



The Outside, Inside

CONSTRUCTION GUIDE

For Garden Tunnels

6ft Wide

Trenching Option

Thank you for purchasing a 'Premier' polytunnel.

Please take the time to carefully read through this Construction Guide before you head out into your garden 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 – After all, this is a building that must stand up to extreme weather conditions year after year. This really is a two person job, so why not invite a friend to join you and make a weekend of it.

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; **"28/1530PP"** is a 28mm diameter steel tube, 1530mm 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.

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.

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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)	

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**.

A **Ridge** tube is suspended under the hoops at the centre point and runs the full length of the polytunnel.

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

A timber **door/end frame** is fixed central at each end.

A **trench** is dug around the outside of the framework.

Polythene is placed over the framework and fixed around the door/end frame. The polythene cover is then buried into the trench.

OPTIONAL EXTRAS/POLYTUNNEL ADDITIONS - If ordered:

Cover Tensioning Tubes replace standard foundation tubes and allow the hoops to be lifted under the cover to add tension.

Anchor Plates clamp to the base of each **Foundation Tube** in a 14 inch hole, before soil is compacted back over them to prevent the polytunnel framework from lifting or sinking.

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

Side Rails run around the outside of the framework 1 metre above ground level on one or both sides. The cover is fixed to these rails. **Sides Rails** include ventilation net.

Anti Hot Spot Tape is a foam tape that runs over each hoop and protects the cover from the steel.

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.

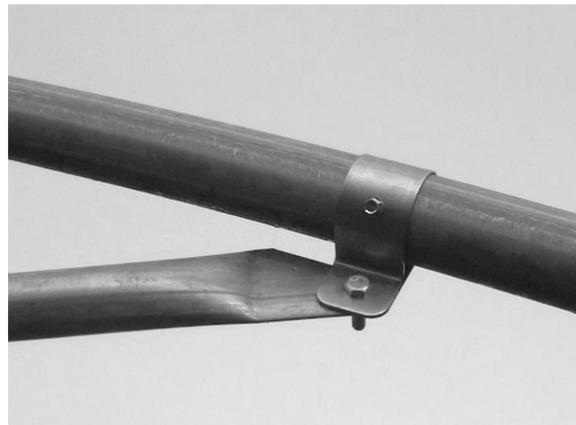
USE OF 'P' CLIPS

The image below demonstrates the **double 'P' Clip** method used to fix the Ridge



The following images show how a Corner Stabiliser and Crop Bar 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**).

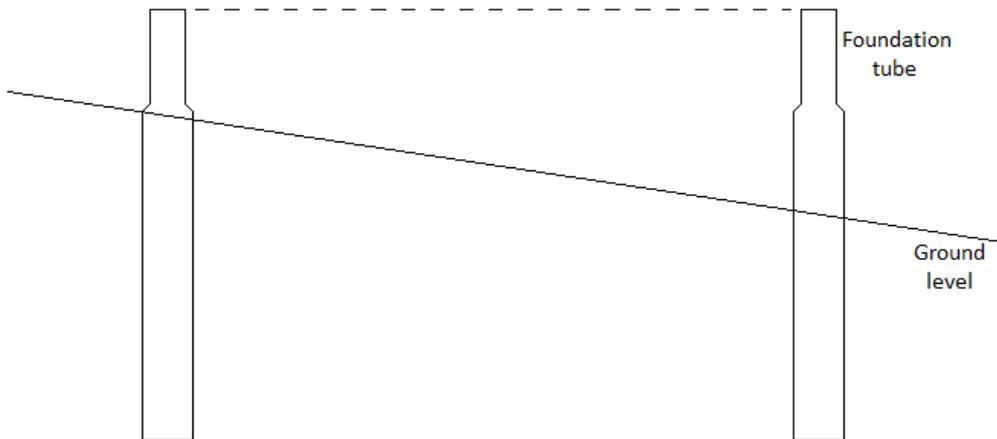


Fig1

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**).

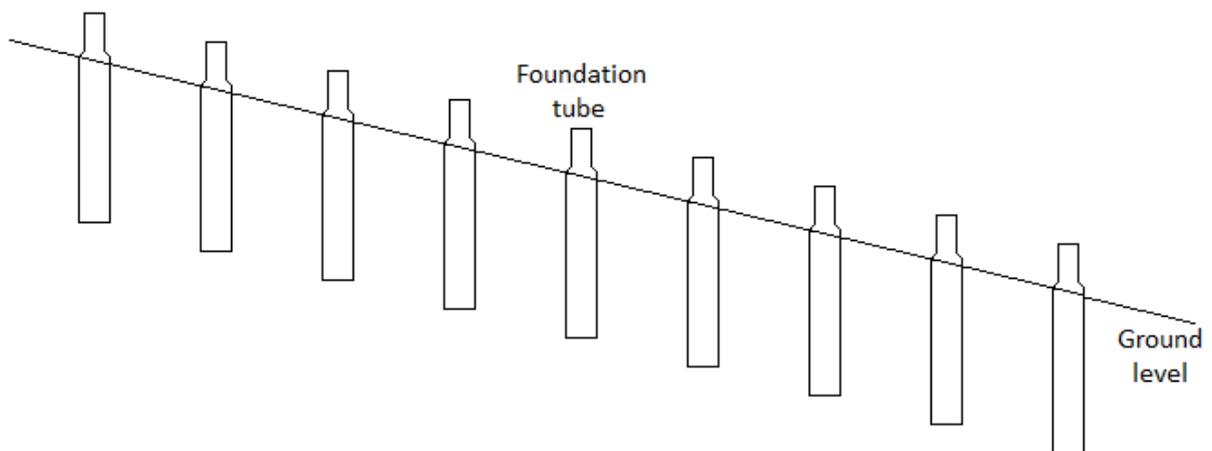


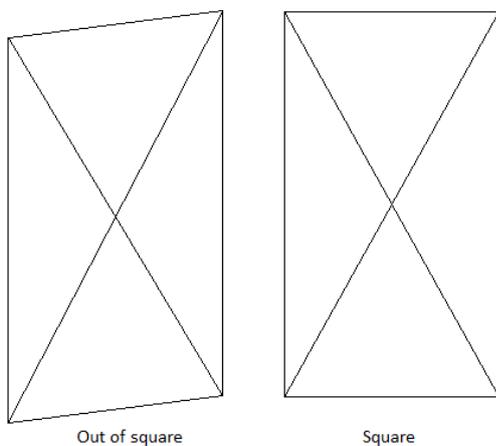
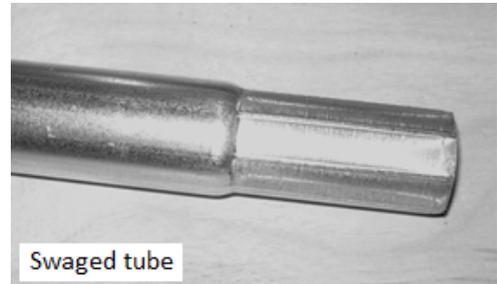
Fig2

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 driven into the ground at each end of each hoop.

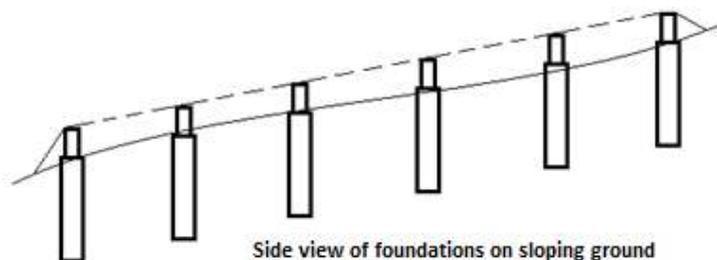
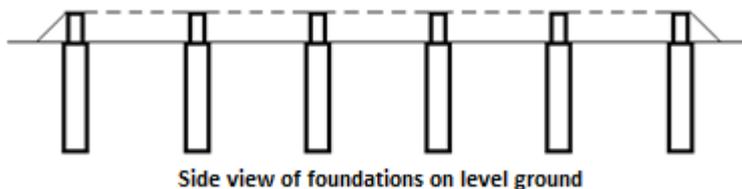
Choose a corner of your polytunnel to be a fixed point from which all measurements will be taken (it is advised that this fixed point is the highest corner of the tunnel on any sloping site), drive in a foundation tube using a timber drift to protect the end, leaving only the swage protruding above ground.



Mark out the remaining corners, but do not drive in the foundation tubes yet. The measurements for these will be the width and length of your polytunnel. To check for square, measure from corner to corner (**Fig3**) – This measurement should be the same, but if not, simply adjust the tubes until correct. Once you are happy with the positioning drive in the foundation tubes. Make sure the foundation tubes are level across the 6ft width.

Fig3

Mark out the position for the remaining foundation tubes down the length of the polytunnel at 5ft spacing, and drive in the foundation tubes. Use a string line or straight edge to check the tops are level and the tubes are in line.



*****If Anchor Plates have been purchased, please see the 'Anchor Plates' section on page 8 before driving in the foundation tubes*****

COVER TENSIONING TUBES

These foundation tubes replace the standard tubes and are plain at both ends (no swage). They should be positioned just as you would if using the standard foundation tubes; the only difference is that 8 inches of tube must be left protruding above ground instead of a swage (**Fig4**).

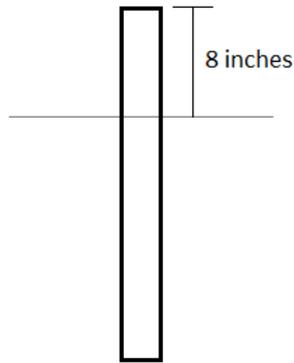


Fig4

*****If Anchor Plates have been purchased, please see the 'Anchor Plates' section on page 8 before driving in the foundation tubes*****

The polytunnel hoops are placed **INSIDE** the 35mm diameter foundation tubes. Place a tensioning tube clamp around the hoop 8 inches up from the base of the straight side and slot the hoop into the foundation tube.

After trenching in the cover and completing the polytunnel, the tensioning tube clamps on all the **INTERMEDIATE** hoops can be loosened and the hoops can be raised to add additional tension to the cover.

Fig5 – Shows the polytunnel hoops **INSIDE** the foundation tube at ground level.

Fig6 – Shows the hoop raised and fixed with the tightened clamp at the top of the foundation tube.

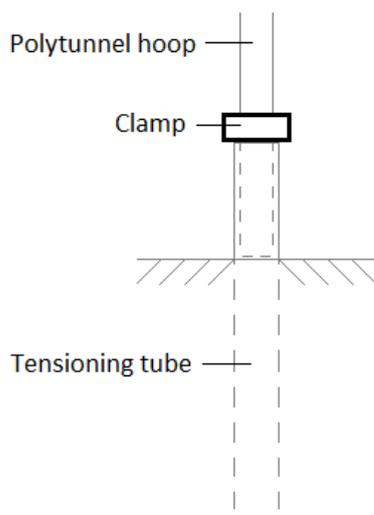


Fig5

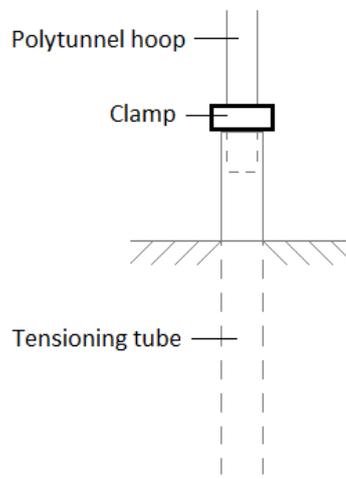


Fig6

ANCHOR PLATES

Anchor Plates replace the need for concrete in soft ground.

After marking out the position of all the Foundation Tubes **WITHOUT** driving any tubes in, dig a hole 12 inches square and 14 inches deep at each point. You can now drive the Foundation Tubes into the holes, making sure to check all measurements and levels (**Fig7**).

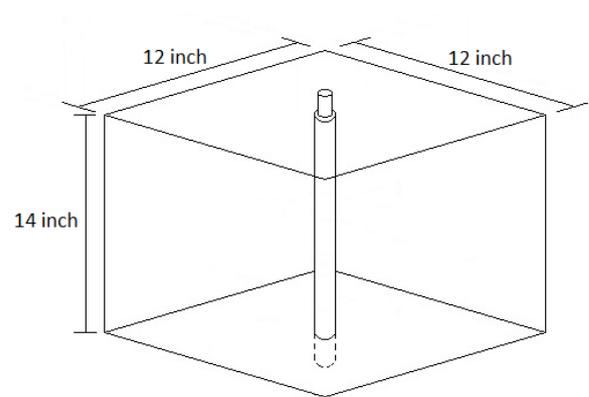


Fig7



Fig8

Place an anchor plate clamp (**Fig8**) around the each of the foundation tubes at the bottom of the holes (**Fig9**).



Fig9

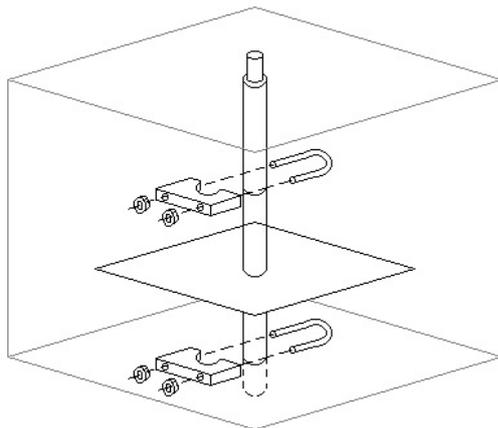


Fig10

An anchor plate slots over the tubes to rest on the clamps and another clamp is tightened on top of the plates to hold in position (**Fig10**).

The soil is placed back in the holes and heeled down flat with the ground level (**Fig11**). Re-check all measurements.



Fig11

HOOPS

Hoops come in two pieces. These pieces should be slotted together on a flat base and the joint held in place using a self drill screw which should be approximately 20mm away from the joint (**Fig12**).



Fig12



Self Drill Screw

Lift the hoops into position on the Foundation Tubes, making sure the screws on the end hoops face the inside of the polytunnel (**Fig13**).



Fig13

Once all the hoops have been positioned on the foundation tubes, secure together with a self drill screw approximately 2cm from the join. Make sure these screws face the inside of the polytunnel. When cover tensioning tubes are being used **DO NOT** screw the hoops to the foundations.

*****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*****

RIDGE

The ridge bar (standard on all polytunnels) is supplied in 4ft sections. One ridge starter with plain ends and one or more ridge extensions with one swaged end.

Place a 'P' Clip around the centre of each hoop. On the end hoops the leg of the P should be to the inside edge of the hoop and should face down the length of the tunnel.

Place a 'P' Clip around one end of the starter ridge. Bolt this starter ridge up to the 'P' Clip on one of the end hoops (**Fig14**).

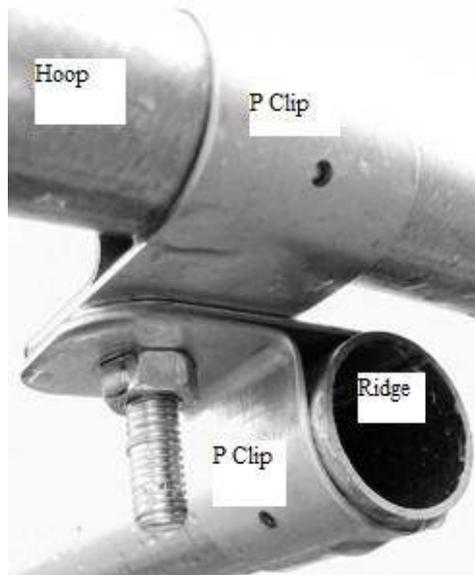


Fig14

Adjust the starter ridge until the end is located half way through the end hoop (**Fig15**).

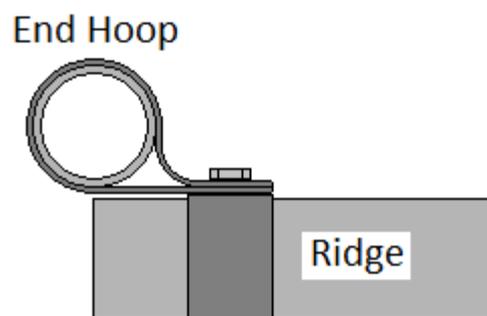


Fig15

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 4ft spacings (**Fig16**).

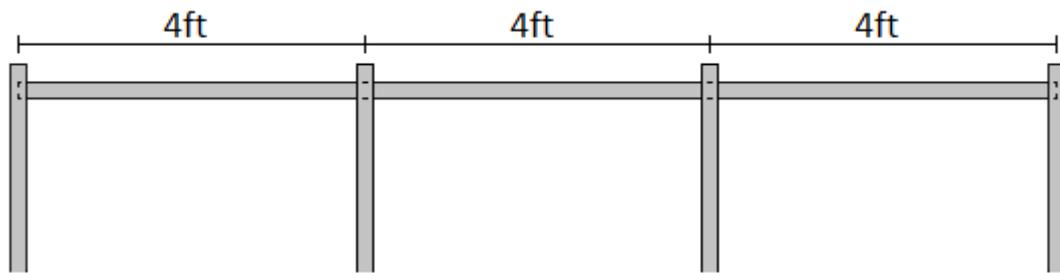


Fig16

Adjust the 'P' Clips on the hoops so that the ridge runs in a straight line down the tunnel, as close to centre as possible. 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.



Completed Centre Ridge.

CORNER STABILISERS

These tubes are placed to form a triangle at each corner of the polytunnel (**Fig17**).



Fig17

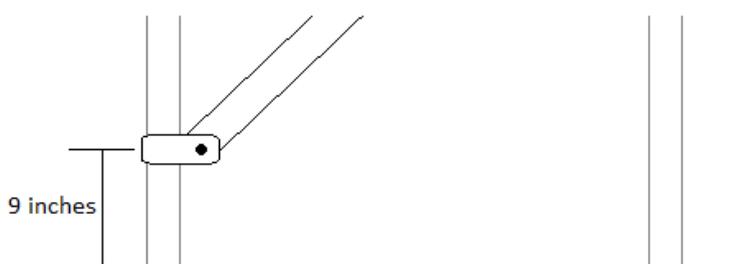


Fig18

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 (**Fig18**).

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 (**Fig19**). 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.



Fig19

Repeat this process at each corner of the polytunnel.

CROP BARS

Crop Bars are horizontal bars which fit across an intermediate hoop at approximately head height (**Fig20**).



Fig20

Place two 'P' Clips around each intermediate hoop, one either side of the ridge.

Bolt a crop bar to these 'P' Clips but do not tighten (**Fig21**).



Fig21

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 secure the 'P' Clips with a self drill screw making sure the head of the screw does not protrude past the hoop (**Fig22**).



Fig22

BUILDING THE DUMMY DOOR / END FRAME

2 inch x 2 inch timber is used for the end frame.

Using a flat surface or bench take the 2 inch x 2 inch x 2.4m end frame posts and measure 11 inches down from one end of each post and make a mark.

From this mark measure a further 34 inches down the post and make another mark (**Fig23**).



Fig23

Once the post have been marked, insert a pre-cut 2 inch x 2 inch x 26½ inch timber cross piece between the posts at each of these marks lining the middles up with the marks (**Fig24**).

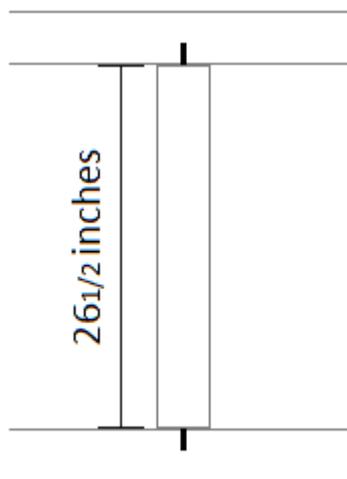


Fig24

To fix a cross piece, drill a 5mm hole through the side of each post in line with the centre of the cross piece/marks on the posts. Nail a 4 inch nail through these holes and into the cross piece (**Fig25**). Screw an 'L' bracket across each of the joints (**Fig26**).

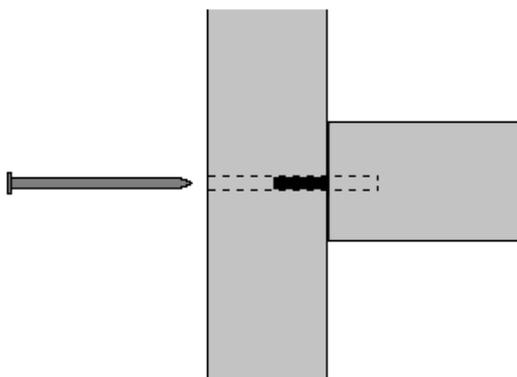


Fig25



Fig26

Tack a net panel to the top half of the end frame (between the first and second cross piece) on the opposite side to the 'L' brackets, and a polythene panel to the bottom half (**Fig27**). Get as much tension as possible on the panels – a staple gun comes in handy here.

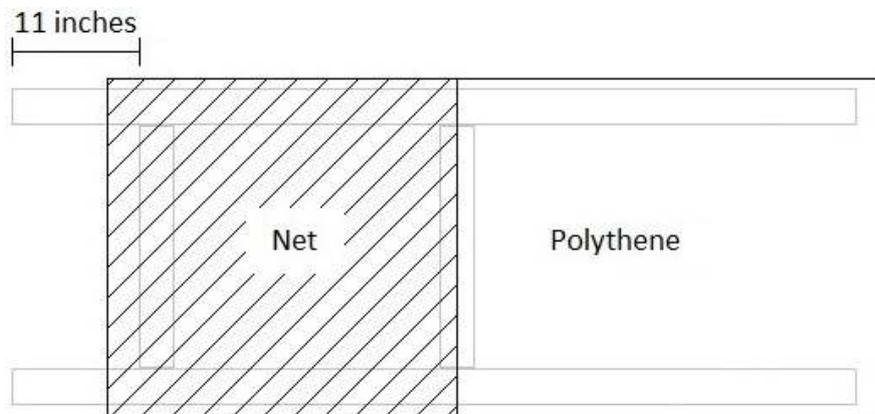


Fig27

Cut a piece of 19mm x 38mm timber batten to fit between the posts on the top of the lintel (first cross piece). Fold the net around the lintel and nail the batten in place trapping the net. It is important that the batten protrudes out from the frame by approximately 7mm as this forms the rebate around which the main cover will be trapped (**Fig28**).

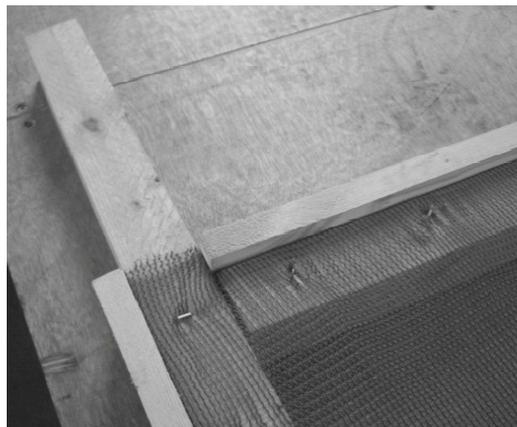


Fig28

Take two full 1.8m lengths of batten and nail these down the outside edge of the posts, with the top in line with the first batten (**Fig29**). These battens must also protrude beyond the frame to form a rebate. Pull both the net panel and polythene panel around the posts to be trapped by the batten. Put tension into the net and polythene panel as you nail the battens.

*****Please note that this rebate may need to be cut at a later stage in order for the side rail to be fixed to the door post, take extra care when doing this*****

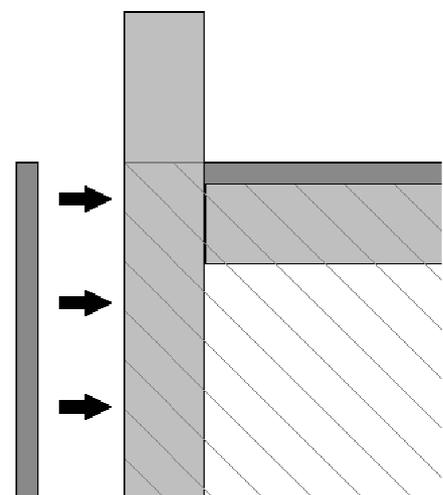


Fig29

Next, nail another batten across the middle of the second cross piece, overlapping both the net and the polythene panels. This batten should be cut down so it does not overlap onto the posts (26½ inches). This ensures enough space for the main cover and the batten which traps it (**Fig30**).

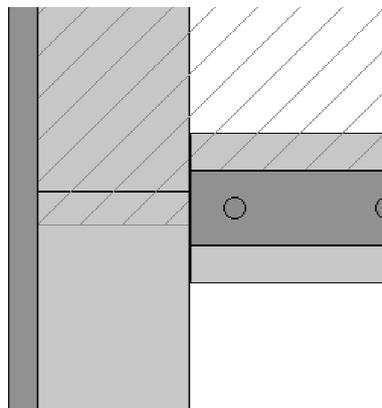


Fig30

When the polytunnel is fixed onto hard standing and a third cross piece has been fitted, nail another batten across this third cross piece to hold the polythene panel. This batten should not overlap onto the posts (26½ inches).

Trim off the excess net and polythene from around the edges, leaving the bottom of the polythene panel as this will be buried in a trench along with the bottom of the posts (**Fig31**).

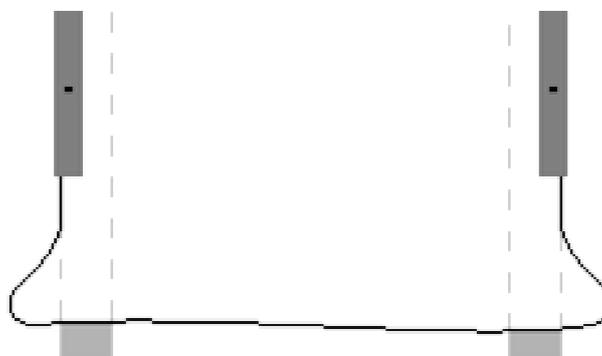


Fig31

HANGING THE DUMMY DOOR / END FRAME

Dig a trench approximately 13 inches deep, 34 inches long and 6 inches wide. This trench should be central under the end hoop to which the end frame will be fixed (**Fig32**).

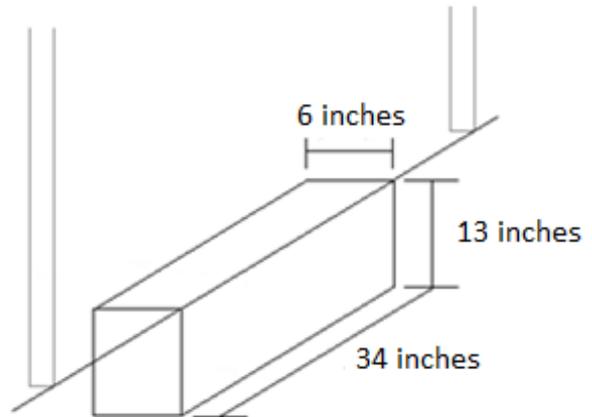


Fig32



Fig33

Hold the end frame in position with the legs and polythene in the trench and the top of the posts against the hoop. Centralise the end frame in the end hoop and mark the posts under the hoop (**Fig33**).

Cut the posts on the marks and reposition in the trench with the tops under the hoop. Place a 'P' Clip around the hoop, with the leg of the P down the outside face of the post. Centralise the end frame and mark through the hole in the 'P' Clips (**Fig34**).

Drill through the posts on this mark with a 9mm drill. Bolt the 'P' Clip to the posts using a cross head roofing bolt (**Fig35**) with a washer under the nut. Remember the leg of the 'P' Clip should be down the outside face of the post with the least amount of timber protruding past the outside of the hoop.



Fig34



Fig35

Check the frame is central to the hoop and level vertically. Back fill the trench keeping the end frame in line with the hoop and vertical (**Fig36**).



Fig36

Recheck the end frame for vertical then tighten and secure the 'P' Clips to the hoop with a self drill screw on the inside. You may be unable to use the pre-drilled holes in the 'P' Clip, but the screw will make its own hole in a place suitably clear of the polythene.

DOOR

2 inch x 1 inch timber is used for the doors.

Using a flat surface or bench take the two 2 inch x 1 inch x 1.7m door legs and the 3 cross pieces to which fit between the legs.

Using 6 corner braces and screws, fix a cross piece between the legs at each end and one in the centre. These enable you to build the door square without checking (**Fig37**).



Fig37

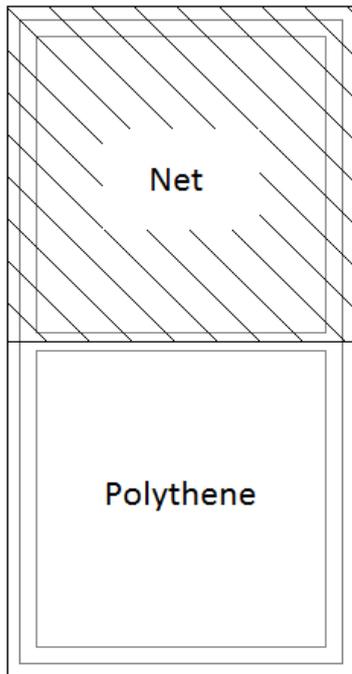


Fig38

Tack the net and polythene panel to each half of the door and get as much tension as possible on the polythene (**Fig38**) – a staple gun comes in handy here.

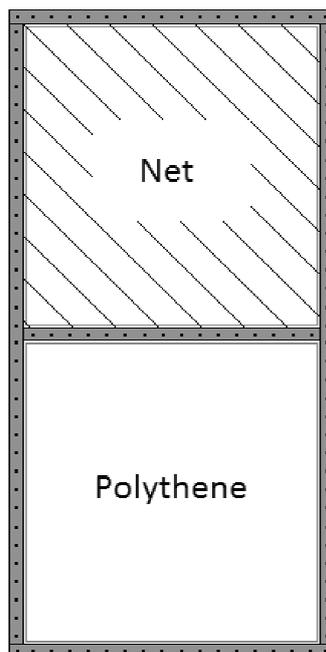
Cut two pieces of 19mm x 38mm batten the full width of the door and nail these on top of the net and polythene at each end, making sure there is a nail at each side of the joint of the frame. This is important as it gives the door added stiffness (**Fig39**).



Fig39

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

Cut and fix the final batten across the centre cross piece and trim off all excess material around the edges.



How the door should look once finished

DOOR HINGES

Two, 3 inch butt hinges should be screwed to the inside edge (the opposite side to the batten) of the door approx 9 inches from each end (**Fig40**). Before screwing the hinges to the door decide which way you want the door to open, remembering that the net panel is going to be to the top, and screw the hinges to the appropriate side.

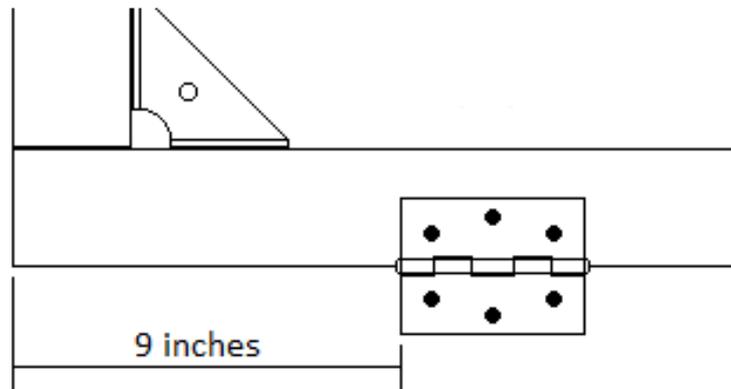


Fig40

HINGED DOOR CATCH

The catch is a simple hook and eye. Screw one half of the catch to the door and the other on top of the door frame cover batten (once covered).

Please note this catch is not attached until the tunnel has been fully covered.



Hook and eye door catch.

DOOR FRAME – HINGED DOOR

2 inch x 2 inch timber is used for the door frame.

It may help to place a string line across the end hoop – This can then be used as a line for the door frame, or just use your eye to line the frame with the end hoop.

The door opening will be 26½ inches if using the standard door supplied with your kit.

Mark the end hoop 13¼ inches each side of centre (this is where the door posts will fix) and dig two holes approximately 6 inches square and 12 inches deep directly below these marks (**Fig41**).

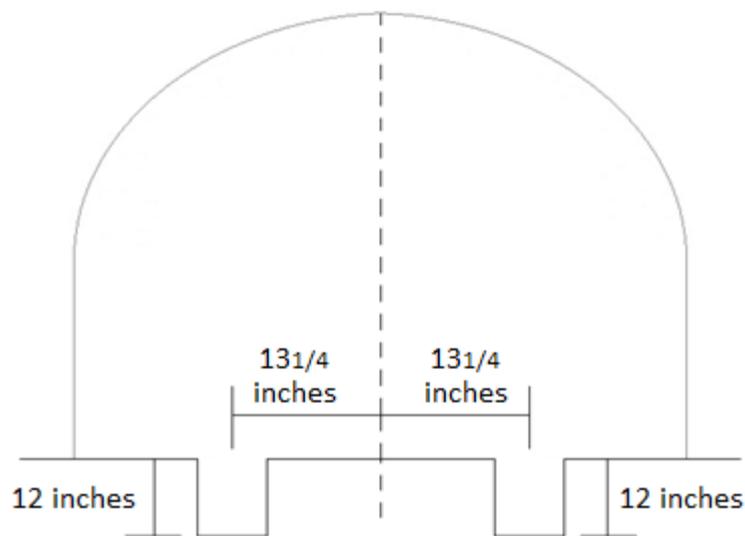


Fig41

Decide which way you want your door to open and position the 8ft door post, which will carry the door hinges, into the hole with the inside edge up to the mark on the hoop. Check the post for vertical and mark the timber under the hoop (**Fig42**).



Fig42

Cut the post on this mark.

Re-position the post in the hole. Place a 'P' Clip around the hoop with the leg of the P to the outside. With the 'P' Clip running down the outside face of the post, drill the post and bolt to the 'P' Clip using a cross head roofing bolt with a washer under the nut (**Fig43**). The post should not protrude past the end hoop (**Fig44**). Make sure the inside edge of the post is still in line with the mark on the hoop. Tighten and secure the 'P' Clip to the hoop with a self-drill screw. You may be unable to use the pre-drilled holes in the 'P' Clip, but the screw will make its own hole in a place suitably clear of the polythene.



Fig43

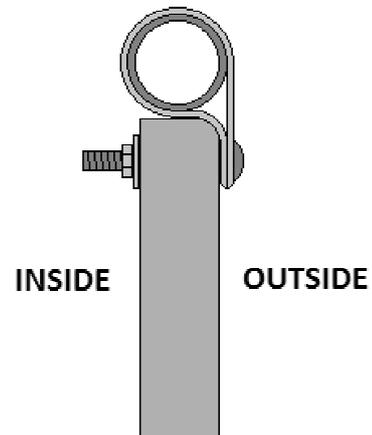


Fig44

Making sure the post is vertical, backfill the hole until at ground level.

Hang the door on this post leaving adequate room at the bottom for the door to open without catching (**Fig45**).

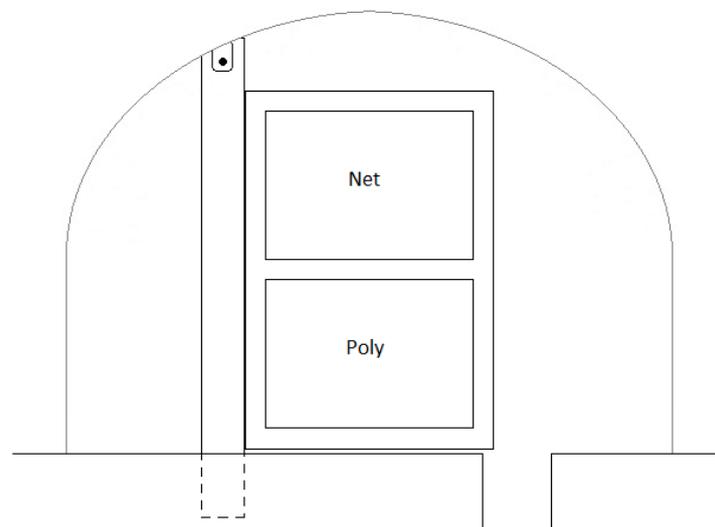


Fig45

Place the second door post in its hole and hold up to the door leaving a gap of approximately 6mm between the door and post (use a 6 inch nail or screwdriver shaft to get this gap). Mark the post under the hoop and cut. Hang the post using the same method as used when hanging the first post and, when you are happy with the position and the gap, secure the 'P' Clip and back fill the hole (**Fig46**).

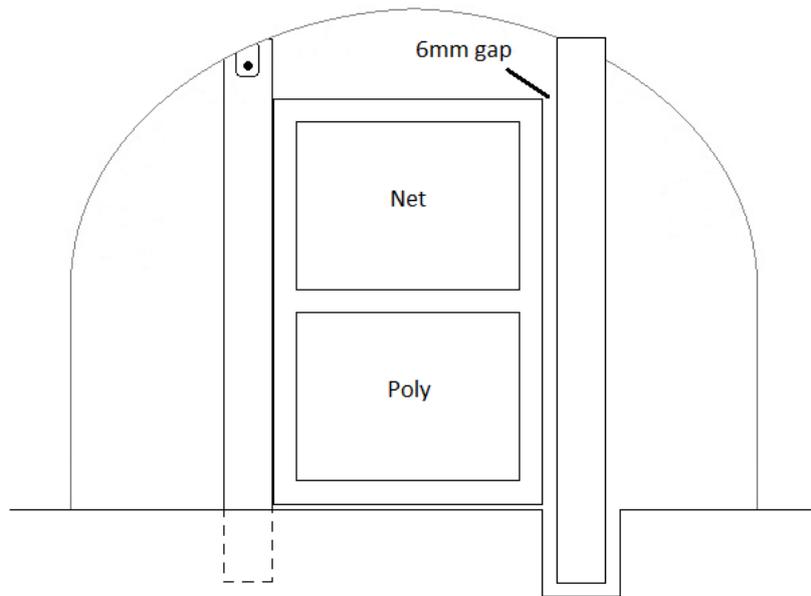


Fig46

The timber lintel supplied should be cut if necessary to fit between the posts.

Drill a 5mm hole through the side of each door post 1 inch above the top of the door. Sit the lintel in place between the door posts and on top of the door with a 6mm gap once again between lintel and door, fix in place with a 4 inch nail through the previously drilled holes (**Fig47**). Screw an 'L' bracket across each joint on the inside of the polytunnel (**Fig48**).



Fig47

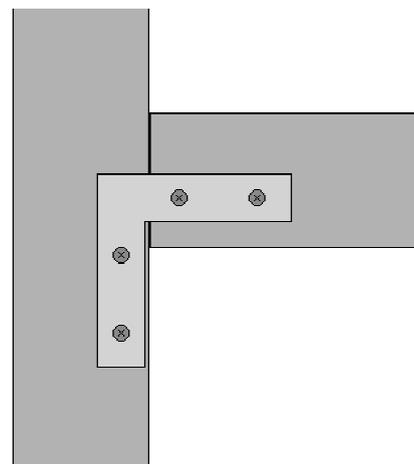


Fig48

DOOR FRAME – SLIDING DOOR

2 inch x 2 inch timber is used for the door frame.

It may help to place a string line across the end hoop – This can then be used as a line for the door frame, or just use your eye to line the frame with the end hoop.

The door opening will be 24 inches if using the standard sliding door supplied with your kit.

Mark the end hoop 12 inches each side of centre (this is where the door posts will fix) and dig two holes approximately 6 inches square and 12 inches deep directly below these marks (**Fig49**).

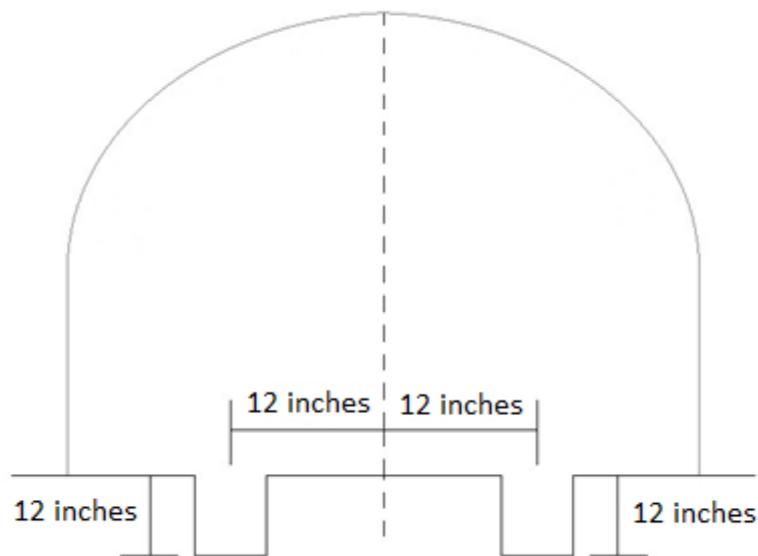


Fig49

Position one of the 8ft door post into one of the holes (preferably the hole on the highest side of the tunnel when on sloping ground) with the inside edge up to the mark on the hoop. Check the post for vertical and mark the timber under the hoop (**Fig50**). Cut the post on this mark.



Fig50

Cut the post on this mark.

Re-position the post in the hole. Place a 'P' Clip on the hoop with the leg of the P to the outside. With the 'P' Clip running down the outside face of the post, drill the post and bolt to the 'P' Clip using a cross head roofing bolt with a washer under the nut (**Fig51**). The post should not protrude past the end hoop (**Fig52**). Make sure the inside edge of the post is still in line with the mark on the hoop. Tighten and secure the 'P' Clip to the hoop with a self-drill screw. You may be unable to use the pre-drilled holes in the 'P' Clip, but the screw will make its own hole in a place suitably clear of the polythene.



Fig51

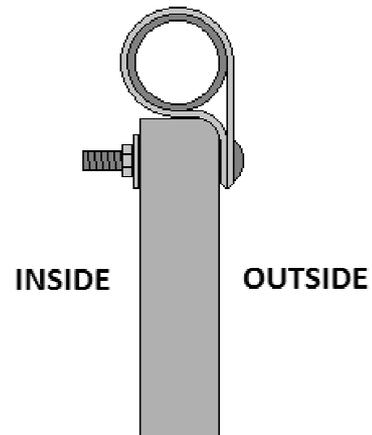


Fig52

Making sure the post is vertical, backfill the hole until at ground level.

Place the second door post in its hole. Mark the post under the hoop and cut on the mark. Hang the post using the same method as used when hanging the first post but leave the 'P' Clip loose. Using the pre-cut timber lintel as a spacer to make sure the posts are 24 inches apart, backfill the hole (**Fig53**).

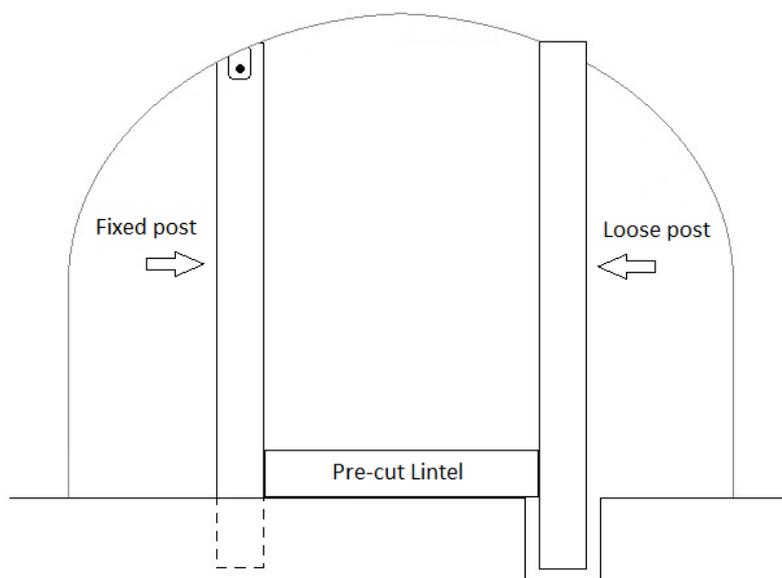


Fig53

It is important that the timber lintel is the correct height so that the door is free to slide without leaving a large gap at the bottom.

The measurement from ground level to the **underside** of the door frame lintel should be 69 inches (**Fig54**) – this will leave a gap of 1 inch under the door.

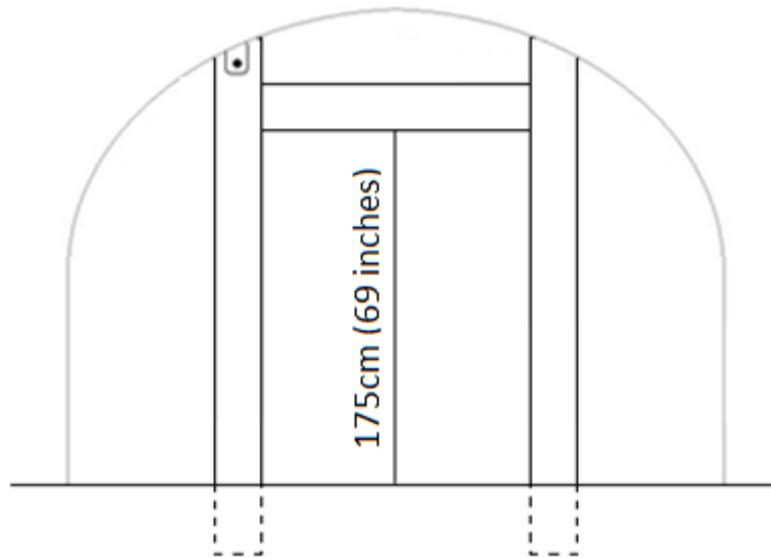


Fig54

Measure 69 inches up from ground level on the fixed door post and make a mark. Drill a 5mm hole through the side of the door post 1 inch above this mark. Holding the lintel so the bottom face is in line with this mark, fix in place with a 4 inch nail through the previously drilled hole (**Fig55**).

Making sure the lintel is level horizontally (a spirit level comes in handy) butt the loose door post up to it and drill another 5mm hole through the post and into the lintel. Fix in place with a 4 inch nail.

Screw an 'L' bracket across each joint on the inside of the polytunnel (**Fig56**).



Fig55

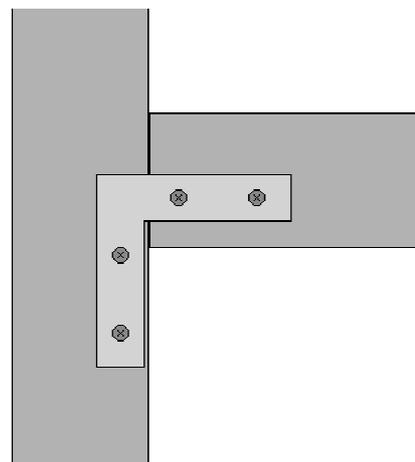


Fig56

You can now fix the second post to the hoop by tightening and secure 'P' Clip to the hoop with a self-drill screw. You may be unable to use the pre-drilled holes in the 'P' Clip, but the screw will make its own hole in a place suitably clear of the polythene.

TIMBER SIDE RAILS AND VENTILATION NET

This timber rail goes around the outside of the polytunnel framework on one or both sides. It is positioned 1m above ground level leaving only the door opening (**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 ground and side rail. It is also required that the side rail is spaced out from the tunnel (please see 'ventilation screens for timber side rails' section on page 31), this is so the screen can wind up and down with ease.

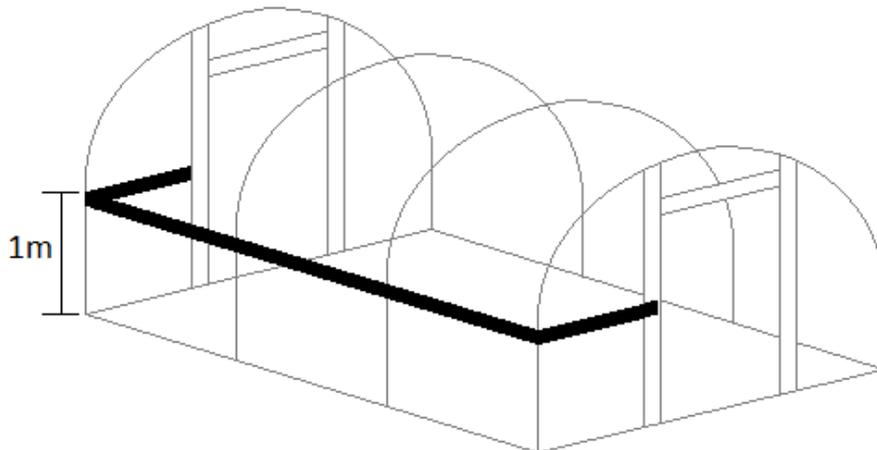


Fig57

The rails which make up the sides of the polytunnel are placed end to end and fixed at each hoop.

At each intermediate hoop a 'P' clip is used to fix the timber rails to the hoop (**Fig58**).

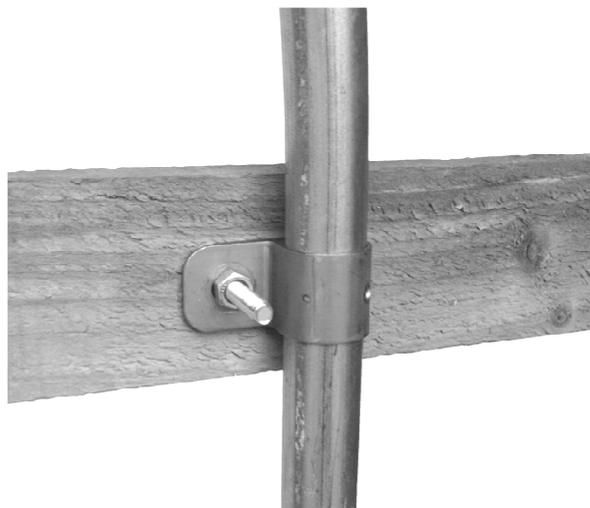


Fig58

At the corners a corner bracket should be placed around the hoop and the timber rails bolted through this bracket (**Fig59**).



Fig59

These side timbers should be left overhanging by at least 1 inch at each end. Wherever a joint in the rail occurs, nail an 8½ inch piece of the same timber (supplied) across the joint on the inside (**Fig60**).



Fig60

Cut a length of timber to fit across the front of each door post and butt up to the overhanging side rail.

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 75mm cup bolt with a washer under the nut on the inside (**Fig61**).



Fig61

At the outer corners, bolt the end rail to the corner bracket (**Fig62**).



Fig62

Nail a 3 inch nail through the side timber and into the end rail and cut off the overhang.

FORMING A REBATE FOR TIMBER SIDE RAILS

In order that the polythene cover can be attached easily and securely, a rebate needs to be formed around the timber side rails from door post to door post. To do this a batten is nailed around the top edge of the timber side rails.

The ventilation net should be trapped under this batten at the same time (**Fig63**).

A staple gun comes in handy to hold the netting onto the side rail until the rebate batten has been nailed on

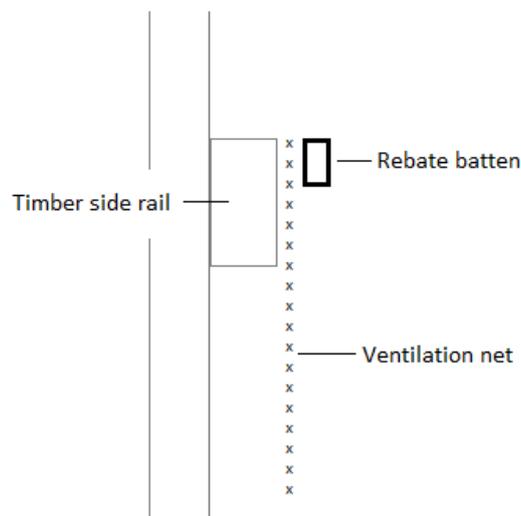


Fig63

Where a batten crosses a joint a nail should be positioned at each side of the joint – This will make the joint more robust.

Once you have formed the rebate all the way round from door post to door post it is necessary to cut off (at an angle) any rebate that protrudes at the corners (**Fig64**).



Fig64

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 (**Fig65**). The ventilation screen and the netting should only run down the length of the tunnel and not around to the door posts.

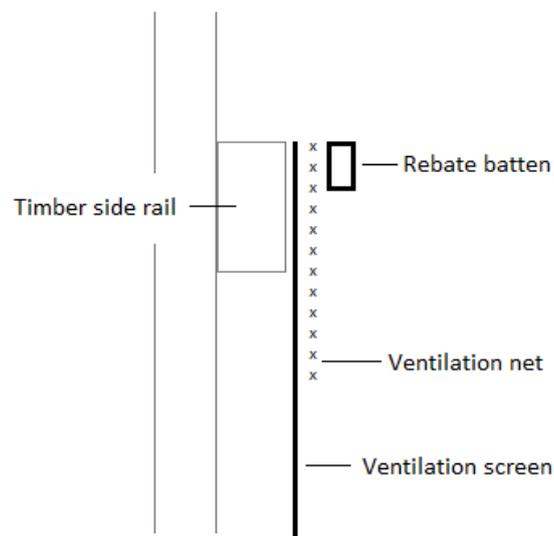


Fig65

With a ventilation screen kit, once the polythene screen and netting have been attached down the length, 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, overlapping the netting and polythene screen (**Fig66**).



Fig66

VENTILATION SCREENS FOR TIMBER SIDE RAILS

Your pack will include a 1.2m piece of timber with an 800mm aluminium track screwed in place.

This piece of timber and a similar piece without the track attached are the verticals, and at a later stage are placed under the timber side rail at each corner and buried in the trench along with the ventilation net (**Fig67**).



Fig67

When assembling the timber side rail it is necessary to space it out from the hoops to make room for the vent screen – this is done by placing a short spacer block of timber (supplied) between the rails and all hoops (side only, not on the ends) (**Fig68**).

A drop plate (**see Fig69**) should be placed behind the side rail corner clamp on the end hoops only and should point downwards. The drop plate should be on the side of the polytunnel (not the end) and is used to fix the vertical timbers (**Fig69**).



Fig68



Fig69

Once the tunnel is covered and the side rail has been lowered back to its starting position you can fit the vertical timbers. These verticals must be placed perpendicular to the side rail at the corners.

Drill and bolt the verticals loosely to the drop plate. The vertical should be placed so the aluminium track is above ground level and is facing down the length of the tunnel (**Fig70**).

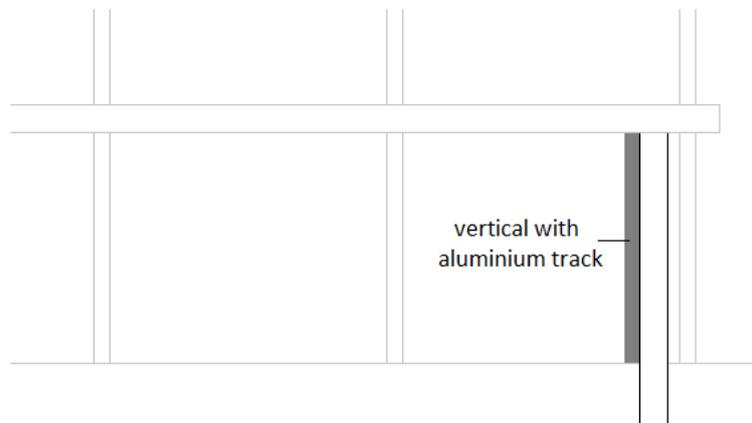


Fig70

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.

With the vertical in the trench, dig out the ground so that the vertical doesn't angle in or out of the tunnel (**Fig71 & Fig72**).



Fig71 – ground dug out for vertical



Fig72 – vertical positioned in trench/dug out

Adjust the verticals so they are perpendicular to the side rail. Once happy with the position, tighten to the drop plate and pack around the base of the verticals with soil (just enough so that the vertical won't move before the full trench is backfilled).

Assemble the 28mm steel lifting tube as a complete length using the self drill screws with the square adaptor at the gearbox end (**Fig73**). Cut this tube 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 (**Fig74**). Slot the square adaptor into the gearbox with the steel lifting tube resting on the ground.

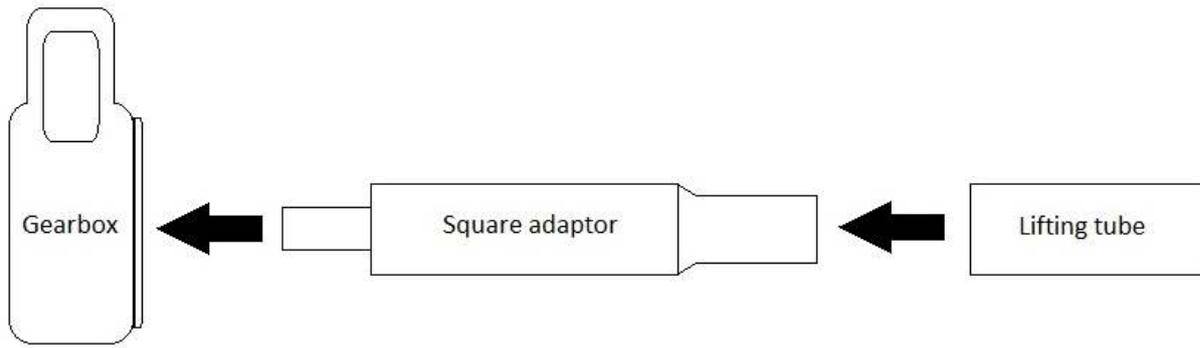


Fig73



Fig74

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 (**Fig75**).

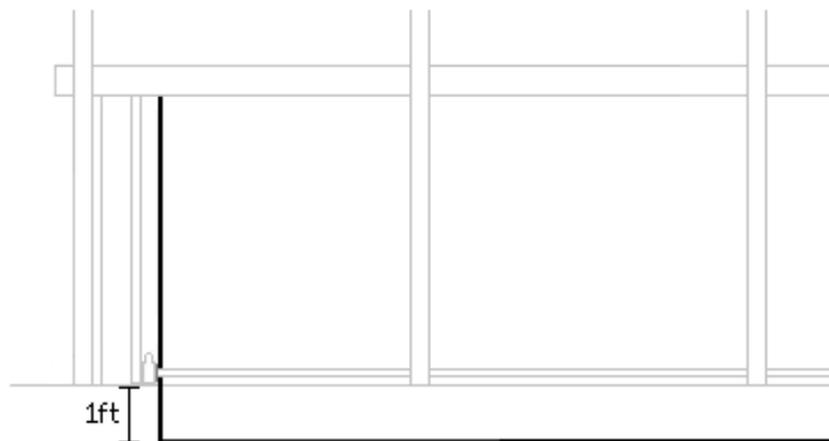


Fig75

Using the plastic 'C' clips provided, clamp the bottom edge of the screen to the tube (**Fig76**). A 'C' clip should be placed approximately every 2ft 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 (**Fig77**).



Fig76



Fig77

Tension the ventilation net and infill panels down into the trench and backfill with soil until at ground level (**Fig78**).



Fig78

Next tension the net and infill panels out to the verticals and door posts, and batten in place (**Fig79**).

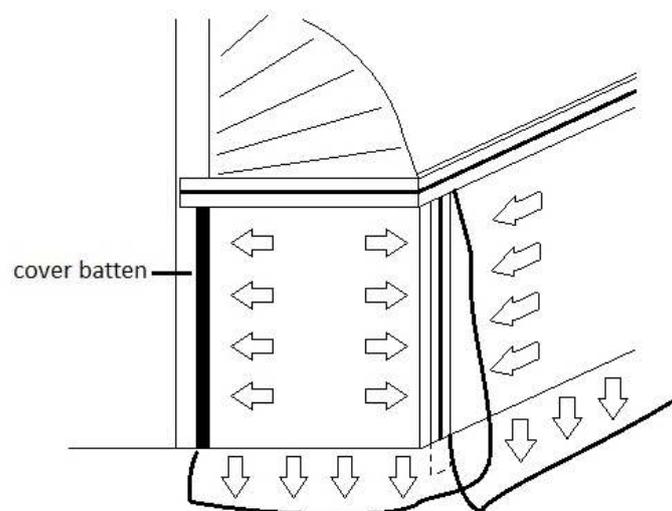


Fig79

ALUMINIUM SIDE 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 on one or both sides. It is positioned 1m above ground level leaving only the door opening (**Fig80**).

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 ground and side rail. It is also required that the side rail is spaced out from the tunnel (please see 'ventilation screens for aluminium side rails' section on page 37), this is so the screen can wind up and down with ease.

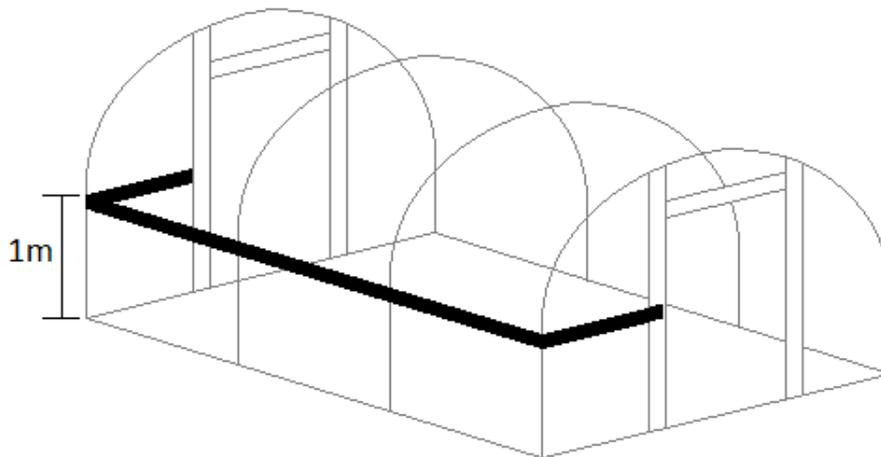


Fig80

The rails which make up the sides of the polytunnel are made up of a 3ft starter and either 5ft or 6ft extensions. 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 (**Fig81**).

*****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 (**Fig82**).

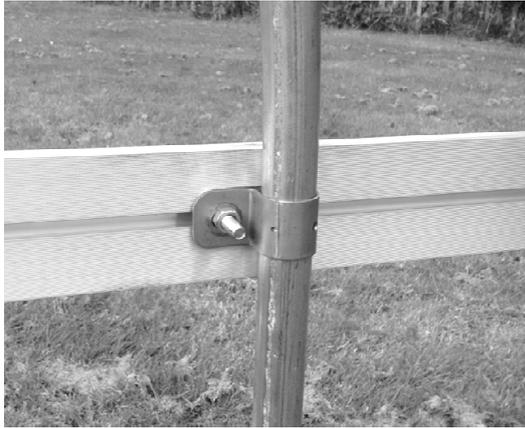


Fig81



Fig82

Wherever a joint in the rail occurs, a joiner is used to fix the two aluminium lengths together (**Fig83**). 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 side rail.

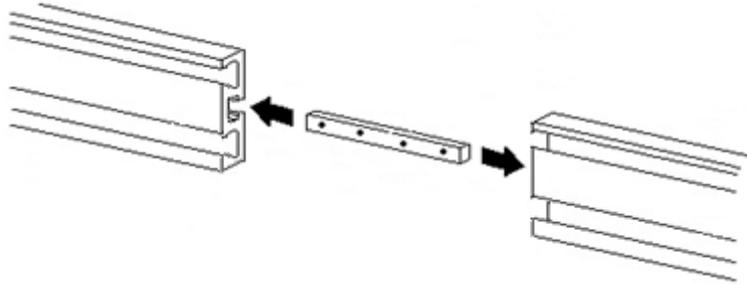


Fig83

Two 3ft lengths of aluminium are supplied for the corners. Cut these (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. 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 (**Fig84**).



Fig84

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.

VENTILATION SCREENS FOR ALUMINIUM SIDE RAILS

Tools required:

Rubber hammer

Your pack will include a 1.2m piece of double aluminium grip rail with an 800mm aluminium track screwed in place.

This piece of aluminium and a similar piece without the track attached are the verticals, and at a later stage are placed under the side rail at each corner and buried in the trench along with the ventilation net (**Fig85**).



Fig85

When assembling the aluminium side rail it is necessary to space them out from the hoops to make room for the vent screen. This is done by placing 35mm plastic spacers on every bolt between the fixings and the Rails (**Fig86**).

Washers are placed either side of the spacers on the bolts (**Fig87**).

On the end hoops, a drop plate should be placed over the bolt, between the spacer and the aluminium rail. The plates should be on the side of the polytunnel (not the end) and should point downwards. These drop plates are used later to fix the verticals (**Fig86**).

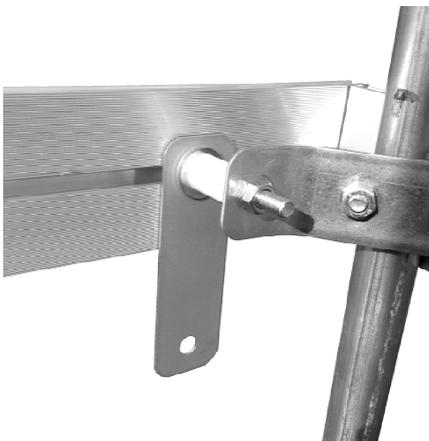


Fig86



Fig87

Once the tunnel is covered and the side rail has been lowered back to its original position you can fit the verticals. These verticals must be placed perpendicular to the side rail at the corners.

Bolt the verticals loosely to the drop plate. The vertical should be placed so the aluminium track is above ground level and is facing down the length of the tunnel (**Fig88**).

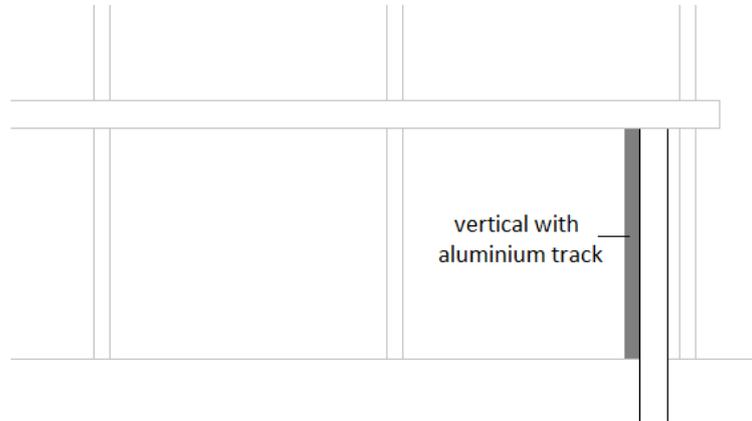


Fig88

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 (**Fig89**).

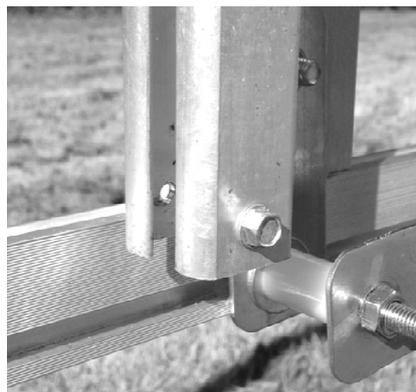


Fig89

With the vertical in the trench, dig out the ground so that the vertical doesn't angle in or out of the tunnel (**Fig90 & Fig91**).



Fig90 – ground dug out for vertical



Fig91 – vertical positioned in trench/dug out

Adjust the verticals so they run perpendicular to the side rail. Once happy with the position, tighten to the drop plate and pack around the base of the verticals with soil (just enough so that the vertical won't move before the full trench is backfilled).

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 (**Fig92**). Insert plastic 'T' profiles into the black 'U' profiles to secure.

A rubber hammer should be used to insert the plastic profiles as standard metal ones may crack the plastic.

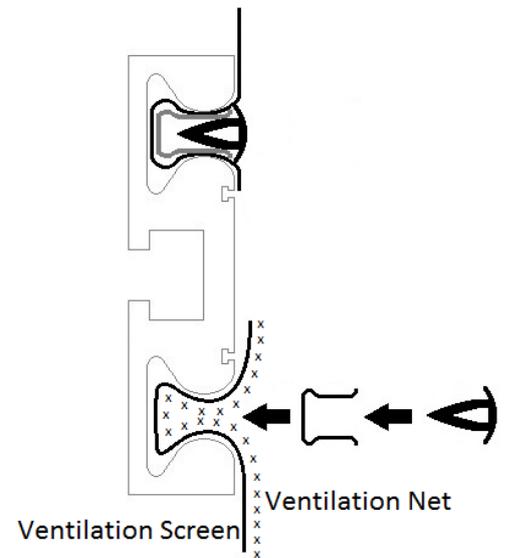


Fig92

Assemble the 28mm steel lifting tube as a complete length using the self drill screws with the square adaptor at the gearbox end (**Fig93**). Insert the adaptor into the gearbox and cut the tube 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 (**Fig94**). Slot the square adaptor into the gearbox with the steel lifting tube resting on the ground.

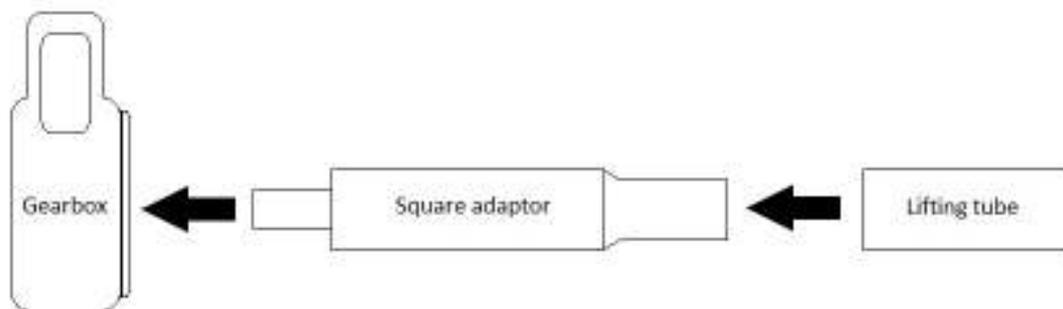


Fig93



Fig94

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 (**Fig95**).

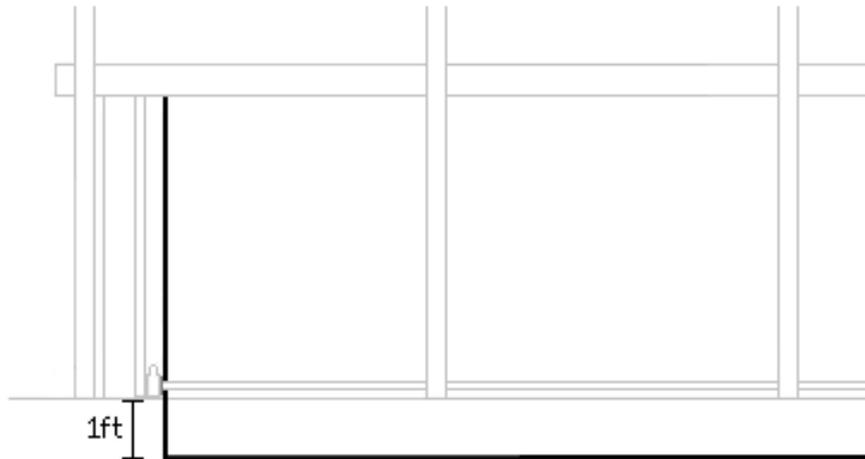


Fig95

Using the plastic 'C' clips provided, clamp the bottom edge of the screen to the tube (**Fig96**). A 'C' clip should be placed approximately every 2ft 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 (**Fig97**).



Fig96



Fig97

Tension the ventilation net down into the trench and backfill with soil until at ground level (**Fig98**).



Fig198

Next tension the net out to the verticals and fix in place using 'U' profiles. Insert a 'T' profile into any remaining 'U' profiles.

With your order you will also have received polythene infill 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. Insert a plastic 'T' profile into the 'U' profiles.

Tension the panels down into the trench and backfill with soil until at ground level.

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 to fix in place (**Fig99**). Insert 'T' profiles into the remaining 'U' profiles.

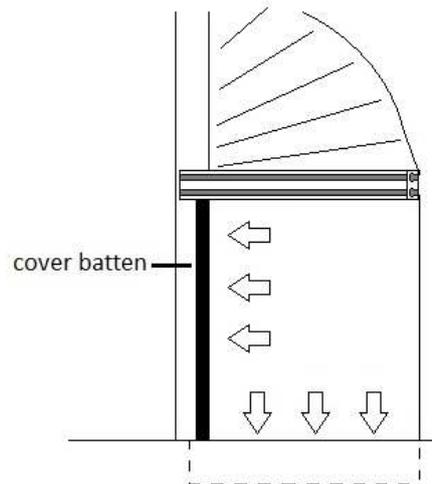


Fig99

FORMING A REBATE FOR YOUR DOOR FRAME

In order to fix the cover around the door frame and give it the necessary strength to remain held in position under extreme weather, it is trapped in a rebate which must be formed around the outside edge of the door frame with 19mm x 38mm battens.

Cut a piece of 19mm x 38mm timber batten to fit between the posts on the top of the lintel. It is important that the batten protrudes out from the frame by approximately 7mm as this forms the rebate around which the main cover will be trapped (**Fig100**).



Fig100

Take two full 1.8m lengths of batten and nail these down the outside edge of the posts, with the top in line with the batten on the lintel (**Fig106**). These battens must also protrude beyond the frame to form a rebate.

FINAL FIX

Check the structure all around for alignment and positioning of all the bars. If you are happy, all joints and 'P' Clips can now be secured with a self drill screw (**Fig101**). 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 (**Fig102**). Keep all screws to the inside of the polytunnel, away from where the polythene cover may rub.

*****It is MOST IMPORTANT that the hoops are screwed to the Foundation Tubes*****

*****If using Cover Tensioning Foundation Tubes, it is NOT required for the hoops to be screwed to the foundation tubes*****



Fig101

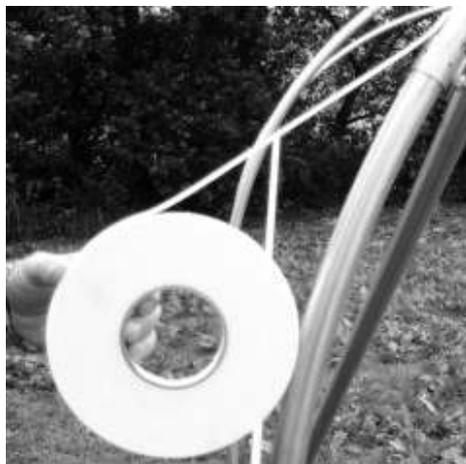


Fig102

ANTI HOT SPOT TAPE

This is a self adhesive foam tape which is placed over each hoop. Anti Hot Spot Tape should be used just prior to covering your polytunnel.

This tape should be placed over each hoop from ground to ground or to the top of the Side Rail. On the end hoops the tape should be placed at a 45-degree angle on the corner of the hoop in order to protect the polythene cover as it stretches around the hoop to the door frame.



Anti Hot Spot Tape

COVERING THE POLYTUNNEL

TRENCHING OPTION:

Dig a trench down each side of the framework at a distance of 4 inches out from the line of the hoops.

At each end dig a trench at all four corners from the side trench to the door post.

This trench should be a spade wide and approximately 14 inches deep. The edge of the trench nearest the polytunnel should be as straight and neat as possible as your cover will follow this line (**Fig103 and Fig104**).

*****Please note: Make sure you place the soil from the trench on the outside of the polytunnel*****



Fig103



Fig104

Next, 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 should be able to be read from the inside of the tunnel (**Fig105**).

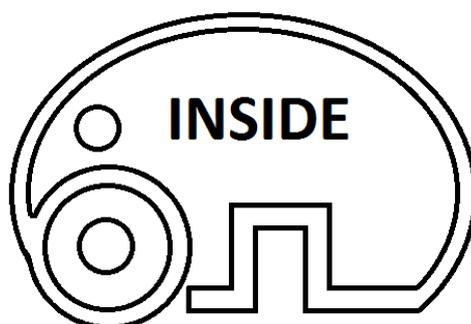


Fig105

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 (**Fig106**).

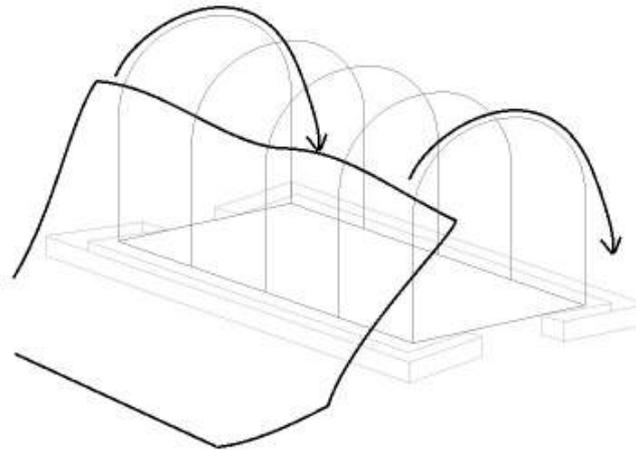


Fig106

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 buried or can 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 (**Fig107**).



Fig107

- **STEP 1:** Cut a 19mm x 38mm batten to fit across the top of the door frame and end frame between the outer battens that form the rebate. Starting at one end of the polytunnel, trap the polythene with this batten pressed tight against the rebate batten. The polythene should be smoothed out 4 inches either side of the lintel centre and the batten nailed in place along this 8 inch length only (**Fig108**).



Fig108

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 into the trench on one side starting in the middle – This is best done with one person at a hoop either side of centre (**Fig109**). Do not over tension but, when the cover is smooth from the ridge down into the trench, back fill the trench between the two people with the polythene forming a “U” around the trench and the soil on top (**Fig110**). Using this method, work your way out to the ends.

*****Make sure to pull the cover along the length of the tunnel as well as down into the trench, this will mean the cover will not dip between the hoops too much*****

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 stand on the cover in the trench to get the required tension.



Fig109



Fig110

- **STEP 3:** With just the four corners and door posts left, it will now be necessary to cut the polythene at the corners, but **ONLY** in the trench below ground level, 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 3:** Starting at the lintel, grip the polythene and, while pulling tightly, twist the wrist to create a selection of pleats working out to the Door Post, nailing the batten as you go (**Fig112**). Repeat this same method down each door post (**Fig113**).



Fig112



Fig113

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 (**Fig114**).

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 (**Fig114**).

Tension the cover into the trench at each corner and back fill with soil.

Trim off the excess polythene around the door opening (**Fig115**).



Fig114



Fig115

If cover tensioning tubes have been used, you can now lift the hoops from the inside of the tunnel see 'Cover tensioning tubes' section on page 7.

COVERING THE POLYTUNNEL

TIMBER SIDE RAIL OPTION:

On any sides where side rails are being used, loosen the clamps holding the side rail to the hoops. Raise the rail by 1½ - 2 inches and retighten the clamps, securing the 'P' clips with a self drill screw.

Fit the cover using the same method as the trenching option, see page 43, the only difference being that instead of backfilling the trench you will use batten to trap the cover underneath the rebate on the side rail (**Fig116**)

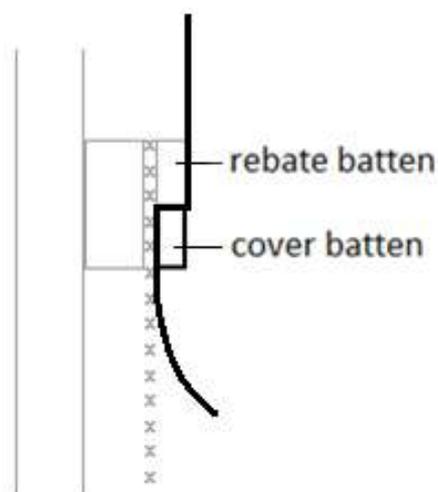


Fig116

Once the cover is fully fitted, lower the side rail back to its starting position and tighten all the clamps, fixing the 'P' clips with a self drill screw (**Fig117**).



Fig117

Tension the ventilation net down into the trench and backfill with soil until at ground level.

Finally, tension the ventilation net out to the door posts and batten in place.

*****When a side ventilation screen is being used please see 'ventilation screen for timber side rails' section on page 31 to see how to fix your netting and infill panels*****

COVERING YOUR POLYTUNNEL

Tools required:

Rubber hammer

ALUMINIUM SIDE RAIL OPTION:

On any sides where side rails are being used, loosen the clamps holding the side rail to the hoops. Raise the rail by 1½ - 2 inches and retighten the clamps, securing the 'P' clips with a self drill screw.

Fit the cover using the same method as the trenching option, see page 43, the only difference being that instead of backfilling the trench you will use **Grey** plastic 'U' profiles to trap the cover into the top cover slot of the side rail (**Fig118**).

A rubber hammer is preferred for this job as standard metal ones may crack the plastic profile.

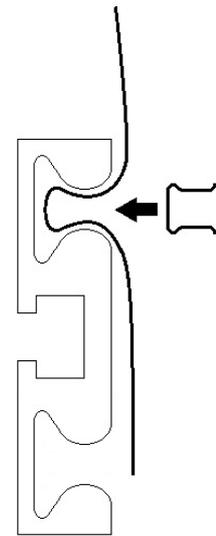


Fig118

*****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*****

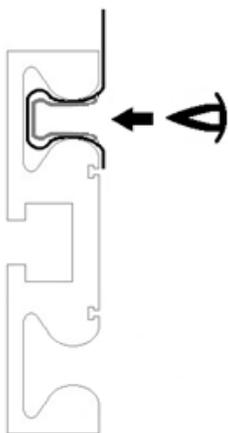


Fig119

Insert plastic 'T' profiles into all the 'U' profiles once each section of the cover is completed (**Fig119**).

Once the cover is fully fitted, lower the side rail back to its starting position and tighten all the clamps, fixing the 'P' clips with a self drill screw (**Fig120**).



Fig120

After the side rail has been lowered to its starting position again, the ventilation net can be fixed into the bottom cover slot of the side rail. It should be fixed in using the **Grey** plastic 'U' profiles. Once it is fixed with these profiles around the side rail from door post to door post, secure it by inserting the plastic 'T' profiles into the already fixed 'U' profiles (**Fig121**).

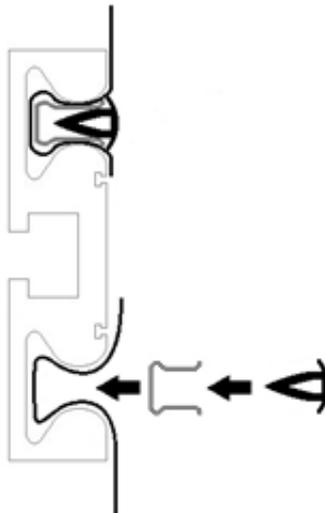


Fig121

Tension the ventilation net down into the trench and backfill with soil back up to ground level. Finally fix the Ventilation net to the Door Post using a timber batten. Trim off any excess.

*****When a side ventilation screen is being used please see 'ventilation screens for aluminium side rails' section on page 37 to see how to fix your netting and infill panels*****

SLIDING DOOR ASSEMBLY

After completing and covering your polytunnel you can assemble the sliding door system.

A length of 3 inch x 1 inch timber is supplied with a sliding door kit. This length of timber is placed across the outside face of the door post and out to the hoop (only on the side that the door will slide across) (**Fig122**). This is to stop the sliding door from rubbing against the cover.

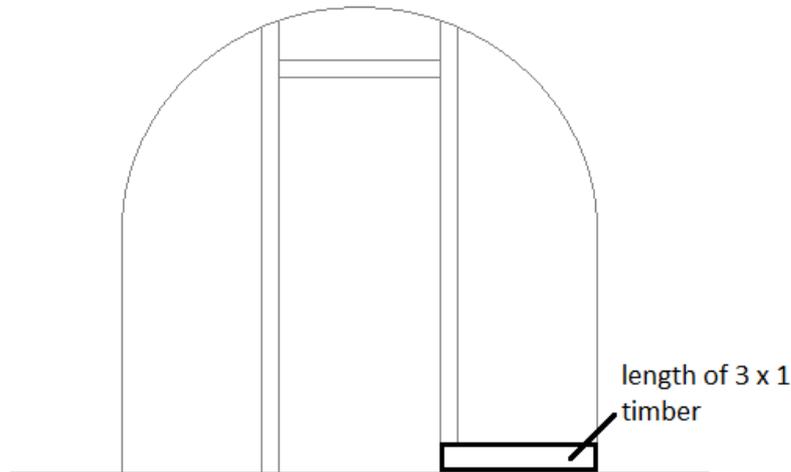


Fig122

Drill a 9mm hole through the 3 x 1 timber, the door post and the batten. Using a M8 x 100 cup square bolt, bolt the 3 x 1 timber to the door post.

On the inside of the tunnel place a 'P' clip around the hoop, with the leg of the 'P' clip facing towards the door post. Drill a 9mm hole through the 'P' clip hole, through the polythene cover and 3 x 1 timber (**don't worry about drilling through the cover, the 9mm hole will not affect the cover**).

Bolt the 3 x 1 timber to the 'P' clip through the polythene cover and tighten (**Fig123**). Fix the 'P' clip with a self drill screw.

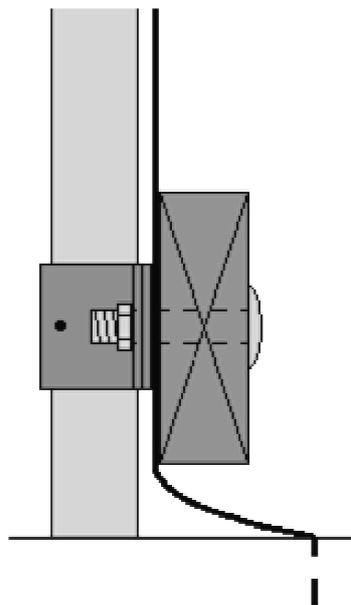


Fig123

You can now attach the door track.

Measure 1 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 4 inches in from each post (**Fig124**).

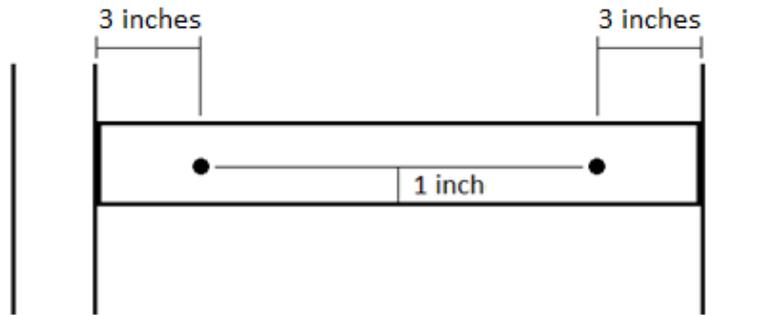


Fig124

Next, slide two 8mm x 80mm 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 (**see Fig125**). Adjust as necessary so that the edge of the track is in line with the outside edge of the door post which will hold the drop bolt when the door is closed.

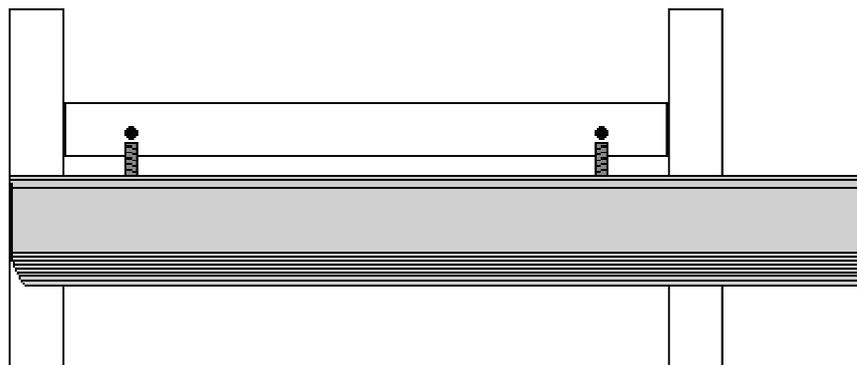


Fig125

Place a washer and nut on the bolts and tighten (**see Fig126**).



Fig126

Having pre- assembled your door and covered it with net and polythene, you now need to screw the first runner (wheel) in position on the top edge of the door (**Fig127**) – this is the end of the door that is covered in net.

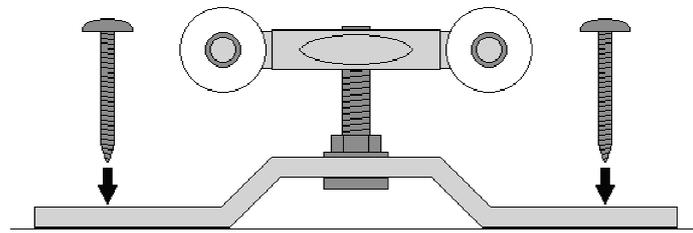


Fig127

The first runner should be screw onto the door 5 inches away from the side where a catch would usually be fitted on hinged doors (**Fig128**).

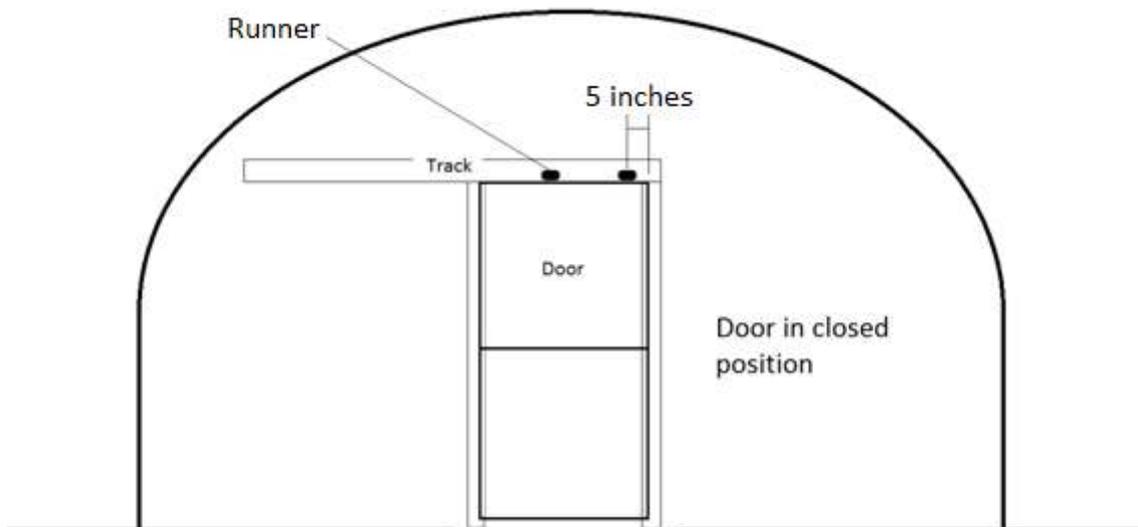


Fig128

The runner should be placed up to the *inside* edge of the door. (Please note; the *outside* edge is where the battens holding the net panel are fixed) – (**Fig129**).

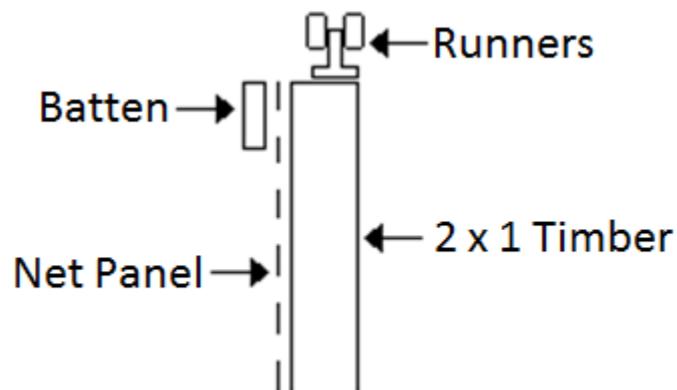


Fig129

The second runner should be placed 17 inches apart from the first runner (**Fig130**), and should be placed up to the inside edge of the door again.

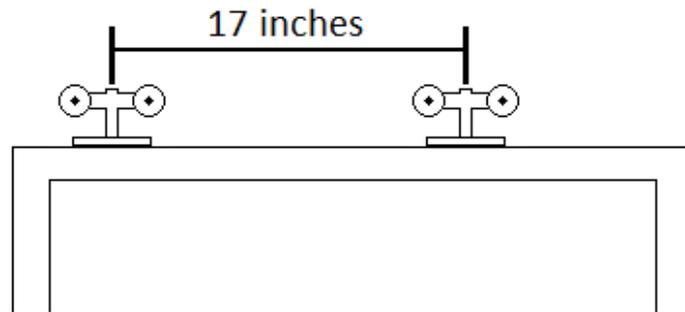


Fig130

Slide the door into the track with the battens facing outwards. Adjust the runners up or down on the threaded bolts until the door sits square to the door frame.

Assemble and insert a door stop into each end of the track (**Fig131**) – leave these loose in the track for the time being.

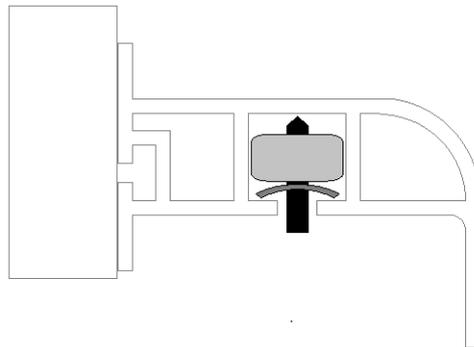


Fig131

When you are happy that the stops are in the right position so that the door will not open or close too far, you can now tighten the stops to lock in place.

Insert the plastic finishing end caps into the ends of the track to round off the sharp corners (**Fig132**).



Fig132

When the door is in the closed position it should overlap each door post equally – approximately 1 inch.

Drive a 500mm long tube (supplied) into the ground at each end of the door to stop it from swinging out away from the polytunnel (see Fig133).



Fig133

With the door in the closed position, these drop tubes should be positioned in line with the outer edge of the door face (Fig134).

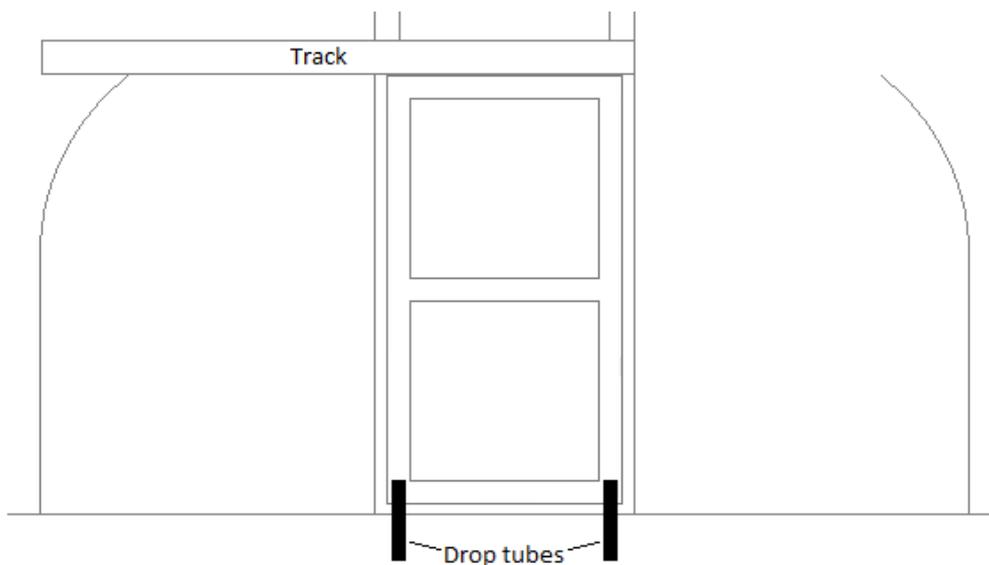


Fig134

The two drop tubes should be left protruding from the ground so that they overlap the doors by 2½ inches (Fig135).

Ensure you position these drop tubes slightly away from the door in order for it to slide freely between the polytunnel and the drop tubes.

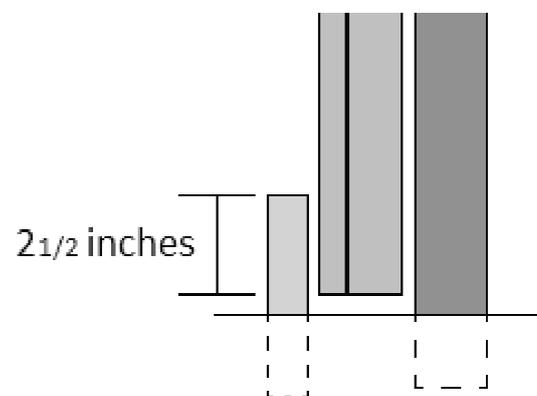


Fig135

A drop bolt is supplied with a single sliding door. This acts as a door catch

There are two screw-in eyes for the drop bolt – the first of these ‘eyes’ should be screwed into the batten at the bottom corner of the door (on the side of the door where a catch would usually be fitted to lock/hold the door closed) in line with the drop tube approximately 4 inches up from the bottom edge of the door. The second ‘eye’ should be screwed approximately 7 inches higher than the first (**Fig136**).

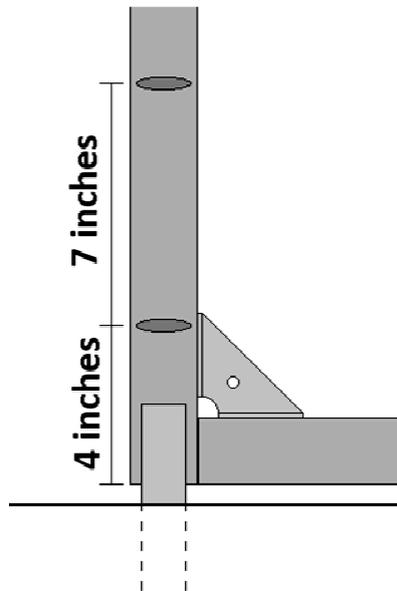


Fig136

Drop the bolt through the ‘eyes’ and into the drop tube – this will hold the door shut (**see Fig137**). Open the door and drop the bolt into the other drop tube to hold the door open (**see Fig138**).



Fig137



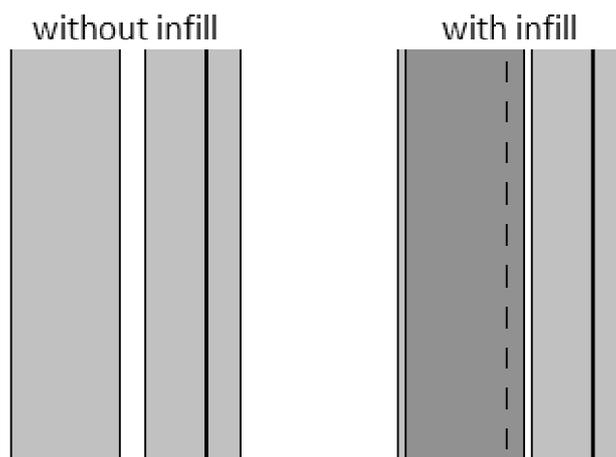
Fig138

Two timber infills are supplied with each sliding door frame. These are nailed to the inside of the door posts and fill the gap between the frame and the door (**Fig139**).

Please note: at no point should they come in contact with the door as this would stop it from sliding smoothly.



Fig139



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