

CLEARSPAN GABLE WITH GAZEBO END ATTACHED PATIO

STRATCO OUTBACK® ASSEMBLY INSTRUCTIONS.

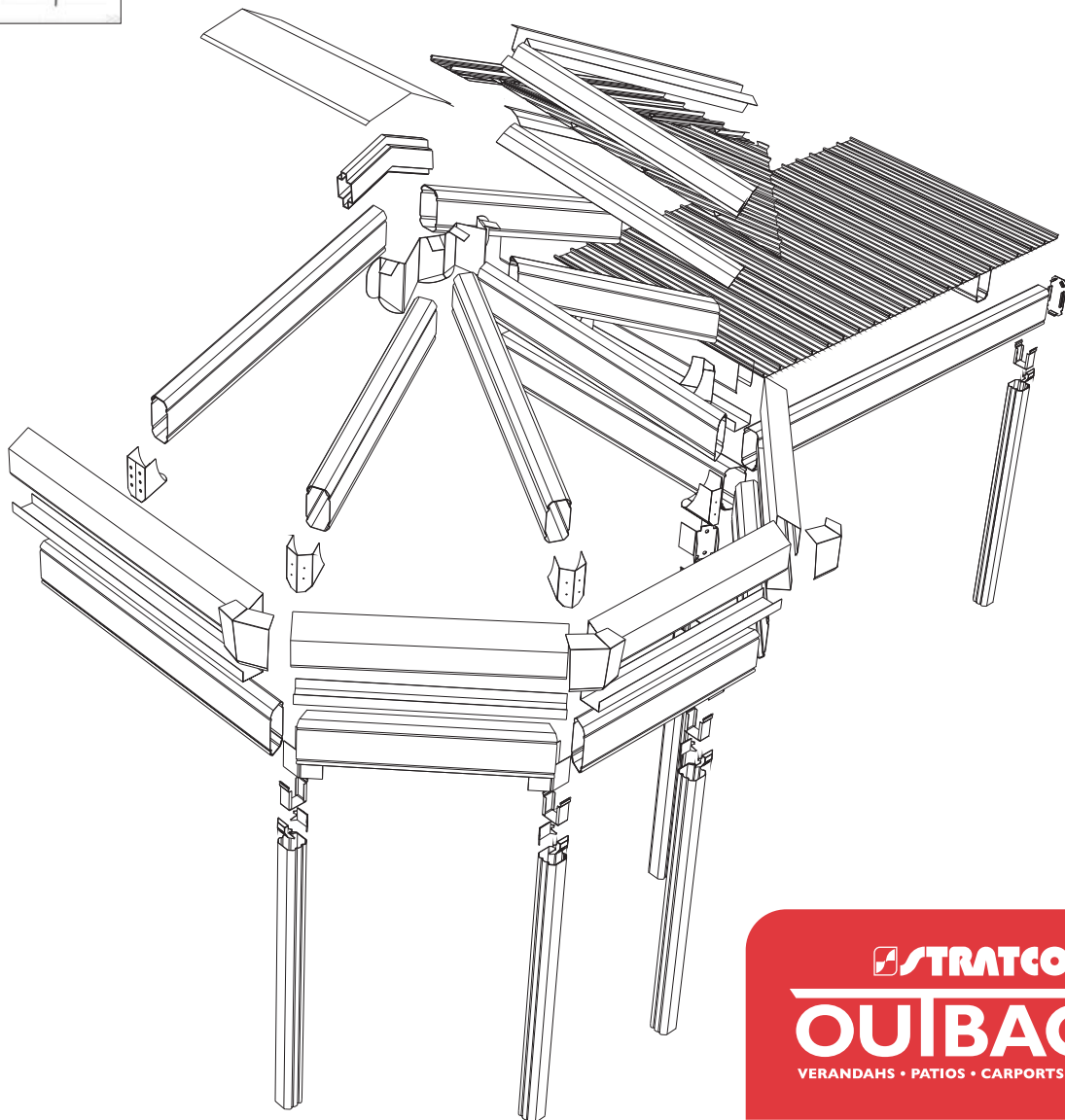
Your supplementary guide to building an ATTACHED CLEARSPAN GABLE VERANDA or PATIO WITH GAZEBO END

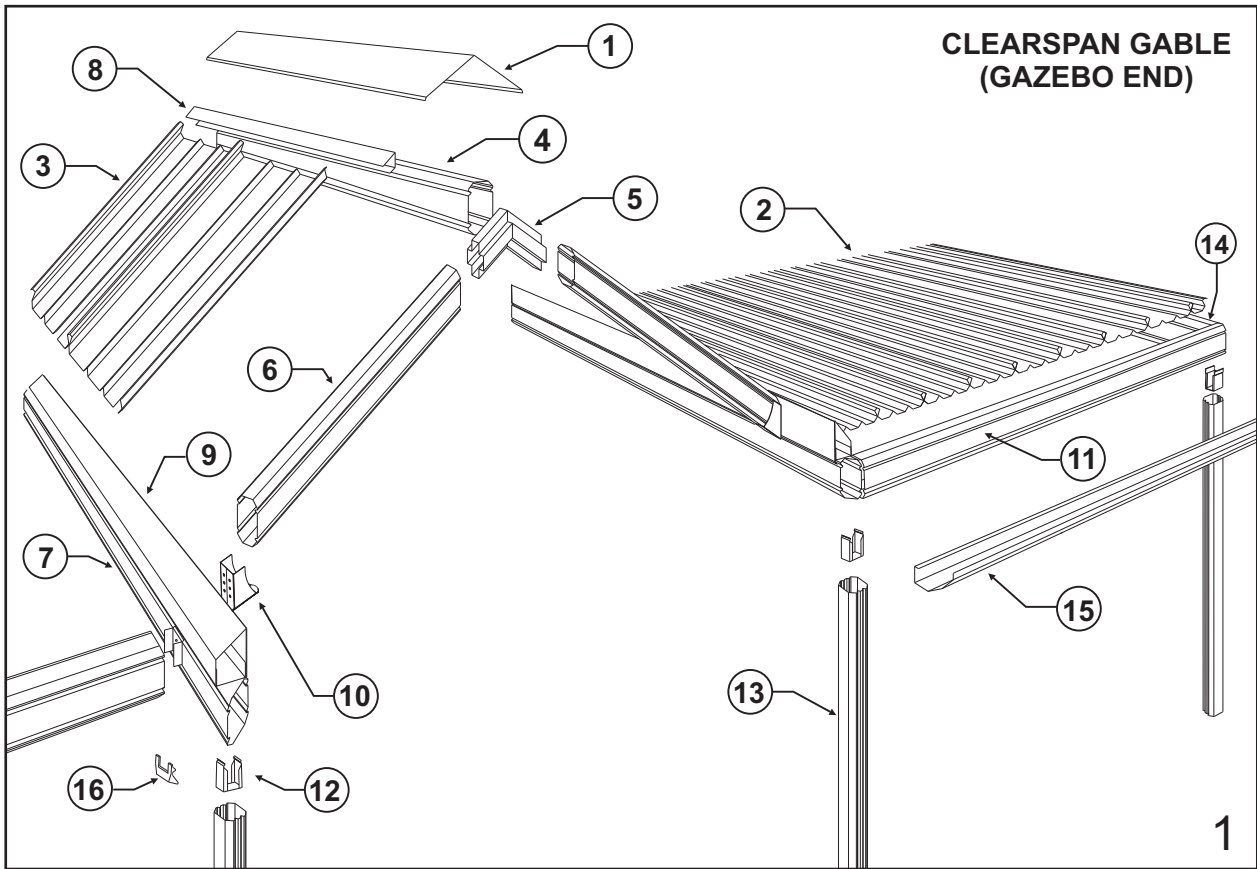


This set of instructions should be used in conjunction with the Stratco instruction brochure 'Flat Verandahs Attached - Your complete guide to building an Attached Outback® Verandah, Patio or Carport'.

BEFORE YOU START

Carefully read these instructions, along with the Stratco Flat Verandahs Attached Instructions. 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 parts description identifies additional gable parts, and the component layout diagram indicates their fastening position.





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|-----------------------|----------------------------|
| ① Ridge Cap | ⑩ Rafter to Valley Bracket |
| ② Flat Section | ⑪ Front Fascia Beam |
| ③ Outback® Deck | ⑫ Post Bracket |
| ④ Ridge Beam | ⑬ Post |
| ⑤ Ridge Knuckle | ⑭ End Fascia Beam |
| ⑥ Gable Rafter | ⑮ Gutter |
| ⑦ Valley Beam | ⑯ Notched Beam Filler |
| ⑧ Angled Back Channel | |
| ⑨ Beam Capping | |

These materials are needed to complete the job, but are not included in the basic kit price. (they must be purchased as extra items, and their quantities specified):

- Rafter strengthening brackets and channels to suit 150 beam attachment for attaching gable to house.
- M12 bolts and nuts for fixing strengthening brackets to the rafter.
- M12 bolts and nuts for fixing 150 attachment beam to strengthening brackets.
- Fascia Brackets for attaching gable on end to house.
- M10 coach bolts and nuts for fixing fascia brackets to the house rafter.
- M8 masonry anchors for fixing Wall Brackets to masonry.

- 12x25 type 17 teks for fixing Suspension Brackets to timber.
- 12x20 hex head screws for fixing Suspension Brackets to steel fascia.
- Cover flashings (measurements required).
- Box gutter (measurements required).

OPTIONAL EXTRAS

- These items are available at request:
- Infill Panels
 - Panel Strips
 - Finial
 - Soaker Flashing in lieu of Header Flashing
 - Purlin Intersection Cap

1.0 INTRODUCTION

Please read these assembly instructions thoroughly before commencing the construction. Double check all dimensions, levels and bolting locations before cutting, screwing or bolting structural members. It is recommended that the persons erecting the structure have had some previous building experience, because some modifications to the existing house structure are required.

2.0 ATTACHING TO AN EXISTING STRUCTURE

The builder or council is to ensure the existing house/structure is of a suitable structural integrity and complies with all the relevant Australian Building codes and standards. For more information regarding the suitability of the house structure to accommodate the Stratco Attached Clearspan Gable, consult a structural engineer or a building authority. It is the builders responsibility to ensure that the existing house roof structure is strengthened correctly.

Refer to section 2.1 if attaching Clearspan Gable on it's side to a house, section 2.2 if attaching on it's end to a house or refer to both sections if attaching the gable on it's side and end.

2.1 ATTACHING ON SIDE TO HOUSE

A Stratco Clearspan attached on it's side to a house is attached to the existing eaves overhang at the fascia.

The first objective in the construction is to fix a structural side beam along the fascia or wall, to which the Gable Unit is attached.

Most existing houses have not been designed for the attachment of portal framed gables to their side, therefore additional strengthening of the house rafters must be performed.

In order to strengthen the existing house rafters, the roof tiles or roof sheets need to be lifted, to expose the roof frame. Steel rafter brackets and channels are then bolted along the house rafters. Refer to section 2.1.1.

A 150 mm Outback® beam is bolted to the strengthening brackets at the fascia. Once the 150 attachment beam is secured to the house the Gable Unit can be erected and fastened to the beam.

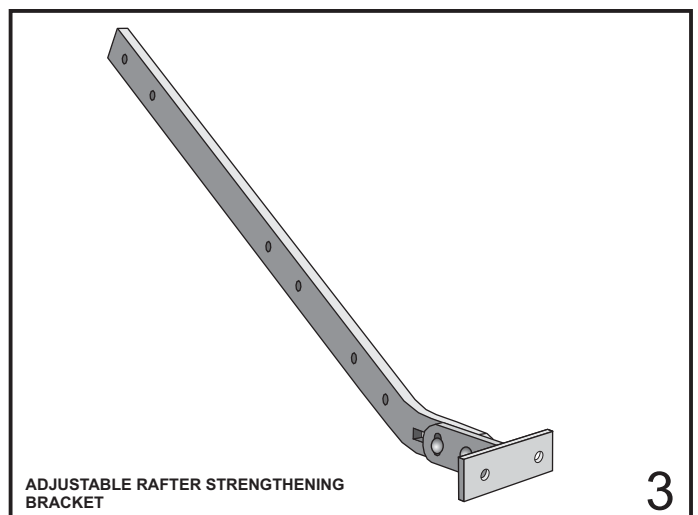
2.1.1 RAFTER STRENGTHENING

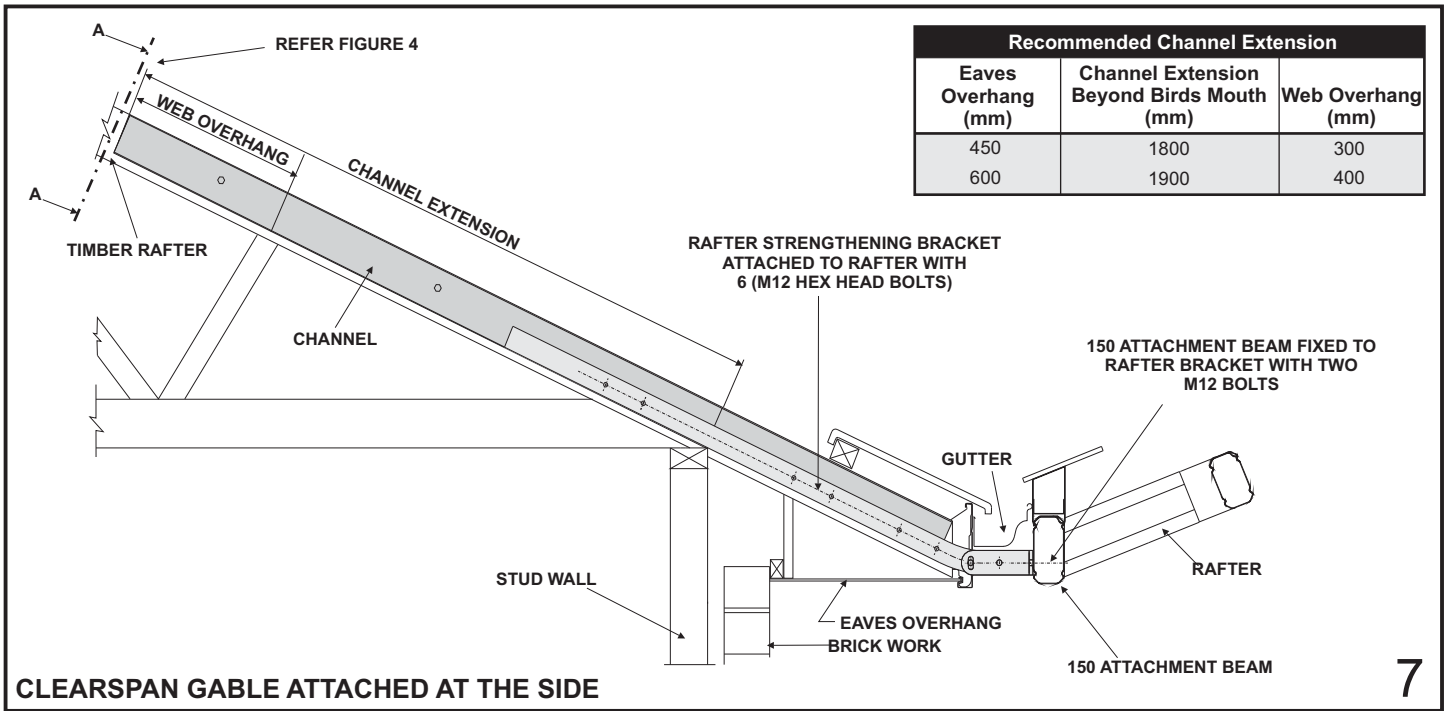
The first step is to determine the number of rafters which need to be strengthened, and their location relative to the unit. You will have to lift some roof tiles or roof sheets to discover the rafter positions and spacings. The number of rafters which need to be strengthened is determined by the builder.

Note: It is the builders responsibility to ensure the existing rafters and fascia are adequately reinforced and strengthened to accommodate any additional attached structure. The reinforcing method must be approved by the appropriate council and engineer.

Use an adjustable rafter strengthening bracket and one channel for eaves overhangs up to 450 mm. Use an adjustable rafter strengthening bracket and two channels for eaves overhangs over 450 mm and up to and including 600 mm, as shown in figure 4.

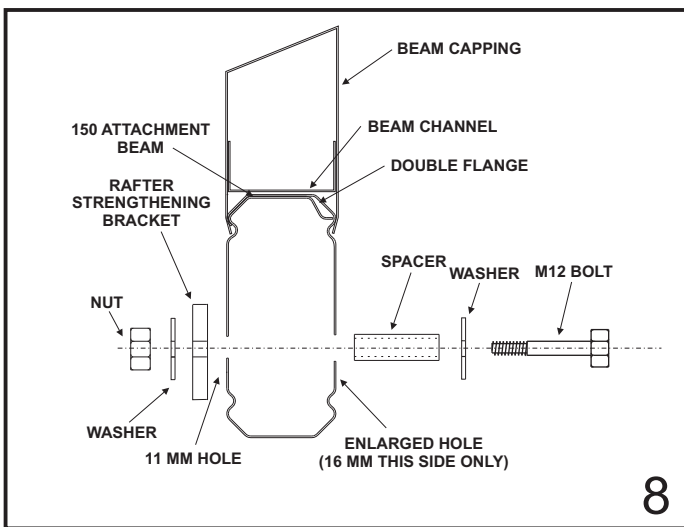
The adjustable rafter strengthening bracket is shown in figure 3. Please note that this bracket may not be suitable for applications where the front face of the house gutter is higher than 120 mm. In these cases please contact Stratco for alternative solutions.



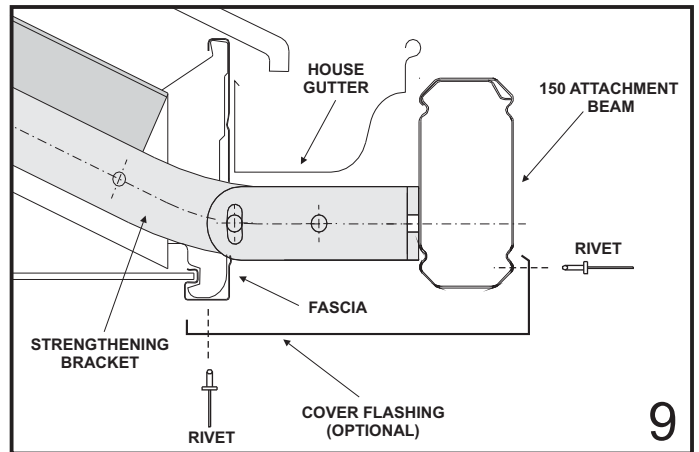


The 150 attachment beam becomes the base for the attachment of the Clearspan gable unit. Figure 7 shows a unit attached at the side.

To insert spacers drill 11 mm holes through the 150 attachment beam. Then drill 16 mm holes on the outside face only, ie this time do not drill all the way through. This will allow the spacer to slide in, from the outside and stop at the other side as shown in figure 8.



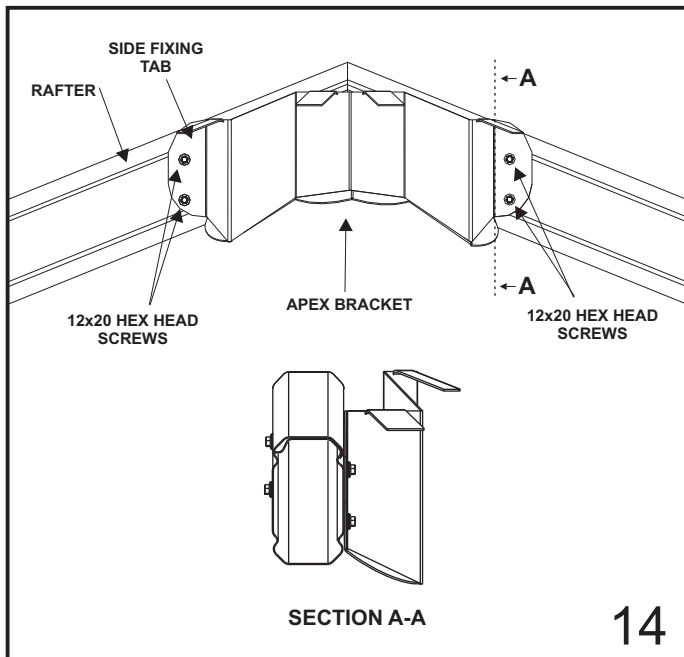
You would have ordered and received your custom made flashings to cover the exposed brackets and holes through fascia. Rivet flashings in place, figure 9 suggests a simplified flashing. You may however use your imagination and design a flashing that suits your individual taste.



2.2 ATTACHING ON END TO HOUSE

If fixing a Clearspan Gable on its end to a wall, two alternatives are available. Ridge and valley beams are fixed directly to the wall using 150 beam to wall brackets. This option will not require a rear gable frame and back channel is fixed to the wall to accommodate sheets running along the wall. The other alternative requires valley beams be fixed to the wall and a rear gable frame installed. The rear gable frame will need to be slightly offset from the wall to allow the appropriate bracket fixing.

If fixing a Clearspan Gable on its end with suspension brackets to a fascia (Figure 10) typically a soaker flashing is used. In this case the gable rafter at the rear of the unit is to be 153mm from the house fascia in order to accommodate a standard soaker flashing (refer Figures 29 and 30).

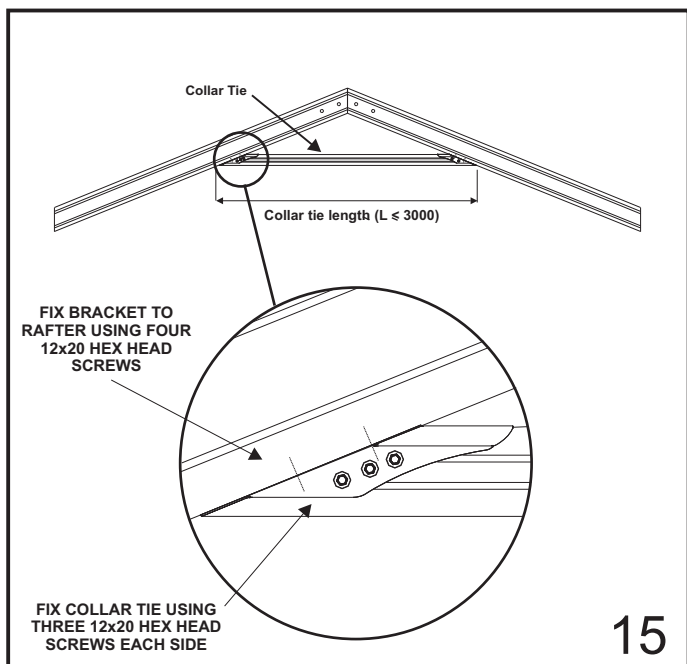


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3.2 COLLAR TIES

If collar ties are required on intermediate frames they are to be mitred to suit the pitch of the gable rafters. For gable openings up to 6000mm collar ties are to be located mid-height of the gable frame. For gable openings greater than 6000mm collar ties are to be located at a height to give a collar tie length of 3000mm.

Collar tie brackets are to be fixed back to gable rafters with four 12x20 hex head self drilling screws at the appropriate height. Collar ties are then fixed inside the brackets using three 12x20 hex head self drilling screws either side (Figure 15).



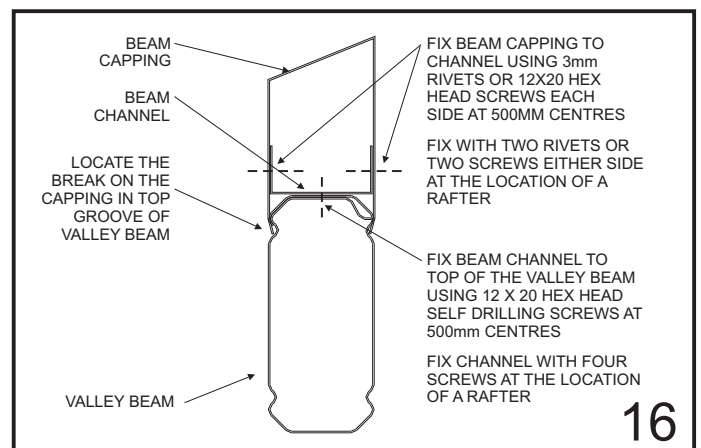
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4.0 VALLEY BEAM ASSEMBLY

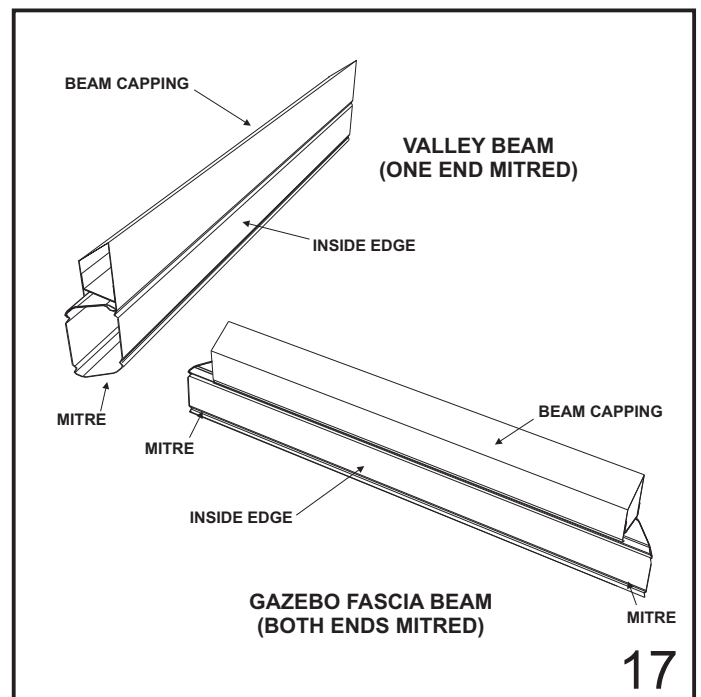
Before erecting any valley beams fix channel and capping to the top of the beams. Fix beam channel to the top of the valley beam using 12x20 hex head self drilling screws at maximum 500mm centres. Use four screws at the location of all rafters as shown in figure 14. Fix the beam capping to the channel using 3mm rivets or 12x20 hex head screws each side at maximum 500mm centres, ensuring two rivets or screws are used either side at the location of all rafters. The capping break must be located in the top groove (Figure 16).

Note that the beam capping does not need to be mitred and will end at the inside of the mitre on the valley beam as shown in figure 17.

If attaching the valley beam to a header beam, notch the capping so that it sits on top of the beam as shown in figure 28.



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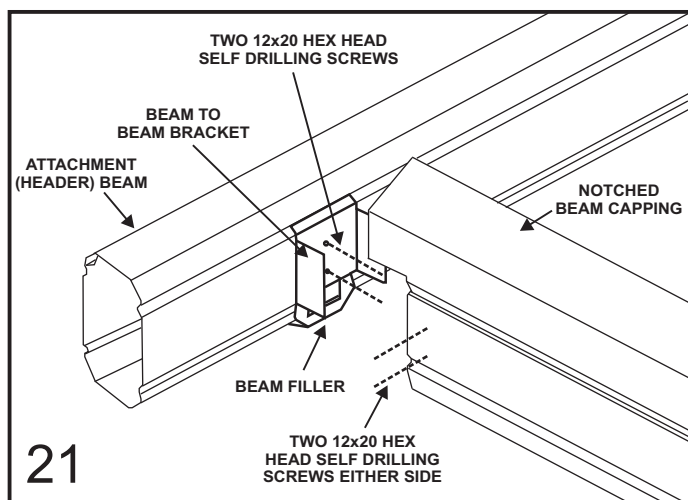


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For units attached on the end to an attachment beam (Figure 31), beam to beam brackets are positioned at either side of the gable opening at the spacing determined in part 3.0.

Fix beam to beam brackets to the attachment beam (header beam) with two 12x20 hex head screws so they clamp the beam filler to the beam (Figure 21).

The first valley beam is fastened over the beam to beam bracket with two 12x20 hex head screws either side while the opposite end is supported on adjustable construction props.



If any intermediate columns are required measure the valley beam marking where they meet. Fasten post brackets as explained in the installation guide 'Outback Flat Attached Verandahs, Patios & Carports' under "FRONT FASCIA BEAM". This can be done before valley beams are fixed in place.

Support the second valley beam on adjustable construction props but do not fix to the wall, fascia or attachment beam until the front gable frame has been attached.

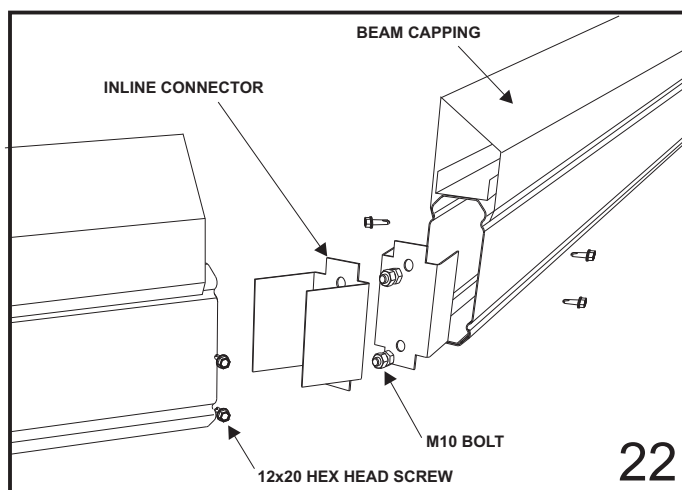
Fix the rafter to valley brackets to the beam capping at the correct rafter positions (refer Section 6). Fixing details as shown in section 4.1.

5.0 GAZEBO FASCIA BEAMS

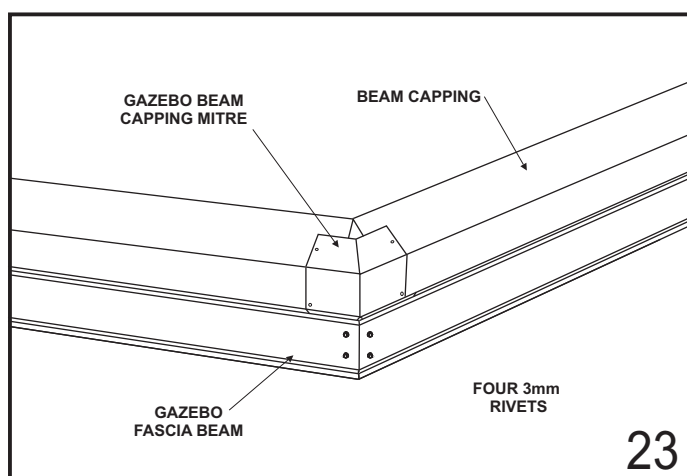
Attach the in-line connector brackets back to back using M10 bolts and nuts in the holes provided (Figure 22). Ensure the constructed bracket makes the required internal angle of 135 degrees.

Slide the in-line connector into the valley beam and fix using two 12x20 hex head screws either side of the beam. Fix one of the three gazebo fascia beams to the protruding half of the in-line connector using two 12x20 hex head screws either side of the beam ensuring both beams are flush with one another. Support the first gazebo fascia beam on an adjustable construction prop.

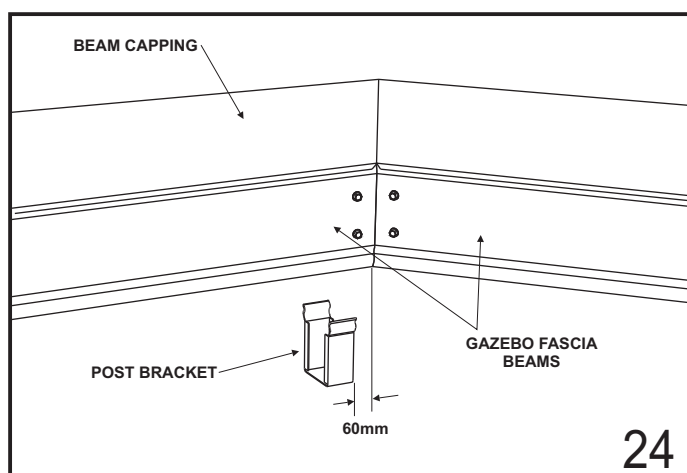
Repeat the above process on the centre gazebo fascia beam. Fix the remaining in-line connectors to the free ends of the gazebo fascia and valley beams. The final gazebo fascia beam is now be fixed in place.

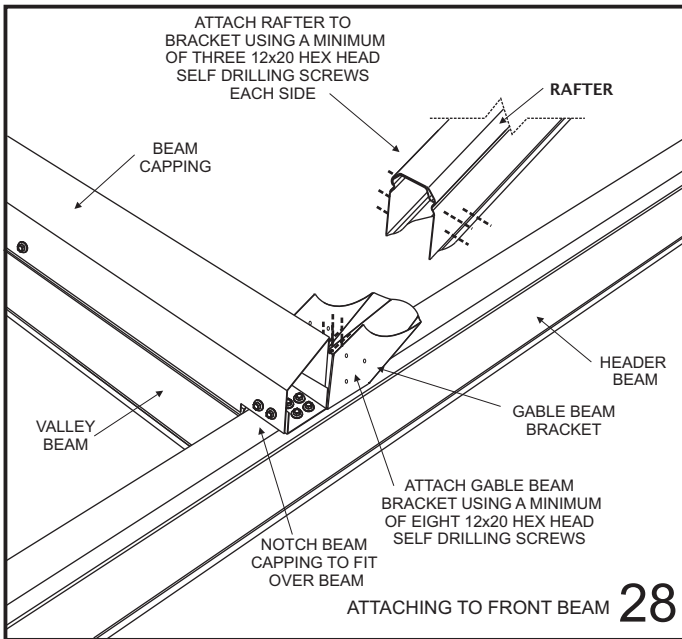


Gazebo beam capping mitres are used to cover the gap made by the beam capping. Rivet the mitre through both overlaps to the beam channel and to the top of the beam capping (Figure 23).



With all the gazebo fascia beams secured post brackets are to be fastened as close as practical to the gazebo fascia beam joins (Figure 24). Refer to installation guide 'Outback Flat Attached Verandahs, Patios & Carports' for post bracket fixing details.





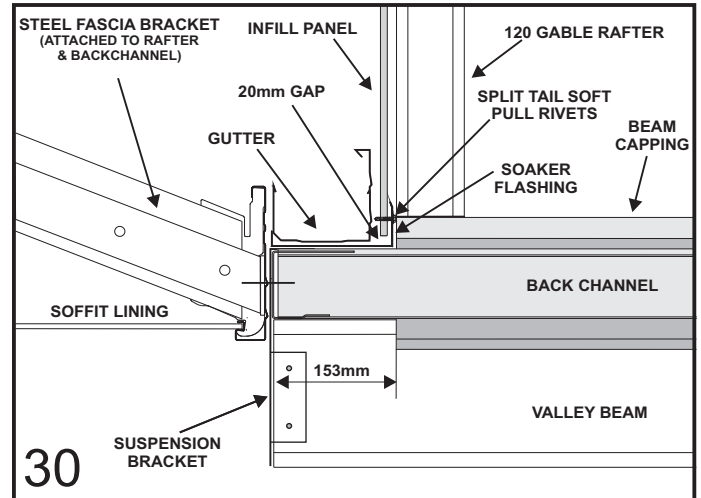
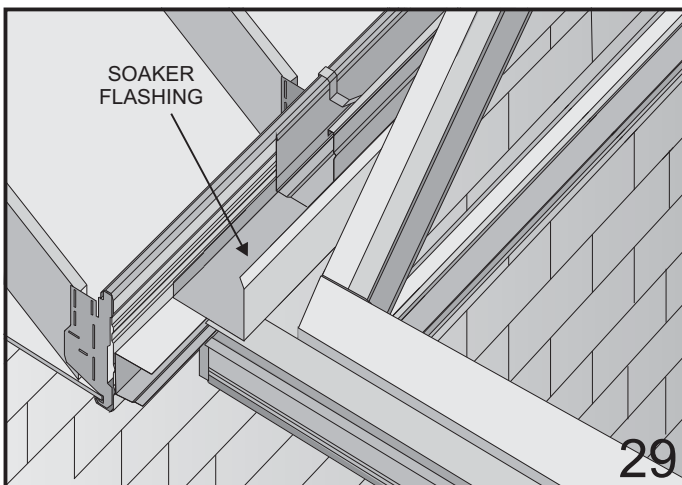
6.2.1 SOAKER FLASHING

In the case of a rear infill panel, a soaker flashing is used to conceal the existing house gutter, waterproof the rear end of the gable and neatly finish the base of the infill panel (Figure 29).

The rear gable frame and header beam are positioned 153 mm from the house fascia in order to accommodate the standard soaker flashing which is optional with the Outback® unit (Figure 30). The frame is fixed on the rear header beam into gable beam brackets as detailed above.

Fix the standard soaker flashing into position on top of the back channel and underneath the gutter. Infill panels must be fixed with split tail soft pull rivets at 500mm centres a minimum of 20 mm above the pan of the soaker flashing. This will reduce the possibility of moisture being absorbed into the sheet.

Refer section 15 for details of fixing infill panels to gable frames.



Note:

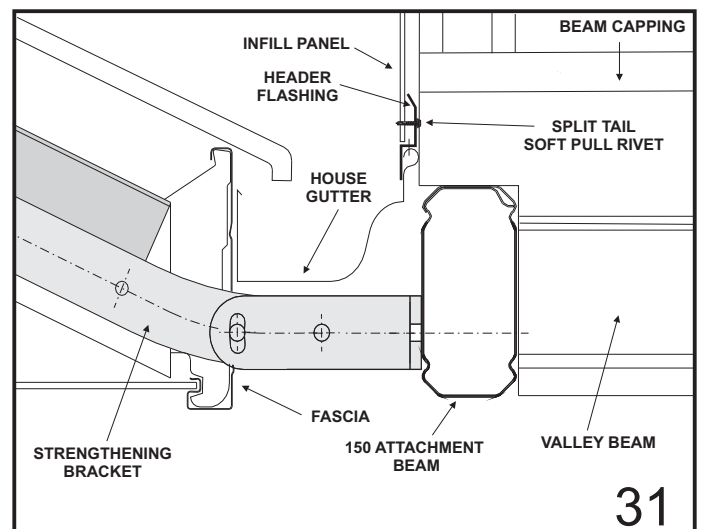
1. If your house gutter is wider than 150 mm a custom made soaker flashing will need to be ordered to the required dimensions. The rafter setback will need to be adjusted to suit.
2. Do not form stop ends at either end of the soaker flashing.
3. Soaker flashing is not to come in contact with the base of the house gutter.

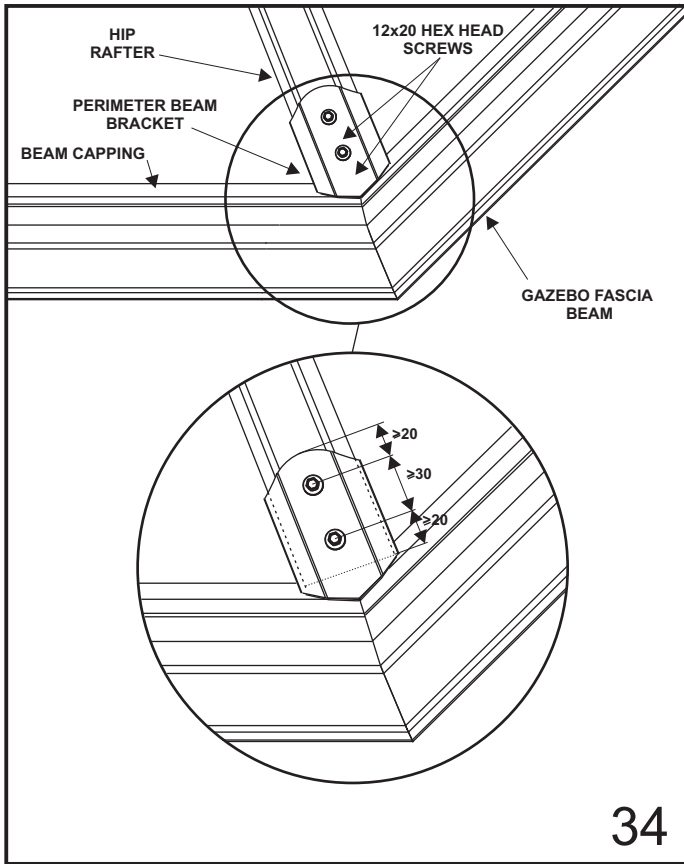
6.2.2 HEADER FLASHING

When a gable is fixed at the rear to an attachment beam, elevated to the existing house gutter height, typically a header flashing is used in conjunction with the rear infill. In this case, the rear attachment beam is considered a header, and along with the rear gable frame is fixed as close as possible (within 5mm) to the existing gutter in order to accommodate the header flashing. The gable frame is fixed on the rear header to gable beam brackets as previously described.

Fix the header flashing into position over the existing gutter lip with rivets. Infill panels are located behind the header flashing and fixed with split tail soft pull rivets at 500mm centres (Figure 31).

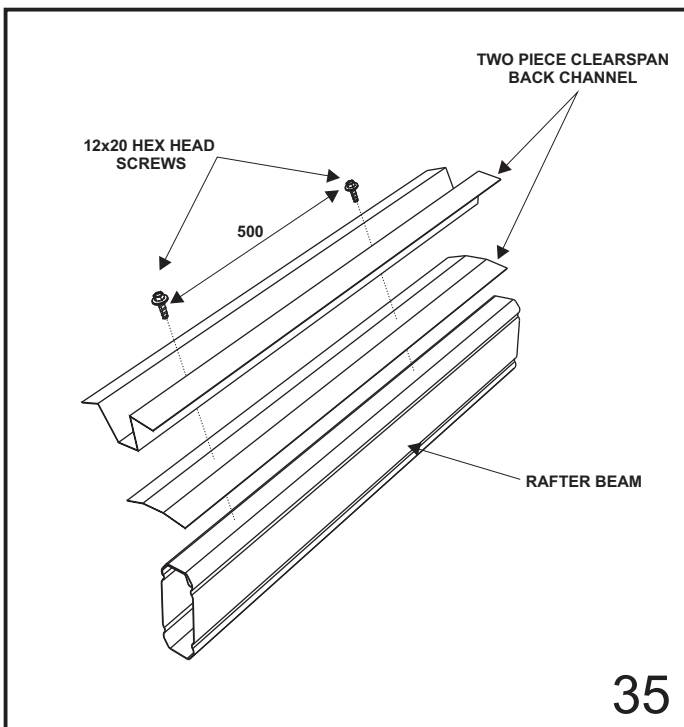
Refer section 15 for details of fixing infill panels to gable frames.





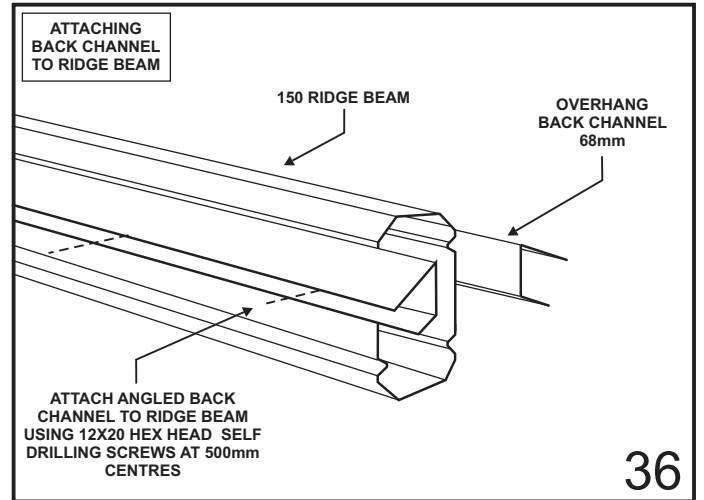
9.0 CLEARSPAN TWO PIECE BACK CHANNEL ASSEMBLY.

A special two piece back channel will be required and is to be located along the hip rafters before the decking is fastened in place. The flashings are screwed to the centre of the hip rafter using 12x20 hex head screws at 500mm centres (Figure 35). The back channel shall run the full length of the hip rafters and should be mitred at the apex for a neat finish. BIP foam is inserted either side of the back channel before decking is fixed in place.

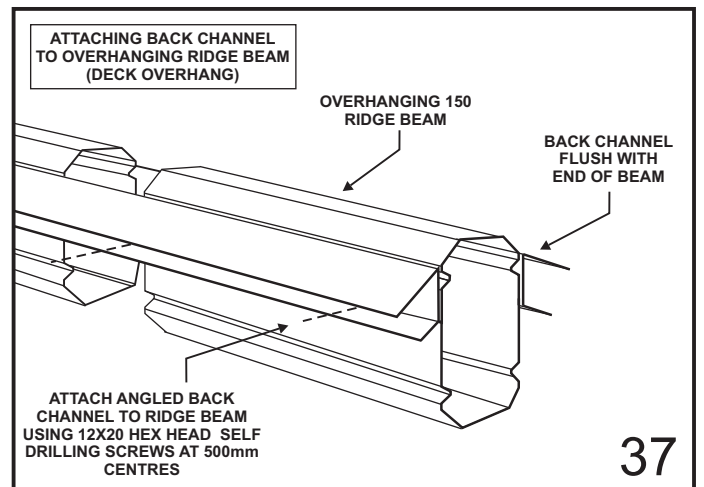


10.0 ASSEMBLING RIDGE BEAM

Assemble ridge beam before attaching to gable frames. Fix angled back channel to both sides of the ridge beam using 12x20 hex head self drilling screws at 500mm centres, ensuring that the top of the back channel is in line with the bottom of the beam chamfer as shown in figure 36. The back channel should run 68mm past the end of the beam at both ends of the ridge beam. If there is no rear portal frame, finish the back channel flush at one end.



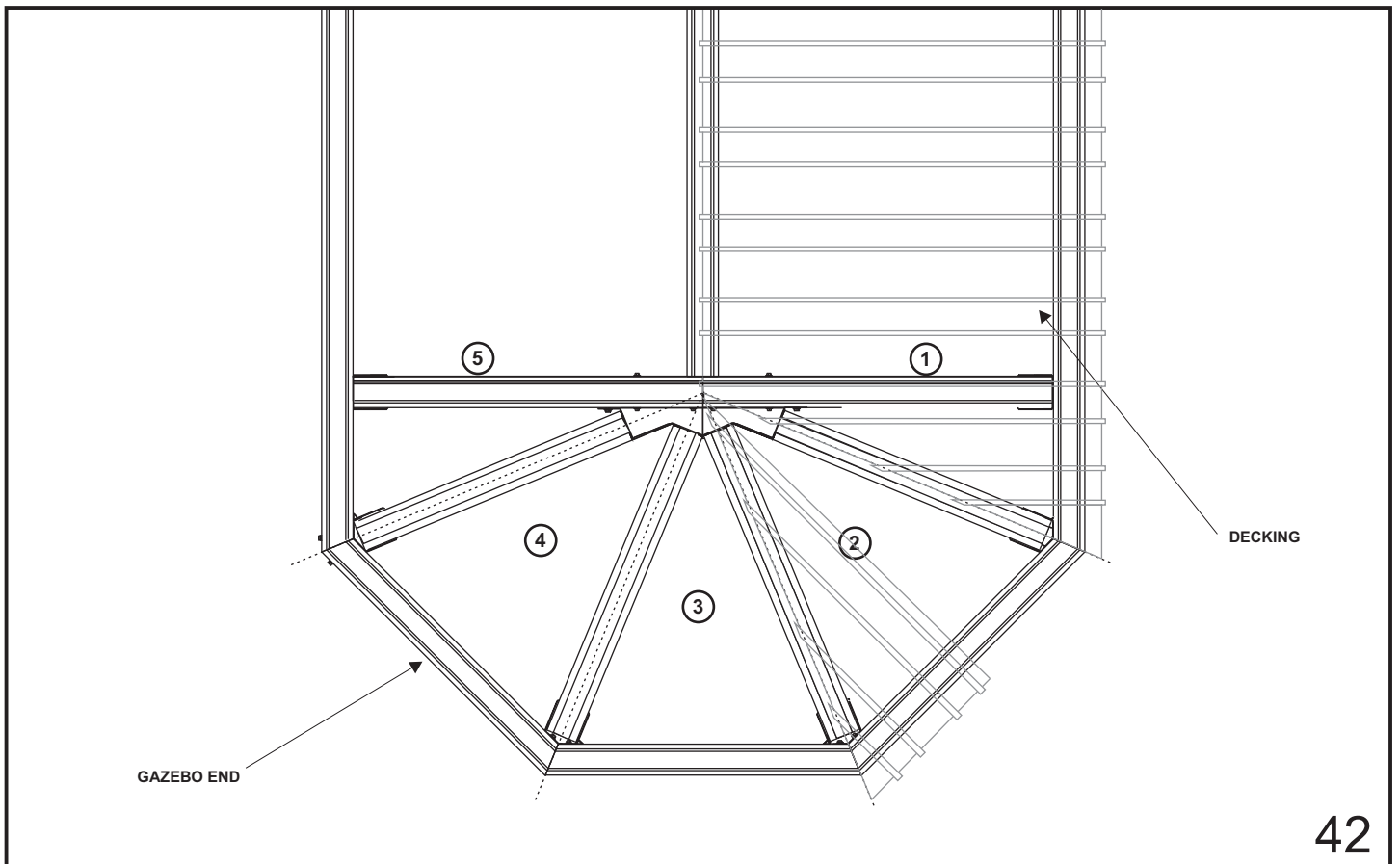
In the case of decking overhanging the gable frame (non-gazebo end), run the angled back channel to the end of the overhanging ridge beam as shown in figure 37. A modified suspension bracket will be required on both sides of the ridge to support overhang.



10.1 ATTACHING RIDGE BEAM

Fix modified suspension bracket at the ridge using four 12 x 20 hex head self drilling screws through the gable frame and into the ridge knuckle.

Position the ridge beam so that the angled back channel rests on the gable frame (Figure 38). Fix to modified suspension bracket using two 12x20 hex head self drilling screws each side.



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13.2 CLEARSPAN GABLE

When attaching the decking to the gable, start from the rear (non gazebo end) on one side of the gable. Fix the deck to the angled backchannel at the ridge, and to the capping at the valley beam.

If the deck of the flat roof section runs perpendicular to the valley beams, align the ribs of the gable decking up with the flat roof section.

Note: If Installing Outback Rooflite, refer to “OUTBACK ROOFLITE INSTALLATION” (‘Outback Flat Attached Verandahs, Patios & Carports’).

13.3 GAZEBO END

At the point when less than one full sheet is required to pass the centreline of the end gable frame on one side, the Outback® decking will need to be cut to suit.

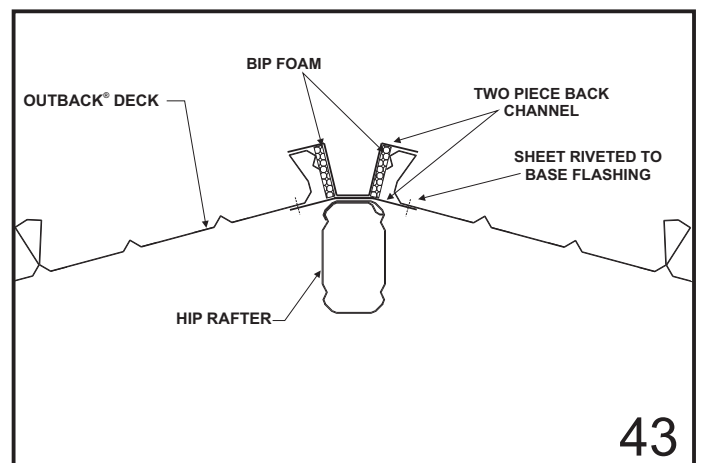
Continue laying deck past the end gable frame (Section 1, Figure 42) and cut the sheeting to fit inside the Clearspan two piece back channel. Cut sheeting to fit sections 2, 3, 4, and 5 and continue back down the side of the Clearspan Gable.

Outback® deck is riveted to the base flashing at 250mm centres (Figure 43).

Note: Sheets are to be taken down from the framework to be cut. It is recommended sheeting is supported in a horizontal plane off the ground at a comfortable height for cutting.

All sheeting which ends at the apex is to be cut to a point so it meets directly above the centre of the end gable frame.

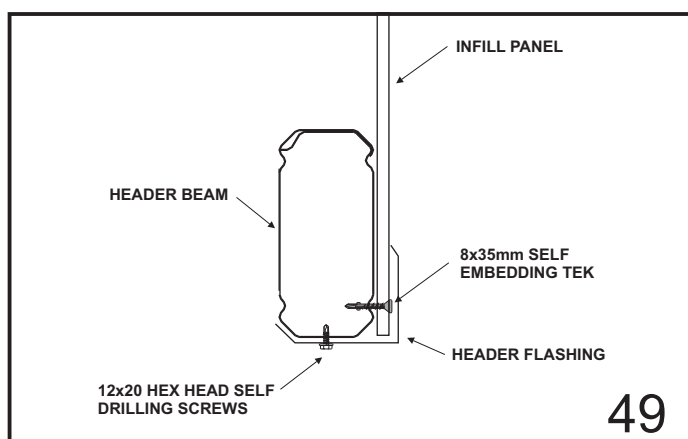
The Outback® decking will need to overhang the beam capping allowing water to flow directly into the gutter (Figure 39).



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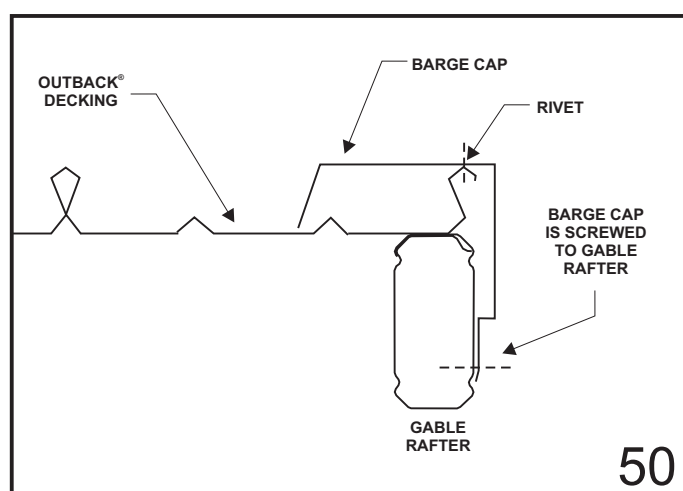
15.2 HEADER BEAM WITHOUT GUTTER

Infill panels are fixed through the top groove of rafters and the lower groove of the header beam with 8x35mm self embedding teks. Fix at 500mm centres in non-cyclonic areas and 250mm centres in cyclonic areas. Panels are fixed to the end strut at the same spacings. Attach the header flashing to the underside of the header beam with 10x16 hex head screws to neatly finish the base of the infill panels (Figure 49).



16.0 ATTACHING BARGE CAPPING

If barge capping is required at the opposite end to the gazebo, attach the barge cap by screwing the lower lip to the rafter and rivet the top section to the deck, as shown in Figure 50. Mitre the barge at the apex of the gable for a neat finish. Run the barge cap along the gable section to where it meets the flat verandah deck and finish neatly.



17.0 HELPFUL TIPS

Leave plastic coating on members until they are about to be fastened to the structure. This will help prevent scratching of the colorbond finish.

Sweep the roof and clean gutters after the completion of work. Ensure any swarf and rivet stubs are removed as they can cause unsightly rust stains.

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.

Double check all measurements and drilling locations before proceeding.

Regularly check framework for squareness and vertical alignment to make sure it hasn't moved during construction.