SYBOL M6X11		10	8				12	4
SYBOL M6X15		15	32				48	16
SYNUT M6		M6	40				60	20
SYBOL M4X10		10				4		
SYNUT M4		N/A				4		
SY SCR2		50	12				16	4
SY RAWL		50	12				16	4
D1081 GLASS		232 X 1876				2		

ROYALE ROOF			
D136		1546	2
D133		1352	4

ROSETTE ROOF			
D137		2176	2
D134		1700	4

REGAL ROOF			
D139		2786	2
D140		2039	4


RENOWN ROOF			
D139		2786	2
D736		2384	4



It is intentional that your valley gutter e.g. D1079 is 100mm longer than its corresponding flanges e.g. D1073. The main module valley gutter should protrude away from the flanges by 50mm at either end. This allows the valley gutter to extend beyond the frame minimising any chance of leaks.

On extended buildings the valley flanges and valley gutters will continue to be stepped away from each other to add strength, minimise leaks and to make sure that the valley gutter always extends by 50mm at each end. The valley gutter end caps 'D1082' will attach to this 50mm protrusion towards the end of assembly.



Part No.	Section	Size (mm)	6'	8'	10'	12'	6' EX	8' EX
SYBOL M6X15		15	16	16	24	24	8	16

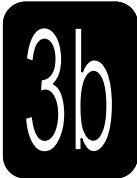
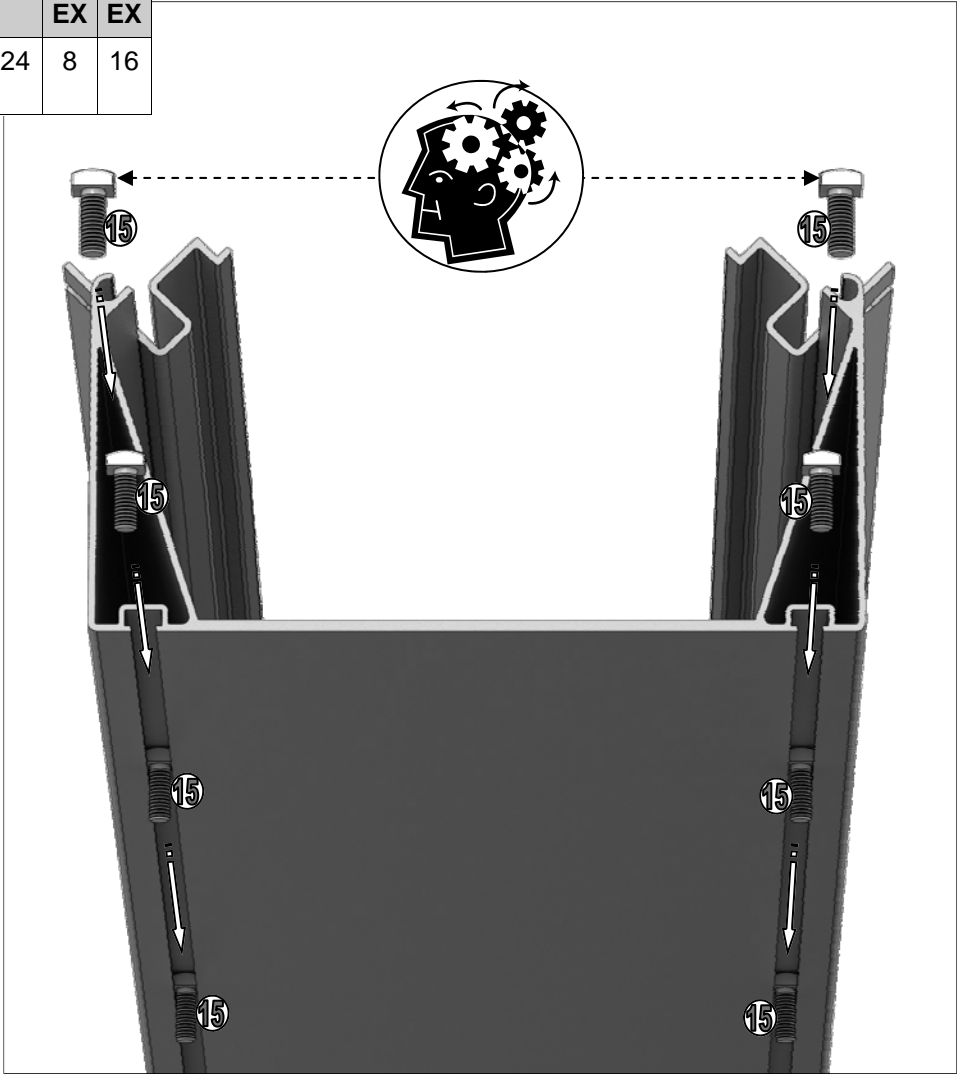
15mm bolts need to be slid into the valley gutter bolt channels (see right) to enable the supports (2a/2b/2c?) to be attached.

8 x 15mm bolts are required to fit each support (4 per channel), they each go through the remaining upper holes in the four D1089 castings.

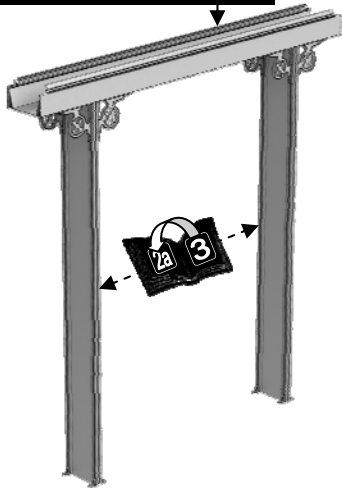
Examples are shown on the opposite page.

Position the pillars roughly 330mm from the valley ends. Check that the 'D1082' have enough length to attach.

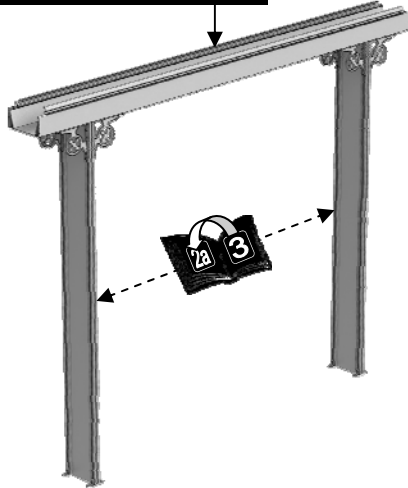
On the 10' and 12' there should be an additional central pillar. On the 12' the central pillar will correlate with the roof bars and can accommodate a tubular brace or spandrel.



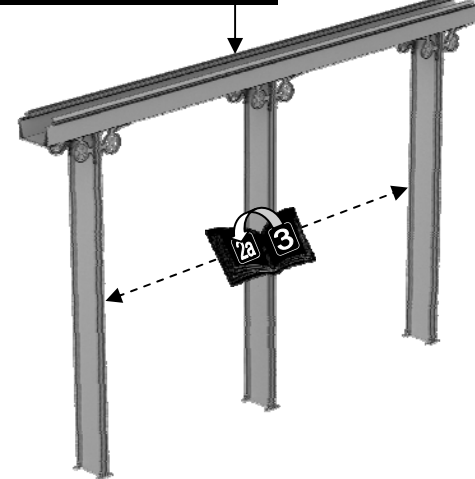
6' VALLEY - D1073



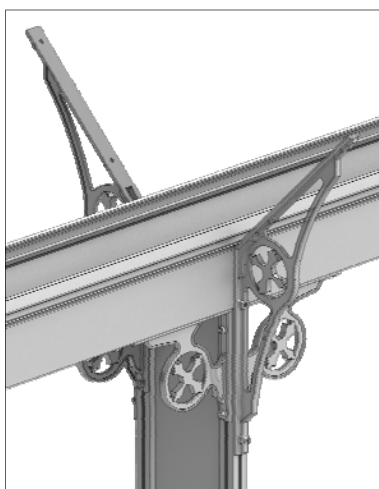
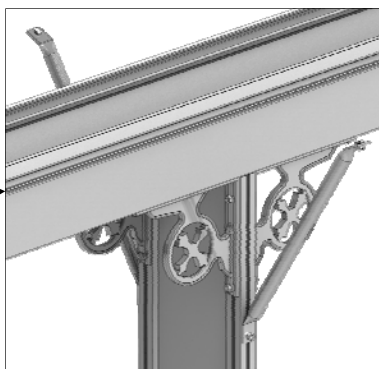
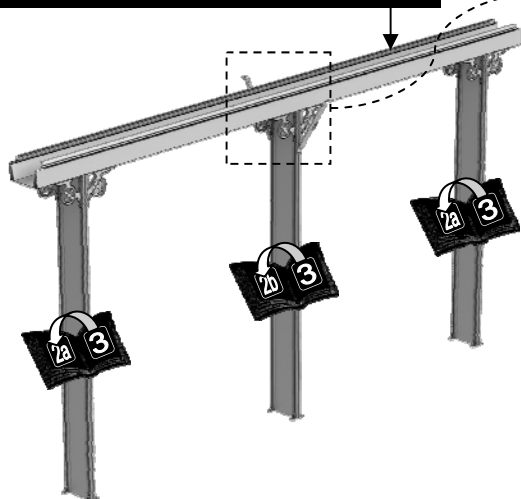
8' VALLEY - D1072



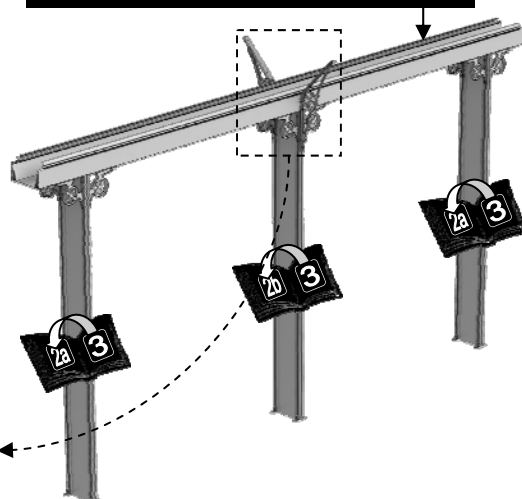
10' VALLEY - D1071



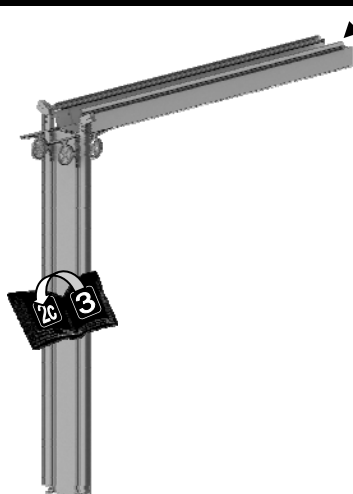
12' STANDARD VALLEY - D1070



12' VICTORIAN VALLEY - D1070



6' EXTENSION VALLEY - D1083

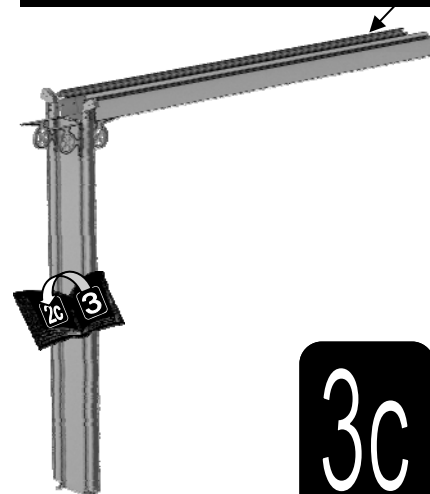


On models longer than 12' valley extensions are required. Extensions require a '2c' support. A '2c' support replaces the '2a' at rear of the initial main module. The original '2a' then needs to move towards the rear gable (furthest from the main module), see example on next pages.

The length of the extension is dependant on the width of span between gutters, 6' < 10' span = 8' extensions, 12' < 14' span = 6' extensions.

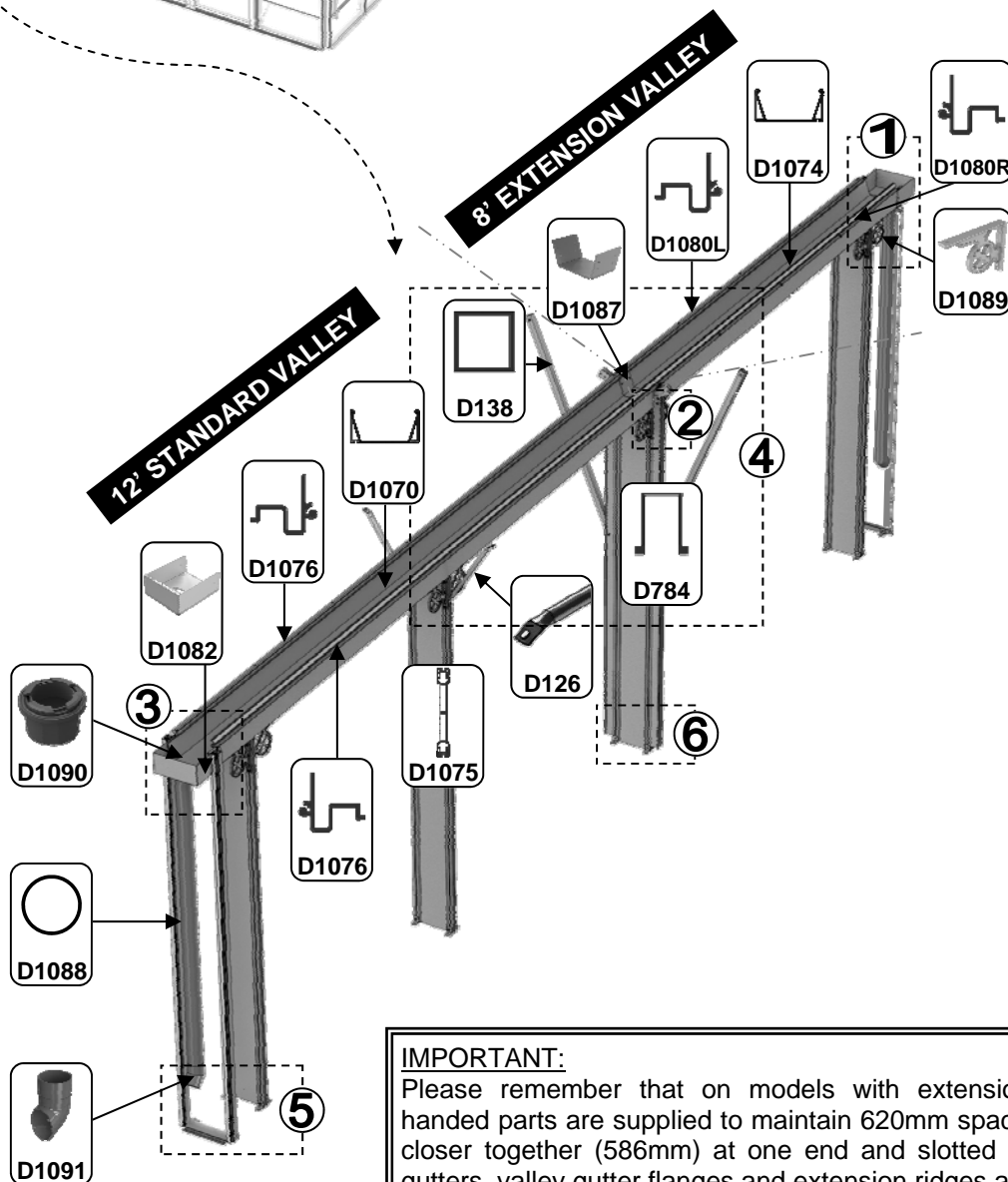
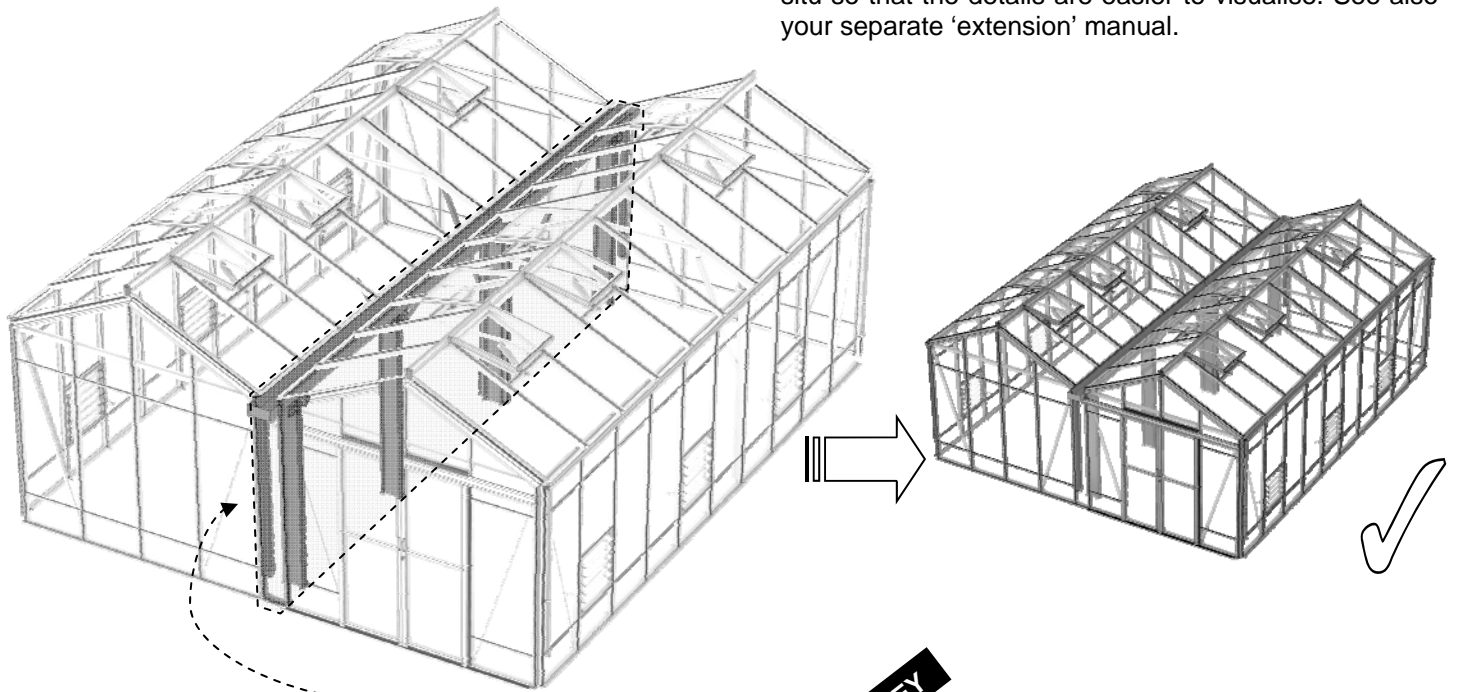
Please also note that parts D1080L/R and D1084L/R are handed like other extension components (see extension manual). The hole spacings will be closer together at one end than the other. Check that you are maintaining **620mm hole spacings** at cill, gutter and ridge levels before you begin glazing.

8' EXTENSION VALLEY - D1074



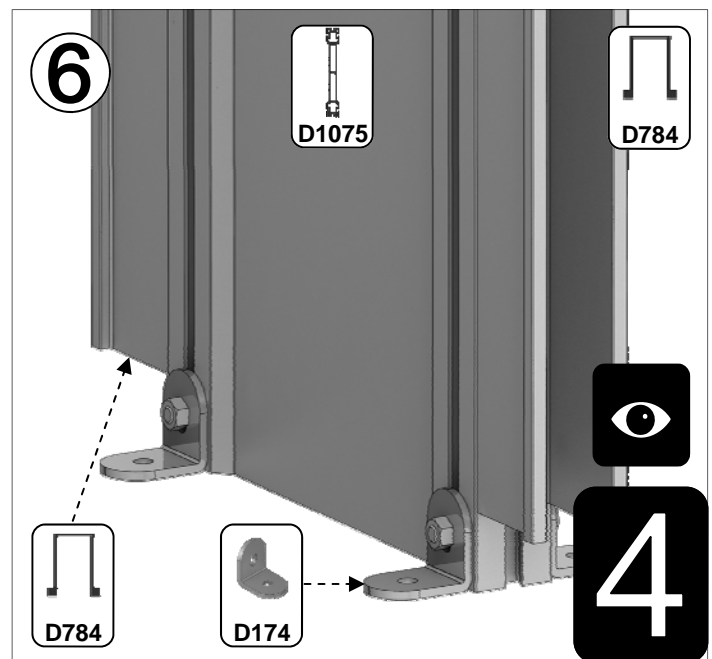
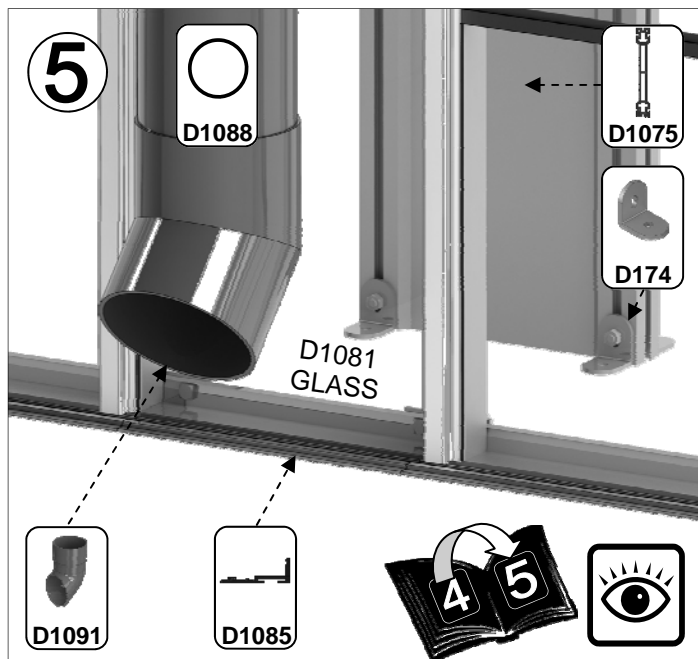
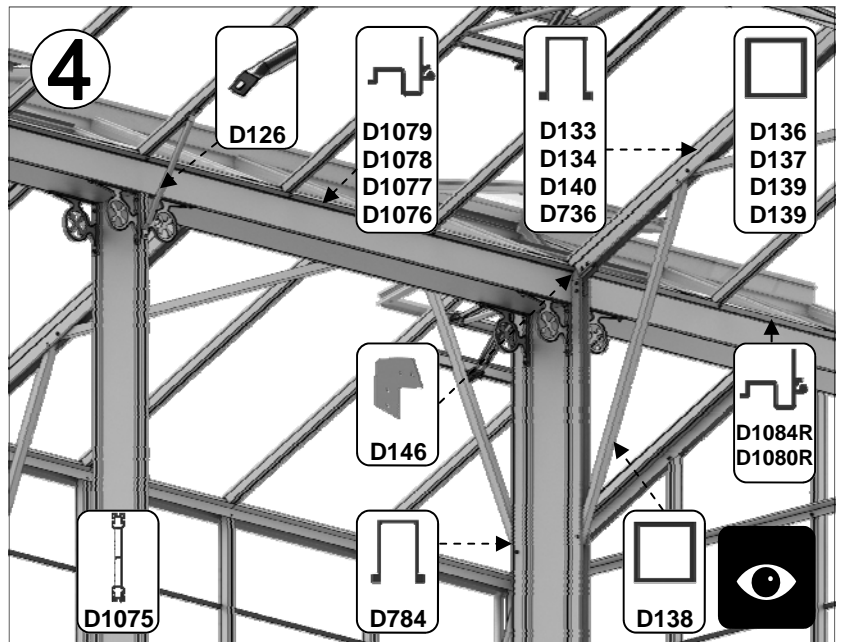
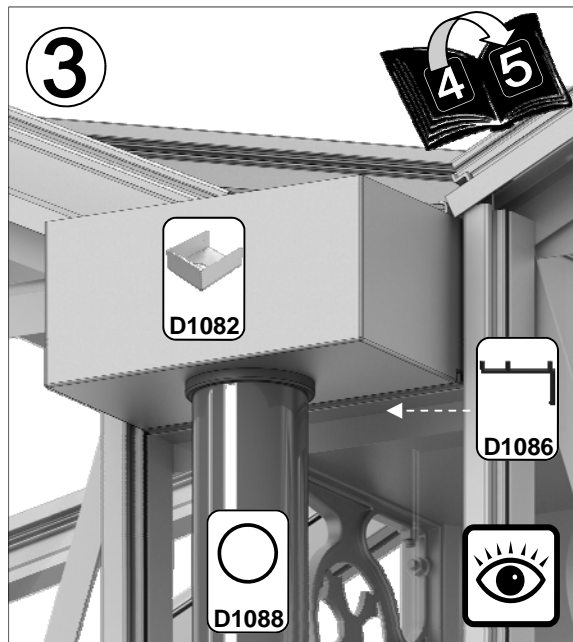
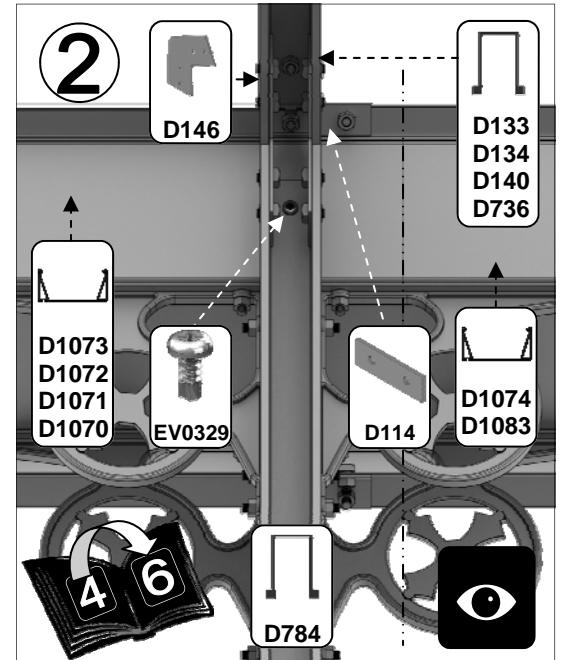
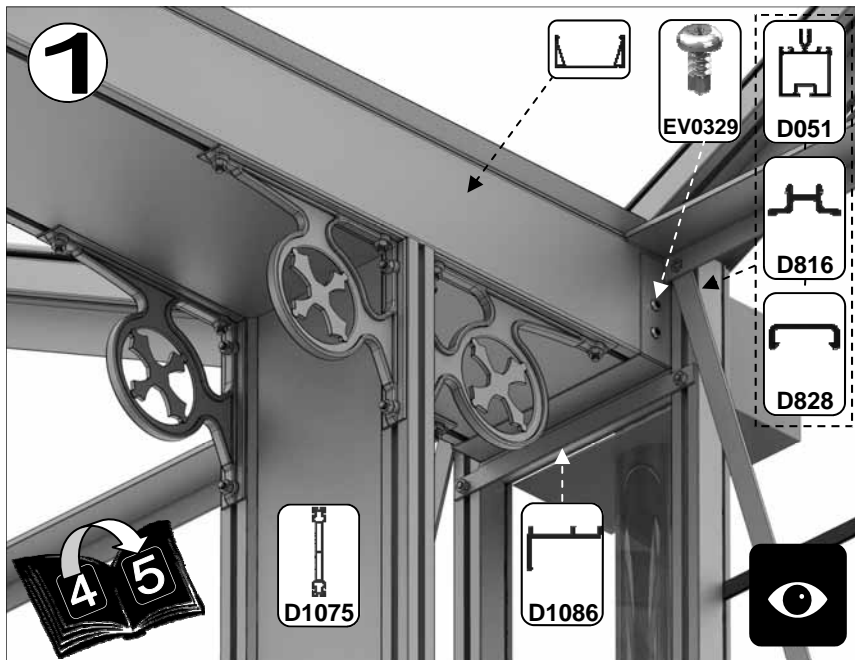
E.g. 20' LONG = 12' + 8' EXTENSION

These pictures show an example 20' long (12'+8'EX) twin-span Reach Royale valley assembly in and out of situ so that the details are easier to visualise. See also your separate 'extension' manual.

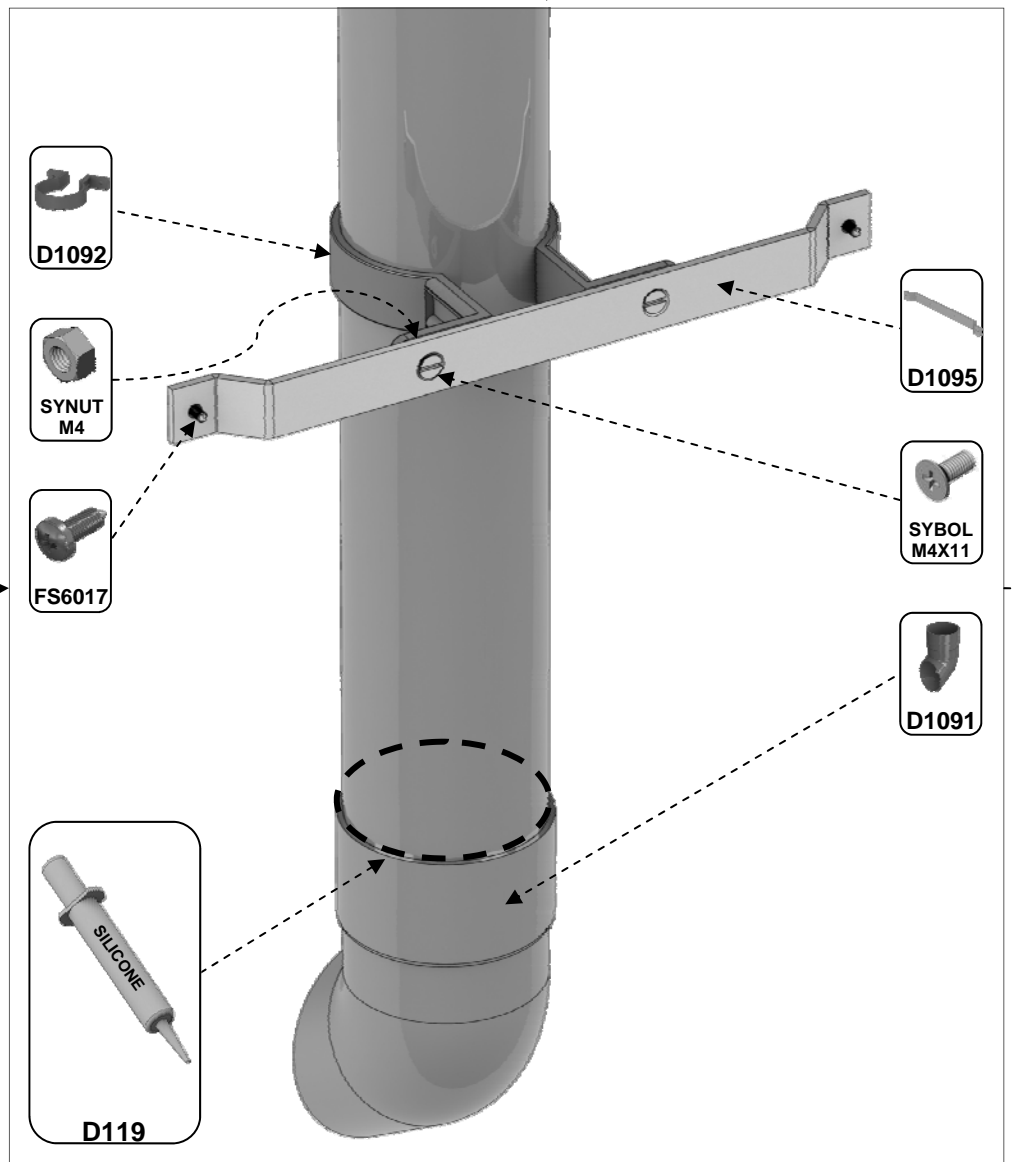
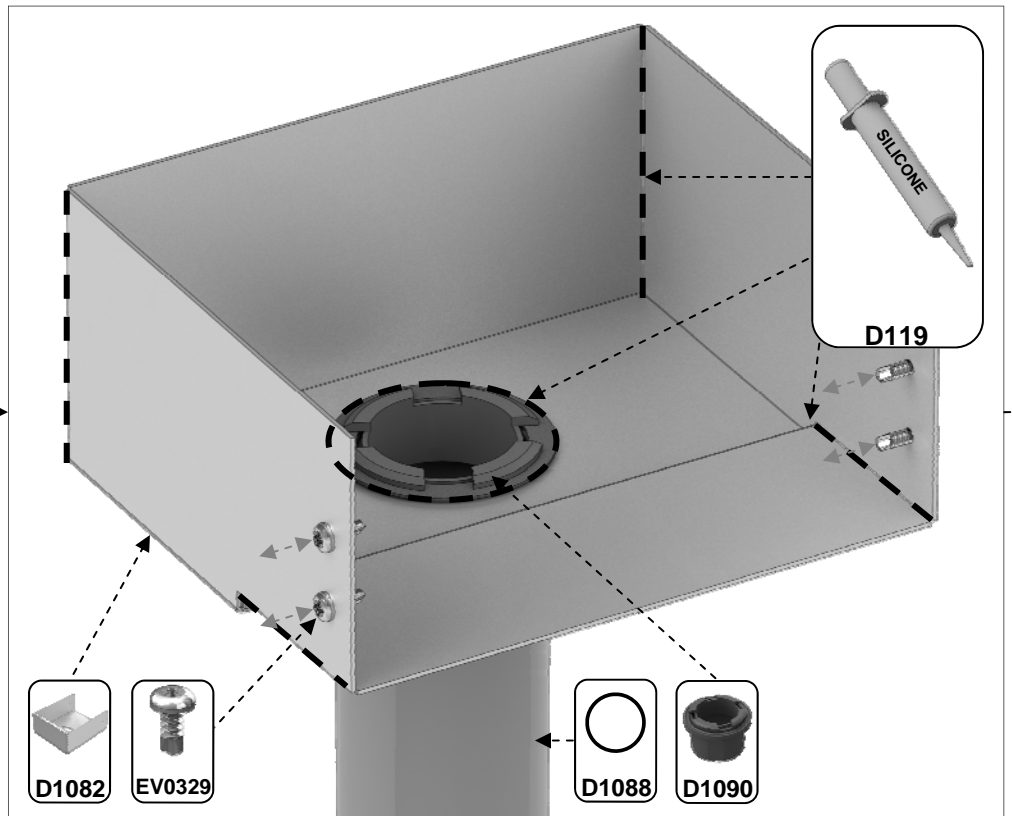
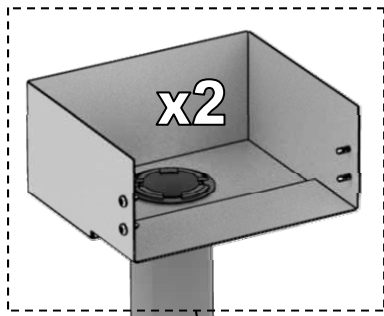


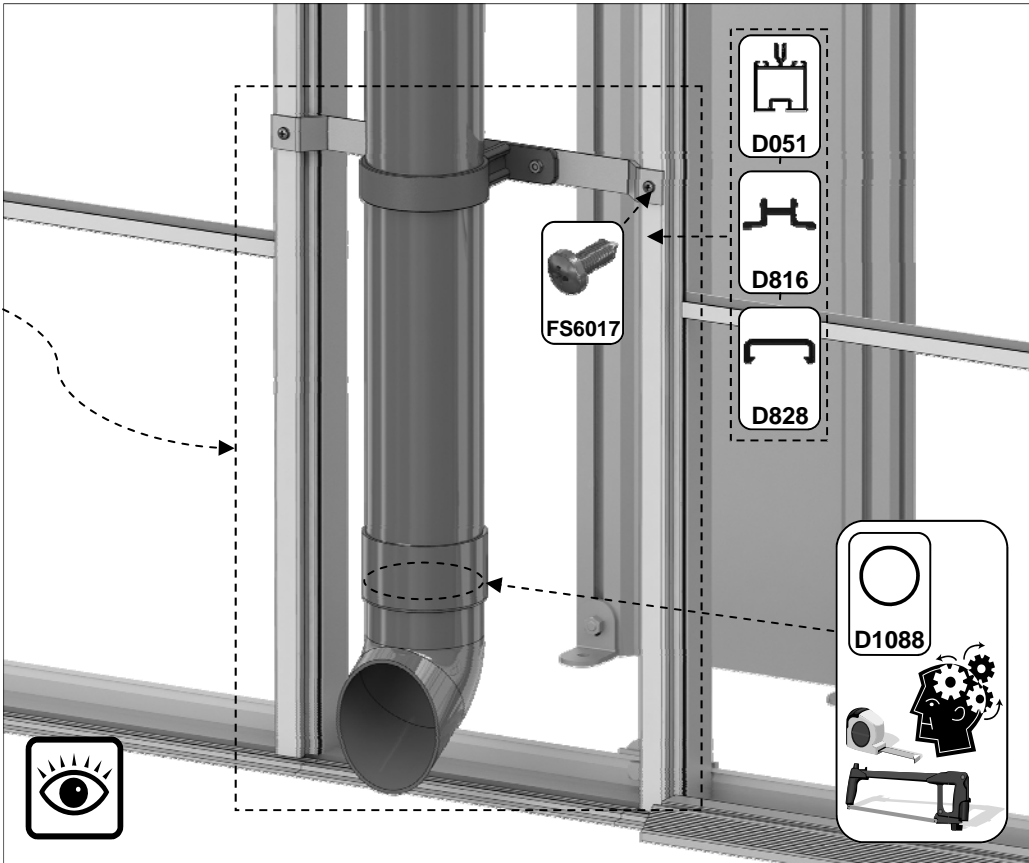
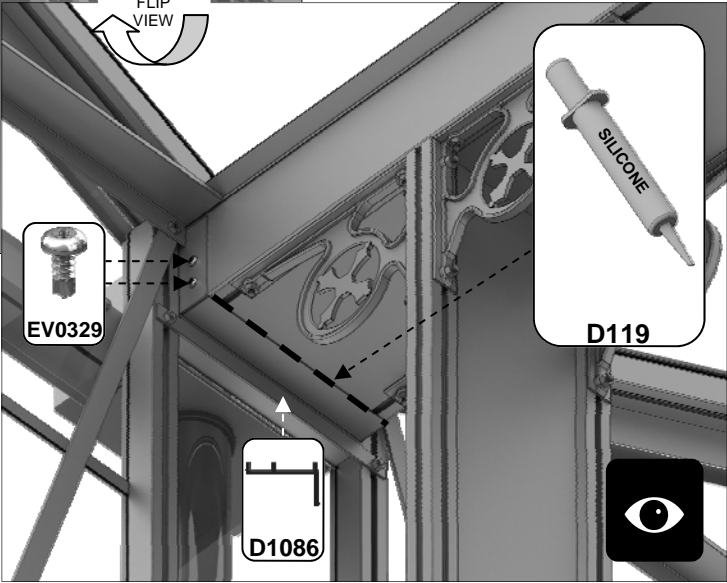
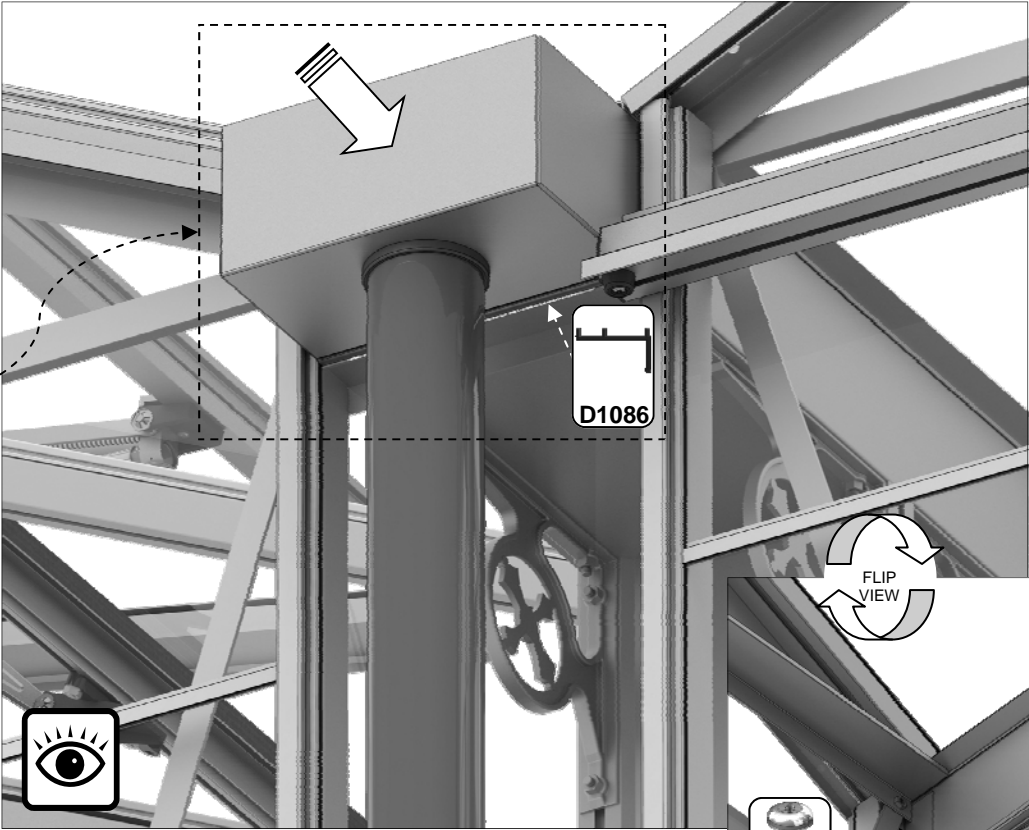
IMPORTANT:

Please remember that on models with extensions left and right handed parts are supplied to maintain 620mm spacings. Holes will be closer together (586mm) at one end and slotted at the other. Cills, gutters, valley gutter flanges and extension ridges all need to be orientated correctly. Check and then double check prior to glazing that you have 620mm hole spacings at cill, gutter and ridge level otherwise some of your glass will either appear to be too big or too small when you start glazing. Spinning an incorrectly orientated cill around on a partly glazed building is something to be avoided.

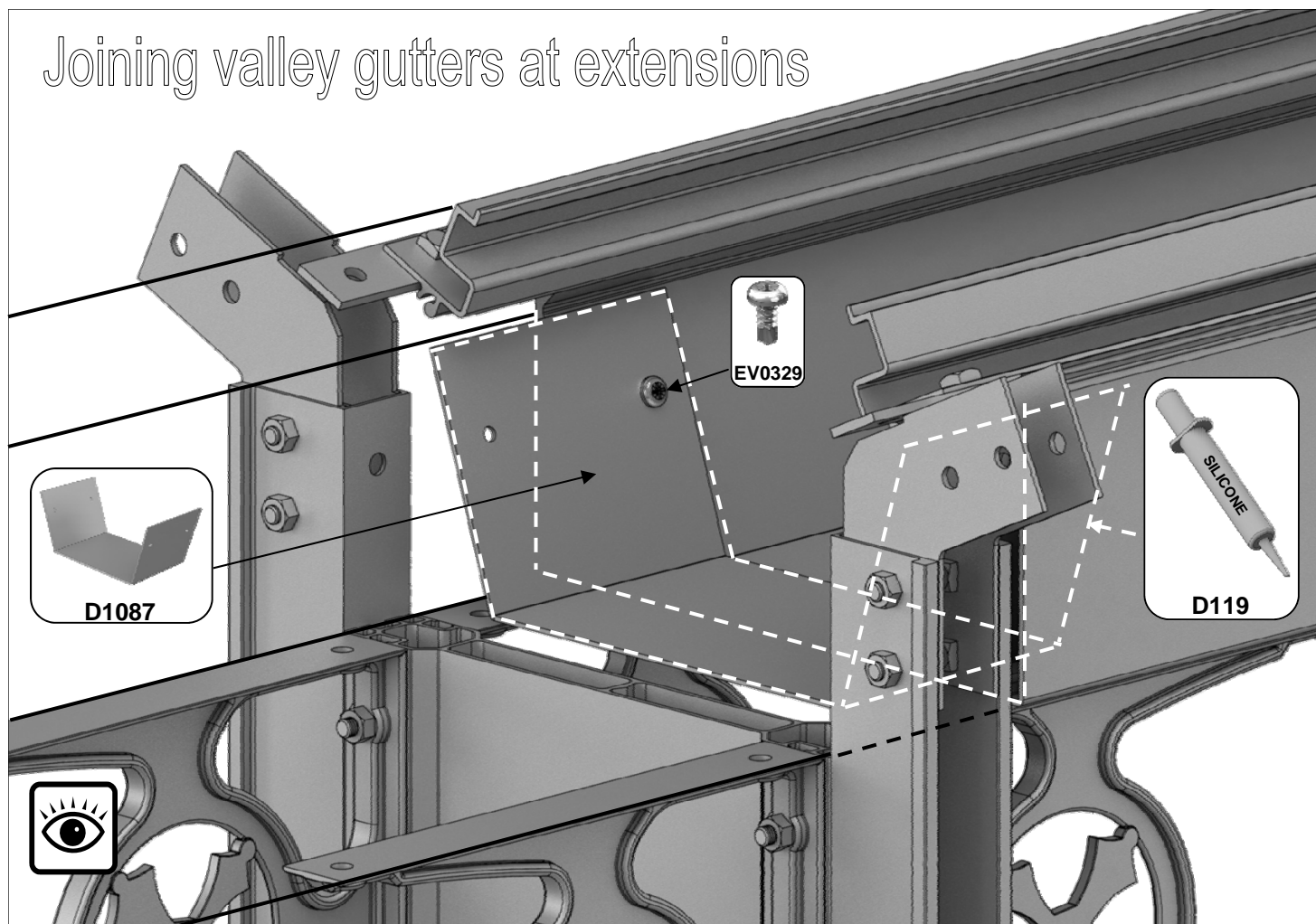


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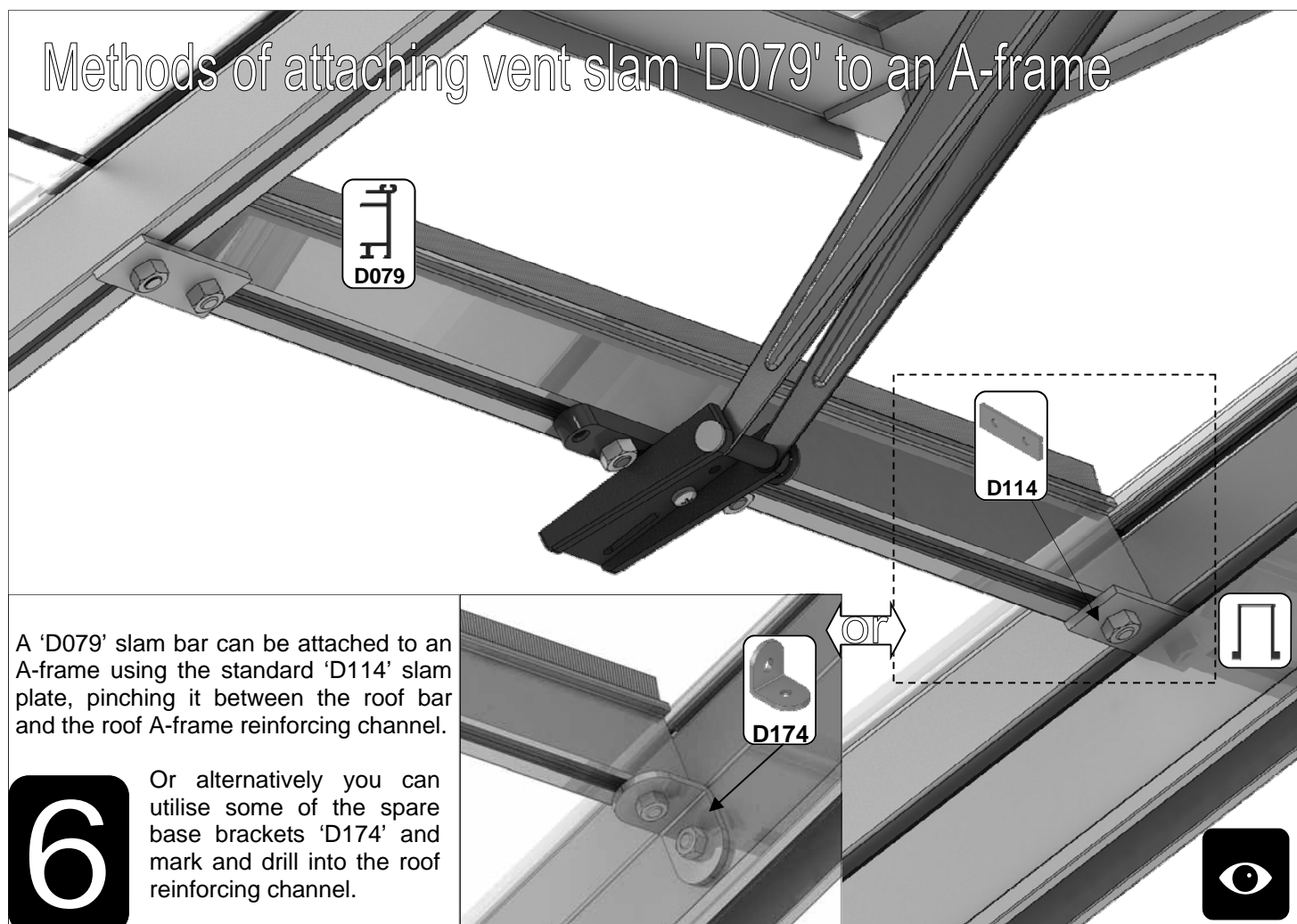




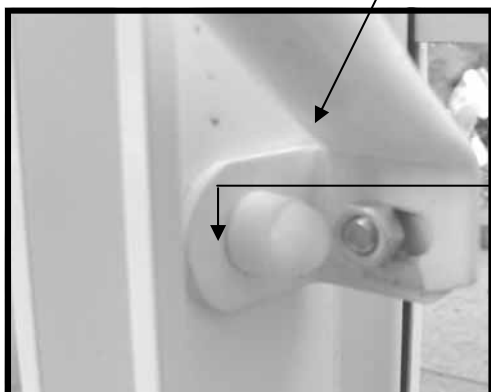
Joining valley gutters at extensions



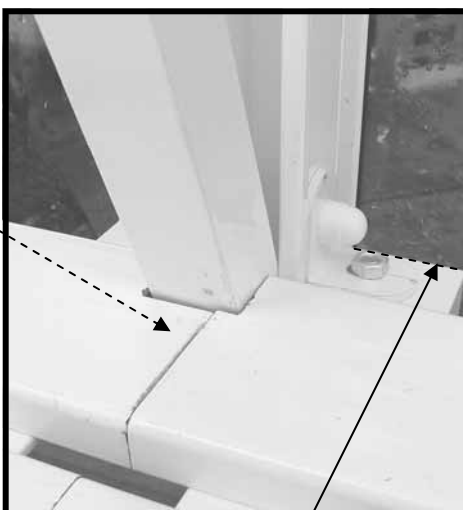
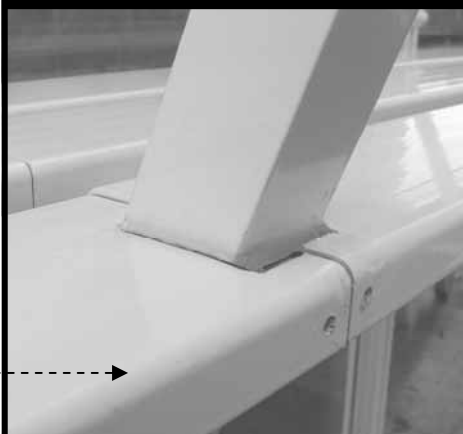
Methods of attaching vent slam 'D079' to an A-frame



Staging around A-frames



When adapting a shelf or staging section to fit around an A-frame the slats can be cut in several ways to give a neat, level result.



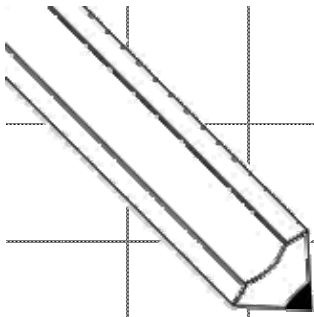
900mm up from bottom of base rail.

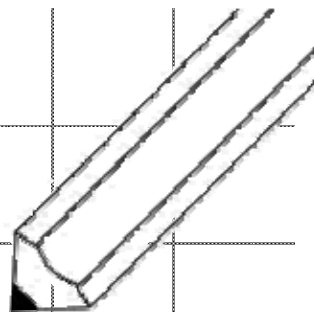


Fitting Robinsons slatted **shelving** and **staging** using the instructions is usually quite straight forward. However if you have chosen a greenhouse which includes **A-frames** then fitting the staging becomes more complicated.

You need to **cut** (using a hacksaw) the staging slats to fit around the A-frames at which ever **height** you have pre-determined (we recommend **900mm** up from the bottom of the base rail for **staging**, and **260mm** down from the top / back of the gutter for the **shelf**).

Spare **ground anchoring brackets** can be used to attach the shelf and staging supports to the side of an A-frame.





Please be aware that this is a multi-national manual, if you spot any errors or have any constructive comments regarding the manual please email james.spooner@greenhousepeople.co.uk and I will make the necessary amendments. Whilst the information contained in this booklet is accurate at the time of publication, changes in the course of Robinsons policy of improvement through development and design might not be indicated. We point out this fact to avoid any infringements of the Trade Descriptions Act and also to advise that Robinsons Greenhouses reserve the right to change specifications and materials without prior notice.

In addition any photographs of completed buildings would be most appreciated to add to our portfolio.

EXTERNAL CILL WIDTHS (mm)	REACH REGENT	REACH ROYALE	REACH ROSETTE	REACH REGAL	REACH RENOWN
TWIN SPAN	4128	5368	6628	7848	9108
TRIPLE SPAN	6232	8092	9982	11812	13702
QUAD SPAN	8336	10816	13336	15776	18296
<<<<<<<	+ 2104	+ 2724	+ 3354	+ 3964	+ 4594

THIS GREENHOUSE BOX WAS PACKED BY:

DATE: _____



www.robinsonsgreenhouses.co.uk

To contact Robinsons Customer Services email us at sales@robinsonsgreenhouses.co.uk or call us on 01782 385 409.

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