



# How To.

## INSTALLATION GUIDE



### BEFORE YOU START

Carefully read these instructions and refer to them constantly during each stage of construction. If you do not have all the necessary tools or information contact Stratco for advice. Before starting, lay out all components and check them against the delivery docket. The component description identifies each key part and the component layout diagram indicates their fastening position.

Double check all dimensions, levels and bolting locations before cutting, screwing or bolting structural members. It is recommended that the installers erecting the structure have had some previous building experience because some modifications to the existing house structure may be required.

### TOOLS REQUIRED

- Drill and Hex-Head Adaptor
- Rivet Gun
- Tape Measure
- Tin Snips
- Spirit Level
- Hacksaw
- Post Hole Digger
- Silicone Gun
- Spanners or Ratchet
- Adjustable Construction Props
- Concrete
- Ladder

### ADDITIONAL ITEMS

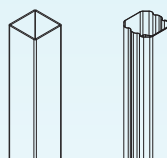
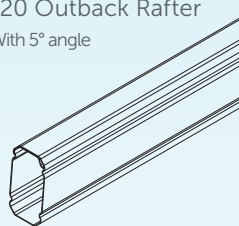
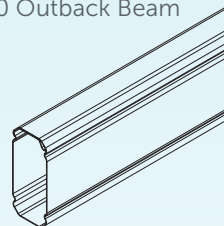
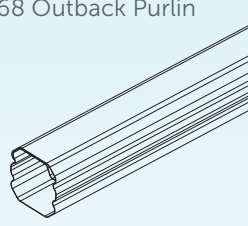
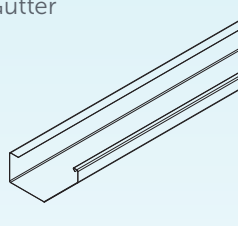
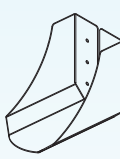
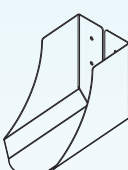
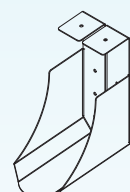
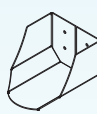
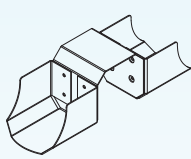
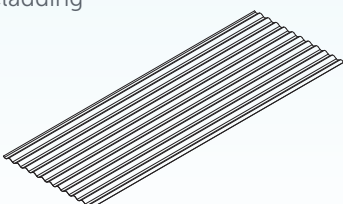
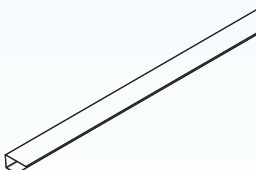


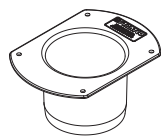

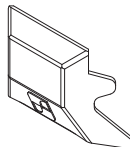

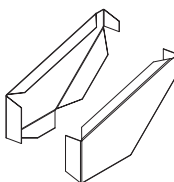
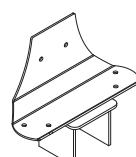
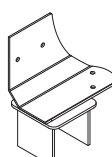
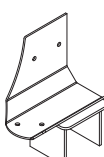
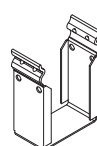
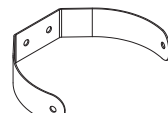
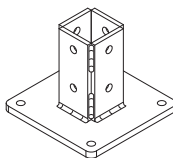
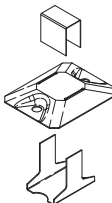
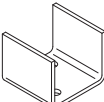
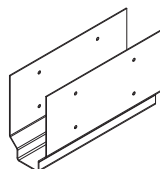
The components supplied do not include fixings to attach the unit to an existing structure or concrete/masonry anchors for the column installation. If required they must be purchased as additional items.

# OUTBACK® SKILLION

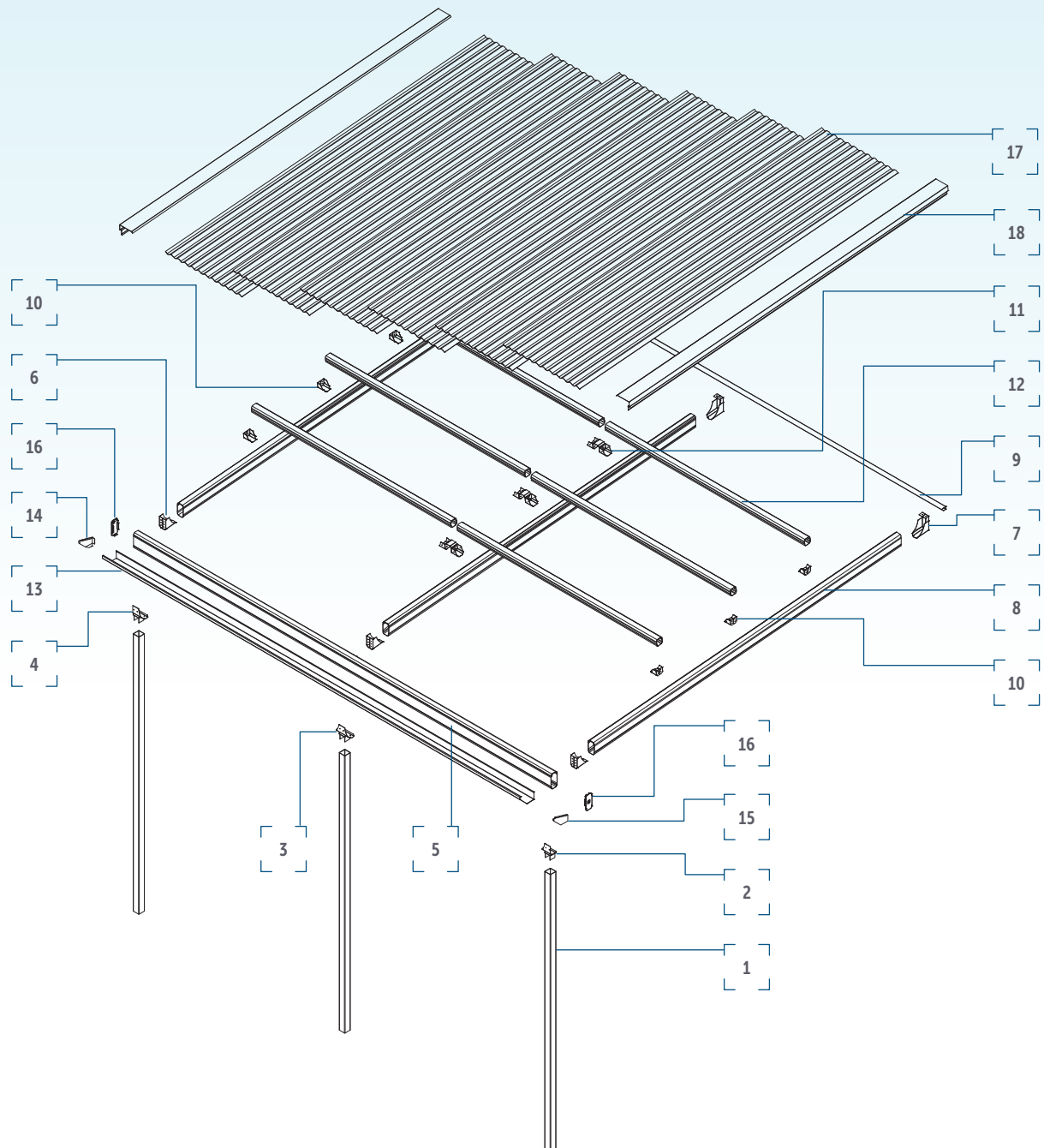
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# STRATCO OUTBACK SKILLION INSTALLATION GUIDE

## COMPONENTS

<div>Columns 65mm SHS or 68 Outback Post</div> <div></div>	<div>120 Outback Rafter With 5° angle</div> <div></div>	<div>150 Outback Beam</div> <div></div>	<div>68 Outback Purlin</div> <div></div>	<div>Gutter</div> <div></div>
<div>5° Rafter Bracket (low)</div> <div></div>	<div>5° Rafter Bracket (high)</div> <div></div>	<div>5° Suspension Bracket</div> <div></div>	<div>68 Purlin Bracket</div> <div></div>	<div>Checked-In Purlin Bracket</div> <div></div>
<div>Roof Cladding</div> <div></div>		<div>Back Channel</div> <div></div>	<div>B.I.P. Foam</div> <div></div>	<div>Barge Flashing</div> <div></div>
<div>Downpipe Outlet</div> <div></div>	<div>Downpipe</div> <div></div>	<div>Post Cap</div> <div></div>	<div>Beam End Cap</div> <div></div>	<div>Gutter Stop Ends</div> <div></div>
<div>Inline SHS Connector</div> <div></div>	<div>Right Hand SHS Connector</div> <div></div>	<div>Left Hand SHS Connector</div> <div></div>	<div>Post Beam Bracket</div> <div></div>	<div>Downpipe Bracket</div> <div></div>
<div>SHS Footing Plate</div> <div></div>	<div>68 Bolted Footing Plate</div> <div></div>	<div>SHS Internal Upstand</div> <div></div>	<div>150 In-Line Beam Connector</div> <div></div>	

## COMPONENT DIAGRAM



- |    |                          |     |                           |
|----|--------------------------|-----|---------------------------|
| 1. | COLUMN                   | 10. | 68 PURLIN BRACKET         |
| 2. | RIGHT HAND SHS CONNECTOR | 11. | CHECKED-IN PURLIN BRACKET |
| 3. | INLINE SHS CONNECTOR     | 12. | 68 OUTBACK PURLIN         |
| 4. | LEFT HAND SHS CONNECTOR  | 13. | GUTTER                    |
| 5. | 150 OUTBACK BEAM         | 14. | LEFT HAND GUTTER STOPEND  |
| 6. | 5° RAFTER BRACKET (LOW)  | 15. | RIGHT HAND GUTTER STOPEND |
| 7. | 5° SUSPENSION BRACKET    | 16. | BEAM END CAP              |
| 8. | 120 OUTBACK RAFTER       | 17. | ROOF CLADDING             |
| 9. | BACK CHANNEL & B.I.P.    | 18. | BARGE FLASHING            |



## BACK CHANNEL INSTALLATION

The short edge of the back channel is the underside. The back channel should extend 50mm past the end of the beam to allow for overflow into the gutter. If multiple lengths are required, butt the channels together and waterproof with silicone.

Determine what type of fascia you are attaching your unit to and what type of fixings and brackets you require (refer to "Attaching to a Structure" section). Pre-drill the back channel on the ground. Locate the first hole 100mm from the edge of the back face of each length of channel. Drill the other holes at 500mm centres for timber and brickwork or 250mm centres for steel fascia. Run two beads of silicone along the back of the back channel, with one near the top edge to ensure a water tight seal.

## FASCIA ATTACHMENT

When fixing the back channel to fascia the roofing above each rafter must be removed to give adequate space to install the fascia strengthening brackets. M10 Bolts connect the fascia strengthening brackets to the rafter and fascia (the number of brackets required is determined by the builder, but the spacing should not exceed 1200mm). Silicone as shown in the diagrams. When fixing to timber fascia (Figure 1.0) attach the back channel using 12x25mm hex head timber fixing screws through the pre-drilled holes. When fixing to steel fascia (Figure 1.1) attach the back channel using 10x16mm hex head self drilling screws through the pre-drilled holes. The back channel is bolted through the fascia to the fascia brackets with one M10 bolt per bracket. Insert BIP foam into the back channel to act as a weather seal when the roof sheets are pressed into it.

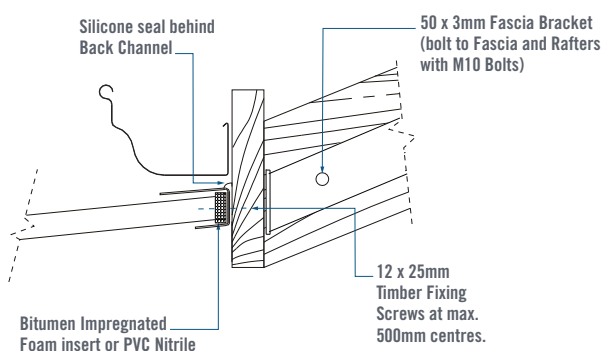


FIGURE 1.0

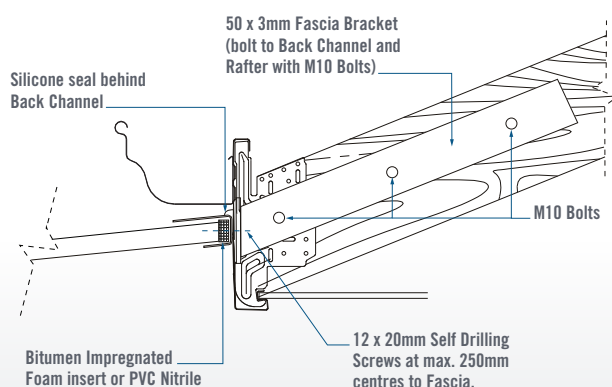


FIGURE 1.1

## ATTACHING TO A BRICK WALL

When fixing the back channel to a brick wall, pre-drill the anchor holes using a masonry drill bit. Attach the back channel using M6x65mm masonry anchors through the pre-drilled holes (Figure 1.2). Insert the BIP foam into the back channel to act as a weather seal when the roof sheets are pressed into it.

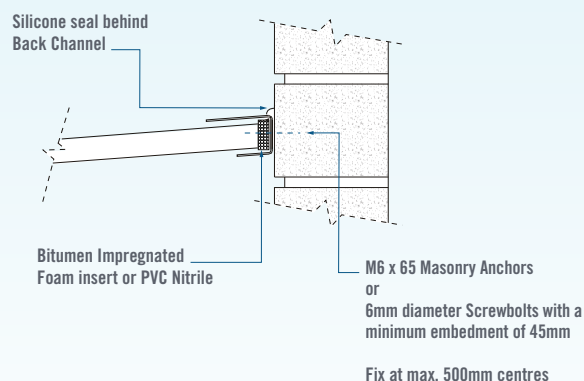


FIGURE 1.2

## STEEL HOUSE FRAME ATTACHMENT

When fixing the back channel to the steel fascia on a steel framed house, the roofing above each rafter must be removed to allow enough room to install the rafter strengthening brackets.

Attach angle brackets to 75x25x1.6mm RHS reinforcement using 12x20 self drilling screws. Place the brackets above the first web or truss connection at least 900mm from the wall, and directly over the wall. Fasten with four 12x20 self drilling screws to the chord or rafter (Figure 1.3).

Attach the extended fascia strengthening bracket to the reinforcing RHS using 12x20 self drilling screws at 200mm centres. It is the builder's responsibility to determine the adequacy of the fascia and rafters and the frequency of the brackets for each individual situation (Figure 1.3).

For additional bracing, fix a tie down brace to the adjacent studs. Use two 12x20 self drilling screws to fix the tie down to the chord, and on each stud use two 12x20 self drilling screws on either side of the truss or rafter. Fix the back channel to the fascia as previously mentioned.

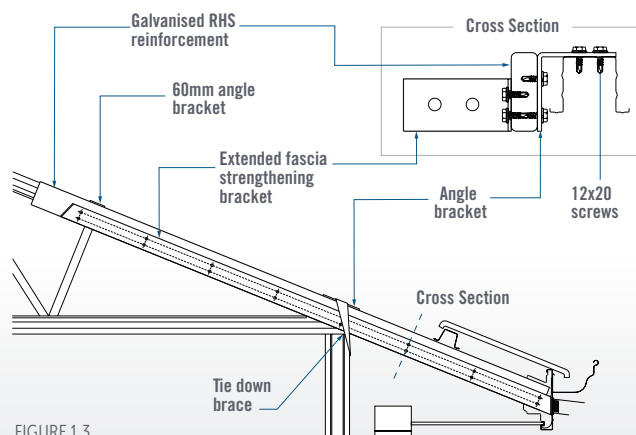


FIGURE 1.3

## ATTACHING TO A STRUCTURE

### WALL ATTACHMENT

For units attached to a wall, position the 5° Rafter Suspension Brackets where the beams meet the wall. The top tab of the bracket must be located under and over the back channel. Use silicone to seal behind the suspension bracket and fascia. Mark the holes and drill using an 8mm masonry bit. Fasten the bracket to the wall with two M8 masonry anchors to a minimum 65mm embedment, with one anchor either side of the bracket back face (Figure 2.0).

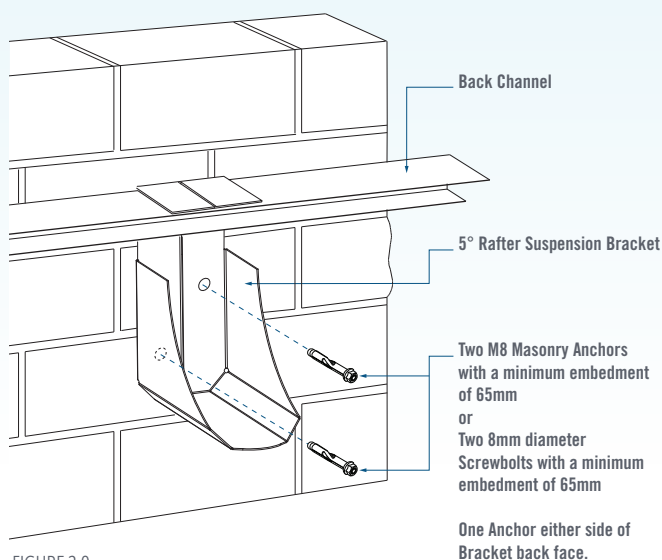


FIGURE 2.0

### SUSPENSION BRACKET ATTACHMENT

A suspension bracket is also used when a beam is suspended from the fascia. The top tab of the bracket must be located under and over the back channel. Use silicone to seal behind the suspension bracket and fascia. For steel fascia a minimum of three 12x20 hex head screws are fixed through the back channel, suspension bracket and fascia (Figure 2.1). For timber, three 12x25 type 17 screws are used to fix through the back channel, suspension bracket and timber.

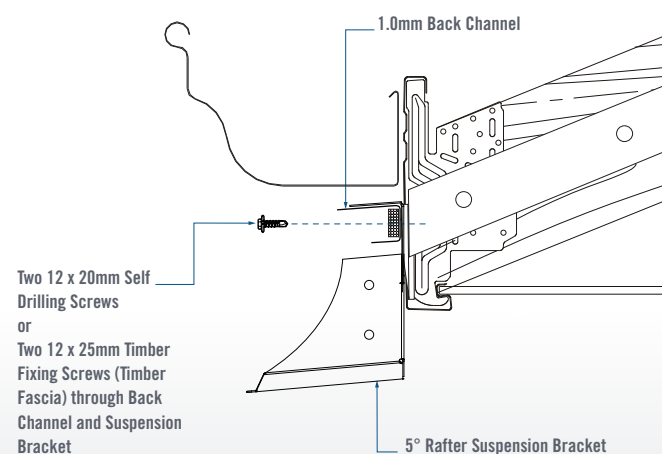


FIGURE 2.1

## FRAMEWORK ERECTION

### END RAFTER BEAM (120 OUTBACK RAFTER)

When installing all beams, ensure the double thickness of the beam is on top. Install the side rafter beam furthest from the downpipe first. Lift the back channel end of the beam up into the suspension bracket while supporting the other end on an adjustable construction prop. Adjust the construction prop to ensure the end of the rafter sits flush against the back edge of the bracket. Fasten the side rafter beam to the 5° Rafter Suspension Bracket using two 10x16 hex head screws either side in the holes provided (Figure 3.0).

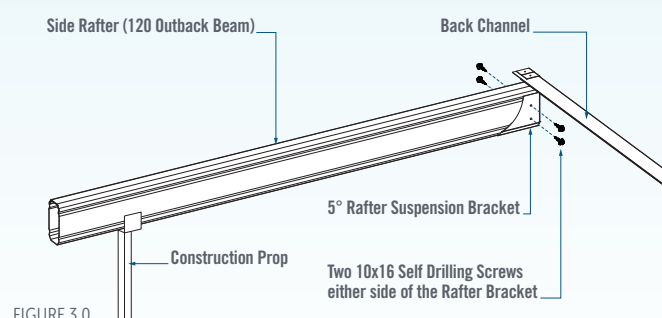


FIGURE 3.0

### IN-LINE BEAM CONNECTION

To butt join beams together an in-line beam connector is used. The connector is placed so the join is in-line with the centre of a column. On the ground, slide the connector into the end of the beam. Fix using four 10x16 hex head screws either side. Push the exposed half of the in-line connector into the other beam until both beams meet flush and fasten as previously described (Figure 3.1).

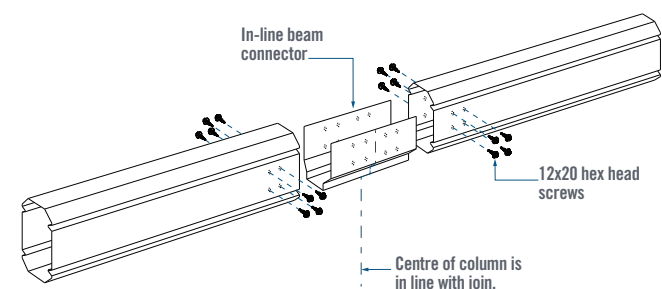


FIGURE 3.1

### RAFTER CONNECTIONS

Measure the front fascia beam. Mark where the end rafter beams, intermediate rafters (if required) and columns meet. Clip the post brackets onto the bottom of the front fascia beam where the columns will sit. Fasten through the holes in the post bracket with two 10x25 countersunk screws each side into the flute of the beam (Figure 4.0). Place the Skillion Rafter Brackets (5° Low) on the inside face of the front fascia beam, aligning the top edge of the bracket with the top flute of the beam (14mm from the top of the beam). Fasten the bracket using six 10x16 self drilling screws (Figure 3.2).

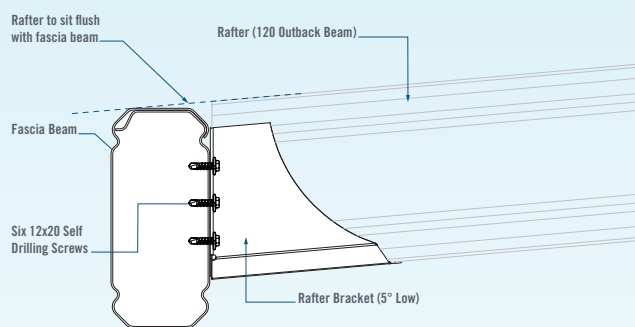


FIGURE 3.2

## FASCIA BEAM TO RAFTER CONNECTION

Lift the front fascia beam and slide the rafter bracket onto the end of the rafter beam so that the end of the rafter is butted up against the back of the bracket. Support the front fascia beam on construction props allowing for a 5° fall. Fasten the rafter beams either side with two 12x20 self drilling screws (Figure 3.3).

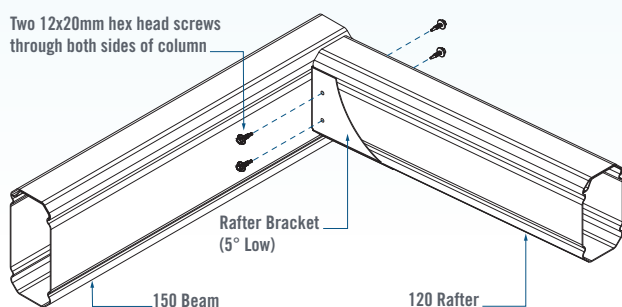


FIGURE 3.3

## INTERMEDIATE RAFTERS

Intermediate rafters and purlins may be fitted at this stage or following installation of the columns. Work progressively from the first end of the unit. Locate the rafter brackets and suspension brackets in the correct positions and fasten as previously described. Lift the first intermediate rafter into place and support on adjustable construction props (Figure 3.4). Secure all connections using two 12x20 hex head screws either side of each bracket. Continue this process along the Outback unit until the final end rafter beam is fixed in place.

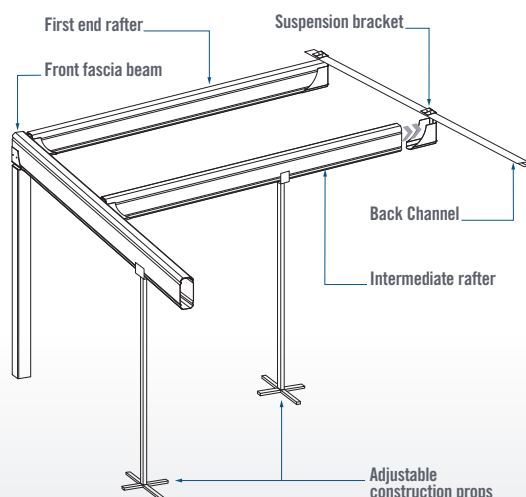


FIGURE 3.4

## PURLINS

Purlins can be installed in between, or over the rafters. Purlins installed between rafters (checked-in purlins), are secured with 68mm Purlin Brackets and Checked-In Purlin Brackets over the intermediate rafters. Measure and mark the locations for the brackets using a string line. Locate the purlin brackets in the correct positions and fasten with four 12x20 hex head screws through the back of each bracket in the holes provided. Lift the purlins into place and secure all connections using one 12x20 hex head screw either side of each bracket (Figure 3.5). Continue this process along the Outback unit until the final end rafter beam is fixed in place.

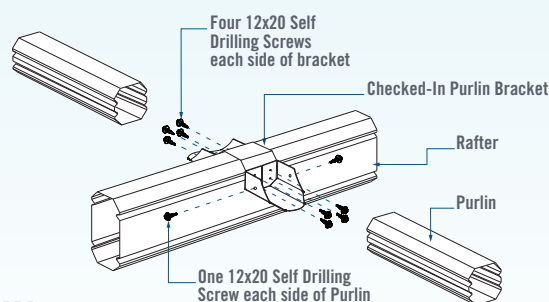


FIGURE 3.5

Purlins installed on top of the rafters are to be positioned correctly and fixed using two 14x95 hex head self drilling screws through to the rafter (Figure 3.6).

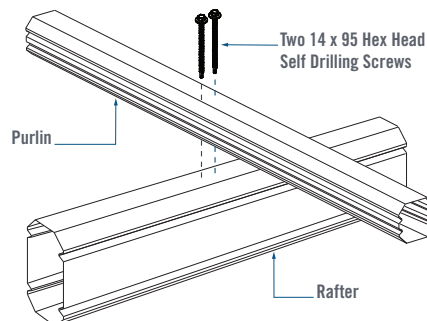


FIGURE 3.6

## FRAMEWORK CHECK

Check that the basic framework is square by ensuring diagonal measurements from A to A and B to B are the same (Figure 3.7). Recheck the falls are correct for the roof and gutter (Figure 3.7).

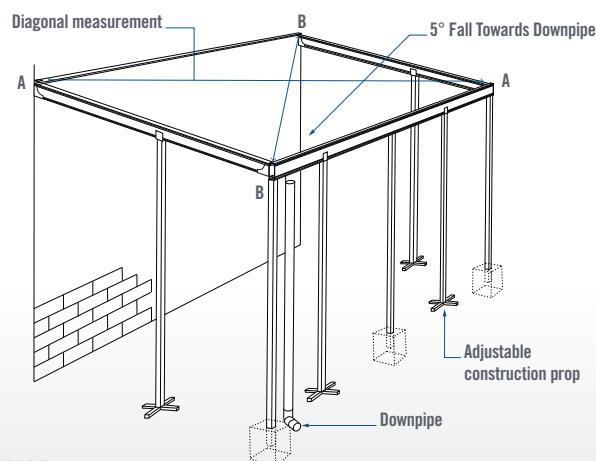


FIGURE 3.7

If fixing the columns into the ground, dig the holes to the specified size. Place a half brick in the bottom of the hole (Figure 4.0).

Measure from the underside of the beam to the top of the half brick and cut posts to this length at each post location.

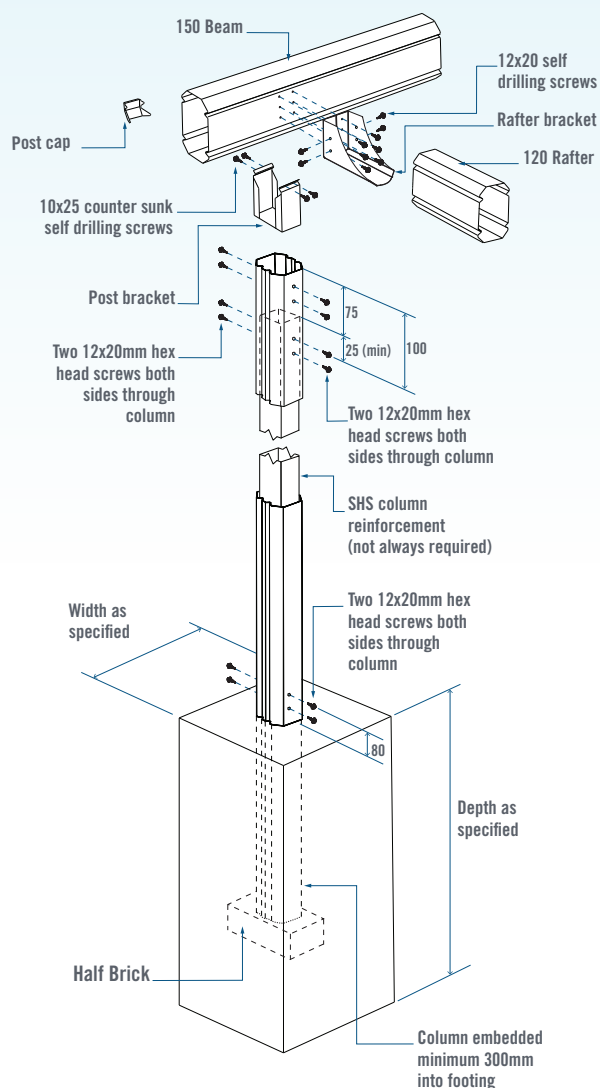


FIGURE 4.0

## REINFORCING THE 68 COLUMN

If 50x50mm square hollow sections (SHS) have been supplied the fluted 68 Outback columns will need to be reinforced.

Cut the 50x50mm SHS 75mm shorter than the fluted post and slide into the column. Ensure the square section is positioned inside the column and fix using two 12 x 20 hex head screws per side at both ends (Figure 4.0 and 4.1).

Regardless of whether the column is reinforced, slide the top of the 68 Outback column over the post bracket until it is flush with the underside of the fascia beam.

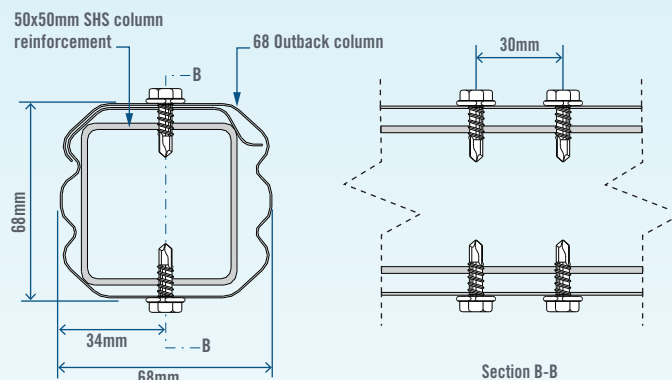


FIGURE 4.1

The unfluted faces of the column should be aligned with each face of the post to beam bracket. Fasten the 68 Outback column to the post bracket using two 12x20 hex head screws either side (Figure 4.1).

Use construction props or bracing to hold columns in position, but do not concrete in place at this stage.

## SQUARE HOLLOW SECTION (SHS) COLUMNS

If 65x65mm or 75x75mm square hollow sections (SHS) have been supplied, an alternative post to beam connection method is used.

Measure from the underside of the beam to the top of the half brick and cut posts to this length. Screw the corner connector or inline connector to the top of the SHS post with two 12x20 hex head self drilling screws on either side of the column (Figure 4.2).

Stand the post in position. Screw the connector to the outside face of the Outback beam with 12x20 self drilling hex head screws (Figure 4.2).

Use construction props or bracing to hold columns in position but do not concrete in place at this stage.

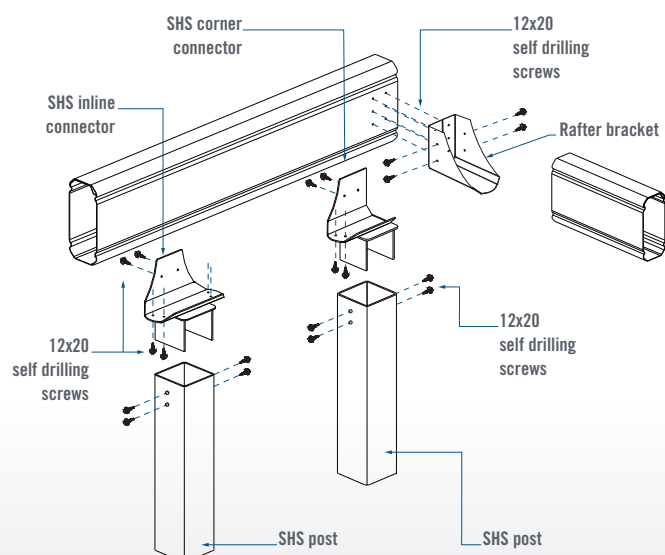


FIGURE 4.2

## FOOTING PLATES

Footing brackets are available if the posts are to be fixed to an existing concrete slab. Establish the column lengths by measuring the distance from the underside of the fascia beam to the concrete slab, less the thickness of the footing plate (or 20mm for Outback footing plate).

### 68 OUTBACK FOOTING PLATE

For non-reinforced 68 Outback posts, cut the columns to length, and assemble the footing bracket by sliding the legs of the footing upstand through the slots in the footing plate (Figure 5.0). The upstand bracing must be located between the legs of the upstand.

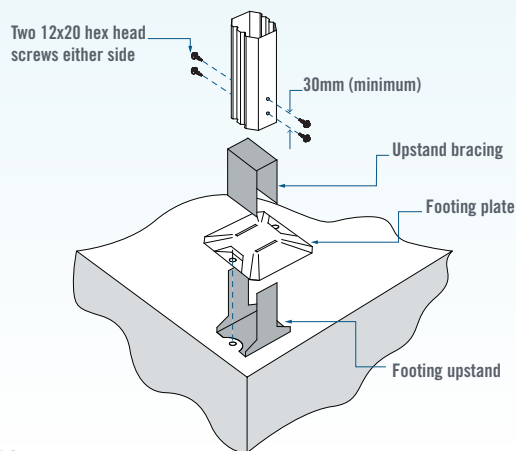


FIGURE 5.0

Slide the assembled footing bracket and bracing into the bottom of the column, and fasten with two 12x20 hex head screws either side ensuring the top screws are located at least 15mm from the top of the upstand with screws being a minimum 30mm apart (Figure 5.0).

Slide the top of the column over the post bracket and align the column and footing bracket. (Note: It may be necessary to lift the fascia beam slightly to slide the column over the post bracket). The unfluted faces of the column should be aligned with each face of the post to beam bracket. Fasten using two 12x20 hex head screws either side (Figure 4.0).

Use construction props or bracing to hold columns in position but do not bolt to the concrete slab at this stage.

### SHS REINFORCED COLUMN FOOTING PLATE

Slide the SHS reinforced footing bracket into the bottom of the column, and fasten with two 12x20 hex head screws on either side of the post (Figure 4.0). Locate the top screws approximately 100mm from the base of the footing plate, and the bottom screws 50mm from the base (Figure 5.1).

Slide the top of the column over the post bracket and align the column and footing bracket. (Note: It may be necessary to lift the fascia beam slightly to slide the column over the post bracket). The unfluted faces of the column should be aligned with each face of the post to beam bracket. Fasten using two 12x20 hex head screws either side (Figure 4.1).

Use construction props or bracing to hold columns in position but do not bolt to the concrete slab at this stage.

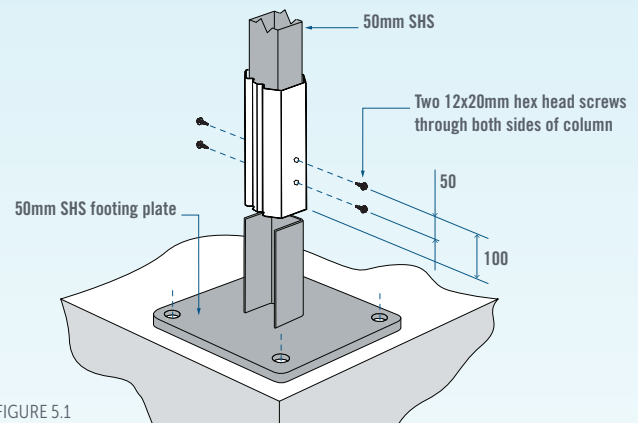


FIGURE 5.1

### SHS COLUMN FOOTING PLATE

Slide the SHS column footing bracket into the bottom of the column, and fasten with two M10 bolts through the post (Figure 5.2).

Screw the corner connector or inline connector to the top of the SHS post with two 12x20 hex head self drilling screws on either side of the column (Figure 4.2). Stand the post in position and screw the connector to the outside face of the beam with 12x20 self drilling hex head screws (Figure 5.2).

Use construction props or bracing to hold columns in position, but do not bolt to the concrete slab at this stage.

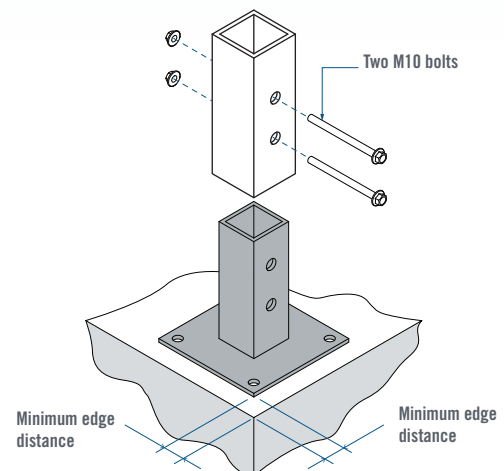


FIGURE 5.2

### SHS INTERNAL UPSTAND

Position SHS over the internal upstand and ensure the upstand mounting holes are at least 75mm from the edge of the concrete (Figure 31.1). Do not fix the SHS column to the upstand at this stage.

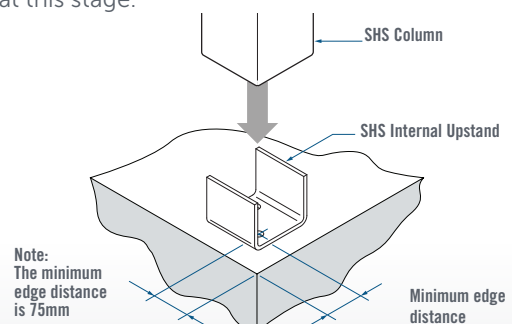


FIGURE 5.3

Use construction props or bracing to hold columns in position but do not bolt to the concrete slab at this stage.



## ROOFING

### TURNING UP THE ROOFING ENDS

While still at ground level the valleys on the high end of the roof decking need to be turned up using a turn-up tool or adjustable spanner to aid in weather proofing (Figure 6.0).

At the low end of the sheets the valleys of each corrugation should be turned down into the gutter using a turn up/down tool or adjustable spanner.

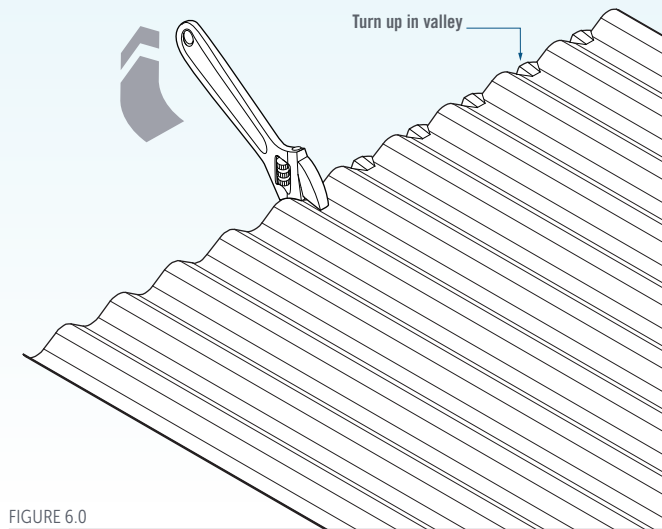


FIGURE 6.0

### LAYING AND INSTALLING THE ROOFING

Roof sheets should be laid into the prevailing wind and sit neatly on the preceding roof sheet, with a side lap of 1.5 corrugations (Figures 6.1 and 6.2). Avoid 'stretching' the width of the sheet when installing as this could allow wind and rain to enter.

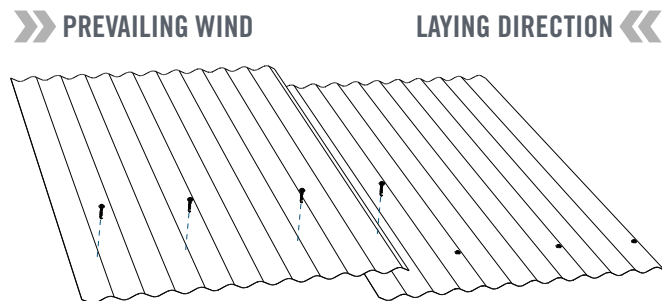


FIGURE 6.1

Lift the first sheet into place and push it firmly into the BIP foam in the back channel to weather proof it. Roofing should have a 50mm overhang into the gutter. Check the sheet is square against the back channel and side rafter. At the back channel end, rivet the sheet from underneath through the bottom of the back channel with 3.2mm rivets (Figure 6.2). Seal the rivets with silicone inside the back channel.

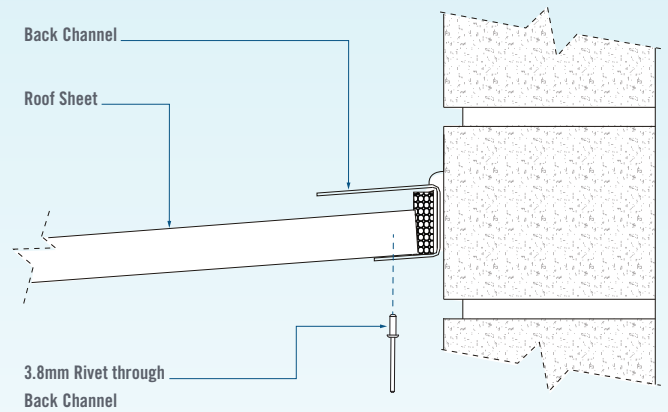


FIGURE 6.2

At each supporting purlin, fix the sheet with 12g x 35mm (for CGI) or M6x50mm (for Maximus 22) hex head self-drilling screws with neoprene washers (Figure 6.3).

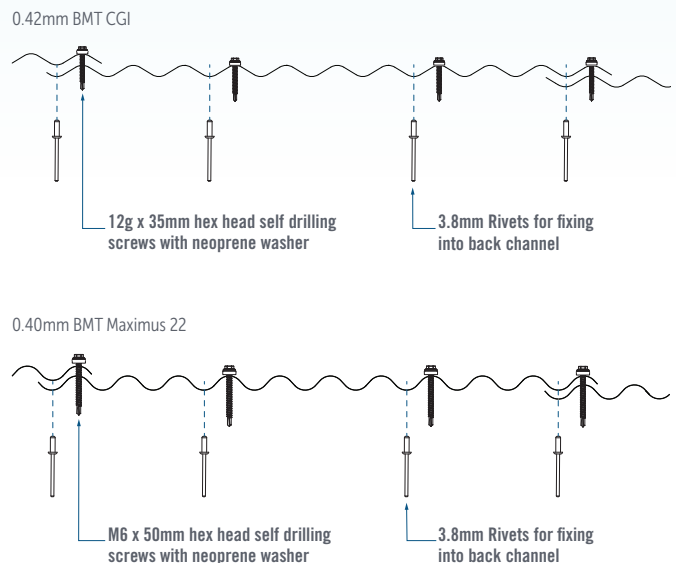


FIGURE 6.3

Side lap fixing is recommended to maintain a weather proof seal and to secure the overlap (Figure 6.4). This is best done with either 8 x 12mm self drilling stitching screws or a 3.2mm blind rivet (rivets should be silicone sealed to prevent water penetration). It is recommended side lap fasteners are secured mid-span, when spans exceed 900mm.

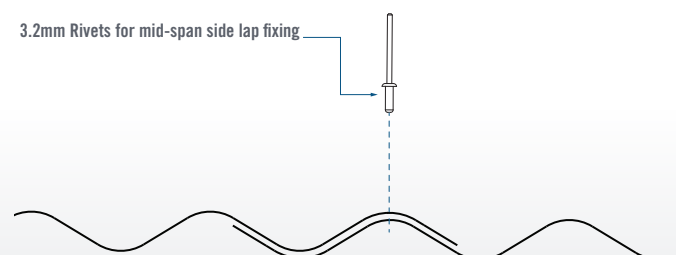


FIGURE 6.4

## GUTTER ASSEMBLY

### GUTTER PREPARATION

To establish the gutter length, measure the length of the front fascia beam. Cut the gutter to length and attach the stop ends with four rivets per stop end. Remove any swarf and waterproof with silicone (Figure 7.0).

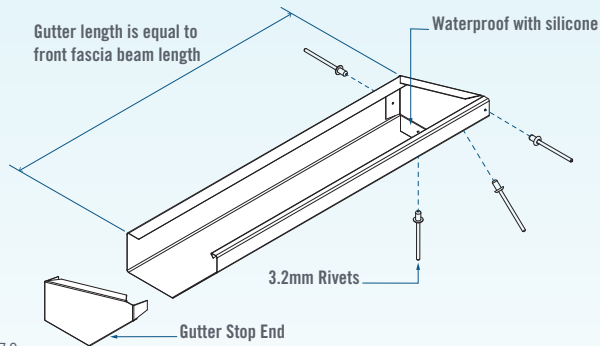


FIGURE 7.0

### GUTTER OUTLET ASSEMBLY

Before attaching the gutter mark the position of the outlet. Place the downpipe in line with the column and mark and cut a hole in the base of the gutter near the back edge. Insert the downpipe outlet from the inside of the gutter and rivet in place using four 3.2mm rivets (Figure 7.1). Remove any swarf and waterproof with silicone.

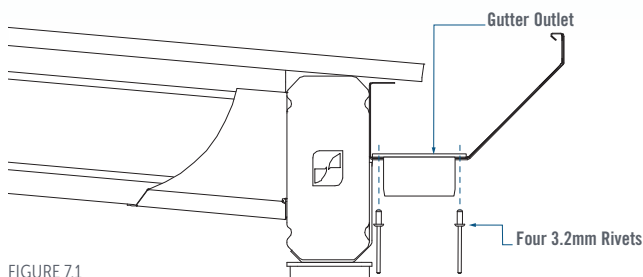


FIGURE 7.1

### GUTTER ATTACHMENT

Check the roof sheets overhang into the gutter by 50mm and the gutters are square in relation to the framework. Lift the gutter into position and fix with rivets at one metre spacings through the valley of the roof sheets into the gutter's back lip (Figure 7.2). Install gutter straps at a maximum spacing of one metre apart. The downpipe is not attached at this stage as the columns are not yet fixed in their vertical position.

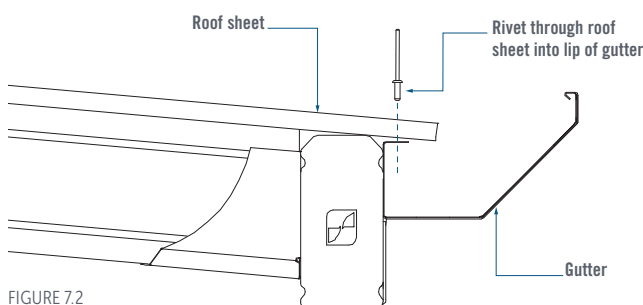


FIGURE 7.2

### DOWNPIPES

Before attaching the downpipes, rivet the downpipe brackets to the column. Slide the downpipe over the downpipe outlet and rivet into position. Rivet the downpipe to the brackets. Weatherproof all the fasteners with silicone.

## CAPPING & FLASHING

To prevent moisture from entering the beams and for aesthetics, any beams with exposed ends require end caps to be fitted. Align the end cap and push into the exposed beam end (Figure 8.0).

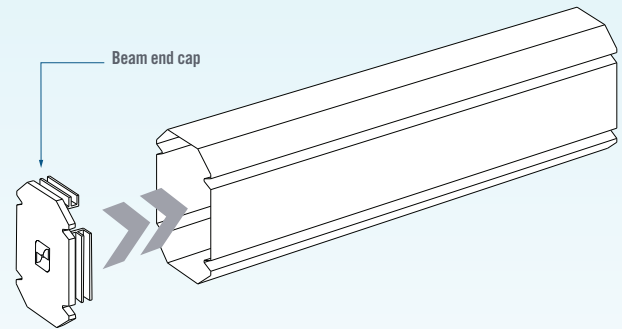


FIGURE 8.0

If Outback columns are used, the post caps can be fitted over the post-beam connection. Apply a small amount of silicone to back of post cap, align the two lugs with the two exposed holes of the post bracket and push firmly (Figure 8.1)

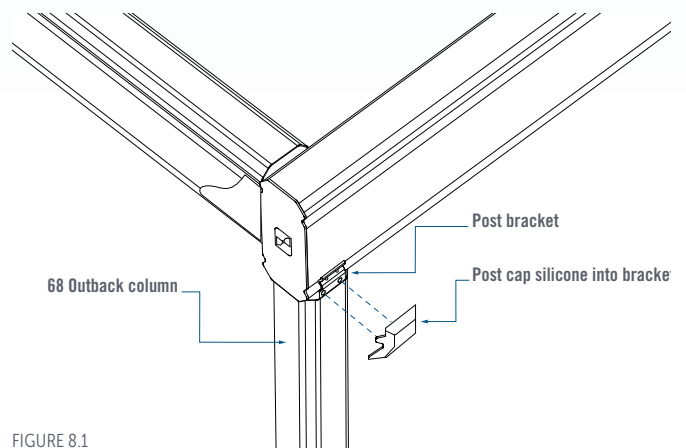


FIGURE 8.1

Attach the barge flashing by screwing the lower lip to the rafter using 12x20 hex head self drilling screws, and rivet the top section to the crest of the roof sheet at 500mm centres (Figure 8.2).

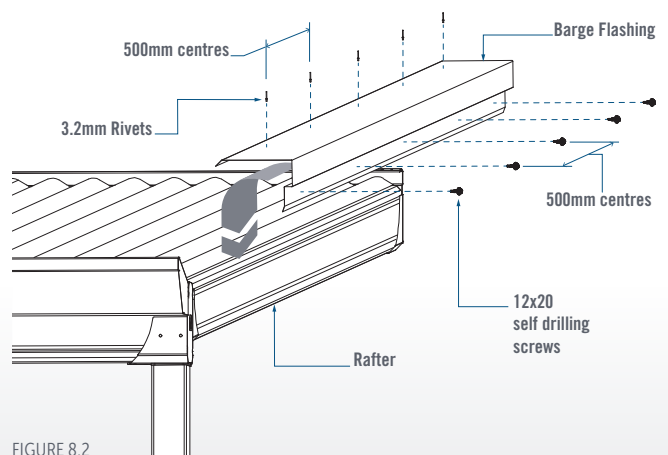


FIGURE 8.2

## FINAL FIXING

### FIXING INTO THE CONCRETE FOOTING

Thoroughly check the posts with a spirit level. When plumb, fill the post hole with approximately 150mm of concrete and use a shovel or pole to agitate the concrete to remove any air pockets. Repeat this process until the hole is full, continually checking the posts as you go. The concrete must have a slight slope that runs away from the column to ensure any water does not pool around the base (Figure 9.0). Once the concrete is set remove any temporary bracing or props.

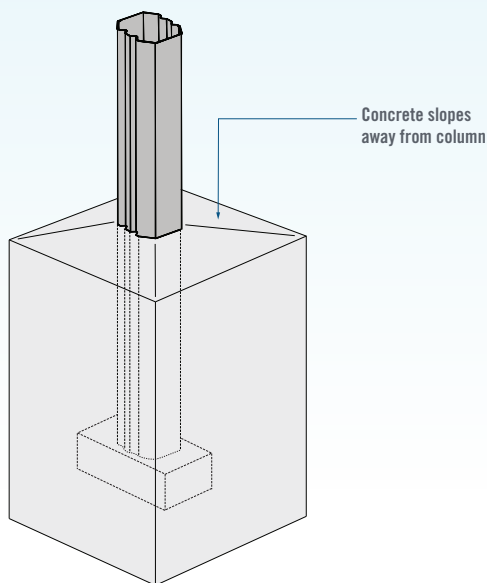


FIGURE 9.0

### FIXING ONTO EXISTING CONCRETE

#### 68 OUTBACK COLUMN

If the 68 Outback Columns are to be fixed to an existing concrete slab with a footing plate, each plate must be fixed to the concrete with two M12x75 masonry anchors or two M12x75 screwbolts (Figure 9.1).

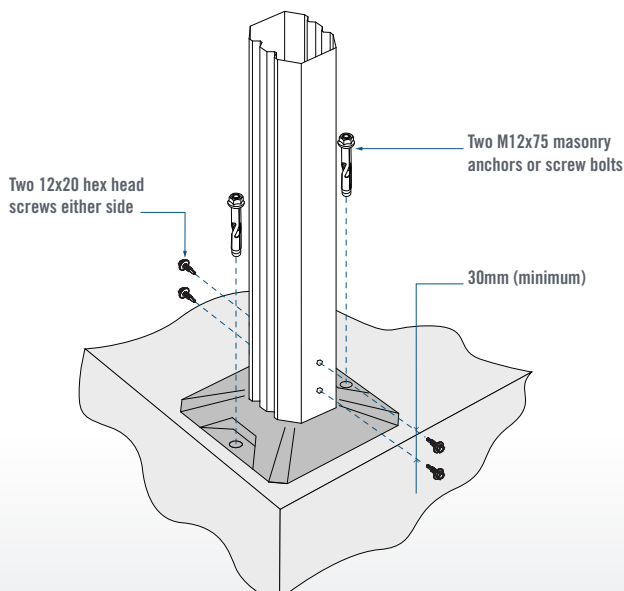


FIGURE 9.1

### SHS COLUMN FOOTING PLATE

If using SHS columns, the footing plate is to be fixed to the concrete slab with four M12x75 masonry anchors or screw bolts (Figure 9.2).

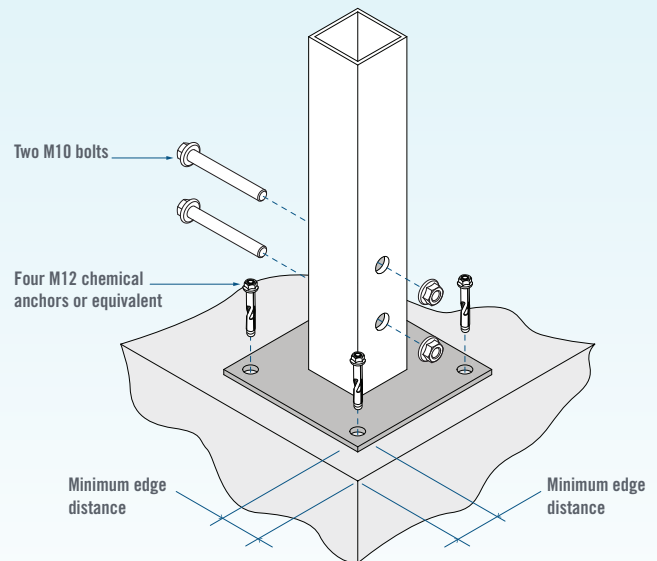


FIGURE 9.2

### SHS REINFORCED OUTBACK COLUMN

Reinforced Outback Columns are to be fixed to the concrete slab with four M12x75mm masonry anchors or screw bolts (Figure 9.3).

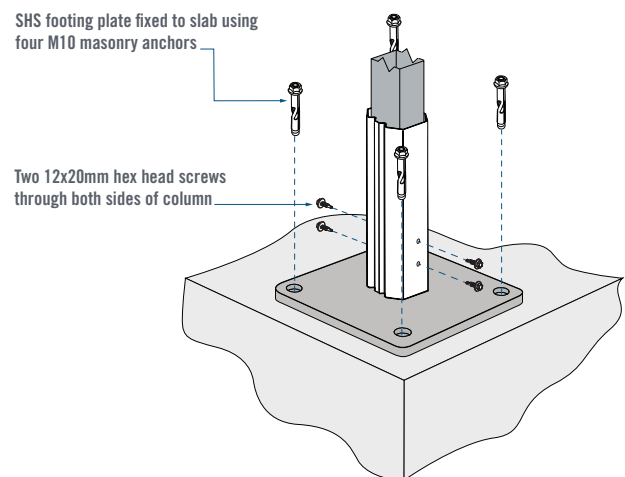


FIGURE 9.3

**Note:** Anchors to be installed in accordance with manufacturer's specifications with appropriate concrete edge distance as per manufacturer's requirements.

### SHS INTERNAL UPSTAND

Ensure the column is plumb and mark out the footing position on the concrete. Lift the column off the internal upstand and position the upstand on the markings.

Fix the SHS internal upstand to the concrete slab using one M12 Chemical Anchor (Chemset 101 or greater) for 65mm & 75mm SHS Upstand, or two M10 Chemical Anchors (Chemset 101 or greater) for 90 & 100mm SHS Upstands (Figure 9.4).



One M12 Chemical Anchor  
for 65mm & 75mm Upstands  
(Chemset 101 or greater)  
or  
Two M10 Chemical Anchors  
for 90mm & 100mm Upstands  
(Chemset 101 or greater)

Note:  
The minimum  
edge distance is 75mm

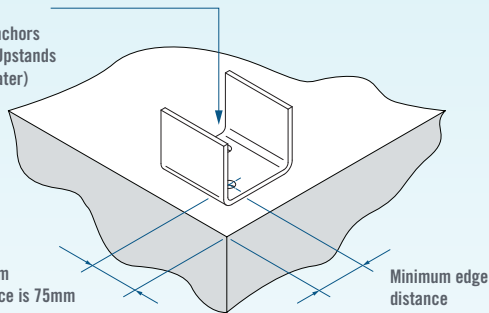


FIGURE 9.4

Position the SHS column over the Internal Upstand.

- For **65mm and 75mm SHS columns** pre-drill two 3.5mm holes through both the SHS and the Upstand legs at a minimum of 20mm spacing on each side of the column.
- For **90mm and 100mm SHS columns** pre-drill four 3.5mm holes through both the SHS and the Upstand legs at a minimum of 20mm spacing on each side of the column.

Fix the SHS to the upstand through the pre-drilled holes using 12x20mm self drilling screws (Figure 9.5).

For 65mm & 75mm upstands:  
Pre-drill two 3.5mm holes  
through both the SHS and the  
upstand legs at a minimum  
20mm spacing on each side of  
the column.  
Fix with two 12x20mm Self  
Drilling Screws on either side.

For 90mm & 100mm upstands:  
Pre-drill four 3.5mm holes  
through both the SHS and the  
upstand legs at a minimum  
20mm spacing on each side of  
the column.  
Fix with four 12x20mm Self  
Drilling Screws on either side.

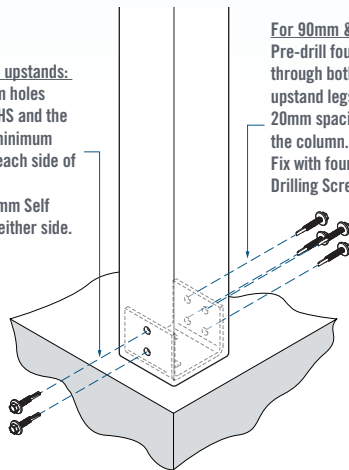


FIGURE 9.5

Seal around the base of the column with an elastic sealant. Pooling of water around the base of the column must be prevented.

### IMPORTANT NOTE

Do not allow soil to remain in permanent contact with the columns as corrosion will result in the base of the column. Refer to the 'Selection, Use and Maintenance of Stratco Steel Products' brochure for complete details of the maintenance requirements.

## MAINTENANCE

Regular maintenance is essential to maintain the good looks of all Stratco steel products and to ensure you receive the maximum lifespan possible. Washing with clean water must be frequent enough to prevent the accumulation of dust, salts, and pollutants that may reduce the life of the product. Stratco steel products that are regularly washed by rain require no additional maintenance. No Stratco steel structure or materials are recommended for use over, or in close proximity, to swimming pools or spas. No material that retains water (such as dirt or paving sand) should be placed against the columns. Care must be taken when determining the location of Stratco steel products so that they are not placed in close contact with sources of pollution or environmental factors that could affect the life of the steel. Refer to the 'Selection, Use and Maintenance' brochure for more information.



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