

## **Hilux Mk6-7 Diff Breather Extension Kit**

### PACKAGE CONTENTS

- 1X 8m length of 8mmOD Nylon Tubing
- 1X Pneumatic Stud Coupling, 1/8" BSPT (Taper) -8 mm Push Fit
- 1X Pneumatic Stud Coupling, 1/8" BSPP (Parallel) - 8mm Push Fit
- 1X Stainless Steel Socket, 1/8" BSPP
- 1X Brass & Bronze Cone Silencer, 1/8" BSPP
- 3x Pneumatic Tee, 8mm Push Fit
- 2x 5mm-8mm Nylon Hose Joiner
- 3x Jubilee Clip
- 2x 5cm 5/16"ID Clear Hose

### OPERATING LIMITS

The kit will prevent water ingress providing it has been installed correctly, and that the silencer is located in a place where water cannot get into it.

### WHY EXTEND THE DIFF BREATHERS?

By removing the original breather valves you are protecting the differentials from water entering through the oil seals in the ends of the axle. On older vehicles, even if the original valve is clean and working, the oil seals in the ends of the axles may have worn and when the diff cools through submersion, the original valve would close, preventing air/water ingress, but the vacuum created could draw water in through the oil seals.

### FITTING INSTRUCTIONS

Fitting of the kit is a straightforward job, and does not require the use of 'special' tools. All you need is a spanner of 13mm, Blade / Pipe Cutter, Some Cable Ties, and, if you wish to locate the silencer in the air box (to take advantage of a higher air inlet such as a snorkel), then you will need a drill bit of 10mm.

#### Rear Diff Breather Tube:

1 Run a 6m length of nylon tube from the rear axle to the air filter box or another high point in the engine bay, leaving 0.5m free at each end, cable tie the tube along the bottom of the vehicle to secure it, try and route it where there are other hoses to protect it.

2 Clean the area around the axle breather valve with a wire brush or similar to remove any dirt that might otherwise get into the diff when the breather is removed, the valve is a small capped stud located on the NS of the vehicle on the rear axle.

3 Using a spanner, undo the breather valve.

4 Wipe the area around the thread clean, being careful not to push any dust/dirt into the diff.

5 Take the BSPT (Taper) stud coupling, this is identified but its longer thread and lack of o-ring. Wrap 4 layers of PTFE tape clockwise around the thread, make sure it is on the thread and not hanging off the end, screw the stud coupling into the axle.

6 Plug the nylon tube into the stud, make sure the tube goes in fully, pull on the tube to make sure it is gripped in properly.

7 In the engine bay, push the BSPP (Parallel) Pneumatic Stud Coupling on to the nylon tube, pull on the tube to make sure it is gripped in properly.

8 If you do not have a snorkel then the Bronze Silencer can be screwed directly onto the end of the Pneumatic Stud Coupling using the Socket, and secured high in the engine bay (ideally higher than the air box) with a cable tie, alternatively, if you wish to locate the silencer in the air filter box, then drill a 10mm hole through the side of the air filter box (about 4" up from the bottom to avoid water ingress), push the thread of the stud through the hole and screw the socket & silencer on the inside of the air filter box.

#### Front Diff Breather Tubes:

9 The front diff breather tubes can be found under the fuel filter, these appear as 2 hoses, held in clips, and pointing upwards, each with a similar looking valve to that on the rear axle, pushed into the ends of the hoses.

10 Pull out, or cut off the 2 front diff breather valves.

11 Into the 5mmID rubber hose insert a hose joiner.

12 Onto the other end of the hose joiner push a 5cm 8mmID clear hose.

13 Take 1m of nylon tube, and push this into the 5cm 8mmID clear hose, lightly tighten a jubilee clip around this joint.

14 Into the 8mmID rubber hose, directly insert 1m of nylon tube, use a jubilee clip around this joint.

15 Cut into the nylon tube coming from the rear diff, and use the 2x 8mm Tees to connect the 2 protruding nylon tubes into this line.

#### Gearbox Breather Tube:

16 Repeat process 11-13 with the Gearbox breather tube which can be found held in a clip on the bulkhead behind the head (very difficult to access). Use an 8mm Tee to connect into the line from the rear diff.