

TOYOTA Hilux N80 / Fortuner

Direction-Plus™ COMBO KIT

Fuel Manager Pre-Filter & ProVent Kit Installation Guide

Fuel Manager Pre-Filter Installation Guide

This document is to be used as a guide for the installation of the **Direction-Plus™ Fuel Manager™ pre-filter Kit to a Toyota Fortuner 1GD-FTV (2016-2022) and 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.

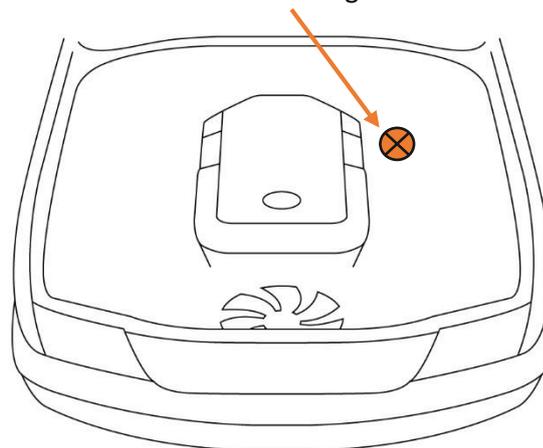
Important before starting

- Ensure the engine bay is clean and free from contaminates
- The fuel manager 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

Kit contents

2x 16MM STRAIGHT ADAPTORS
2 BOLTS 2 NUTS 4 WASHERS
1x BOLT - 6X25MM ZINC
1x BRACKET - HILUX 2.8
1x CABLE TIE 280 X 4.8 (UV)
1x DFL10 - FUEL LINE RUBBER (10MM)
2x 16MM PLUGS
1x FM ENGINE BAY LABEL
1x FM100 30 MICRON FILTER ASSY
2x HOSE CLAMP - 10MM
1x LOCTITE 567 THREAD SEALANT - 6ML
1x NUT - NYLOC 6MM
2x PUSH ON 90 DEG - 10MM
1x WINDSCREEN LABEL

Pre-filter mounting location



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



Installation Guide

1. Disconnect the electrical connector from the factory fuel filter.
2. There is a clip holding a cable onto the factory mounting bracket, remove this clip from the bracket.
3. Remove the bolt that is holding the ECU beside the factory fuel filter bracket. Remove the wiring harness from the holding bracket by squeezing the two (2) lugs on the engine side of the bracket.
4. Remove the five (5) retaining bolts that are holding the factory filter bracket. Discard the factory fuel filter bracket.
5. Mount the Direction Plus bracket into place using the existing five (5) mounting bolts from the original bracket. There is one (1) extra bolt supplied, use this in the lower bracket.
6. Mount the factory/ original fuel filter onto the Direction plus bracket. The cable is now mounted on the left hand side of the bracket near the fuse box. Reconnect the electrical connector and harness clip.
7. Mount the ECU onto the top right-hand side of the Direction Plus bracket.
8. Ensuring you have a push-lock barb fitting (supplied) on the INLET and OUTLET side, install the 16mm straight adaptors into the Direction Plus filter assembly using the supplied LOCTITE thread sealant.
9. Mount the Pre-Filter and head (black) to the Direction Plus bracket using the supplied 10mm bolts, washers and nuts.
10. Lubricate the barbed end of one (1) of the push-lock fittings and the inside portion of the hose to be fitted with a push-lock fitting with diesel fuel or WD40.
11. Disconnect the INLET hose from the factory fuel filter and fit this to the push-lock barb fitting on the OUTLET side of the Direction Plus Pre-Filter ensuring that the hose is firmly stopped against the inside of the bell cover.
12. Insert the barbed end of one (1) of the push-lock fittings into the pre-lubricated end of the hose. Fit this to the INLET side of the Direction Plus Pre-Filter ensuring that the hose is firmly stopped against the inside of the bell cover. Secure the other end of this fuel hose to the factory steel fuel line with the supplied hose clamp.
13. Apply a small amount of LOCTITE thread sealant (supplied) to the two (2) remaining black 16mm plugs and install them in to the two (2) remaining ports on the Direction Plus pre-filter head/ assembly.
14. Ensure all fuel lines are suitably secured.
15. Using the supplied nylon cable ties, secure any loose hose to prevent it from rubbing against any other components.
16. Prime the fuel system by using the factory primer until it is firm, the engine is now ready to start.
17. Start and run the engine whilst checking ALL connections for leaks.

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) and 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.

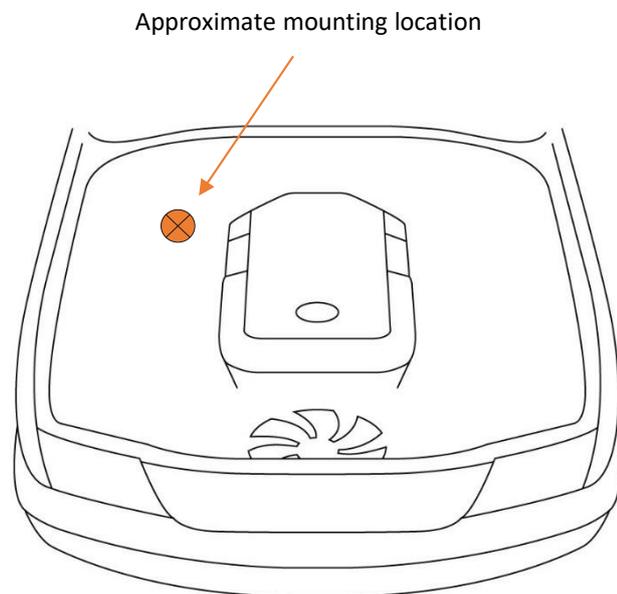
Important Before Starting

- 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

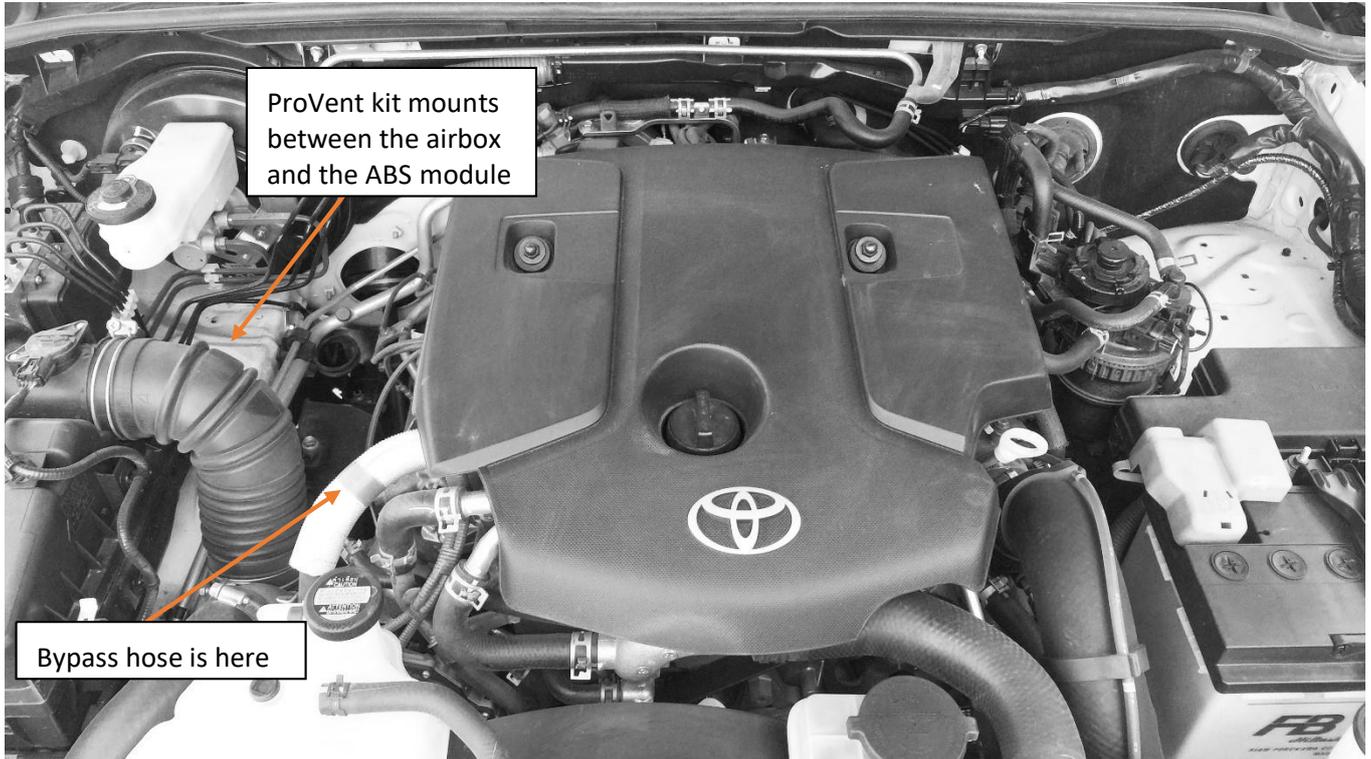
- 1 x Mann + Hummel ProVent 200
- 1 x Mounting Bracket
- 1 x 450mm of 16mm Hose
- 1 x 250mm of 16mm Hose
- 2 x 16mm Straight Joiners
- 2 x 16mm to 25mm Hose Coupler
- 4 x 16mm hose Spring Clamps
- 2 x 25mm hose Spring Clamps
- 8 x Cable Ties
- 2 x M8x25 Bolts
- 4 x M8 Flat Washers
- 2 x M8 Stainless 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



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.

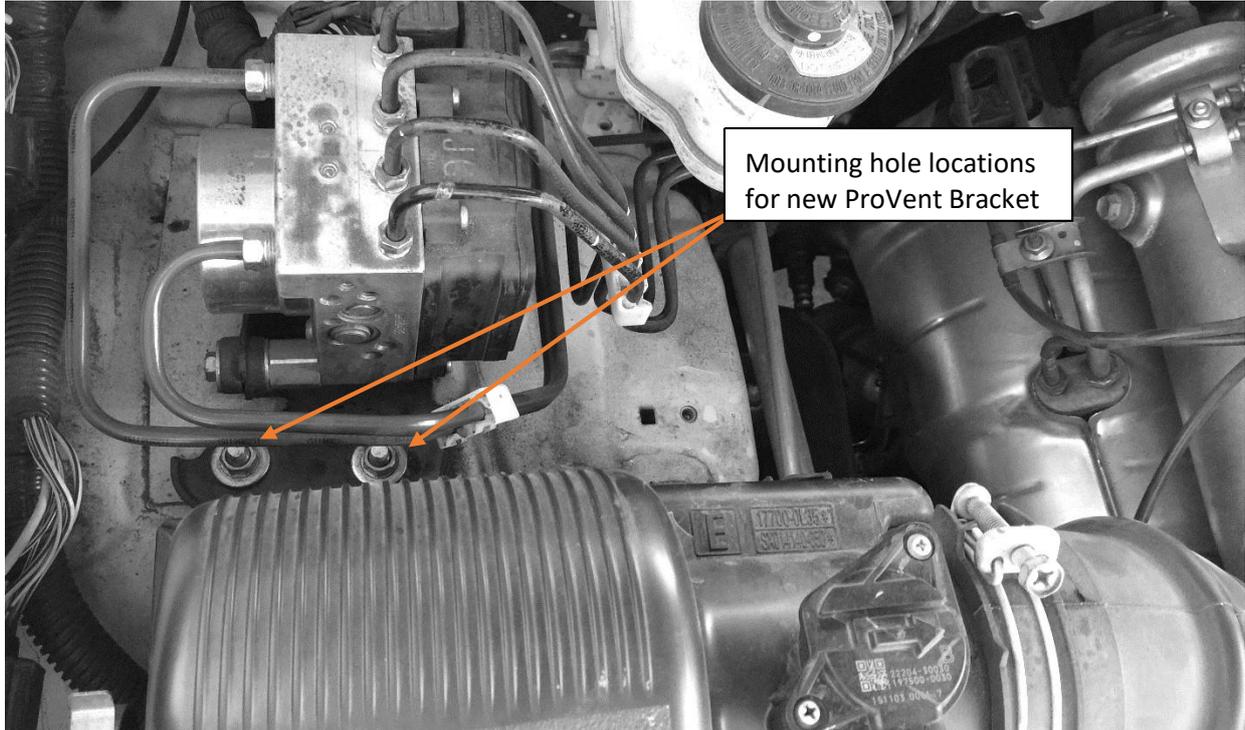


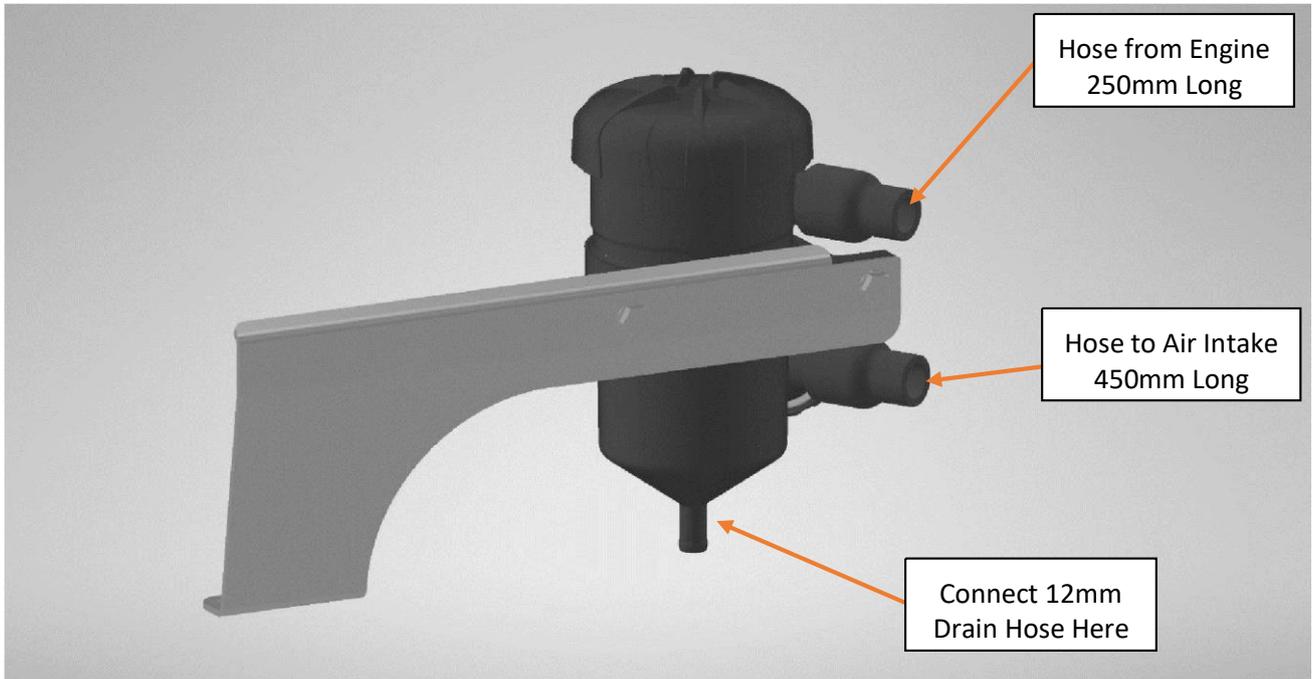
Image shows area behind the air box, highlighting new ProVent bracket location

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.



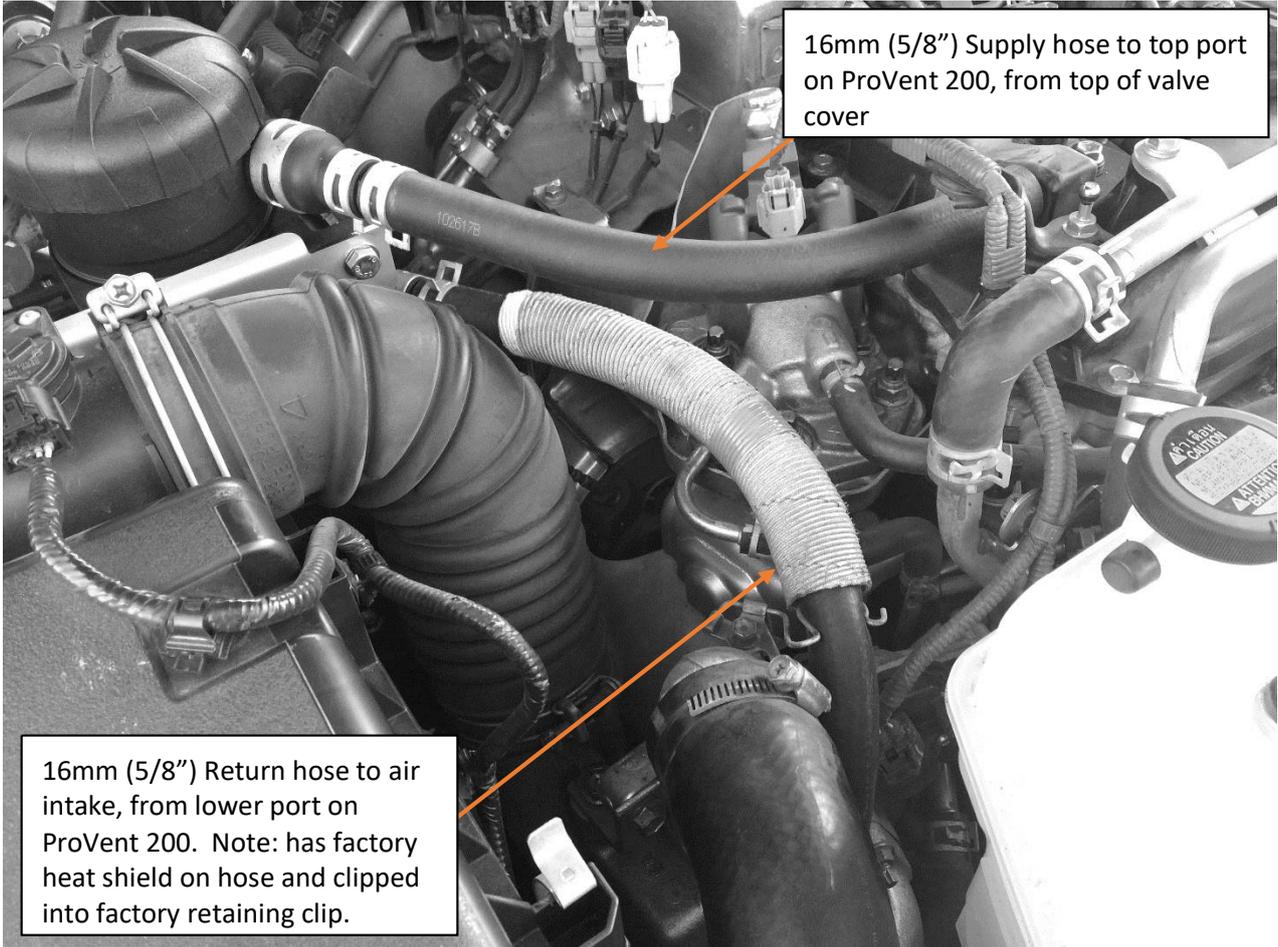
Hose tail and tap assembly inserted into 12mm hose, hose clamp not required

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.

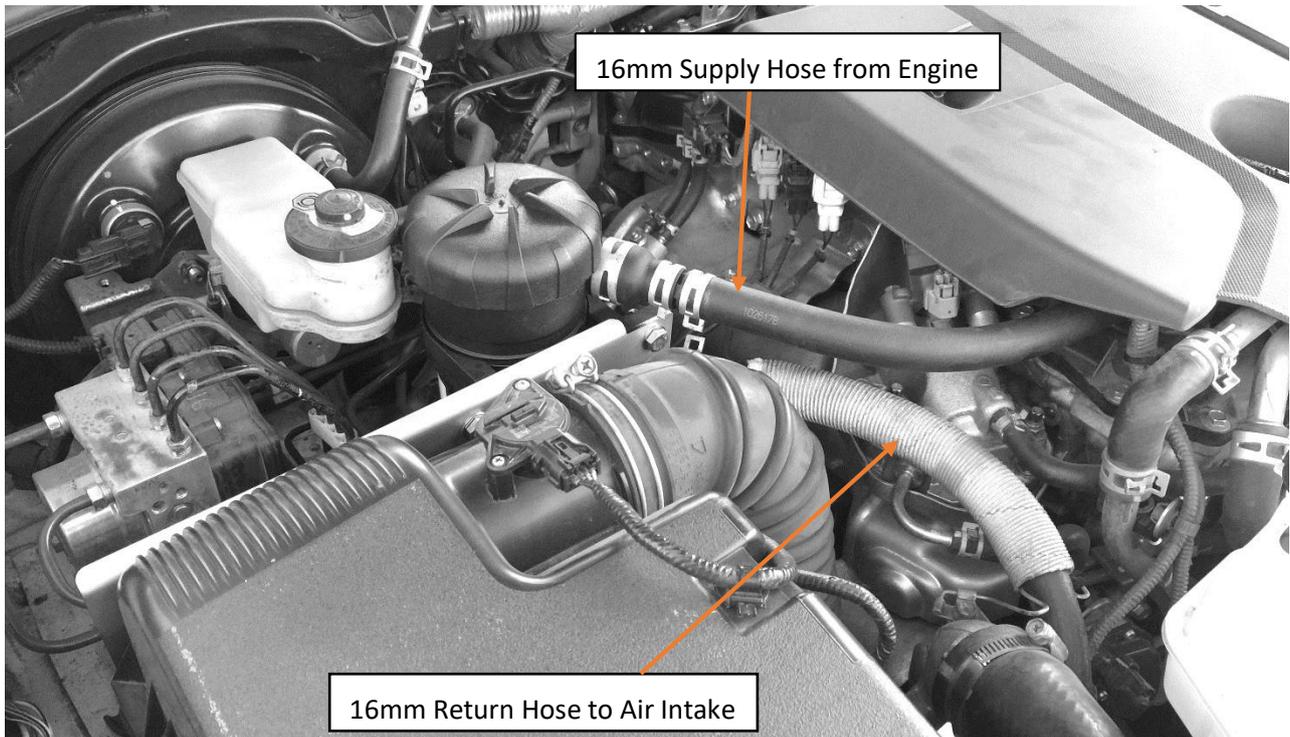


Left image – Tap Open. Right image – Tap Closed.

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.

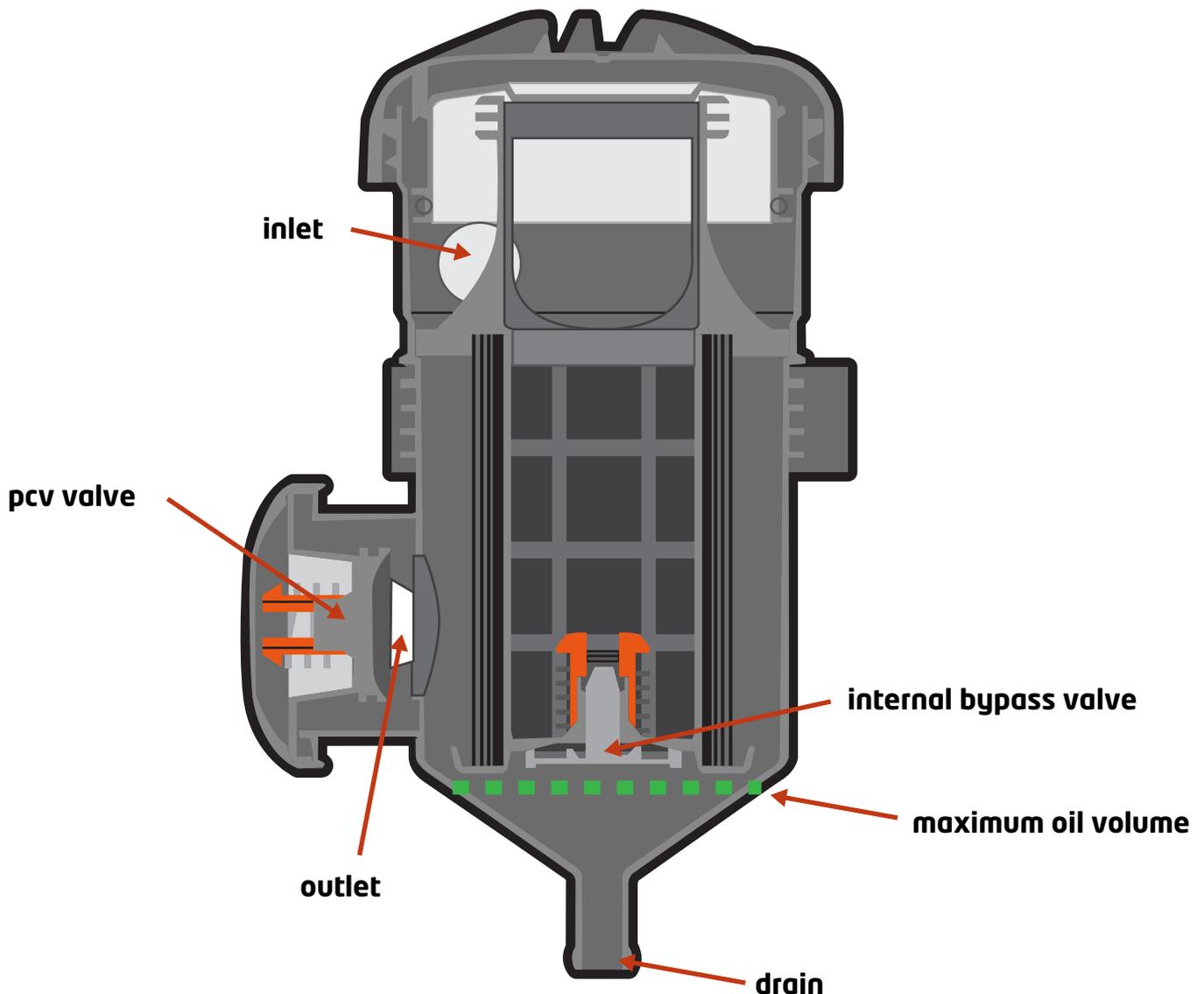


Hose configuration on Hilux N80 with ProVent 200 installed



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).

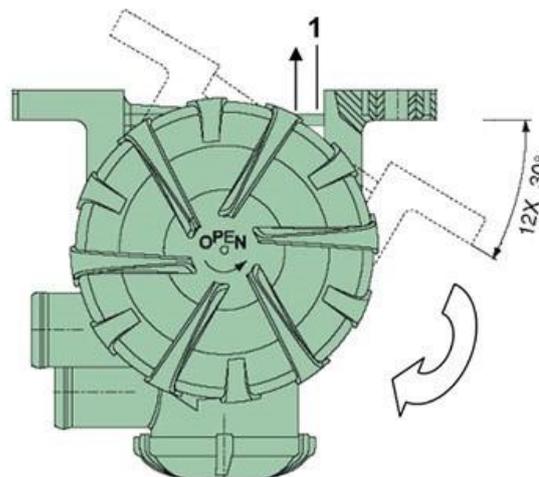


Fig. 5 Positions of outlet for ProVent 200

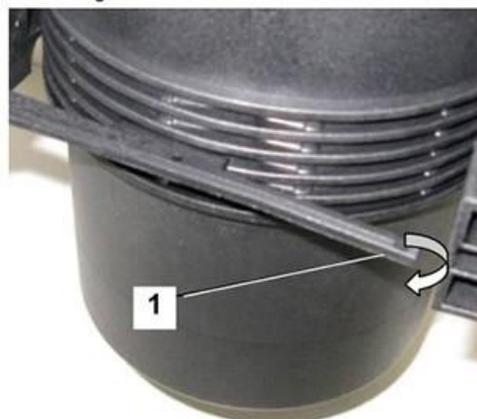


Fig. 6 Holder for ProVent 200