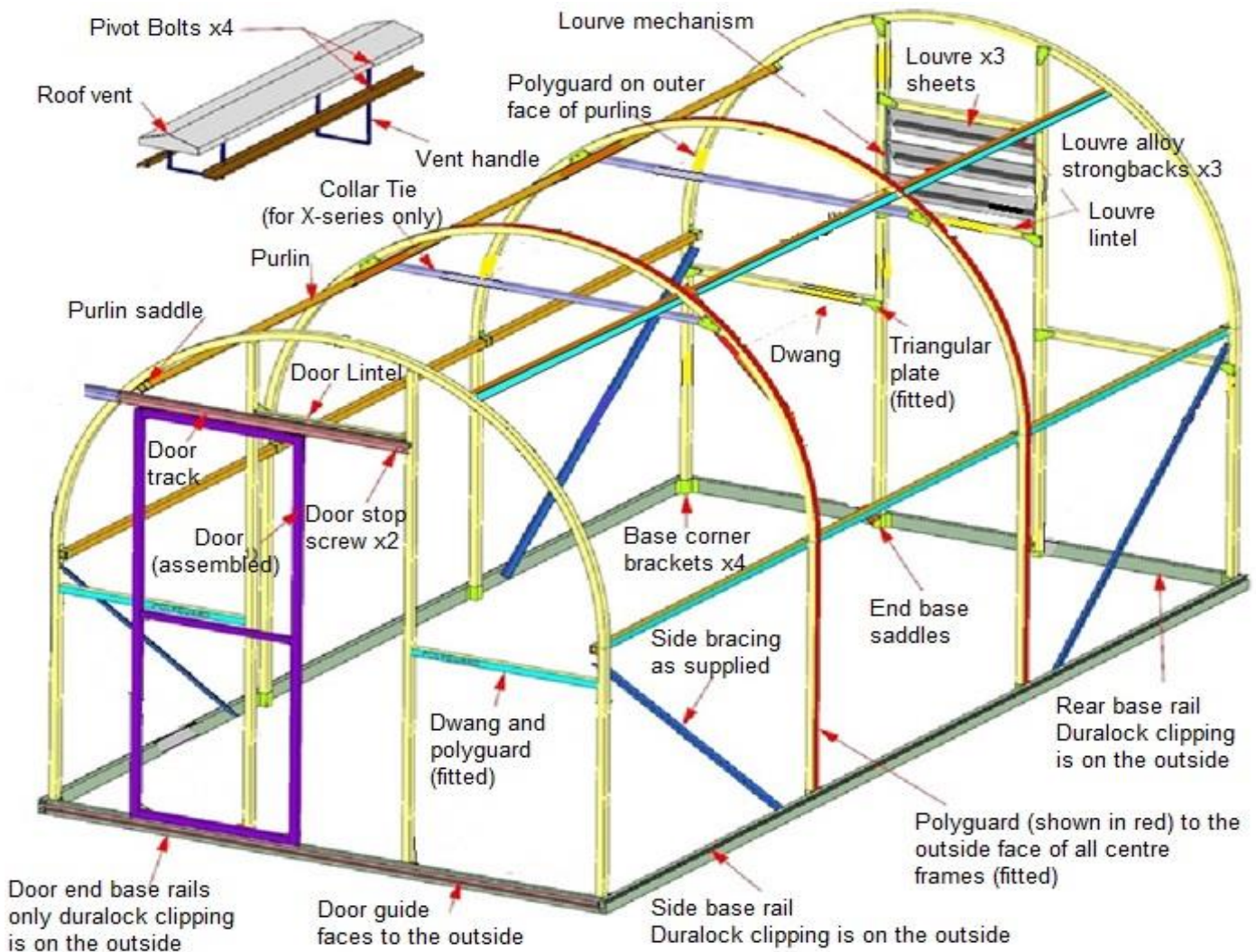


Redpath Tunnelhouse Mk2

See our Playlist on Redpath YouTube channel for our assembly videos

Basic frame parts image



Tools & Parts suggested: Step ladder, Saw-stools, Hammer, Rubber Mallet, Secateurs, Scissors, Tape measure, Pliers, Cordless drill, Level, String-line, Marker pen, Safety gear (as needed). Pegs and Screws to secure the base, or timber for base materials.

Suggested peg locations to secure the alloy base – see below.

See B1 on page 2, & graph on page 3 for the internal size measurements of your base to match the supplied alloy base. Check the base is level. Use long screws or coach-bolts to secure the alloy base to your timber base.

IMPORTANT: Please use suitable foundation pegs & possibly include concrete to meet your sites wind exposure and soil compaction conditions, **see image GP1 GP2 page 2**

Place the tunnelhouse in a sheltered location. If you have a very windy site – Consider erecting a 2m tall windbreak cloth fence on the most exposed side or end of the tunnelhouse.

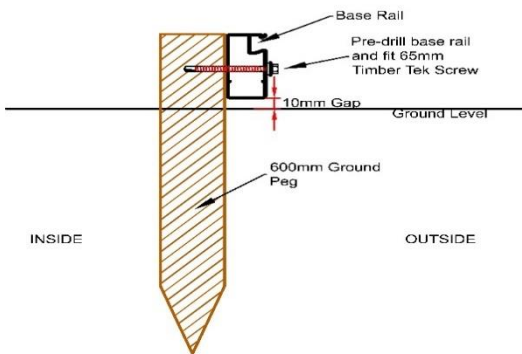
If you are adding a timber base frame:

The tunnelhouse includes alloy base rails, however if your ground is undulating you may wish to build your own additional base from 100mm x 50mm or 150mm x 50mm timber etc. See below. Secure your base to the ground before fitting any covering.

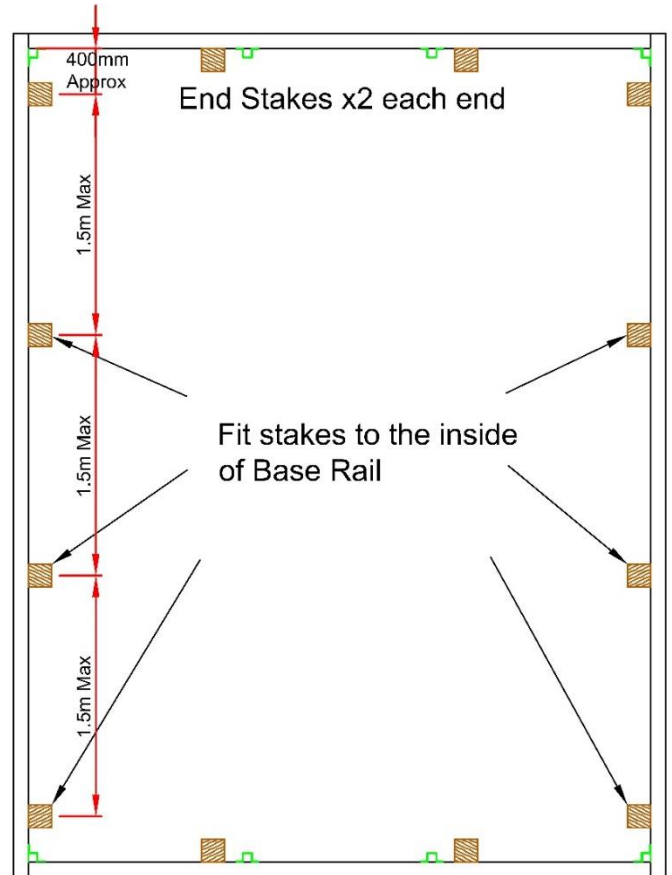
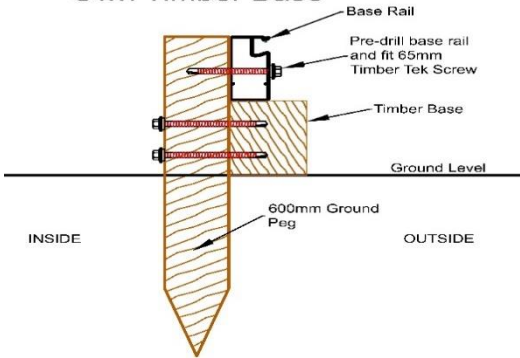
(GP1) 600mm Ground peg connection to alloy base rail.
2 x options shown below with or without timber base rail

(GP2) Place a ground peg 400mm from corner on side base rail x 4
Two at each end beside studs, & every 1.5m max along sides.

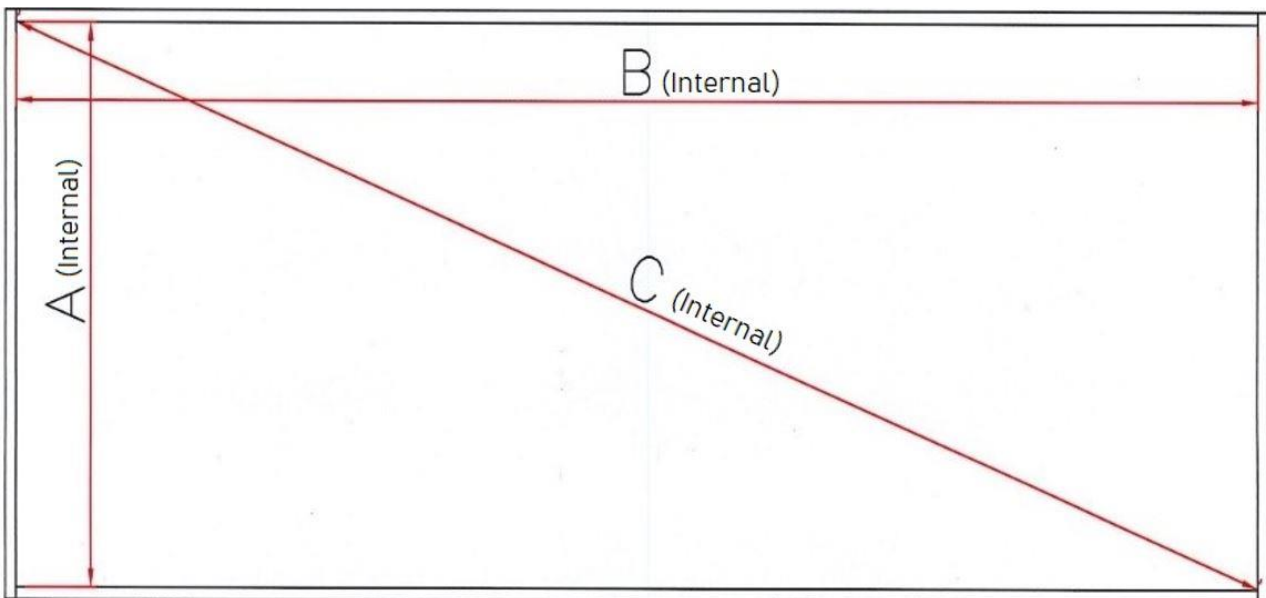
If Alloy Base on Ground



If Alloy Base Connected to Your Own Timber Base



B1 - INTERNAL MEASUREMENTS – if adding your own timber base



Internal base dimensions for all sizes	
3m A = 2.3m, B = 3032mm, C = 3805mm	10.5m A = 2.3m, B = 10532mm, C = 10780mm
4.5m A = 2.3m, B = 4532mm, C = 5082mm	12m A = 2.3m, B = 12032mm, C = 12250mm
6m A = 2.3m, B = 6032mm, C = 6456mm	15m A = 2.3m, B = 15032mm, C = 15207mm
7.5m A = 2.3m, B = 7532mm, C = 7875mm	18m A = 2.3m, B = 18032mm, C = 18178mm
9m A = 2.3m, B = 9032mm, C = 9320mm	21m A = 2.3m, B = 21032mm, C = 21157mm
	24m A = 2.3m, B = 24032mm, C = 24142mm

Step 1: Join together the side base rails:

Assemble each side base rail use 2 x 16mm screws supplied in the order and the lengths shown in the chart below.

Helpful Hint: If the building is facing north to south, assemble the side base rails so that the 1st 3587mm rail on the west side begins at the “south end” and the 1st 3587mm rail on the east side begins at the “north end”.

[See the side base rail assembly video on our YouTube channel](#)

		10.5m	Join 3587mm +3m +4m
3m	Uses 1 rail 3087mm no join	12m	Join 3587mm +3m +3m +2.5m
4.5m	Join 3587mm & a 1m	15m	Join 3587mm +3m +3m +3m +2.5m
6m	Join 3587mm & a 2.5m	18m	Join 3587 +3m +3m +3m +3m +2.5m
7.5m	Join 3587mm & a 4m	21m	Join 3587mm +3m +3m +3m +3m +3m +2.5m
9m	Join 3587mm +3m +2.5m	24m	Join 3587mm +3m +3m +3m +3m +3m +3m +2.5m

Join the side base rails so that you have two equal length rails & have the internal hoop saddles opposite each other.

The Duralock groove faces to the outside and along the top edge of each of the side rails **See image BR2 page 5**

The pre-fitted steel saddles face to the inside and should be at 1.5m spacing if the rails are in the correct order of assembly.

Use two 16mm screws to connect the rails together. **See image within BR1 below**

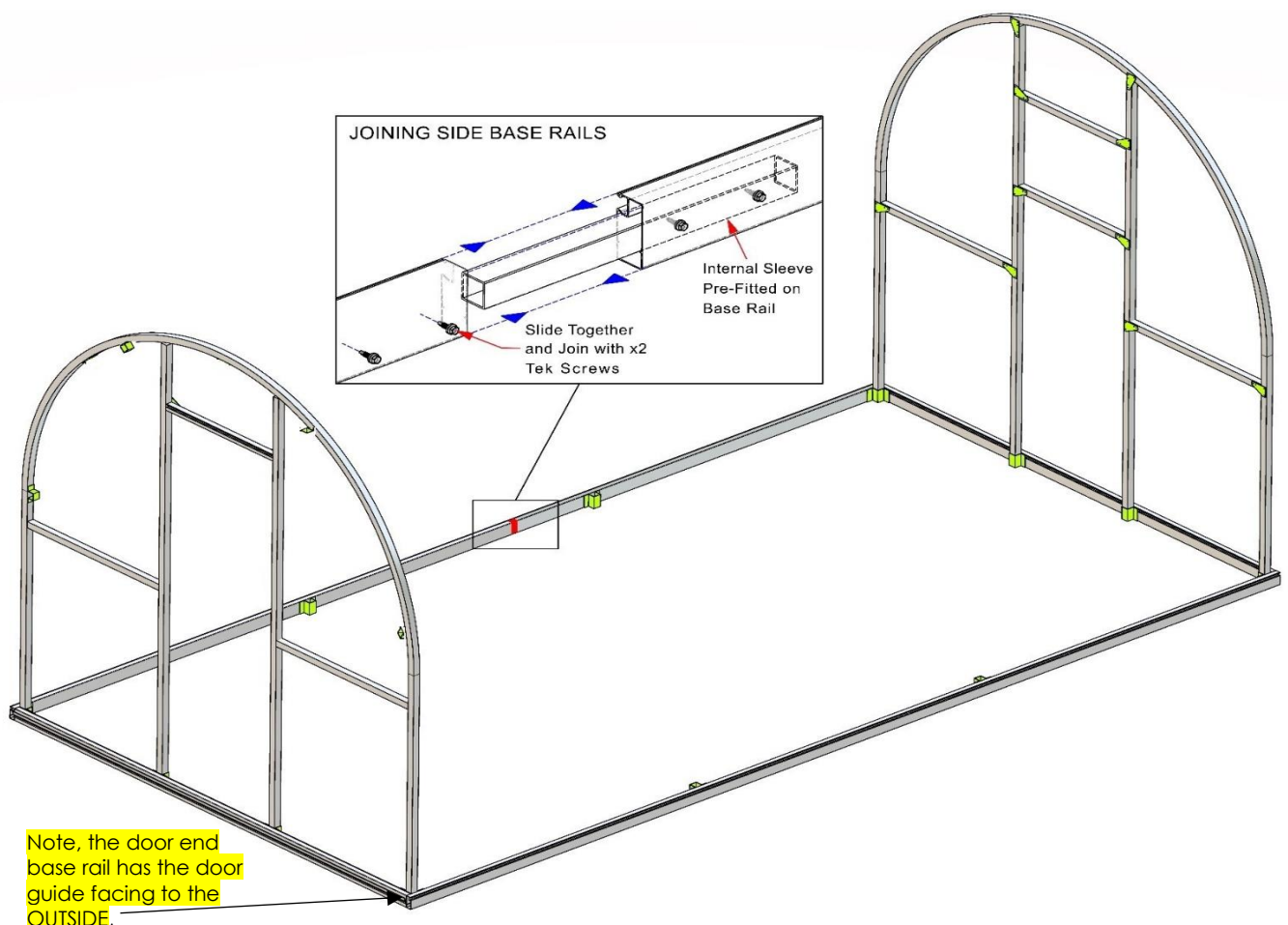
Step 2: Stand up the pre-made door end and back walls, secure them to side base rails with 3 screws. The side base rails finish flush at their ends with the outside face of the end wall base rail (See Pic BR3 and You tube video of wall assembly)

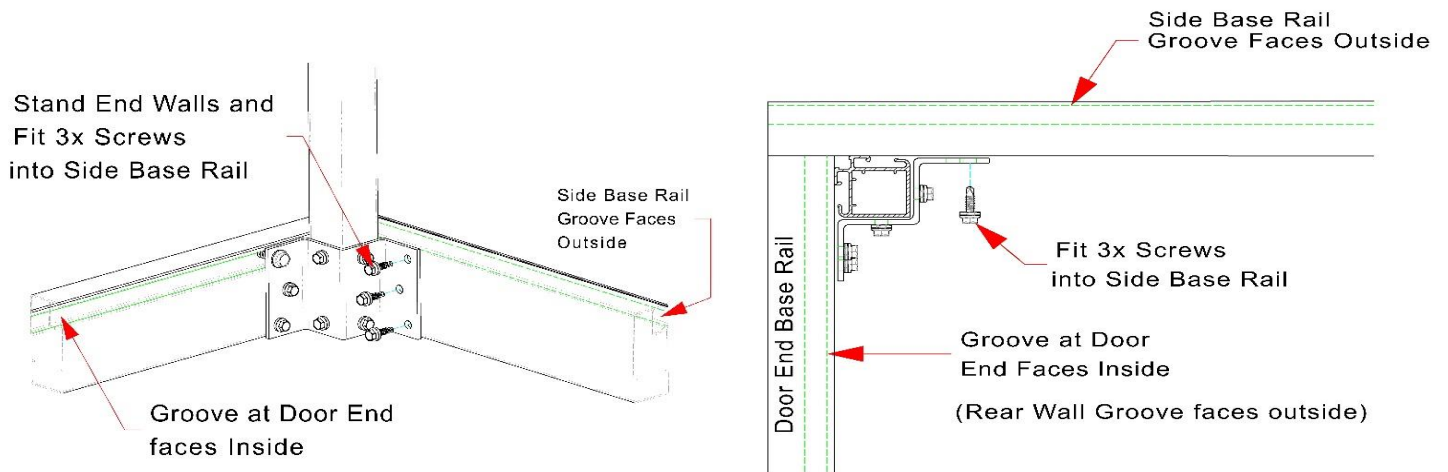
* Stand up the rear wall - the Duralock groove for the rear wall faces to the outside. Check the wall is vertical and use three screws to connect the end of the side base rail to the rear wall base rail **see Images BR1 & BR2 & BR4 below and Page 4**

* Stand up the front wall – The door guide faces to the outside

Check the wall is vertical and use three screws to connect the end of the side base rail to the rear wall base rail **see Images BR1 & BR2 & BR4 below and Page 4**

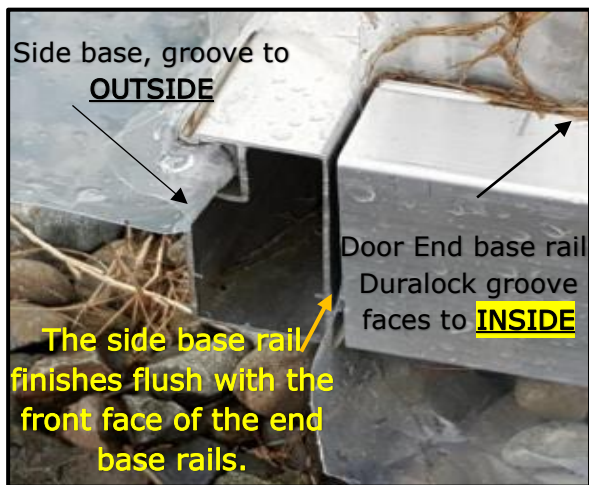
BR1 - Sleeve the side base rails together and stand up and attach the front and rear walls, [See the side base rail assembly and standing up of end walls video on our YouTube channel](#)



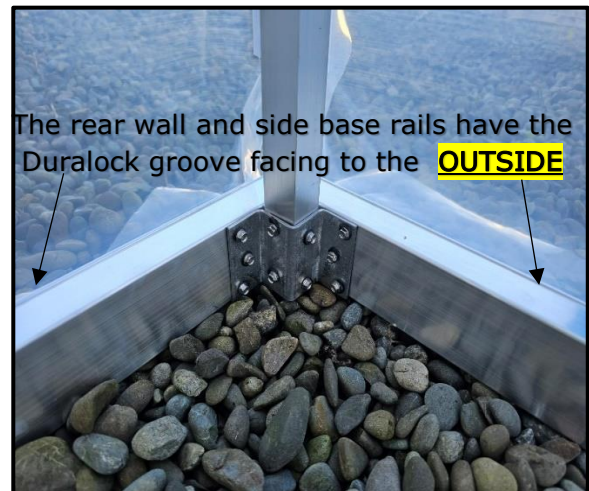


PLAN VIEW

BR3 -The end wall finishes flush with the side base rails



BR4 - Internal corner brackets with screws fitted



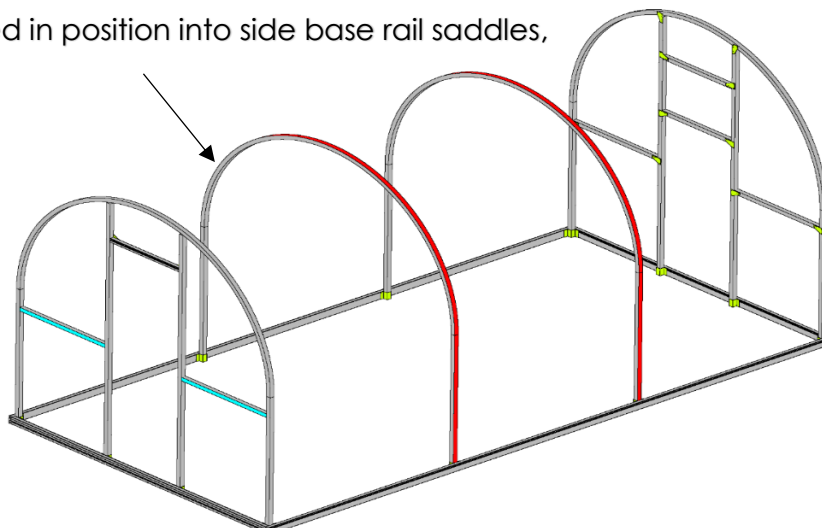
Step 3: Slide the internal hoop(s) into the side base rail saddles

NOTE 1: *If there is a roof vent on your building – the two hoops that are located at each end of the roof vent should be positioned so that their smooth side face, - faces toward each other.

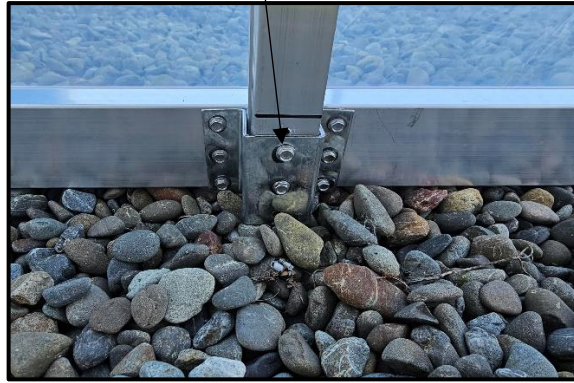
NOTE 2: We suggest **not securing the internal hoops** with the two screw(s) at their base saddles until after the covering has been fitted. This allows the hoops to be lifted 'upwards' after the covering is in place to help with tensioning the cover.

*For the 15m, 18m 21m & 24m models fit the horizontal collar tie to each central hoop. **See image CT1 Page 7.**

Internal hoops placed in position into side base rail saddles, see YouTube videos



SAD1 (Internal hoop saddle + screws **after the cover installed**)



Step 4: If you have a roof vent option install the roof vent base part now, See the YouTube video “Roof vent part 1, vent base”

See Image V1 below.

NOTE: The roof vent may be positioned in any of the Tunnelhouse 1.5m sections; however, you cannot fit a roof vent in a section directly beside another section that might already have a roof vent. The two hoops that will have the roof vent fitted in-between them should have **their flat aluminium side faces, - facing toward each other.**

When you have decided which section to place the roof vent in, double-check that the hoops are 1.5m at the apex apart then

1. Use two 22mm screws at the end of each vent rail to secure the rails to the top face of the central hoops (8 screws in total)

V1 If you have a roof vent option, Fit the roof vent steel base rails now – Use 2 x 25mm screws at each end (8 in total)



Step 5a: Join the 4 roof purlins – See YouTube video “Mk2 Purlin assembly”

Step 5b: Fit the 4 roof purlins. See YouTube video “Mk 2 purlins being installed”

* Sleeve together the four 25 x 25mm aluminium lengthways purlins using each length **only in order as shown in the below table** for your tunnelhouse size. When joining the purlins keep the white Polyguard tape on the same side for their full length (this will face to the outside when installed) **See image PR1 page 6**

Use 2 x 16mm screws to join the purlins - do not screw through the white Polyguard face!

* The end hoop saddles are already pre-fitted for you. Stretch a string line end-to-end between the end saddles and mark the central hoops with a pencil to find the position of where the internal saddles/purlins will sit.

* Use the saddles and the 16mm screws supplied to attach the purlins to the underside of your central hoops. **See image P2 page 6.**

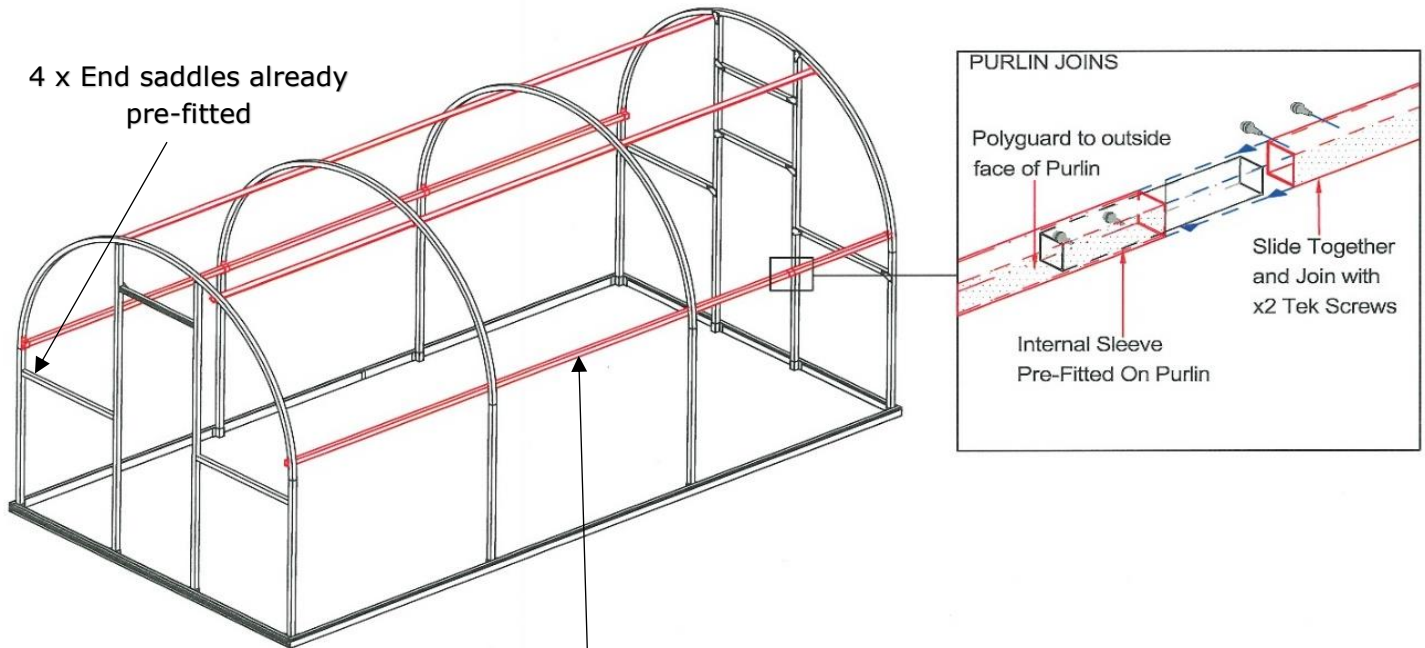
* Wrap a small piece of Polyguard around the ends of each purlin to help protect the end wall covering, **See image P3 page 6**

* If you have a 15m or longer tunnel, or have an X wind kit option you can fit the collar tie braces **See image CT1 page 7**

Sleeve (J) includes the joiner sleeve [see Redpath purlin assembly video on Redpath YouTube](#)

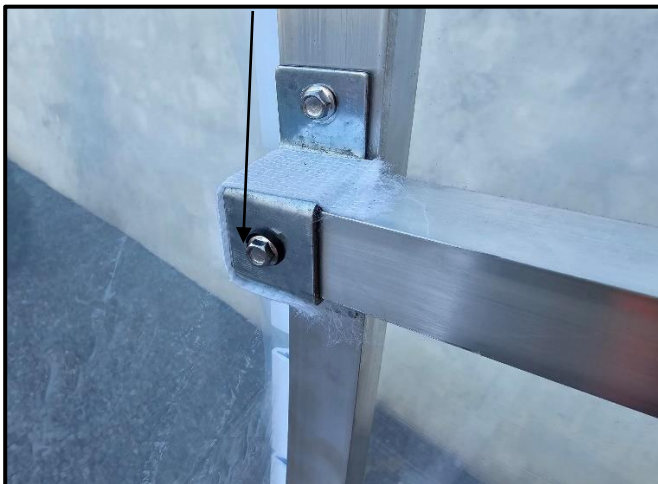
		10.5m	Join 766mm(J) + 3mJ + 3mJ + 3mJ + 766mm
3m	Uses 1 Piece @ 3032mm	12m	Join 766mm(J) + 3mJ + 3mJ + 3mJ + 2266mm
4.5m	Join 766mm(J) & a 3mJ & a 766mm	15m	Join 766mm(J) + 3mJ + 3mJ + 3mJ + 2266mm
6m	Join 766mm(J) & 3mJ & a 2266mm	18m	Join 766mm (J) + 3mJ + 3mJ + 3mJ + 3mJ + 2266mm
7.5m	Join 766mm(J) & a 3mJ & a 3mJ + 766mm	21m	Join 766mm(J) + 3mJ + 3mJ + 3mJ + 3mJ + 3mJ + 2266mm
9m	Join 766mm(J) & a 3mJ & a 3mJ + 2266mm	24m	Join 766mm(J) + 3mJ + 3mJ + 3mJ + 3mJ + 3mJ + 3mJ + 2266mm

Image PR1



Four purlins shown in red, their position is dictated by the pre-fitted end hoop saddles, Fit the saddles supplied to secure the purlins to the underside of the center hoops See the [purlin assembly & installation video on our YouTube channel](#)

(P1) Slide purlins into the pre-fitted end saddles. Polyguard face goes to the outside, use 1 x 16mm screw to secure. Wrap a small piece of Polyguard around the end of purlin



(P2) Three screws are used to secure the saddle for the central Hoop purlins

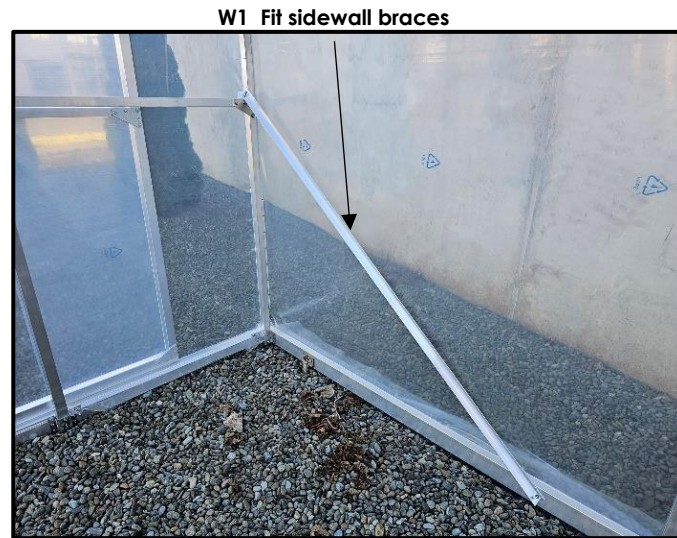


Step 6: Side wall angle braces: See YouTube video “Mk2 side wall braces x 4”

Position the side wall angle bracing with the Polyguard tape surface facing to the outside as shown below image **WB1 & WB2**. Place the angle brace into approximate position, Fasten the lower end to the inside face of the base rail with one 16mm screw. Fasten the top end of the brace to the inside face of the end hoop using one 16mm screw. The top end of the brace should not protrude outside the end hoop otherwise it may damage the end wall covering when it is fitted.

Note: Side wall angle brace may require re-positioning or shortening if you have chosen an optional shelf. The shelf height chosen may interfere with the wall brace.

Some models and high wind-kit models will have extra sidewall braces included. Please fit all supplied sidewall braces.

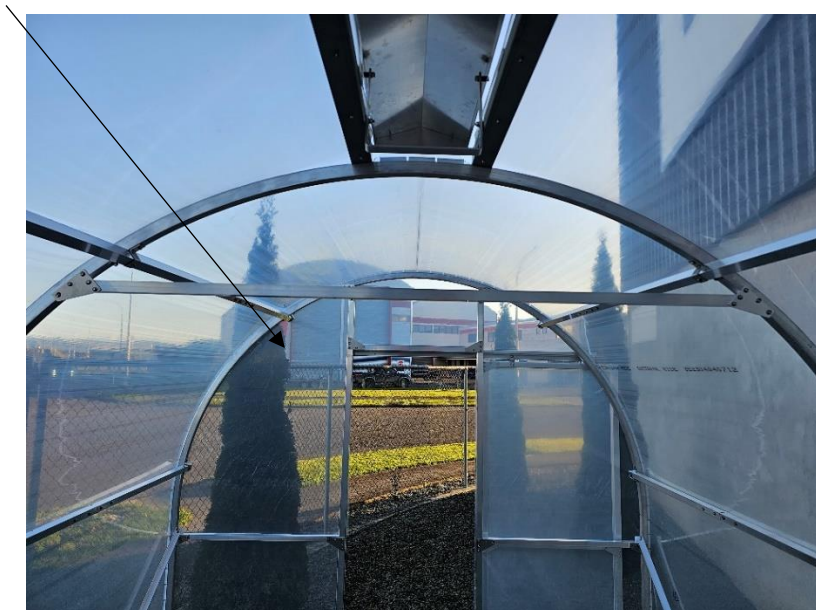


Wind upgrade kit collar tie option below (included with 15m and over models or as an optional extra on shorter models)
See our YouTube channel for video “Mk2 high wind kit parts install”

The “X”wind kit consists of three main parts.

- (1) Collar ties that fit to each central arch hoop, **see image below**
- (2) Extra sidewall 1.5m angle braces.
- (3) Already fitted at the factory is a hoop strengthening foot inside the ends of the central hoops

IMAGE CT1 - Fit 1 x Collar tie to all central hoops, Locate horizontal in center as shown below. Use 3 x16mm screws each side (see video)



Step 7. The Clipping systems to secure the covers. View Redpath YouTube videos of the two commercial greenhouse film clipping systems used on this Tunnelhouse design (V Lock and Duralock)

1) This design uses **two types** of cover clipping systems (V Lock and Duralock)

Type 1: One piece V Lock clipping system - used on end hoops only

Lockstrip V Lock - is a white colored, V Shaped 60mm length UPVC, and is used on the end hoops and 4 pieces are used at the apex of the internal hoops where the roof vent ends.

IMPORTANT The insert and the clip parts must be positioned in the direction shown, See drawing below V Lock shown in Red. (the vertical face always faces toward the cover being held)

(1) The sequence below shows the V clip assembly. [See our YouTube channel for install video.](#)

Whilst pulling the cover tight, position the insert as shown below, Roll the V clip inserts into the grooves.

Position the 60mm V lock bead (shown in red below) into the end hoop profile. **DO NOT FIT BACKWARDS!** (common error)

Angle the front of the clip & push the front edge under the aluminium groove and forward, Whilst squeezing the V-Lock roll the rear of the V-Lock down into the groove to trap the covering (shown in blue below) leave 10mm gap between the pieces.

Note: You might wish to use a pair of plyers to help squeeze the V-Lock as you insert them, take care not to damage the greenhouse film with end of plyers.

CHECK: When installed the vertical face of the V lock will face toward the covering being held!

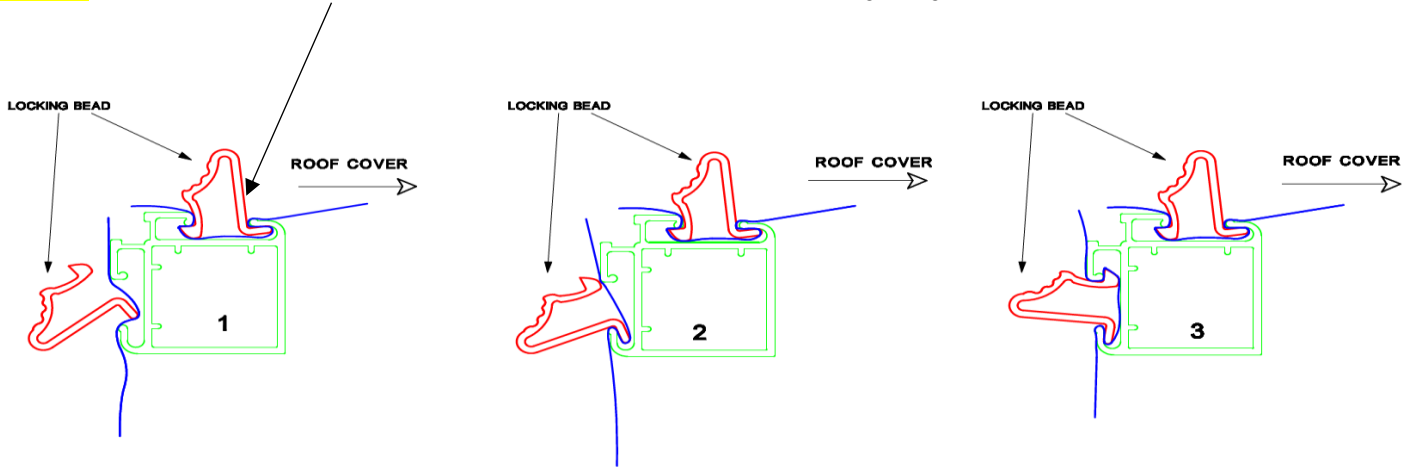
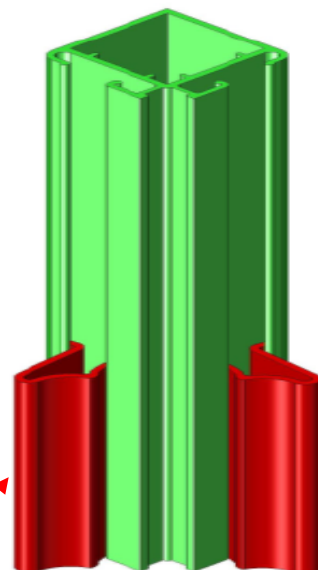


Image L4 - Use the 60mm V lock inserts in the front & also the top face of the curved part at each end hoops. Space the V lock inserts approximately 10mm apart - [See Redpath YouTube videos.](#)
Note: A piece of V lock is removed when positioning the door track



The 60mm "V" Lock inserts, are spaced at approximately 10mm gap between them.

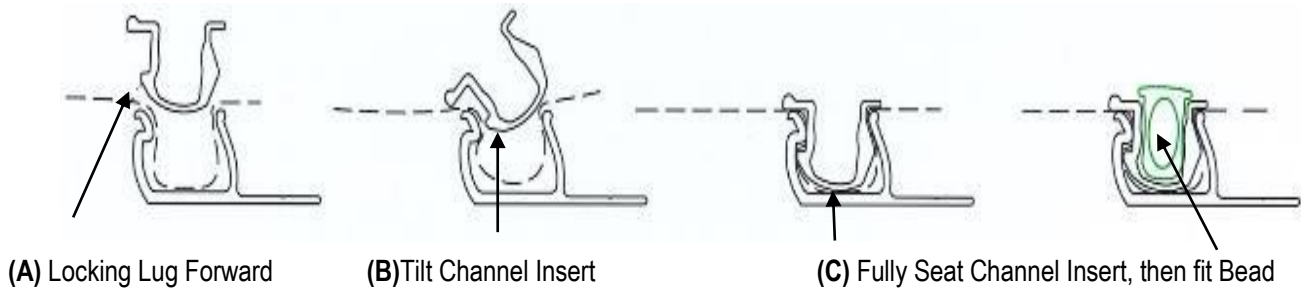
Type No2: Duralock 2 piece clipping system

The Duralock groove inserts are made up of 1.5m white 'channel shaped' inserts and a rectangular white 'bead' insert. These are inserted into the Duralock aluminium grooves used on base rails, door, and end studs / lintels.

How to assemble Duralock – see below or see [YouTube videos of Duralock 2 assembly](#)

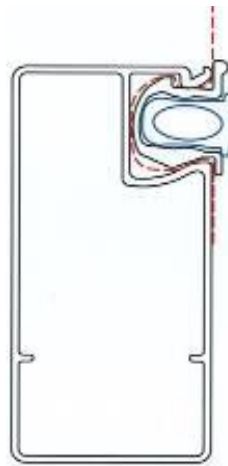
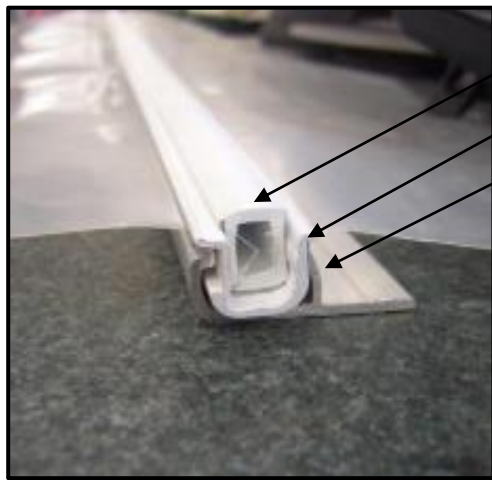
1. Pull the cover and tension it over the jaw of aluminium.
2. Face the channel strip as shown below and Insert it by tilting it slightly and pressing it down and into the groove **WHILST** you releasing the tension from the tail of the film. 'Seat' the channel into the alloy groove. Use secateurs to trim the Duralock parts to length.
3. Tap the rectangular locking bead into place with the rounded edge facing down as shown

Sequence used to install Duralock clipping strips. Fit channel first then locking bead afterwards. **ONLY** place in direction shown **IMPORTANT!**



Below picture shows all parts of Duralock assembled

End view of the base rail below



FITTING COVERS TO THE TUNNELHOUSE

- The covering is supplied in separate pieces. 1 for the door(s), 1 for each end, and 1 for the roof/side.
- Install the covers on a warm, calm day.
- When trimming off the covers leave a 100mm 'tail' in place initially and when satisfied with the tension on the various parts, you can trim the tail to within 20mm for a tidy appearance

1. DOOR COVER – Use the Duralock channel and bead. See [YouTube video “Mk2 door covering install”](#)

- Lay the door frame on the ground with Duralock groove facing upward and lay the 2m x 1m door cover in approximate position
- You will need to cut the clipping inserts (channel and bead) with a pair of secateurs to suit the length of the frame work grooves. The clipping inserts should be cut to length finish approximately 25mm short of each corner.
- You will begin by fitting the clipping insert to the top door rail firstly, - then the bottom door rail (pulling the cover tight as you do so). Then install the inserts into the side door edges. (begin in the middle and work toward the corners)

2. ROOF COVER, use the 60mm pieces of white “V Lock” on the end hoops only, See our YouTube channel “Mk2 Roof covering videos steps 1 to 11 ”

- If your Tunnelhouse includes a roof vent install the roof vent base before fitting roof covering (See step 4 on page 5, image V1)
- **NOTE:** Take care not to damage the covering on the ends of the vent rails, Unfold the cover and lay it out over the Tunnelhouse so that it rests in approximate position with an equal amount of excess film draping over each end hoop and to each side base rail.
As per the YouTube videos begin at the apex at one end of the Tunnelhouse and install two pieces of 60mm V lock insert in the direction as shown above (do not put in backwards!) , Then position a piece to your left and right where the curvature of the end stops and the sidewall begins (9 o'clock and 3 o'clock positions)
- Move to the opposite end, pull the cover tight along its length and repeat the step above.
- If satisfied with the cover flatness and tension, begin to fill in the gaps in-between the inserts already fitted. If not satisfied with the tension, un-clip the V Lock re-tension the cover and re-fit the V lock
- Now move to the side base rails. The side base rails use the Duralock clipping system (see assembly order page 10, and see YouTube videos)

TIP: When fitting the side base rail clipping its sometimes simpler to lift the entire side of the Tunnelhouse up in the air and rest it on blocks or saw stools – this can make it more convenient to insert the sidewall base rail Duralock clip.

- Begin at the center of the base rail & start inserting the U shaped Duralock channel insert + bead whilst tensioning the cover as much as possible. Work your way to the left and right toward the ends of the building. (See image on Page 10 above)

3. END WALLS:

- You will fit the 3m x 3m end walls cover in one piece (see video)
- Use the 60mm V shaped Lockstrip insert for the front face wall of the end hoops **See image L4 page 8**
- Like the roof ends - Start at the apex and position a 60mm piece. Then position a piece to your left and right where the curvature of the end stops and the sidewall begins (9 o'clock and 3 o'clock positions)
- Then pull the cover flat and position another 60mm piece of Lockstrip midway in-between these two.
- If satisfied with the cover flatness and tension, begin to fill in the gaps in-between these inserts and also the rest of the end wall edges and base rail parts.
NOTE: At the door end the base rail Duralock groove is on the INSIDE of the tunnelhouse, - this is so that there is sufficient clearance between the end wall covering and the sliding door.
- Note: When you come to fitting the door track remove one or two pieces of the 60mm V Lock on the front face of the end hoop where the door tack will be attached to the hoop, so that the track sits flush on the hoop face. **See image L4 Page 8**

Create the opening for the door or louvre end wall cladding. Use a knife or scissors & cut an “X” shape by cutting diagonally from corner to corner where the door or louvre are to be positioned. You can then place the Duralock clipping around the perimeter edge of the door and louvre openings using the Duralock clips. Stop the clip system approximately 25mm short of any corner.

Step 8: ROOF VENT CAP: If an option on your tunnelhouse.

The roof vent base should have already been fitted in Step 4.

After the main roof and sidewall covering has been fitted, - you can re-fit the cap vent **See our roof vent videos on YouTube**

1. Create the opening in the roof cladding where the vent will be placed (between the two vent steel rails). Use a knife or scissors & cut diagonally from corner to corner between the steel vent rails to create the opening **See image V4 below**
2. The **Duralock2** clip system is used along each of the 1.5m steel vent rails **See image V2 & V4 below**
3. Insert 3 pieces of the 60mm **V Lock** at the apex of the hoops at both ends of the vent **See image V2 & V4 below**
4. Secure the tail of the cover on top of the steel upstand using the white Omega clips. Wrap a 50mm piece of Polyguard onto the steel vent upstand where Omega clip is to fit to ensure tightness. **See image V2 / V4 below**
5. Trim off the excess film behind the Omega clip to 25mm and also do same at the end of the roof vent
6. Install the roof cap using the 6mm bolts, spacers and nuts supplied **See image V3 below and Youtube video.**

Test the roof vent for open / close action and check (loosen) 8 x pivot bolts if needed. If an Auto-Opener is to be fitted the vent action should not be stiff

For Auto opener vent option see V5 below

V2 – Vent parts



Use 5 x Omega clip here add a small piece of Polyguard to the upstand steel if the Omega clip is loose

Use Duralock Insert along here 1.5m

3 x 60mm V lock inserts

V3 -Use the supplied 6mm bolt, Nylock nut, + Nylon packer as shown below to attach the cap vent to the 4 lever arms.



V4 Cut cover along center and into corners , then fit vent base

Omega clip x 5 each side of top edge of steel vent rail to hold tail of film. TIP, add a small piece of polyguard over steel edge if Omega clip is loose.

3 x 60mm V Lock insert at ends to hold roof film at each end



Use Duralock Insert along here 1.5m both sides

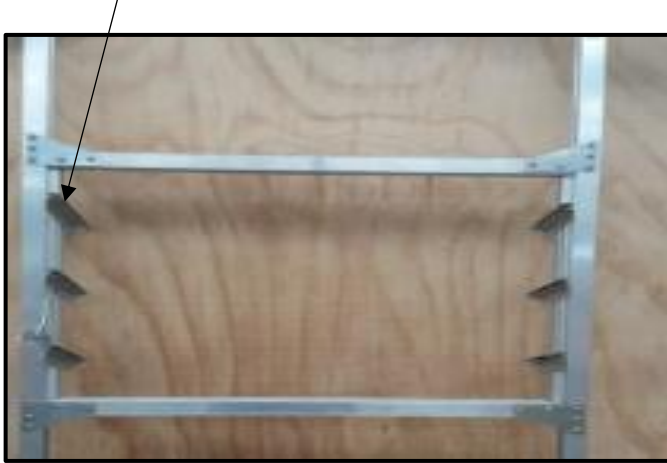
V5 Auto opener option: Check that roof vent is free-running and not binding, loosen pivot bolts slightly if needed. Position and attach the auto solar-vent opener as below.



Step 9. Fitting the louvre window (rear or sidewall option)

After the tunnel has had its covers fitted - slide the three polycarbonate sheets into place. Remove the backing tape from the 570mm aluminium strong-back angles and adhere one across the center of each blade to stiffen them. [See rear wall louvre video YouTube](#)

Louvre mechanism is already pre-fitted



Remove the backing tape and stick the strong back angle alloy angle across the center of each louvre blade to stiffen the polycarbonate.



Step 10. Door

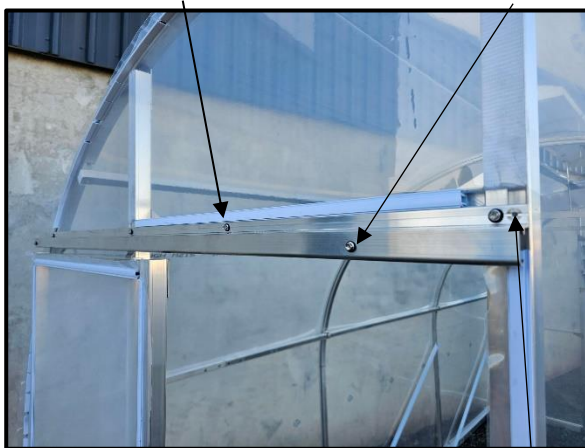
Note: Do not fit the door track or the door itself to the building until after the door end wall covering has been fitted.

Fitting the door and door track [See YouTube for door and door-track install videos](#)

1. Rest the door on top of the end base rail and slide the door track onto the two door rollers
2. The base door guide slot is pre-fitted to the front face of the base rail and the slider fin is already fitted the underside of the door. **See image D2 below**
3. Lift up the door track with door attached into approximate position so that the weight of the door is suspended on the track, and the fin on the underside of the door is within the door guide slot.
4. You will need to remove one or two of the 60mm Lockstrip inserts from the front face of the arch, **See image L4 Page 9** so that the Door track screws to the front face of the tunnelhouse. Using the longer 22mm screws, - screw through the door track hanger plate **See image D1, D3, D4 below** check that the track is level and then secure with another 22mm screw at opposite end.
Check the door sliding action is smooth in the track and the base guide, and add more screws along the door hanger plate
5. Place a screw through each end of the door track (**See image D1 below**) to act as a stop for the door rollers so that the door cannot slide off the track at its ends.

Note: The Dual door option uses the longer type 1.8m door-track.

Pic D1 Screws mount the door track, Door roller "stop" screw.

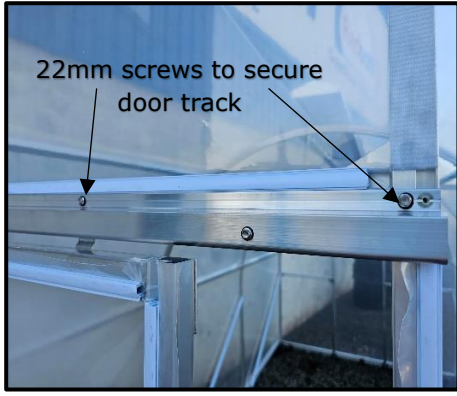


Door hanger plate

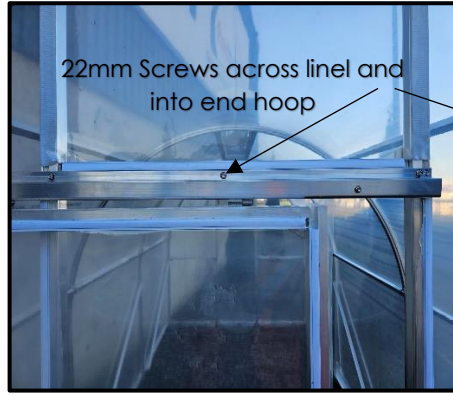
Pic D2 Door guide fin underside of door, and door fin guide slot



(Pic D3)



(Pic D4)

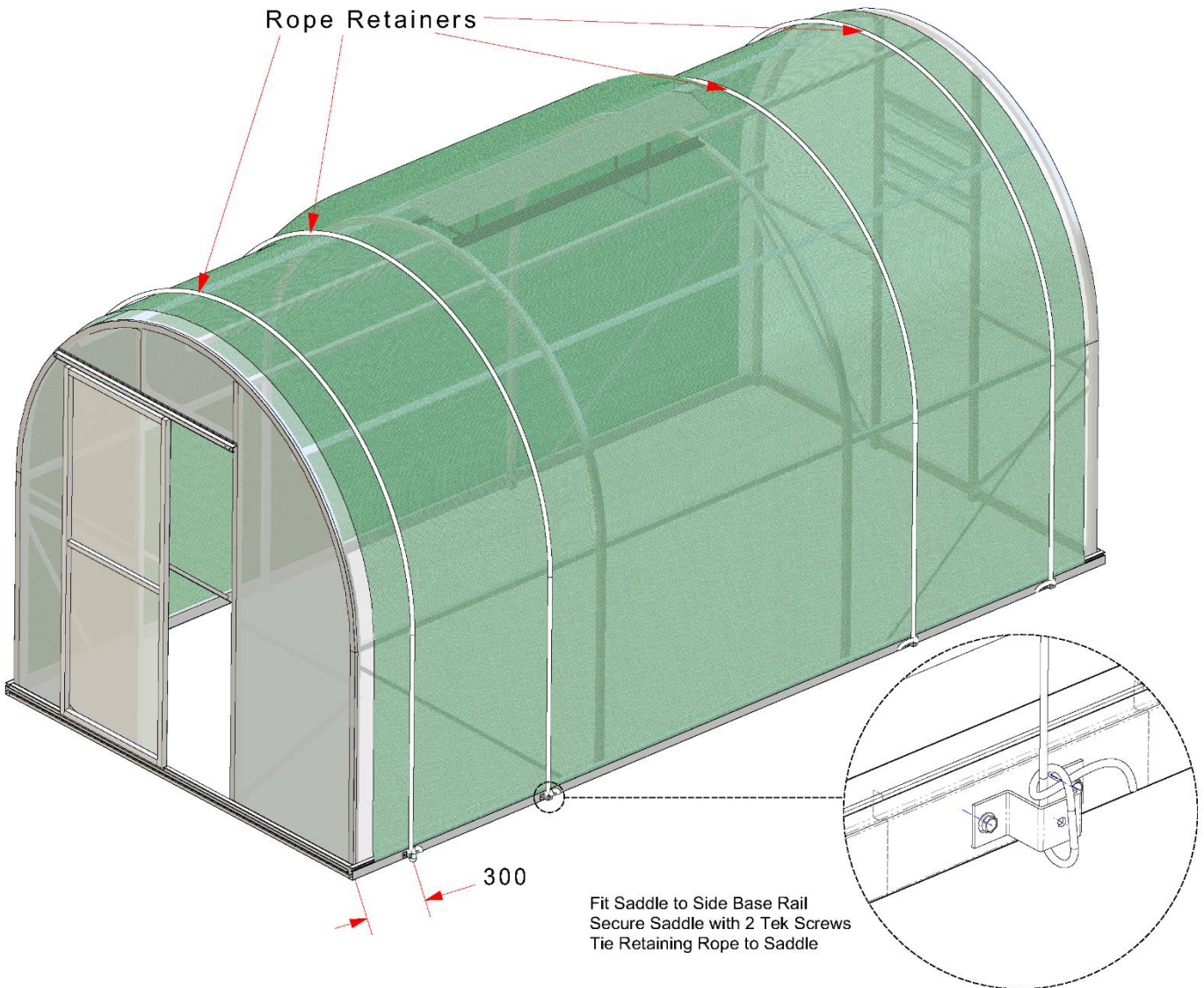


OPTIONAL ACCESSORY "Throw-over" temporary Shadecloth cover for summertime shade:

Throw-over Shadecloth cover is an option extra for reducing internal temperatures. The shade cover is 6m wide so that it fits up-and-over the tunnel from side-to-side. Ropes & brackets are included to help secure the cover in place.

The drawing below shows approximate retaining rope positions and saddles to be screwed to the base rail or your base timber. Use one rope beside each hoop, and place the rope approximately 200-300mm in from each end. If a roof vent is fitted place the rope to the side of the vent.

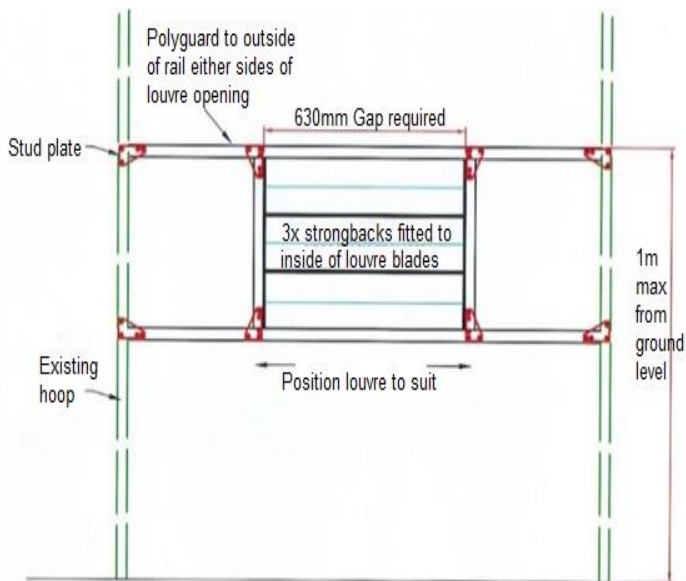
Tension the rope so that it is not slack – but do not over-tension



Sidewall louvre:

You can assemble and fit the sidewall louvre option extra after the main roof cover has been installed.

Fit the 4 x aluminium parts and 8 x triangle brackets as shown below. Cut an "X" in the plastic covering where the blade mechanism is to be fitted, and use the Duralock clip system around the perimeter of the 600mm x 600mm window area only



Side or rear aluminium shelf: [See rear wall shelf video on Redpath YouTube](#)

The shelf bracket is fitted to the vertical section and side face of the arch hoops at your preferred height.

Ensure that the buildings purlins are above the position of the shelf.

The end wall angle brace may require shortening and repositioning so that it clears the end shelf bracket (depends on your choice of shelf height)

If your shelf is longer than 3 meters, the aluminium shelf slats may have joins and sleeves. You will need to join the 25mm x 25mm shelf slat parts with the sleeves and screws supplied to make the correct length for each shelf slat.

if fitting a side AND rear wall shelf, you will need to have the shelves set a different heights so as not to clash with each other in the corner.

SHELF INSTALLATION:

There is one shelf bracket for each arch hoop including the end ones

There are four shelf brackets for an end wall shelf (1 on each stud and 1 on each end hoop)

1. Position a shelf bracket at the same height at each end using three screws into the uprights, **see image S1**

Position a string line between the two end brackets, check that it is level and pull it tight.

2. Position the center shelf bracket(s) at the string line height

3. There are 5 aluminium 25 x 25mm shelf slats. The slats finishes flush with shelf bracket at their ends. **see image S3**

4. Fit the front and rear shelf slats using the screws provided and screw through the pre-drilled shelf bracket holes from the underside, **see image S2**.

5. Fit the remaining three slats and space them evenly there will be an approximate 36mm gap between each slat.

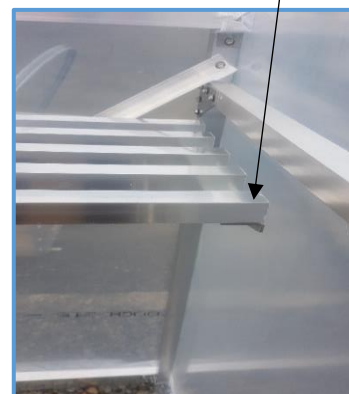
S1 - Fold faces inwards



S2 - Position rear and front slat



S3 - Slats finish 30mm from end



Tunnel Operation + Maintenance schedule:

- * Place the tunnelhouse in a sheltered location. If you have a very windy site – Consider erecting a 2m tall windbreak cloth fence on the most exposed side or end of the tunnelhouse.
- * Close roof vents, doors and windows in windy conditions.
- * In summertime do not leave tunnelhouse fully sealed – extreme heat buildup may soften or shorten the expected life of plastic materials used and also be hazardous to plants or animals or equipment within the tunnelhouse
- * Take care to check for animals or children are not left inside / trapped in the greenhouse particularly in warmer weather
- * Clean your greenhouse outside / inside once per year to remove algae / pollen / dirt or chemical buildups from framing, brackets, fasteners and covers. Use warm water, dishwashing liquid and a soft broom.
- * Do not allow the covering or framing to be in contact with Chlorine, Sulphur , accumulating fertilisers, lime, sprays or petroleum based chemicals. Wash the tunnelhouse cladding and frame clean of these items.
- * Grease vent hinges, window hinges, door rollers, 24 monthly.
- * Repair greenhouse cover with repair tape if holes or tears occur. Do not allow small holes to become larger.
- * Treat/neutralise any steel parts with rust preventer if corrosion develops, before it is allowed to expand.
- * Check for any loose or missing screws, bolts, fastenings each 12 months, Tighten or Replace as needed.
- * Check foundation attachment and foundations are secure each 12 months to ensure tunnel is well retained.
- * Each 7-10 years replacement cover kit may be purchased online www.redpath.co.nz for all sizes of tunnel kits.
- * See manufacturers parts warranty on Redpath website tunnelhouse page

See Redpath YouTube channel , Click on “Playlist” for assembly videos