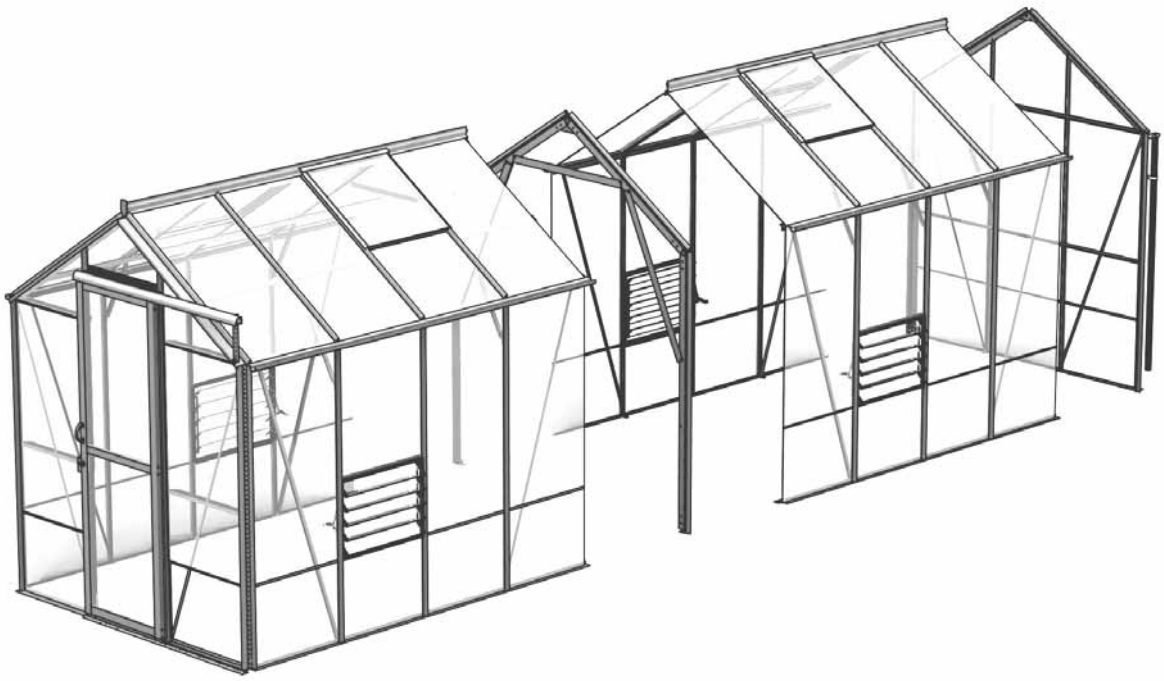
Model

HE-TRA EXT8



6 x 8 Extension

ASSEMBLY INSTRUCTIONS

TO BE USED IN CONJUNCTION WITH
6’ WIDE INSTRUCTUIONS

ISSUE 1

Dear Customer,

Thank you for ordering your new HERCULES II greenhouse extension from us. We hope you find these instructions along with each member of 'The Greenhouse People' team helpful and informative.

Please read all information before you begin and take care to read all instructions it will save you a lot of **time** and **frustration** later on. This instruction manual is also available online at www.greenhousepeople.co.uk in our technical help section where you can zoom in on all the pictures and text and reprint a copy if your manual gets left out in the rain.

If you want any more advice, you can always give us a ring on 01782 388811.

Once again, thank you for your order and all the very best with your greenhouse.

Yours sincerely,

The Greenhouse People
www.greenhousepeople.co.uk

P.S. Please do send us a photograph of your finished greenhouse. We're always interested to see how you've gone on. Send to: Richard@thegreenhousepeople.co.uk

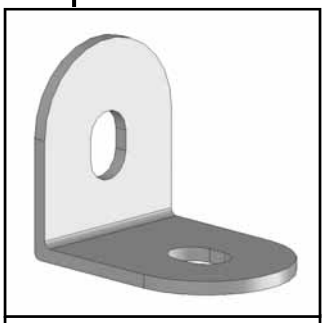
CONTENTS

Page	
4 - 5	COMPONENTS AND FITTINGS
6	INCH — MM CONVERSION CHART
7 - 9	BASE PREPARATION
10	SAFETY
11	GENERAL ADVICE
12 - 15	SIDE ASSEMBLY
16 - 23	MAIN BUILDING WITH EXTENSION ASSEMBLY

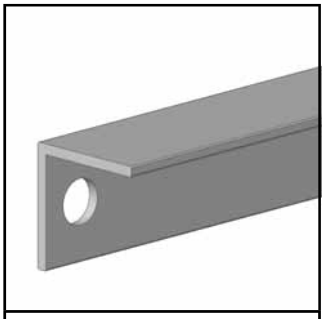
NOTE: ALL DIAGRAMS ARE CODED. IF THE DIAGRAM IS VIEWED FROM THE OUTSIDE THE ALPHABETICAL REFERENCE BOX IS BLACK WITH WHITE LETTERING: ■

IF THE DIAGRAM IS VIEWED FROM THE INSIDE THEN THE REFERENCE BOX IS CLEAR WITH BLACK LETTERING: □

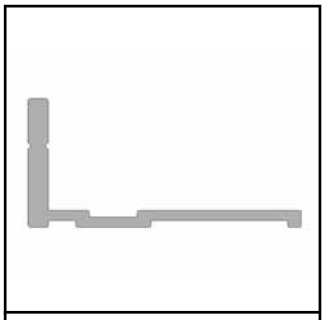
COMPONENTS & FITTINGS



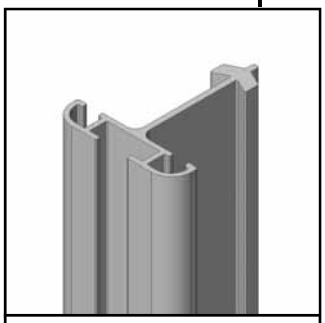
Base Bracket - 300



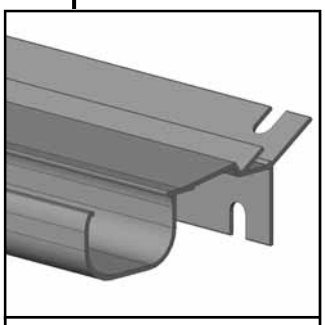
Bracing, Diagonal - 303



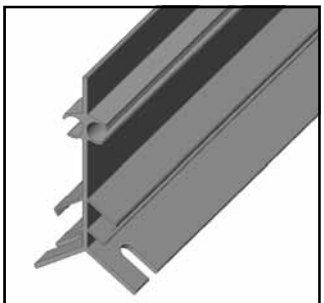
Cill, Side - 350,351,352,353 & 354



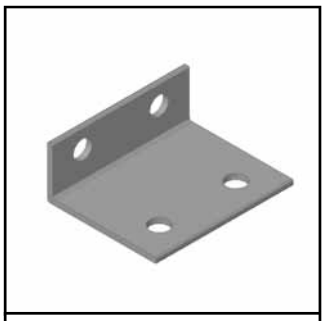
Glazing Bar, Roof & Side - 444 & 447



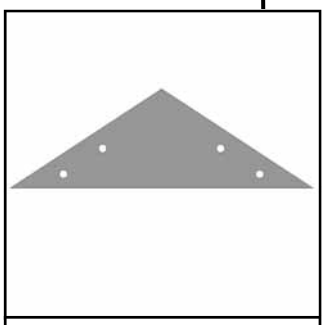
Gutter - 461, 462, 463 & 464



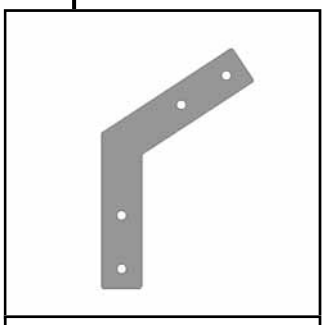
Ridge - 481, 482, 483 & 484



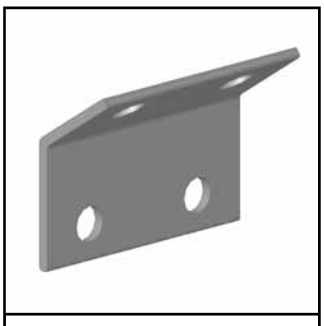
Cill Extension Bracket - 490



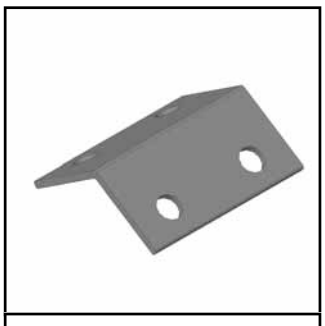
Ridge Extension Bracket - 491



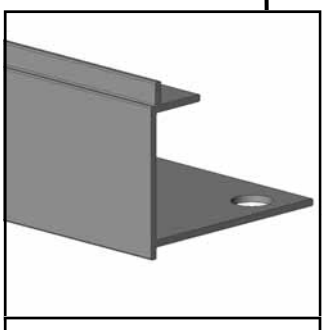
Eaves Extension Plate - 492



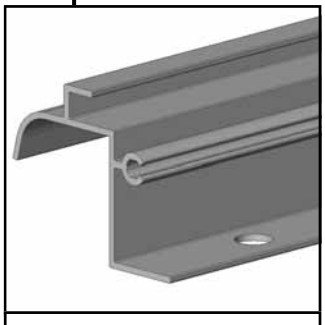
Gutter Extension Bracket - 493



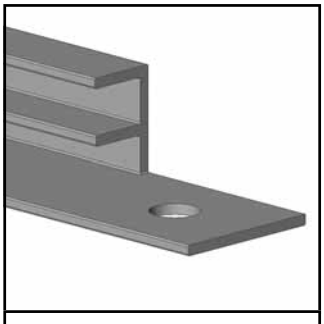
Ridge Extension Plate - 494



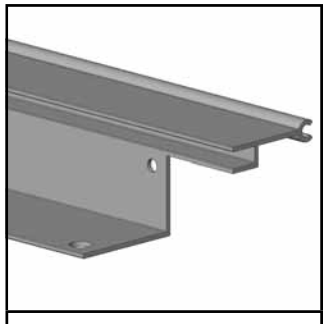
Vent Bottom - 540



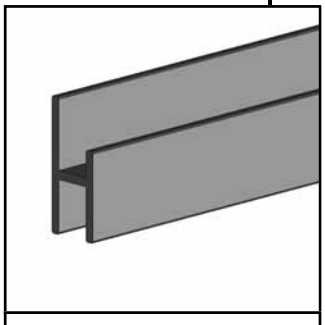
Vent Side - 541



Vent Slam Bar - 542

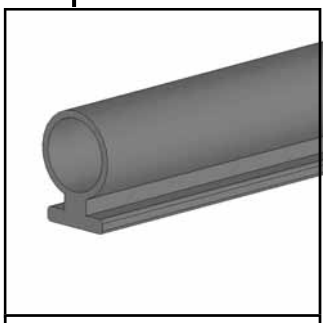


Vent Top - 543

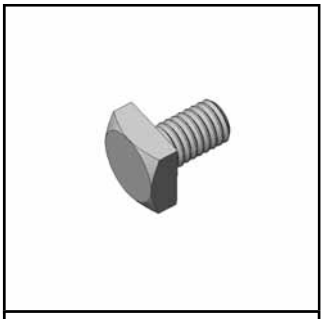


Glazing Separator - 559 [Plastic]

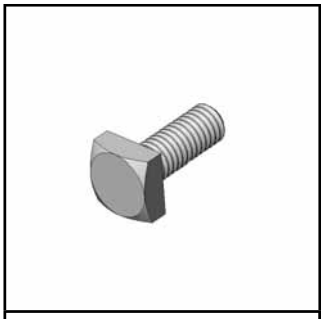
COMPONENTS & FITTINGS



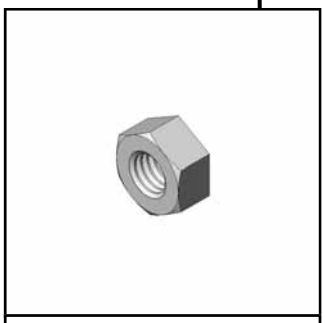
Glazing Rubber - 570



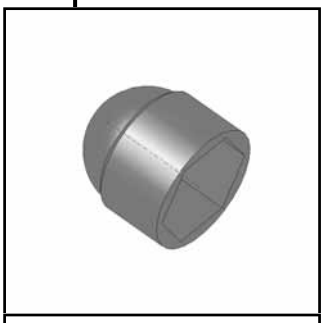
Bolt, Square Head, M6
10mm - 576



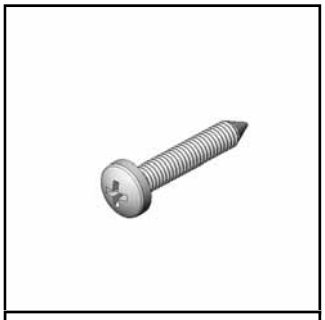
Bolt, Square Head, M6
15mm - 588



Nut, M4 - 578
Nut, M6 - 579

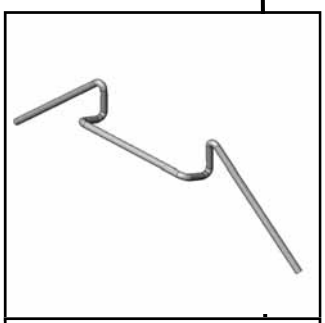


Nut Cap, M6 - 580
[Plastic]

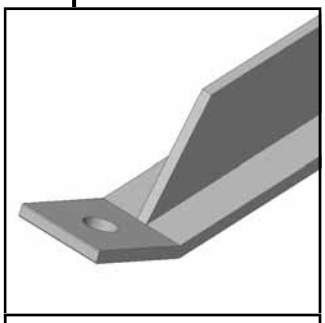


Screw, Self Tapping,
M4.2 19mm - 583

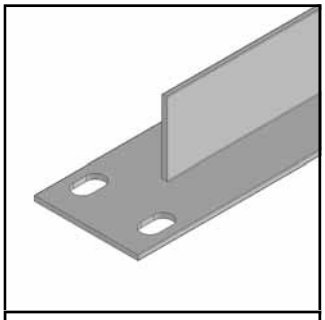
Screw, Countersunk, M4
10mm - 587



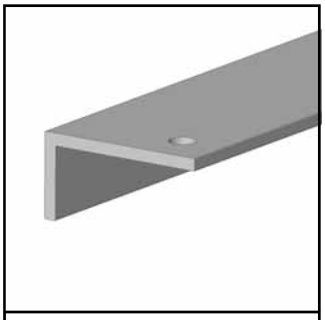
Glazing 'W' Clip - 577



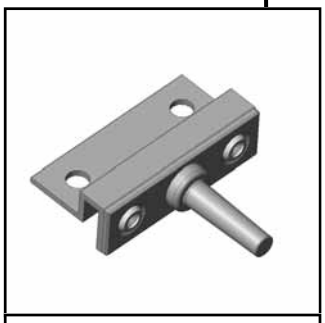
Cantilever, Ridge - 600
Cantilever, Eaves - 601



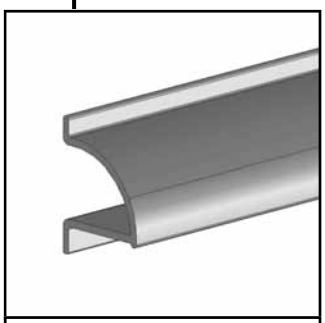
Hanging Basket
Bar - 691



Bracing - 694, 695, 696
& 697



Vent Peg - 709



Push-in
Capping - 821-824
[Plastic]

USE MEASUREMENTS TO HELP YOU IDENTIFY PARTS

INCH — MM CONVERSION CHART

Inch	mm
1	25.4
2	50.8
3	76.2
4	101.6
5	127
6	152.4
7	177.8
8	203.2
9	228.6
10	254
11	279.4
1'	304.8
1'1	330.2
1'2	355.6
1'3	381
1'4	406.4
1'5	431.8
1'6	457.2
1'7	482.6
1'8	508
1'9	533.4
1'10	558.8
1'11	584.2

Inch	mm
2'	609.6
2'1	635
2'2	660.4
2'3	685.8
2'4	711.2
2'5	736.6
2'6	762
2'7	787.4
2'8	812.8
2'9	838.2
2'10	863.6
2'11	889
3'	914.4
3'1	939.8
3'2	965.2
3'3	990.6
3'4	1016
3'5	1041.4
3'6	1066.8
3'7	1092.2
3'8	1117.6
3'9	1143
3'10	1168.4
3'11	1193.8

Inch	mm
4'	1219.2
4'1	1244.6
4'2	1270
4'3	1295.4
4'4	1320.8
4'5	1346.2
4'6	1371.6
4'7	1397
4'8	1422.4
4'9	1447.8
4'10	1473.2
4'11	1498.6
5'	1524
5'1	1549.4
5'2	1574.8
5'3	1600.2
5'4	1625.6
5'5	1651
5'6	1676.4
5'7	1701.8
5'8	1727.2
5'9	1752.6
5'10	1778
5'11	1803.4

Inch	mm
6'	1828.8
6'1	1854.2
6'2	1879.6
6'3	1905
6'4	1930.4
6'5	1955.8
6'6	1981.2
6'7	2006.6
6'8	2032
6'9	2057.4
6'10	2082.8
6'11	2108.2
7'	2133.6
7'1	2159
7'2	2184.4
7'3	2209.8
7'4	2235.2
7'5	2260.6
7'6	2286
7'7	2311.4
7'8	2336.8
7'9	2362.2
7'10	2387.6
7'11	2413

Inch	mm
8'	2438.4
8'1	2463.8
8'2	2489.2
8'3	2514.6
8'4	2540
8'5	2565.4
8'6	2590.8
8'7	2616.2
8'8	2641.6
8'9	2667
8'10	2692.4
8'11	2717.8
9'	2743.2
9'1	2768.6
9'2	2794
9'3	2819.4
9'4	2844.8
9'5	2870.2
9'6	2895.6
9'7	2921
9'8	2946.4
9'9	2971.8
9'10	2997.2
9'11	3022.6

Inch	mm
10'	3048
10'1	3073.4
10'2	3098.8
10'3	3124.2
10'4	3149.6
10'5	3175
10'6	3200.4
10'7	3225.8
10'8	3251.2
10'9	3276.6
10'10	3302
10'11	3327.4
11'	3352.8
11'1	3378.2
11'2	3403.6
11'3	3429
11'4	3454.4
11'5	3479.8
11'6	3505.2
11'7	3530.6
11'8	3556
11'9	3581.4
11'10	3606.8
11'11	3632.2

Inch	mm
12'	3657.6
12'1	3683
12'2	3708.4
12'3	3733.8
12'4	3759.2
12'5	3784.6
12'6	3810
12'7	3835.4
12'8	3860.8
12'9	3886.2
12'10	3911.6
12'11	3937
13'	3962.4
13'1	3987.8
13'2	4013.2
13'3	4038.6
13'4	4064
13'5	4089.4
13'6	4114.8
13'7	4140.2
13'8	4165.6
13'9	4191
13'10	4216.4
13'11	4241.8

Inch	mm
14'	4267.2
14'1	4292.6
14'2	4318
14'3	4343.4
14'4	4368.8
14'5	4394.2
14'6	4419.6
14'7	4445
14'8	4470.4
14'9	4495.8
14'10	4521.2
14'11	4546.6

Inch	mm
15'	4572
15'1	4597.4
15'2	4622.8
15'3	4648.2
15'4	4673.6
15'5	4699
15'6	4724.4
15'7	4749.8
15'8	4775.2
15'9	4800.6
15'10	4826
15'11	4851.4

Inch	mm
16'	4876.8
16'1	4902.2
16'2	4927.6
16'3	4953
16'4	4978.4
16'5	5003.8
16'6	5029.2
16'7	5054.6
16'8	5080
16'9	5105.4
16'10	5130.8
16'11	5156.2

Inch	mm
17'	5181.6
17'1	5207
17'2	5232.4
17'3	5257.8
17'4	5283.2
17'5	5308.6
17'6	5334
17'7	5359.4
17'8	5384.8
17'9	5410.2
17'10	5435.6
17'11	5461

Inch	mm
18'	5486.4
18'1	5511.8
18'2	5537.2
18'3	5562.6
18'4	5588
18'5	5613.4
18'6	5638.8
18'7	5664.2
18'8	5689.6
18'9	5715
18'10	5740.4
18'11	5765.8

Inch	mm
19'	5791.2
19'1	5816.6
19'2	5842
19'3	5867.4
19'4	5892.8
19'5	5918.2
19'6	5943.6
19'7	5969
19'8	5994.4
19'9	6019.8
19'10	6045.2
19'11	6070.6
20'	6096

Inch	mm
0.25"	6.35
0.5"	12.7
0.75"	19.05
1"	25.4

BASE PREPARATION

You have quite a choice in terms of the style of base that you can prepare. The most important objective is that it is level. The different styles of bases that we recommend are as follows:

Note: Your greenhouse size is only nominal, for example a 6 X 8 greenhouse is not exactly 6' by 8'! It will actually be a few inches bigger. So be careful when building your base as mistakes on the size of your base are difficult to correct later. Also we don't recommend building your greenhouse directly onto soil.

1. **Slabs (our preferred method) -** Level paving slabs are ideal for a greenhouse base. Make sure the area of slabs is either the same size or larger than the footprint of the greenhouse. Slabs are also good for drainage because of the joints between them. If you put a polythene sheet or similar barriers underneath, this could prevent drainage. (See page 9 for a quick guide to laying slabs).

   You can also lay your slabs out as a perimeter around the edge of the building with a path up the middle if you want to grow directly from the soil.

2. **Concrete Plinth -** This is a simple footing around the edge of the greenhouse. You can do this by digging a small trench about 4-6" deep by 6" wide. As with all bases ensure that it is level along the length as well as side to side. If you don't have a long level then you could use a long bar or straight piece of wood under your level to get a more accurate reading. This is probably the cheapest and easiest base to build which enables you to have soil inside so that you can grow straight from the ground.

3. **Solid Concrete -** This type of base is good from a structural point of view as you can get good fixings. The disadvantage is that you will have drainage issues. As there are no gaps or holes in the concrete the water from outside and from watering inside could just puddle.

   Ways of increasing drainage are: When laying the concrete you could lay Aco drive drains to take surface water away or if the concrete is already laid you could simply drill through the concrete and create soakaways. (Don't use an impermeable membrane).

4. **Brick Base -** This is the traditional greenhouse base. It is usually 1 or 2 courses high but can be higher if required. This is a much more costly and difficult base to install. This is because you need to make a concrete footing first, then you need to lay the courses of bricks to the millimetre so that they fit the cill of the greenhouse perfectly.

   However it does have an advantage, the cill overlaps the brick edge minimising water flow under the cill, which is important if you need to control the humidity and are using a de-humidifier etc.

   Important: Always use a completely solid engineering brick for the top layer with no holes or frogs (such as Staffordshire Blue). This is because you'll need to anchor your greenhouse down by drilling and screwing into the bricks and if they have holes in then this is extremely difficult. If you are doing more than one course then you can use bricks with holes or frogs lower down where it will not matter.

   See page 8 for external dimensions.

Two different styles of base that we don't recommend:

1. **Block Paving -** This is not an ideal base for a greenhouse. This is because when you screw your greenhouse down you will only be screwing into loose blocks, which will not be a strong enough fixing.
2. **Tarmac -** Again not ideal because of the anchoring problems, and it is much harder to get a level surface. However if you do want to put your greenhouse on tarmac, then the way to anchor it will be as on soil. You can dig out spade width holes where each base bracket will situate and fill these with concrete, let it set, then when your greenhouse is in position you can screw into the concrete.

BASE PREPARATION

BRICK BASE

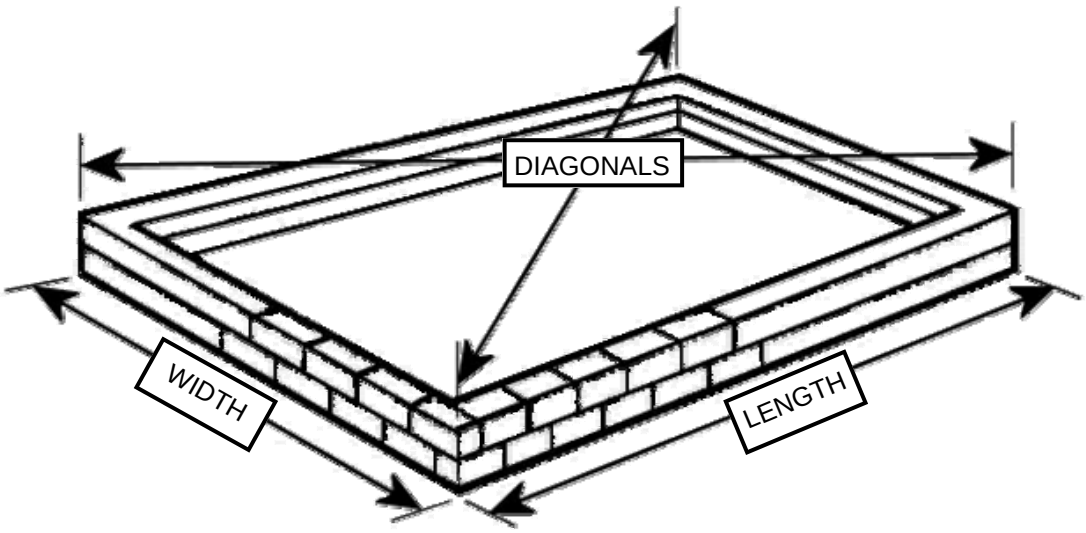
The following table gives the external dimensions for a brick base. Look for your building size in the left hand column and read across for the width and length.

The dimensions allow the lips of the cills to overhang. This helps prevent water running back into the greenhouse.

When building your base make sure the diagonal measurements are equal.

Size	Width	Length
	mm	mm
6 X 6	1955	1994
6 X 8	1955	2614
6 X 10	1955	3234
6 X 12	1955	3854
6 X 14	1955	4474
6 X 16	1955	5094
6 X 18	1955	5714
6 X 20	1955	6334
6 X 22	1955	6954
6 X 24	1955	7574
6 X 26	1955	8194
6 X 28	1955	8814
6 X 30	1955	9434

(For buildings larger than 30 foot long just add 620mm for every 2 foot increase)



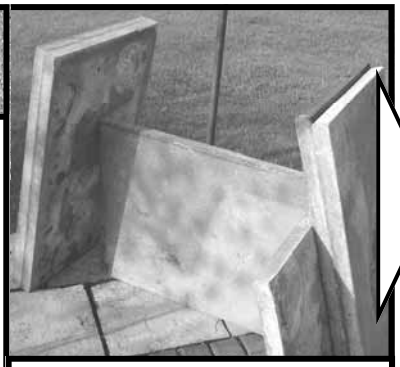
BASE PREPARATION

A quick guide to laying down slabs suitable for any garden structure.

Please read ALL before you begin.

1

We recommend that you lay paving slabs onto a dry mixture of sharp sand and cement. A ratio of 6:1 would be ideal. We recommend using a 2" thick slab rather than a 1" or 1½" as you will get a better fixing with a thicker slab.
Please note: This slabbing technique should only be carried out on a dry day.



Slabs, ideally 3' x 2', 2" thickness.

2

Use a long spirit level (or shorter level on a straight plank) to drag out the sand / cement mixture until it is perfectly level. Start at one corner and work away from that point dragging and tapping down as you go. When you have levelled the sand / cement mix you can lay your slabs directly onto the mixture. You may need to give each slab a tap to make the top edges line up perfectly flush.

3

Finishing off the edges of your slabs with a slightly stronger mix of sand and cement will give a much neater finish.

Simply use a float to smooth the edges. Use a watering can to dampen the slabs at the end to remove any cement dust and to dampen the sand and cement below the slabs slightly.

4

These slabs have been laid for a 5' x 8' greenhouse. When making a slab base like this you must make it larger than your greenhouse to ensure that it will easily fit. It is a good idea to have some space around any garden structure enabling cleaning and general maintenance access.

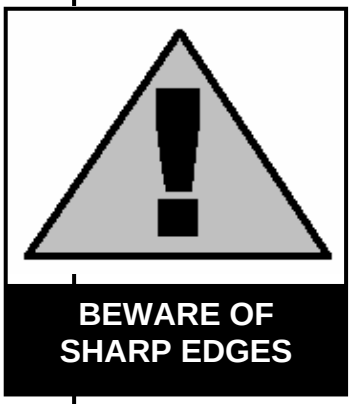
Toughened Glass
VERY IMPORTANT INFORMATION

Please take extra **CARE** handling toughened glass. It is extremely vulnerable to **BREAKAGE** at the edges and in particular, the **CORNERS**. When you are **MOVING** it, please take care not to brush the **EDGES** of the glass against concrete etc.. as it can **SHATTER** or **BREAK** very easily. Likewise, it should **ALWAYS** be stacked on wooden bearers, or cardboard, or carpet, or anything to avoid direct contact with a hard floor.

Once the glass is installed into the frame the whole structure becomes much more **RIGID**.
The toughened glass in particular is very resilient to face-on **DAMAGE**.

If you are unsure about anything to do with glazing your greenhouse please ring us on **01782 388811**.
See also information on page 32-33 in the main instruction book.

- Some of the components in this kit may cause **injury** if not used sensibly. When handling any of the metal components and during glazing please take **care** and **wear gloves**, **goggles** and **ear protectors** when you judge necessary.
- Do not assemble the frame in high winds.
- Children should not play near glass greenhouses.
- REMEMBER: Glass is fragile, handle with extreme care!
- Do not push or lean on the glass panels.
- Be careful when using agricultural chemicals such as fertilisers, fungicides and insecticides etc. in the greenhouse. Do not use chemicals that are for outside use only. Always read the labels carefully.
- Do not latch the door when anybody is inside the greenhouse.
- Use extra care when moving heavy or awkward objects such as tables, poles, internal frames etc. within or near the greenhouse.
- Do not place your greenhouse in vulnerable locations such as under trees, in playing areas, etc.
- Be aware of the increased temperature in a greenhouse on a sunny day.
- Do not keep pets or other animals in a greenhouse.
- When cleaning glass, do not exert too much pressure.
- Do not keep petrol or petrol machinery in a greenhouse.



BEWARE OF SHARP EDGES

IMPORTANT!

GENERAL ADVICE

Preparation and things to consider:

- Bear in mind that constructing your greenhouse can take some **time**, you may need to leave it and come back to it.
- The more **space** available in which to work the better, a large **clean**, **clear** garage floor is ideal or a **flat** lawn area.
- **Tidy** your work space prior to assembly. This will reduce the chances of loosing any of the smaller components. It is a good idea to find a tub for all your nut and bolts etc…
- When building your own brick/concrete/slab foundations ensure that they are level and square and built to the correct outside measurements otherwise your frame will not be true and the glass will not fit.
- Be sure that all four sides of the constructed greenhouse are square before installing glass, and do not install the glass until the greenhouse is in its permanent location.
- Anchoring down your greenhouse is the **final stage** of construction (including glazing). The greenhouse frame must be anchored to a permanent foundation. This will not only help secure it against powerful winds, but will help prevent breakage of the glass caused by the freezing and thawing process of the earth.

Organising your components:

- On opening your main greenhouse box **DO NOT UNWRAP** any of the **labelled bundles** until they are required. Be **CAREFUL** not to mix-up any of the bundles.
- Assess each component in accordance with the **parts list** in the manual.
- Separate like from like components.
- If your greenhouse is a painted one there maybe a few 3mm holes in the ends of some bars. These are jig holes used for painting and have no bearing on construction. If you are unsure what a component is try checking the length against the parts list inside the box.

Tools advice:

- You will find a tool kit supplied. This consists of: A pair of gloves, a 10mm spanner, a 10mm spinner and a Philips screwdriver. **Other tools** that may be required are shown in the picture (top right).
- You will also find a tube of silicone and a silicone gun in the box. This can be used throughout the greenhouse to stop any leaks.

Using the manual:

- **Read** the information relevant to each stage of construction immediately **before** you begin. **Study** each drawing carefully before you begin each stage of construction.

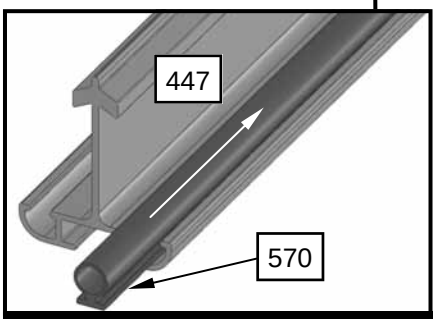
Glazing preparation:

- WD40 or a similar product can be sprayed into the glazing channels to make it much easier to insert the glazing rubber. All rubber should be added to the glazing channels PRIOR to any assembly.

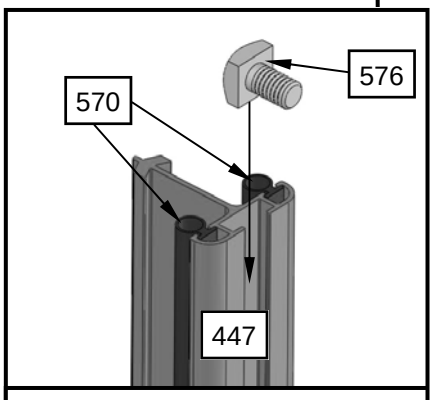
SIDE EXTENSION ASSEMBLY

Part Name	Part No.	Length mm	8 X 8
Base bracket	300	-	4
Bracing, diagonal - 6' & 8' W	303	1,742	4
Cill, 8' Long extension	355	2,480	2
Glazing bar, side	447	1,670	8
Gutter, 8' Long extension	465	2,480	2
Bolt, square head - 10mm M6	576	10	16
Bolt, square head - 15mm M6	588	15	6
Nut - M6	579	-	28
Nut caps	580	-	28

1. **Slide the glazing rubber into the channels of the glazing bars and trim to correct length before assembly.**
2. These sides are different to build than a normal greenhouse side as they need to be handed when built. The gutters and cills have extra holes so this is possible. It is actually quite straight forward to do this.
3. Lay out the pieces on the ground as though you were standing inside the greenhouse, i.e. with the gutter and cill facing downwards and the bolt channels of the glazing bars upwards.
4. Slide a 10mm bolt into the top of each end of the glazing bar (Diagram bottom right). An extra bolt will have to be fed into each channel (Diagram D, Page 14) to accommodate your extra strengthening cantilever bracings or anything else that may require extra bolts (e.g. a shelf). Slide longer 15mm bolt into the bottom of each glazing bar so a base bracket can be attached at a later stage.
5. You will see that the holes are in pairs; When you are building the right hand side assembly you use all the right holes in the pairs. So when you build the left hand side assembly you will use all the left hand holes in the pairs.
6. Fix the cill to the middle glazing bar by pushing the 15mm bolt through the hole in the cill unit and lightly tighten.
7. Correctly position the cill on the outermost glazing bars by pushing the 15mm bolts through the holes in the cill, now place the base brackets followed by the diagonal bracings on the same bolts so they point outward towards the ends of the gutter and lightly tighten the nuts (Diagram C, Page 14).
8. Attach the gutter to the glazing bars in the same manner as step 6 and lightly tighten.
9. Attach the other ends of the braces to the remaining holes in the gutter (remembering that for the right side assembly you use the right hand hole in the pair and left hand hole for the left assembly). Put the nuts on the bolts and lightly tighten.
10. Make sure that the glazing bars reach both the cill and the gutter in each case.
11. Finally tighten all nuts.



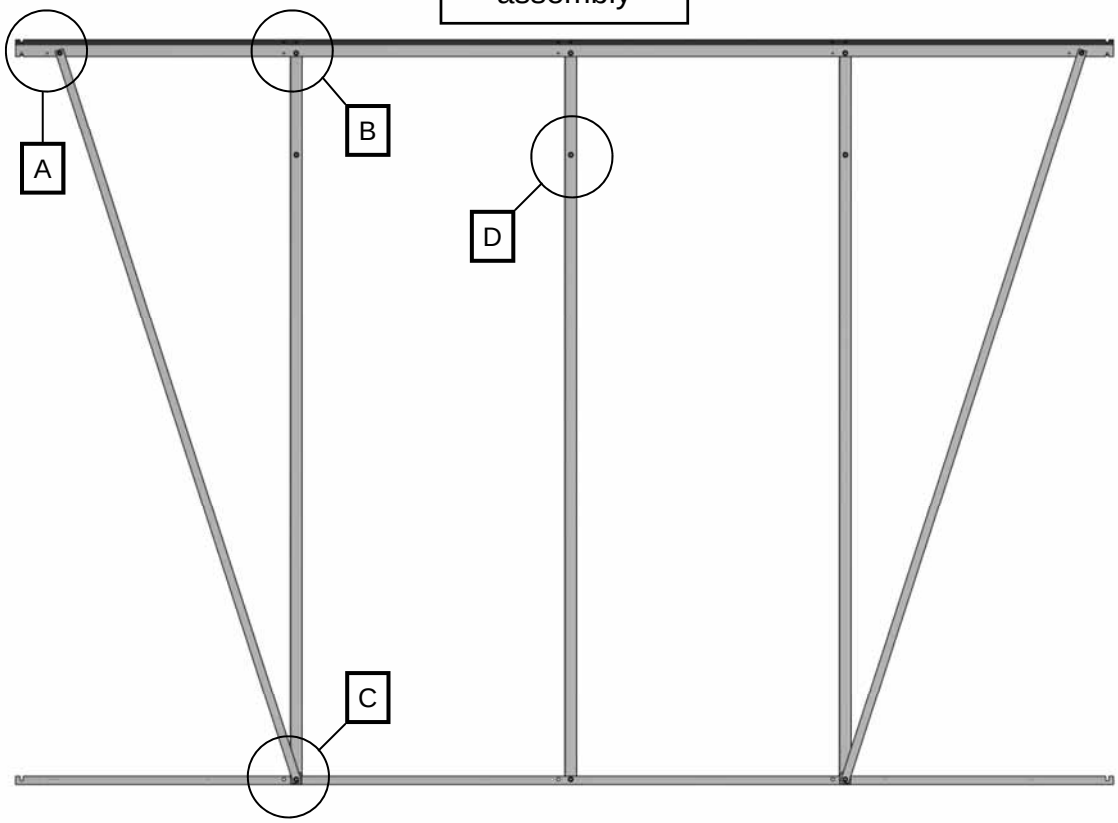
EXTERNAL VIEW



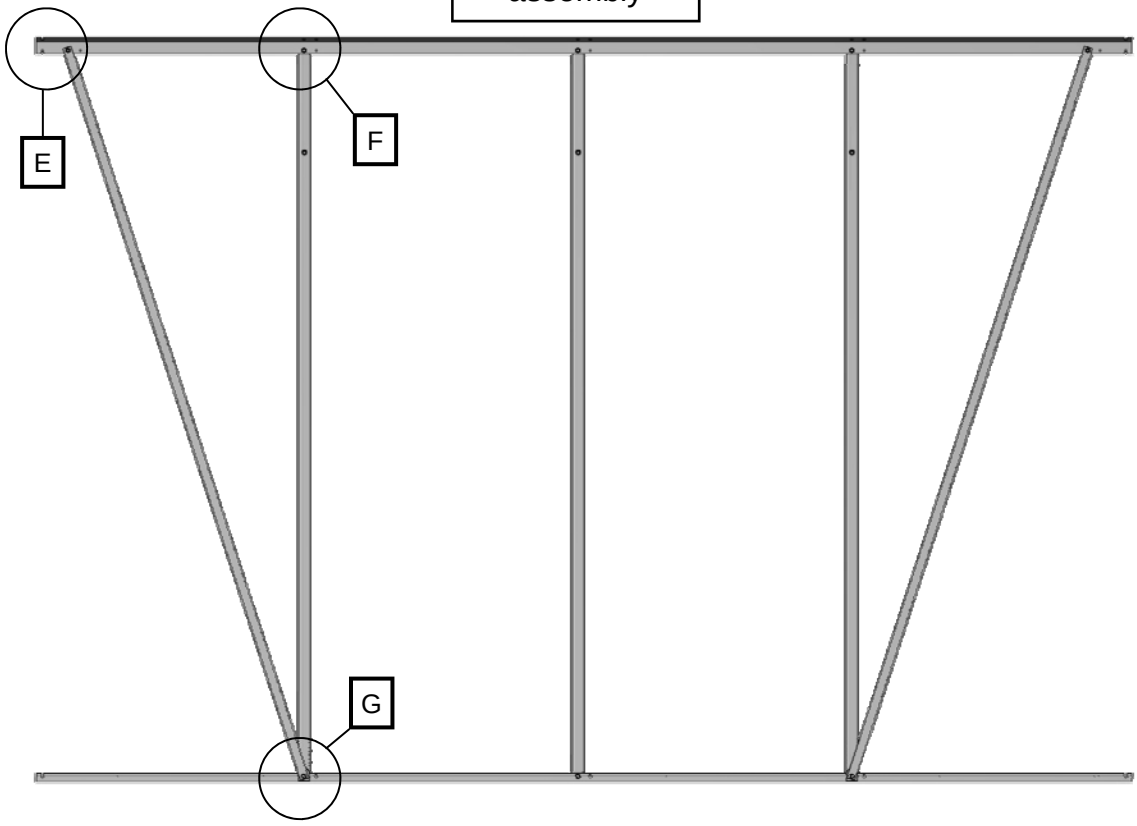
INTERNAL VIEW

SIDE EXTENSION ASSEMBLY

Right hand side assembly



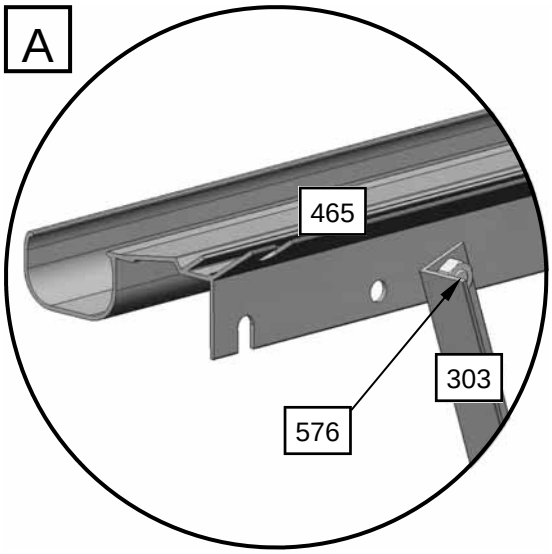
Left hand side assembly



SIDE EXTENSION ASSEMBLY

Right hand side assembly

A



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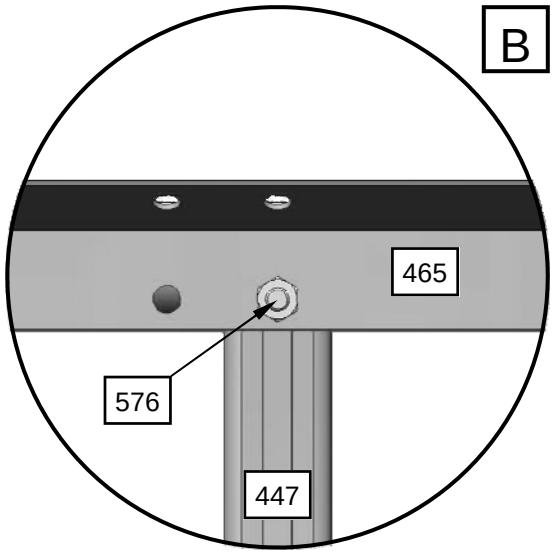

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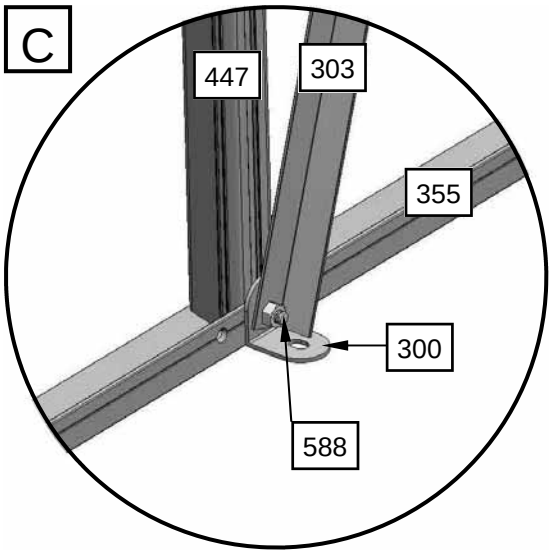

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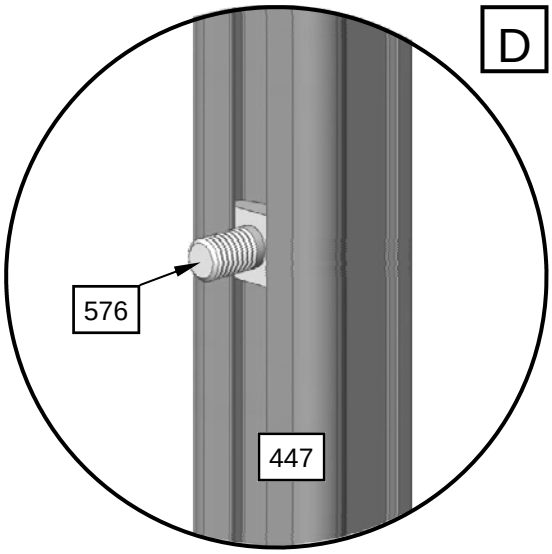
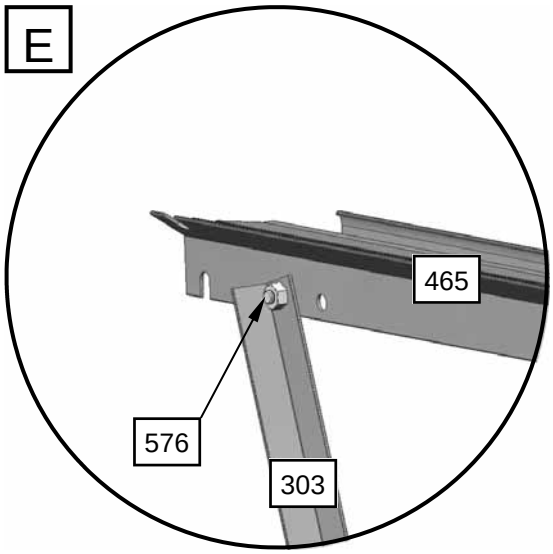


SIDE EXTENSION ASSEMBLY

Left hand side assembly

E



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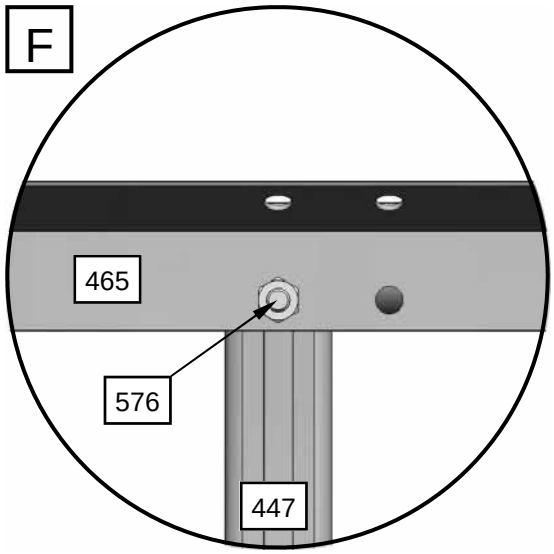

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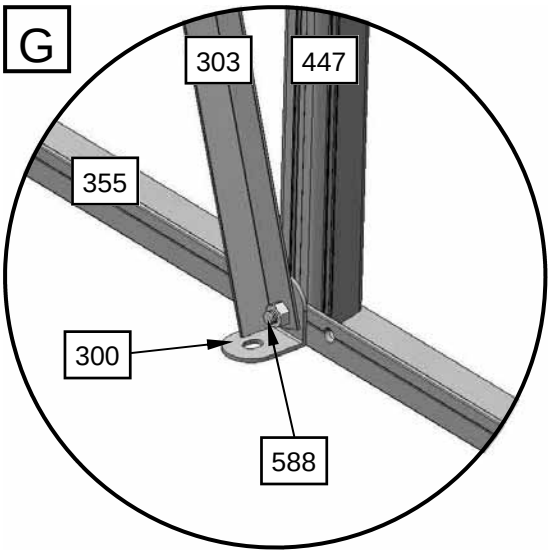
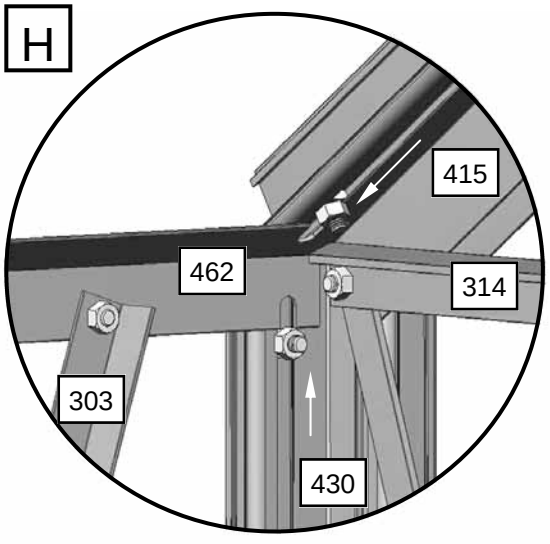


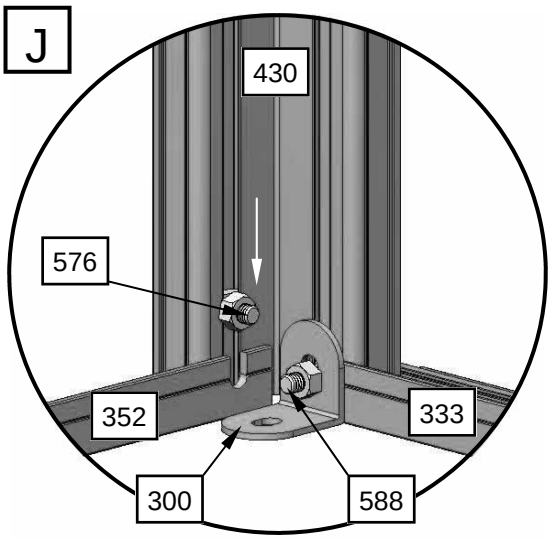
MAIN BUILDING WITH EXTENSION ASSEMBLY

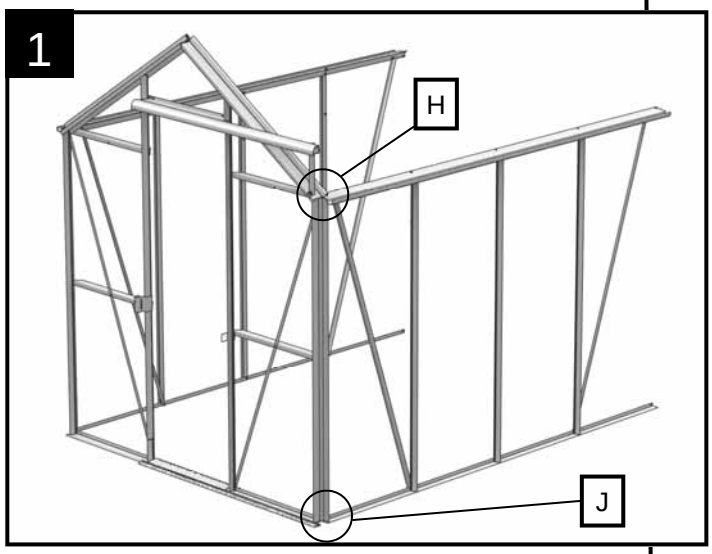
Part Name	Part No.	Length mm	6 X 4 inc. 8' ext.	6 X 6 inc. 8' ext.	6 X 8 inc. 8' ext.	6 X 10 inc. 8' ext.	6 X 12 inc. 8' ext.
Rear End	-	-	1	1	1	1	1
Front End	-	-	1	1	1	1	1
Side	-	-	2	2	2	2	2
Side, 8' Extension	-	-	2	2	2	2	2
Glazing bar, roof - 6' W	444	1,130	10	12	14	16	18
Ridge 4' L	480	1,268	1	-	-	-	-
Ridge - 6' L	481	1,888	-	1	-	-	-
Ridge - 8' L	482	2,508	-	-	1	-	-
Ridge - 10' L	483	3,128	-	-	-	1	-
Ridge - 12' L	484	3,748	-	-	-	-	1
Ridge 8' Long Extention	485	2,480	1	1	1	1	1
Ridge Extention Plate	491	-	1	1	1	1	1
Gutter Extension Bracket	493	-	2	2	2	2	2
Ridge Extension Bracket	494	-	1	1	1	1	1
Bolt, square head - 10mm M6	576	10	60	76	92	108	124
Nut - M6	579	-	108	124	140	156	172
Nut caps	580	-	108	124	140	156	172
Bolt, square head - 15mm M6	588	15	48	48	48	48	48
Cantilever, ridge	600	608	4	5	6	7	8
Cantilever, eaves	601	460	8	10	12	14	16
Hanging basket rail - 4' L	685	1,268	2	-	-	-	-
Hanging basket rail - 6' L	687	1,888	-	2	-	-	-
Hanging basket rail - 8' L	688	2,508	-	-	2	-	-
Hanging basket rail - 10' L	689	3,128	-	-	-	2	-
Hanging basket rail - 12' L	690	3,748	-	-	-	-	2
Hanging Basket Bar 8' L Ext.	691	2,508	2	2	2	2	2
Roof Bar Brace 6' Wide	696	1,455	2	2	2	2	2
A-frame Brace 6' Wide	697	879	1	1	1	1	1
Side Bar Brace	694	1,628	2	2	2	2	2
Eaves Brace 6' Wide	695	1,022	2	2	2	2	2

1. With the help of a willing assistant, stand up the front gable and one of the sides. Standing on the inside of the structure with the gutter facing away from you, insert the gutter bar into the gap between the corner bars, so that the inside flanges which form the angle of the roof and side, line up with the bolts in the corner bars. (Diagram H).
2. Loosen the nuts holding the 2 bolts previously inserted into the corner bars and slide them into the slotted holes in the flanges of the gutter, then tighten (Diagram H).
3. Repeat step 1 and 2 on the opposite side. You should then have the structure shown in image 1 (page 17). The sides will not stand alone at this stage so it is necessary support them with steps or something similar.



MAIN BUILDING WITH EXTENSION ASSEMBLY



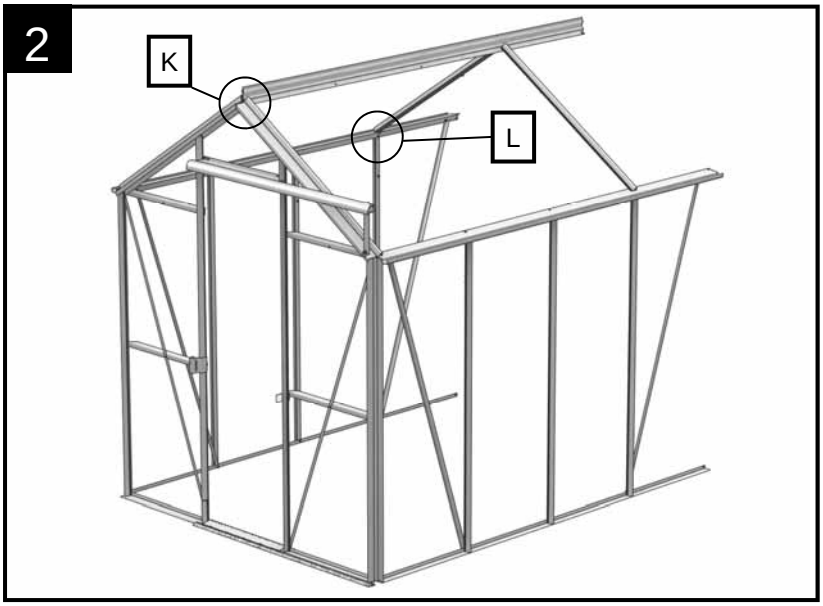


4. The next job is to fit the ridge to the front gable. You will need an assistant to support the end of the ridge while you fix the other end to front gable. If you insert a nut and 10mm bolt into each of the holes in the ridge before you lift it into place you will make life easier later on when you are attaching the roof bars. Lift the ridge bar up to the apex and standing on a pair of sturdy and safely placed stepladders push the ridge into the small gap between the roof corners so that the 2 flanges which form the angle of the roof are tight up against the inside edge of the roof corner bars. The vertical part of the ridge is outside and pointing skywards. Undo the nuts and bolts previously inserted into the roof corner bars during front end assembly and push them upwards into the open ended slots in the ridge (Diagram K, page 18). Then tighten the nuts.

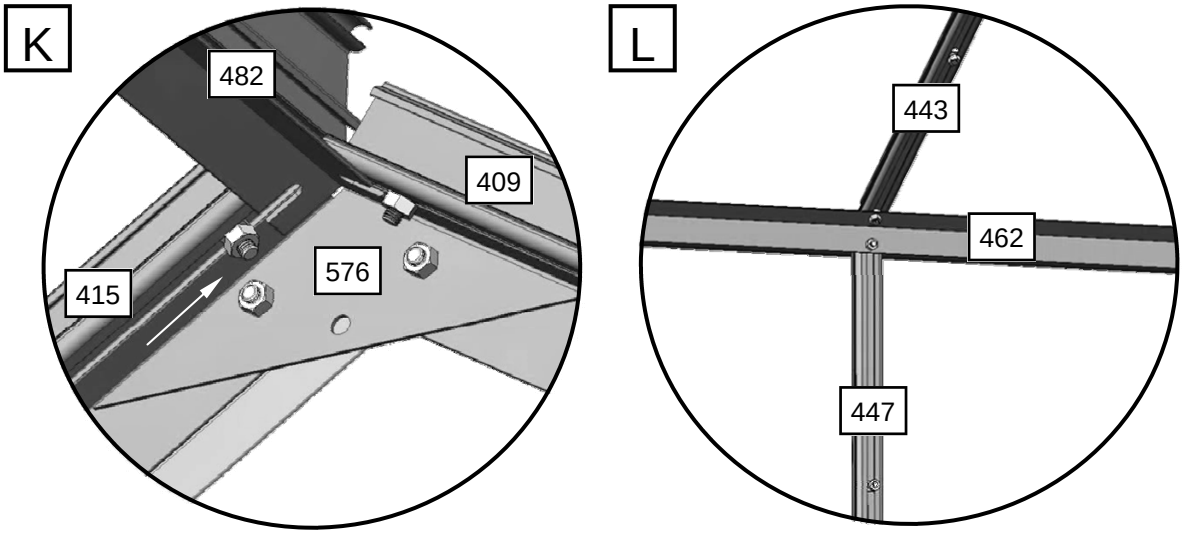
5. Now attach two roof glazing bars. First you must slide the glazing rubber into the bars and trim to suit. These should be fixed about 2 foot from the end. Slide the bars into the ridge on to the 10mm bolts inserted in step 4. Make sure the bars are pushed right up to the ridge.

   Very Important: Bolts will need to be slid into each roof bar for the ridge cantilever, two more bolts to attach the hanging basket rail, one more bolt is needed to attach the eave cantilever bracing between the roof and the side. You also need to tie the two sides together, after the glazing bars are fixed, using a length of glazing rubber. This will help while you build the A-frame (the best point is on the gutter where the two glazing bars are fixed).

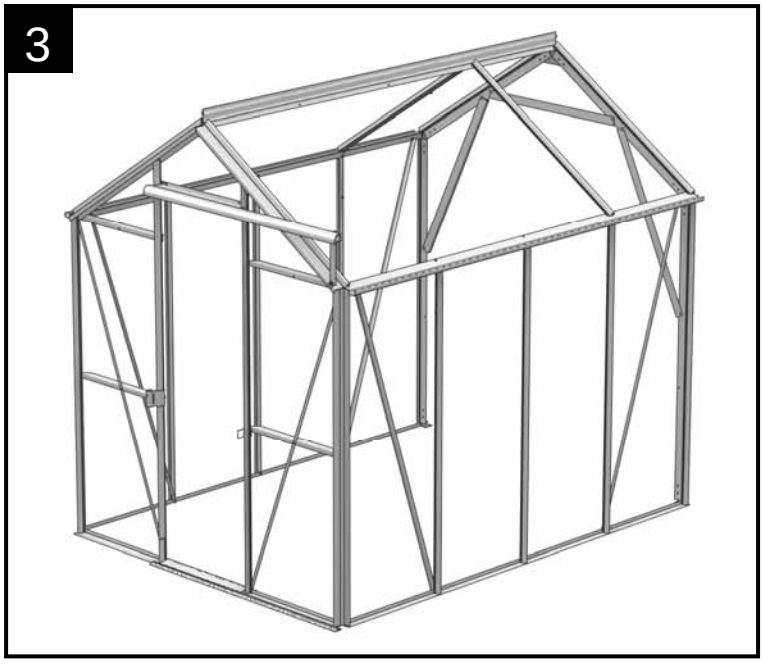
6. You can now attach the bottom of the roof bars to the gutter bar by sliding another 10mm bolt into bars, then push the bolt into the holes in the upper flange of the gutter (Image 2).



MAIN BUILDING WITH EXTENSION ASSEMBLY

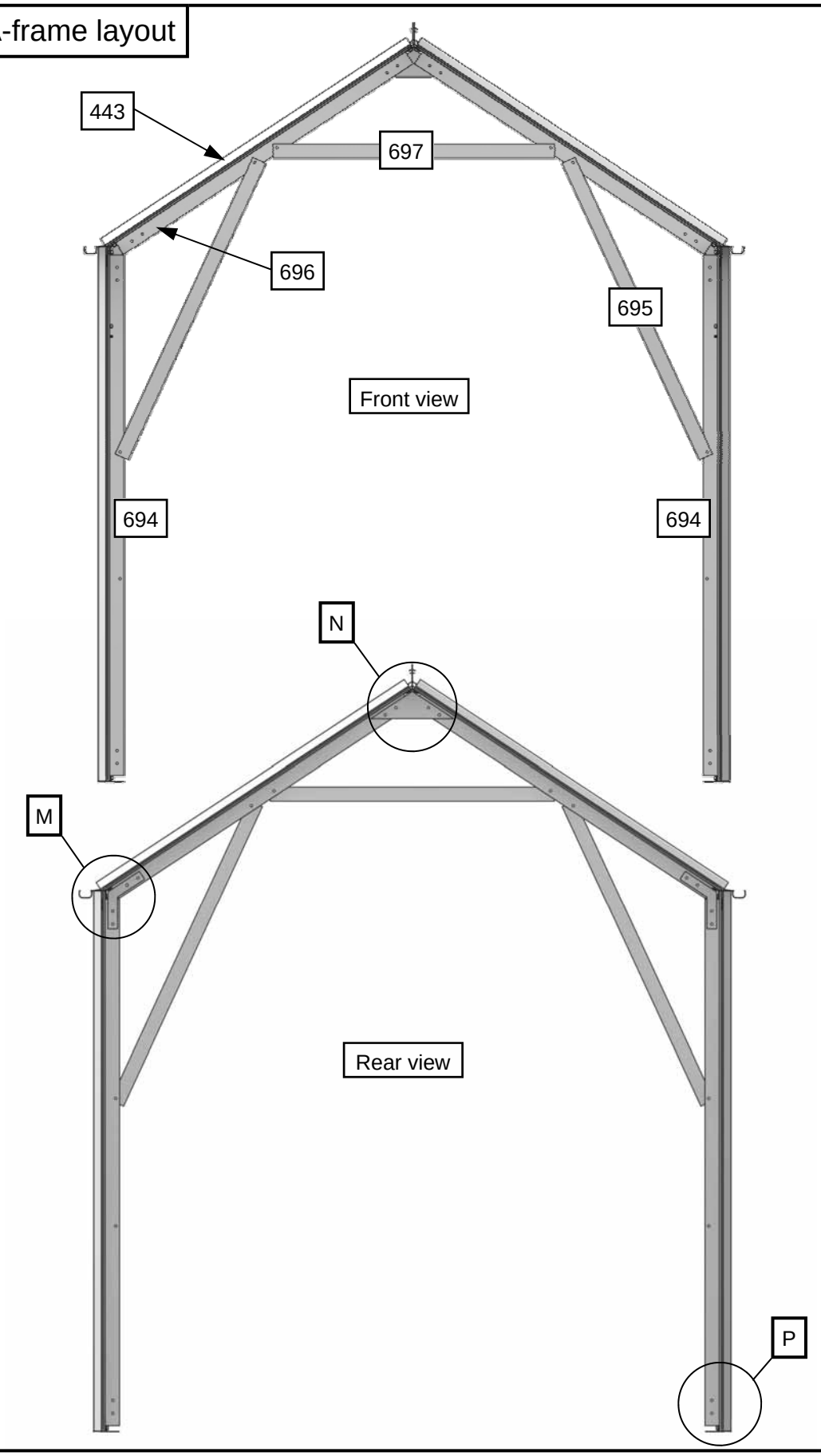


7. The A-frame and extension brackets need to be fitted at this stage (Image 3). You need two side glazing bars and two side bar braces. Firstly insert rubber in to all the rubber channels on the glazing bars. Now insert four 15mm bolts into the channel on the back of the glazing bar. Locate these bolts with the holes on the short flange on the side bar brace and lightly fix equally spaced.
8. The glazing bars now need to be put in position, these fix at the end of the main buildings gutters and cills. Secure a side bar to the cill using 15mm bolt followed with the cill extension bracket lightly fixing a nut, making sure the large flange on the side bar brace is towards the front of the building with the small flange pointing towards the rear (Diagram P, page 21). Insert another 15mm bolt in the top of the bar and angle it into the slot at the end of the gutter. Place the gutter extension bracket over this 15mm bolt and lightly tighten (Diagram M, page 20/21). Repeat this on the opposite side.
9. Now the roof bars have to be installed. These need the roof bar braces attached to them in the same way as step 7. Take one of the roof glazing bars with a 15mm bolt inserted in the bolt channel, locate it on the slot at the end of the ridge. Place the ridge extension plate onto the bolt and lightly fix the nut (Diagram N, page 20). Push another 15mm bolt into the bottom of the glazing bar and locate it with the gutter and the gutter extension plate (Diagram M). Repeat on the other side.
10. The A-frame brace (697) can now be fixed to the roof bar braces using 15mm bolts. The eaves brace can also be fixed using 15mm bolts between the roof bar and side bar brace (Page 19).
11. Check that the ridge is level and straight, and the sides are vertical then tighten all the bolts.

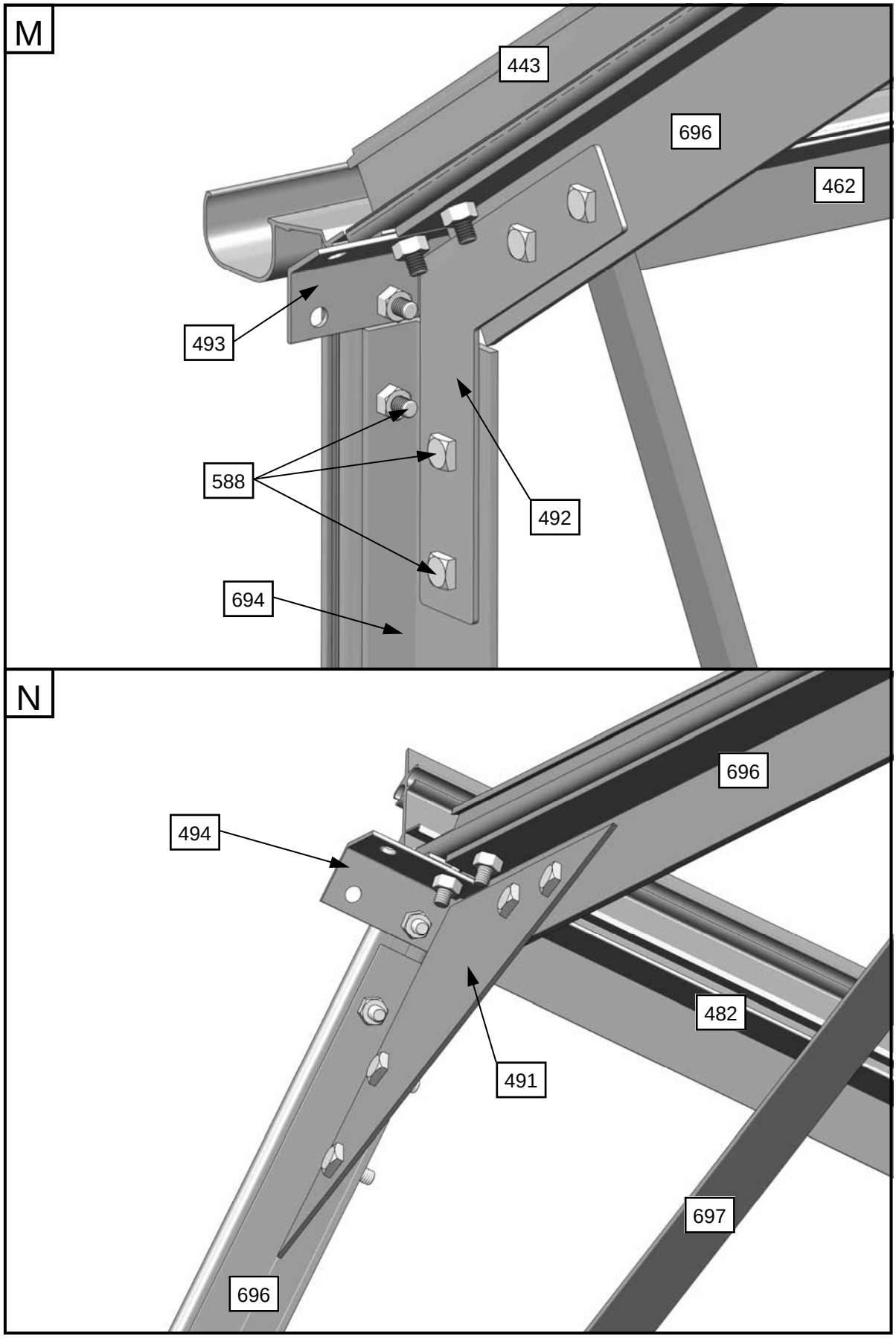


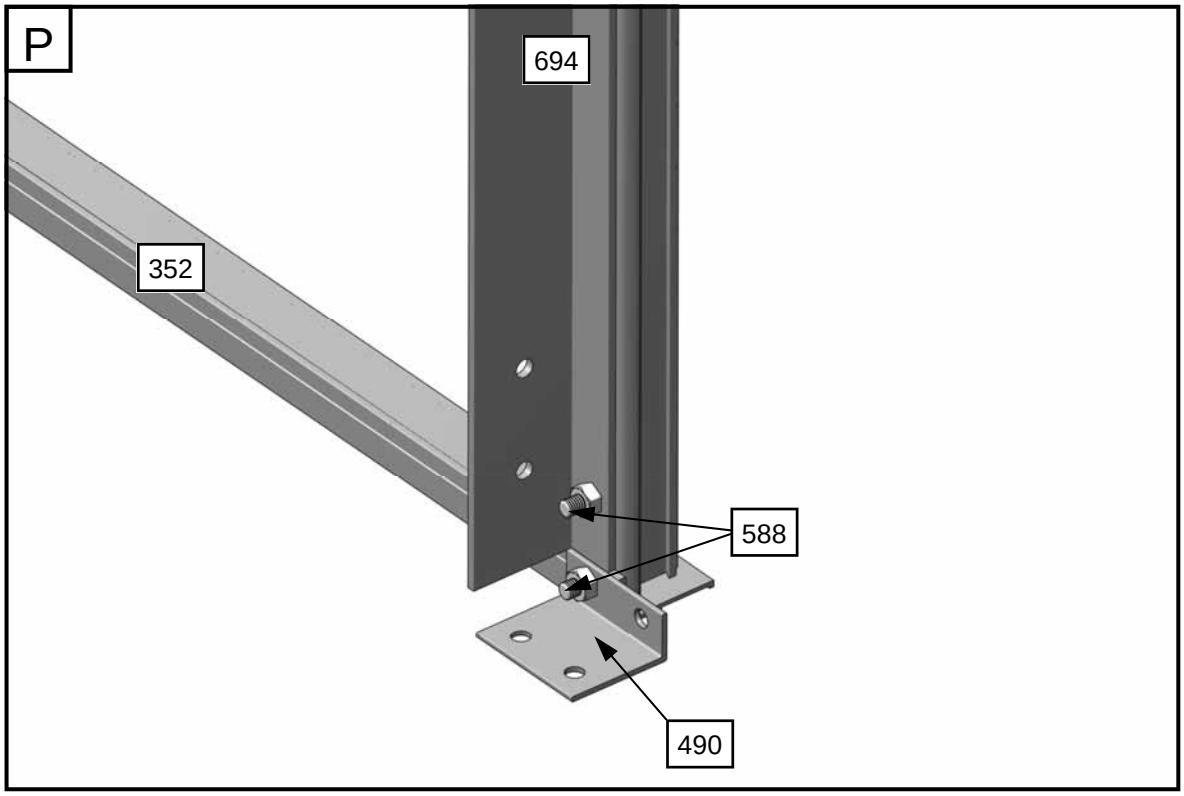
MAIN BUILDING WITH EXTENSION ASSEMBLY

3 A-frame layout

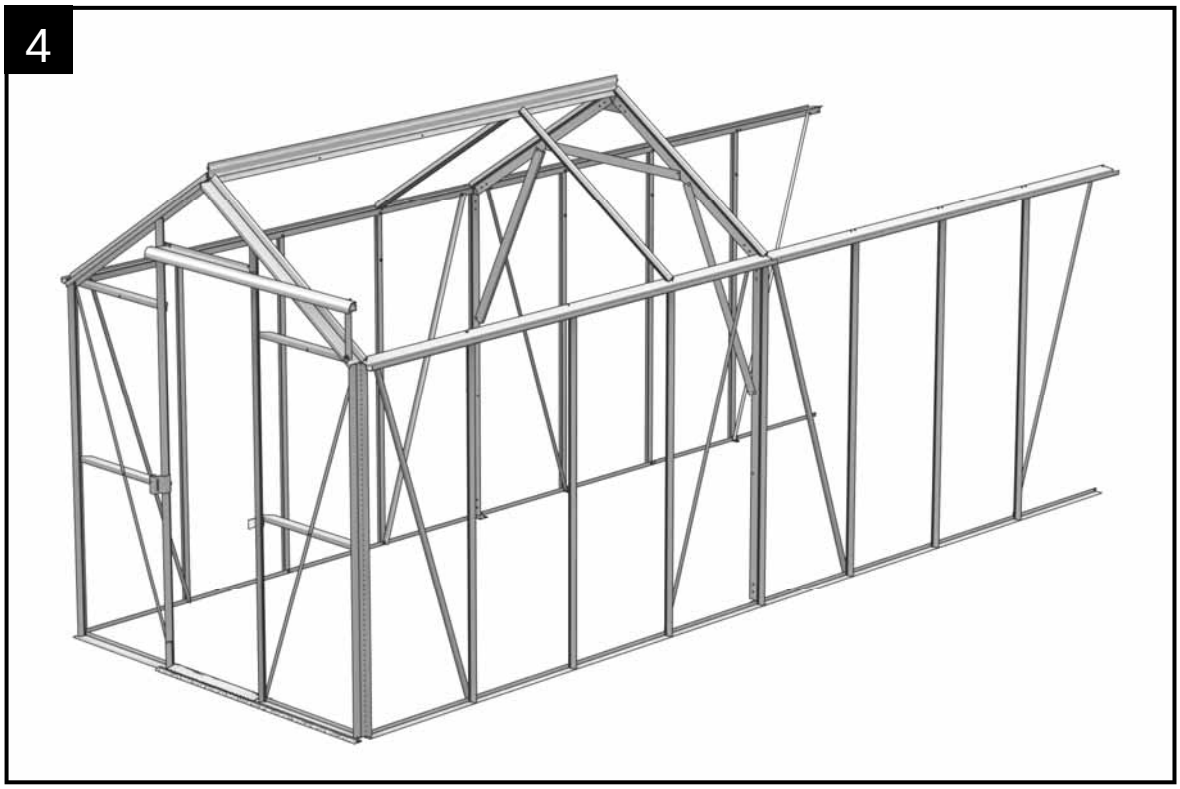


MAIN BUILDING WITH EXTENSION ASSEMBLY





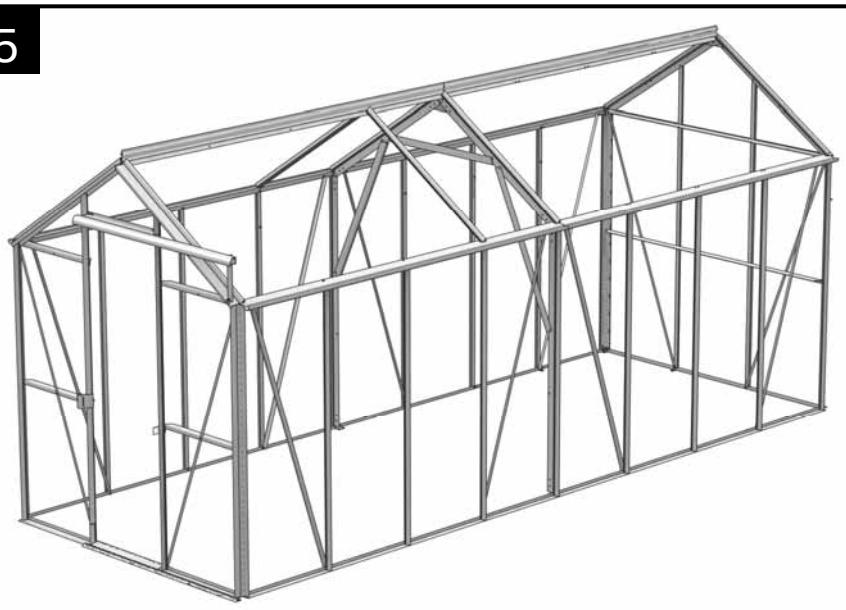
12. You now need to attach the extension sides (remember the sides are handed, it is **important** to get them the right way round). Simply attach the gutters and cills to the extension brackets using 15mm bolts (Image 4). The sides will need to be supported while you get the rear gable in place. (If you have more than one extension at this point you should go back and repeat from stage 4).



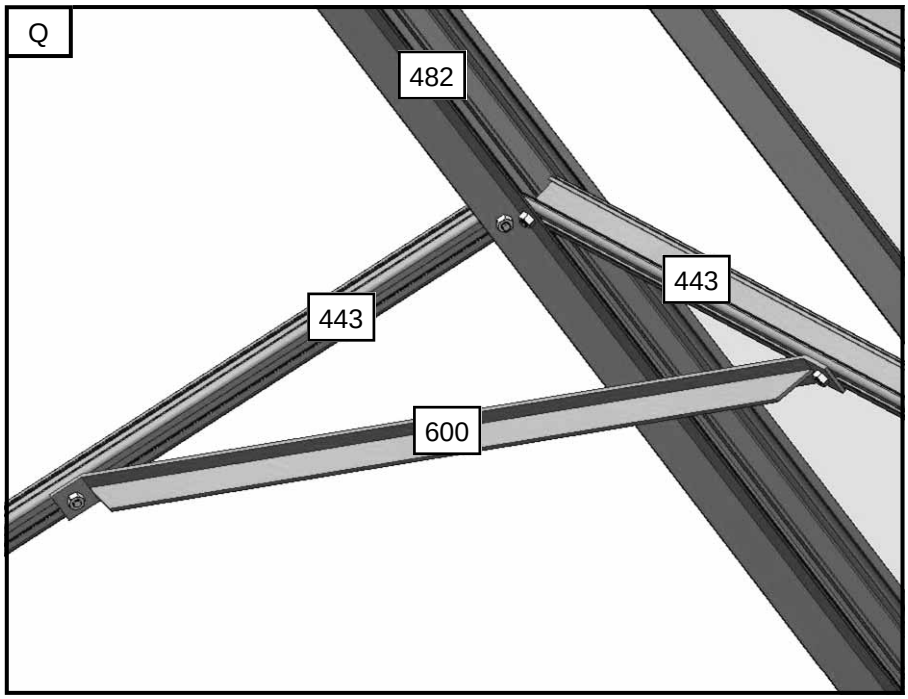
13. When you have the rear gable in place, standing on the inside of the structure with the gutter facing away from you, insert the gutter bar into the gap between the corner bars, so that the inside flanges which form the angle of roof and side line up with the bolts in the corner bars. Loosen the nuts holding the 2 bolts previously inserted into the corner bars and slide them into the slotted holes in the flanges of the gutter, then tighten. Repeat this with the bottom bolt and attach to the side cill. Then repeat on the other corner.
14. Once the gable is in place the extension ridge can be attached (Image 5). Fit this in exactly the same way as the main building ridge, making sure the ridge sits on top of the ridge extension bracket. Remember it is easier to attach 10mm bolts to all the holes before you fix the ridge in place.
15. The roof bars can now be attached to the structure but first you must slide the glazing rubber into the bars and trim to suit. Attach the bars firstly at the ridge, prior to tightening ensure that the roof bar is pushed up hard against the ridge. Do not attach the bottom of the bars to the eave until all the roof bars are bolted to the ridge.

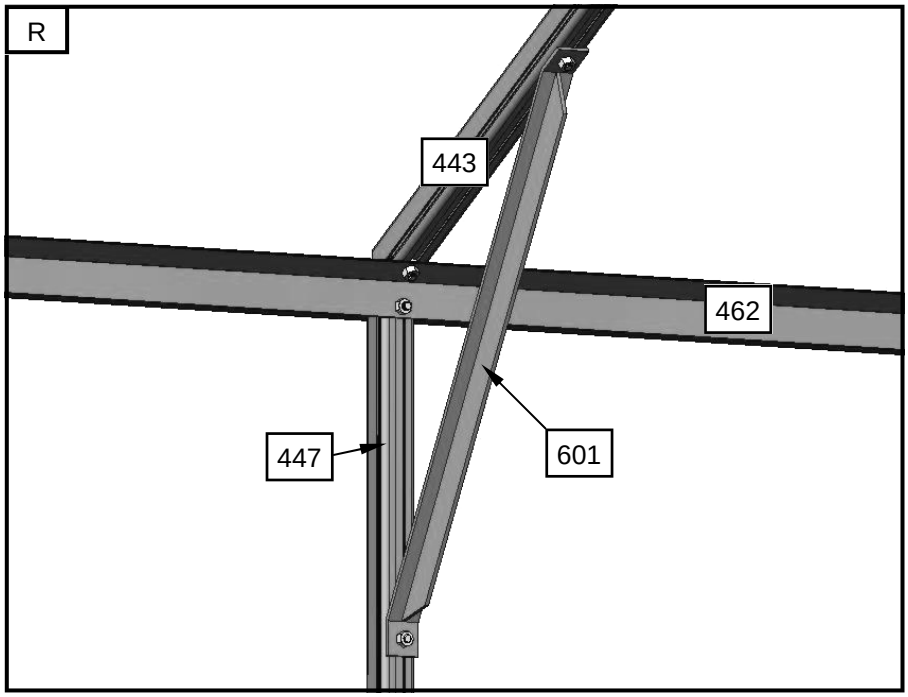
    Very Important: Bolts will need to be slid into each roof bar for the ridge cantilever, two more bolts to attach the hanging basket rail, one more bolt is needed to attach the eave cantilever bracing between the roof and the side. Please note: At this stage you will need to insert an extra bolt into each bar either side of a vent opening. If you haven't already done so you need to decide now where your roof vents are positioned so that you can work out the number of bolts in each bar.
16. Now attach the bottom of the roof bars to the gutter bar using a 10mm bolt. Slot the bolt into the holes in the upper flange (Diagram L, page 18). Start with the middle bars either side of the ridge.
17. Before tightening the nuts that hold the roof bar to the eave you must ensure that the roof bar is tight up against the small flange immediately above the gutter (key point). Failure to observe this point and the previous one of keeping the roof bar tight up to the ridge could result in a slight outward bow of the gutters and a slight downward dip to the ridge. Also try to make sure that no glazing rubber extends from the rubber channels for a tighter neater finish.
18. You can now attach the T-bar cantilevers (600) which bolt into the apex of the roof. Use the top bolt out of those you have slid into each roof bar (Diagram Q, page 23).
19. Next you can attach the eave cantilevers (601) between the roof and the sides using the bottom bolt in your roof bar channels and the extra bolt you slid into the side sections earlier on (Diagram R, page 23). The remaining 2 or 3 bolts in the roof bar should be above the eave bracings and are used to attach the hanging basket rail and the vent slam rails in your predetermined locations (note: both the slam rails and the hanging basket rail should be attached after the greenhouse has been glazed).
20. When you are fitting your extension hanging basket bar you need to loosen the bolts holding the roof bar brace to the roof glazing bar. You will notice that the ends of the hanging basket bar have been notched, this is so you can slide it in between the roof glazing bar and the roof bar brace. Once you have loosely attached the bar to all the roof bars and you are happy with its position you can then tighten all the nuts clamping the hanging basket bar.
21. Once the frame has been constructed you can return to the 8' wide instruction book and continue with the assembly.

5



MAIN BUILDING WITH EXTENSION ASSEMBLY





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