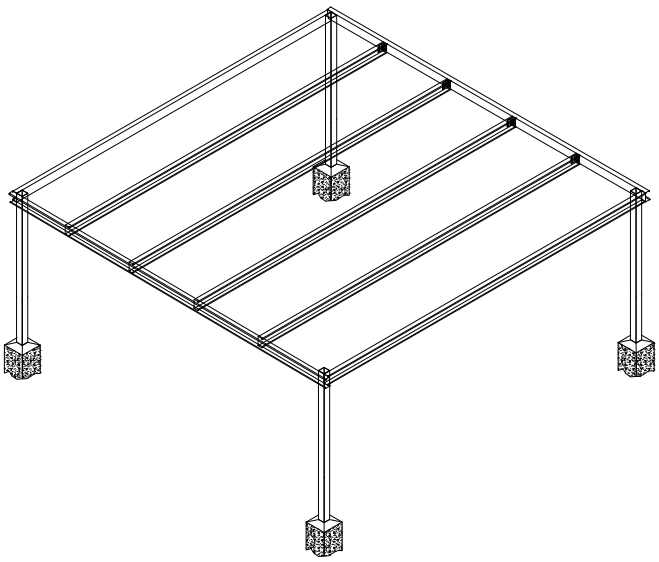
TassieSheds
MODERN SHEDS BUILT AUSSIE TOUGH

SKILLION CARPORTS

CONSTRUCTION GUIDE



CONSTRUCTION GUIDE FOR SKILLION CARPORTS – FOR USE AS A GUIDE ONLY

Introduction

Congratulations on your purchase. We are sure your new carport will prove to be a great asset adding value to your property and giving you years of service with only minimal maintenance and represent excellent value for money.

NOTE: DISCLAIMER

This booklet and information contained herein are to be used as a guide only to construct your skillion carport.

Due to the huge number of variations requested and the large range of carports available via the ShedTech Software System we cannot supply detailed information booklets to cover every size or situation, however this guide is designed to cover the most common types of carport and assembly of components in construction of a typical job. Whilst every effort has been made to ensure the accuracy of this information neither ShedTech nor its resellers, distributors or any other party will be responsible or accept any liability for any losses, damages or injuries arising from any errors or omissions contained herein.

IF YOU ARE AN OWNER BUILDER AND NEED ASSISTANCE - AT ALL TIMES CONTACT YOUR RESELLER FOR MORE INFORMATION AND HELP.

An adequate working knowledge of general building practices is necessary - otherwise you may be better off to hire builders or shed erectors to do this job!

Be aware you are responsible for complying with all workplace health and safety regulations on your site - for the safety of your family and other workers.

Generally the stages of building your job are - you will start with a slab and fix to the top of the finished slab or prepare and place footings with frame assembled and columns in the footing prior to pouring. Otherwise - assemble frame, prop, square up frame, add bracing, fix roof sheets, raingoods and flashings.

All basic construction methods are suggested only as other ways of building are possible.

Never use a friction blade to cut the top face of colorbond or zincalume sheeting as this will spray burning particles on to the painted surface burning into the finish and causing potential rust spots and other product damage.

PREPARATION BEFORE STARTING

Read all information supplied - this includes your actual order documents, specific job elevations, engineering plans and drawings, council approval documents, architectural drawings and elevations, your specific slab layout drawing, your bill of materials of all items supplied and this construction guide.

Familiarise yourself with all components - check quantities of all materials as delivered on site to your Bill of Materials documents

Any shortages or damaged goods must be notified to your distributor within seven days of receipt of goods.

Read marking labels so you identify columns and rafters as end frames R1 , internal frames R2, B1 bearers, etc

Unpack - identify and layout all parts.

Identify brackets, various hardware items, fasteners and their applications

Check raingoods items - gutters, barge capping, ridge capping, gutter brackets, stop ends, drop nozzles and downpipes

Ensure work area is free from any unwanted materials or other debris

Check site or slab is level

Check measure slab dimensions at each end for width and length and diagonals for square

If working on footings set out and dig to size according to engineers plans

If you are unsure of something seek advice from your distributor before starting.

MINIMUM BASIC TOOLS REQUIRED
Hand Tools

- Tape measure
- String / chalk line
- Spirit level
- Square
- Tin snips
- Caulking gun and silicone
- Pop rivet gun
- Spanners - ring spanners and or sockets are best - various sizes
- Score and snap knife
- Clamps
- Sheet bending tool
- Marking pen
- Safety glasses

Power Tools

- Hammer drill
- Screw gun with clutch - or a small drill if you don't have a screw gun
- Power saw or angle grinder with steel cutting capacity
- Extension leads
- Earth leakage power board with safety cut out

Drill bits

- Masonary drill bits as required - 8mm, 10, 12, 16 mm
- Driver bits - sizes 5/16" & 3/8" - for tek screws
- Driver bits for Phillips head fasteners - Bit Size No 2
- Steel drill bits - selection as required

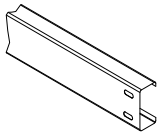
Additionally

- 2 * strong step ladders - and or scaffold if necessary to provide safe working conditions to suit your job height
- Props to support framing during construction
- Bigger jobs may require specialised lifting equipment for safe working practices.

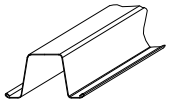
Typical Component list for Skillion Carports

Drawings are for illustration purposes only, actual parts supplied may vary, drawings not to scale!

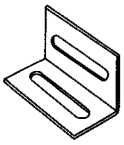
Framing 'C' section beams.



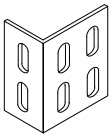
Ceiling / Bridging batten.



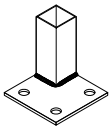
Angle Connector.



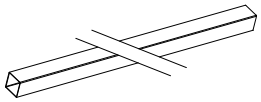
Long Angle Bracket for Back to Back Rafters,



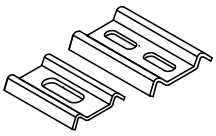
Post mounting Spigot



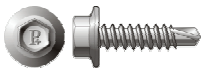
Posts.



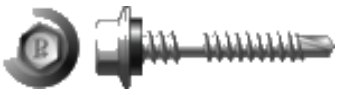
Clamp Bracket.



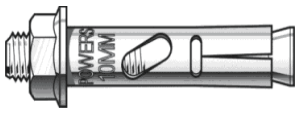
Tek screw to fix Battens, Gable Sheeting & Trim Angle Fixing.



Neo-washer roof screw.

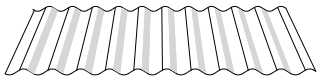


Masonry Anchor.

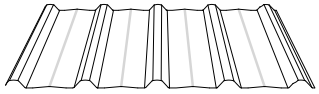


Pop Rivet.

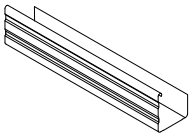
Corrugated Iron Sheeting



Trimdeck roof sheeting.

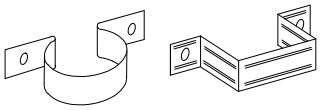


Slotted Facia Gutter.

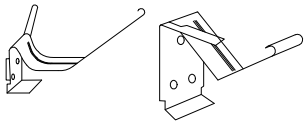


Gutter Stop End Facia Gutter.

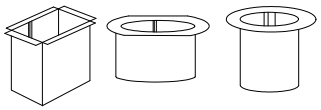
Downpipe Brackets; Round & Square.



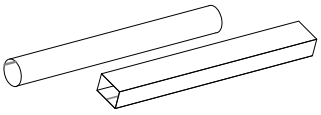
Gutter Mounting Brackets; Quad & Facia, Concealed Type.



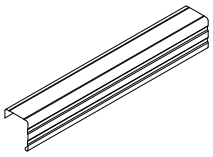
Downpipe Nozzles, Square, Universal & Round.



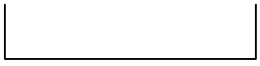
Downpipes; Round & Square Type.



Barge Capping.

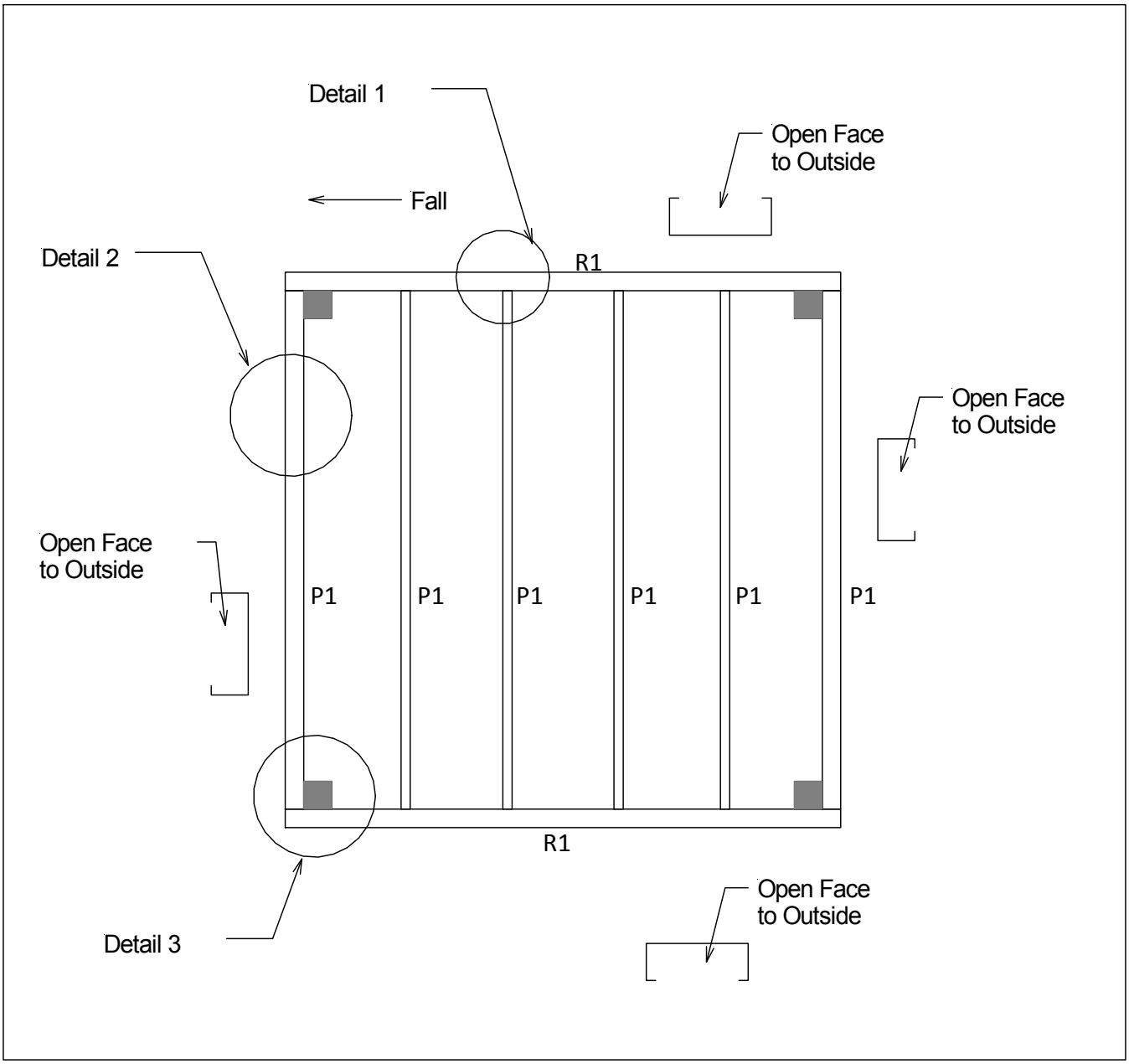


Side Bearer Flashing.

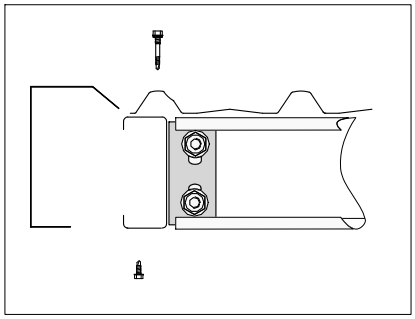


Barge Capping.

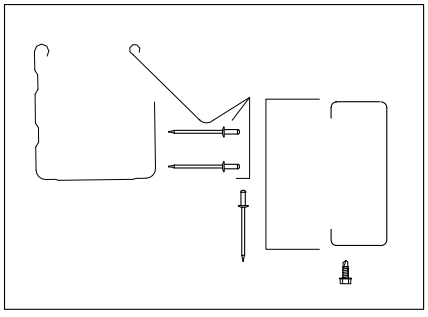
Typical Skillion Carport Details



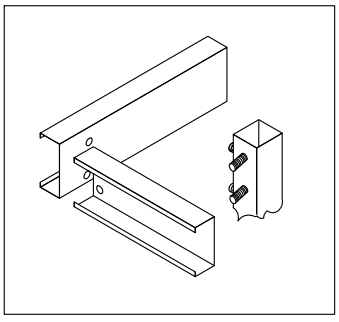
Detail 1



Detail 2



Detail 3



STEP 1.

Read - the information supplied. Then to start, please check over the frame and all the other components. Lay out loosely by setting out the bearers and rafters on the slab / ground. Unpack hardware and any other boxes.

STEP 2.

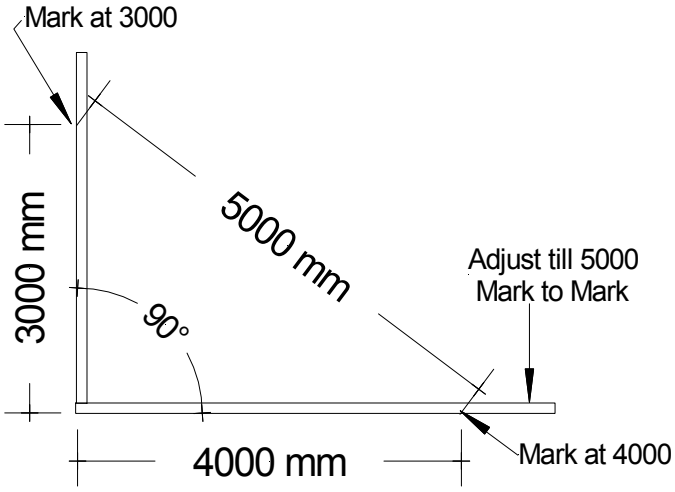
Check column connection and location as per your order.

STEP 3.

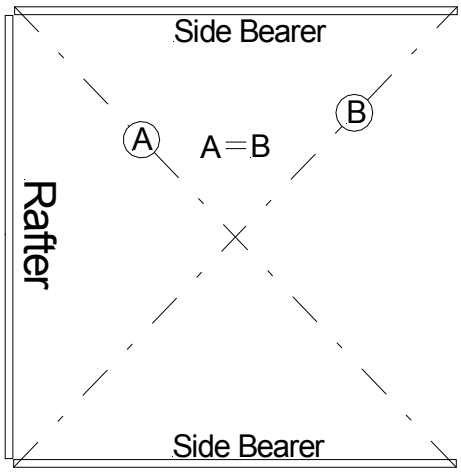
If carport is to be erected into footings, layout side bearer beams and end rafters to form an approximate Right Angle. **IE; 90^0 corner**.

<u>Setting Out a Right Angle – The 3/4/5 Principle.</u>

- Measure up and mark one length at 3000 from the corner.
- Measure up and mark the other length at 4000 from the corner.
- Keeping the corner together use the tape measure to 5000.
- Line up on one mark – move the other length till exactly 5000 from mark to mark
- Your corner is now **90^0** – IE; Square.
- Measure on these lines to set out for footing holes etc.



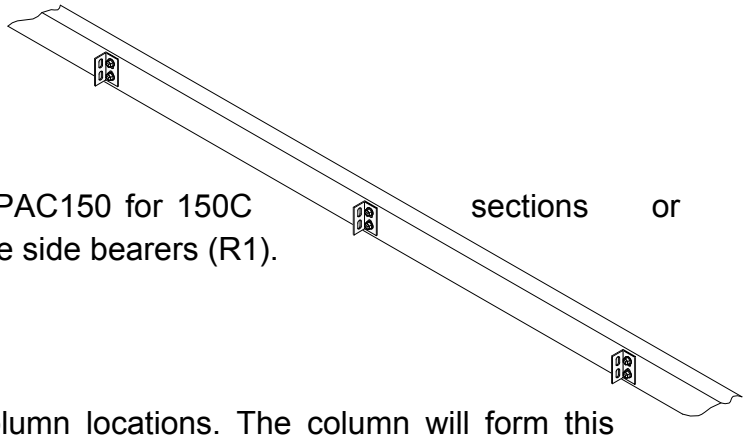
Set out your corners, checking diagonals and adjust till square.



Mark each column location and dig footing holes to size in accordance with the engineering plans.

STEP 4.

If the carport is to be erected on an existing level slab please note that the front and back pairs of columns should be of a different length. This will allow for the fall on the roof. (Approximately 100 mm in 6000 long for Trimdeck)



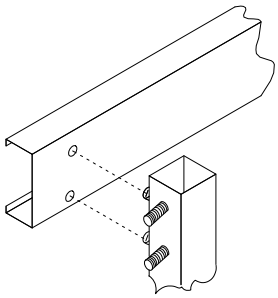
STEP 5.

Bolt the purlin connector brackets (PAC150 for 150C sections or PAC200 for 200C sections etc.) to the side bearers (R1).

Note: Do not fit brackets at the column locations. The column will form this connection. Face all the brackets the same way.

STEP 6.

Bolt Columns to side bearers (R1) at punched holes at the ends and stand in footing holes or onto slab - (props and temporary bracing will be required)



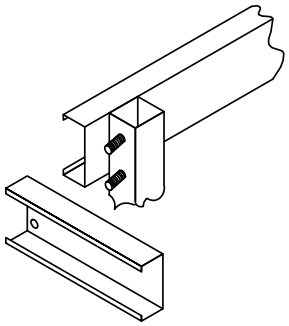
Note: If columns are to be cantilevered, (IE roof overhangs at either or both ends) then columns will be fitted at the next internal purlin P1 location. Use a PAC angle connector to bolt up the corners of the frame.

STEP 7.

Bolt the end rafters (P2) up to form the corner connections

Note: All this perimeter frame has the open side of the purlins facing out.

IE The web is facing to the inside of the job.

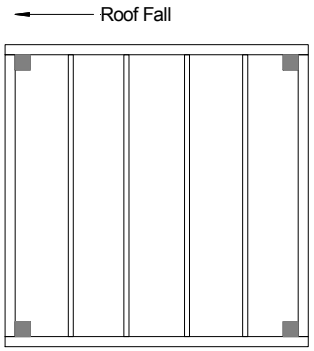


STEP 8.

Measure diagonals and adjust frame until diagonals are equal therefore making the frame square. **Refer Step 3.**

STEP 9.

Bolt the remaining intermediate rafters (P1) into place.



STEP 10.

Check - again that the frame is square.

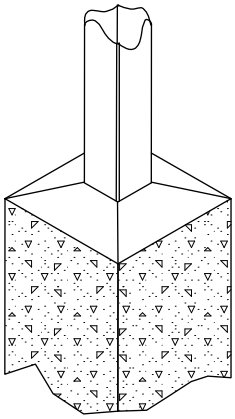
Fit knee braces as required / necessary to plans.

STEP 11.

If in footings adjust column levels in holes to ensure correct fall on roof.

STEP 12.

Plumb all posts and tighten all bolts. Prop job if / as necessary.



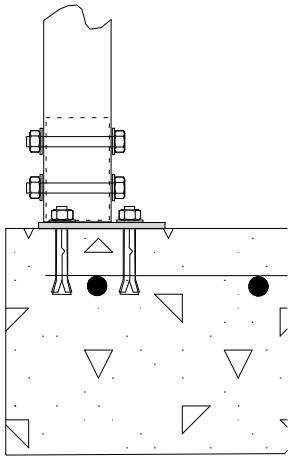
STEP 13.

If in footings – pour concrete into holes and allow 24 hours to set before fixing roof.

Finish concrete footings so that the top slopes away from the column to ensure ground water drains away from the posts.

If on slab – fix columns to slab with masonary anchors provided.

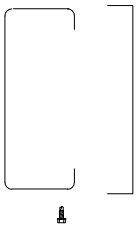
Check each column is plumb during this stage.



Spigot type Slab fixing.

STEP 14.

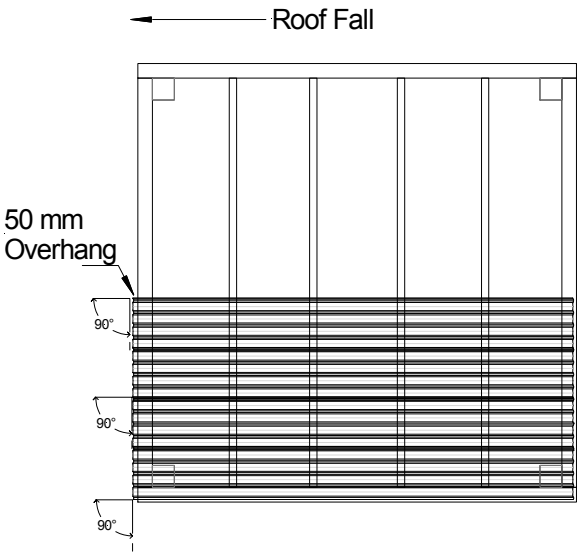
Fixing the roof - Fit beam cover flashing to outside of gutter end rafter. (Low end of job)



Fix the first sheet in line with the rear and side rafters. Allow approximately 50 mm of roof sheet overhanging at the gutter end. Take care to place each sheet square to the frame – avoid any sheet creep. Fix the sheets with Tek screws (Tek 12 * 45 Neo for Trimdeck - Tek 12 * 35 Neo for Corro) through the ribs.

Use a string line to keep all the roof screws in a straight line.

Continue to lay and fix the rest of the roof sheets in the same way. Keep checking to keep the sheeting square to the frame. Finish screwing off the roof.



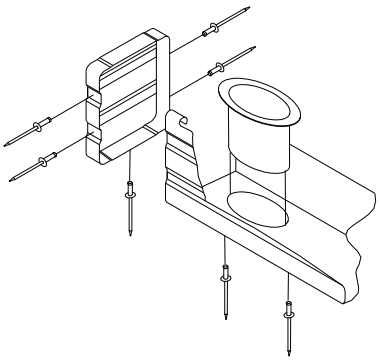
STEP 15.

Due to varying job sizes it may be necessary to shrink, stretch or lap or rip down the last sheet to achieve roof coverage to suit the frame dimension.

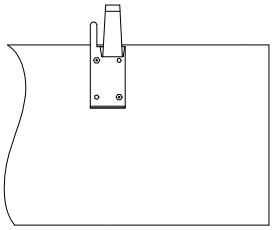
Do not cut the sheeting with a friction blade as this will spray hot elements onto the sheeting burning into the finish and creating potential future rust spots. Cut sheeting with snips, a nibbler or score and snap.

STEP 16.

To fit the Gutter - Cut length to suit, fit end stops with pop rivets, Line the gutter up with the column and cut the dropper into the bottom of the gutter for the downpipe at this point.

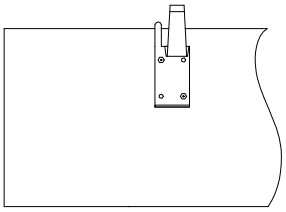


Fit gutter brackets to flashing with 2 * pop rivets. Fix first bracket at top of flashing – the high-end - approx 200 mm in from end away from dropper.



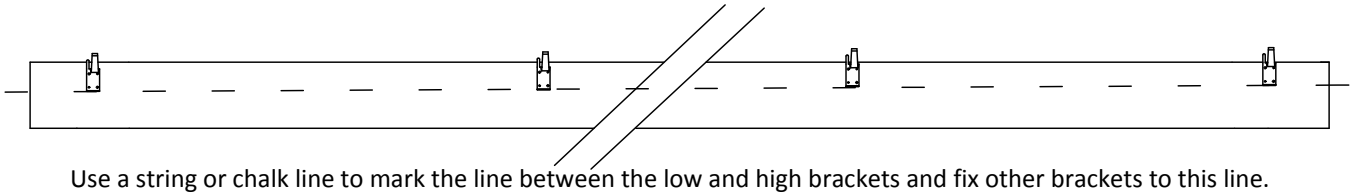
High-end bracket in line with top of Side Bearer Flashing.

Fit last bracket in approximately 200 mm in from the other end down 20 mm from top of flashing- the low-end - and far end first bracket. This is at the downpipe end.



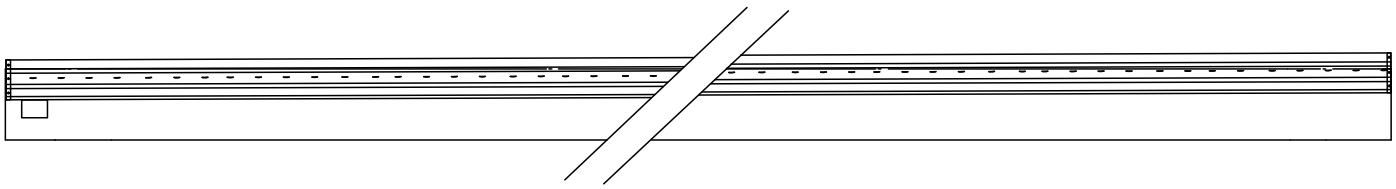
Low-end bracket 20 mm down from top of Side Bearer Flashing.

This will create a 20 mm fall on the gutter. Use a string line to ping a chalk line to fix remaining brackets to this line at evenly spaced intervals of a maximum of 1200 mm centres.



Use a string or chalk line to mark the line between the low and high brackets and fix other brackets to this line.

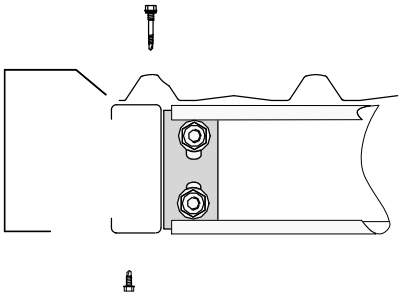
Now you can roll the gutter into the brackets. Bend the top tag down to lock the gutter in place. Fix a rivet up in the base of the bracket. Silicone the joins at the stop ends and dropper.



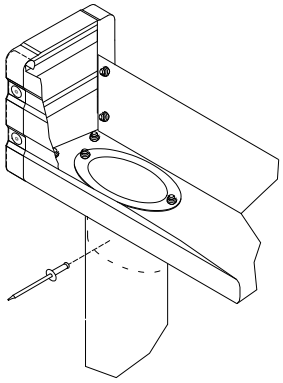
Note : The gutter could be fitted to the beam cover flashing and fascia rafter before fixing the roof.

STEP 17.

Fix barge capping flashings to the sides and high-side of roof.



Fit downpipe to the dropper and fix with pop rivets into place. Fix downpipe to bottom of column also.



STEP 18.

All swarf, (iron filings) rivet shanks or debris must be swept off the roof and then hosed clean to flush them from sitting in the guttering. This is to prevent the rubbish from potentially causing rust spots.

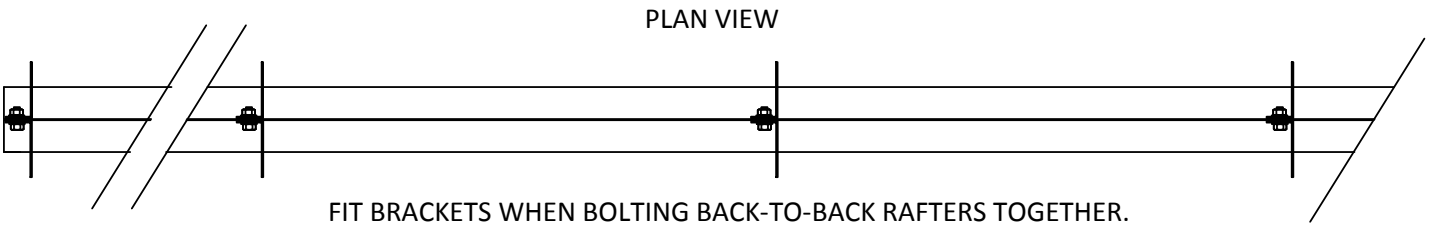
Clean gutters as regularly as is necessary of any tree debris, leaves and mulch or dirt as this can block rain water flow, cause flooding and also rot and cause rust in the guttering.

You should now have finished the job – well done! You carport is now ready to give you many years of service.

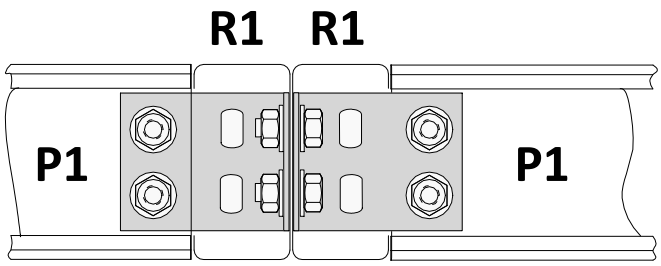
Note: Multi bay carports

- Basically the same procedure as above - but a few additional items are explained below
- Similar to above except there will be a back-to-back internal bearer R1 * 2 for each bay. If even length bays this will be at the centre - but not for different bay widths.

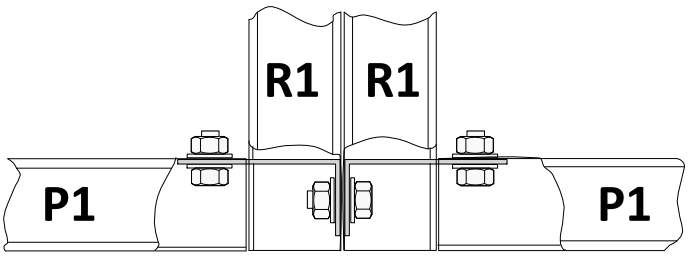
- The R1 rafters are all the same length. Bolt them up back to back with 2 * M12 * 30 purlin assemblies fixing the GPB brackets (Long angle brackets) to both sides as you go.



- The internal purlins P1 - will bolt to these R1 bearers.
- Use GPB brackets to bolt one R1 to the fascia purlin P1.
- The other R1 will bolt to the column with another GPB bracket.
- The column will also bolt at 90 degrees to the other Fascia purlin P1.



END VIEW

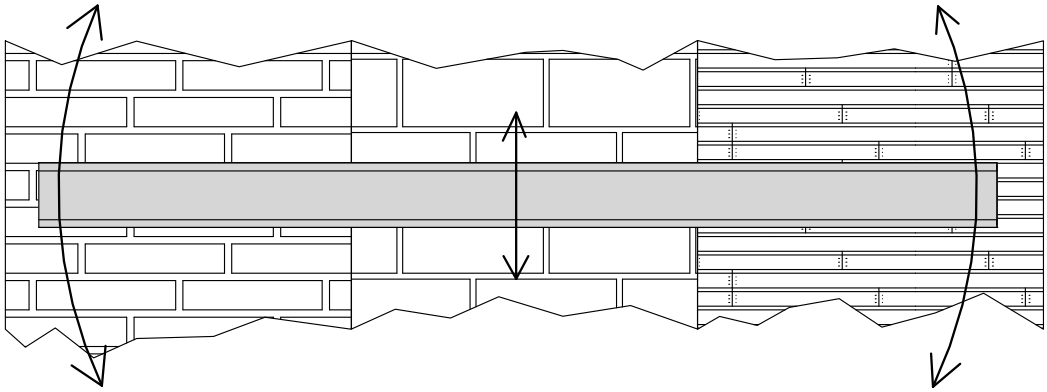


PLAN VIEW

Note: Attached Carports - say to an existing timber or masonary wall

- Basically the same procedures except -
- First, you will need to fix the “pole plate” beam to the wall. This C-section will be the full length of the job.
- To prepare for this –

- Calculate and allow for roof fall and outside columns height. Mark the fixing height to the bottom side of the beam on the wall.



- The pole plate will be fixed through the web to the wall (That is - open front of the C-section to the outside) at say nominal 900 centres with coach screws to timber or Dyna Bolts to masonary walls. To achieve this drill holes at the centre line in the beam before fixing with M10 or M12 fasteners.

<u>NOTE: The Builder must ensure adequate fixing of Pole Plate to wall!</u>

- If fixing to timber trial fit to mark wall stud positions so you drill the beam in the correct spots to line up coach screws to studs. Pre drill timber wall or masonary wall with correct size drill bit to enable fixing of coach screws or dyna bolts.
- The rafters / bearers R1 will fix to this P1 pole plate beam, once it is fixed on the wall, with clamp plates in the lips of the pole plate and with AC brackets to the end of the R1 bearers.
- Assemble external frame to columns. Fit internal rafters with angle brackets.
- The rest of the job is built as per above guidelines.