

 home improvement

Gutter repair

Fix or replace guttering to prevent leaks and damage

WORDS FRANK GARDNER

Gutters and downpipes prevent water damage to walls and foundations. Since they're out of reach, maintenance and repair is often neglected. Damage may be minor and easily repaired, often with a squirt of silicone. If damage is extensive, install a new gutter system.

STYLES range from the traditional quad gutters with external brackets that adorn Federation homes, to modern square and half-round styles fixed to steel fascia with suspension clips. Whatever style it is, the guttering should blend in with the house, usually in a colour matching the roof and fascia.

TYPE of system depends on the flow rate required to cope with the volume of water run-off that spills from the roof. Big roofs need bigger gutters and downpipes.

DIY products, advice and tools come from suppliers, but check with the council if DIY is permitted – some areas require gutter installation to be done by professionals.

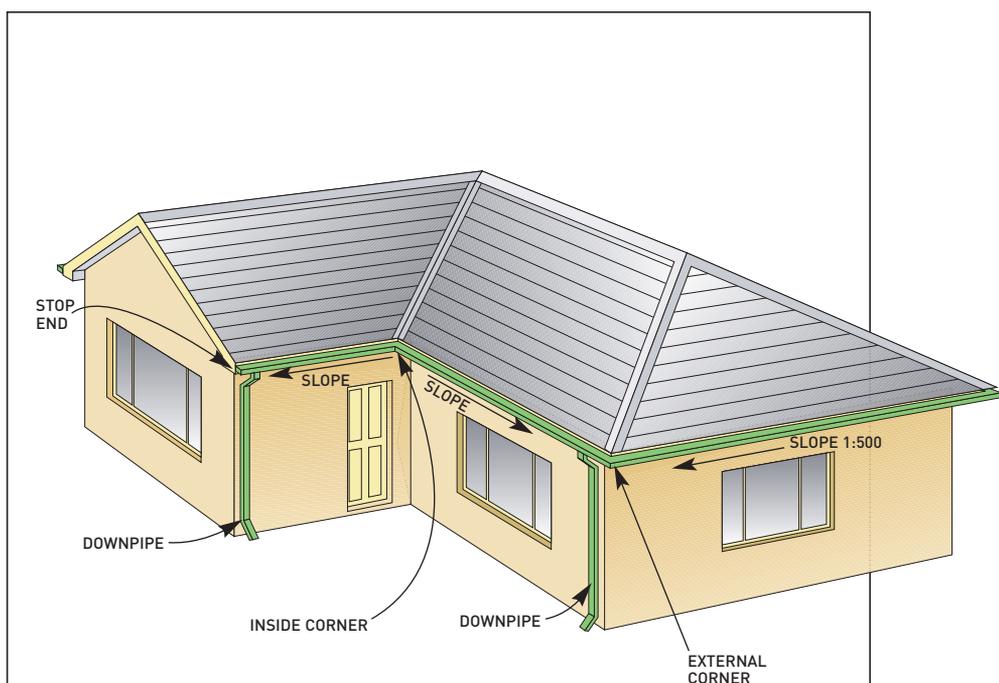


DIAGRAM 1 GUTTER POSITIONING

Measure up

Sketch the house to scale and mark the fascia runs. Position the downpipes inconspicuously.

To measure up the guttering required, allow a minimum 100mm extra for any joins and add on at least twice the width of the gutter for external corners (length is lost in

cutting mitres). At return stop-ends add the width of the gutter. Internal corners don't need extra length, neither do pre-made stop-ends. Use oversized 100 x 75mm guttering for large roofs. Slope long gutter runs in both directions from the middle, which will require an extra downpipe.



ATTACH STOP-ENDS

- 1 Position stop-ends and pre-drill for riveting with two holes up the back, two across the base and one or two up the face side.
- 2 Run a bead of roof and gutter silicone along the overlap. Position the stop-end, fix securely using 2mm rivets then dab silicone on rivets.

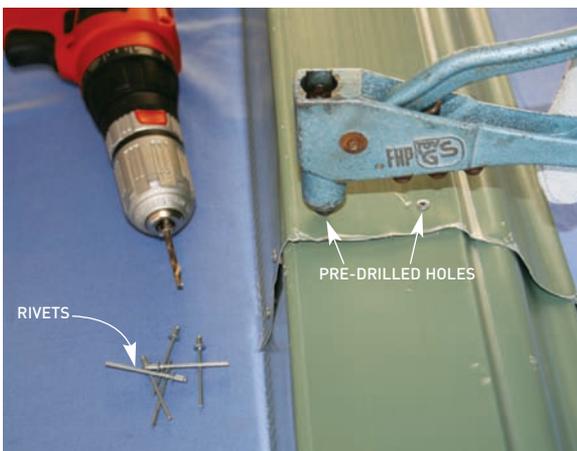
TIP There are left and right stop-ends.

ASSEMBLE THE SPOUT

- 1 Downpipe spouts must align with stormwater pipes. Mark the centre of the outlet on the bottom of the gutter. Place the spout, flange side down, and trace the inside. Put timber off-cuts under the hole and cut a V-shaped notch with a cold chisel. Cut 1-2mm outside the lines using tin snips.

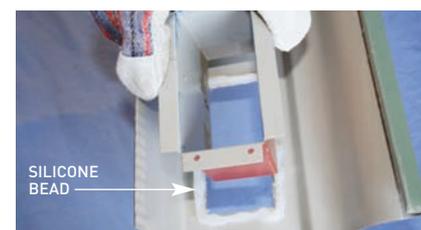
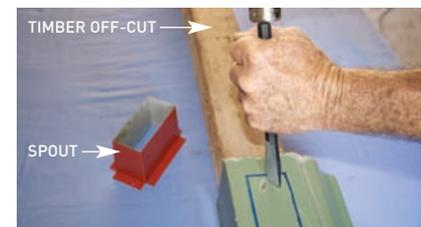
TIP Red snips cut counter-clockwise, green snips cut clockwise.

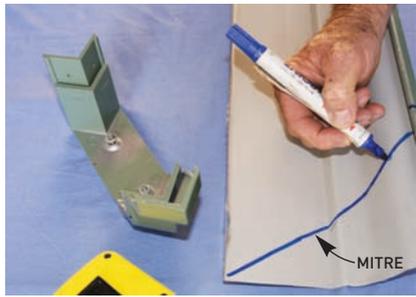
- 2 Slip the spout into the outlet hole and pre-drill two 2mm holes on short sides of the flange for rivets. Remove the spout and run a bead of silicone around the opening. Press the spout into the silicone and fix with rivets.



ASSEMBLE THE GUTTERING

- 1 Cut gutter to length for each fascia run using tin snips or a hacksaw. Overlap joins by minimum 100mm in the direction of the flow, then pre-drill.
- 2 Run beads of roof and gutter silicone across the base and up the sides of the overlap. Reposition the gutter upside down, overlapping the pre-drilled holes, and join together with 3.2mm-diameter rivets. Seal around the rivets and along the seam with silicone, smoothing so that water flow is not impeded.





PREPARE THE MITRES

1 Measure and mark up the mitred corners. For internal mitres, the face sides are shorter than the back. For external mitres, the face sides are longer than the back. Measure the width of the gutter and transfer this measurement along the back or face top edge. Mark this point and draw a 45° line to the opposing corner. Allow 5mm length for the bracket.

2 Test-fit the mitre in the corner bracket. Run a bead of silicone along the bottom edge of the gutter and the top edge of the lower bracket only. Temporarily clamp and tighten the internal bracket in place.

TIP Don't glue the top internal part of the bracket until the second half of the mitre has been positioned.



ADD DOWNPIPES

1 Houses with eaves require a downpipe offset to return the downpipe to the wall. They can be bought with a slip joint or make your own (see Diagram 2). Prepare the lower offset first and position against the wall to align with the upper offset. **TIP** The downpipe face is cut with this joint.

2 Use a plumb line from the outer edge of the spout down the side of the downpipe and mark. This lower point is the centre point of the upper offset cut (see Diagram 3).

TIP The downpipe seam at the back is cut with this joint.

3 A second length of downpipe is used to connect the downpipe to the stormwater at 45°. Measure the length needed to bring the downpipe inside the stormwater and mark this around the downpipe. To set 45° on the face, draw a line half the width of the downpipe on either side of the first line and cut out as far as the lower offset (Diagram 4).

4 Slide the bottom half of the downpipe inside the upper section. Position for a snug fit between the gutter and stormwater. Rivet downpipe sections together at the back, then rivet the downpipe to the spout. Anchor the downpipe to the wall with two brackets (astragals) and masonry anchors.



HANG THE GUTTER

1 To set the slope, drive a nail 10mm below the top edge of the fascia at the high end. Calculate minimum gutter fall of 1:500 (AS2180-1986) for 2mm of fall for each metre of gutter. Drive a nail at the lower end. Fix a stringline between nails and check fall with a spirit level.

TIP If fall isn't steep enough, water pools in the guttering.

2 Position brackets along stringline at maximum 1200mm centres. Fix with twist galvanised gutter nails.

3 Get help to lift gutter runs. With external brackets, roll the tip of the bracket strap over the top rolled edge and fix the back top edge of the gutter to the fascia with 40mm galvanised gutter twist nails.



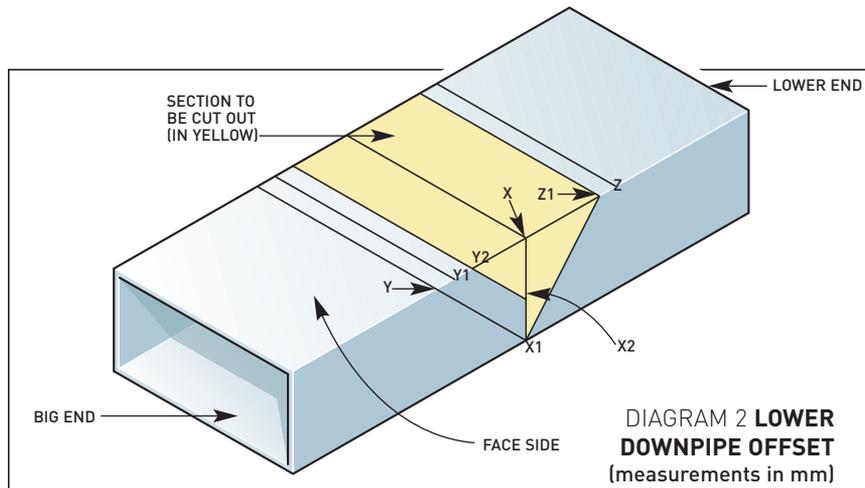


DIAGRAM 2 LOWER DOWNPIPE OFFSET
(measurements in mm)

Measure from the wall to the outside of the spout. Add double the width of the downpipe plus 100mm. Measure from the big end and mark on the face (X). Mark the width of the downpipe, either side and parallel to the first line (Y and Z). Provide 100° for fall, mark Y1 and Z1, 10mm inside Y and Z. On the top end, mark Y2, 10mm further in for a lap section. Join points Y to X1, Z1 to X1 and Y2 to X2 keeping it parallel. Cut out Z1 to X1 and Y2 to X2 then down to X1 creating a V cutout with a 10mm wide lap. Bend the downpipe so the big end fits inside the lower end. Silicone and rivet in place.

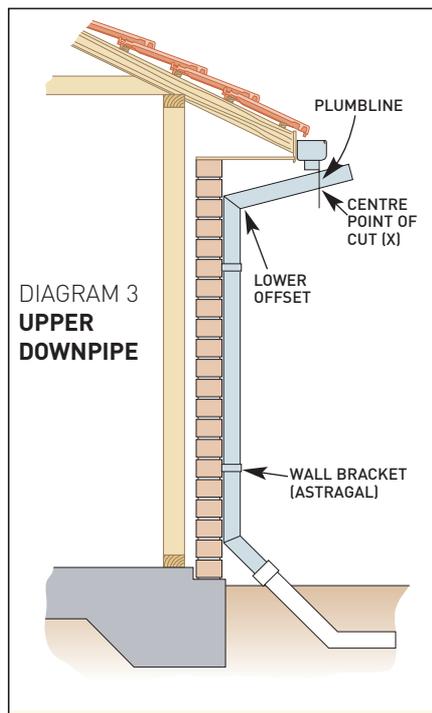


DIAGRAM 3 UPPER DOWNPIPE

Mark a plumbline from outside the spout down the side of the positioned downpipe. Centre point (X) sets out the upper offset same as for lower offset. The set-out is drawn on the back (seam) of the downpipe. Cut, glue and rivet as for lower offset.

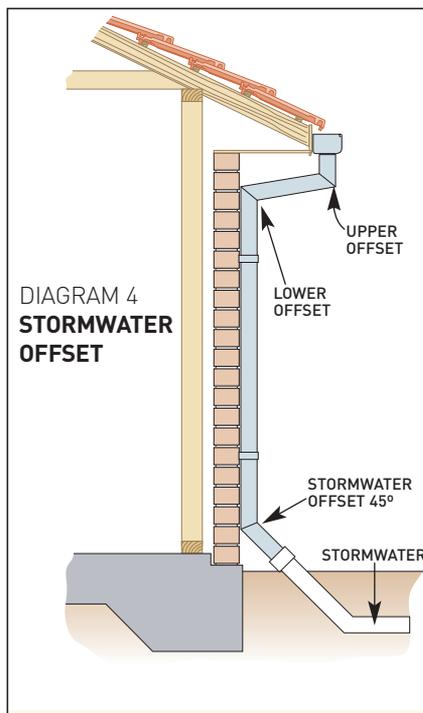


DIAGRAM 4 STORMWATER OFFSET

Use a second length to bring the downpipe to the stormwater. Mark a line around the downpipe at the distance to reach the stormwater. Mark half the width of the downpipe on both sides parallel to line on face side. Mark, cut and fix as for lower offset.



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