The Outside, **Inside**

CONSTRUCTION GUIDE

For Commercial Tunnels
27ft Wide – and – 30ft Wide

Thank you for purchasing a 'Premier' polytunnel.

We consider our 27ft Wide and 30ft Wide Polytunnel range to be much more than a temporary cover for plants and more like a civil engineered building. For that reason care must be taken to make sure all aspects of the construction are safe and secure, particularly the foundations and how they are anchored into the ground – After all, this large structure will be expected to maintain its integrity in all weathers.

Please take the time to carefully read through this Construction Guide before you head out and begin building your 'Premier' polytunnel.

A polytunnel is not a difficult structure to construct, but the task at hand should not be taken lightly.

The following is a Guide to the successful construction of your polytunnel. If you follow this Guide, you will have many years of growing pleasure from your polytunnel with very little or no maintenance. Please use the Checklist supplied with your order, together with this Guide, to help you identify the different parts of your polytunnel.

To help you identify the different steel tubes, the item codes on the Checklist relate to the diameter and length of tube and how the ends are formed, eg; **"38/1810PP"** is a 38mm diameter steel tube, 1810mm long, with plain ends.
"PS" at the end of the code would indicate the tube had one end plain and one end swaged.
"FP" would indicate the tube had one flattened and punched end and one end plain.
"FS" would indicate the tube had one flattened and punched end and one end swaged.
"FF" would indicate that both ends are flattened and punched.
"**A**" would indicate that the flattened ends are offset (at an angle) to each other.

If you are unsure or confused about any aspect of construction, please feel free to contact us via e-mail at info@premierpolytunnels.co.uk or by telephone on 01282 811250.
Premier Polytunnels are proud to be the **ONLY** polytunnel supplier to offer an out of hours Construction Advice Service, available until 9pm, 7 days a week.

We have covered some of the polytunnel options within this Construction Guide that may not relate to the polytunnel and extras/additions you have purchased. Please ignore any sections which do not apply.

CONTENTS

INTRODUCTION

"Picture this...."
Below is a simple outline of what you should end up with once you have completed your project and is something to bear in mind while constructing your polytunnel.

A polytunnel is a series of hoops placed in line on **Foundation Tubes.**

Ridge tubes are suspended under the hoops at the centre point and to each side – These run the full length of the polytunnel.

Four diagonal tubular **Stabilisers** are placed one at each corner.

Two **Roof Stabilisers** at each end give the end hoop extra support.

A timber **Door Frame** and **Doors** are fixed central at each end.

Base Rails are placed around the polytunnel at ground level.

Polythene is placed over the framework and fixed around the door frame. The polythene cover is then fixed to the **Base Rails.**

OPTIONAL EXTRAS/POLYTUNNEL ADDITIONS - If ordered:

Anti Hot Spot Tape is a foam tape which is placed over each hoop to protect the polythene **(Highly recommended).**

Crop Bars are horizontal tubes placed across each intermediate hoop at roughly head height.

Staging are supports placed down one or both sides of the polytunnel and allow for a work top to be placed on top.

Side Rails are placed at 1m high on one or both sides and include ventilation net.

Ventilation Screens allow you to cover the ventilation net when **Side Rails** are bought.

Sliding Doors replace standard hinged doors and allow for extra space on the inside of the tunnel.

TOOLS REQUIRED

*****WARNING: PRODUCTS MAY CONTAIN SHARP EDGES.**
ALWAYS WEAR GLOVES***

Here is a list of tools required to complete the construction of your polytunnel:

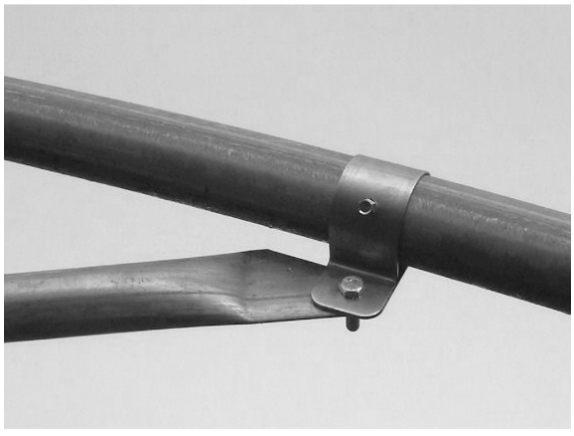
Tape measure	Spade	Large hammer	Claw hammer
Spirit level	2x 13mm spanner	Marker pen	Battery drill
9mm drill bit	5mm drill bit	Philips screwdriver	Wood saw
String line	Sharp knife	Timber drift (small offcut of timber)	
Large step ladders/Platform			

USE OF ‘P’ CLIPS

The image below demonstrates the **double** ‘P’ Clip method used to fix the Triple Ridge.

The following images show how a Corner Stabiliser, Roof Stabiliser, Crop Bar, Staging Support or any tube flattened and punched at the end attaches to a ‘P’ Clip.

NOTE: ‘P’ Clips should always be placed around a hoop so that the leg of the P is to the inside of the polytunnel – That is to say, as far away from the polythene cover as possible.



*****PLEASE NOTE: When assembling your polytunnel, no screws, bolts, ends of tubes, etc, should protrude beyond the hoops as these will cause damage to your cover*****

SITE

Your construction site should be clear and reasonably level from side to side. Approximately 6 inch out of level across the width of the tunnel can be taken up by adjusting the Foundation Tubes of your Polytunnel **(Fig1)**.

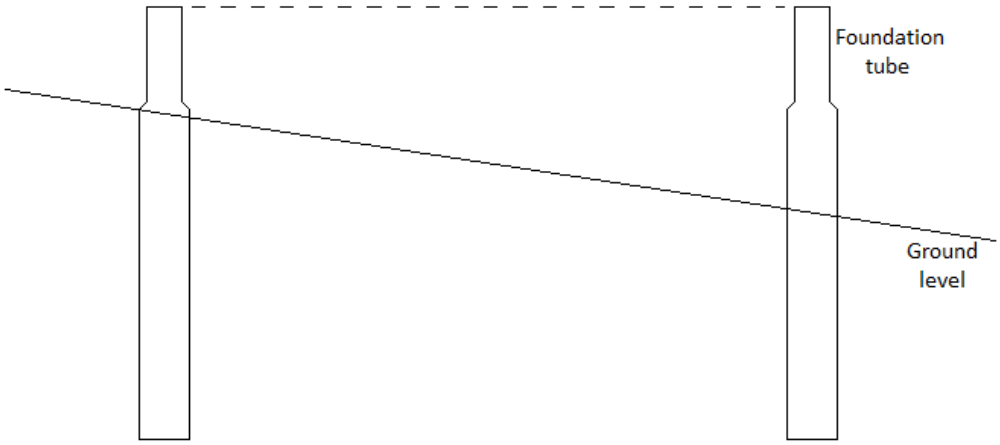


Fig1

A slope down the length of the tunnel does not have to be taken into account as your polytunnel can be built straight onto this slope with the framework placed at the vertical **(Fig2)**.

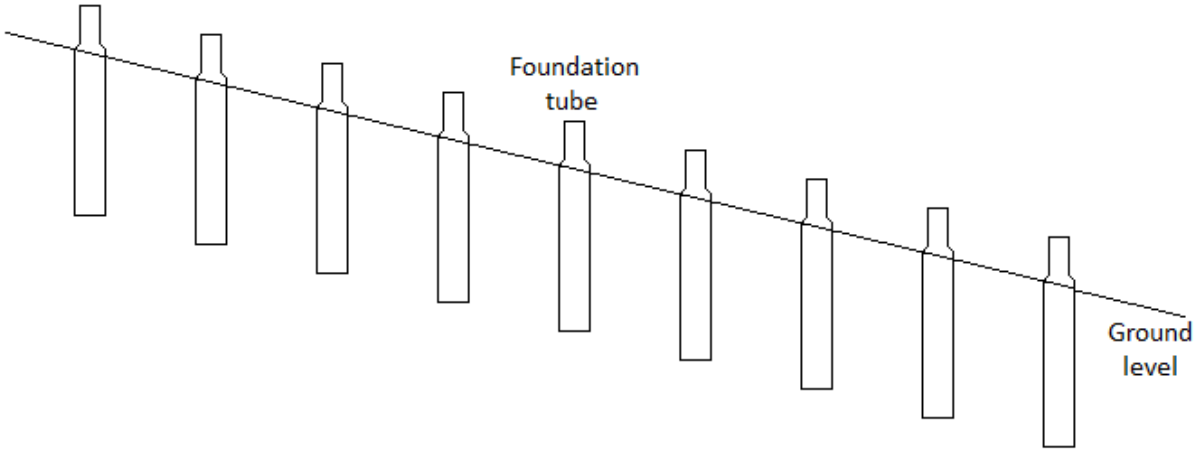


Fig2

FOUNDATION TUBES

*****IMPORTANT – Protect the ends of tubes from damage when driving them into place by using a timber drift (a small offcut of timber)*****

Foundation Tubes are concreted into the ground at each end of each hoop.

Choose a corner of your polytunnel to be a fixed point from which all measurements will be taken and mark the point with a peg or paint (it is advised that this fixed point is the highest corner of the tunnel on any sloping site).

Measure the length of your chosen polytunnel and mark this point. (All measurements are to the centre of the hole/tube). Mark out the remaining corners. The measurements for these will be the width and length of your polytunnel.

To check for square, measure from corner to corner **(Fig 3)** – This measurement should be the same, but if not, simply adjust the marks until correct.

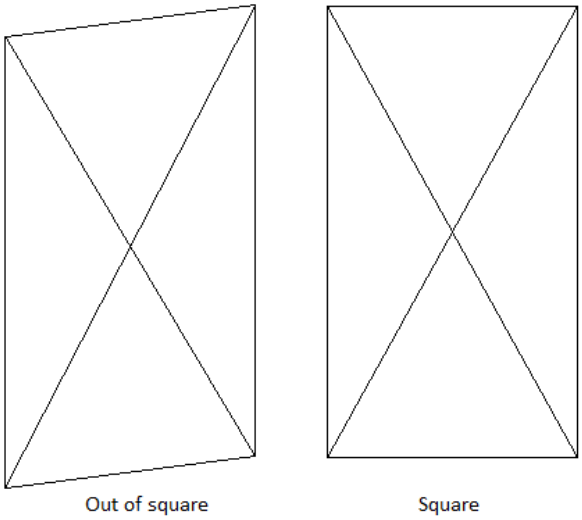


Fig3

Mark out the position for the remaining holes down the length of the polytunnel at 6ft spacing.

Dig a hole 16 inch square x 16 inch deep at all of the marked points.

At the previously mentioned fixed point drive a foundation tube into the bottom of the hole until just the swaged end is left above ground level **(Fig4).**

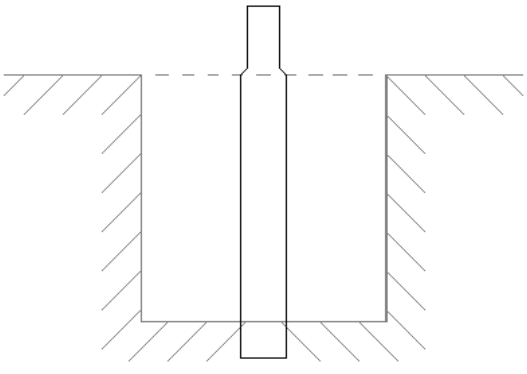
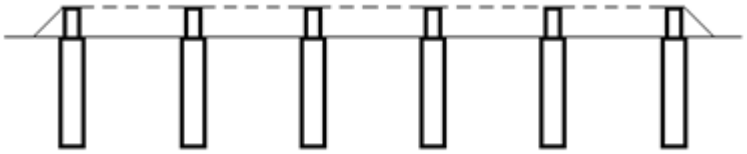


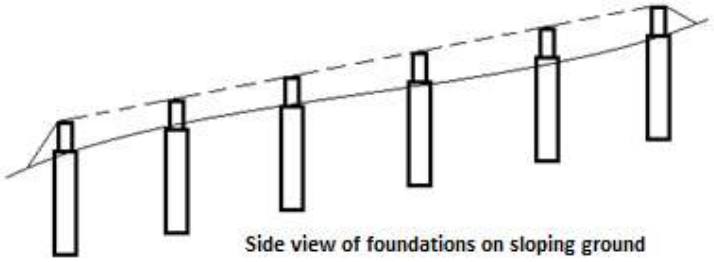
Fig4

Set the three other corner Foundation Tubes, making sure all measurements are correct, checking for square and checking that the tunnel is level across the width.

Drive in the rest of the foundation tubes at 6ft spacings along the length, using a string line to check the tops of the tubes are at the right level and are inline.



Side view of foundations on level ground



Side view of foundations on sloping ground

Now all the foundations are knocked in you must place a foundation tube clamp around each of the foundations. This clamp goes around the foundation approximately 6 inches from the floor of the hole **(Fig5).**

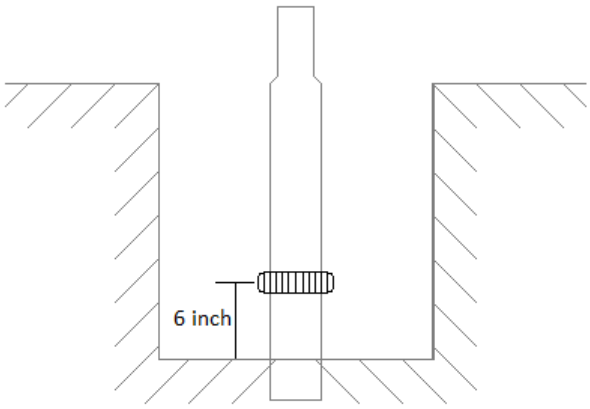


Fig5

Foundation tube Clamp

Pour the concrete into each hole up to ground level and no higher. A semi dry mix using ¾ aggregate will be adequate.

BASE PLATES

Tools required:
Hammer drill 14mm masonry bit
16mm masonry bit 17mm spanner or socket

If you are placing your polytunnel on a concrete base you will require Base Plates **(Fig6)** which replace Foundation Tubes.

Please use the same method of measuring as for Foundation Tubes.

Fig6

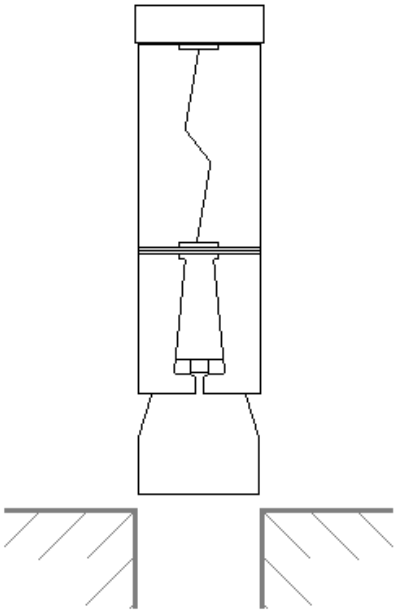


Fig7

When securing base plates to the ground, drill three 16mm holes (80mm deep minimum) into the footing through the three base plate holes.

Insert the loose bolt sleeves into the holes until flush with the ground. Please make sure to insert the sprung end of the sleeve first **(Fig7).**

Bolt the base plates onto the ground by tightening the loose bolts through the holes on the base plates and into the sleeves.

Outer and inner door posts are secured at the base with an angle bracket **(Fig8).**
These require a 14mm hole to be drilled into the footing (70mm deep minimum). Bolt these brackets down as you would base plates but with only one loose bolt.
The outer door posts then bolt to this bracket using the bolt supplied with the base rails. The inner door posts have their own bolt supplied.

Fig8

HOOPS

Hoops are supplied in four sections – two outer legs and two inner hoops. These sections should be slotted together on a flat base.

Place a 'P' Clip around the plain inner hoop where the inner hoops meet. Fix this 'P' Clip to the hoop approximately 3cm away from the join with a self drill screw. Make sure the leg of the 'P' Clip is to the inside edge of the hoop and is perpendicular to the hoop **(Fig9).**

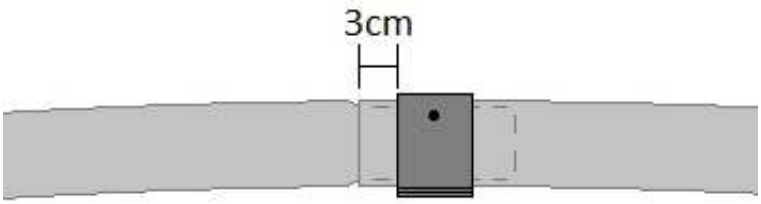


Fig9

Place a 'P' Clip around the hoop where each of the inner hoops meet the outer legs. Fix these 'P' Clips to the inner hoops flush with the join using a self drill screw. Make sure the leg of the 'P' Clip is to the inside edge of the hoop and is perpendicular to the hoop **(Fig10).**

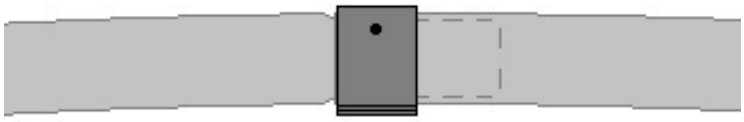


Fig10

Lift the hoops into position on the Foundation Tubes **(Fig11)**. Make sure the 'P' Clips on the end hoops face the inside of the polytunnel.

Fig11

*****Please note: Self drill screws should be held in the nut driver provided or can be held directly into a drill chuck. They will drill their own hole and tap themselves into position. Do not over-tighten*****

TRIPLE RIDGE KIT

The ridge bars are supplied in 6ft or 12ft sections. Three starter ridges with plain ends and several ridge extensions each with one swaged end.

Place a ‘P’ Clip around one end of one starter ridge. Bolt this starter ridge up to the centre ‘P’ Clip on one of the end hoops **(Fig12).**

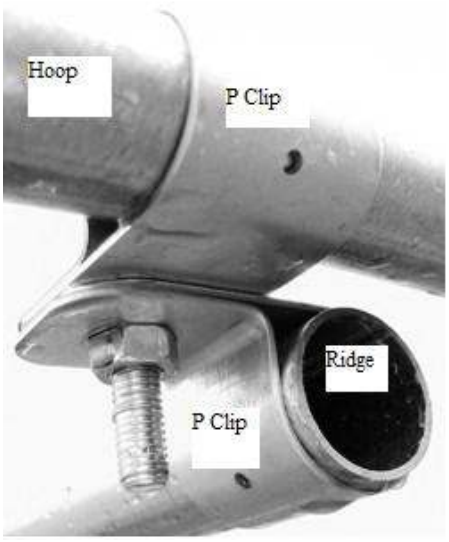


Fig12

Adjust the starter ridge until the end is located half way through the end hoop **(Fig13)**.

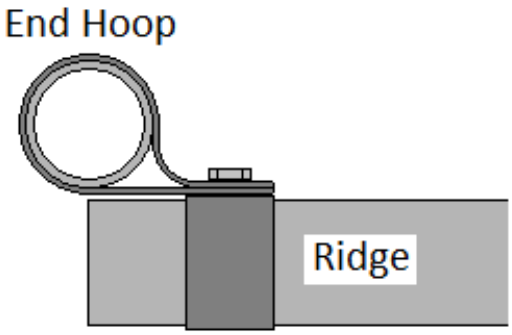


Fig13

With the starter ridge suspended from the hoop slide a ridge extension into the starter. Place a ‘P’ Clip around the ridge starter/extension wherever it crosses a hoop and bolt up to the ‘P’ Clip on the hoop. Do not tighten this bolt and nut until a later stage.

Keep adding ridge extensions and ‘P’ Clips whenever they cross a hoop until you reach the opposite end of the polytunnel. Bolting them up but not tightening.

Once a full ridge has been suspended loosely, measure the spacings for the hoops using the end with the starter ridge as the starting point. Adjust the ‘P’ Clips along the ridge until all the hoops are at 6ft spacings **(Fig14)**.

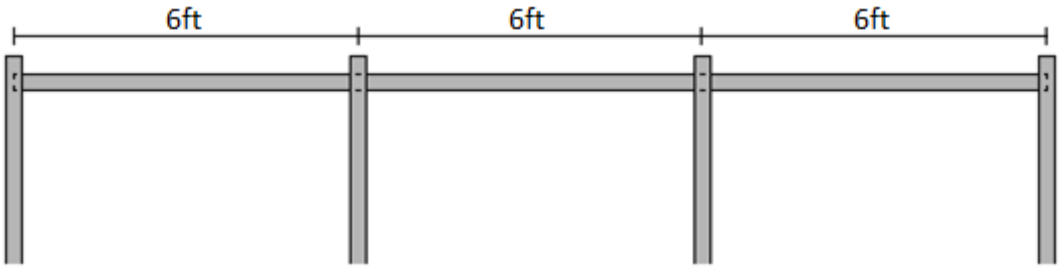
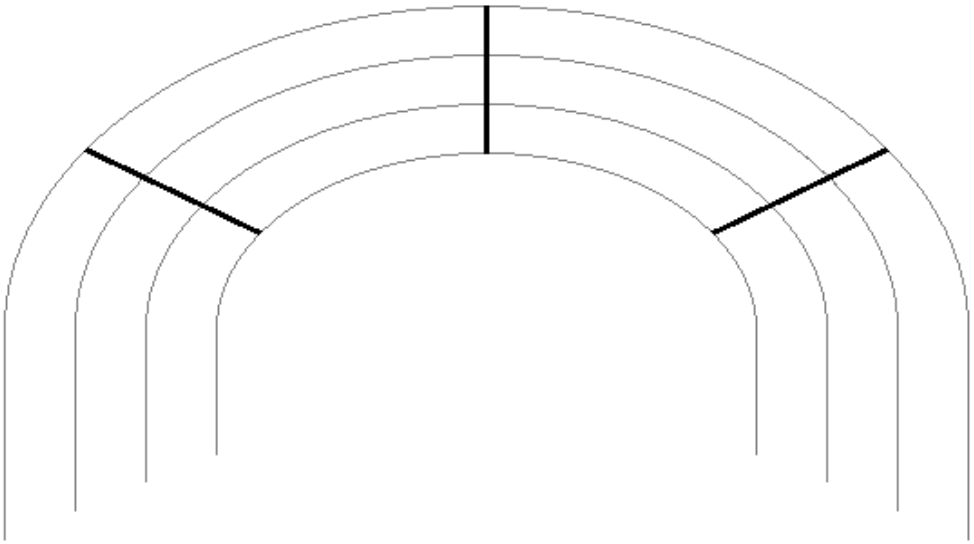


Fig14

Once happy with the positions, tighten all the bolts and nuts and secure the ‘P’ Clips onto the ridge and the hoops using self drill screws.
Secure the ridge sections together using self drill screws located approximately 2cm away from the joins.
Fit a plastic end cap in each end of the ridge.

Side ridges are identical to the centre ridge and should be assembled using the same method. These side ridges should be suspended from the ‘P’ Clips located where the outer legs meet the inner hoops.



This diagram shows how the triple ridge should look once suspended from the hoops

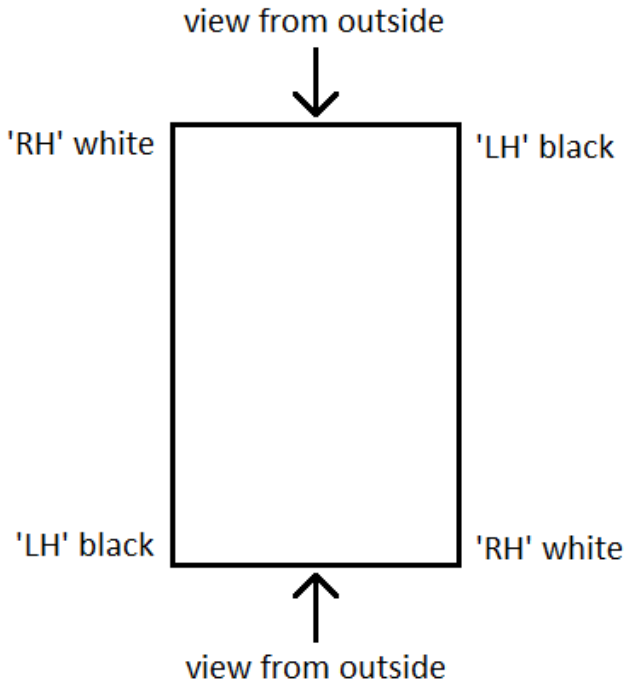
CORNER STABILISERS

These tubes are placed to form a triangle at each corner of the polytunnel **(Fig15)**.

Fig15

Stabilisers are right and left handed for opposite corners of the polytunnel and have their flat ends offset to accommodate the curve of the end hoop – The 'RH' pair are painted WHITE at the end and the 'LH' pair are painted BLACK to differentiate between them.

Note: Right and left hand should be viewed from the outside of the polytunnel looking at the end.



Place a ’P’ Clip around the second to end hoop with the leg of the P towards the inside edge of the hoop and pointing towards the end hoop. This ‘P’ Clip should be located 9 inches up from the ground. Bolt one end of a corner stabiliser to this ’P’ Clip but do not tighten **(Fig16)**.

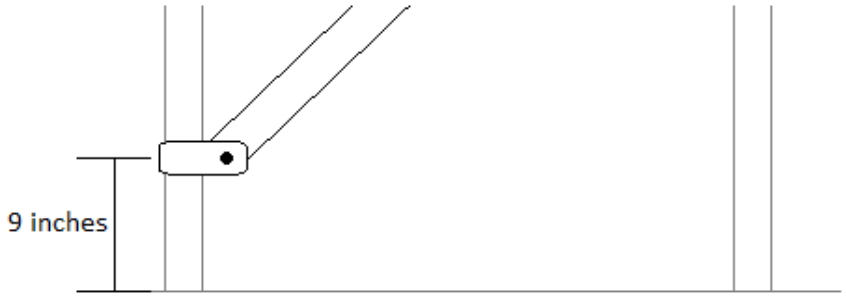


Fig16

Place a ’P’ Clip around the end hoop, again with the leg towards the inside edge and pointing towards the second hoop. Bolt the corner stabiliser to this ’P’ Clip but do not tighten.

Check the ’P’ Clip on the second to end hoop is still located 9 inches up from ground level, if it has moved then simply slide the clip up or down the hoop until back in position. Tighten this ’P’ Clip and secure with a self drill screw making sure the head of the screw does not protrude past the hoop.

Using a spirit level to check the end hoop for vertical, slide the ’P’ Clip up or down the hoop until in the correct position. Tighten and secure the ’P’ Clip using a self drill screw making sure the head of the screw does not protrude past the hoop **(Fig17)**.
The predrilled holes in the ‘P’ Clip may not be in a suitable location for the self drill screw, but the screw will make its own hole in a place suitably clear of the polythene.

Fig17

Repeat this process at each corner of the polytunnel.

ROOF STABILISERS

Roof stabilisers attach to the second to end hoop using ‘P’ Clips located approximately 12 inches either side of the centre ridge **(Fig18)**.

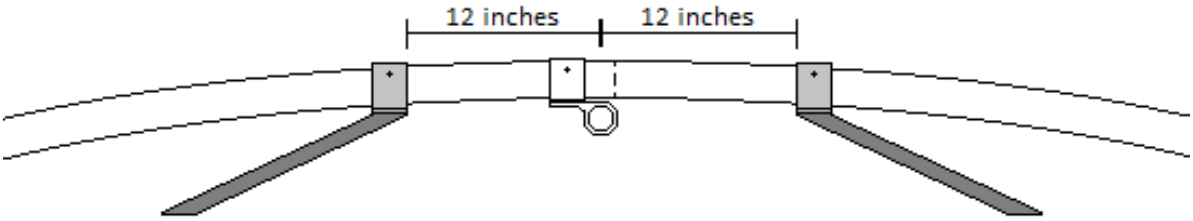


Fig18

Place another two ‘P’ Clips on the end hoop, one each side of the centre ridge. Bolt the roof stabiliser to these ‘P’ Clips but do not tighten.

Secure the ‘P’ Clips to the second to end hoop with a self drill screw, making sure the head of the screw does not protrude outside of the polytunnel.

You will find that the roof stabilisers angle down to the end hoop **(Fig19).**

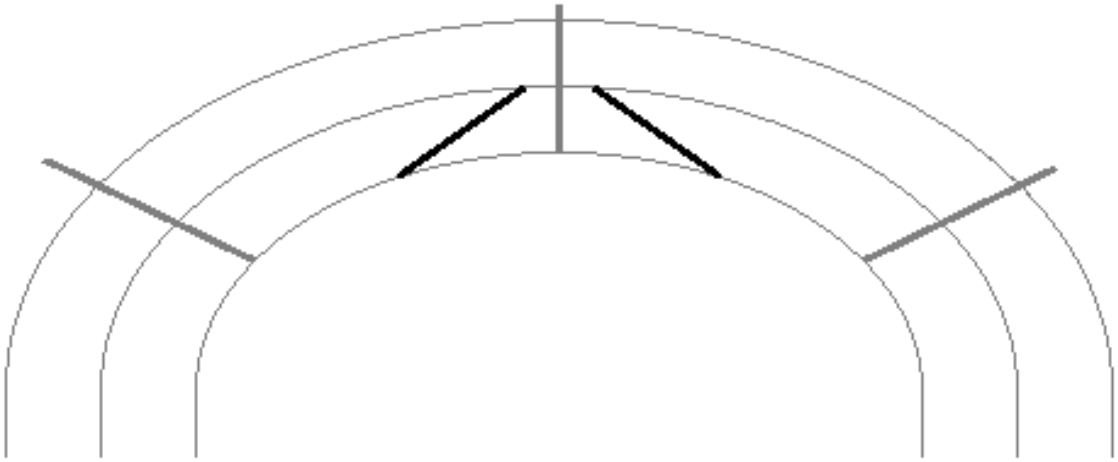


Fig19

If the end hoop bows in or out of the tunnel, adjust the ‘P’ Clips along the hoop until it runs flat. Tighten and secure the ‘P’ Clips with a self drill screw, making sure the head of the screw does not protrude outside of the polytunnel.

CROP BARS

Crop Bars are an optional extra and are placed on all intermediate hoops **(Fig20)**.

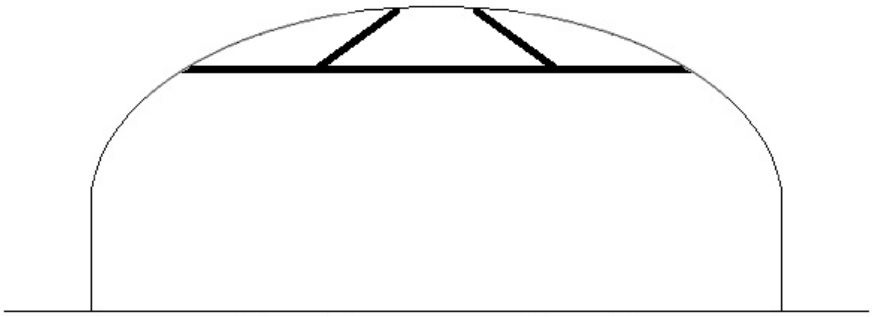


Fig20

Place a 'P' Clip around each intermediate hoop, below each of the side ridges.
Slide the two crop bar sections together and bolt each end up to the 'P' Clips leaving the bolts loose.

Using a spirit level to check the crop bars are level horizontally, slide the 'P' Clips along the hoop until in the correct position. Tighten and fix the 'P' Clips with a self drill screw making sure the head of the screw does not protrude past the hoop.

Secure the two crop bar sections together with a self drill screw located no more than 4cm from the join **(Fig21).**

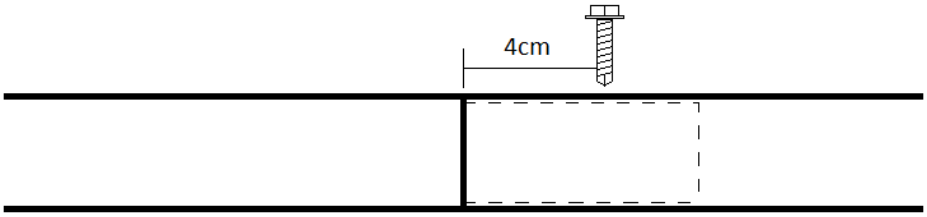


Fig21

Place two 'P' Clips around the crop bar so it is split into three equal sections, and bolt a diagonal support to each of these 'P' Clips leaving the bolts loose.

Place two further 'P' Clips around the hoop either side of centre and angle the diagonal supports up to the 'P' Clips. Bolt the supports to the 'P' Clips, tighten and fix with a self drill screw **(Fig22)**.

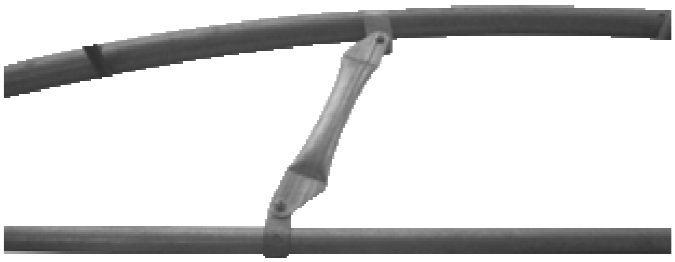


Fig22

Adjust the supports along the crop bar until it doesn't dip or rise along the length, and once happy with the position tighten and fix the 'P' Clips to the crop bar.

STAGING SUPPORTS

Using a flat surface, assemble your staging legs. These consist of a 900mm long top that is flattened at each end, and a 750mm long leg that is flattened at one end and plain at the other.

Bolt one end of the top to the flattened end of the leg and tighten.

Place a 'P' Clip around the top and one around the leg. The 'P' Clips should be facing inside the staging leg **(Fig23).**

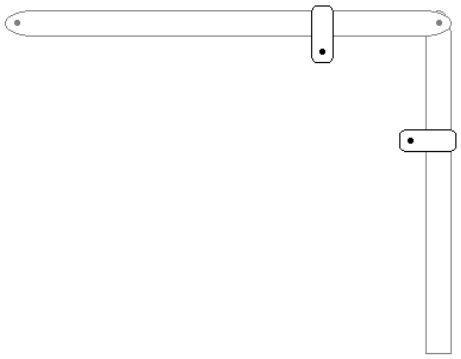


Fig23

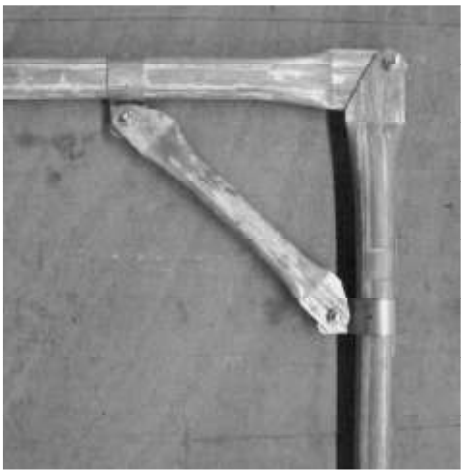


Fig24

A 28mm diameter, 300mm long diagonal brace that is flattened at each end is fixed to these 'P' Clips across the corner of the staging leg. Loosely attach this brace to the 'P' Clips.
Adjust the 'P' Clips along the top and the leg until they are at a right angle to each other. Tighten and fix the 'P' Clips with a self drill screw **(Fig24)**.

A plastic end cap is inserted into the bottom of the leg.

Place a 'P' Clip around the hoop and bolt the staging leg to this 'P' Clip, check the staging leg for level horizontally and vertically and once in position tighten and fix the 'P' Clip to the hoop **(Fig25)**.

Fig25

We suggest that you fix the two end staging supports first. These should angle in slightly from the end of the polytunnel to avoid the cover.
Position the centre staging legs and align them with the end legs. Use a hard pad to stand the leg on when placing the support on a soft base – This will help prevent the leg from sinking.

TIMBER POLYTUNNEL DOORS

3 inch x 2 inch timber is used for the doors.

Using a flat surface or bench take the two 3 inch x 2 inch x 2.13m door legs and, using eight Corner braces and screws, fix the four 1060mm cross pieces between the legs one at each end and one approximately 500mm from each end **(Fig26)**.

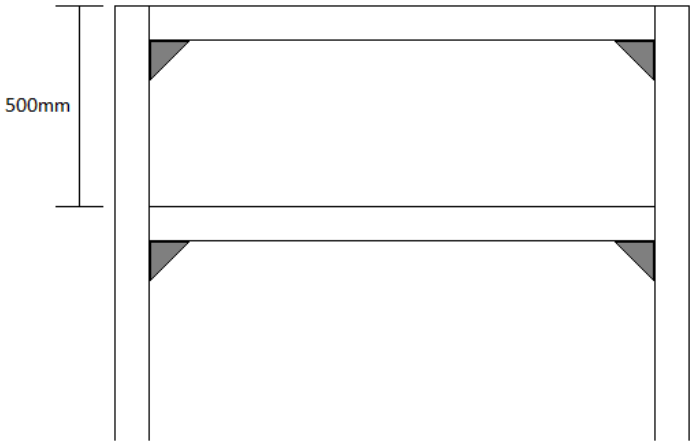


Fig26

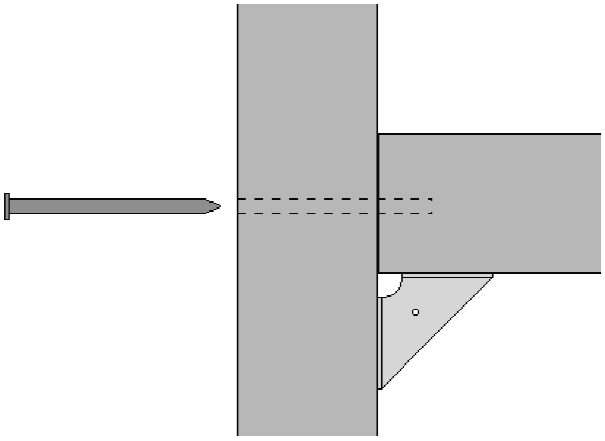


Fig27

Drill through each of the door legs into the cross pieces and nail together using the 6 inch nails provided **(Fig27).**

Tack the polythene panel to each door and get as much tension as possible on the polythene – a staple gun comes in handy here.

Nail a full 2.4m length of batten on top of the polythene from the top corner of the door (on the side that will have hinges on) diagonally down to the second to bottom cross piece **(Fig28).**

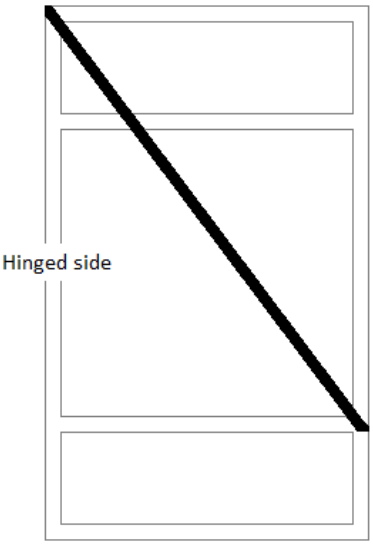


Fig28

Cut two pieces of 19mm x 38mm batten the full width of the door and nail these on top of the polythene at each end **(Fig29)**, making sure there is a nail at each side of the joint of the frame. This is important as it gives the door added stiffness.

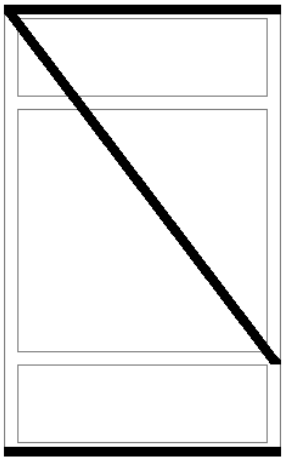


Fig29

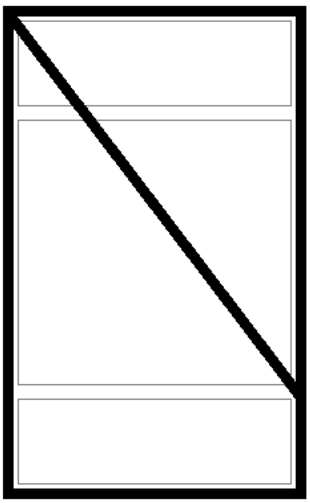
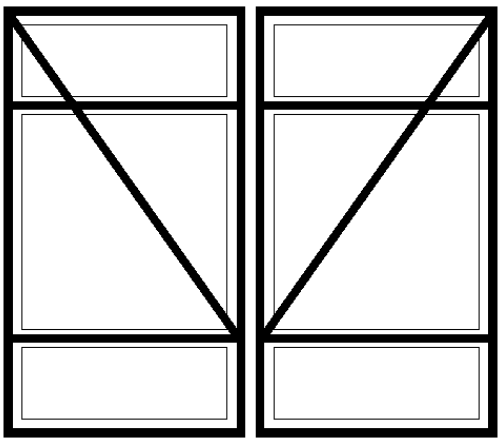


Fig30

Cut two battens to fit down the door legs and nail in position, nails should be approximately 4 inches apart **(Fig30)**.

Line the battens up along the outside edge of the door.
Cut and fix the final two battens across the intermediate cross pieces and trim off all excess material around the edges.



The above drawing shows how the Doors and batten should look when they will be hung in the Door Frame.

DOOR HINGES

Two tee hinges should be screwed to the inside face of the door (opposite side to the battens) and mounted on the two intermediate cross rails **(Fig31).**

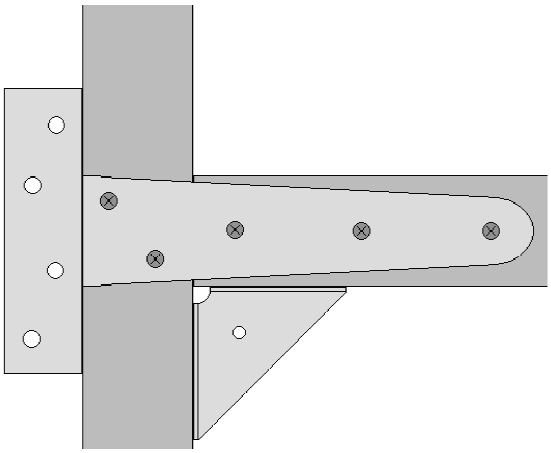


Fig31

HINGED DOOR CATCHES

Choose which door is to be the fixed one (this means the one that will open second). A 6 inch hasp and staple should be screwed to the top of the door and fix up to the lintel **(Fig32).**

A 6 inch tower bolt should be screwed to the bottom of the door and a 300mm long 28mm diameter tube should be knocked into the ground underneath this tower bolt when the door is in the closed position. Making sure not to knock the tube in so far that the tower bolt no longer reaches down into it to hold shut **(Fig33).**

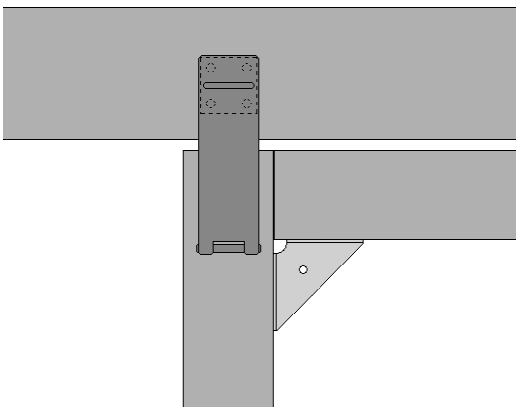


Fig32

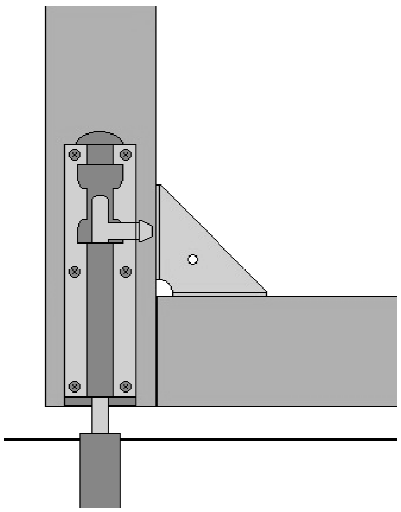


Fig33

Two 3 inch hasp and staples are fitted between the doors on the outside. These should be fitted to the two intermediate cross pieces **(Fig34).**

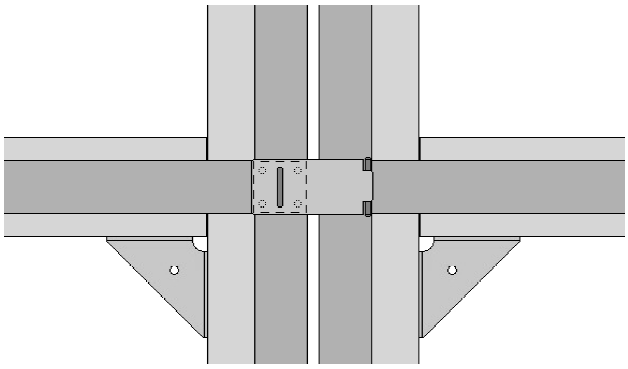


Fig34

OUTER DOOR FRAME

4 inch x 2 inch timber is used for the door frames. The 4 inch face of all the timbers, which make up the end frame, should face outwards.

Place a string line across the outside of the end hoop just above ground level.

The door lintel is made up of two 2.4m lengths of 4 inch x 2 inch bolted together end to end using the 400mm long aluminium angle bracket and bolts. This bracket bolts to the inside of the lintel with the 2 inch side placed on the topside of the lintel **(Fig35)**. Make sure the two pieces of 4 inch x 2 inch are in line before drilling and bolting the angle bracket in place with two bolts each side of the join.

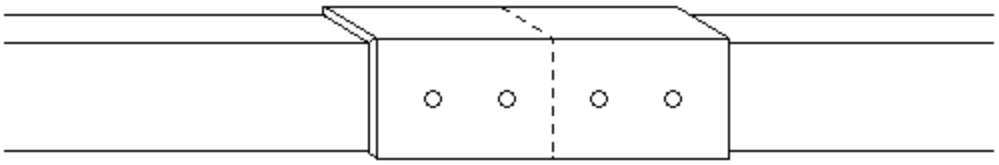


Fig35

Lay this 4.8m long timber lintel along the ground and centralise it between the end hoop legs. Make a note of the measurement from the leg of the hoop to the end of the lintel.

At each end of the lintel dig a hole, a minimum of 12 inches deep. Hold a 3.6m length of timber vertical with one end placed in the hole (with the 4 inch face of the timber facing outwards). Check that the measurement you noted earlier is maintained from the hoop leg to the **INSIDE** edge of the post. Check the timber for vertical and mark under the hoop – cut the timber on this mark.

Re-set the timber post in the hole and using a 'P' Clip – with the leg of the P down the back of the post – bolt in position but do not tighten. Back fill the hole keeping the post vertical and in line with the end hoop **(Fig36)**.

*****Please note: When placing a polytunnel on a hard base, Angle Brackets should be used to secure the bottom of the door posts (see Fig8 on page 8)*****

Double check the post for vertical and adjust the ‘P’ Clip along the hoop if necessary before securing to the hoop with a self drill screw.

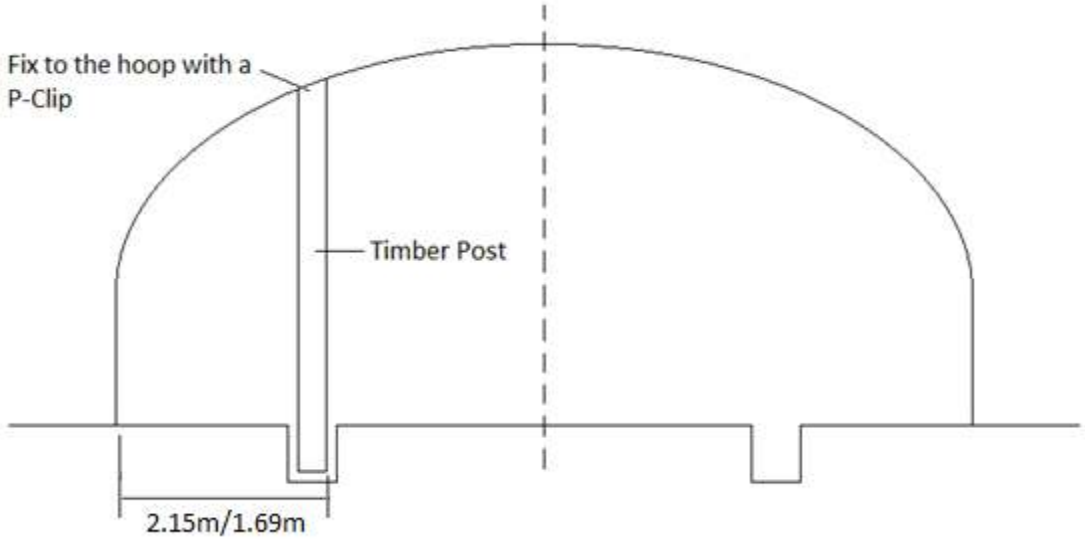


Fig36

Your first post is now in position from which the rest of the end frame is constructed. Repeat the previous operation with the second post but leave it hanging loose in the hole with the ‘P’ Clip unsecured **(Fig37)**.

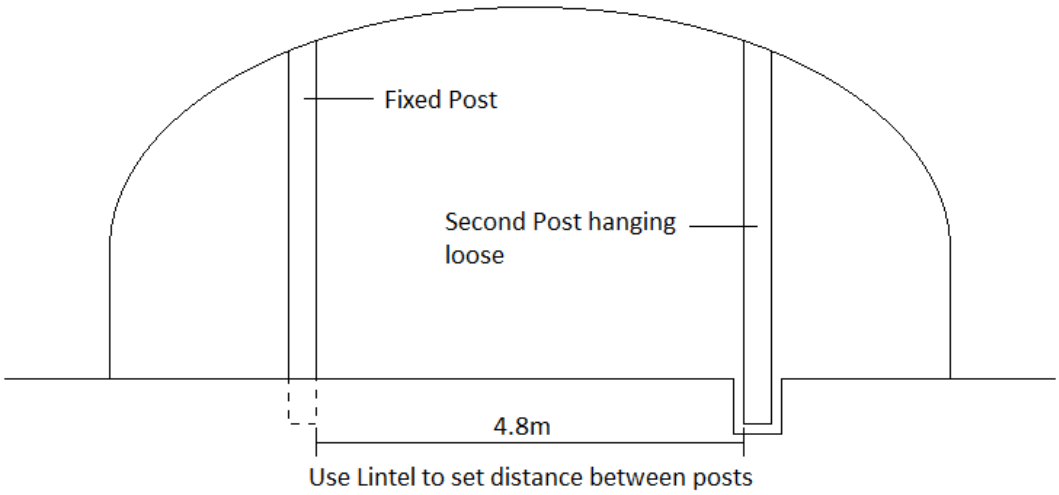


Fig37

Using the 4.8m long timber lintel as a gauge, place this between the posts at the base. Adjust the loose post into position touching the gauge and in line with the end hoop. Back fill the hole.
It now requires the lintel to be placed in position between the posts no less than 2.2m above ground level to the underside of the lintel. This allows the 2.13m high door 50mm to clear. (This clearance can be adjusted to suit the individual).

For hinged doors, at a height of 2.2m above ground level mark the fixed post – This will be the point where the underside of the lintel will sit. For sliding doors this mark should be at a height of 2.17m.

At a point 2 inch above this mark drill a 5mm hole through the side of the post – Don’t worry if your drill does not go all the way through. Move the lintel up between the posts until the underside is in-line with the mark on the fixed post. Drive a 6 inch nail through the pre-drilled hole and into the end of the lintel.

Using a spirit level, keep the lintel level horizontally between the two posts. Adjust the loose second post along the hoop until tight up to the lintel. Drill a 5mm hole through the post and drive a 6 inch nail through the post and into the lintel (checking at all times that the lintel is level horizontally). Tighten and secure the 'P' Clip on the loose post and place a nail plate over each side of each joint **(Fig38)**.

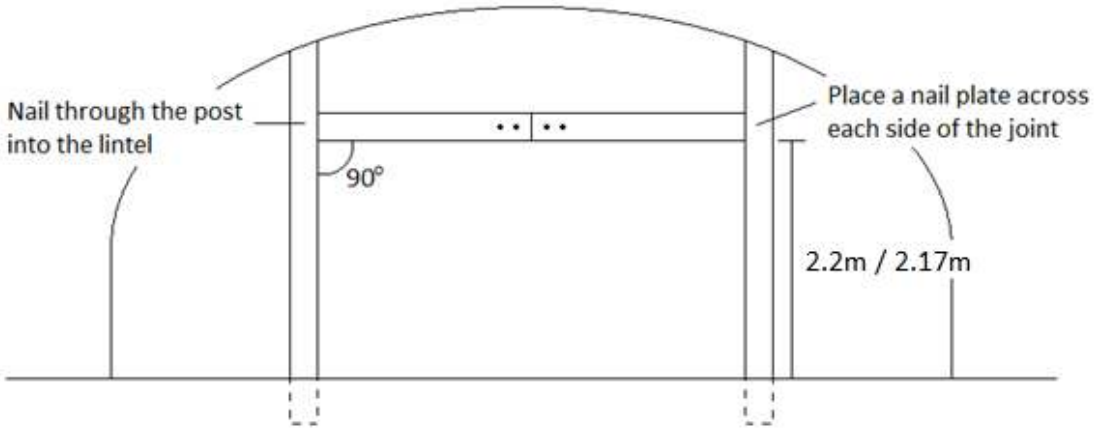


Fig38

Two timber verticals are placed between the lintel and the hoop. Mark the lintel 800mm each side of centre. This will be the position for the inside edge of the timber verticals.
Cut each vertical underneath the hoop, checking that the lintel is still level horizontally. Once satisfied with the positioning fix and secure the verticals to the hoop using 'P' Clips and to the lintel using a 6 inch nail and nail plate on both sides of the joint **(Fig39).**

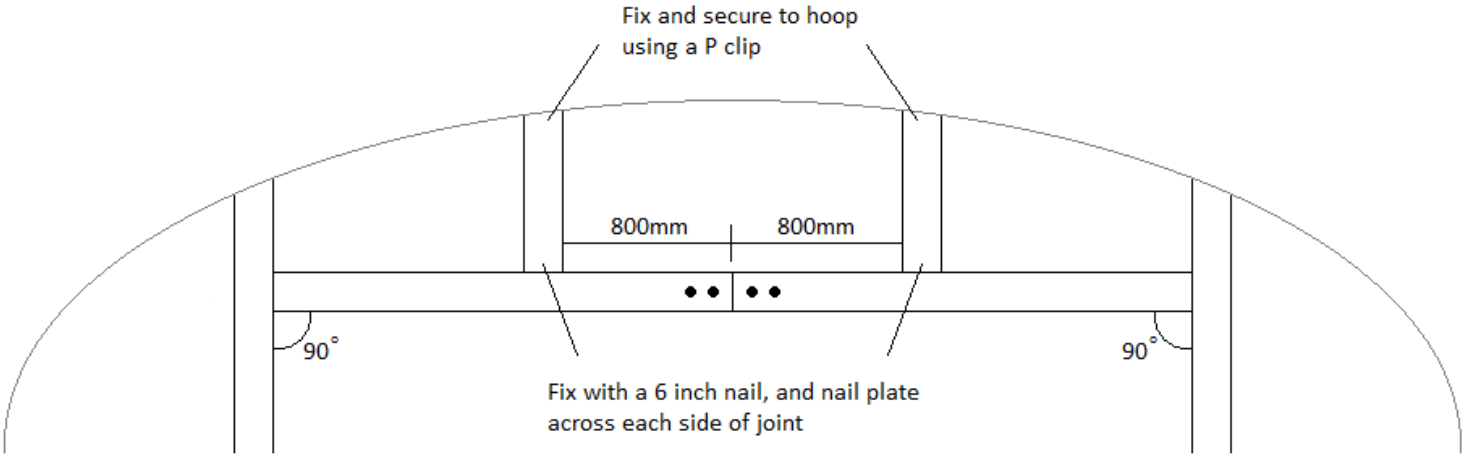


Fig39

INNER DOOR FRAME - HINGED DOORS

Check the width of your previously assembled doors – This will be approximately 1200mm.

Mark the door lintel 5mm greater than this measurement each side of centre – This will be the position for the inside edge of the inner door post.
Dig a hole at a minimum of 12 inches deep directly under these marks.

Place a 2.4m long inner door post in the hole and cut the post under the lintel. Hang this cut inner door post under the lintel with the inside edge in line with the mark on the lintel and, after drilling down through the lintel, nail in position with a 6 inch nail. Place a nail plate over each side of the joint. Hold a door against the post and lintel to act as a square and back fill the hole keeping the post in line with the hoop and outer door post **(Fig40).**

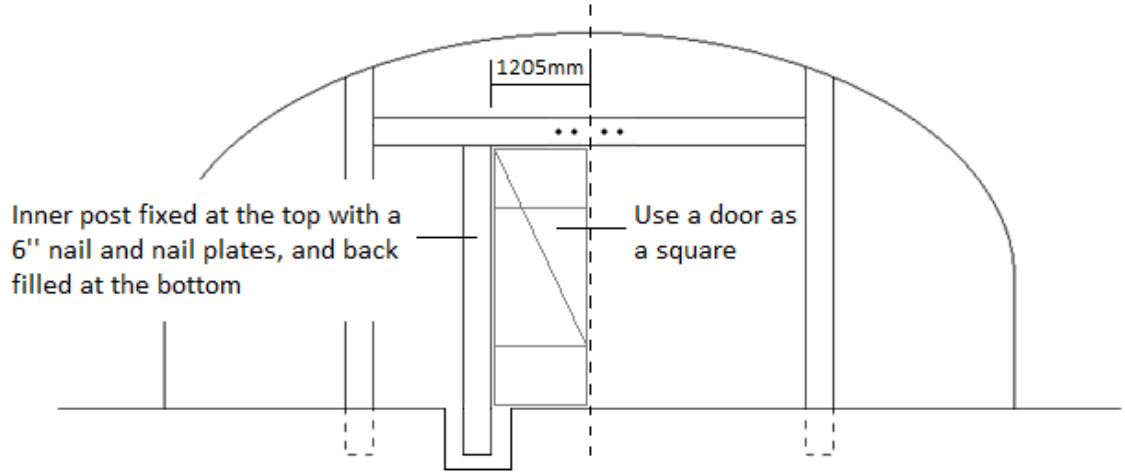


Fig40

Cut a piece of 4 inch x 2 inch timber to fit at ground level between the outer post and inner post, and fix using 6 inch nails and nail plates **(Fig41).**

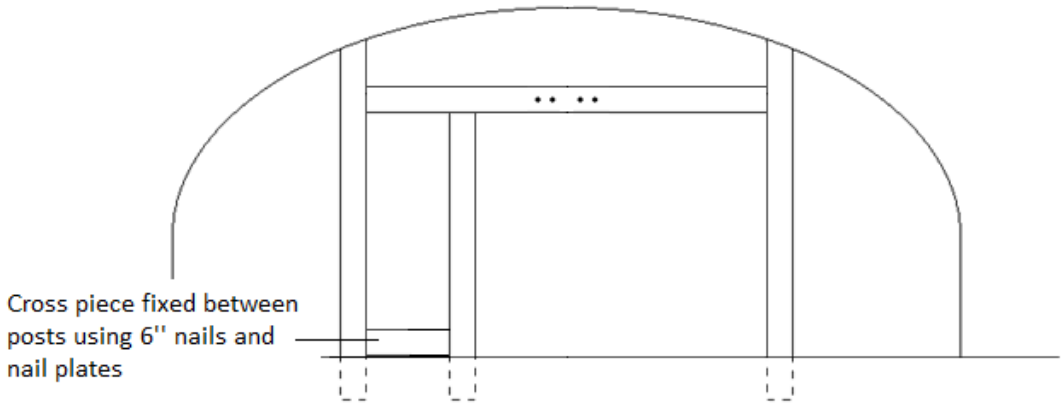


Fig41

Now you can hang the first door. The hinges should be on the inside – This will allow the door to open inwards. Leave enough clearance between the door and lintel to allow the door to open and close without catching at the top or bottom.

Cut the second inner door post using the same method as the first, but do not fix to the lintel. Position this post loosely in the hole.
Hang the second door on this post at the same height as the first and adjust the post to get an equal gap (approximately 1cm) between the two doors before back filling the hole and fixing to the lintel. Cut and fit a short cross piece between the posts **(Fig42).**

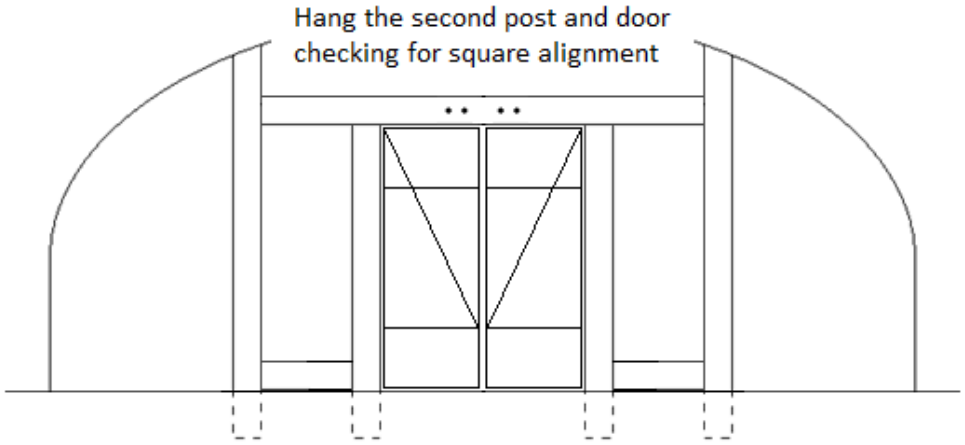


Fig42

*****Please note: When placing a polytunnel on a hard base, Angle Brackets should be used to secure the bottom of the Door Posts (see Fig8 on page 8)*****

INNER DOOR FRAME - SLIDING DOORS

Mark the door lintel 1180mm each side of centre – This will be the position for the inside edge of the inner door posts.
Dig a hole at a minimum of 12 inches deep directly under these marks.

Place a 2.4m long inner door post in the hole and cut the post under the lintel. Hang this cut inner door post under the lintel with the inside edge in line with the mark on the lintel and, after drilling down through the lintel, nail in position with a 6 inch nail. Place a nail plate over each side of the joint. Checking that the post is vertical, back fill the hole keeping the post in line with the hoop and outer door post **(Fig43).**

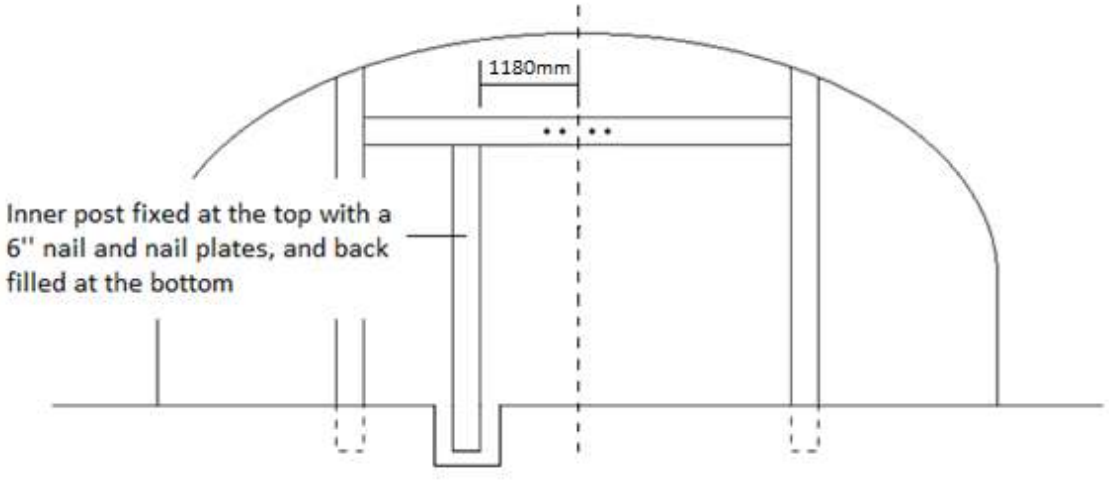


Fig43

Cut a piece of 4 inch x 2 inch timber to fit at ground level between the outer post and inner post, and fix using 6 inch nails and nail plates **(Fig44).**

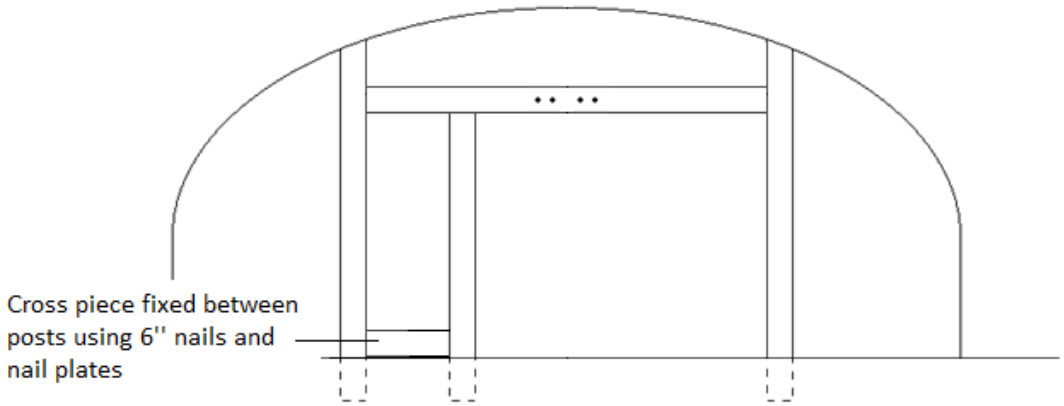


Fig44

Fix the second inner door post using the same method as the first, checking the post for vertical and making sure it remains in line with the hoop and outer door post **(Fig45).**
Fix a cross piece between the outer and inner post using the same nail and nail plate method as before.

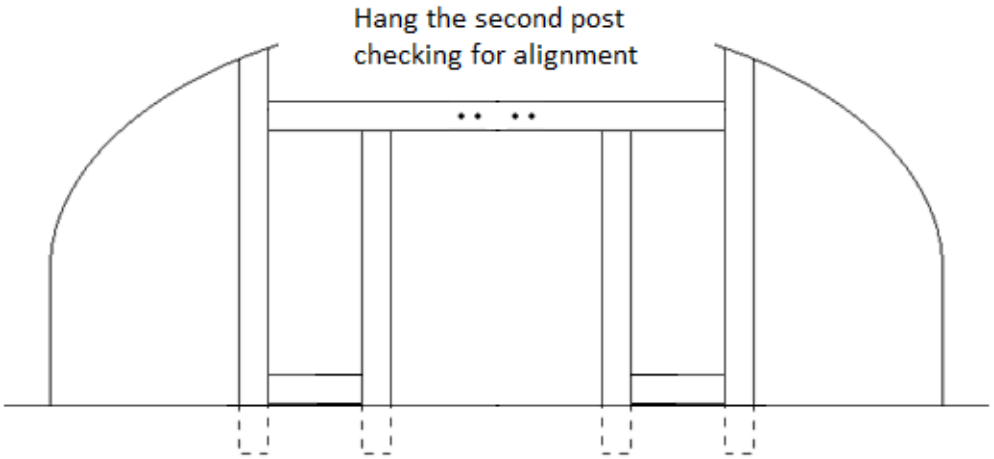


Fig45

*****Please note: When placing a polytunnel on a hard base, Angle Brackets should be used to secure the bottom of the Door Posts (see Fig8 on page 8)*****

LINTEL STABILISERS

Two lintel stabilisers are placed between the second hoop and the door frame at each end **(Fig46)**. These bars are 2.1m long and flattened at both ends, with one end bent at an angle.

Place a 'P' Clip above each of the side ridges on the second hoop. From these 'P' Clips, loosely hang two stabilisers. Move the 'P' Clips along the hoop until the opposite end of the stabilisers meet the door frame lintel approximately 1.4m in from the outer door posts **(Fig47)**.

Drill a 9mm hole through the stabilisers flattened end and the timber lintel, and bolt in place using a M8 x 75mm cup square bolt.

Finally adjust the 'P' Clips along the hoop until the timber lintel is level with the end hoop (Doesn't bow inwards or outwards). Once happy with the position tighten the 'P' Clip and fix in place with a self drill screw.

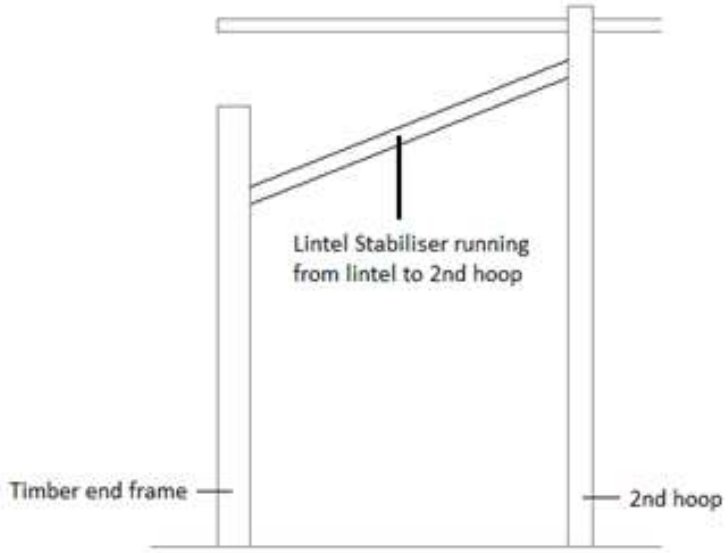


Fig46

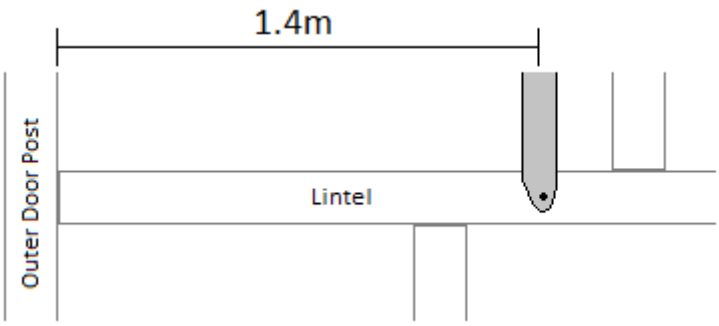


Fig47

FORMING A REBATE FOR YOUR DOOR FRAME

The main cover of the polytunnel is held in place by a rebate which is created on the front face of the end frame using battens. Immediately prior to fixing the rebate battens the two 'polythene panels' either side of the doors should be tacked in place to the front face of the end frame timbers – A staple gun comes in handy here. Get as much tension as possible on the polythene panels.

As the battens holding the polythene panels to the inner door posts and cross piece between the inner and outer door/end frame posts are not required for the main cover, they can be placed anywhere on the face of the 4 inch x 2 inch timber. These battens should not overlap onto to lintel or outer posts by more than a ½ inch.

The other battens, you will notice from the drawing, are placed to the outside edge of the outer posts and the top edge of the lintel **(Fig48)**. This is **IMPORTANT** as the main cover comes over these battens and is held in place by another batten nailed alongside the rebate batten and on top of the main cover. The rebate battens running down the outer door post should end at least 3 inches from the ground, this allows the base rails to be fitted to the post.

*****PLEASE NOTE: If Side rails are being used then leave a gap in the rebate battens (1m above ground or 800mm if using a side ventilation screen) so that these rails can be attached to the outer posts at a later stage*****

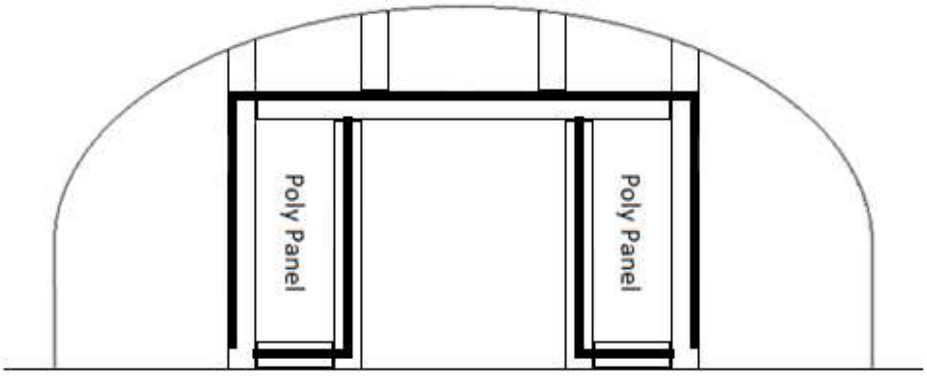
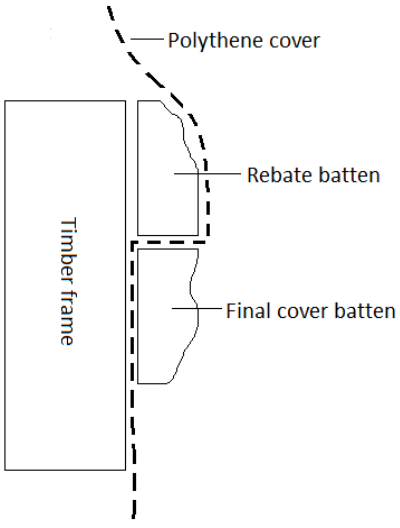


Fig48

Please note the exact position of the rebate battens (dark lines) in relation to the edge of the 4 inch x 2 inch timber.



The drawing opposite is an example of polythene fixing method using two battens.

*****Please note that the batten is a rustic product and only requires two faces to be machines smooth, these should be placed as in the picture*****

TIMBER BASE RAILS

3 inch x 1.5 inch timber is used for the timber base rails.

This timber rail goes around the outside of the polytunnel framework at ground level and finishes at the outer posts of the end frames **(Fig49)**.

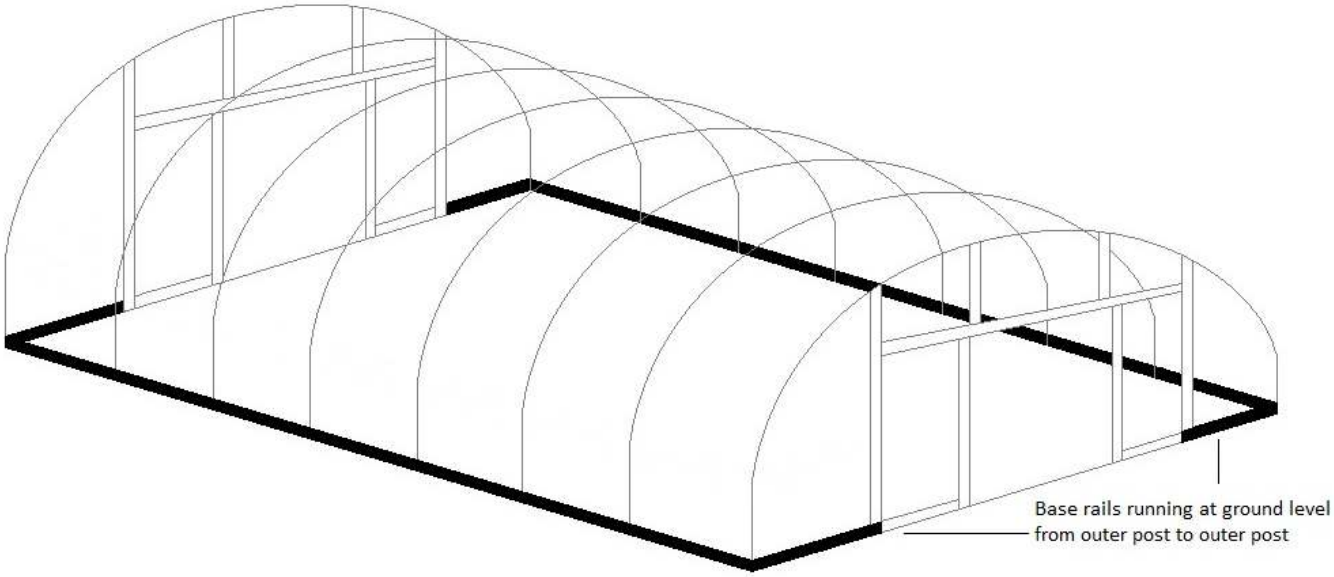


Fig49

The rails are supplied in standard lengths and depending on the length of the polytunnel short sections will require a join. To make the best use of the timber and avoid too many small joins one of the end timbers should be fixed in place first – This timber should be bolted to the outside face of an outer door post at ground level.

Drill a 9mm hole through the end timber and door post (drill straight through the nail plates, but try to avoid the 6 inch nail) and bolt in place with a 100mm cup square bolt with a washer under the nut on the inside **(Fig50)**.
If the polytunnel is being placed onto hard standing then drill the 9mm hole through the angle bracket on the inside of the outer post and through the end rail. The 100mm bolt then fixes the end timber, outer post and angle bracket together.

Fig50

Place a corner bracket around the hoop approximately 1 - 2 inches above the ground **(Fig51)**. Bolt the end timber to the corner bracket and cut off the excess timber, leaving it overhanging the hoop by 3 inches.

Take this off cut timber and join it to another full length of timber end to end and in line using a nail plate on the inside of the joint **(Fig52)**. This extended rail is then the start of the side timbers which run the full length of the polytunnel at ground level.

Fig51

Fig52

Butt this side timber up to the overhang on the previously fixed end timber. Bolt the side timber to the corner bracket **(Fig53)**.

Hammer a 4 inch nail through the end timber and into the end of the side timber. Cut off the small overhang.

Where a side timber crosses an intermediate hoop a “saddle clamp” is used to fix the timber to the hoop **(Fig54)**.

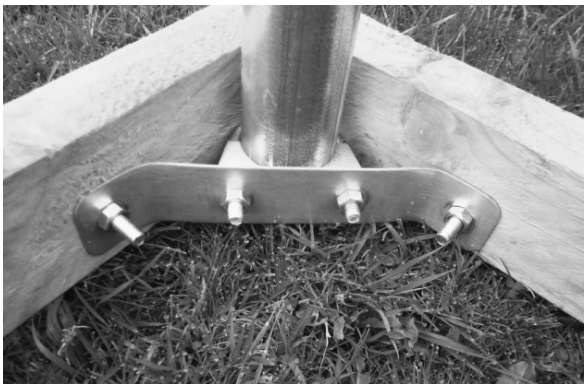


Fig53

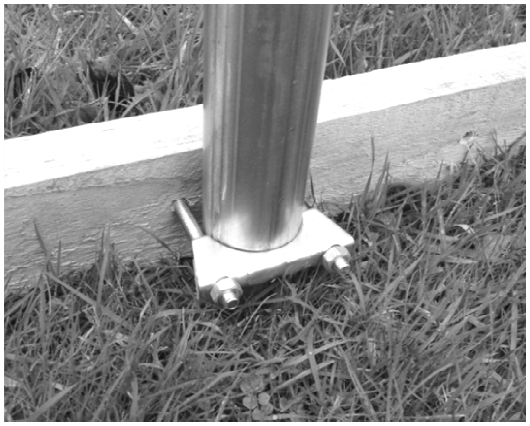


Fig54

Continue adding lengths of timber all the way down the side of the polytunnel using nail plates to join them together.

If the overhang at the end isn’t sufficient to complete the second end rail, cut another full length of timber to fit or join two shorter lengths together.

Repeat this process on the other side of the polytunnel.

FORMING A REBATE FOR YOUR BASE RAILS

*****PLEASE NOTE: If you are using a Timber Side Rail it is not necessary to create a rebate on the Timber Base Rails as the ventilation net will be secured to the Base Rail adequately with a single batten*****

In order that the polythene cover can be attached easily and securely, a rebate needs to be formed around the Base Rails. To do this a batten is nailed around the top edge of the Base Rails **(Fig55)**. Where a batten crosses a joint a nail should be positioned at each side of the joint, this will make the joint more robust.

Fig55

Once you have formed the rebate all the way around from outer post to outer post it is necessary to cut off (at an angle) any rebate that protrudes at the corners **(Fig56).**

Fig56

TIMBER SIDE RAILS AND VENTILATION NET

Timber side rails are identical to timber base rails and should be fixed using the same method (see 'timber base rail' section on page **27**) but placed **1m** from the ground on the straight side of the polytunnel leg **(Fig57)**.
If a ventilation screen kit is to be used then it is required that the side rail runs as level horizontally as possible and there is no more than 800mm between the base rail and side rail (please see 'ventilation screens for timber base and side rails' section on page 31), this is so the screen can wind up and down with ease.

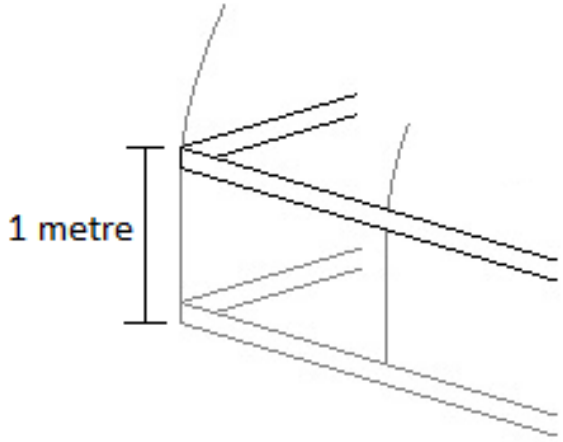


Fig57

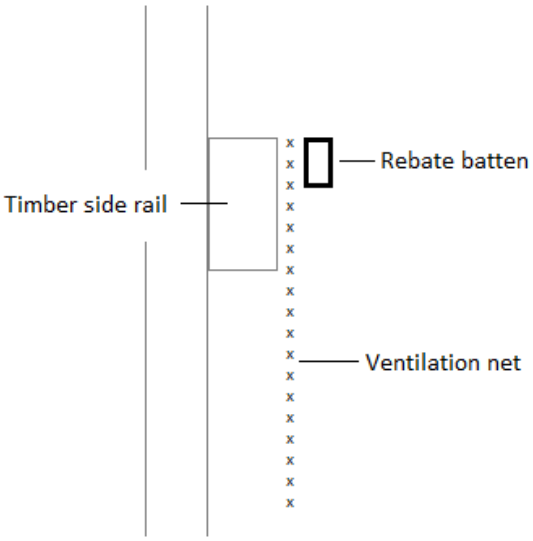


Fig58

The ventilation net should be trapped between the timber side rail and the rebate batten, along the top edge of the side rail (leaving some excess at each end) from outer post to outer post **(Fig58)**.

PLEASE NOTE: If a ventilation screen kit is being used then the ventilation screen polythene should be placed between the netting and the timber side rail **(Fig59).** The ventilation screen and the netting should only run down the length of the tunnel and not around to the outer posts.

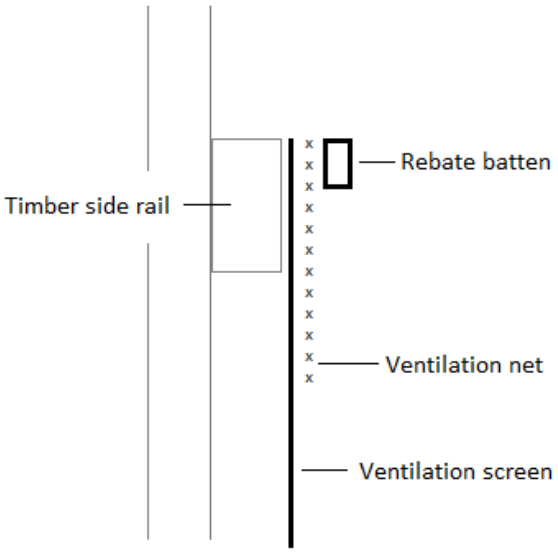


Fig59

With a ventilation screen kit the polythene infill panels should be placed between the side rail and the rebate batten on the ends of the tunnel, and should come around the corners by approximately 24 inches **(Fig60).**

Fig60

VENTILATION SCREENS FOR TIMBER BASE AND SIDE RAILS

Your pack will include an 800mm long piece of timber with an aluminium track screwed in place – this 800mm length can be used to set the gap between the timber base rails and timber side rails.

*****IT IS IMPORTANT THAT THIS GAP IS 800mm*****

This piece of timber and a similar piece without the track attached are the verticals which are placed between the base rail and side rail at each corner at a later stage. On tunnels over 60ft long the verticals at each end of the tunnel will have an aluminium track screwed in place, and the vertical without the track is placed half way down the length of the tunnel.

A plate, as shown in the next picture, should be placed behind the Corner Bracket on the end hoops only – the plate on the base rail should point upwards and the plate on the side rail should point downwards. The plate should be on the side of the polytunnel (not the end) and is used later to fix the vertical timbers **(Fig61)**.

Fig61

When a vertical is to be placed half way down the tunnel (on tunnels over 60ft in length) the two plates should be placed on one of the saddle clamp bolts – again with the base rail plate pointing upwards and the side rail plate pointing downwards **(Fig62)**.

*****If a hoop isn't located exactly half way down the length of the tunnel, then simply position the plates on the nearest hoop to the half way point*****

Fig62

Once the tunnel is covered and the side rail has been lowered back to its original position you can now drill and bolt in place the vertical timbers using the previously mentioned plates **(Fig63)**. The aluminium track is screwed to one edge of the timber – this edge of the timber should face down the length of the Polytunnel **(Fig64)**.

*****Don't forget to slide the gearbox mechanism into the track before fitting*****

Fig63

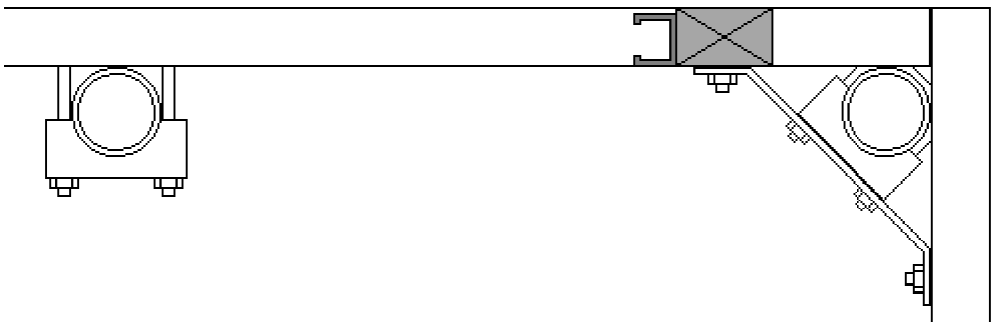


Fig64

Assemble the 28mm steel lifting tubes as a complete length, or two complete lengths for tunnels over 60ft in length, using the self drill screws with the square adaptor at the gearbox ends **(Fig65)**. Cut these tubes to fit between the vertical timbers with a little room for movement. Place a plastic end cap in the opposite end to the gearbox to finish it off neatly **(Fig66)**. Slot the square adaptors into the gearboxes with the steel lifting tubes resting on the top of the base rail.

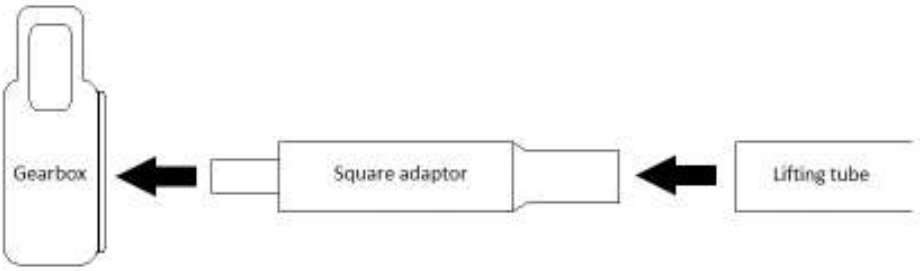


Fig65

Fig66

Trim the polythene screen in line with the ends of the lifting tube and trim off the excess along the ground leaving approximately 1ft of overlap **(Fig67)**.

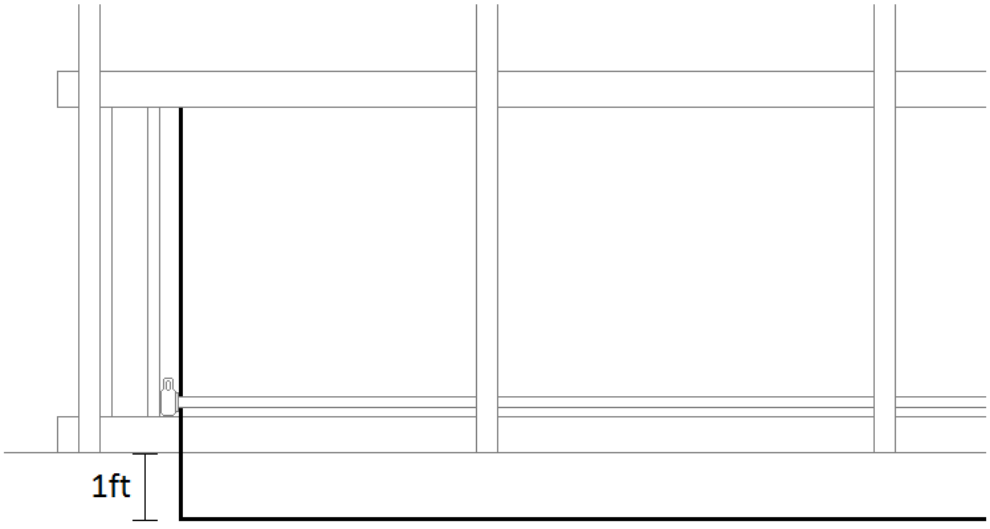


Fig67

Using the plastic ‘C’ clips provided, clamp the bottom edge of the screen to the tube **(Fig68)**. A ‘C’ clip should be placed approximately every 3ft along the tube.
Place the handle in the gearbox and wind the screen onto the lifting tube (including the excess polythene). If the screen does not roll up parallel, relocate the ‘C’ clips around the tube until it rolls up correctly **(Fig69)**.

Fig68

Fig69

Finally, on the ends of the polytunnel, tension the polythene end panels down to the base rail and out to the door posts, and batten in position **(Fig70)**.

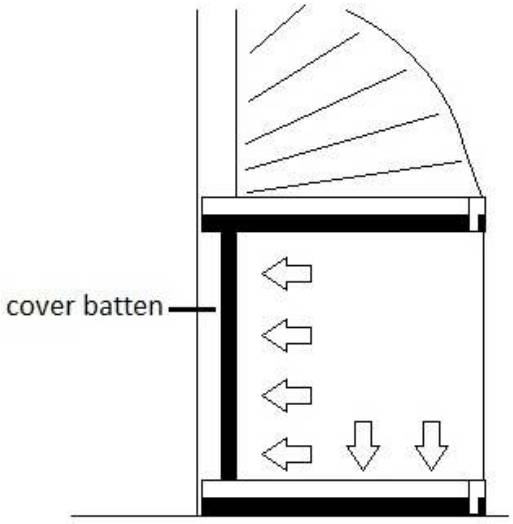


Fig70

Tension the side ventilation net down to the base rails and batten in place.

Finish by battening both the polythene end panels and side ventilation net onto the vertical timbers at each corner.

ALUMINIUM BASE RAILS

Tools required:
Hacksaw/Angle grinder 3mm Allen key (Supplied)
Always wear a dust mask and eye protection when using an angle grinder

This aluminium rail goes around the outside of the polytunnel framework at ground level, leaving only the door opening **(Fig71).**

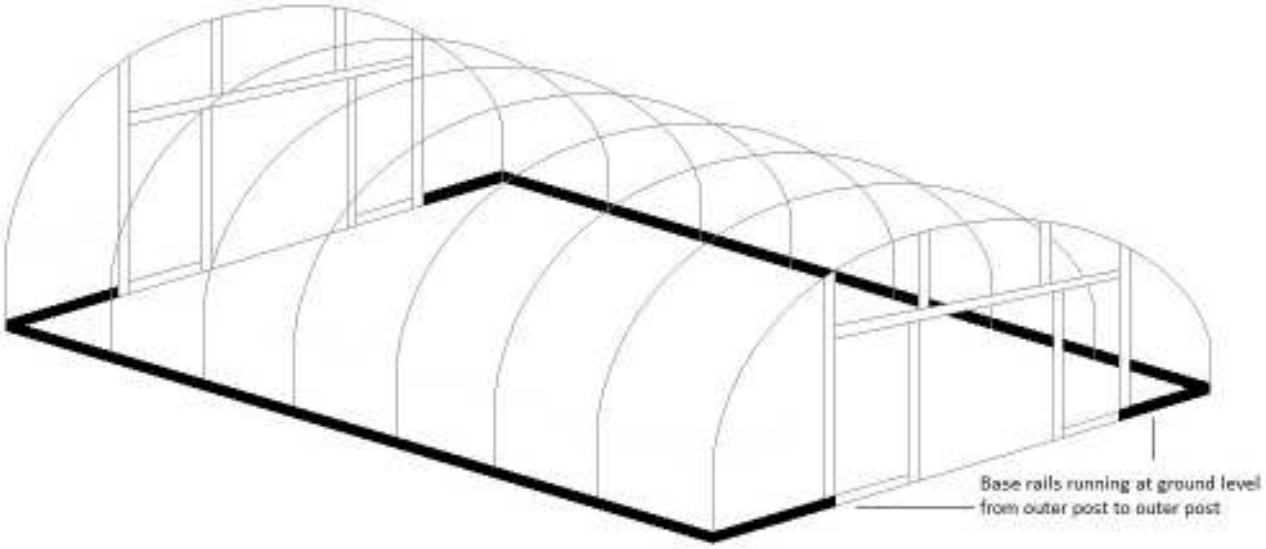


Fig71

The rails which make up the sides of the polytunnel are made up of a 3ft starter piece and 12ft extensions (tunnels of certain lengths will also have a 6ft extension). These aluminium sections are placed end to end and fixed at each hoop.

At each intermediate hoop a 'P' clip is used to fix the aluminium rails to the hoop **(Fig72).**
*****Please note: the bolts for these clips must be slid into the aluminium rail from the end*****

At the corners a corner bracket should be placed around the hoop and the aluminium rails bolted through this bracket **(Fig73).**

Fig72

Fig73

Wherever a joint in the rail occurs, a joiner is used to fix the two aluminium lengths together **(Fig74).** The grub screws for these joiners are tightened into the aluminium sections using the Allen key supplied. These joiners must be inserted as you add each section of base rail.

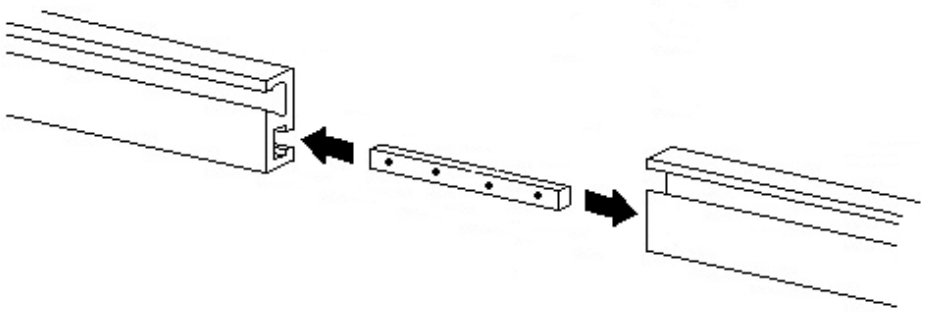


Fig74

Cut a length of aluminium (with either an angle grinder or a hacksaw) to fit across the front of each door post and butt up to the overhanging side rail.

*****On a 27ft wide tunnel cut a 6ft length of aluminium to fit, but on a 30ft wide tunnel join a 3ft length and a 5ft length together and then cut to fit*****

To attach the end rail to the door post drill a 9mm hole through the end rail and door post and bolt in place with a 65mm hex bolt with a washer under the nut on the inside **(Fig75)**.
If the polytunnel is being placed onto hard standing then drill the 9mm hole through the angle bracket on the inside of the door post. The 65mm bolt then fixes the end rail, door post and angle bracket together.

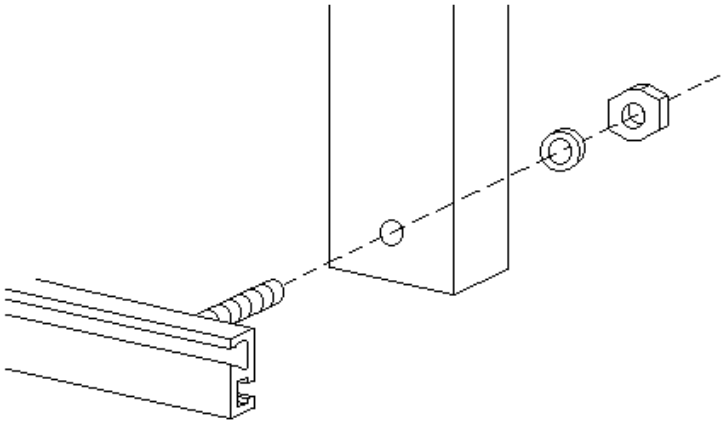


Fig75

Bolt the opposite end of the end rail to the corner bracket and cut off the overhang on the side rail. Make sure to smooth off any sharp corners to avoid the cover splitting at these points.

*****PLEASE NOTE: if a ventilation screen is being used then the base rail will require spacing out, see 'ventilation screens for aluminium base and side rails' section on page 38*****

ALUMINIUM SIDE RAILS AND VENTILATION NET

Tools required:
Hacksaw/Angle grinder 3mm Allen key (Supplied)
Always wear a dust mask and eye protection when using an angle grinder

Aluminium side rails are fitted identically to aluminium base rails and should be fixed using the same method (see 'aluminium base rail' section on page 35) but placed **1m** from the ground on the straight side of the polytunnel leg **(Fig76)**. The only difference being that instead of a single aluminium grip rail, a **DOUBLE** aluminium grip rail is used.

If a ventilation screen kit is to be used then it is required that the side rail runs as level horizontally as possible and there is no more than 800mm between the base rail and side rail. It is also required that the side rail is spaced out from the tunnel (please see 'ventilation screens for aluminium base and side rails' section on page 38), this is so the screen can wind up and down with ease.

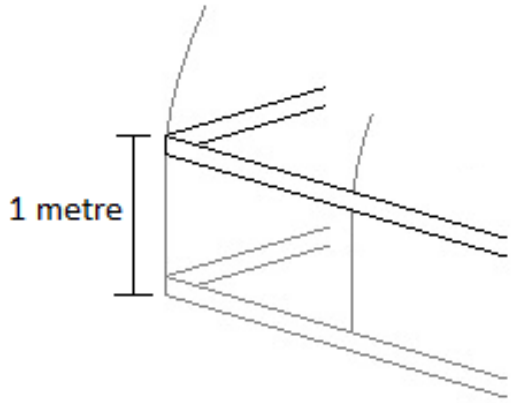


Fig76

VENTILATION SCREENS FOR ALUMINIUM BASE AND SIDE RAILS

Tools required:
Rubber hammer

Your pack will include an 800mm long piece of double grip rail with an aluminium track bolted in place – this 800mm length should be used to set the gap between the base rails and side rails.

*****IT IS IMPORTANT THAT THIS GAP IS 800mm*****

This piece of aluminium and a similar piece without the track attached are the verticals which are placed between the base rail and side rail at each corner at a later stage. On tunnels over 60ft long the verticals at each end of the tunnel will have an aluminium track bolted in place, and the vertical without the track is placed half way down the length of the tunnel.

When assembling the base rail and side rail it is necessary to space them out from the hoops to make room for the vent screen.

On the aluminium base/side rails this is done by placing plastic spacers on every bolt between the fixings and the Rails **(Fig77).** 25mm spacers are used for every intermediate hoop, and 35mm spacers are used for the end hoops.
Washers are placed either side of the spacers on the bolts, and an extra saddle clamp is used on every intermediate hoop **(Fig78)**.
On the end hoops, a flat plate should be placed over the bolt, between the spacer and the aluminium rail. The plate should be on the side of the polytunnel (not the end) and is used later to fix the verticals **(Fig77)**. The plate on the base rail should point upwards and the plate on the side rail should point downwards.

Fig77

Fig78

When a vertical is to be placed half way down the tunnel (on tunnels over 60ft in length) the two plates should be placed on one of the saddle clamp bolts, between the spacer and the aluminium rail – again with the base rail plate pointing upwards and the side rail plate pointing downwards **(Fig79)**.

*****Please Note: the rails at the ends of the tunnel (from hoop to door post) DO NOT require spacing out*****

Fig79

After raising the side rail and fitting the cover, push the side rails back down to their original position.
You can now bolt in place the verticals using the previously mentioned plates **(Fig77 & Fig79).**

Make sure the aluminium track faces down the length of the tunnel

Slide the gearbox into the track and insert a self drill screw approximately 5mm in from each end of the track to stop the gearbox from coming out **(Fig80)**.

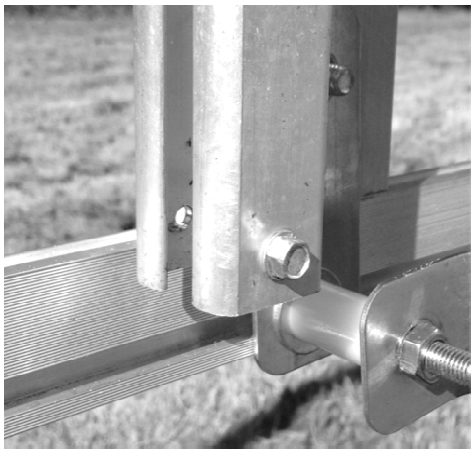


Fig80

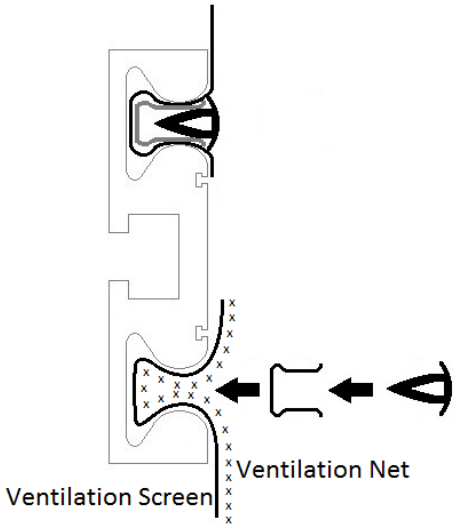


Fig81

The ventilation screen and the ventilation net are both fixed into the bottom cover slot down the length of the side rail, between the verticals.
The screen is to be placed in the slot first and then the net on top of it. Use the **BLACK** plastic 'U' profiles to fix these and NOT the grey profiles **(Fig81).**

Assemble the 28mm steel lifting tubes as a complete length, or two complete lengths for tunnels over 60ft in length, using the self drill screws with the square adaptor at the gearbox end **(Fig82)**. Cut these tubes to fit between the verticals with a little room for movement. Place a plastic end cap in the opposite end to the gearbox to finish it off neatly **(Fig83)**. Slot the square adaptors into the gearboxes with the steel lifting tubes resting on the top of the base rail.

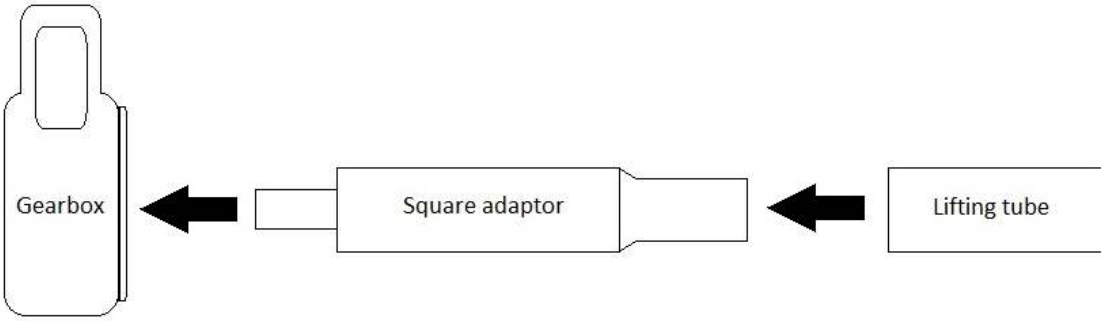


Fig82

Fig83

Trim the polythene screen in line with the ends of the lifting tube and trim off the excess along the ground leaving approximately 1ft of overlap **(Fig84)**.

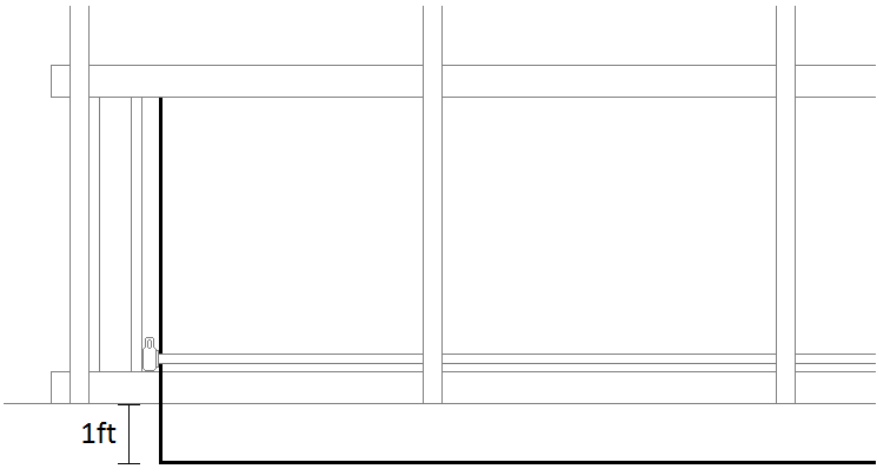


Fig84

Using the plastic ‘C’ clips provided, clamp the bottom edge of the screen to the tube **(Fig85)**. A ‘C’ clip should be placed approximately every 3ft along the tube.
Place the handle in the gearbox and wind the screen onto the lifting tube (including the excess polythene). If the screen does not roll up parallel, relocate the ‘C’ clips around the tube until it rolls up correctly **(Fig86)**.

Fig85

Fig86

Tension the ventilation net down to the base rails and out to the verticals, using **Grey** plastic ‘U’ profiles to fix in place.

Insert plastic ‘T’ profiles into all the ‘U’ profiles used.

With your order you will also have received polythene panels for each corner. Using the **Grey** plastic ‘U’ profiles fit these panels into the bottom cover slot of the side rail from the door posts at each end of the tunnel out to and around the corner to the verticals. Tension the panels down to the base rail and fit in place using a **GREY** plastic ‘U’ profile. Next tension the end panels out to the door posts and the verticals, using batten for the door posts and ‘U’ profiles for the verticals, fix in place **(Fig87)**.

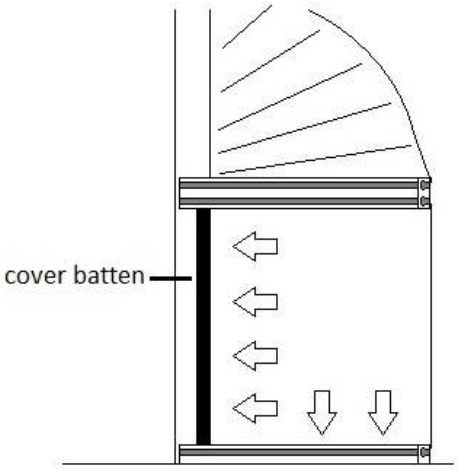


Fig87

VENTILATION SCREENS FOR TIMBER, ALUMINIUM COMBINATION

Tools required: Rubber hammer

Your pack will include an 800mm long piece of timber with an aluminium track screwed in place – this 800mm length should be used to set the gap between the base rails and side rails.

*****IT IS IMPORTANT THAT THIS GAP IS 800mm*****

This piece of timber and a similar piece without the track attached are the verticals which are placed between the base rail and side rail at each corner at a later stage. On tunnels over 60ft long the verticals at each end of the tunnel will have an aluminium track screwed in place, and the vertical without the track is placed half way down the length of the tunnel.

On the timber base/side rail a plate, as shown in the next picture, should be placed behind the Corner Bracket on the end hoops only – if the plate is on the base rail it should point upwards and if on the side rail it should point downwards. The plate should be on the side of the polytunnel (not the end) and is used later to fix the vertical timbers **(Fig88)**.

Fig88

When a vertical is to be placed half way down the tunnel (on tunnels over 60ft in length) the plate should be placed on one of the saddle clamp bolts – again pointing upwards if on the base rail and pointing downwards if on the side rail **(Fig89)**. The plate should be secured with a nut before the saddle clamp is attached.

Fig89

When an aluminium rail is being used it is necessary to space it out from the hoops to make room for the vent screen.
This is done by placing plastic spacers on every bolt between the fixings and the Rail **(Fig90).** 25mm spacers are used for every intermediate hoop, and 35mm spacers are used for the end hoops. Washers are placed either side of the spacers on the bolts, and an extra saddle clamp is used on every intermediate hoop **(Fig91)**.
On the end hoops, a flat plate should be placed over the bolt, between the spacer and the corner bracket. The plate should be on the side of the polytunnel (not the end) and is used later to fix the verticals **(Fig90)**. If the plate is on the base rail it should point upwards and if on the side rail it should point downwards.

Fig90

Fig91

When a vertical is to be placed half way down the tunnel (on tunnels over 60ft in length) the plate should be placed on one of the saddle clamp bolts, between the spacer and the saddle clamp – again pointing upwards if on the base rail and pointing downwards if on the side rail **(Fig92)**.

Please Note: the rails at the ends of the tunnel (from hoop to door post) DO NOT require spacing out.

Fig92

After raising the side rails and fitting the cover, push the side rails back down to their original position.
You can now bolt in place the verticals using the previously mentioned plates **(Fig88/Fig89 & Fig90/Fig92)**. The aluminium track is screwed to one edge of the timber – this edge of the timber should face down the length of the Polytunnel **(Fig93)**.

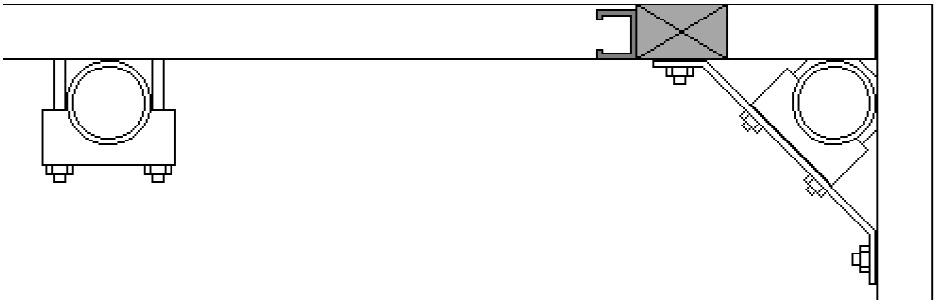


Fig93

Slide the gearbox into the track and insert a self drill screw approximately 5mm in from each end of the track to stop the gearbox from coming out **(Fig94).**

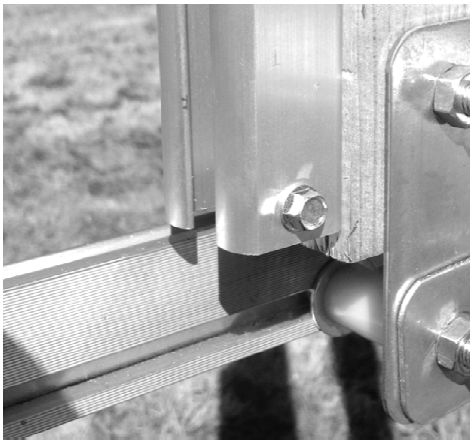


Fig94

Fig95

When using aluminium side rails you must now fit your polythene infill panels into the bottom cover slot of the side rail. These should go from the outer post of the door frame out to and around the corner to the verticals. Use the **Grey** plastic 'U' profiles to fix the panels into the side rail **(Fig95)**.

Next fix the ventilation screen and ventilation net into the bottom cover slot of the side rail, but only down the length of the tunnel corner to corner. The screen is to be placed in the slot first and then the net on top of it. Use the **BLACK** plastic 'U' profiles to fix these and NOT the grey profiles **(Fig96).**

Once all the plastic 'U' profiles have been inserted, secure them by inserting a plastic 'T' profile into them **(Fig96).**

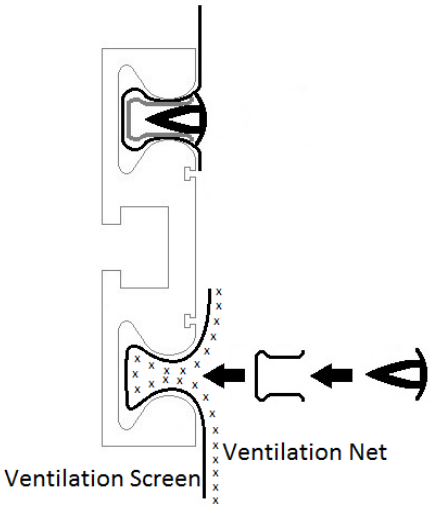


Fig96

Assemble the 28mm steel lifting tubes as a complete length, or two complete lengths for tunnels over 60ft in length, using the self drill screws with the square adaptor at the gearbox end **(Fig97)**. Cut these tubes to fit between the verticals with a little room for movement. Place a plastic end cap in the opposite end to the gearbox to finish it off neatly **(Fig98)**. Slot the square adaptors into the gearboxes with the steel lifting tubes resting on the top of the base rail.

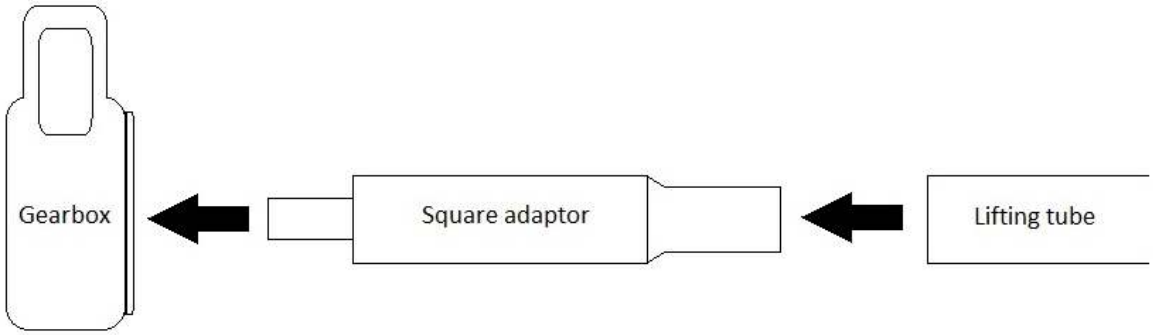


Fig97

Fig98

Trim the polythene screen in line with the ends of the lifting tube and trim off the excess along the ground leaving approximately 1ft of overlap **(Fig99)**.

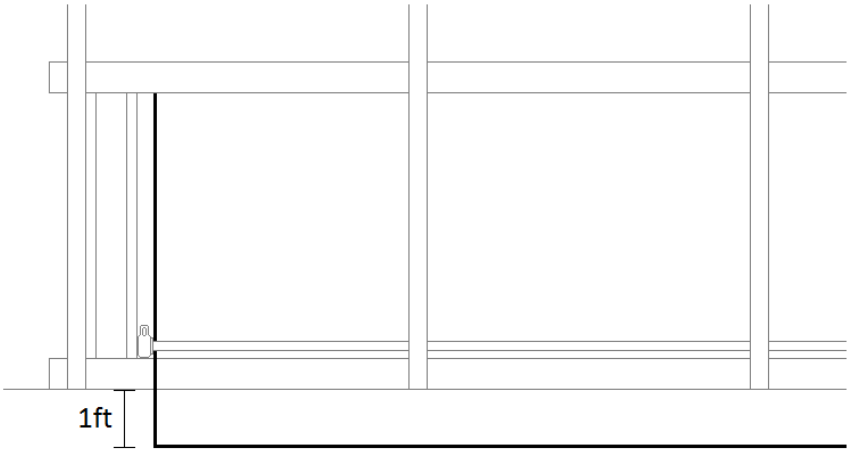


Fig99

Using the plastic ‘C’ clips provided, clamp the bottom edge of the screen to the tube **(Fig100)**. A ‘C’ clip should be placed approximately every 3ft along the tube.
Place the handle in the gearbox and wind the screen onto the lifting tube (including the excess polythene). If the screen does not roll up parallel, relocate the ‘C’ clips around the tube until it rolls up correctly **(Fig101)**.

Fig100

Fig101

Tension the ventilation net and infill panels down to the base rail and depending on which base rail option you have chosen (timber or aluminium)either batten in place or fix using the **Grey** ‘U’ and ‘T’ profiles.

Next tension the net and infill panels out to the verticals and outer posts, and batten in place **(Fig102)**.

Fig102

FINAL FIX

Check the structure all around for alignment and positioning of all the bars. If you are happy, all remaining joints and 'P' Clips can now be secured with a self drill screw **(Fig103)**. In some cases this may be a combined fix of both joint and 'P' Clip. These screws are held in the nut driver provided and, in the case of the 'P' Clips, use one of the two small holes as a starter point for the screw **(Fig104)**.
Keep all screws to the inside of the polytunnel, away from where the polythene cover may rub.

*****The only joints that should not be secured at this stage are the hoops onto the foundations, this joint is secured once the cover has been completed and tensioned*****

Fig103

Fig104

ANTI HOT SPOT TAPE

This is a self adhesive foam tape which is placed over each hoop from the base rail/side rail on one side, to the base rail/side rail on the opposite side. Anti Hot Spot Tape should be used just prior to covering your polytunnel.

On all of the hoops the Anti Hot Spot Tape runs over the centre of the hoop **(Fig105)**. On the end hoops an extra length of tape should be placed on the front face in order to protect the polythene cover as it stretches around the hoop to the door frame **(Fig106)**.

Fig105

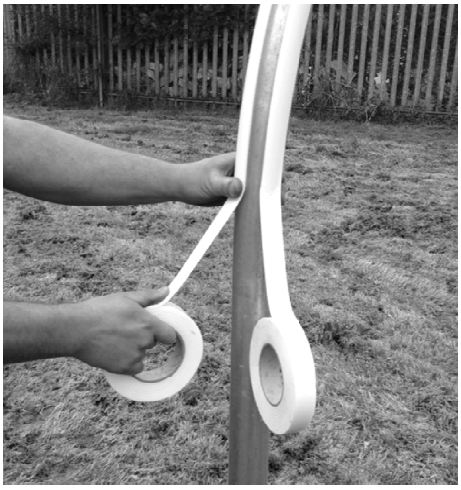


Fig106

COVERING YOUR POLYTUNNEL

TIMBER BASE RAIL OPTION:

TOP TIP: Nail the battens up prior to covering the polytunnel as this will speed up the job of getting the cover secure before any gusts of wind arise**. Don't allow the point of the nails to protrude through the batten.**

On any sides where base rails are being used without side rails, loosen the clamps holding the base rail to the hoops. Raise the base rails by 2 - 3 inches and retighten the clamps.

Roll the cover out along the side of the polytunnel after checking and clearing the ground of sharp objects.

ONLY ROLL OUT YOUR COVER ON A CALM DAY AS YOU ARE EFFECTIVELY OPENING A LARGE SAIL.

This Thermal Anti Drip polythene must be placed with the Anti Drip side facing inside the polytunnel. The word "INSIDE" is written within the elephant logo and you should be able to read this when stood inside the Polytunnel **(Fig107)**.

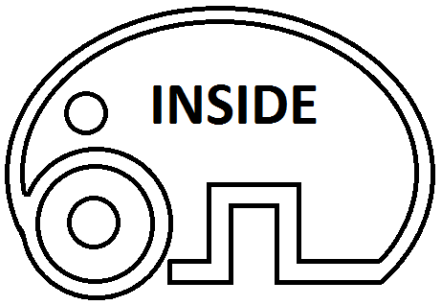


Fig107

Although two experienced people can complete this operation it may prove easier if four people were available to help pull the cover over the frame.

With one person at each end, hold the edge of the sheet which, when pulled over the framework, will ensure the correct side of the polythene is on the inside of the polytunnel. Stretch the sheet tight along the length of the polytunnel and walk to the opposite side of the structure, taking the sheet over the framework and being careful not to snag the sheet on any protrusions.

The polythene is very strong and resistant to tearing so don't be afraid to pull it as hard as you can, but it is advisable to grip the polythene only around the edges as in the event of damage this area will be trimmed off.

Centralise the sheet along the width and length of the polytunnel – You will find that the sheet will not reach to the ground at the ends, but this is correct and there is no need to worry **(Fig108).**

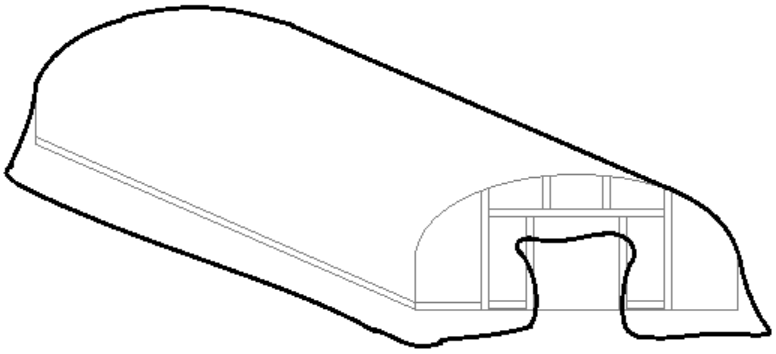


Fig108

- **STEP 1:** At one end of the polytunnel, trap the polythene tight up to the rebate with a pre-nailed batten in the centre of the lintel for approximately 12 inch either side of centre – The polythene should be smooth along this 2ft length with no creases **(Fig109)**.

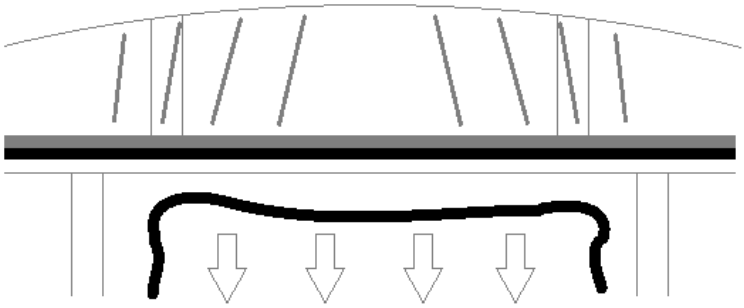


Fig109

At the opposite end of the polytunnel the same method of fixing should be used, but this time the polythene should be pulled along the length of the polytunnel as tight as possible before nailing the batten in position.

- **STEP 2:** Tension the polythene down to the base/side rail on one side, starting in the middle – This is best done with one person at a hoop either side of centre. Do not over tension, but when the cover is smooth from the ridge down to the base/side rail batten the cover to the rails tight up to the rebate. Using this method, work your way out to the ends.
  Repeat this on the second side but this time get as much tension as possible into the cover **(Fig 110).**

Fig110

- **STEP 3:** With just the four corners and the door frames left, it will now be necessary to cut the polythene at the corners, but ONLY below the base/side rails, to allow the cover to come smoothly around the ends **(Fig111)**. It is important that the cover is cut in line with the end of the tunnel, **NOT** the length.

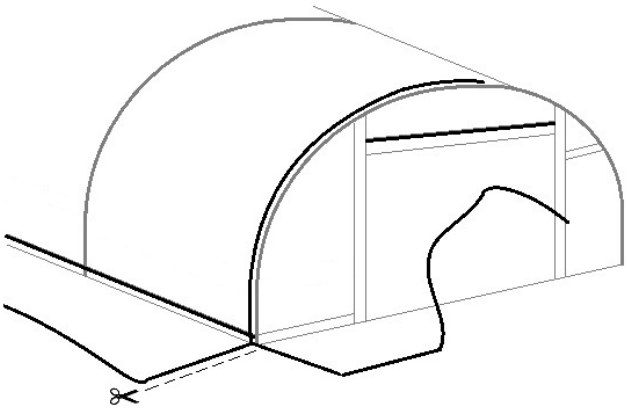


Fig111

- **STEP 4:** Because the structure is curved there is excess polythene to be accommodated when pulling the cover to the end frames.

  At each of the ends, starting from the fixed centre of the lintel, pull the polythene as tight as possible around the end hoop. To disperse the excess polythene, pleats should be formed be grapping a handful of polythene and twisting the wrist before pulling as tight as possible and nailing in place **(Fig112)**.

  To spread the pleats out and keep the bunching to a minimum, the pleated area should run along the lintel and down the outer posts as far as the straight side of the hoop. You should have run out of pleats by the time you reach the level of the straight side after which the polythene should form a smooth flat panel **(Fig113).** Keep the pleats as small as possible – No pleats should run beyond the hoop and onto the roof/side of the Polytunnel.

Fig112

Fig113

- **STEP 5:** Tension the cover down to the base rails at each corner. Batten the polythene to the base rail from the corner to the outer post, keeping the panel smooth **(Fig114)**.

Fig114

- **STEP 4:** Loosen the clamps holding the base rails to the hoops and push them back down to ground level. Retighten the clamps.

  Now the cover has been tensioned and the clamps have been retightened and secured it is **IMPORTANT** to secure the hoops to the foundation tubes using a self drill screw located approximately 3cm away from the joint.

  Trim off the excess polythene around the outside of the polytunnel **(Fig115)**.

Fig115

COVERING THE POLYTUNNEL

TIMBER SIDE RAIL OPTION:

The clamps holding the timber side rails to the hoops should be loosened and the side rail raised by 2 - 3 inches. Retighten the clamps. Do the same with the base rails on any sides of the polytunnel where side rails aren't used.

Cover the polytunnel using exactly the same method as for timber base rails **(page 48)** but fix to the timber side rail.

Once the cover is fitted, loosen the clamps holding the side rail to the hoops and push the side rail base down to its starting position. Retighten the clamps.

Now the cover has been tensioned and the clamps have been retightened and secured it is **IMPORTANT** to secure the hoops to the foundation tubes using a self drill screw located approximately 2cm away from the joint (this may have already been achieved in the final fix section).

Trim off the excess polythene around the outside of the polytunnel **(Fig116)**.

Tension the ventilation net down to the base rail and depending on which base rail option you have chosen (timber or aluminium) either batten in place or fix using the **Grey** 'U' and 'T' profiles **(Fig117)**. Next tension the net out to the door posts, and batten in place.

Fig116

Fig117

*****When a side ventilation screen is being used please see either 'ventilation screen for timber base and side rails' section on page 31 or 'ventilation screen for timber, aluminium combination' on page 42, depending on which options have been chosen, to see how to fix your netting and infill panels*****

COVERING YOUR POLYTUNNEL

Tools required: Rubber hammer

ALUMINIUM BASE RAIL OPTION:

TOP TIP: Nail any battens up prior to covering the polytunnel as this will speed up the job of getting the cover secure before any gusts of wind arise**. Don't allow the point of the nails to protrude through the batten.**

On any sides where base rails are being used without side rails, loosen the clamps holding the base rail to the hoops. Raise the base rails by 2 - 3 inches and retighten the clamps.

Roll the cover out along the side of the polytunnel after checking and clearing the ground of sharp objects.

ONLY ROLL OUT YOUR COVER ON A CALM DAY AS YOU ARE EFFECTIVELY OPENING A LARGE SAIL.

This Thermal Anti Drip polythene must be placed with the Anti Drip side facing inside the polytunnel. The word "INSIDE" is written within the elephant logo and you should be able to read this when stood inside the Polytunnel **(Fig118)**.

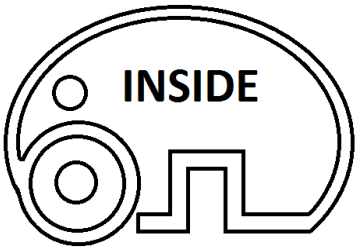


Fig118

Although two experienced people can complete this operation it may prove easier if four people were available to help pull the cover over the frame.

With one person at each end, hold the edge of the sheet which, when pulled over the framework, will ensure the correct side of the polythene is on the inside of the polytunnel. Stretch the sheet tight along the length of the polytunnel and walk to the opposite side of the structure, taking the sheet over the framework and being careful not to snag the sheet on any protrusions.

The polythene is very strong and resistant to tearing so don't be afraid to pull it as hard as you can, but it is advisable to grip the polythene only around the edges as in the event of damage this area will be trimmed off.

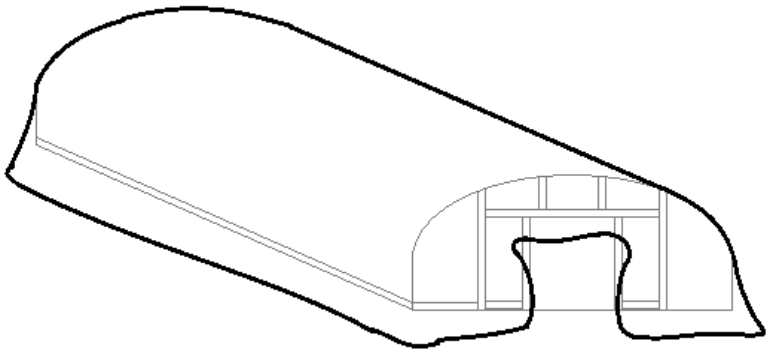


Fig119

Centralise the sheet along the width and length of the polytunnel – You will find that the sheet will not reach to the ground at the ends, but this is correct and there is no need to worry **(Fig119).**

- **STEP 1:** At one end of the polytunnel, trap the polythene tight up to the rebate with a pre-nailed batten in the centre of the lintel for approximately 12 inch either side of centre – The polythene should be smooth along this 2ft length with no creases **(Fig120)**.

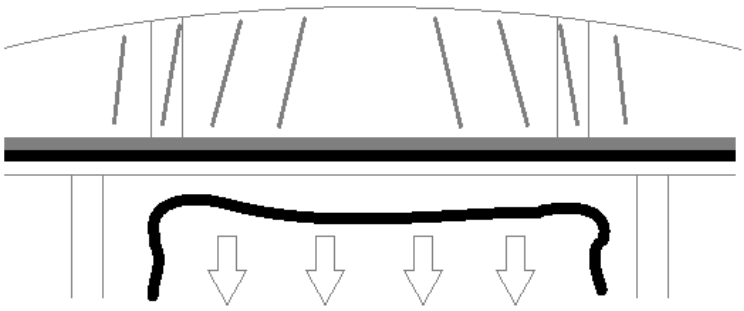


Fig120

At the opposite end of the polytunnel the same method of fixing should be used, but this time the polythene should be pulled along the length of the polytunnel as tight as possible before nailing the batten in position.

- **STEP 2:** Tension the polythene down to the base/side rail on one side starting in the middle – This is best done with one person at a hoop either side of centre **(Fig121)**. Do not over tension, but when the cover is smooth from the ridge down to the rail, insert one of the plastic 'U' profiles into the cover slot on the rail **(Fig122)**. A rubber hammer is preferred for this job as standard metal ones may crack the plastic profile.
  Work your way out to the ends using this method. Once the full side has been fixed using 'U' profiles, insert **Grey** plastic 'T' profiles into the 'U' profiles to secure.

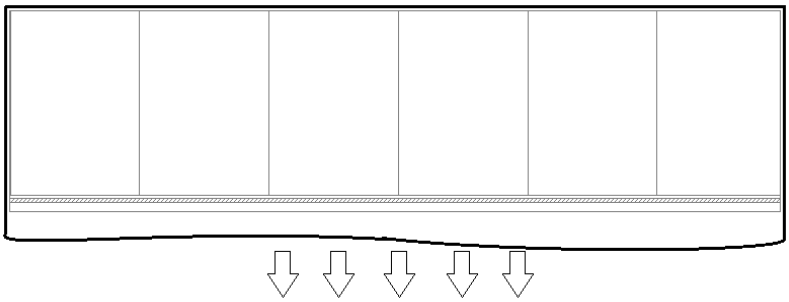


Fig121

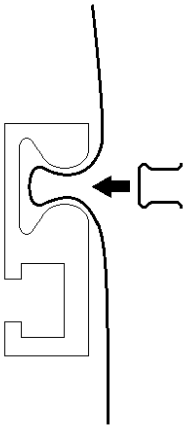


Fig122

Repeat this operation on the opposite side of the polytunnel, starting in the middle and working out – only this time get as much tension into the cover as possible. It is acceptable to grip the cover below the base/side rails to achieve the correct tension.

*****It is useful to push the cover into the cover slot before inserting the plastic 'U' profile as it eliminates the chance of slicing the cover*****

- **STEP 3:** With just the four corners and the door frames left, it will now be necessary to cut the polythene at the corners, but ONLY below the base/side rails, to allow the cover to come smoothly around the ends **(Fig123)**. It is important that the cover is cut in line with the end of the tunnel, **NOT** the length.

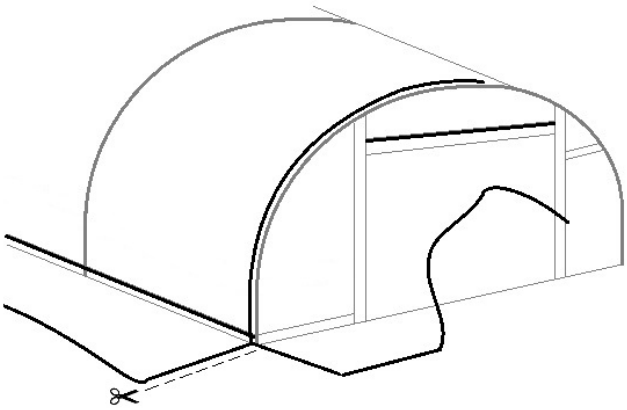


Fig123

- **STEP 4:** Because the structure is curved there is excess polythene to be accommodated when pulling the cover to the end frames.

  At each of the ends, starting from the fixed centre of the lintel, pull the polythene as tight as possible around the end hoop. To disperse the excess polythene, pleats should be formed be grapping a handful of polythene and twisting the wrist before pulling as tight as possible and nailing in place **(Fig124)**.

  To spread the pleats out and keep the bunching to a minimum, the pleated area should run along the lintel and down the outer posts as far as the straight side of the hoop. You should have run out of pleats by the time you reach the level of the straight side after which the polythene should form a smooth flat panel **(Fig125).** Keep the pleats as small as possible – No pleats should run beyond the hoop and onto the roof/side of the Polytunnel.

Fig124

Fig125

- **STEP 5:** Tension the cover down to the base rails at each corner. Fix the polythene to the base rail from the corner to the outer post with **Grey** plastic 'U' and 'T' profiles, keeping the panel smooth **(Fig126)**.

Fig126

- **STEP 4:** Loosen the clamps holding the base rails to the hoops and push them back down to ground level. Retighten the clamps.

  Now the cover has been tensioned and the clamps have been retightened and secured it is **IMPORTANT** to secure the hoops to the foundation tubes using a self drill screw located approximately 3cm away from the joint.

  Trim off the excess polythene around the outside of the polytunnel **(Fig127)**.

Fig127

COVERING THE POLYTUNNEL

Tools required: Rubber hammer

ALUMINIUM SIDE RAIL OPTION:

The clamps holding the aluminium side rails to the hoops should be loosened and the side rail raised by 2 - 3 inches. Retighten the clamps. Do the same with the base rails on any sides of the polytunnel where side rails aren't used.

Cover the polytunnel using exactly the same method as for aluminium base rails **(page 53)** but fix to the aluminium side rail.

Once the cover is fitted, loosen the clamps holding the side rail to the hoops and push the side rail base down to its starting position. Retighten the clamps.

Now the cover has been tensioned and the clamps have been retightened and secured it is **IMPORTANT** to secure the hoops to the foundation tubes using a self drill screw located approximately 2cm away from the joint (this may have already been achieved in the final fix section).

Trim off the excess polythene around the outside of the polytunnel **(Fig128)**.

Fig128

Fix the ventilation net into the lower cover slot of the Side Rail, using **Grey** 'U' and 'T' profiles; from door post to door post **(Fig129).**

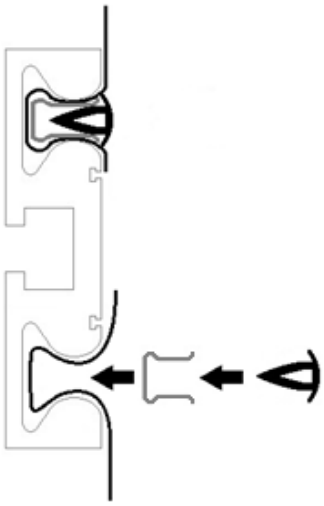


Fig129

Tension the ventilation net down to the base rail and depending on which base rail option you have chosen (timber or aluminium) either batten in place **(Fig130)** or fix using the **Grey** 'U' and 'T' profiles **(Fig131)**.

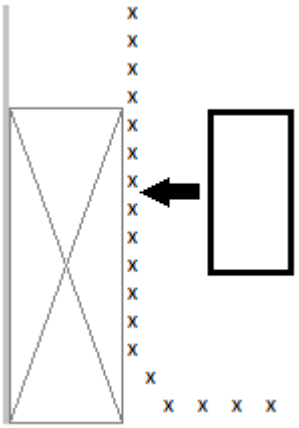


Fig130

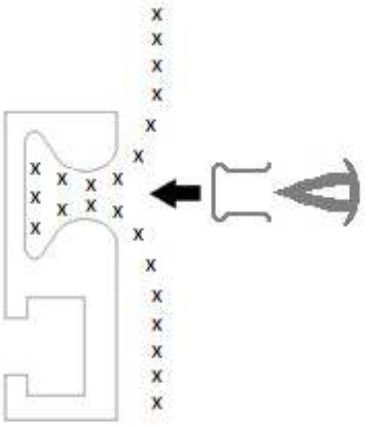


Fig131

Next tension the net out to the door posts, and batten in place **(Fig132)**. Trim off any excess.

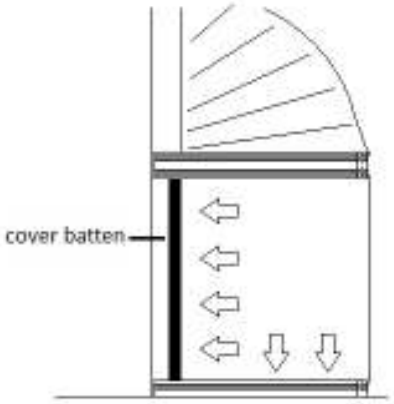


Fig132

*****When a side ventilation screen is being used please see either 'ventilation screen for aluminium base and side rails' section on page 38 or 'ventilation screen for timber, aluminium combination' on page 42, depending on which options have been chosen, to see how to fix your netting and infill panels*****

SLIDING DOOR ASSEMBLY

Tools required: 3mm Allen key (Supplied)

After completing and covering your polytunnel you can now attach the door track.

Sliding door tracks are supplied in one 3m piece and one 1.5m piece. A joiner is used to connect the two pieces; this is a 6 inch long rectangular bar with 4 threaded holes. Insert 4 grub screws into the bar and slot it into the "T" on the back of the track, tighten 2 grub screws onto each of the two tracks **(Fig133).**

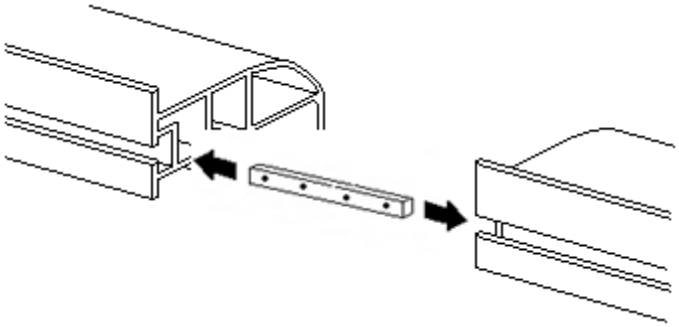


Fig133

Measure 2 inch up from the bottom edge of the door frame lintel and drill two 9mm holes through the timber batten and the face of the lintel approximately 18 inch either side of the centre of the lintel. Measure another 48 inch from these holes towards the outer door posts and drill two more 9mm holes **(Fig134).**

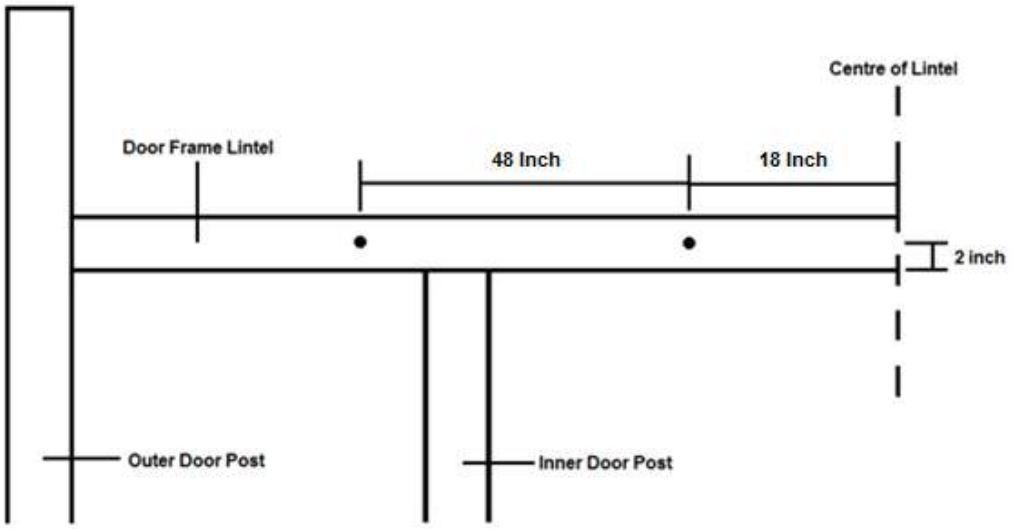


Fig134

Next, slide four 8mm x 100mm hexagon bolts into the 'T' slot on the back of the door track. Position these bolts in line with the holes drilled in the lintel and push into position. Adjust as necessary so that the centre of the track is in line with the centre of the door frame lintel **(Fig135).**

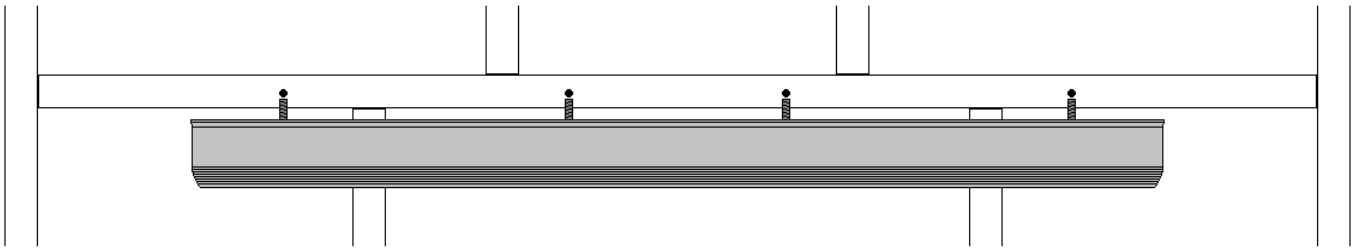


Fig135

Place a washer and nut on the bolts and tighten **(Fig136)**.

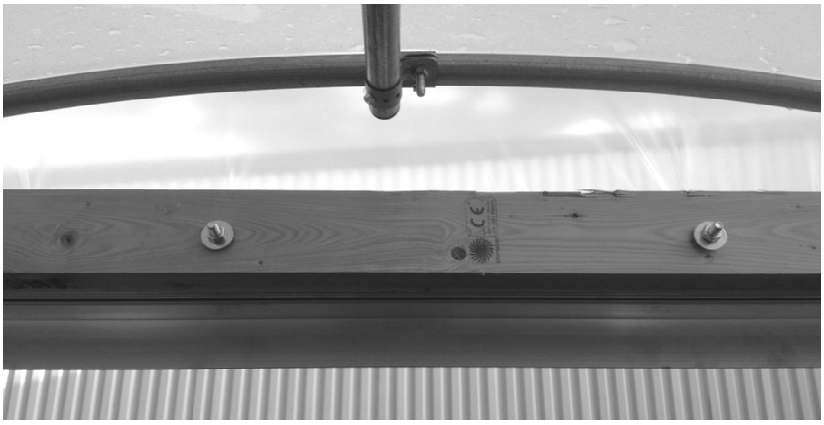


Fig136

Having pre- assembled your doors and covered them with polythene you now need to screw the runners (wheels) in position on the top edge of the doors **(Fig137)**.

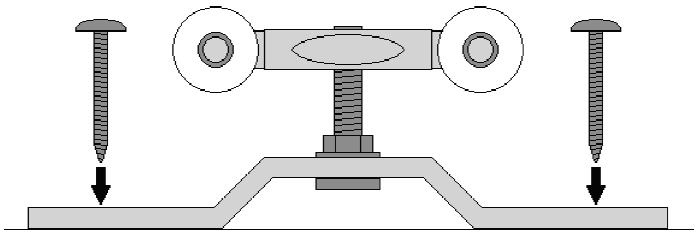


Fig137

The runner should be screw up to the ***outside*** edge of the doors. (Please note; the ***outside*** edge is where the battens holding the polythene panel are fixed) – **(Fig138).**

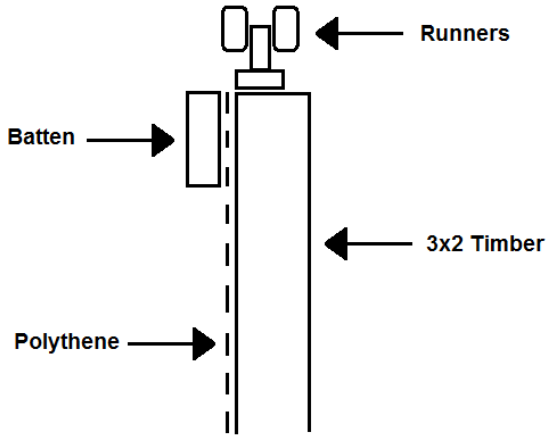


Fig138

Each runner should be placed 8 inches in from each end of the door **(Fig139).**

Fig139

Insert two of the door stops into the track – leave these loose in the track for the time being **(Fig140)**.

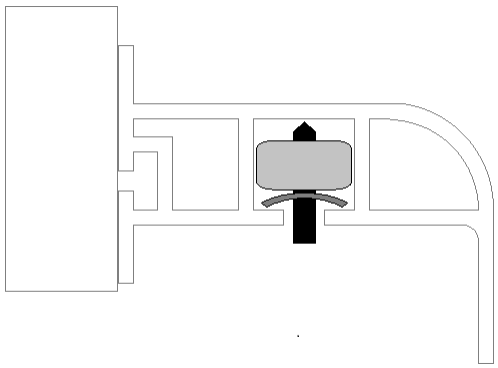


Fig140

Slide the doors into the track with the battens facing outwards. Adjust the runners up or down on the threaded bolt until the doors sit square to the door frame and each other.

Insert another door stop **(Fig140)** into each end of the track. When you are happy that the stops are in the right position so that the doors will not open or close too far, you can now tighten the stops into position.

Insert the plastic finishing end caps into the ends of the track to round off the sharp corners on the ends of the track **(Fig141)**.

Fig141

When the doors are in the closed position they should overlap each inner door post equally – approximately 1½ inch.

Drive a 500mm long tube (supplied) into the ground at each end of both doors to stop the doors from swinging out away from the polytunnel **(Fig142)**.

Fig142

With the doors in the closed position, these drop tubes should be positioned in line with the outer edge of the door face **(Fig143).**

The two centre tubes should be driven in to ground level.

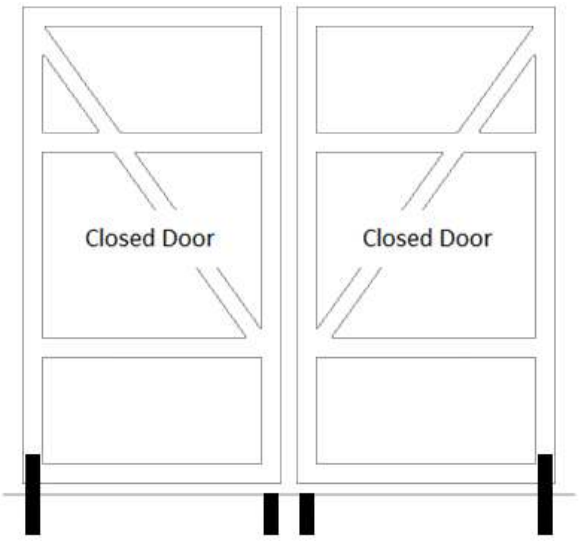


Fig143

The two outer tubes should be left protruding from the ground in order that they overlap the doors by 2½ inches **(Fig144)**.

Ensure you position these drop tubes slightly away from the doors in order that the doors can slide freely between the polytunnel and the drop tubes.

Please Note: When the tunnel is being placed on to hard standing all sliding door drop tubes are replaced with 22mm base plates. These should be fitted in the same way as angle brackets on page 8.

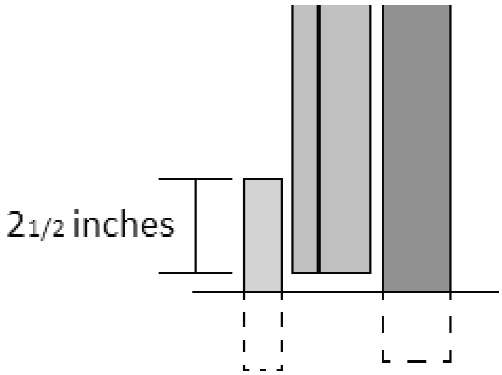


Fig144

Two drop bolts are supplied with double sliding doors – one per door.

There are two screw-in eyes for each of the drop bolts – the first of these 'eyes' should be screwed into the bottom corner of each door (on the side of the doors where a catch would usually be fitted to lock/hold the doors closed/together) in line with the drop tubes approximately 4 inches up from the bottom edge. The second 'eye' should be screwed approximately 7 inches higher than the first **(Fig145)**.

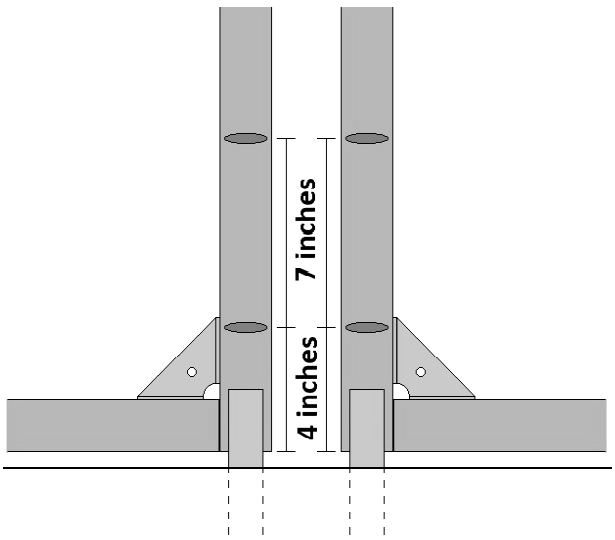


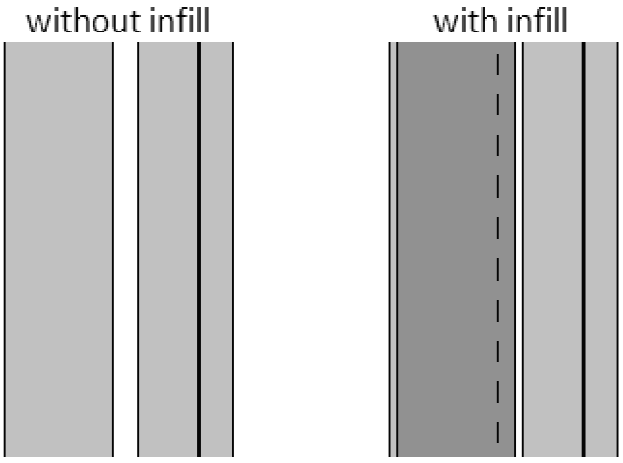
Fig145

Drop the bolts through the 'eyes' and into the centre tubes – this will hold the doors shut.

Open the doors and drop the bolts into the outer tubes to hold the doors open.

Two timber infills are supplied with each sliding door frame. These are nailed to the inside of the inner door posts and fill the gap between the frame and the door **(Fig146).**
Please note: at no point should they come in contact with the door as this would stop it from sliding.

Fig146



Well done! You are now ready to begin growing and relaxing in your Premier Polytunnel!