

# ALLURE™ INSTALLATION GUIDE

ALLURE™ ALUMINIUM LOUVRE-PATIO 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, layout all components and check them against the delivery docket. The parts 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. If a freestanding unit is being installed, the attachment beam becomes the rear fascia beam and is installed as per the details for the front fascia beam. Box gutters and flashings do not need to be pre-fixed until all beams have been erected.

## TOOLS REQUIRED

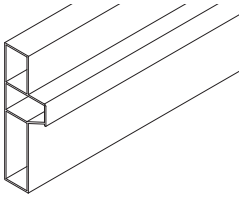
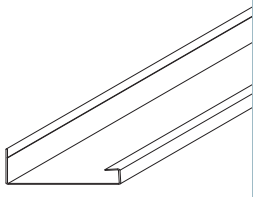
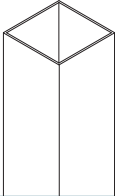
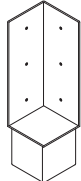
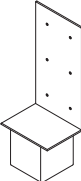
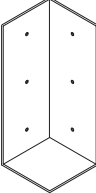
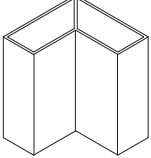
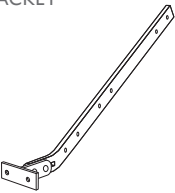
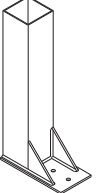
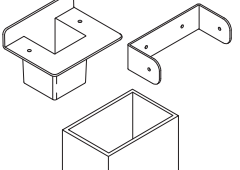
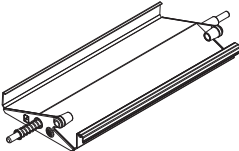
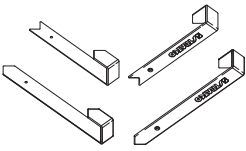
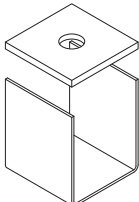
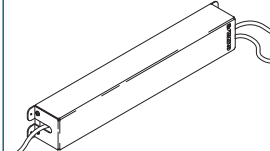
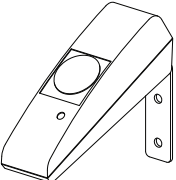
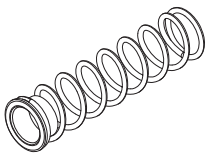
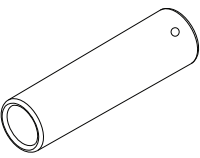
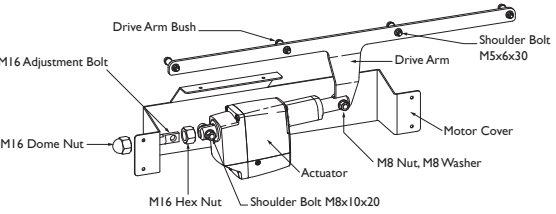
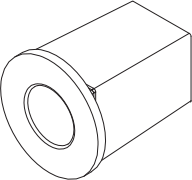
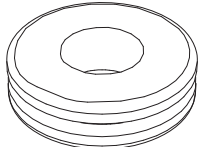
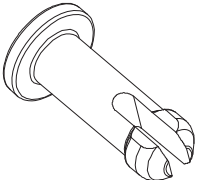
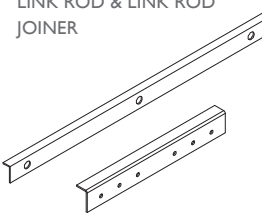
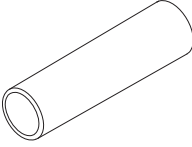
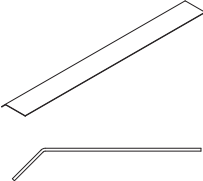
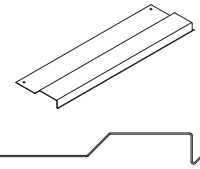
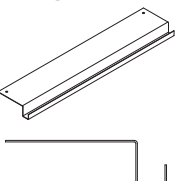
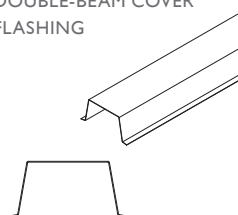
- Drill and Hex-Head Adaptor
- Rivet Gun
- Tape Measure
- Tin Snips
- Spirit Level
- Post Hole Digger
- Silicone Gun
- Spanners or Ratchet
- Adjustable Construction Props
- Concrete
- Ladder
- Vise Grips
- Countersinking Drill Bit
- Phillips-Head Screwdriver
- Hole-Saws (ø13mm & ø16mm)

**Note:** All screws within the unit must be fastened by hand using a screw-driver, or a low-torque, low-speed drill.

Using a powered tool may result in screw heads shearing from the shank. If screw heads shear from shank it is recommended that a Screw Extractor kit is used to remove the screw.

**Note:** Allure components are designed for 1° fall to accommodate the minimum required louvre fall and Allure construction should allow for this. A minimum 1:200 fall shall be maintained during construction for gutter fall toward downpipes when this is perpendicular to louvre direction.

# COMPONENTS

<p>ALLURE BEAM</p> 	<p>GUTTER</p> 	<p>100x100 POST</p> 	<p>POST-BEAM CORNER BRACKET</p> 	<p>POST-BEAM INLINE BRACKET</p> 
<p>CORNER JOINER</p> 	<p>CORNER KNUCKLE</p> 	<p>RAFTER STRENGTHENING BRACKET</p> 	<p>FLYOVER BRACKET</p> 	<p>DOWNPIPE, STRAP &amp; OUTLET</p> 
<p>LOUVRE ASSEMBLY</p> 	<p>GUTTER MITRE STRAPS</p> 	<p>POST SHOE</p> 	<p>ELECTRONIC CONTROL BOX</p> 	<p>RAIN SENSOR</p> 
<p>SPRING WITH SPRING BUSH</p> 	<p>SPACER</p> 	<p>ACTUATOR DRIVE ASSEMBLY</p>  <p>Labels: Drive Arm Bush, M16 Adjustment Bolt, M16 Dome Nut, M16 Hex Nut, Drive Arm, Motor Cover, Actuator, M8 Nut, M8 Washer, Shoulder Bolt M5x6x30, Shoulder Bolt M8x10x20</p>		
<p>MOUNTING BUSH</p> 	<p>CABLE GROMMETS</p> 	<p>LINK PINS</p> 	<p>LINK ROD &amp; LINK ROD JOINER</p> 	<p>ALLURE BEAM SPACER</p> 
<p>LINK ROD FLASHING</p> 	<p>CLOSING-UP COVER FLASHING</p> 	<p>CLOSING-DOWN COVER FLASHING</p> 	<p>DOUBLE-BEAM COVER FLASHING</p> 	

## COMPONENT LAYOUT

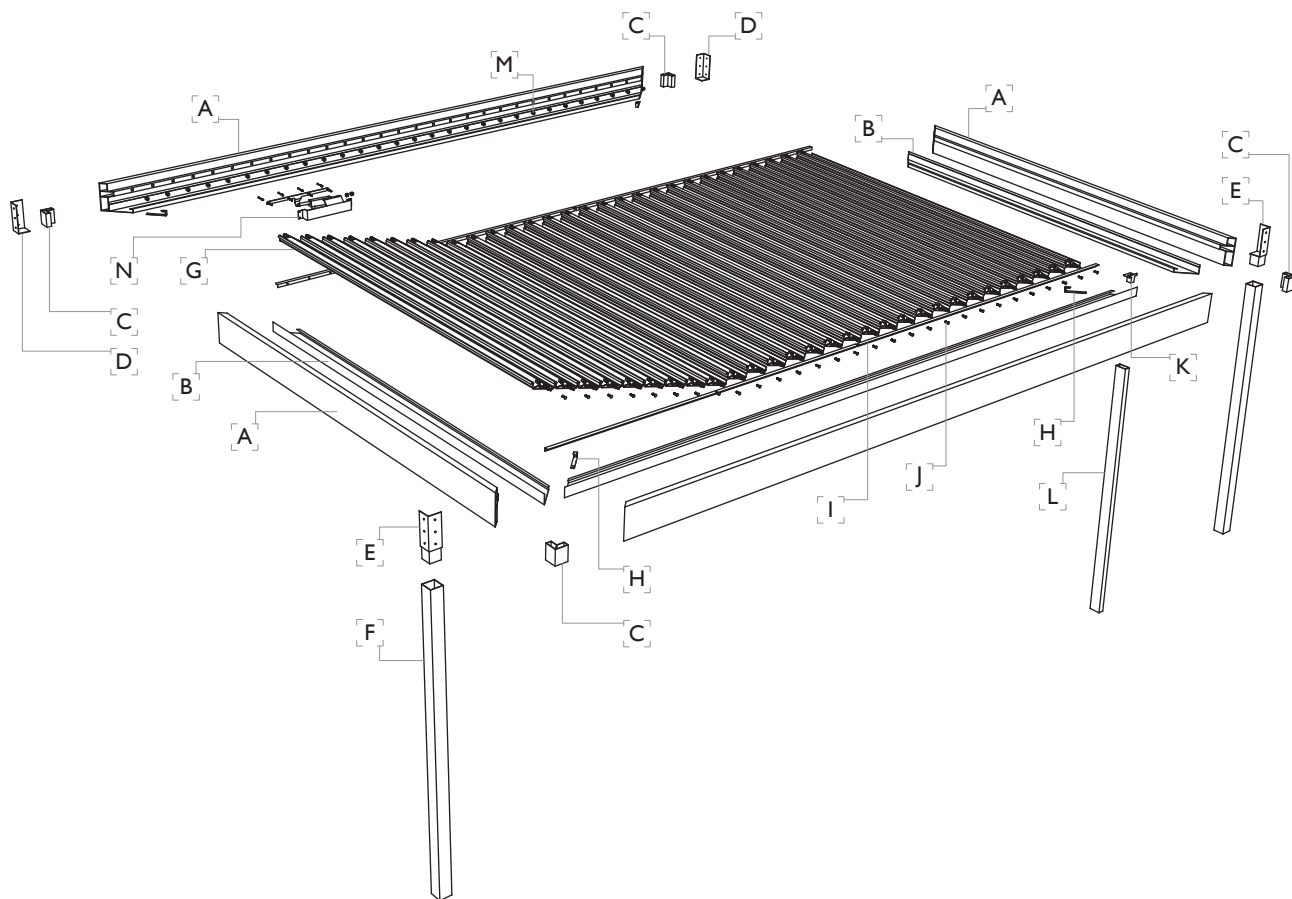


Figure I.0

### COMPONENT LIST

- A. Allure Beam
- B. Gutter
- C. Corner Knuckle
- D. Corner Joiner
- E. Corner Post-Beam Bracket
- F. Post
- G. Louvre Assembly
- H. Gutter Strap
- I. Link Rod
- J. Link Pin
- K. Downpipe Outlet
- L. Downpipe
- M. Mounting Bush
- N. Actuator Drive Assembly
- O. Remote Control
- P. Electronic Control Box
- Q. Actuator

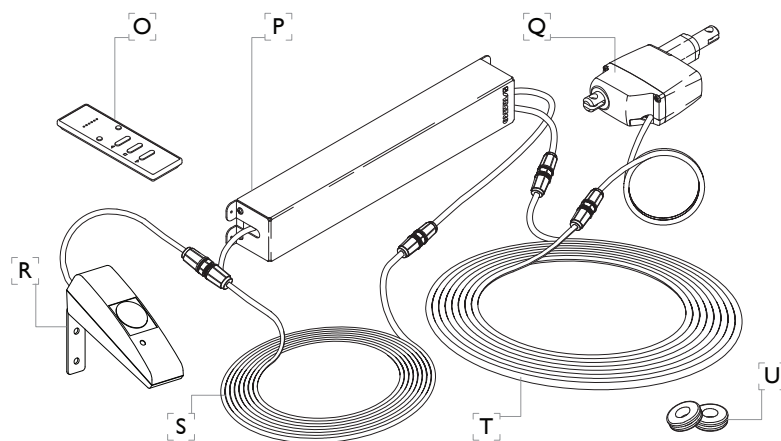


Figure I.1

- R. Rain Sensor
- S. Rain Sensor Cable
- T. Actuator Cable
- U. Cable Grommets

### ADDITIONAL ITEMS

Please note that your Stratco Allure kit does not include any brackets or 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.

# ATTACHING TO AN EXISTING STRUCTURE

The builder or council is to ensure the existing house or 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 Allure Louvre Patio, consult a structural engineer or a building authority. It is the builder's responsibility to ensure that the existing house roof structure is strengthened correctly.

## Rafter Strengthening & Fixing

Determine the number of rafters that 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 to be strengthened is determined by the builder.

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

## Fixing Rafter Strengthening Brackets

The adjustable rafter strengthening bracket allows for an adjustment of pitch in the range of 15 to 30 degrees. The distance the bracket extends past the fascia is also adjustable to allow for standard gutters with a width of up to 200mm.

Initially the bracket T piece should be fixed to the bracket arm with two M12 cup head bolts (hand tighten only). A spring washer is to be located between the standard M12 washer and nut (Figure 1.0). Mark the position of the bracket on the fascia and notch a rectangular hole in the fascia allowing the bracket to be fed through the front of the fascia. The hole may need to be enlarged slightly if the M12 cup head bolts interfere with the fascia.

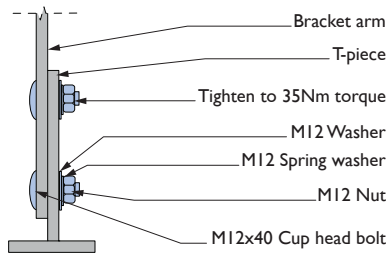


Figure 1.0

Insert the bracket through the fascia and fix to the house rafter using M12 hex head bolts through the existing holes in the bracket. Adjust the T piece so it is horizontal and has the appropriate extension past the fascia to allow for fixing of the attachment beam. Tighten the T piece connection bolts to a minimum of 35Nm torque. Fix the bracket as close to the base of the gutter as possible. The recommended distance is 10mm from the lowest end of the gutter (Figure 1.1).

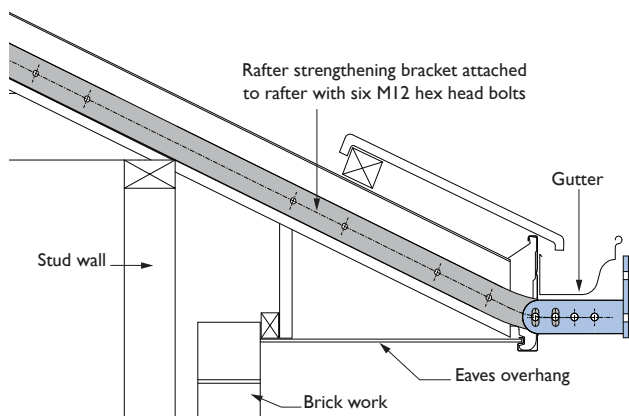


Figure 1.1

Fasten the Allure attachment beam to the rafter strengthening brackets through each hole in the attachment plate. Fix using M12 bolts, washers, & spacers as per 'Fascia Beam Attachment' details on page 5.

## Wall Attachment

When a unit is attached directly to a wall the attachment beam must be fixed to the wall using M10 Masonry anchors. Fasteners should be spaced at a maximum of 500mm centres along the beam with a  $\phi 16\text{mm}$  pilot hole created through the internal face of the beam, and a  $\phi 12\text{mm}$  pilot hole through the external face (Figure 1.2).

**Note:** The attachment beam gutter must be fixed prior to erecting the attachment beam. See 'Beam Preparation' for instructions.

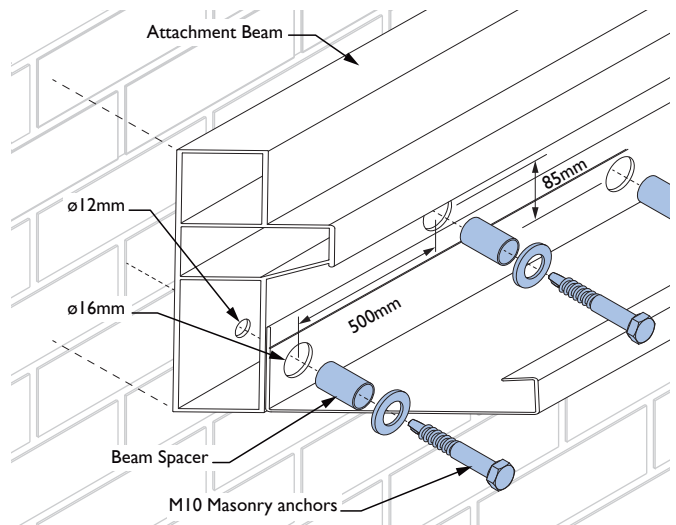


Figure 1.2

Every second fastener must be staggered at a vertical difference of approximately 85mm, ensuring that each fastener is located centrally within runs of bricks (Figure 1.3). Spacers must also be used with each masonry anchor (Figure 1.3).

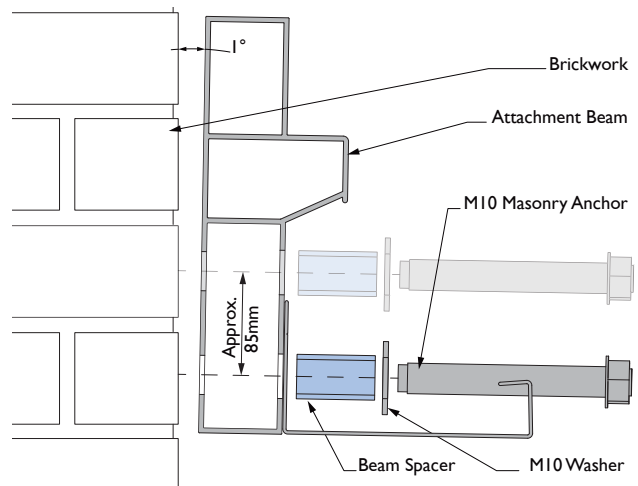


Figure 1.3

## Flyover Attachment

The supplied Flyover Brackets must be secured to the structure atop the top plate and against the rafter. Fix the Flyover Bracket to the top plate using two (2) M10 coach screws a minimum 38mm into the top plate (Figure 1.4). The Flyover Bracket can then be secured to the rafter using a single M12 bolt & lock nut through the centre of the rafter (Figure 1.4).  $\phi 14\text{mm}$  pilot holes will need to be created through the Flyover Bracket and rafter to accommodate the bolt.

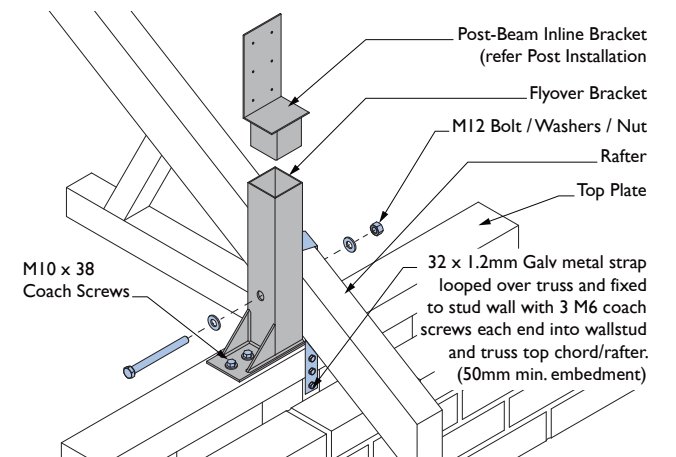


Figure 1.4

## FRAMEWORK ASSEMBLY

**Note:** Please ensure to follow the site plans supplied to ensure the mounting beams are installed in the correct orientation. The Datum end of beams will be identifiable by measuring the first mounting hole centre 270mm in from the end of the beam (Figure 2.0 & Figure 2.1).

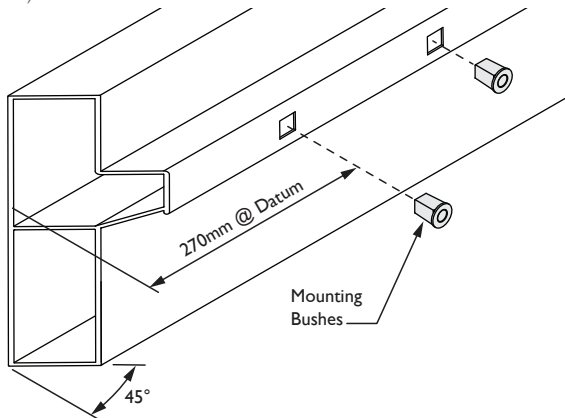


Figure 2.0

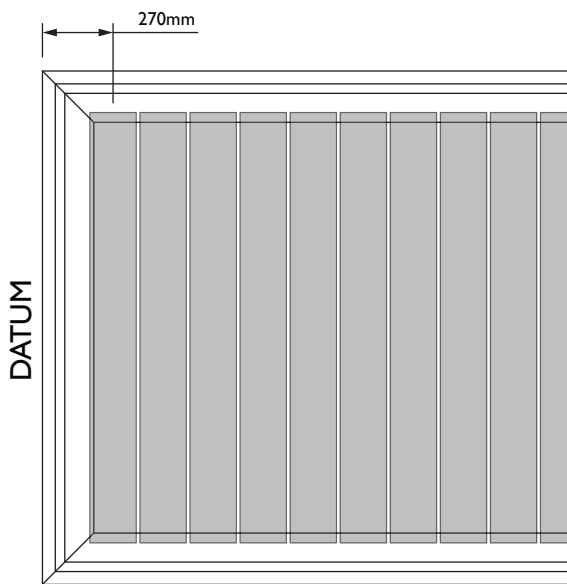


Figure 2.1

### Beam Preparation

The framework must be assembled out from the fascia beam already fixed to the structure. If the unit is Freestanding the beams must be propped with two posts secured as per the section 'Post Installation'.

Internal box gutters will sit inside the assembled framework with the bottom face of the gutters flush with the bottom face of the beams (Figure 2.2). Gutters will be supplied already mitred to suit the frame size. Gutters must be fixed to each beam before the framework can be erected.

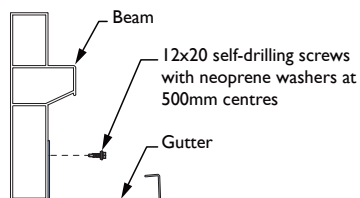


Figure 2.2

Before installing the gutters the downpipe outlet location(s) must be determined. A rectangular 45x45mm cut-out must be created on the header-beam gutter (Figure 2.3). Make sure the cut-out is aligned with the rear internal face of the gutter.

Begin gutter installation by placing & clamping a length of the pre-mitred gutter against the corresponding beam. Secure the gutter to the framework using 12x20 Self-Drilling screws with Neoprene washers at 500mm centres (Figure 2.4). The end fixings must be at least 100mm in from each end. All gutter end mitres should be flush with the beam mitres.

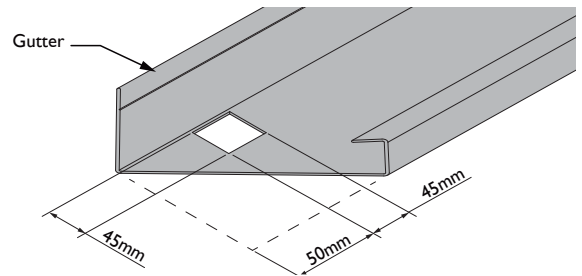


Figure 2.3

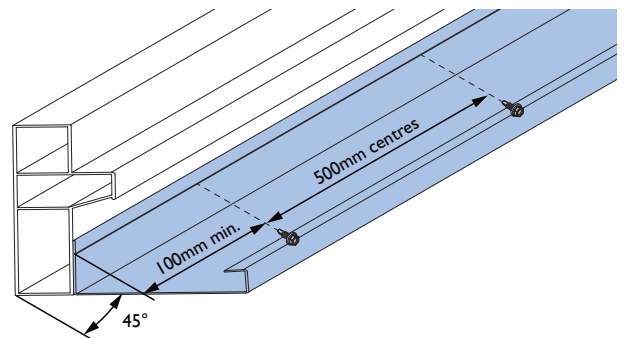


Figure 2.4

Continue installing the remaining gutters using the same method. Insert the Downpipe Outlet(s) within the pre-cut holes and secure using two 3.2mm rivets (Figure 2.5). Seal around the outlet with silicone as required.

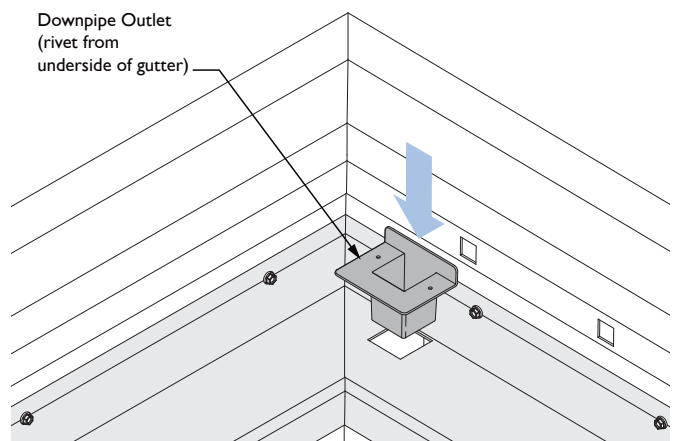


Figure 2.5

At each Beam-to-Beam join a Corner Knuckle must be internally fitted (Figure 2.6).

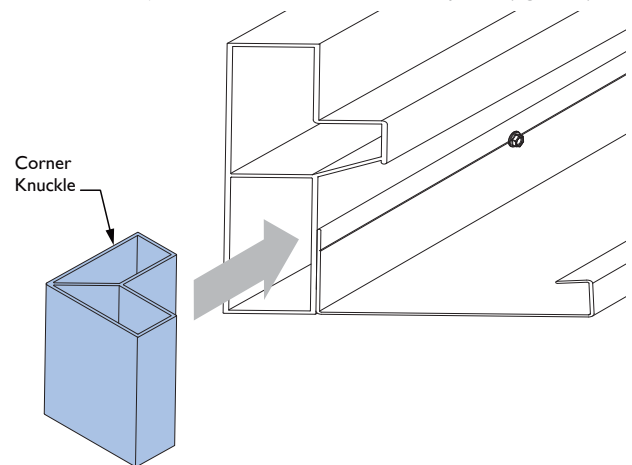


Figure 2.6

Create  $\varnothing 3.2\text{mm}$  pilot holes with countersinks and fix the Corner Knuckle through the external face of the Fascia beam using two 10x30mm stainless steel countersunk self-tapping screws (Figure 2.7). Countersinks should have an outside diameter of approximately 8mm to allow the screw head to sit flush.



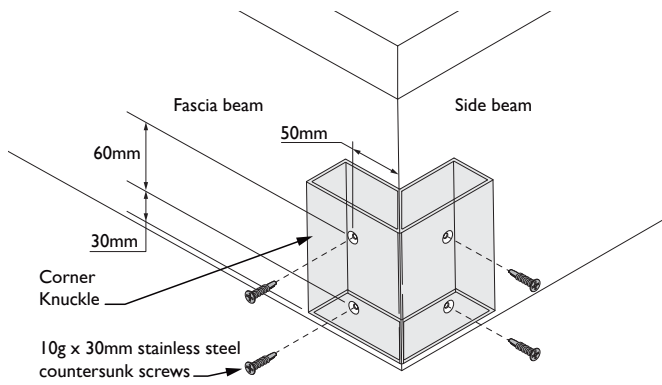


Figure 2.7

### Fascia Beam Attachment

For units attached at the eaves, the Fascia beam is secured to the structure using Eaves Fixing Brackets. Fix through the Eaves Fixing Brackets to the fascia beam using four M12 bolts with spacers and washers (Figure 2.8).

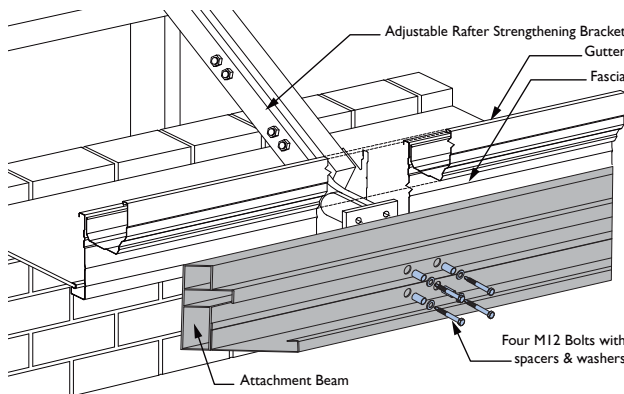


Figure 2.8

### Side Beam Installation

The Side Beams must be propped in position at the required fall of 1° and over the pre-installed Fascia Beam Corner Knuckle (Figure 2.9).

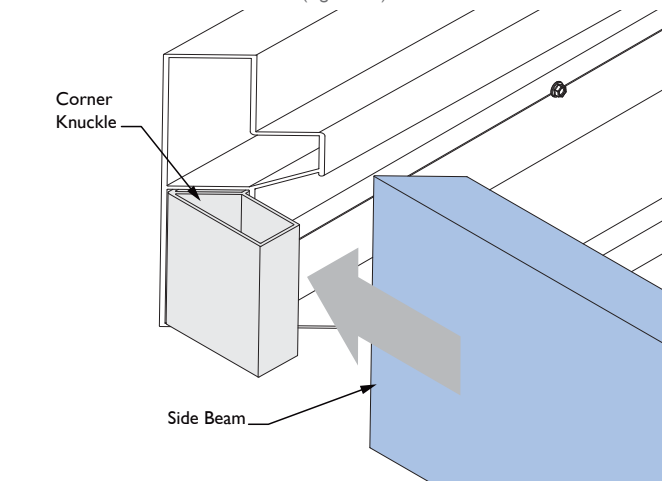


Figure 2.9

With the corner mitres aligned,  $\varnothing 3.2\text{mm}$  pilot holes must be drilled through the Side Beams and the Corner Knuckles as per 'Beam Preparation'. The pilot holes must also be countersunk. Fasten the Side Beam to the Corner Knuckle using the 10g x 30mm stainless steel countersunk self-tapping screws provided (Figure 2.7).

**Note:** All screws within the unit must be fastened by hand using a screw-driver, or a low-torque, low-speed drill.

Fascia Beam to Side Beam connections also require additional fastening using external Corner Joiners. Corner Joiners must be fixed to the Fascia and Side Beams using 10g x 30mm stainless steel countersunk self-tapping screws (Figure 2.10).

Once Side beams are attached the remaining Header Beam must be fixed using Corner Knuckles as described in the previous paragraphs (Figure 2.11).

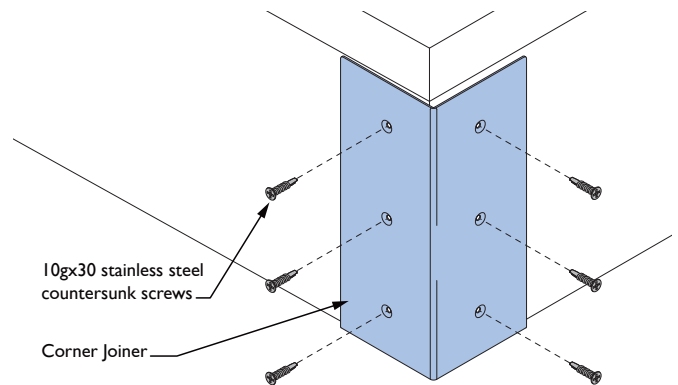


Figure 2.10

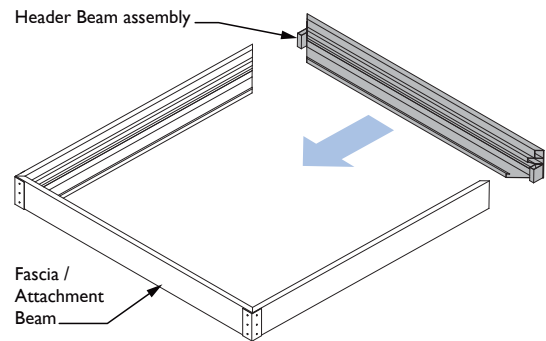


Figure 2.11

### Gutter Straps

When the entire framework is erected each gutter mitre at corners can be concealed using the Gutter Straps provided. Gutter Strap variations will be provided for corners with posts (notched straps) and corners without (full-length straps). Slide the Gutter Straps over the Mitres and drill a  $\varnothing 3.2\text{mm}$  pilot hole through the gutter. Fix the Gutter strap to the Gutters using a 3.2mm rivet (Figure 2.12). If the rivet does not grip to the gutters, a  $\varnothing 3\text{mm}$  washer may be required to sit inside the gutters to assist in fixing. Internally seal each gutter mitre with silicone as required.

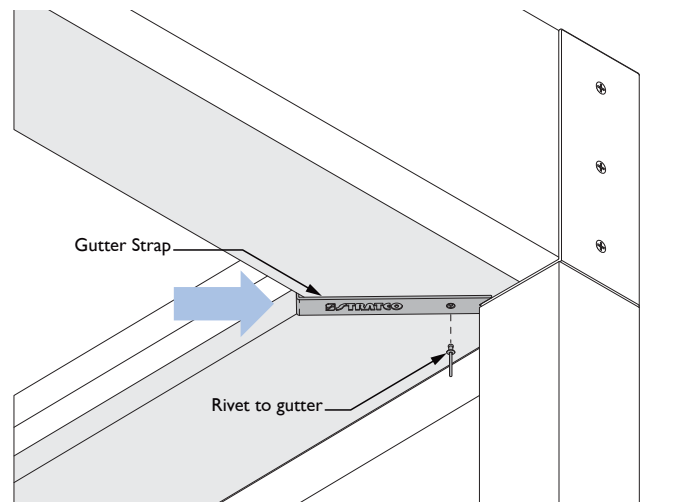


Figure 2.12

In the downpipe corner Gutter Straps will interfere with the downpipe. The interfering gutter strap will need to be notched on-site to allow clearances. An angle grinder can be used to trim the Gutter Strap to suit.

### Multiple-Bank Frame Installation

In some instances a unit will feature multiple louvre banks. When this occurs separate back-to-back banks are used with the banks fastened to one another. Louvres may run parallel or perpendicular to the back-to-back beams.

When multiple banks are required all beams will be pre-mitred to facilitate installation before going to site.

Where banks are adjacent to one another the back-to-back beams are fixed together using 10g x 30mm stainless steel countersunk self-tapping screws at a maximum spacing of 600mm centres (Figure 2.13).

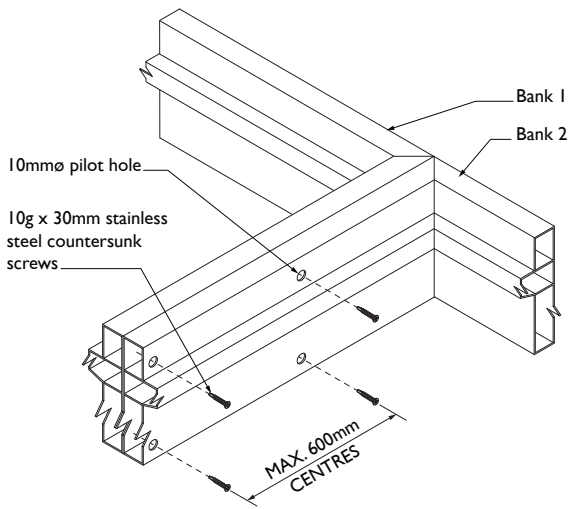


Figure 2.13

A  $\varnothing 10\text{mm}$  pilot hole must be made to allow fastening through the back-to-back wall sections. These pilot holes are sealed with a cover flashing (see 'Installing Cover Flashings').

## POST INSTALLATION

100x100 SHS Posts are used to support the Allure framework. Once the framework is assembled and set at the correct pitch, the post height measurements must be taken. Posts sit beneath the beams and can either be fixed into concrete footings or onto concrete. Refer 'Footing Installation' for further details regarding Post fixing (see below). Posts must be cut to the length determined from the framework height measurements (refer 'Footing Installation').

Post-to-Beam Brackets must be fitted at the top of each post. Corner and Inline Post-to-Beam brackets are supplied as determined by the design of the unit. Sit the Post-to-Beam Bracket within the Post and drill  $\varnothing 3.5\text{mm}$  pilot holes centralised and 25mm & 65mm down from the top of the Post on two opposing faces (Figure 3.0). These holes must also be countersunk. Countersinks should have an outside diameter of approximately 8mm to allow the screw head to sit flush.

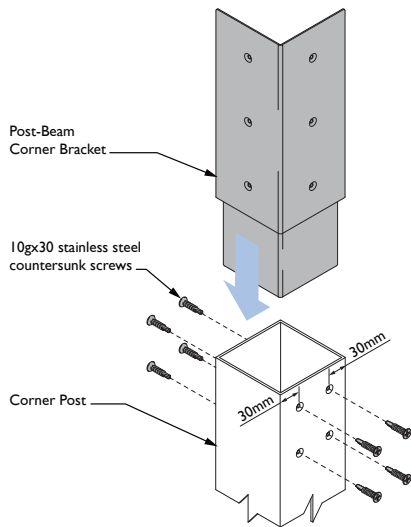


Figure 3.0

**Note:** All screws within the unit must be fastened by hand using a screw-driver, or a low-torque, low-speed drill.

A post is connected using Inline Post-to-Beam brackets along the header beam where back-to-back banks meet (Figure 2.14).

See 'Post Installation' for further post fixing details.

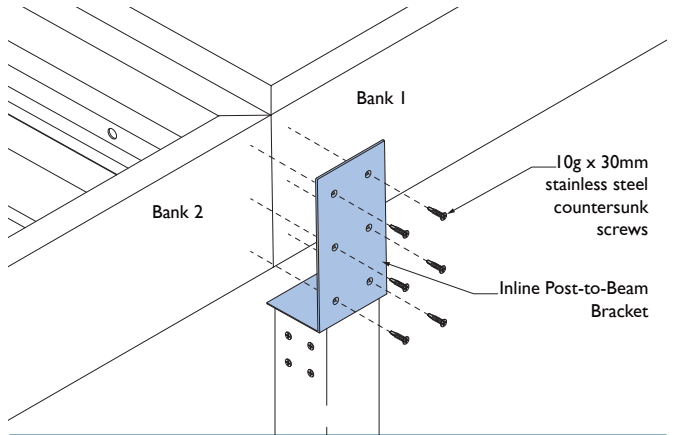


Figure 2.14

Fix the Post-to-Beam Bracket to the post using 10gx30mm stainless steel countersunk self-tapping screws (Figure 3.0).

**Note:** All screws within the unit must be fastened by hand using a screw-driver, or a low-torque, low-speed drill.

Position posts at the required location beneath beams. Before fixing the Post-to-Beam Brackets to the Framework the Posts must be measured plumb using a spirit level.

Drill pilot holes through to the Beam as per the locations determined on the Post-to-Beam Bracket saddle. Fix the Post-to-Beam bracket to the Beam(s) using 10gx30mm stainless steel countersunk self-tapping screws (Figure 3.1).

**Note:** All screws within the unit must be fastened by hand using a screw-driver, or a low-torque, low-speed drill.

Inline Post-Beam bracket connections are fixed using the same process.

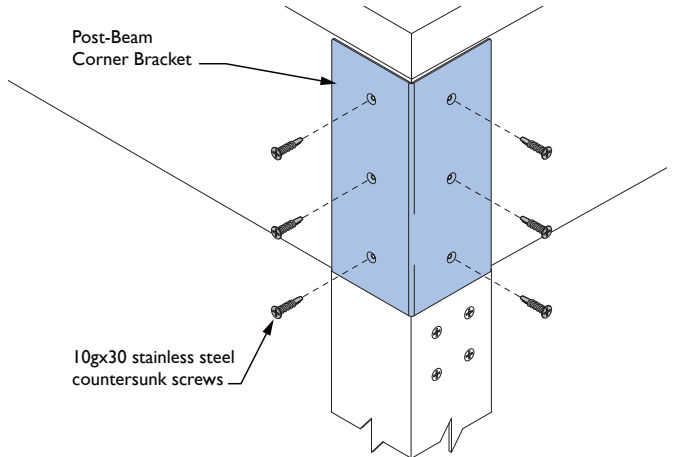


Figure 3.1

## FOOTING INSTALLATION

### Into Concrete Footings

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. Any area of the posts in contact with the concrete must be coated with Duramax General Purpose Epoxy (or an equivalent).

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

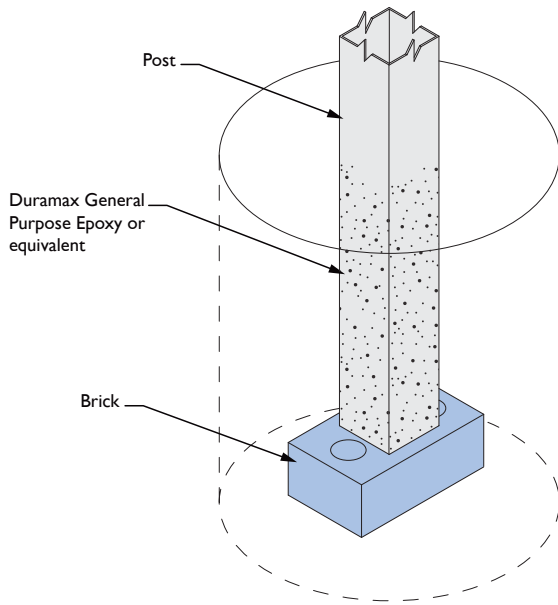


Figure 4.0

### Onto Concrete Footings

Where posts are fixed onto concrete a Post Shoe will be used.

Fix the Post Shoe to concrete using one M12x120mm Anchor Bolt in conjunction with a 50x50x6.0mm washer plate (Figure 4.1). Fasten the post to the Post Shoe with four 10gx30mm stainless steel countersunk self-tapping screws on either side (Figure 4.1). Ensure screws are 30mm in from the Post edges. Countersinks should have an outside diameter of approximately 8mm to allow the screw head to sit flush.

**Note:** All screws within the unit must be fastened by hand using a screw-driver, or a low-torque, low-speed drill.

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

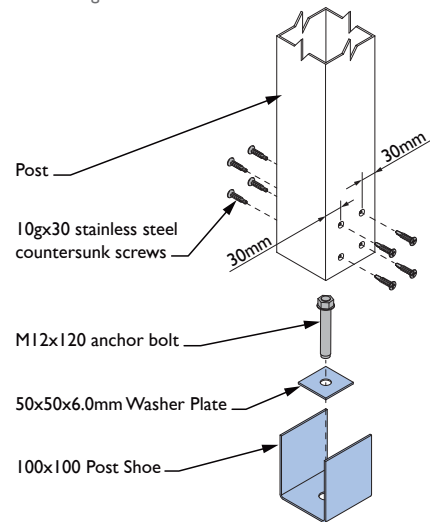


Figure 4.1

## DOWNPIPE INSTALLATION

100x50mm downpipes must be installed beneath each downpipe outlet. Downpipes will run in-line with unit posts.

Fix the downpipe strap to the post using the rivets provided (Figure 5.0).

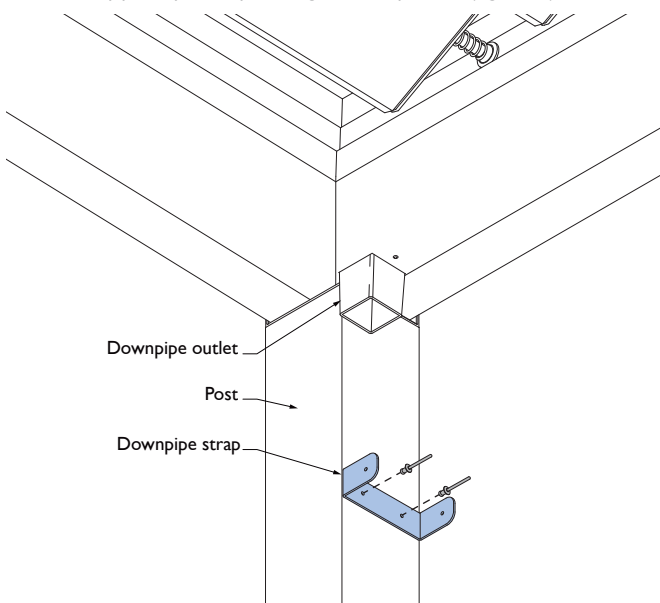


Figure 5.0

Slide the downpipe up and around the downpipe outlet (Figure 5.1). Secure 100x50mm downpipe to the downpipe strap using rivets.

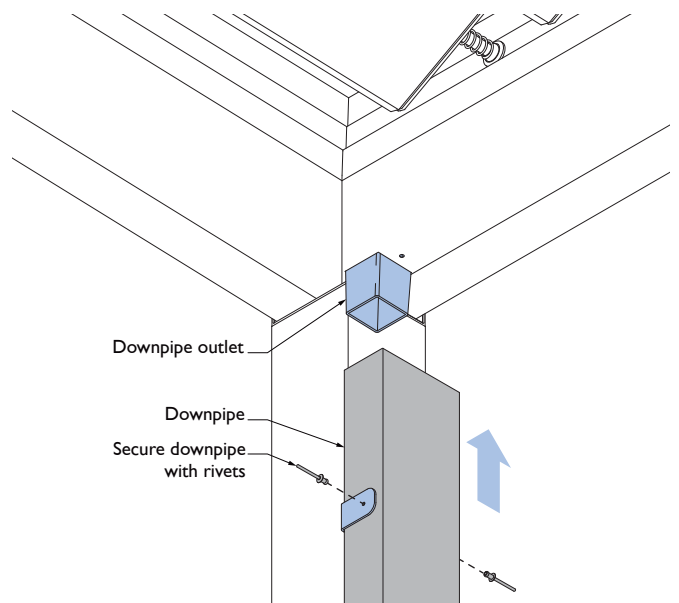


Figure 5.1



# SUNROOF INSTALLATION

## LOUVRE INSTALLATION

Louvre Mounting Bushes must be fitted to the mounting beams prior to louvre installation (Figure 2.0).

Determine the correct orientation for each louvre and prepare the ends accordingly. Slide a spring bush into the end of each spring and thread over the end cap shaft.

Louvre orientation can be determined from the Allure plans provided.

At the opposite end of the louvre, slide a plastic spacer over the end cap shaft (use the mark on the spacer to orientate it correctly) (Figure 6.0).

Please note that the actuator will always need to be located at the same end as the spacers.

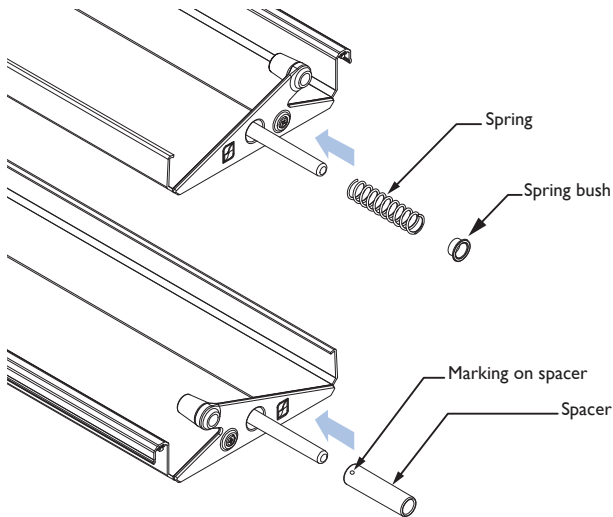


Figure 6.0

Install the first louvre by lifting it up and over the beam at the spacer end. Insert the other end (spring end) into the first hole and compress the spring completely (Figure 6.1). Lower the spacer end and slot it into the aligning hole (Figure 6.1).

## ELECTRONIC CONTROL BOX

The control box must be installed in a position that is protected from direct weather and sharp objects. The control box must not be installed within two metres of a large air-conditioning unit or large sources of electrical noise. A suitable location may be to mount the box against an exterior wall directly under the eaves. Alternatively, the box could be located within the unit box gutter, alongside the actuator (see "Install Actuator Cover").

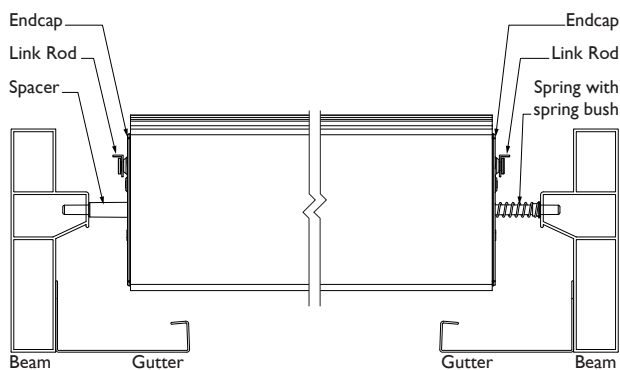


Figure 6.1

Fix the control box through the four pilot holes on the cover box (Figure 6.2). If fixing to an adjacent structure use fasteners suited to the material being fixed to. If fastening within the box gutter use four 12x20 mm self-drilling screws.

A standard single mains power point is required to be located directly next to the control box (within 1800 mm).

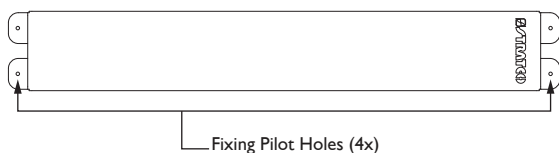


Figure 6.2

Lay the main cable on the ground from the control box position to the motor position to ensure there is enough overall cable length. The kit has been supplied with a 6m connection cable for both the actuator and rain sensor. If additional cable is required, an extension cable can be purchased and used for up to 18m in length.

## ASSEMBLE ACTUATOR COMPONENTS

Pre-assemble the actuator components at ground level. Attach the drive arm to the actuator with an M8x10x20 shoulder bolt and secure with an M8 washer and lock-nut (Figure 6.3). Please note that the drive arm should be orientated so the square edge (with 90° angle) is facing the actuator.

**Note:** Sunroof systems will always operate with the actuator pulling the louvres open. The location of the actuator in relation to the opening direction of the louvres will dictate whether a Type-A or Type-B actuator kit is provided.

The appropriate orientation has been determined by Stratco, based on the opening direction of the louvres relative to the intended motor location.

Attach the adjustment bolt to the other end of the actuator with an M8x10x20 shoulder bolt (Figure 6.3). Secure with an M8 washer and lock-nut (do not over tighten the lock nut). Ensure the flat surface on the adjustment bolt faces up.

Thread the M16 nut on to the end of the adjustment bolt so the nut is approximately 20mm in from the end of the adjustment bolt (Figure 6.3).

Insert the adjustment bolt through the circular cut out located in the side of the actuator cover, and secure the cover with the M16 dome nut (Figure 6.4).

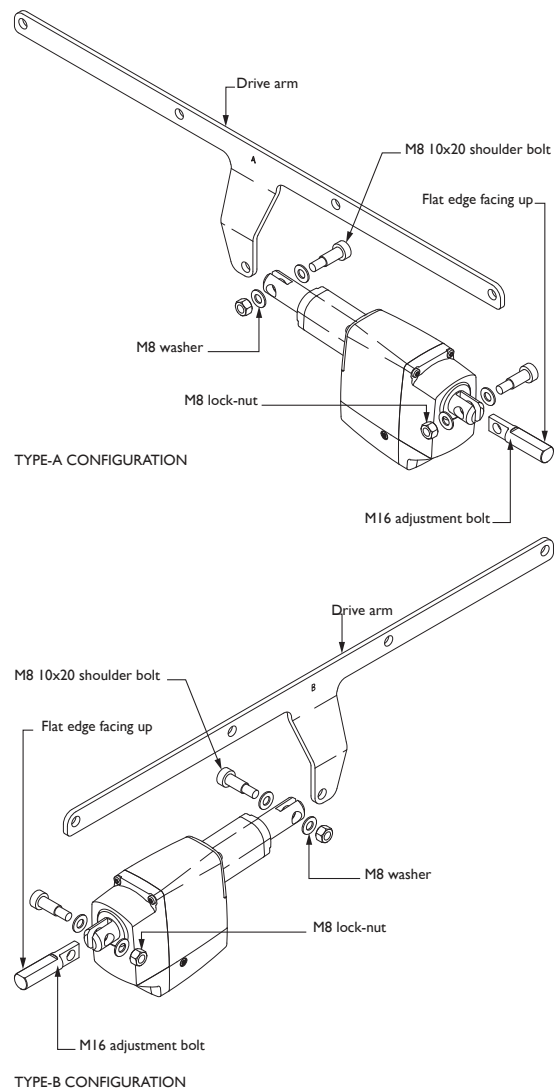
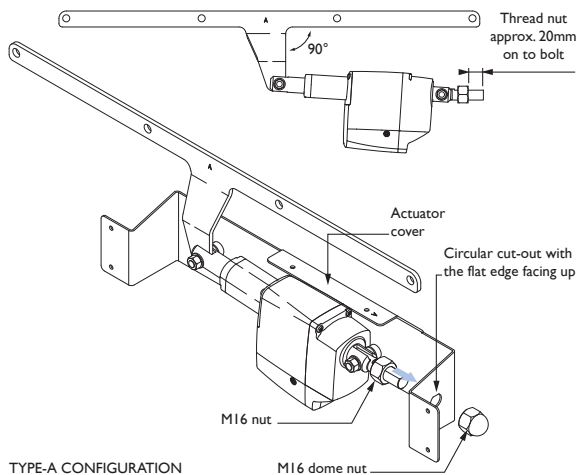
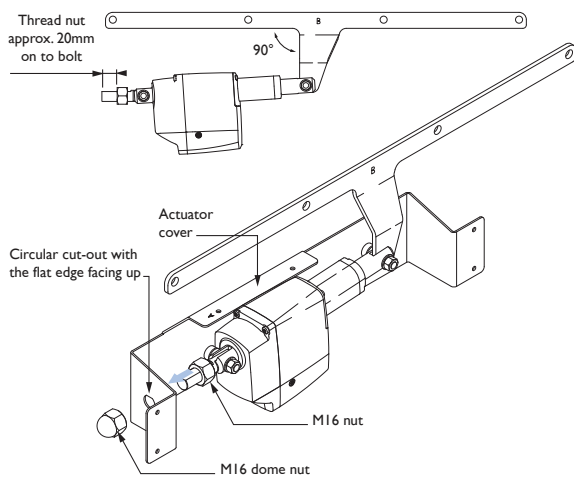


Figure 6.3



TYPE-A CONFIGURATION



TYPE-B CONFIGURATION

Figure 6.4

The actuator and cover are now ready to be fixed to the mounting extrusion.

## INSTALL ACTUATOR AND COVER

Position the cover so the top lip hangs over the top of the internal ledge of the Beam (Figure 6.5). The lip should be located centrally between the mounting bushes.

**Note:** The actuator can be located anywhere along the mounting extrusion, however, it must be at least two louvres in from the ends and three louvres either side of a joint in the link rods.

Screw the top lip of the cover to the mounting extrusion with two 12x20 Self-Drilling screws with Neoprene washers. Screw the front face of the cover to the mounting extrusion with four 12x20 Self-Drilling screws with Neoprene washers (Figure 6.5).

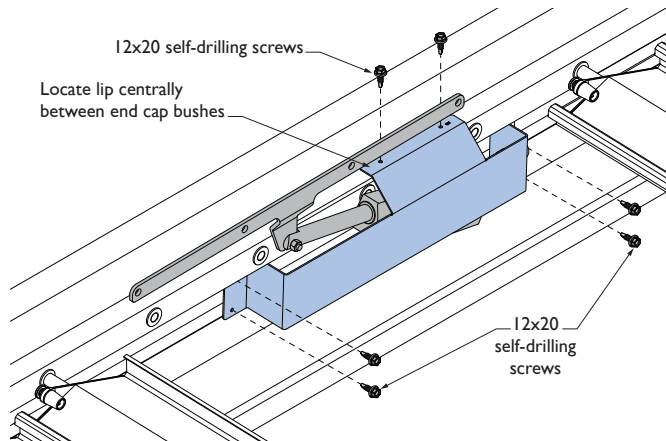


Figure 6.5

## PREPARING LINK RODS

Lay the link rods on the ground, taking care not to bend them. The short angle should be facing upwards. Determine where the link rod needs to be cut by counting the number of holes required for the louvres. If the louvre bank is longer than 3m (14 louvres) a second link rod will be required to make up the extra length. Mark and cut the link rod, allowing 50mm overhang past the final hole (Figure 6.6).

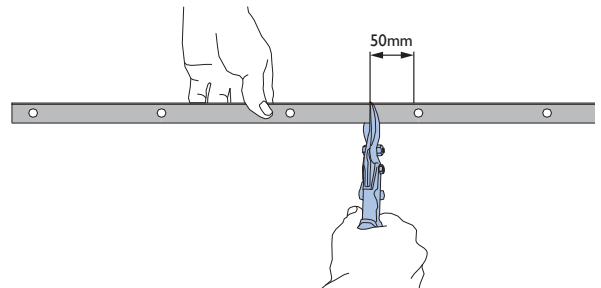


Figure 6.6

If two link rods are required, for louvre banks over 3m (14 louvres), the link rods will need to be joined using a Link rod joiner. Make sure to join the link rods at the uncut ends. Rivet the link rod joiner to the link rod, through the 6 pre-drilled holes on the joiner.

Lift the link rods up and rest them along the mounting extrusion. Keep the rods straight at all times when handling.

## INSTALL LINK PINS

Connect both link rods, located at each end of the louvres, by pushing a link pin through the appropriate hole in the link rod, and into the end cap (Figure 6.7). The link pins should push in and snap fit into place for a solid hold. Repeat this process for the remaining louvres, ensuring all louvres are orientated correctly and each lap is the same as the previous lap. Leave four holes without pins where the drive arm will be fitted to the link rod.

If a link pin needs to be removed once it has been installed, squeeze the pin's legs together with needle nose pliers and push it towards the link rod until it releases.

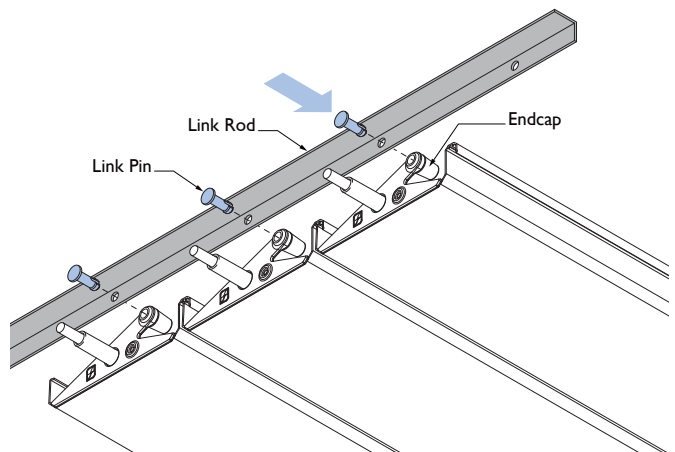


Figure 6.7

## CONNECT DRIVE ARM TO LINK ROD

Line the drive arm up with the four remaining link rod holes. Rotate the first free louvre so the end cap hole is also aligned. Please note that the actuator may need to be temporarily connected to the control box to move the drive arm to a suitable position so the holes can be aligned.

Insert a bush through the drive arm and link rod, and into the first louvre end cap. Similarly, insert another bush into the back of the end cap and secure with an M5 6x30 shoulder bolt and M5 lock-nut (Figure 6.8). The shoulder bolt head should be recessed into the back of the end cap so that it is not visible. The M5 lock-nut will be located on the drive arm side.

## RUN CABLE TO CONTROL BOX

**Note:** The control box must be unplugged from the mains power.

Run the actuator connection cable from the actuator to the control box location. The cable must be protected from the weather and sharp objects. The cable can be installed so that it runs through the attachment beam, passing through the end of the beam and fascia, eaves and finally to the control box location.

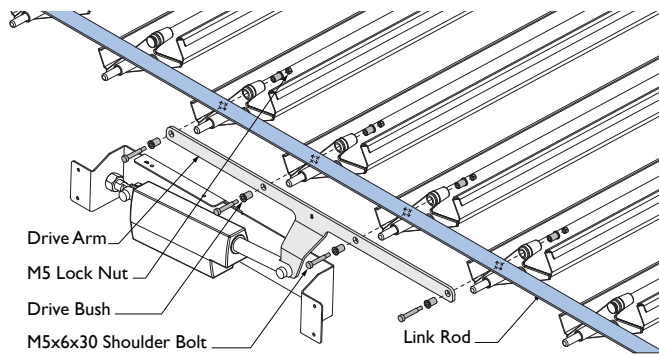


Figure 6.8

Drill a hole next to the actuator cover, ensuring it is above the gutter line. Use a 20mm drill bit with 5mm pilot hole to drill through the front face of the extrusion and beam. A wire pull through cable may be required to pull the cable through and out the end of the beam.

Ensure the right end of the cable is threaded through the hole so it matches the control box. The actuator connection cable has a 2 pin female end that connects with the 2 pin male extension leading from the control box.

Rubber grommets have been supplied to protect the cable and must be installed at this stage. Slit half way through the grommet so that it can be threaded over the cable and into the hole.

Plug the 2 pin cable end into the control box and turn the power on.

## USING THE REMOTE CONTROL

The remote control provided is used to control all Allure banks within the unit. In units with multiple banks the two round buttons on the remote control are used to select the appropriate bank channel. Channel one (1) is always used to control all banks simultaneously. All other channels can be selected to operate banks individually.

Pressing the OPEN or CLOSE button will cause the roof to start moving in the desired direction. The roof will continue until fully open or fully closed, or until the STOP button is pressed. The stop button will stop the roof at any point.

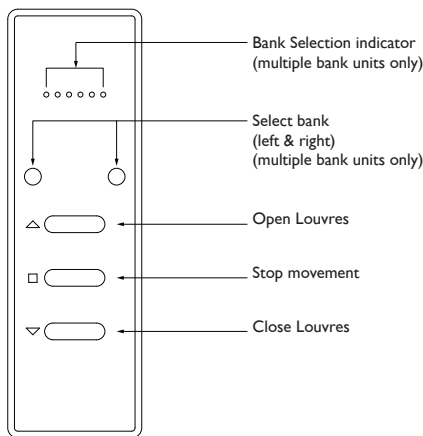


Figure 6.9

## ADJUSTING THE CLOSED POSITION

Use the remote control to drive the louvres until they are closed by pressing the 'close' button and allowing the unit to fully close.

### Louvres Are Not Fully Closed

If the louvres have not closed fully, the position of the actuator must be adjusted. Loosen the M16 nut by one to two rotations, and push the adjustment bolt away from the actuator, through the circular cut-out in the side of the actuator cover. Tighten the dome nut and use the remote control to open and close the louvres again (Figure 6.10). Repeat this step until the louvres are fully closed, without deflecting the link rod.

**Note:** The louvres are in the fully closed position when the link rod becomes stiff (but does not deflect) at the drive arm, ensuring it does not back drive the motor when the 'closed' button is released. If the actuator does back drive, this may reduce the systems life.

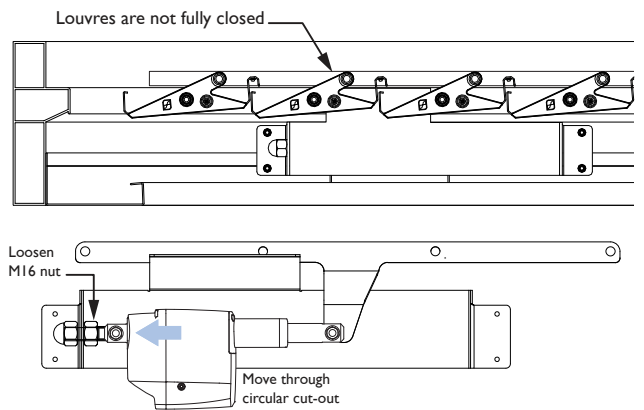


Figure 6.10

### Louvres Are Closing Too Tightly

If the louvres have over closed, the link rod can be seen to significantly deflect. To adjust the position of the actuator, loosen the M16 dome nut by one to two rotations, and push the adjustment bolt towards the actuator, through the circular cut-out in the side of the cover. Tighten the M16 nut and use the remote control to open and close the louvres again (Figure 6.11).

Repeat this step until the louvres are fully closed, ensuring the link rod does not deflect.

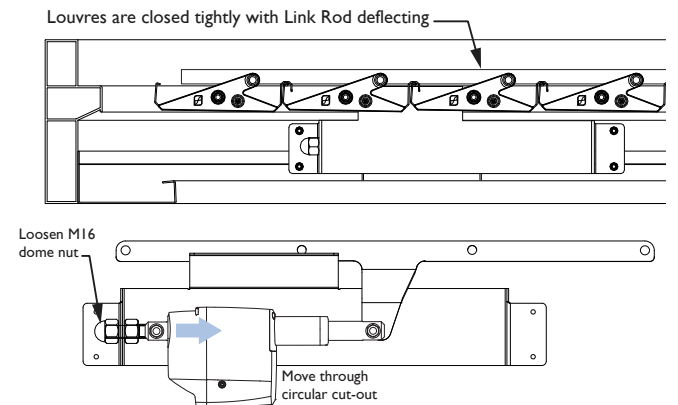


Figure 6.11

## INSTALLING COVER FLASHINGS

Fix the cover flashing to each end of the unit to eliminate any gaps when the louvres are closed. Both flashings are designed to lap each end. Correct alignment is critical. The flashings are fixed through the top of the beam with 12x20 Self-Drilling screws with Neoprene washers at 900mm centres. Refer to Figure 6.12 for flashing layouts.

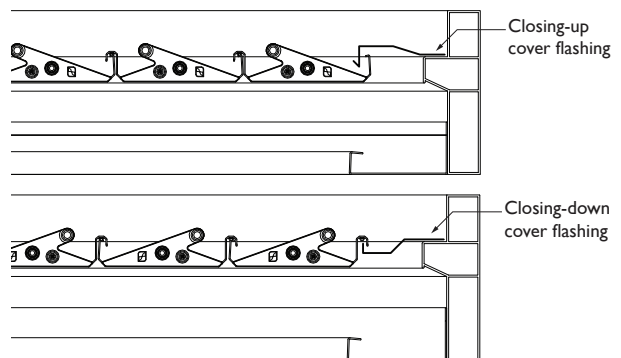


Figure 6.12

Where double-beams are used a double-beam cover flashing will need to be used to cover the pilot holes created when joining beams together (Figure 2.13). The double-beam cover flashing is placed over the double-beams and secured using 12x20 self-drilling screws with neo washers along the length of the flashing (Figure 6.13).

Link rod flashings are installed along link rods with rivets at 500mm centres (Figure 6.14).

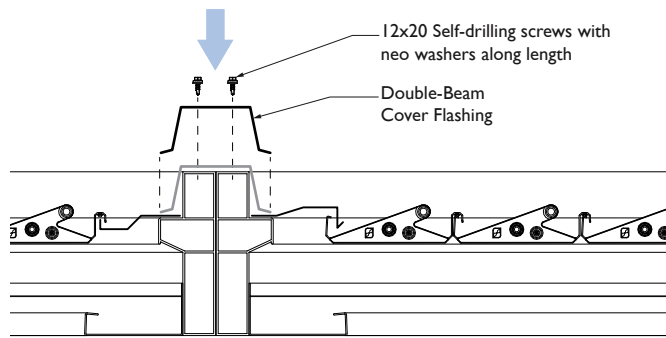


Figure 6.13

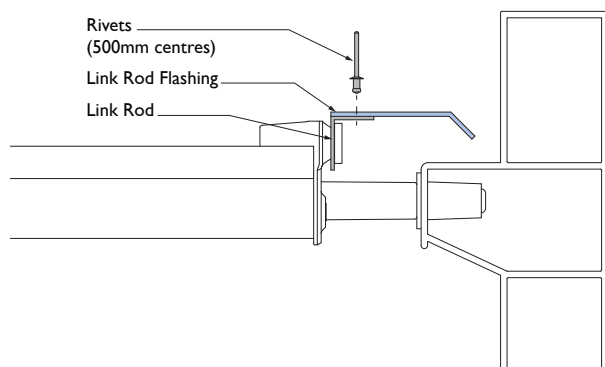


Figure 6.14

## RAIN SENSOR

Preferably select a vertical face on the unit or adjacent structure that is open to the weather and does not interfere with the louvre rotation and fix the rain sensor mounting bracket using two appropriate fasteners with Neoprene washers.

Run the rain sensor cable back to the control box (an extension cord is provided if needed). The rain sensor cable will be identified by the use of three pins in the connectors. Use rubber cable grommets within holes in the framework as required. Simply plug the cable into the corresponding four pin connection at the end of the control box. Finally, tighten the plastic locking nut.

Ensure any excess rain sensor cable is not rolled into a coil as this can cause false triggers of the rain sensor. The rain sensor cable should also be kept away from all power cables as the induced voltage can also cause false triggers of the rain sensor.

Due to the sensitive nature of the sensor, it is likely that on occasion, small creatures, including skinks, geckos, spiders or birds will inadvertently trigger the sensor and close the roof. This is normal, although it can be confusing on a nice sunny day when the roof closes automatically for no apparent reason.

The sensitivity of the rain sensor can be adjusted using a magnet that is attached to the rain sensor mounting bracket.

To adjust the sensitivity, remove the rain sensor from the attachment bracket and hold the rain sensor LED indicator against the magnet at the base of the rain sensor attachment for approx. 5 seconds.

The number of LED indicator flashes represents the sensitivity settings.

One flash = Low Sensitivity

Two flashes = Medium Sensitivity

Three flashes = High Sensitivity

While the rain sensor is activated, eg, during a rain event, the remote control will not activate the roof. The roof control unit (not the remote control) will emit a sharp 'beep' if the rain sensor is activated and a button is pressed on the remote control.

Once the sensor has returned to normal (eg, rain has cleared) for a minimum of 30 seconds, the rain alarm is cancelled.

The roof will not open automatically.

It is recommended that after a rain event, open the roof to approximately 30° to allow the rain water to run off the blades and to drain to the gutters.

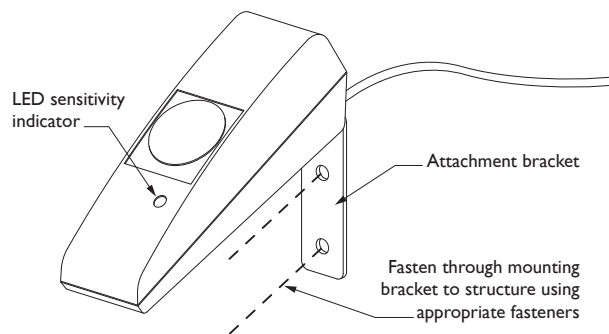


Figure 6.15

## TROUBLE-SHOOTING

PROBLEM	CHECK	POSSIBLE CAUSE	REMEDY	
<p><b>The louvres will not move when the “OPEN” or “CLOSE” buttons on the remote control are pressed.</b></p>	<p>The red LED light on the remote control unit should illuminate when any of the buttons are pressed.</p>	Flat battery in remote control unit.	Replace battery in the remote control unit with new CR3032.	
		Faulty remote control unit.	Replace the entire controller assembly and remote control unit.	
	<p>Switch the power off, wait a few seconds and then switch the power back on. The controller assembly should emit an audible beep when the power is turned on.</p>	<p>No power at 240V ac power outlet.</p>	Check that the 240V ac power cord to the controller assembly is plugged in and the power outlet is switched on.	
			Check fuse/circuit breaker in switchboard.	
			Use another appliance to test for power at the power outlet.	
		Call an electrician if power is still not available at the power outlet.		
	<p>Press the “OPEN” and then “CLOSE” buttons on the remote control unit. The controller assembly should emit audible clicks when the buttons are pressed one after another.</p>	Wrong bank of louvres selected on the remote control unit (multiple bank patios only).	Press the left or right “SELECT” buttons until the correct channel is illuminated.	
		Faulty 24V dc power supply or controller assembly.	Replace the entire controller assembly and remote control unit if power is available at the power outlet but clicking is not heard.	
	<p>If the louvres are fully closed, press the “OPEN” button on the remote control unit. The controller assembly should emit an audible beep if the rain sensor has been triggered.</p>	Water or contaminants on the rain sensor.	Wait until the rain stops and the sensor dries off or if contaminated, carefully clean the rain sensor with a damp cloth and dry off.	
		Faulty rain sensor.	Replace rain sensor.	
	<p>Plug the actuator directly into the controller assembly to check if the extension cables or actuator are faulty.</p>	<p>Faulty connection.</p>	Check that the connections between the actuator, extension cable and controller assembly are secure if the actuator functions correctly when plugged directly into the controller assembly.	
			Faulty or broken extension cables.	Remove and replace the extension cable if the actuator functions correctly when plugged directly into the controller assembly.
			Faulty actuator.	Replace the actuator, if it does not function correctly when plugged directly into the controller assembly, .
<p>Disconnect the link rod from the louvres and check that each louvre rotates freely.</p>	<p>Louvres not square to beam, interference between components.</p>	<p>Square up beams or replace components as required.</p>		
<p><b>The louvres move in the wrong direction when the “OPEN” or “CLOSE” buttons on the remote control are pressed.</b></p>	<p>The actuator should retract when the “OPEN” button is pressed and extend when the “CLOSE” button is pressed.</p>	Cable connector plugged in backwards.	Check that the rib inside the connector with pins is aligned with the groove on the connector with sockets.	
		Mechanism installed incorrectly.	Check that the mechanism is installed as per the installation guide.	
		Actuator, extension cable or controller assembly wired incorrectly.	Remove cover from controller, disconnect red and black actuator cables from terminals labelled OPEN and CLOSE, swap them over and reconnect them in the terminal block.	

<p><b>The louvres open automatically when the rain sensor is triggered.</b></p>	<p>The actuator should move in the same direction when the "CLOSE" button is pressed and when the rain sensor is triggered.</p>	<p>The controller assembly is faulty if the actuator moves in different directions when the "CLOSE" button is pressed and when the rain sensor is triggered.</p>	<p>Replace the entire controller assembly and remote control unit.</p>	
		<p>If the actuator moves in same direction when the "CLOSE" button is pressed and when the rain sensor is triggered.</p>	<p>Refer to the remedies for louvres moving in the wrong direction</p>	
<p><b>The louvres will not close automatically when the rain sensor is triggered.</b></p>	<p>Plug the rain sensor directly into the controller assembly to check if the extension cables or rain sensor are faulty.</p>	<p>Hold the "STOP" button down for 10 seconds. The controller assembly emits two beeps when the rain sensor is manually turned off and a long continuous beep when the rain sensor is turned back on.</p>	<p>The remote control unit has been used to manually turn off the rain sensor.</p>	<p>Hold the "STOP" button down for 10 seconds. The controller assembly will emit a long continuous beep when the rain sensor is turned back on.</p>
		<p>Faulty connection.</p>	<p>Check that the connections between the rain sensor, extension cable and controller assembly are secure if the rain sensor functions correctly when plugged directly into the controller assembly.</p>	
		<p>Faulty or broken extension cables.</p>	<p>Remove and replace the extension cable if the rain sensor functions correctly when plugged directly into the controller assembly.</p>	
		<p>Faulty rain sensor.</p>	<p>Replace the rain sensor if it does not function correctly when plugged directly into the controller assembly, .</p>	
		<p>Faulty controller assembly.</p>	<p>Replace the entire controller assembly and remote control unit if another rain sensor does not function correctly when plugged directly into the controller assembly, .</p>	



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