Toyota Hilux N80 /Fortuner
Direction-Plus™ COMBO KIT
Pre-Line Plus Pre-Filter & ProVent Kit Installation Guide

Pre-Line Plus Kit Installation Guide

This document is to be used as a guide for the installation of the **Direction-Plus™ Pre-Line Plus Kit to a Toyota Fortuner 1GD-FTV (2016-2022) Hilux N80 1GD-FTV (2016-2022) and 2GD-FTV (2018-2022).** It is recommended that the installation of the product be carried out by a competent qualified mechanic.

Important before starting

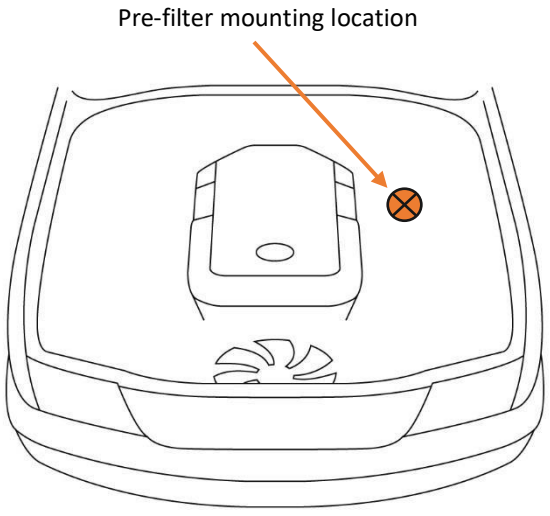
- Ensure the engine bay is clean and free from contaminates
- The filter head has direction arrows indicating the direction of flow
- You have the correct tools to complete the fitment
- Read the instructions in full and familiarize yourself with the installation, before commencing any work

Maintenance / servicing

- It is recommended to drain the element every 5,000 – 10,000km
- PL150DP element is to be replaced every 40,000km or as per your vehicles service interval

Kit contents

2x M16 ADAPTER - 10MM
2 BOLTS 2 NUTS 4 WASHERS
1x BRACKET - HILUX
1x DFL10 - FUEL LINE RUBBER (10MM)
1x WATER ALARM KIT
2x M16 FLAT WASHER
1x ENGINE BAY LABEL
1x PL150DP + WATER SENSOR
1x M6X12 BOLT
2x M6 FLAT WASHER
1x M6 NYLOC NUT
2x HOSE CLAMP - 10MM
2x PUSH ON 90 DEG - 10MM
1x WINDSCREEN LABEL



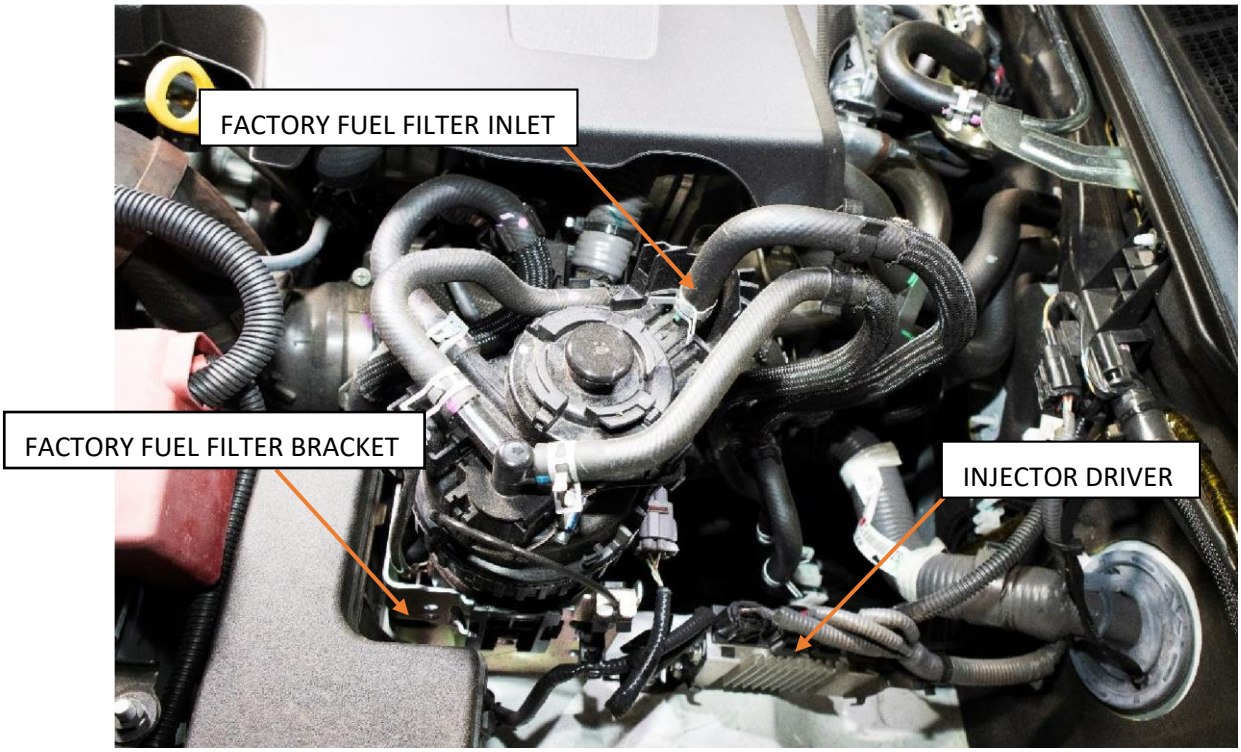
*Kit contents are subject to change based on component availability and/or refinement

Installation Guide

1. Disconnect factory fuel filter inlet hose from both ends and remove from the vehicle. Retain this hose in a safe place so the vehicle can be returned to factory in the future

2. The pre-filter will be mounted we be mounted on the passenger side inner guard, next to where the factor fuel filter is mounted

3. Disconnect the plug attached to the factory fuel filter for the sensors



4. Remove the factory fuel filter from its mounting bracket and place off to one side

5. Remove the factory fuel filter mounting bracket

6. Remove the 6mm bolt holding the injector driver in place

7. Place the pre-filter mounting bracket into the same location as the factory fuel filter

8. Using the factory bolts that were removed from the factory fuel filter mounting bracket secure the pre-filter mounting bracket

9. Us the M6X12 bolt, washers and nut to attach the injector driver to the pre-filter bracket

10. Reinstall the factor fuel filter to the pre-filter mounting bracket and reconnect the sensor plug

11. Using the supplied 10mm bolts, washers and nuts, mount the PL150DP pre-filter assembly onto the engine side of the bracket. This will allow the fitment of a dual battery system.

12. Install the M16-12mm adaptors and M16 washers into the filter head ports that are facing towards the rear of the vehicle. **Note: it may be required to remove the pre-installed plugs and reinstall them based on the specific installation**

13. Measure from the steel pipe on the firewall (this pipe comes from the tank) to the inlet port of the PL150DP head (the arrows on the head indicate direction of flow) and cut to length a piece of the supplied 10mm hose

14. Lubricate the barbed end of one push-lock fitting and the inside portion of the hose to be fitted with a push-lock fitting with diesel fuel or WD40

15. Insert the barbed end of one push-lock fittings into the pre-lubricated end of the hose. Ensuring that the hose stops firmly against the inside of the bell cover.

16. With the assembled hose, screw the push-lock fitting on to the inlet port of the pre-filter. Connect the other end of the same hose to the steel fuel line coming from the tank and secure using a supplied 10mm hose clamp

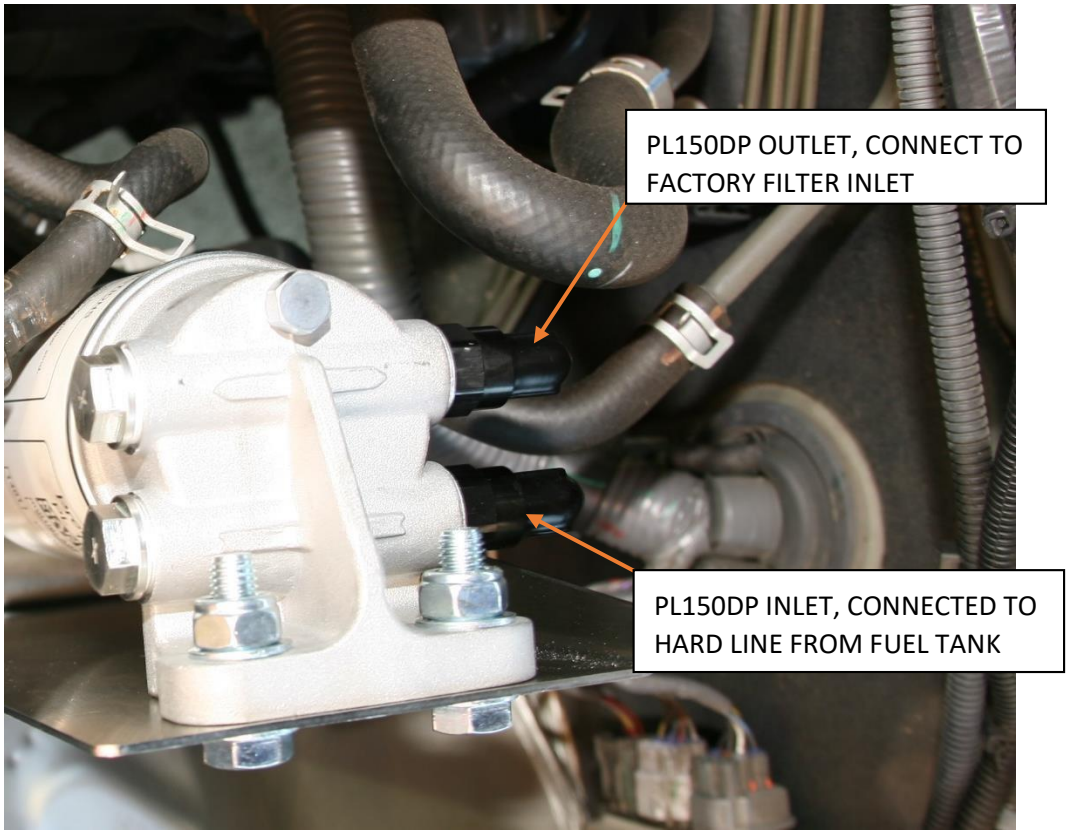
17. Lubricate the barbed end of the remaining push-lock fitting and the inside portion of the remaining hose to be fitted with a push-lock fitting with diesel fuel or WD40

18. Insert the barbed end of the remaining push-lock fittings into the pre-lubricated end of the hose. Ensuring that the hose stops firmly against the inside of the bell cover.

19. With the now assembled hose, screw the push-lock fitting on to the outlet port of the pre-filter.

20. Measuring the hose in place between the outlet port of pre-filter the inlet of the factory fuel filter, cut the hose to length

21. Connect the 10mm fuel hose to the inlet of the factory fuel filter and secure with a supplied 10mm hose clamp



22. Using the supplied nylon cable ties, secure any lose hose from rubbing on any other components

23. Bleed the fuel system by pumping the hand primer on the factory filter until firm, this will take some time.

24. Start vehicle and run the vehicle, whilst checking all connections for leaks

25. Refer supplement guide for fitting the water alarm system

END OF GUIDE

Toyota Hilux N80 / Fortuner
Provent Ultimate Catch Can Installation Guide

This document is to be used as a guide for the installation of the **Direction-Plus™ ProVent® Ultimate Catch Can Kit to a Toyota Fortuner 1GD-FTV (2016-2022) Hilux N80 1GD-FTV (2016-2022) and 2GD-FTV (2018-2022).** It is recommended that the installation of the product be carried out by a competent qualified mechanic.

Important Before Starting

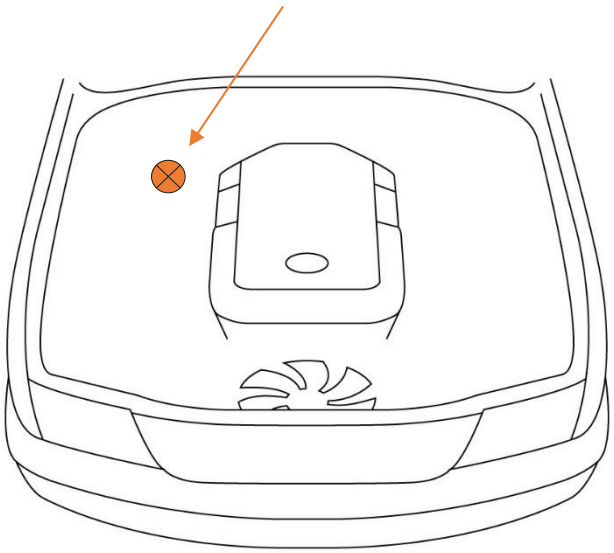
- Ensure you have the correct tools to complete the fitment
- Read the instructions in full and familiarize yourself with the installation, before commencing any work

Included in the kit

1 x Mann + Hummel Provent 200
1 x Mounting Bracket
1 x 450mm of 16mm Hose
1 x 250mm of 16mm Hose
2 x 16mm Straight Joiners
2 x 16mm to 25mm Hose Coupler
4 x 16mm hose Spring Clamps
2 x 25mm hose Spring Clamps
8 x Cable Ties
2 x M8x25 Bolts
4 x M8 Flat Washers
2 x M8 Stainless Steel Nuts
1 x 1000mm of 12mm Hose
1x Drain Tap Assembly
2 x 12-20mm Hose Clamps

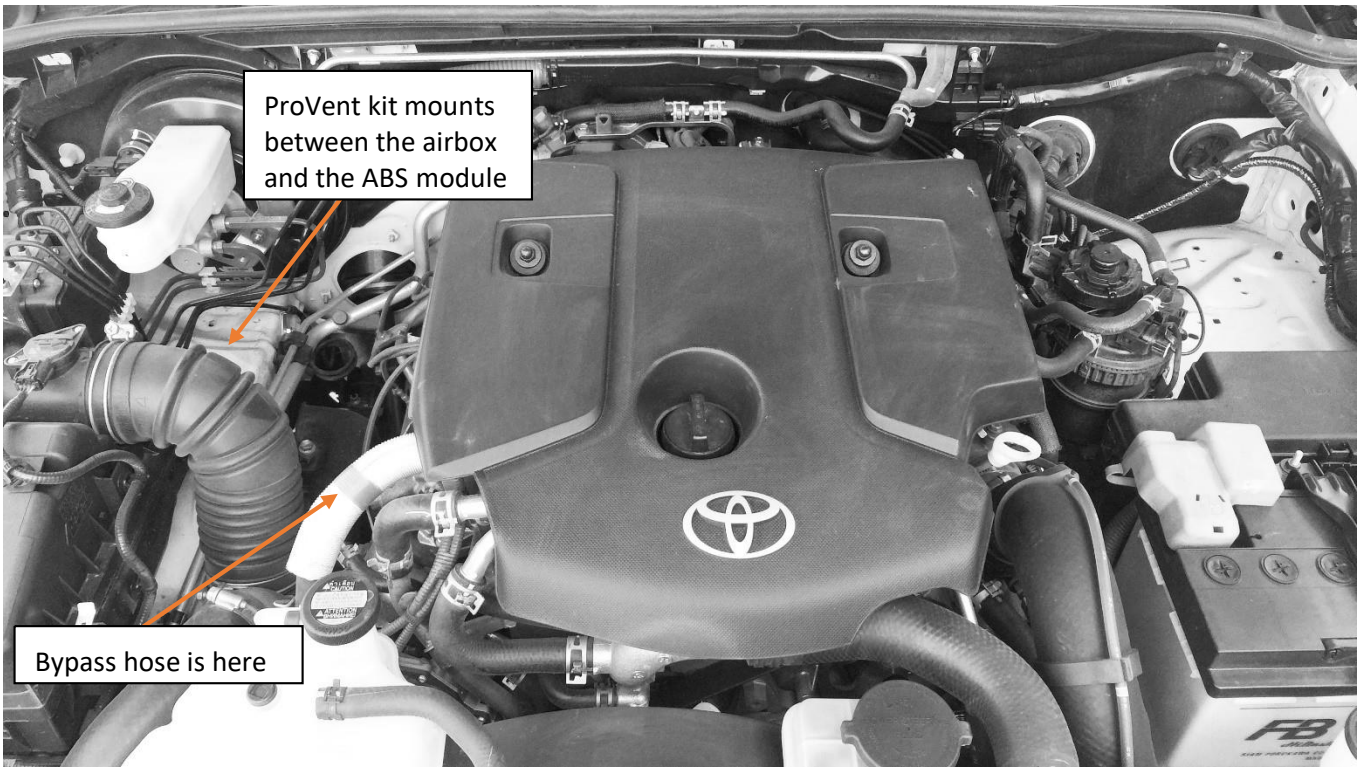
*Kit contents are subject to change based on component availability and/or refinement

Approximate mounting location



Installation Guide

1. Begin by removing the engine cover to give access to the crankcase bypass hose in the front driver's corner.



Hilux N80 Engine Bay – Overall View

2. Locate the factory bypass hose which runs from the front driver's side of the valve cover to the air inlet pipe before the turbo charger. It has a white/grey heat shield around it. Once located, this hose needs to be removed. We also recommend removing the heat shield to be reused on the new return hose.

3. Remove the two M8 nuts from the front mount for the ABS module. Fit the new bracket on the studs and then reinstall the nuts and torque up.

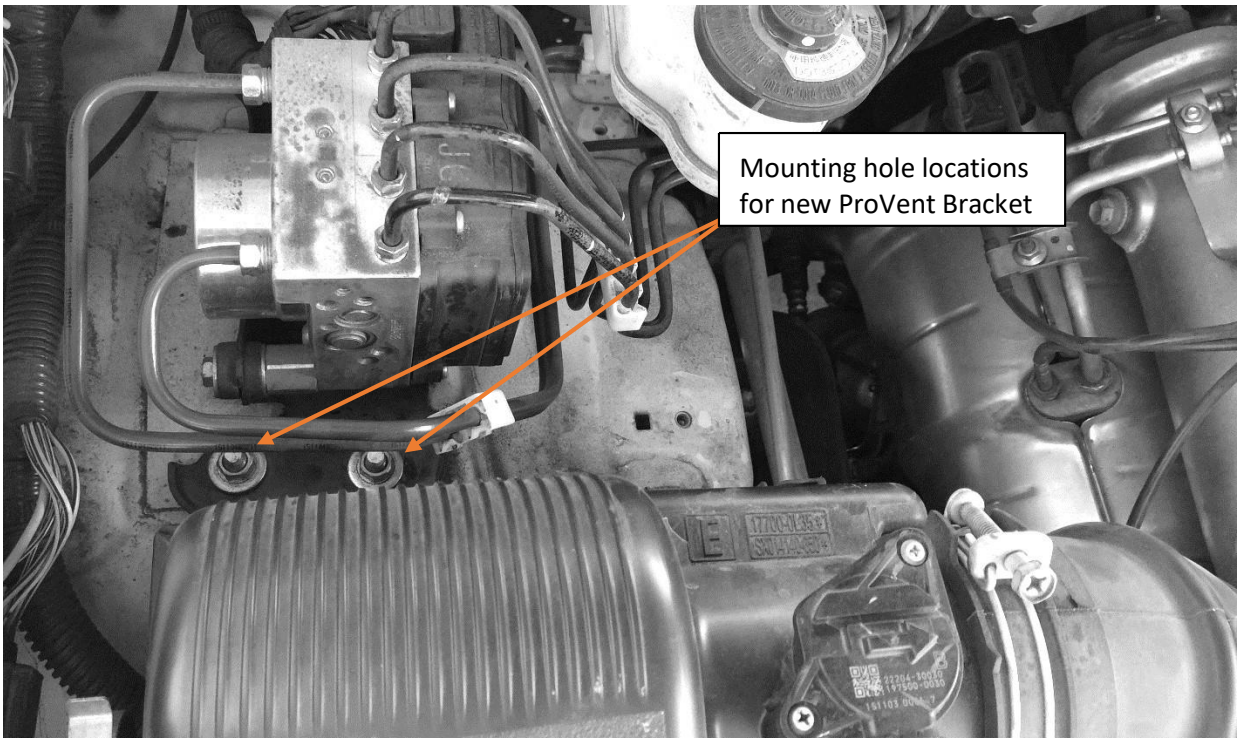
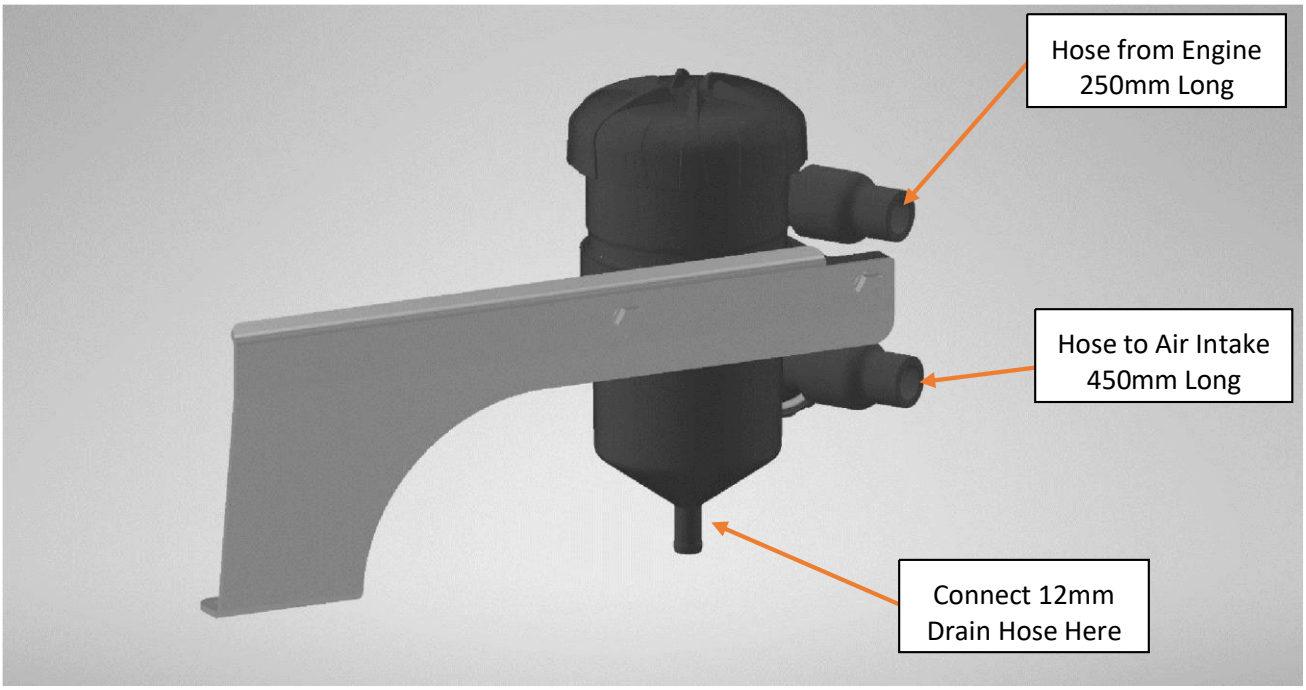


Image shows area behind the air box, highlighting new ProVent bracket location

4. Connect the 12mm (1/2”) Hose to the underside of the catch can body, using a 12-20mm Clamp to secure it in place.

Provent 200 with 12mm hose connected and secured with 12-20mm clamp

5. With a flat washer on each of the M8x25mm bolts, mount the ProVent 200 to the mounting bracket. Use a flat washer, spring washer and nut to secure the bolts on the other side.



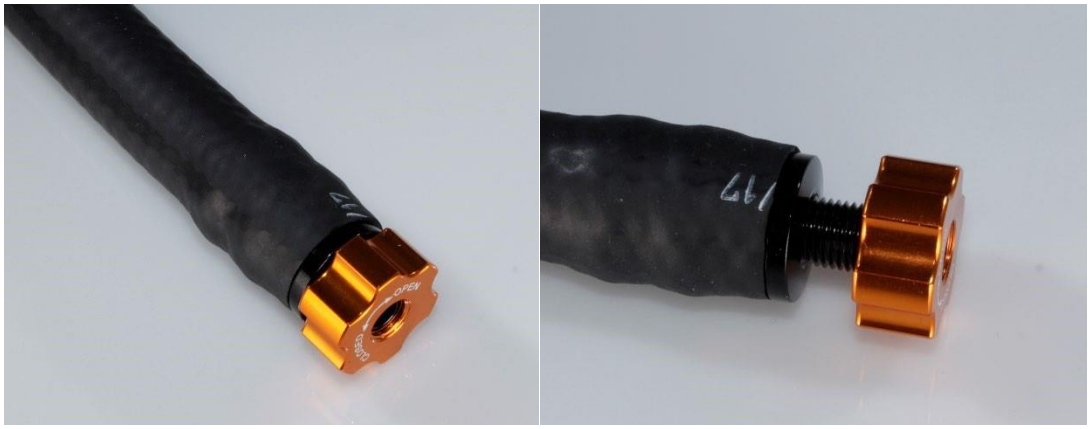
Pre-assembled Provent 200 with bracket – Please note ProVent rotation in this image is correct, check the last page of this instruction for details for how to adjust the rotation.

6. Feed the 12mm Hose down the side of the engine bay, under the vehicle to an out of the way location, making sure it is clear of any suspension, driveline and exhaust components, fit the Tap hose tail into the hose and secure with a clamp.

Hose tail and tap assembly inserted into 12mm hose, hose clamp not required

7. Use the supplied cable ties to secure the 12mm hose into the location required under the vehicle to prevent movement. Note: Leave a slight amount of slack in the line where the body and chassis join to prevent stretching the hose.

8. Make sure the tap position is closed and avoid placing the tap in a location in which it will fill with dirt and mud.



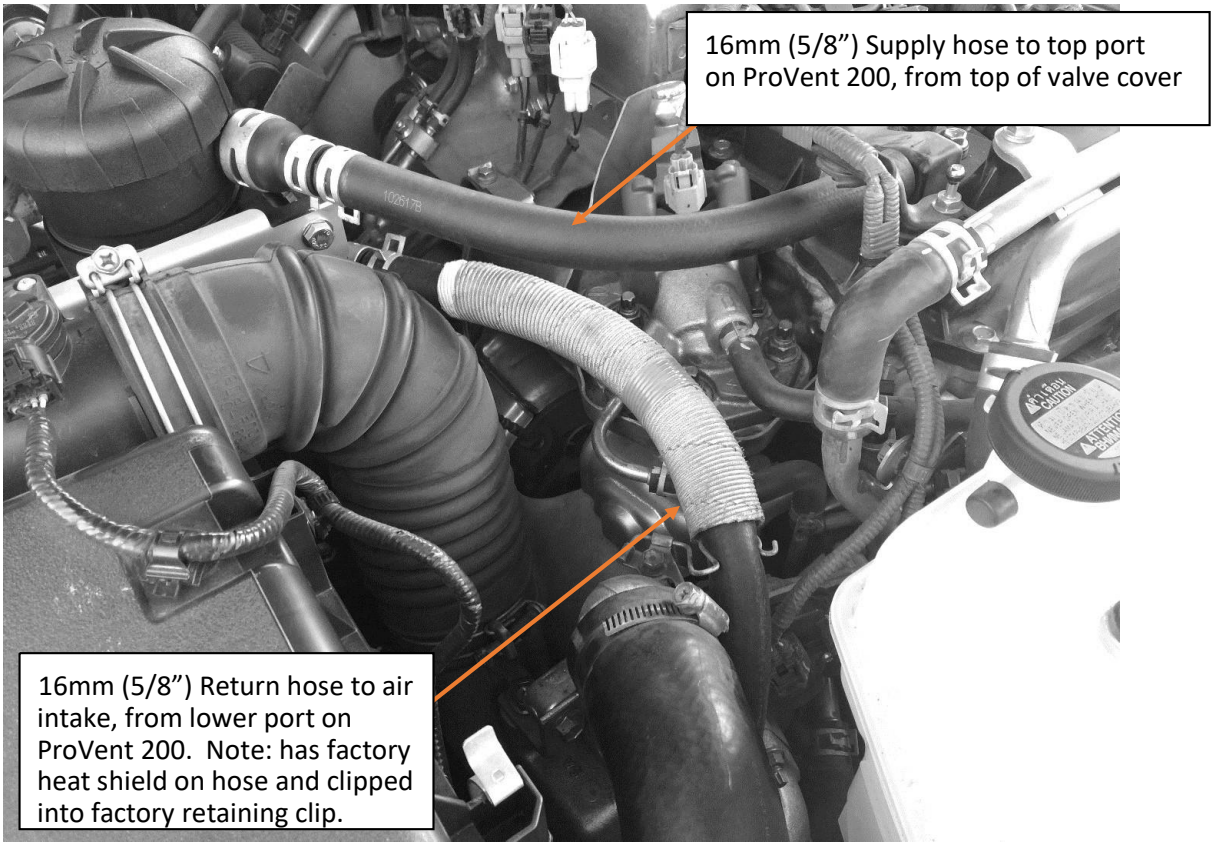
Left image – Tap Open. Right image – Tap Closed.

9. Mount one end of the 450mm long 16mm (5/8”) hose to the lower 16mm (5/8”) straight joiner fitting on the ProVent 200. Install the heat shield to this new hose you removed from the stock hose in step 2.

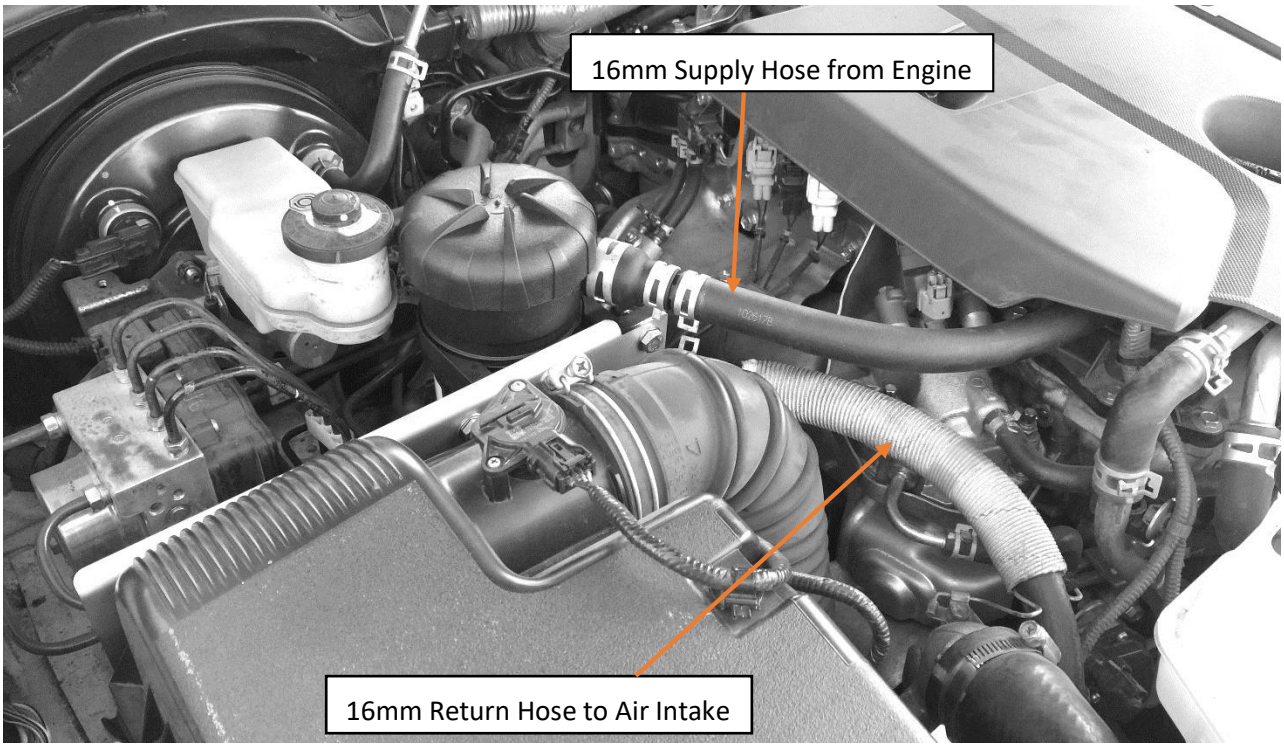
10. Mount the other end of the same 450mm long 16mm (5/8”) hose to the vacant air intake port.

11. Mount one end of the 250mm 16mm (5/8”) hose to the upper 16mm (5/8”) straight joiner fitting on the ProVent 200.

12. Mount the other end of the 250mm 16mm (5/8”) hose to the vacant port on the valve cover.

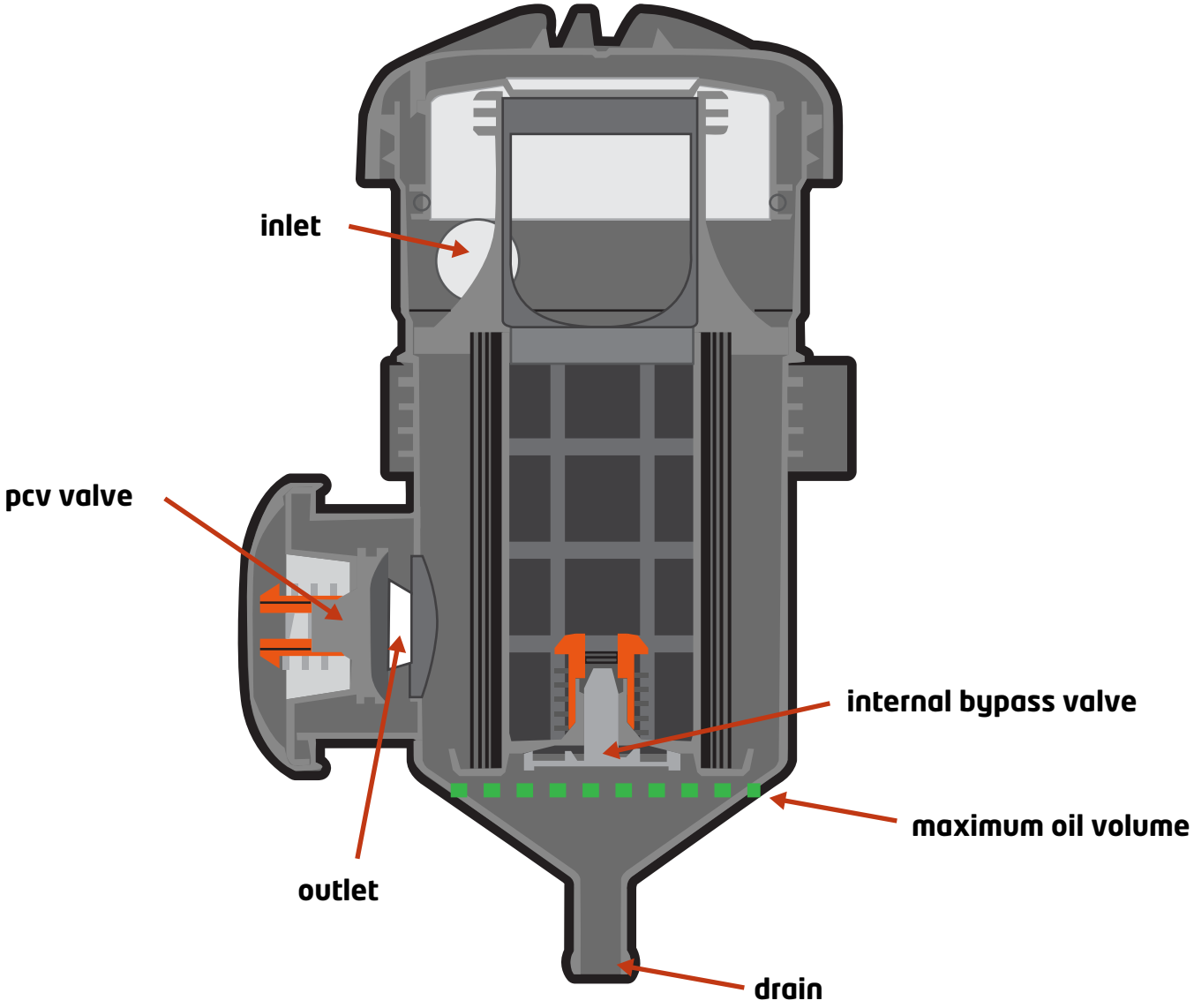


Hose configuration on Hilux N80 with ProVent 200 installed



End of Installation Guide

PV200 INTERNAL BYPASS VALVE SECTIONAL DIAGRAM



Due to the way the internally vented PV200 works, the PV200 must be drained regularly to ensure correct operation of the internal bypass valve. Failure to regularly draining/servicing the Catch Can may cause engine damage due to over pressurisation of the crankcase ventilation system.

The ■ ■ ■ in the diagram indicates the maximum permissible oil level. For the PV200 internal bypass valve to correctly operate the internal oil volume **MUST NOT** exceed the level indicated by the ■ ■ ■ shown in the diagram.

If the internal oil volume is to exceed the level indicated by the ■ ■ ■ shown in the diagram, the internal bypass valve cannot operate as designed due to it being submerged. This condition is likely to cause over pressurisation of the crankcase ventilation system and damaging the engine.

WARNING: Colder climates can cause increased condensation inside the Catch Can. This will fill the reservoir quicker than oil and will need to be drained regularly. Failure to do so could & can damaged the Catch Can or vehicle.

ProVent 200

The housing can (prior to installation) be turned in the holder in 30° steps around the longitudinal axis.

This enables the position "Inlet and outlet fitting to flange" to be flexibly adjusted to the installation situation.

- Remove the retaining clip (1) upward from the groove and turn the holder into the desired position.
- Press the holder together somewhat in the desired position and engage the retaining clip in the groove again
- Mount the holder in the vertical position. Recommended tightening torque for M8 screws: 10 Nm.
- Ensure sufficient strength of the screw and nut material.
- Connect the hoses to the inlet, outlet and oil return fittings (make sure a sufficient length of hose is pushed on) and secure with hose clamps (see Chap.4.2 and 4.3).
- Connect the oil return hose (and non-return valve if necessary) to the oil sump.
- To ensure proper functioning, the ProVent should be protected against dirt (mount splash guards if necessary).

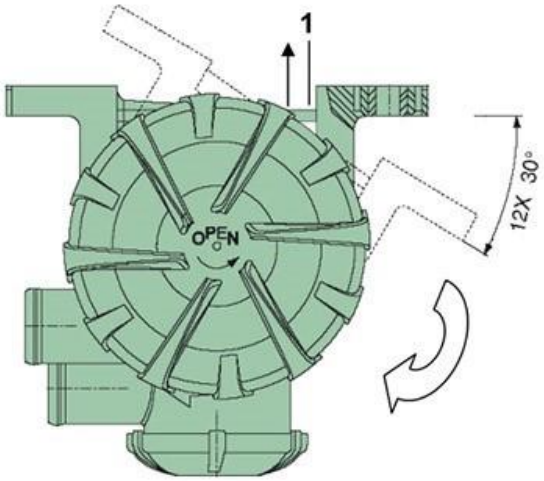


Fig. 5 Positions of outlet for ProVent 200

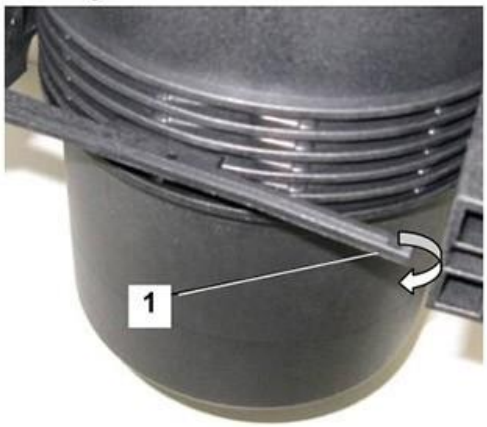


Fig. 6 Holder for ProVent 200