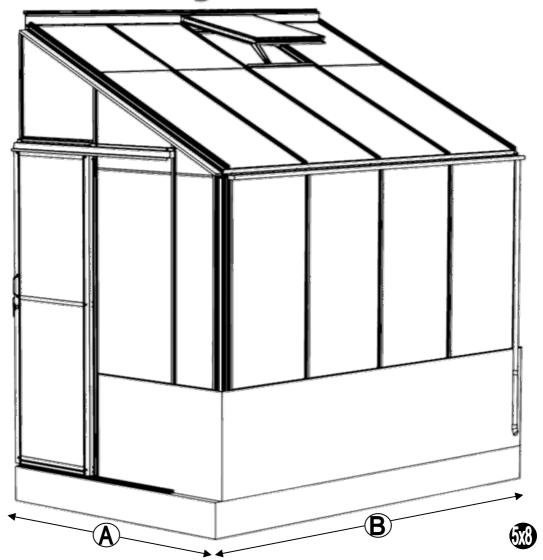


5' DWARF Lean-To Exist Assembly Instructions



NOMINAL SIZE	A (mm)	B (mm)
5lt X 6		1990
5lt x 8	1620	2610
5lt x 10	1620	3230
5lt x 12		3850

NOMINAL SIZE	A (mm)	B (mm)
6ft extension		1860
8ft extension		2480
10ft extension	-	3100
12ft extension		3720



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 divided into sections highlighted by a white number/letter on a black background at the bottom corner of most pages (see opposite page for details); part lists, B-base, P-preparation, 1-side, 2-front gable, 3-rear, 4-joining the three sides together, 5-roof, 6-wall attachment, 7-vent, 8-door, 9-glazing, 10-vent attachment, 11-door attachment, 12-anchoring down, 13-optional louvre, 14-optional shelf, 15-optional staging, 16-finishing touches. If you need to contact us for assistance please refer to the relevant section/s. If your building is longer than 12', i.e. has an extension then please also refer the separate extension manual.

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. 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



THIS SECTION RELATES TO ANOTHER (e.g. 1 to 5)



CORRECT



DO <u>NOT</u> FIX DOWN!



TWIST TO LOCK



TIGHTEN



PUSH AND HOLD



CUT TO LENGTH

UPDATE: Robinsons plastic / aluminium cover strips -

On a Robinsons building the glazing capping is in two parts. The lower plastic capping screws into the glazing bars pressing the glass down onto its rubber beading. The upper plastic / aluminium covers then need to be applied to cover the heads of the self-tapping screws. If you are struggling to press on the cover strips then we recommend the use of a rubber mallet or perhaps a wooden block and hammer, a short sharp tap onto the cover at one end is all that is needed to stretch the cover around the lower capping protrusions locking it into place. You can then either continue to use the mallet along the length of the cover or continue just using the palm of your hand. Once in the building and the edges are protected Robinsons 4mm thick toughened safety glass is very strong and can cope with the vibrations caused by hitting the covers though we would not recommend that you hit the glass directly. Some of the aluminium cover caps have a hole in them at one end which is sometimes used to hang the parts for powder coating. You can if you wish use the hole to stop the covers from sliding in the roof using a glazing screw, note you will have to use a countersunk screw under the vents to avoid interference with the vent bottom.







SECTION No	TITLE	ASSEMBLY SYNOPSIS: IMPORTANT INFORMATION / CONSIDERATIONS
	PARTS LIST	Identify and separate all like for like components prior to assembly. The 'parts list' also separates parts into the various sections shown below. Parts can also be identified by their profile pictures and stated lengths etc
В	BASE	Base dimensions and recommendations. Ensure that your base is level as this will make assembly of the building, especially the glazing of the roof much more straight forward.
Р	PREPARATION	Tools required. <u>IMPORTANT</u> : Use WD40 or similar in the glazing bar channels and insert the black glazing rubber prior to frame assembly.
1	SIDE	Take the side glazing bars 'D609' with the rubber inserted and the diagonal braces 'D604', use 10mm bolts to join them to the gutter and 15mm bolts to the cills (note how the head of the bolts slide into each glazing bar during construction).
2	FRONT	Again ensuring that the gable framework is rubbered-up follow the diagrams to assemble each end of the building. Make sure that you have inserted the extra bolts utilised in sections
3	REAR	4, 5 and 11. On the roof and side corner bars not every rubber channel will require rubber unless it is to be utilised in a partition (see separate manual and section P).
4	JOINING THE THREE SIDES	Take the side (1) and both gables (2 & 3) and join them together on your base. It is a good idea to tie some ladders to the side to support them if you do not have anyone to hold them for you.
5	ROOF	Attach the ridge and then the rubbered-up roof bars ensuring that they are fully butted up to the ridge and down onto the gutter. Some tubular braces are supplied to add extra strength, they can be fitted now or later with crop head bolts.
6	REAR WALL ATTACHMENT	The main body of the frame is complete it can be attached to the wall. Make sure that the wall bars are vertical and the ridge is horizontal then drill and screw the building to the wall. Do not attach the base to the ground until section (12) as your building may not be square.
7a	VENT	Once the vent is glazed add silicone to the vent sides and top. Stand the vent/s on their hinge (vent top) and then leave the silicone to set.
7b	VENT SLAM	The slam bar 'D079' can be moved up and down between the roof glazing bars so that it can be butted down onto the pane of glass beneath, the autovent is attached to it later on (10).
8	DOOR	Construct the door using the diagrams and then leave to one side ready for attachment in section (11).
9	GLAZING	Layout the bar capping and covers around the building like a sundial checking that all is present and correct. You can also place the roof capping in the gutters so they are closer to hand. The glass in the ends has to bevel on the black separator strip, this bevelling action allows the glass to tuck underneath the roof corner canopy. Use the capping and the self tapping screws to then hold the glass in place. The covers then enclose the screw heads giving a neat finish. A top tip is to not attach the door post capping (D814/D836) until you have fitted the door runner and threshold (11) to give you more room to manoeuvre.
10	VENT ATTACHMENT	Take the assembled vent and slide the vent hinge 'D866' into the end of the ridge allowing the vent the pivot open and closed. Vent stops go either side of the vent to stop any lateral movement (so insert stop / vent / stop). Attachment of the Bayliss XL autovents.
11	DOOR ATTACHMENT	Use the bolts inserted in section (2) to attach the upper door track. The lower door runner 'D860' and ramp threshold 'D087' push down and lock together.
12	ANCHORING DOWN	Now that the greenhouse is finished and the door and vent/s are operating without interference then you need to anchor the building down using 2" rawl plugs and screws. Use a 7mm masonry bit in a hammer drill to create the holes.
13	OPTIONAL LOUVRE	They attach to the building during the glazing process (9) like a piece of glass with a black separator above and below them.
14	OPTIONAL SHELVING	Robinsons integral cantilever staging and shelving attaches to the inside of the greenhouse frame using either square head bolts (insert four into each side glazing bar 'D609' during construction of the sides (1)) or rectangular 'crop head' bolts which can be fitted retrospectively (both sets of bolts accompany the shelving/staging). This system allows the height of either the staging or the shelf to be set at an operator specific height. Commonly the staging brack-
15	OPTIONAL STAGING	ets are set 900mm from the cills though you can alter this to suit the end user/s. The aluminium shelf / staging slats come in two lengths; (4'):1240mm 'D2002' and (6'):1860mm 'D2003'. These slats can combine to create any length of staging required, i.e. 4'+6' = 10' etc
16	FINISHING TOUCHES	Now that the main body of the structure is complete you can add; downpipe fittings, eave bungs.

Section Ref	Part No.	Section	Size (mm)	5lt 6	5lt 8	5lt 10	5lt 12	
								1
	D043		1894	1				
	D021		2514		1			
	D022	$\overline{}$	3134			1		
	D023		3754				1	
	D042		1897	1				
	D014	7	2517		1			
1	D015		3137			1		
	D016		3757				1	
	D604		1316		2	2		
	D609	رج الحا	1160	2	3	4	5	
	RUBBER	Q	1000 (1m)	5	7	9.5	12	
	D174	6	N/A	2	2	4	4	

	D039L	1		1?
	D039R		1625	1?
	D668		4004	1?
	D669		1004	1?
	D628	ـــا	650	1
	D608		1160	2
2	D655		1906	1
2 中 3	D656		1610	1
3	D657	7	1314	2
	D670	<u>1</u> F	2210	1
	D675		2506	1
	D110		1585	1
	D626		1497	2
	D149	0 4	N/A	2

Section Ref	Part No.	Section	Size (mm)	5lt 6	5lt 8	5lt 10	5lt 12
2	D854L	Ľ.	1744			1	
9 {	D854R				,	1	
) (RUBBER	Q	1000 (1m)		3	1	
<u>ئ</u>	D174		N/A		8	3	

)	D045	L-70	1897	1			
	D007	ſ	2517		1		
	D008	*	3137			1	
5	D009	\wedge	3757				1
	D065		1744	2	3	4	5
	RUBBER	Q	1000 (1m)	7	11	14	18

	D866	•	639	1	1	2	2
	D863L	الس	613	1	1	2	2
	D863R	1	613	1	1	2	2
7	D862	<u></u>	593	1	1	2	2
	D079 PLUS FLUFF	H TÊ	590	1	1	2	2
	D114	60	N/A	2	2	4	4
	D220 PLUS FS6060 SCREW	00	N/A	2	2	4	4
	D205		N/A	2	2	4	4

Section Ref	Part No.	Section	Size (mm)	5lt 6	5lt 8	5lt 10	5lt 12		
	D090 + D347 lock = D301	<u></u>	1824						
	D094	<u></u>	1824			1			
	D096 + D217 wheel = D307		611	1					
8	D095		611			1			
	D097		611			1			
	D232		905			2			
	D233	1	797			2			
	P053		N/A			1			
	D225	0	610			1			
	D840B		4000		1				

ANTITIES SEPERATE	10mm	20	23	26	29
MAIN FRAME QUANTITIES VENTS/ DOORS etc SEPERATE	15mm	37	38	39	40
MAIN F	m6	57	61	65	69

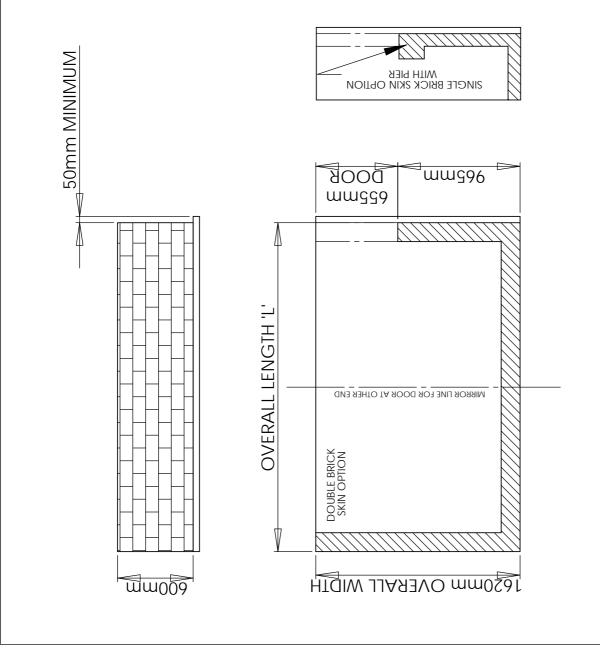




	Section Ref	Part No.	Section	Size (mm)	5lt 6	5lt 8	5lt 10	5lt 12
		5040		4444		_		_
			;	1144	2	3	4	5
Ref No. 1 D618 2/3 D658 3 D659 2 D660 3 D661 2 D662 5 D870 5 D876 2/3 D610 1 D620 2 D814 5 D871 5 D877 2/3 D614 1 D619 2/3 D663 3 D664 3 D665 2 D666 2 D666		1314		2	-			
	3	D659		1610		1		
	2	D660		311	1			
	3	D661	7	1906	1			
	2	D662	·	600	1			
	5	D870		601	2	3	4	5
	5	D876		1152	2	3	4	5
	2/3	D610		1160	2			
			ᢞ		2			
				1144				
191				1883	2			
			_	601	2			
	5	D877		1152		2	2	
	2/3	D614		1162		2	2	
	1	D619		1144	4	5	6	7
	2/3	D663		1316	2			
	3	D664		1610		,	1	
	3	D665	OR	1908	1			
	2	D666		602	1			
	2	D667		313		•	1	
	5	D811		1754	4	5	6	7
	2	D836		1883			2	

	1		1
D864		590	1
D860	炡	1240	1
D087		587	1
D084	للر	1270	1
D083]	1270	1
D627	10 07	114_	1
D163	000	90	2
D154	-	N/A	1
	D860 D087 D084 D083 D627 D163	D860	D860





GUIDANCE NOTE FOR ROBINSONS DWARF WALL GREENHOUSES. FOOTINGS

CONCRETE STRIP FOOTINGS SHOULD BE A MINIMUM OF 400mm WIDE X 200mm DEEP. IF THE SITE IS ON MADE UP GROUND IT IS IMPORTANT THAT THE FOOTINGS ARE CUT INTO THE COMPACTED GROUND BELOW.

WHERE THE GROUND IS LIABLE TO MOVEMENT SUCH AS HEAVY CLAY OR LOOSE SANDY SOIL REINFORCING SHOULD BE ADDED TO THE CONCRETE FOOTINGS.

WALLS
IT IS MOST IMPORTANT THAT THE BRICKWORK IS IN ACCORDANCE
WITH THE DIMENSIONS PROVIDED AND IS SQUARE, LEVEL AND
UPRIGHT, THE DIAGONAL MEASUREMENTS SHOULD BE EQUAL.

WALLS CAN BE EITHER DOUBLE OR SINGLE SKIN

THE TOP COURSE OF BRICKS SHOULD BE LAID FROG DOWN. IF ENGINEERING BRICKS ARE USED FOR THE TOP COURSE PLEASE ENSURE THEY ARE SOLID NOT CELLULAR (WITH HOLES THROUGH THEM) OR FIXING DOWN OF THE GREENHOUSE WILL BE A PROBLEM. BRICKS SHOULD BE A GOOD QUALITY STOCK BRICK, SAND FACED FLETTON TYPE BRICKS ARE NOT SUITABLE.

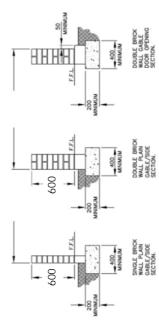
GABLE DOOR OPENING
THE DOOR THRESHOLD REQUIRES BRICK WORK ACROSS THE
OPENING WHICH SHOULD BE LEVEL WITH THE FINISHED FLOOR
LEVEL (F.F.L) OF THE GREENHOUSE.

THE OPENING FOR THE DOORWAY AND THE HEIGHT TO THE TOP OF THE WALL FROM THE THRESHOLD LEVEL REQUIRE THE HIGHEST ACCURACY AND ARE MOST IMPORTANT SO THAT THE DOOR FITS THE APETURE CORRECTLY. IT IS ADVISABLE TO MAKE A WOODEN TEMPLATE TO CHECK THE DOOR APERTURE DIMS.

IF SINGLE SKIN WALLS ARE USED THEN PIERS SHOULD BE FORMED AT THE DOOR OPENING.

IN ORDER TO SUPPORT THE OUTER EDGE OF THE DOOR THRESHOLD THERE MUST BE A PROJECTION OF BRICKWORK / CONCRETE INFRONT OF THE DOOR END WALLWITH A MINIMUM WIDTH OF 50mm. THIS NEEDS TO BE LEVEL WITH THE DOOR THRESHOLD OPENING.

Property of 'Robinsons Greenhouses' @ 2015



5LT DWARF WALL PLAN

860mm 480mm 3100mm 3720mm

LENGTH

EXTENSION

<u>990mm</u>

<u>Omm</u>

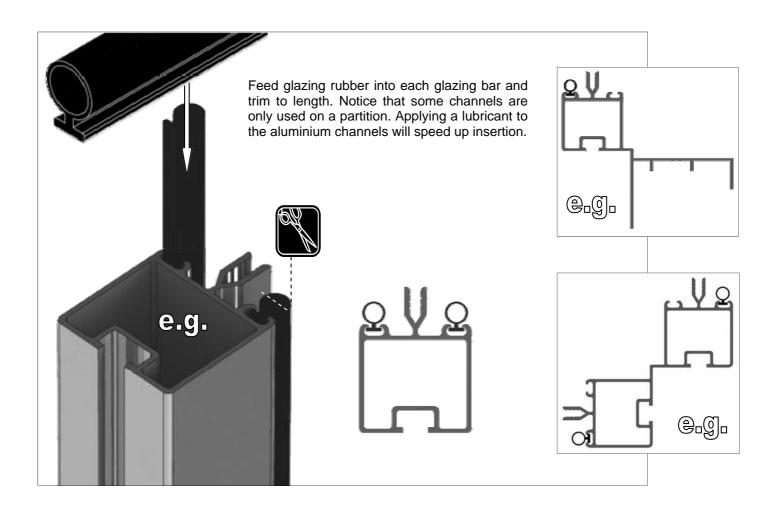
LENGTH

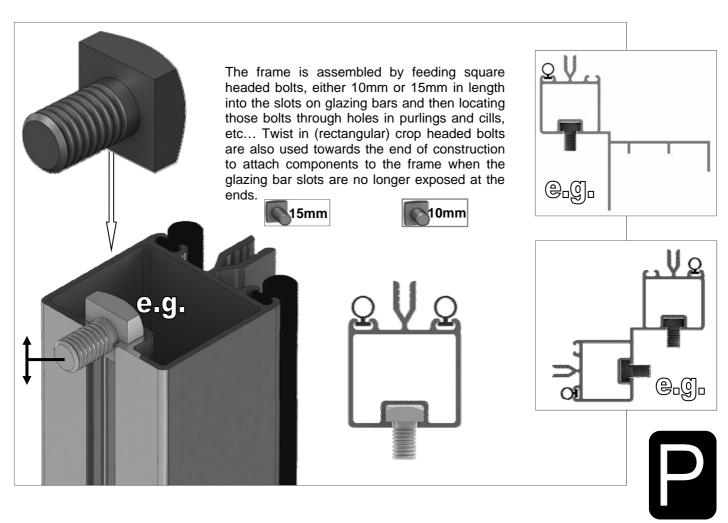
GREENHOUSE

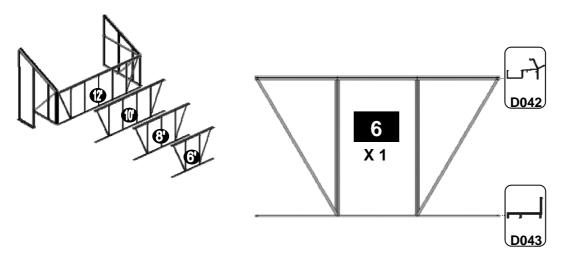
3230mm 3850mm

OVER ALL LENGTH 'L' = BASIC GREENHOUSE LENGTH

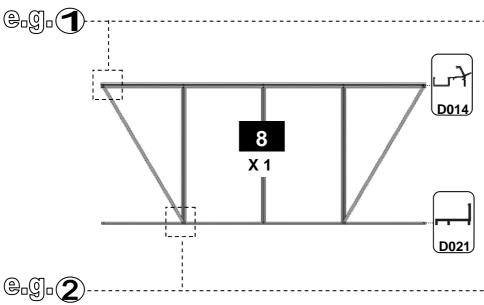
EXTENSION IF REQUIRED GREENHOUSE



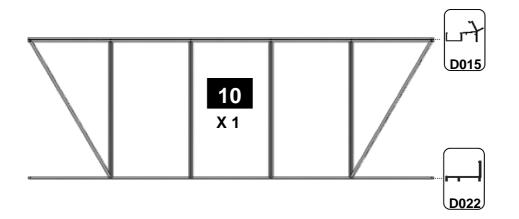




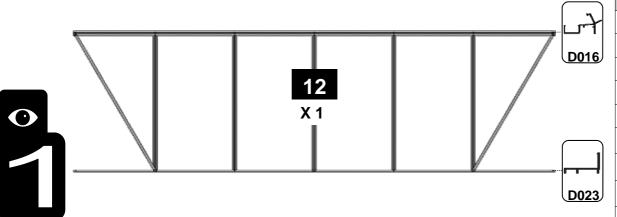
6 X 1 DWARF			
Part No	mm	Quantity	
D042	1897	1	
D043	1894	1	
D609	1160	2	
D604	1316	2	
D174	6	2	
M6- 10mm		2	
M6- 15mm	P	4	
M6- NUT		6	
Rubber	1000	5	



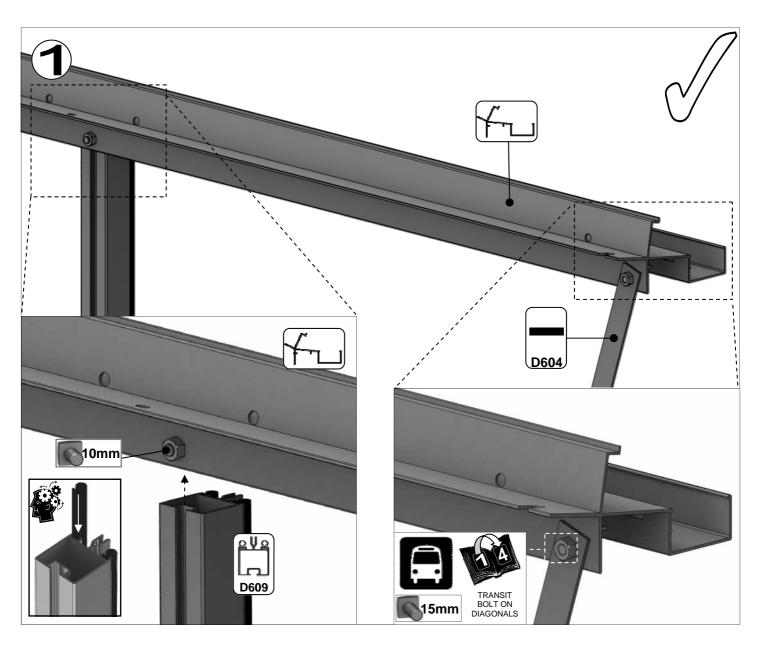
· >		
8 X 1 DWARF		
Part No	mm	Quantity
D014	2517	1
D021	2514	1
D609	1160	3
D604	1316	2
D174	4	2
M6- 10mm	6	3
M6- 15mm	P	5
M6- NUT		8
Rubber	1000	7

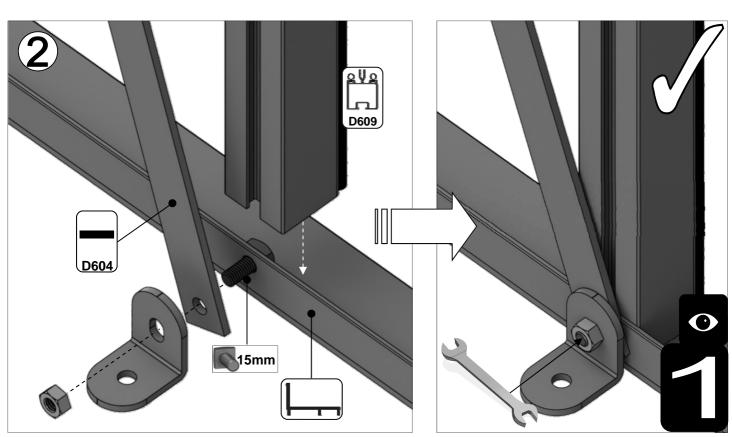


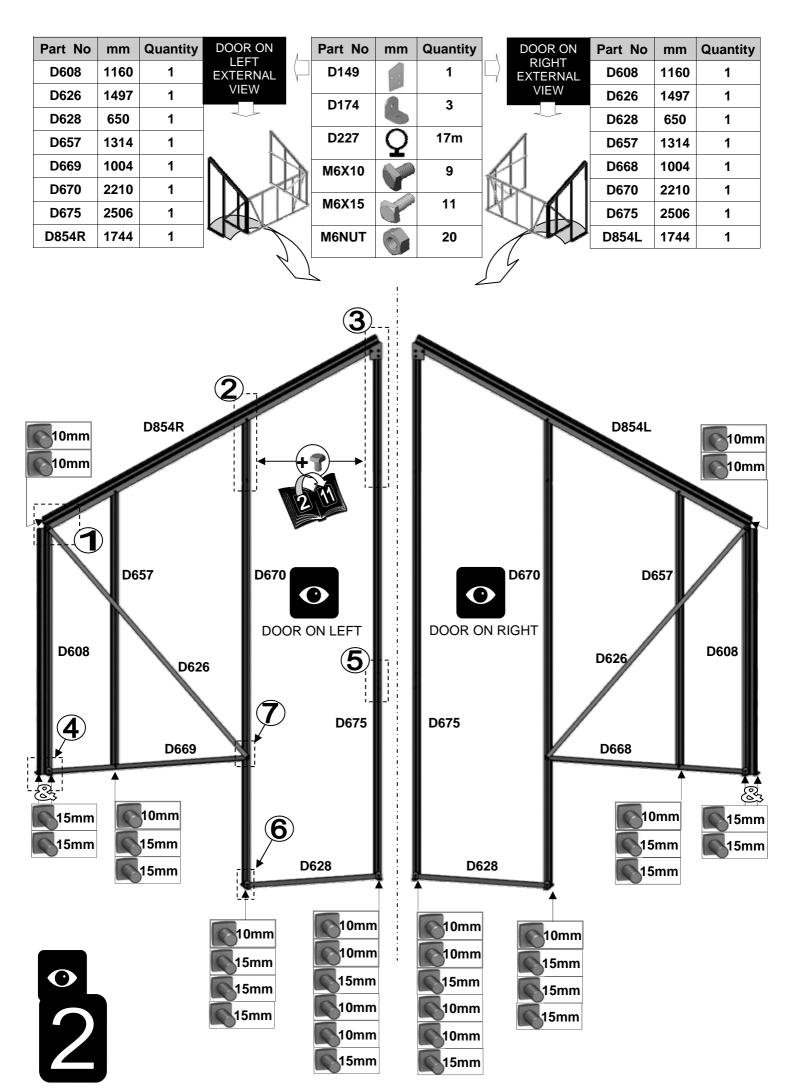
10 X 1 DWARF			
Part No	mm	Quantity	
D015	3137	1	
D022	3134	1	
D609	1160	4	
D604	1316	2	
D174	4	4	
M6- 10mm		4	
M6- 15mm		6	
M6- NUT		10	
Rubber	1000	9.5	

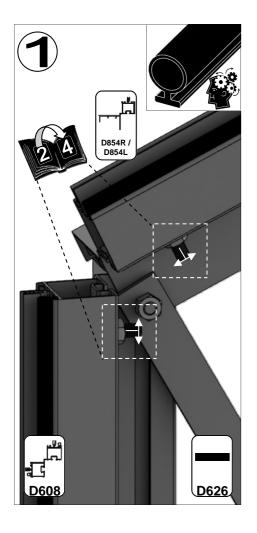


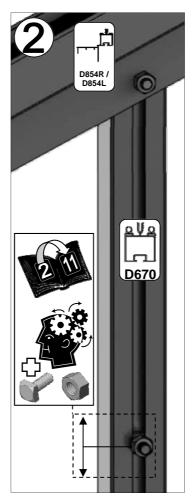
12 X 1 DWARF		
Part No	mm	Quantity
D016	3757	1
D023	3754	1
D609	1160	5
D604	1316	2
D174	4	
M6- 10mm	3	5
M6- 15mm		7
M6- NUT		12
Rubber	1000	12

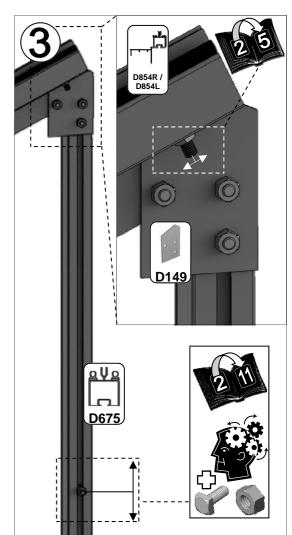


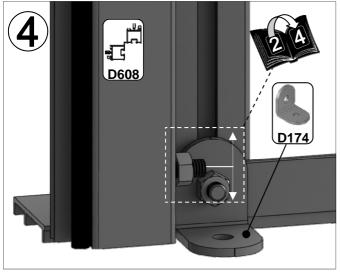


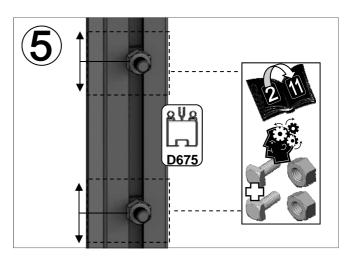


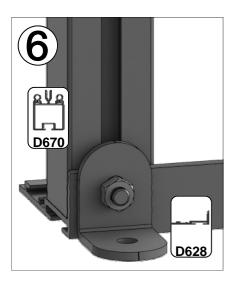


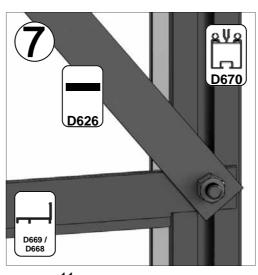










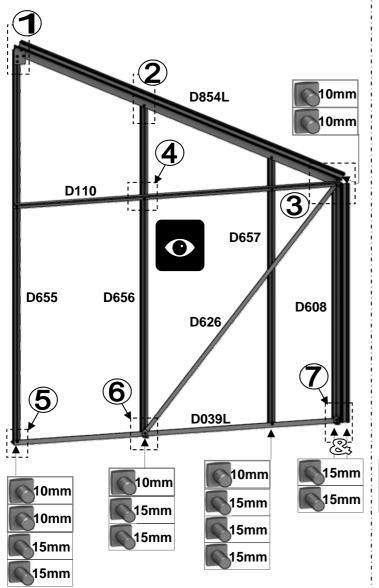


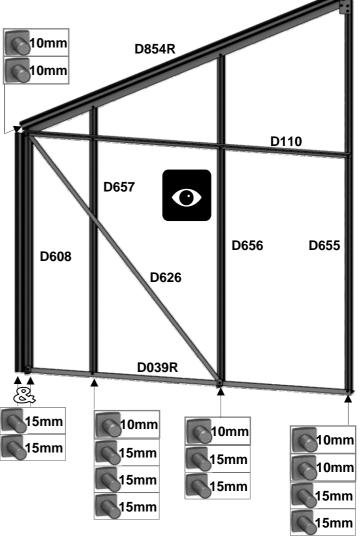


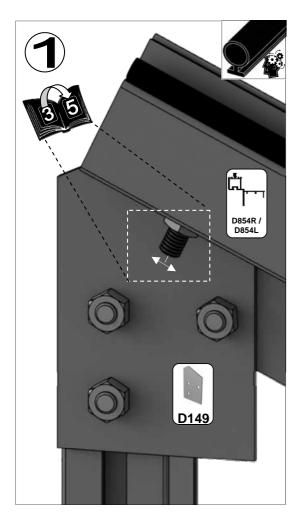
Part No	mm	Quantity	DOOR ON
D039L	1625	1	LEFT EXTERNAL
D110	1585	1	VIEW
D608	1160	1	
D626	1497	1	1
D655	1906	1	
D656	1610	1	
D657	1314	1	
D854L	1744	1	7
			· _/ /

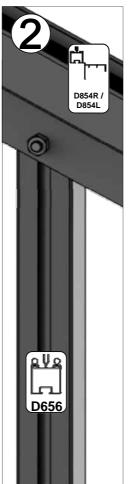
	Part No	mm	Quantity
	D149		1
	D174	3	2
	D227	Ю	14m
1	M6X10		7
1	M6X15	GPP .	11
	M6NUT		18

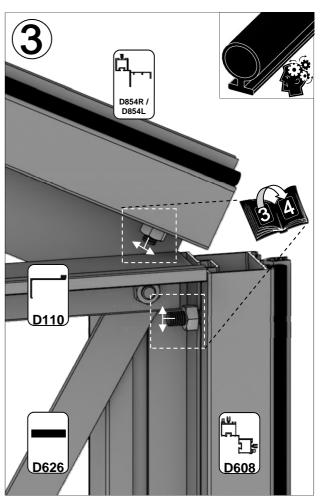
l.	DOOR ON	Part No	mm	Quantity
\rightarrow	RIGHT EXTERNAL	D039R	1625	1
	VIEW	D110	1585	1
		D608	1160	1
	1	D626	1497	1
Ų	$1 \wedge$	D655	1906	1
		D656	1610	1
1	TAMI	D657	1314	1
		D854R	1744	1

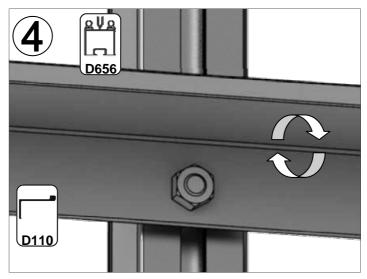




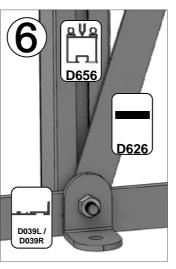


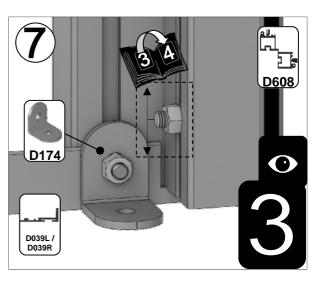


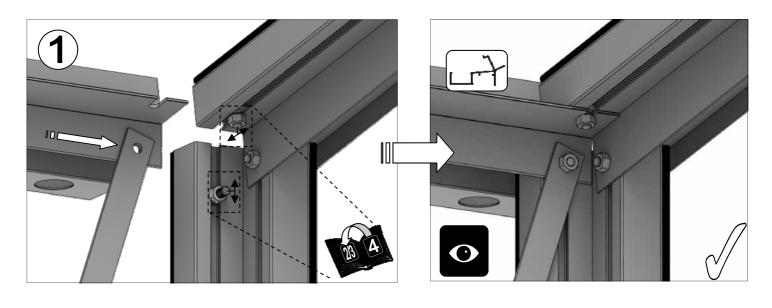


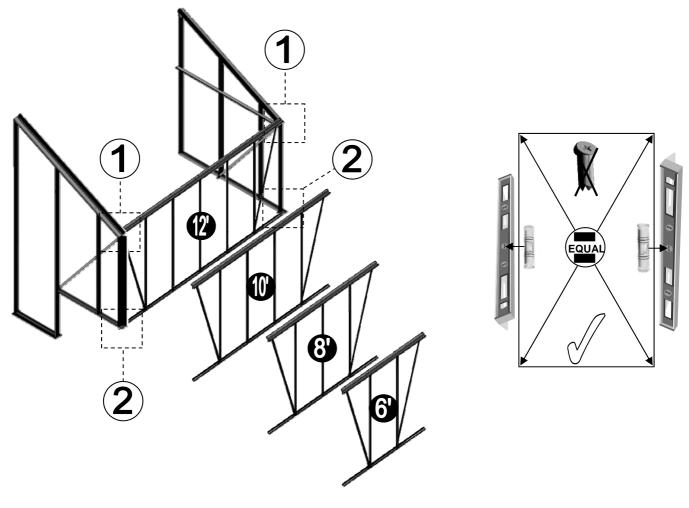


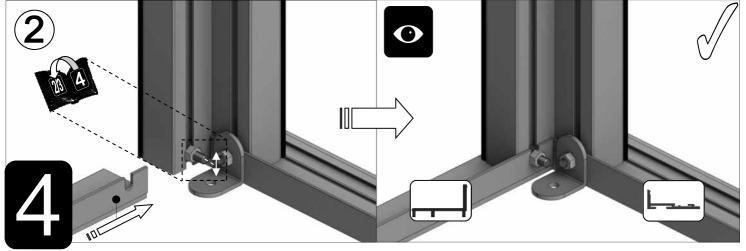










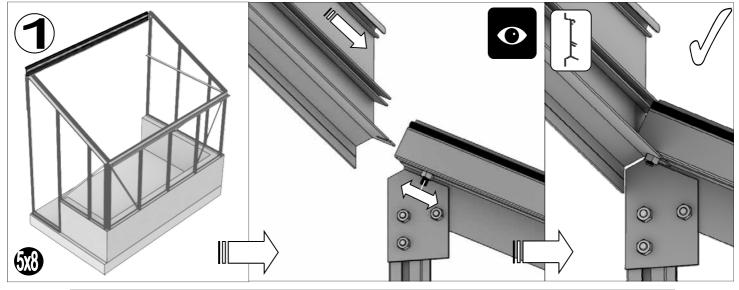


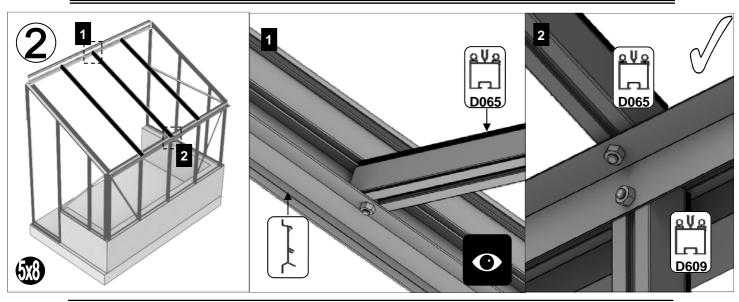
6'		4
Part No	mm	Quantity
D045	1897	1
D065	1744	2
D126	445	2
RUBBER	1000	7

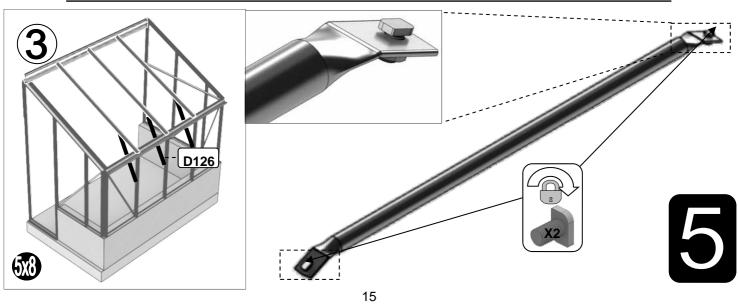
n	Quanti	
	Quanti	ity
7	1	
4	3	
5	3	
0	11	
	4	4 3 5 3

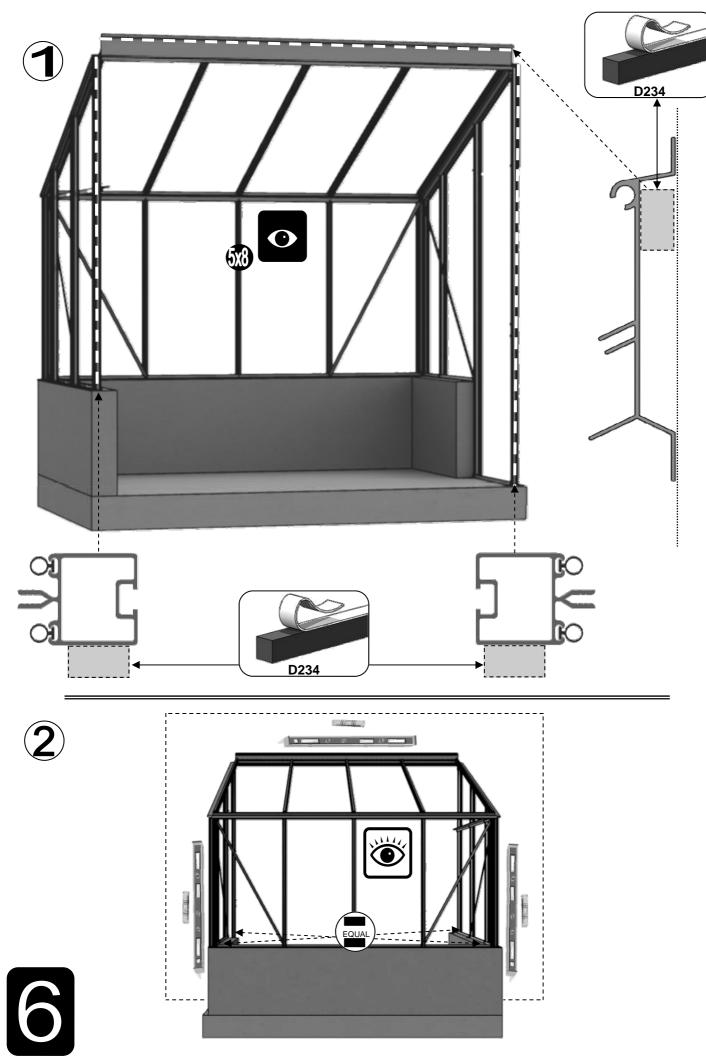
10'				8
Part No	mn	n	Qu	antity
D008	3137		1	
D065	174	4		4
D126	44	5		4
RUBBER	100	0		14
RUBBER	100	0		14

12'		10
Part No	mm	Quantity
D009	3757	1
D065	1744	5
D126	445	5
RUBBER	1000	18



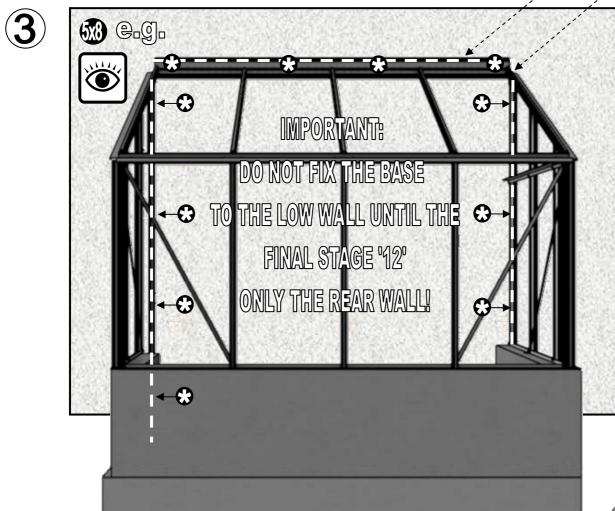


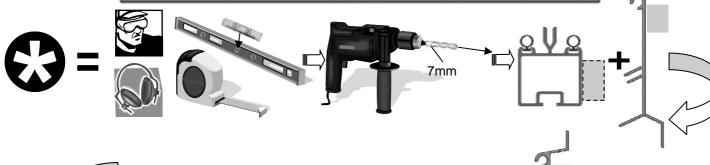


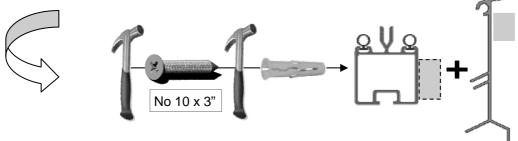


		5x6	5x8	5x10	5x12
Part No	mm		Qu	antity	
SYSCR3	75	10	11	12	13
SYRAWL	50	10	11	12	13





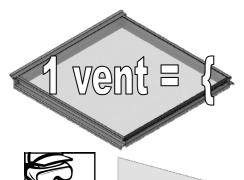




There are various methods for attaching your greenhouse frame to its wall.

- 1) Drill through the vertical wall bars with a 7mm drill/hammer drill using a 7mm masonry bit, Use 3" screws to secure the wall bars.
- 2) Drill through the vertical wall bars with a 7mm drill bit and enlarge the inner hole to 10mm. Use 2" screws to secure the wall bars hiding the screw heads inside the bars to give a neat finish.
- 3) Use L-shaped brackets and 2" screws to secure the frame to the wall similar to anchoring the green-house down (e.g. section 12).



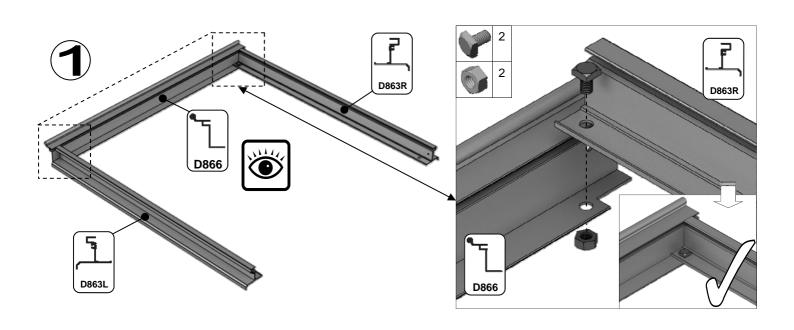


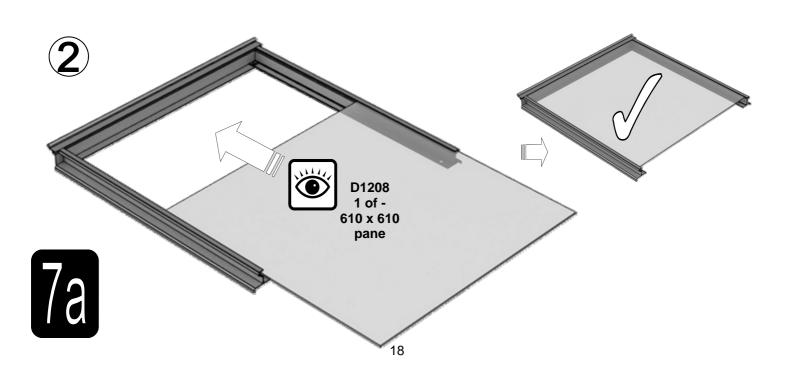


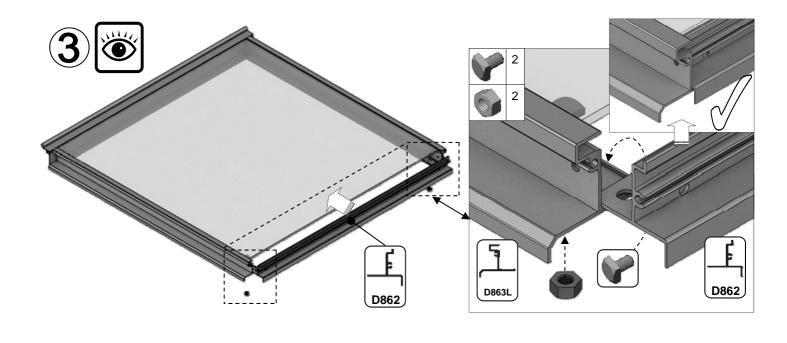
D1208 1 of -610 x 610 pane

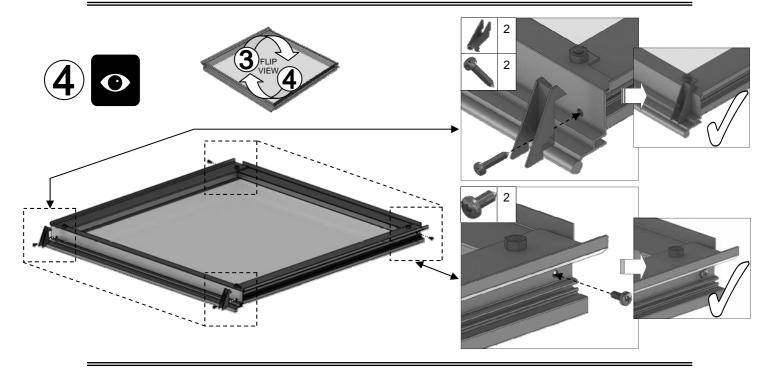
Part No		mm	Quantity
D866	,	639	1
D863L	سط	613	1
D863R	\mathbb{I}	613	1
D862	<u></u>	593	1

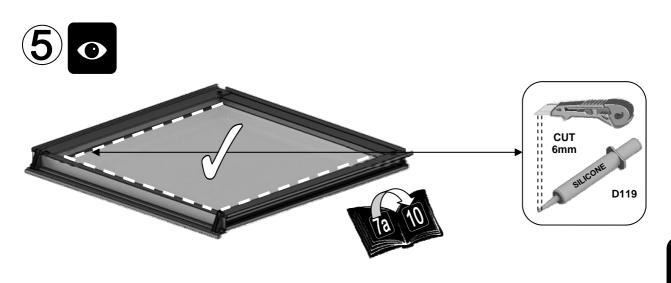
Part No		mm	Quantity
D220 PLUS FS6060 SCREW	0	N/A	2
D205	-	N/A	2
SY- BOLM6X11		10	4
SYNUTM6	6	M6	4
8 X 12 S/T FS6017	6	10	2
8 x 19 S/T FS6018		19	2







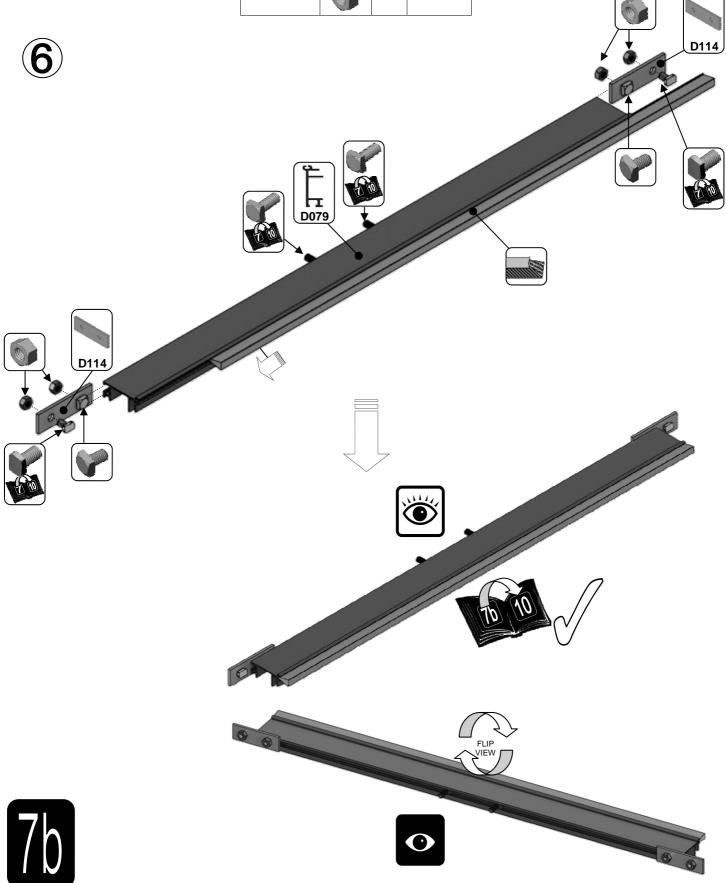


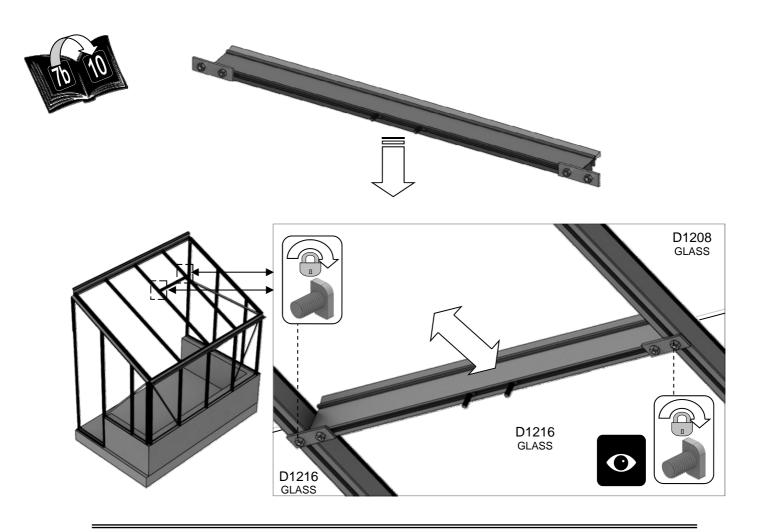


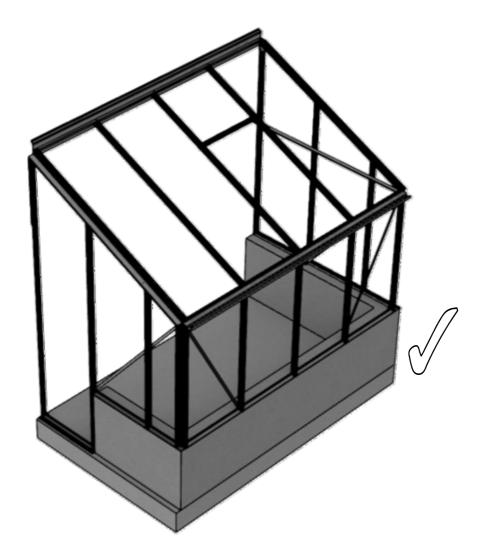


Part No		mm	Quantity
SY- BOLM6X11		10	2
SY- BOLM6X15	P	15	2
SYBOLM6 X11CROP		10	2
SYNUTM6		N/A	4

Part No		mm	Quantity
D079 PLUS FLUFF	щ	590	1
D114	00	N/A	2



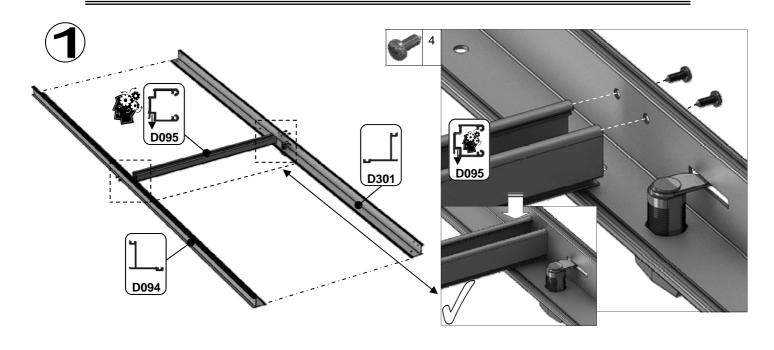


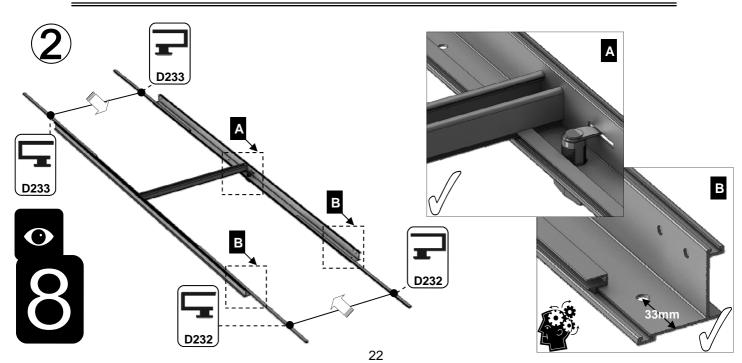


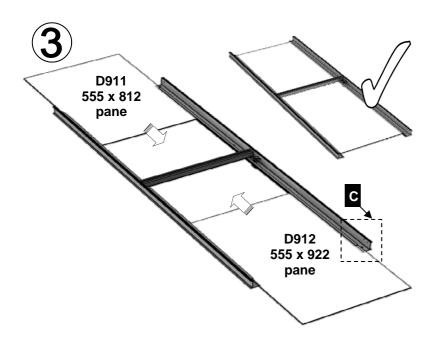


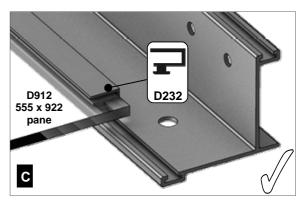
Part No		mm	Q
D090 + D347 lock = D301	1	1824	1
D094		1824	1
D096 + D217 wheel =	#	644	
D307	֓֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֓֓֓֓֓֓֜֜֜֓֓֓֓֓֓֓֓֓֓֓֓֓֜֜֓֓֓֓	611	1
D095	ټ	611	1
	سا		
D097	لي	611	1
			-

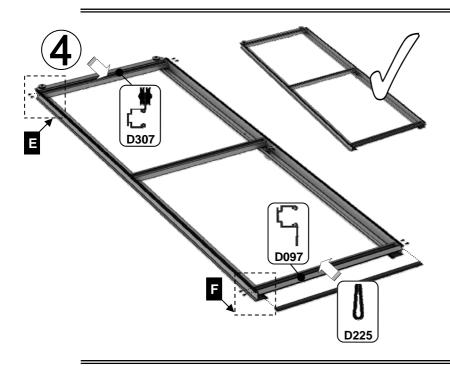
Part No		mm	Q
D232		905	2
D233		797	2
P053		N/A	1
D225	0	610	1
D840B		4000	1
D263		N/A	7
PACK		N/A	7
D260 PACK	Carrie	N/A	12

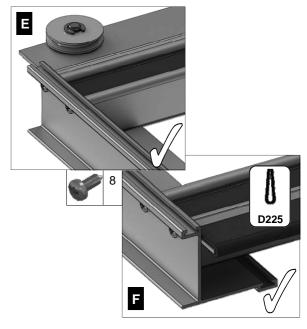


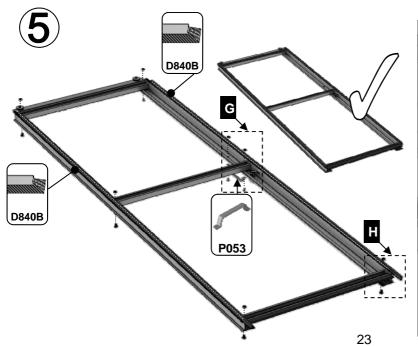


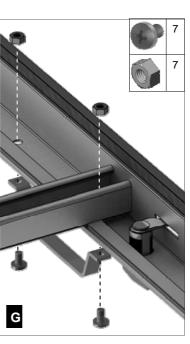




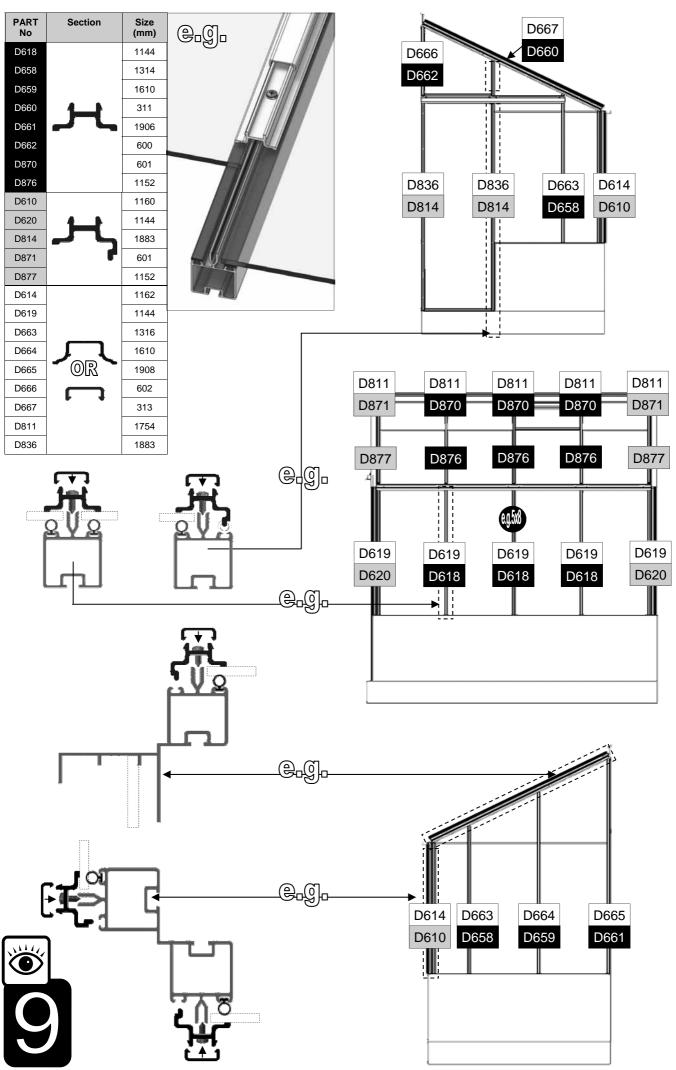


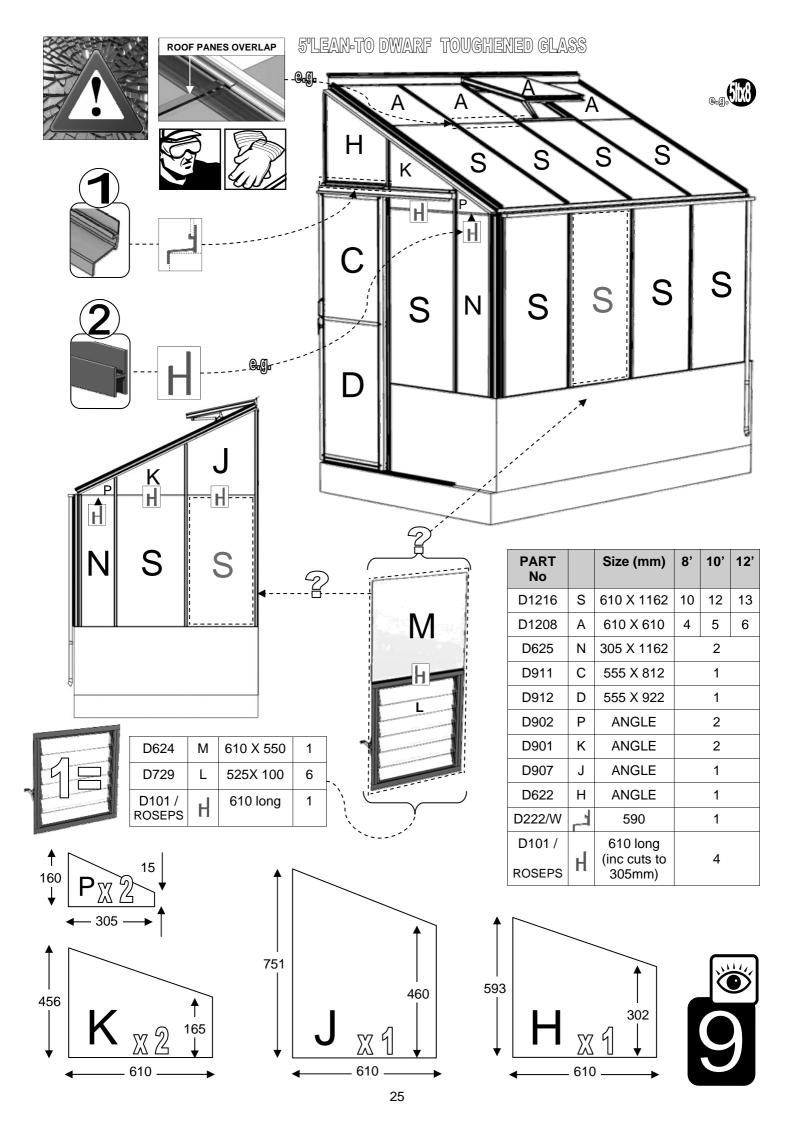


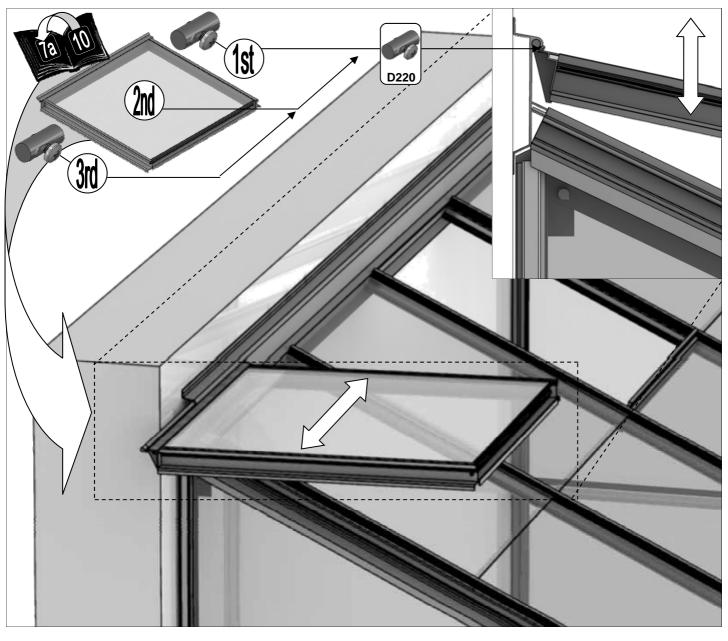


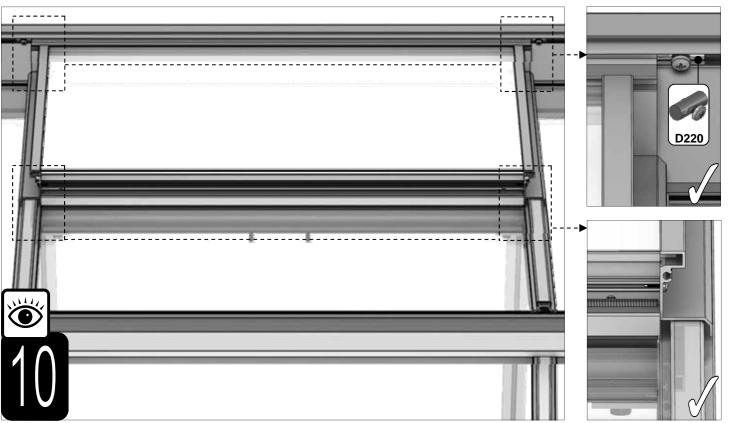


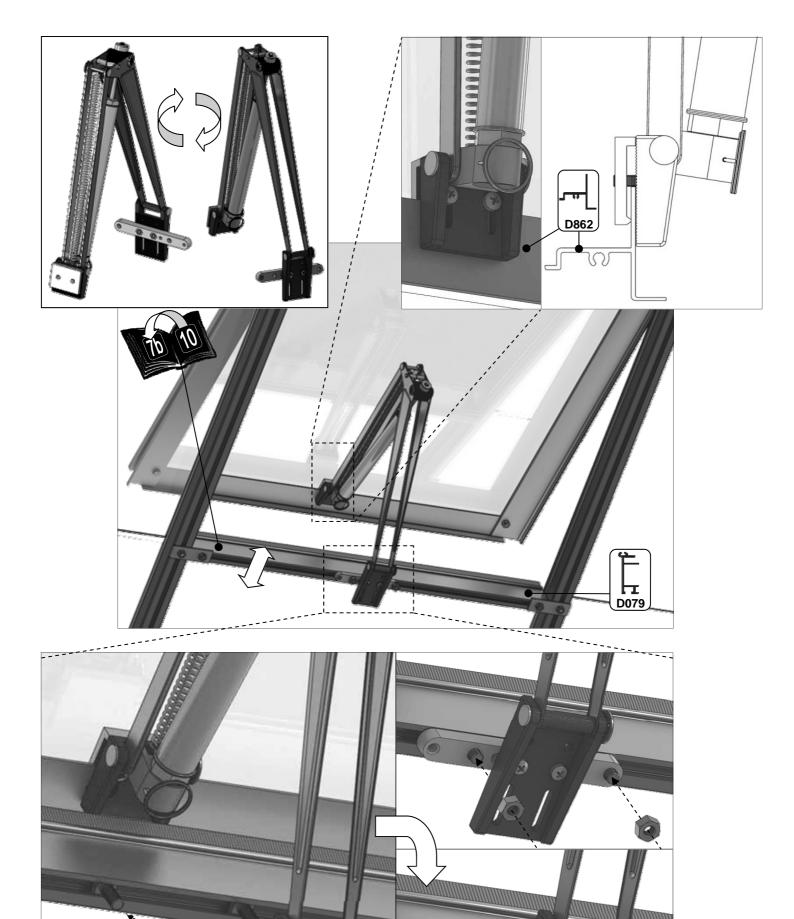








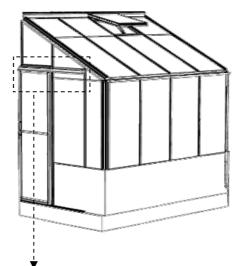


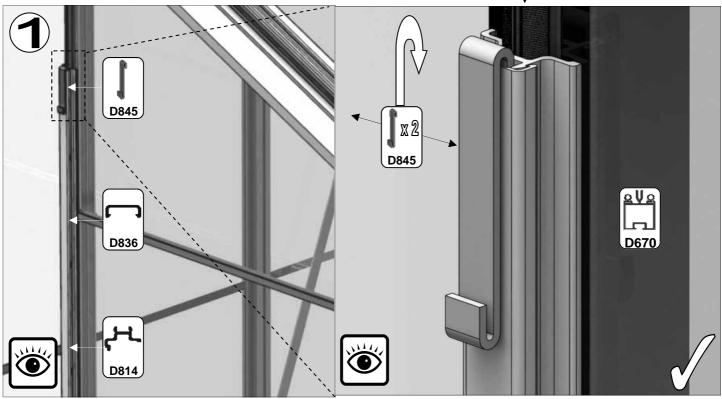


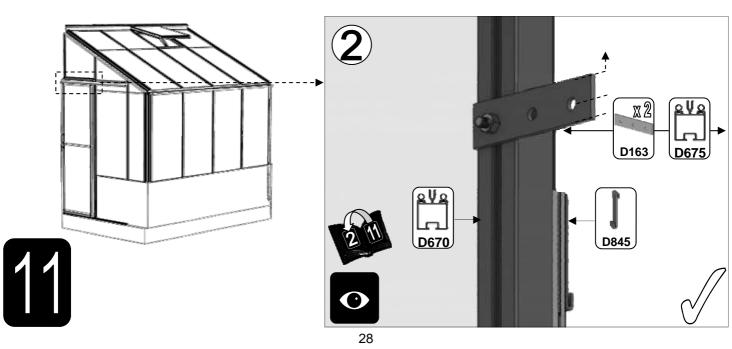


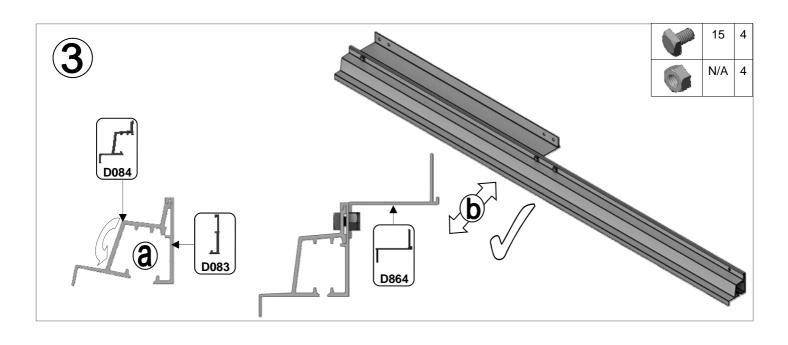
Part No		mm	Q
D864		590	1
D084	للر	1270	1
D083		1270	1

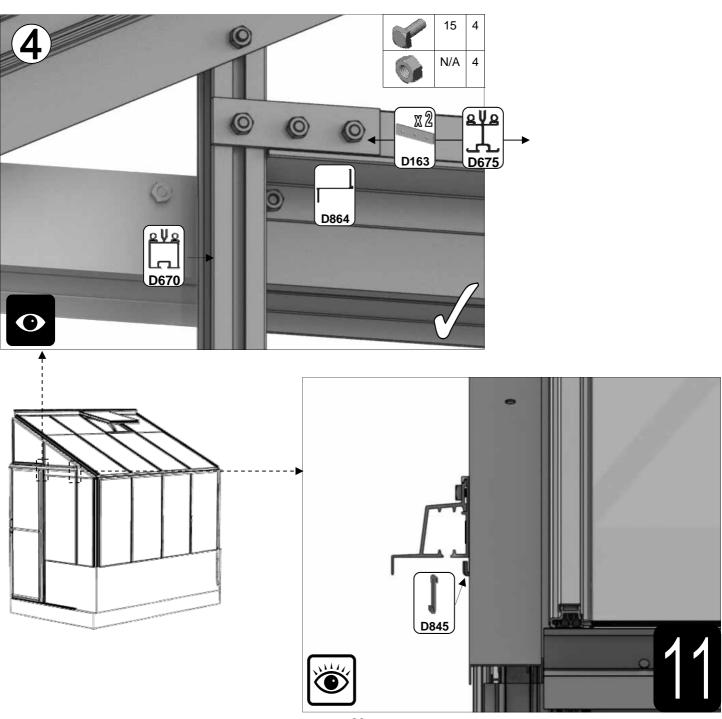
Part No		mm	Q
D163	000	90	2
D845	-		2
SY- BOLM6X15)	10
SYNUTM6			10

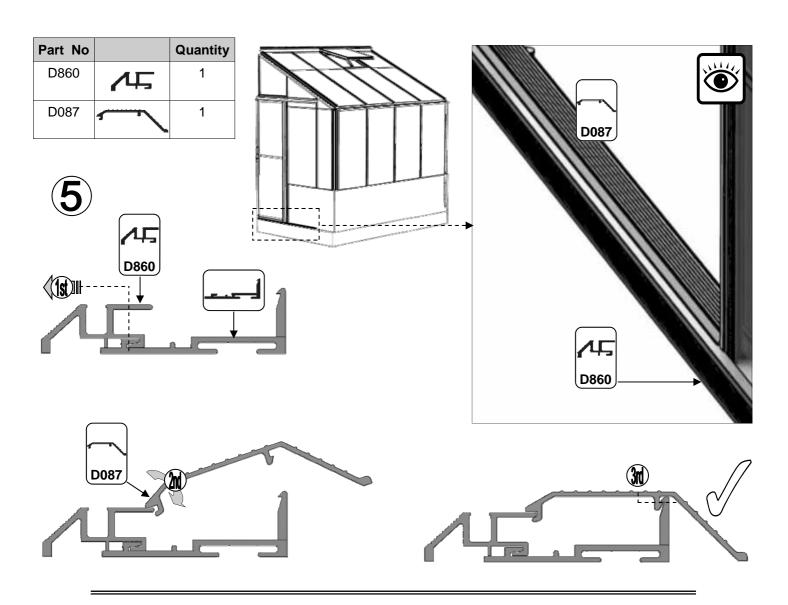


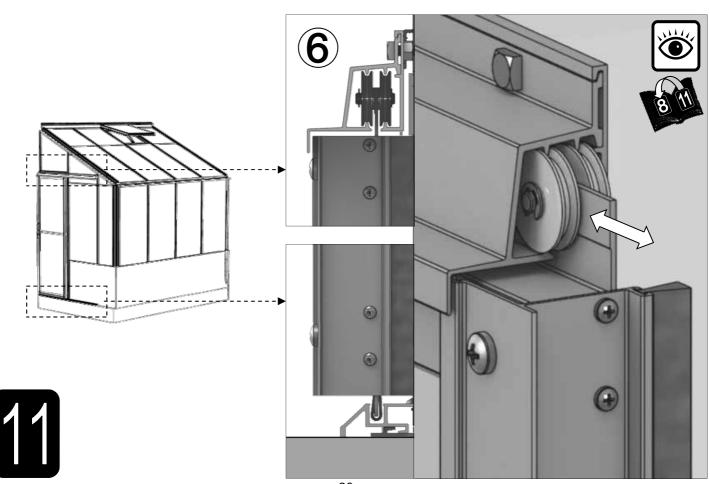


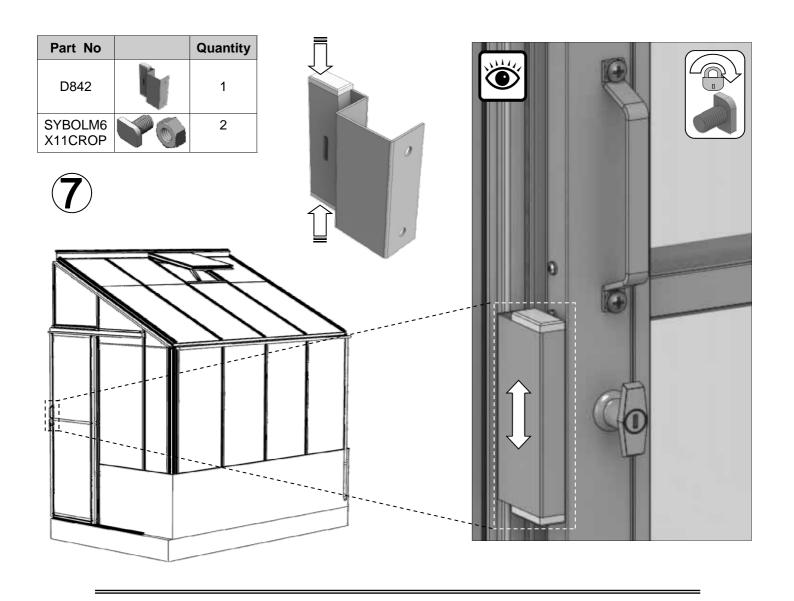


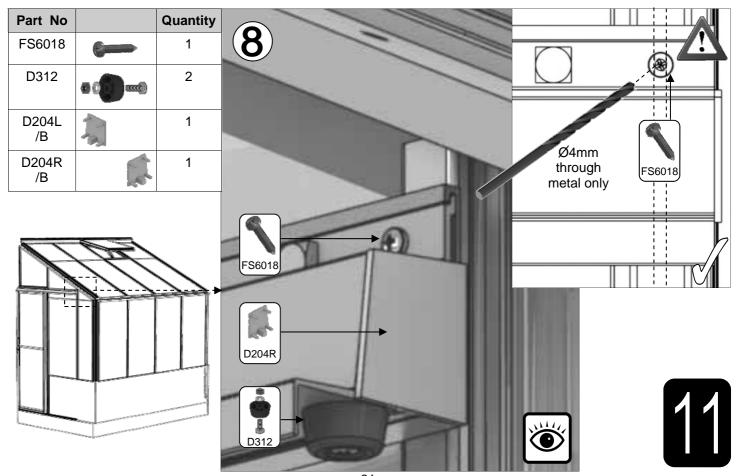




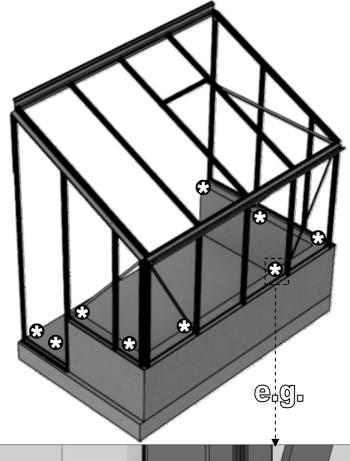


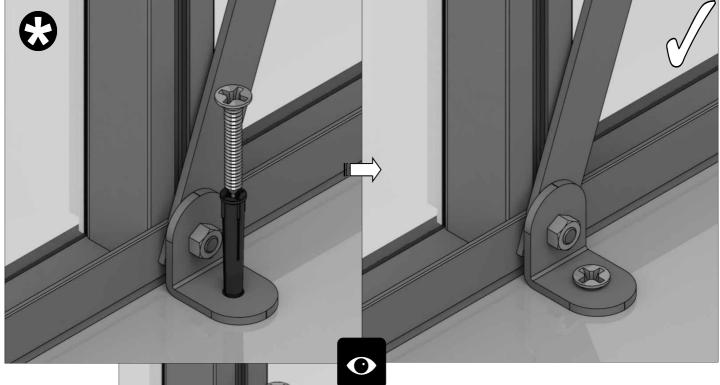




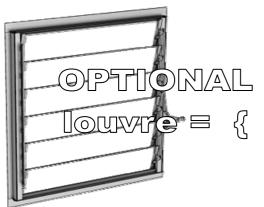






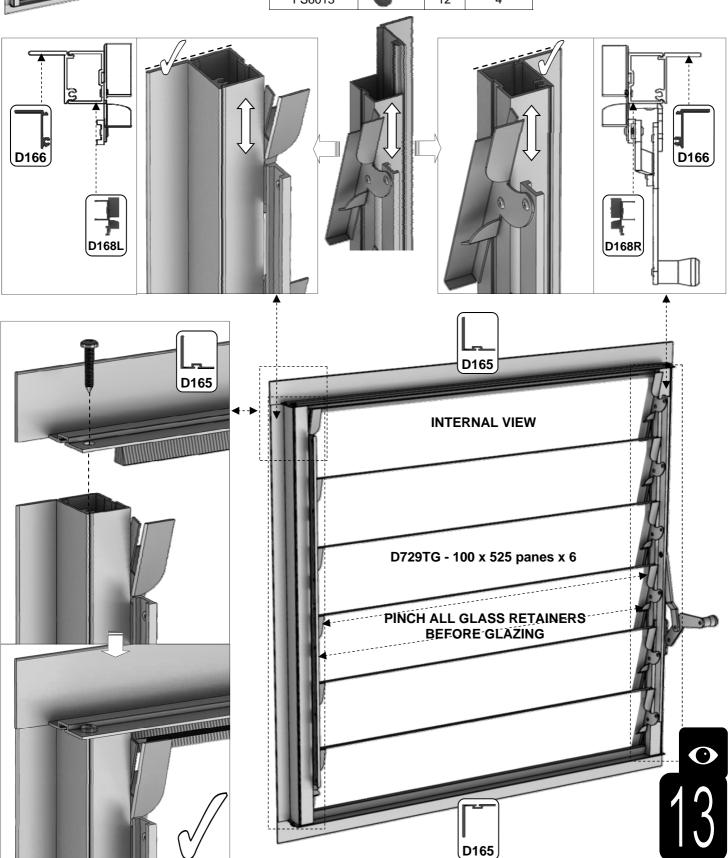


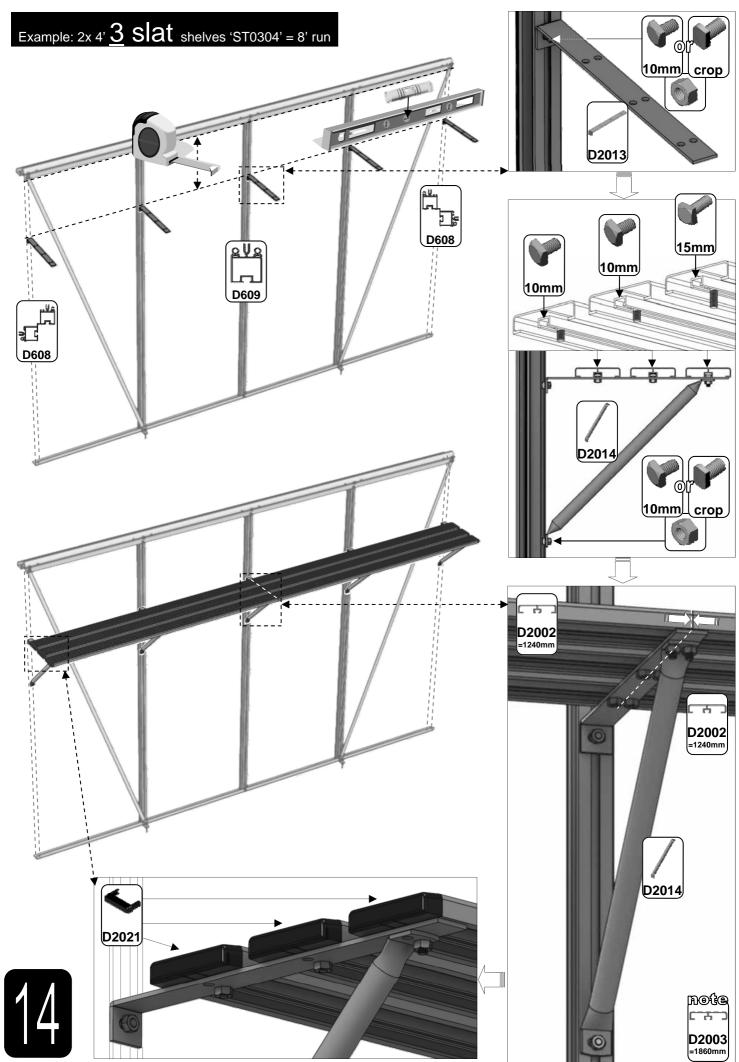


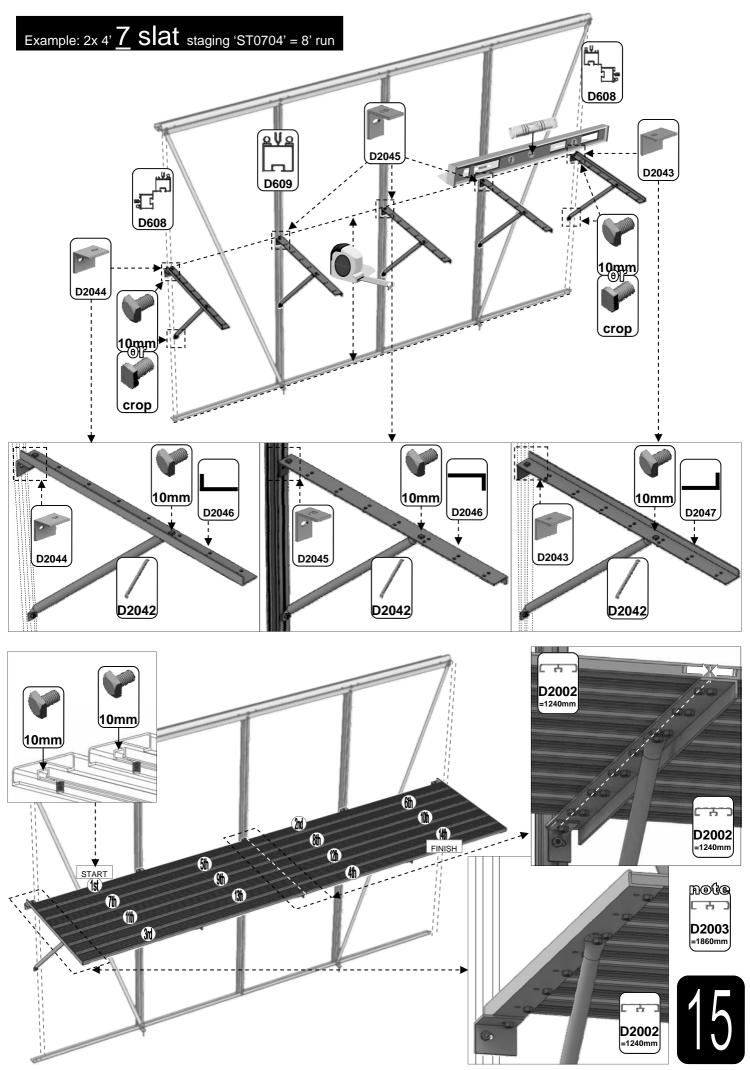


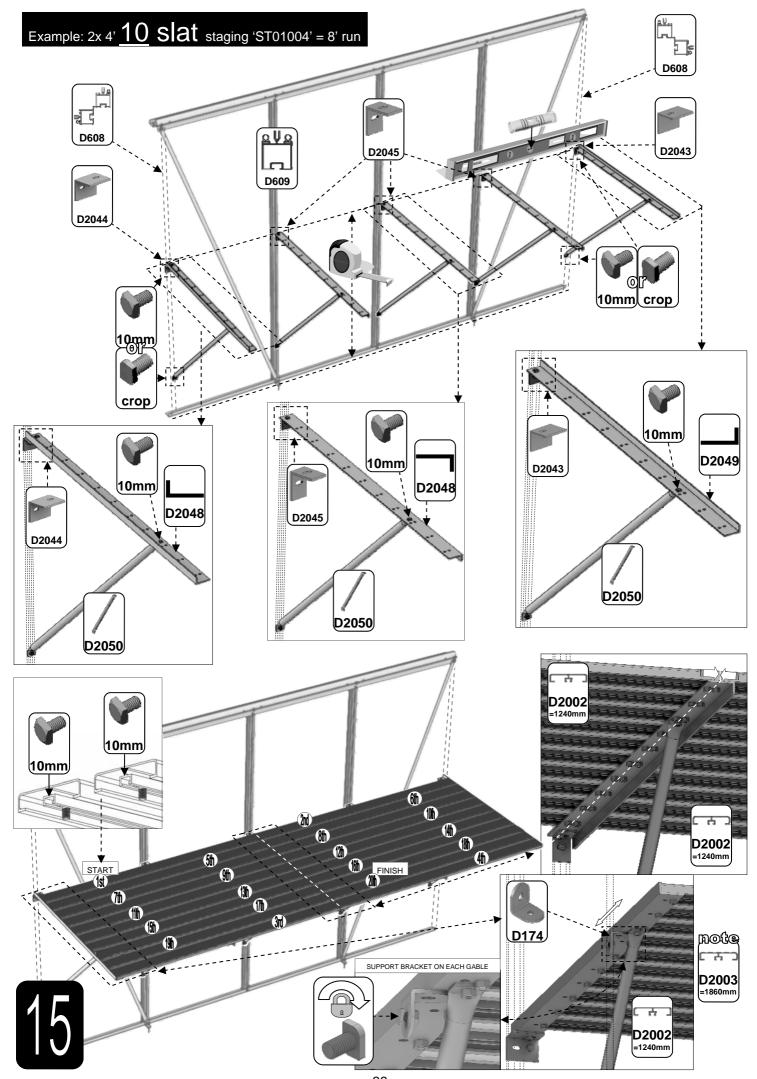
Part No		mm	Quantity
D168L		552	1
D168R (handle)	事丰	552	1
D165		612	2
D166		552	2
FS6013	6	12	4

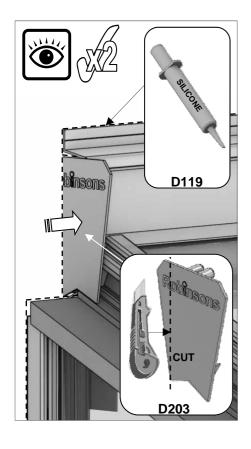


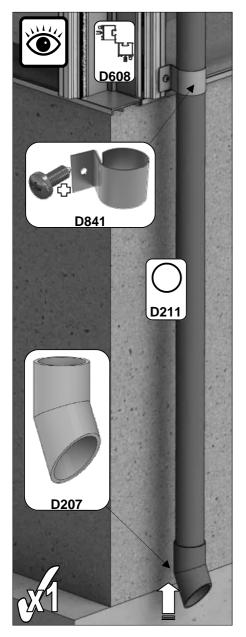


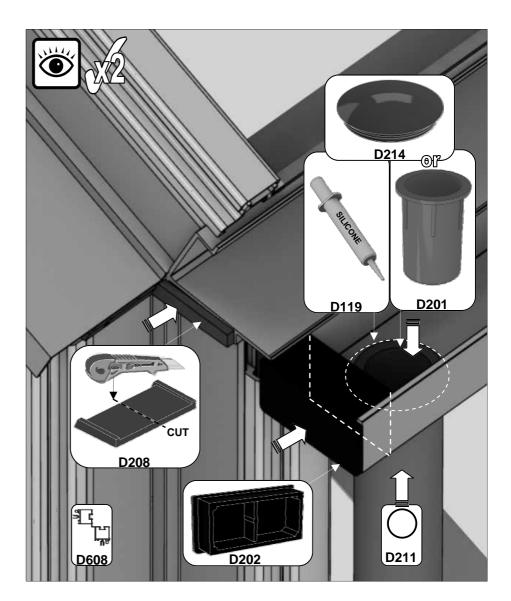


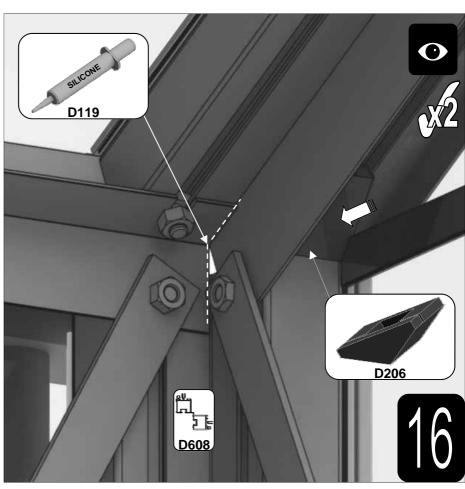


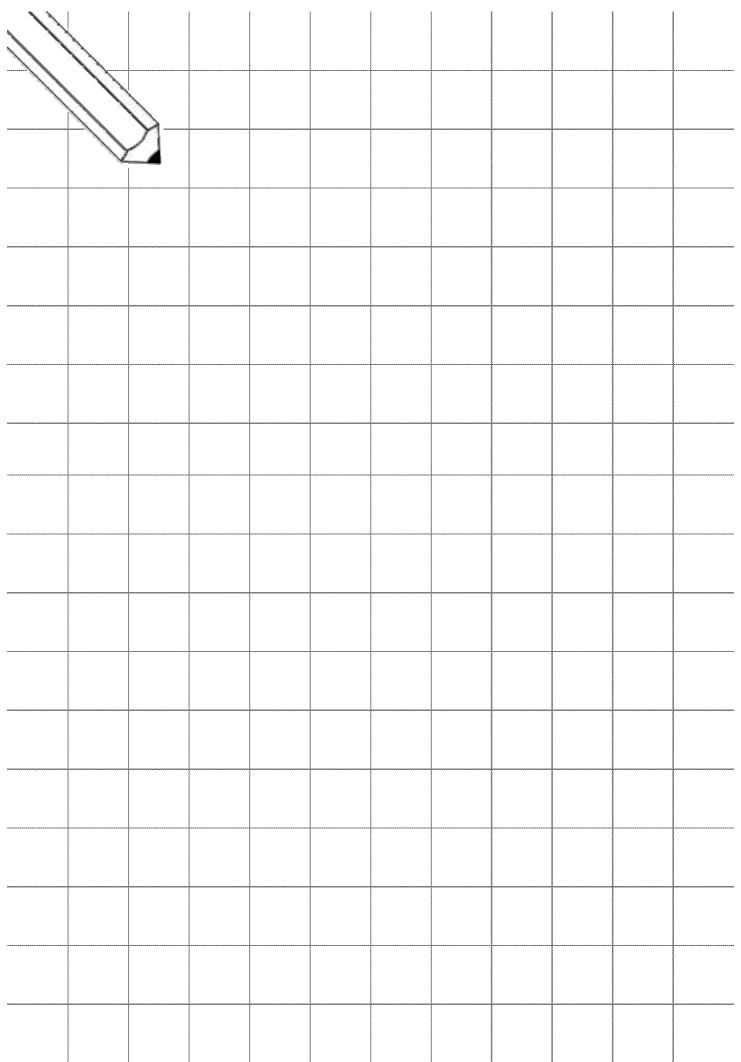


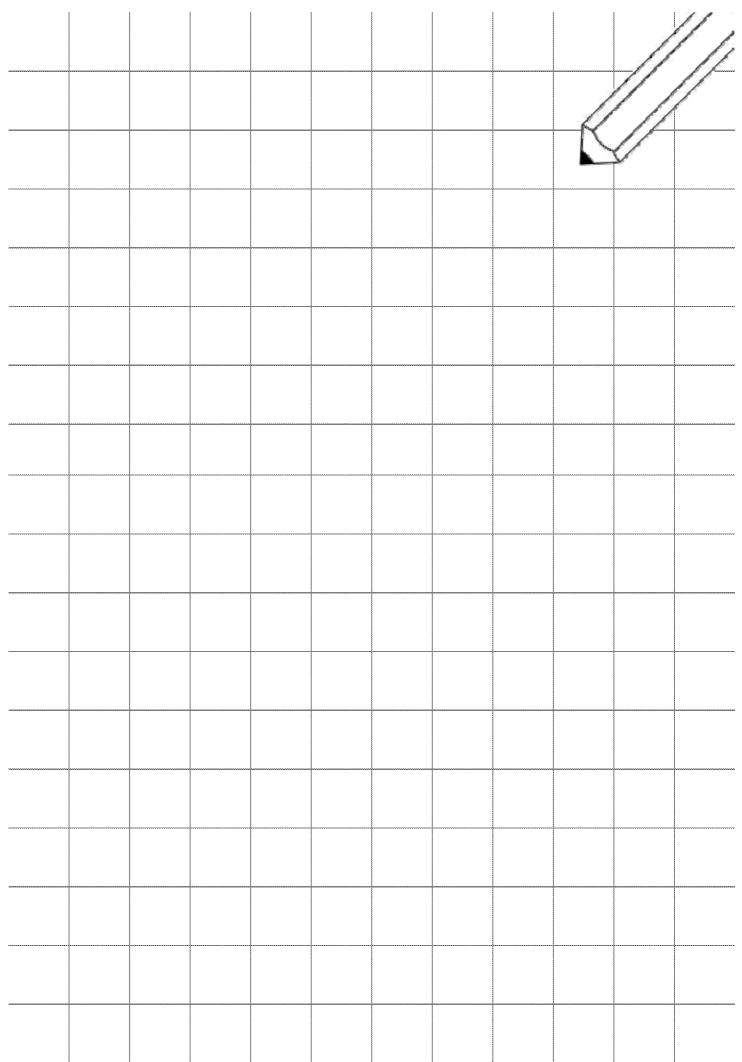












Please be aware that this is a multi-national manual, if you spot any errors or have any constructive comments regarding the manual please email james.spooner@greenhousepeople.co.uk and I will make the necessary amendments. Whilst the information contained in this booklet is accurate at the time of publication, 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.

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.

Our address is Robinsons Greenhouses, Unit 19 Blythe Park, Cresswell, Stoke-on-Trent, Staffordshire, ST11 9RD