

Toyota Land Cruiser Prado 120 Series 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 2003-2009 Toyota Land Cruiser Prado 120 Series Diesel**. It is recommended that the installation of the product be carried out by a competent qualified mechanic. This kit also fits both 1KD-FTV and 1KZ-TE engines.

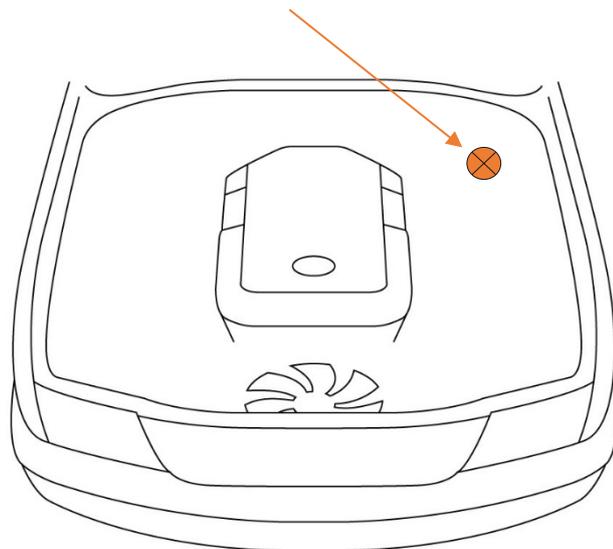
Important Before Starting

- 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 A
1 x Mounting Bracket B
1 x 1050mm of 16mm Hose
1 x 800mm of 16mm Hose
1 x 120mm of 16mm Hose
4 x 16mm Straight Joiner
1 x 16mm 90° Joiner
10 x 16mm Spring Clamps
2 x 25mm Spring Clamps
2 x 16mm to 25mm Hose Coupler
8 x Cable Ties
3 x M6x16 Bolt
2 x M6 Nyloc Nut
6 x M6 Flat Washer
2 x M8x25 Bolts
4 x M8 Flat Washers
2 x M8 Nuts
1 x 1000mm of 12mm Hose
1x Drain Tap Assembly
2 x 12-20mm Hose Clamps

Approximate mounting location



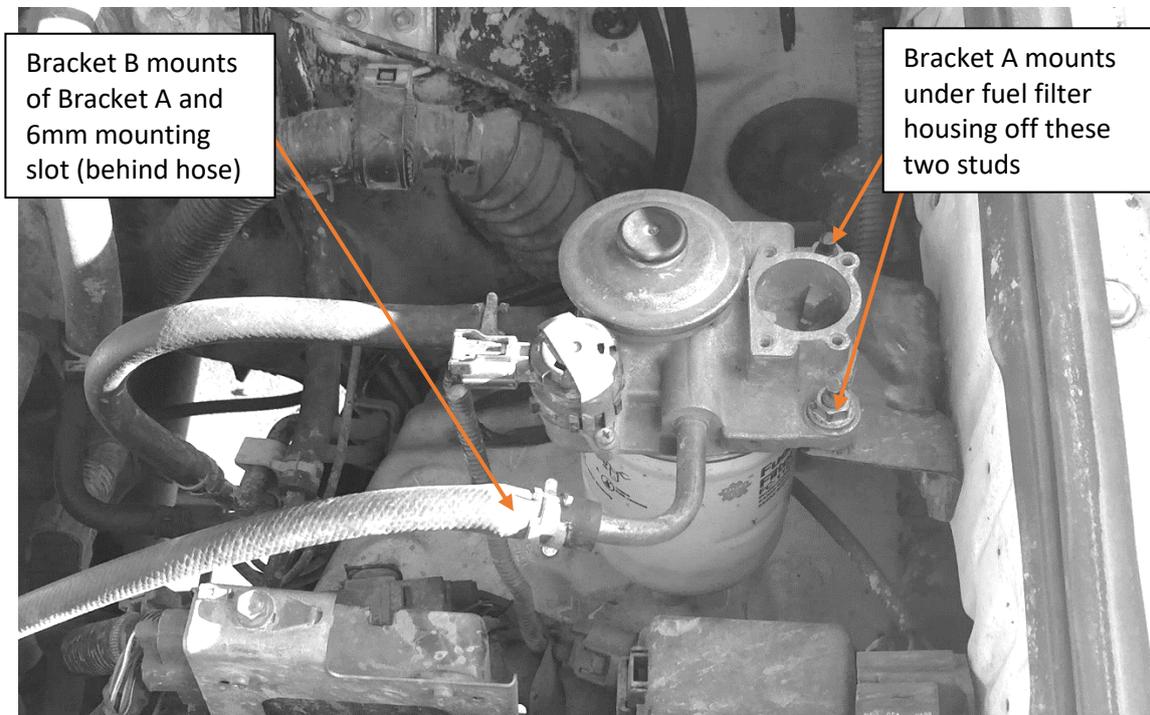
*Kit contents are subject to change based on component availability and/or refinement

Installation Guide



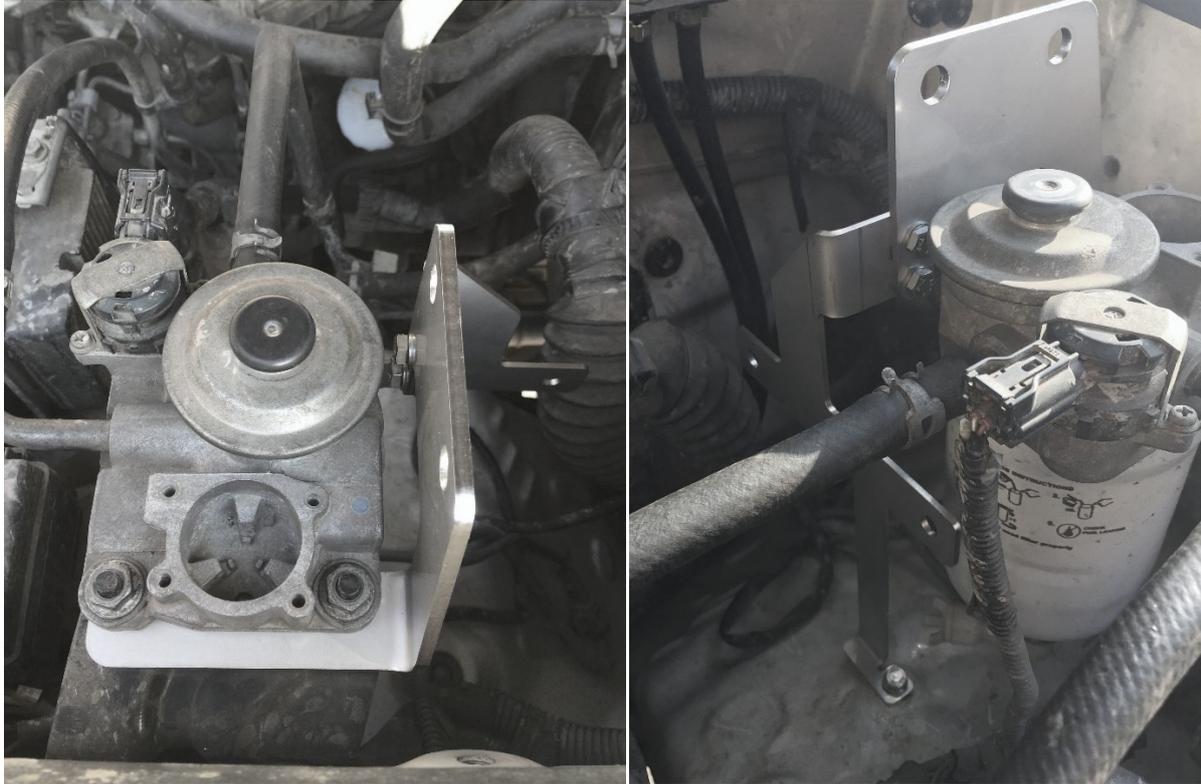
Land Cruiser Prado 120 Series Engine Bay – Overall View

1. Begin by removing the engine cover from the top of the engine.



Land Cruiser Prado 120 Series ProVent Bracket Mounting

2. Bolt both parts of the mounting bracket to the passenger's side of the vehicle, using the two M8 studs of the fuel filter bracket and empty 6mm slot in the inner guard. Secure the top bracket to the M8 studs first, then use two M6x16mm bolts and nyloc nuts with washers under both sides to secure the two brackets together. Use the third M6x16 bolt and nyloc nut to secure bottom of bracket to the inner guard. See images below.



New brackets bolted in place, note the top bracket goes under the factory fuel filter housing

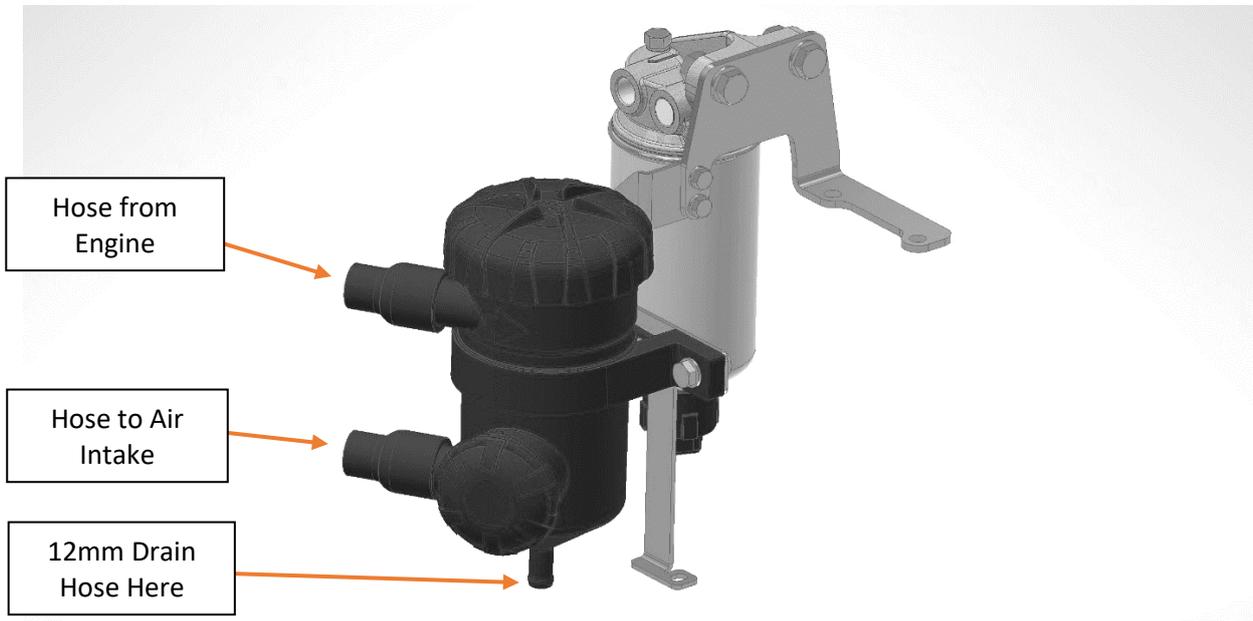
3. Connect the 12mm (1/2") Hose to the underside of the catch can body, using a clamp to secure it in place.



Provent 200 with 12mm hose connected and secured with a clamp

4. 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, steering, driveline and exhaust components while locating the bracket in to the correct location.

5. With the ProVent at the correct alignment, bolt the ProVent 200 to the bracket using the M8 hardware ensuring there is an M8 washer under the bolt head as well as a flat washer and spring washer under the nut.



Pre-assembled Provent 200 with bracket – Please note ProVent rotation in this image is correct, refer to the image on the last page of this installation guide for how to rotate ProVent correctly.



ProVent bolted in place at correct rotation.

6. Install the 25-16mm reducers in place on the ProVent's 25mm ports, secure in place with the 25mm spring clamps. Install 16mm straight joiners into each of the reducers, securing in place with a 16mm spring clamp.
7. Fit the Tap hose tail into the drain hose and secure with a clamp.



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

8. 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.
9. 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.

10. Remove the intercooler from the engine.
11. Remove the factory bypass elbow from the valve cover on the engine, the rigid steel pipe and the rubber hose joiner just in front of the turbo. Replace the factory bypass elbow but orientate it towards the rear of the vehicle, into it install a 16mm joiner and secure in place with a 16mm spring clamp.



Image shows factory intercooler removed, factory bypass hose removed, and rubber elbow reinstalled facing towards the rear of the vehicle

12. Install the 16mm joiner to the 25-16mm reducer you just removed the rigid steel bypass pipe from. Secure in place with 16mm spring clamp.
13. Mount one end of the 1050mm long 16mm (5/8") hose to the 16mm joiner you just installed into the air return just in front of the turbocharger. Secure in place with a spring clamp.
14. Run the other end of the 1050mm long hose to the lower side 16mm (5/8") joiner fitting on the ProVent. You may need to trim it to suit your needs. Secure in place with a spring clamp.
15. Mount one end of the 120mm 16mm (5/8") hose to the 16mm joiner connected to the bypass elbow on the valve cover. Secure in place with a hose clamp. To the other end of this hose install a 90° joiner (facing towards the passenger side of the vehicle) and secure in place with a spring clamp.
16. Connect the 800mm long 16mm (5/8") hose to the other side of the 90°. Secure in place with a spring clamp. Run the other end of the 800mm long hose to the upper side 16mm joiner fitting on the ProVent. You may need to trim it to suit your needs. Secure in place with a spring clamp.
17. Cable tie the lower hose to the intercooler brace to secure it out of the way. Additional cable ties are provided to secure hoses and eliminate rubbing on any components.

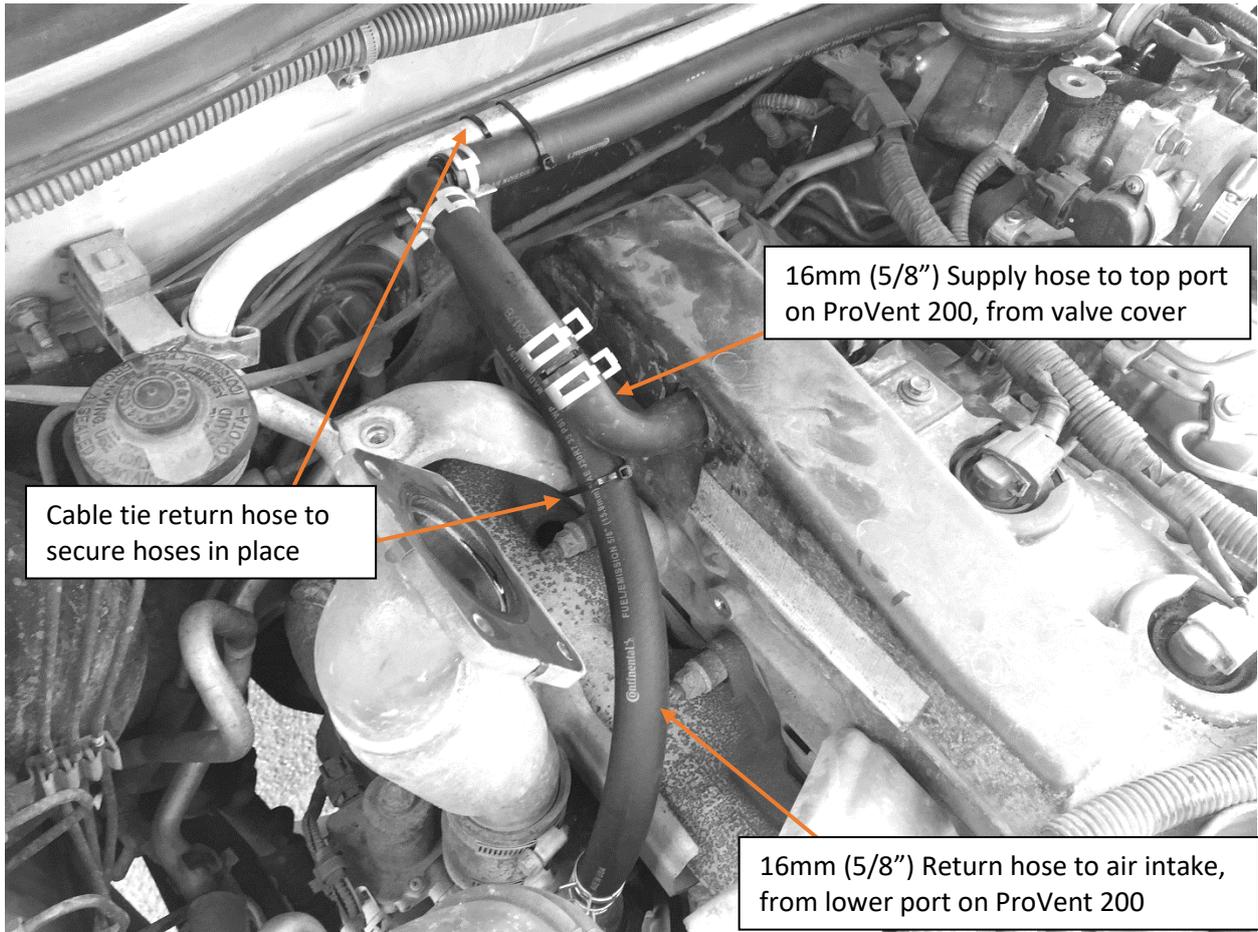


Image shows drivers side hose layout on 1KD-FTV Prado 120 series

18. Reinstall factory intercooler and engine cover. Start vehicle and check for leaks.

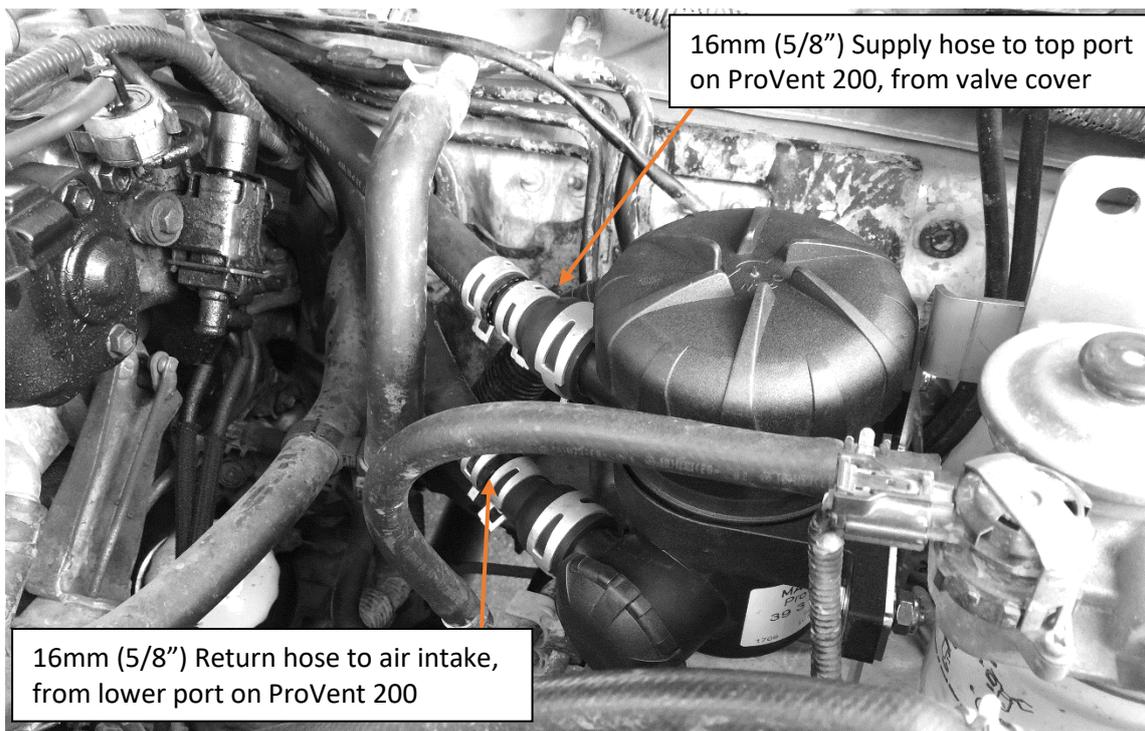
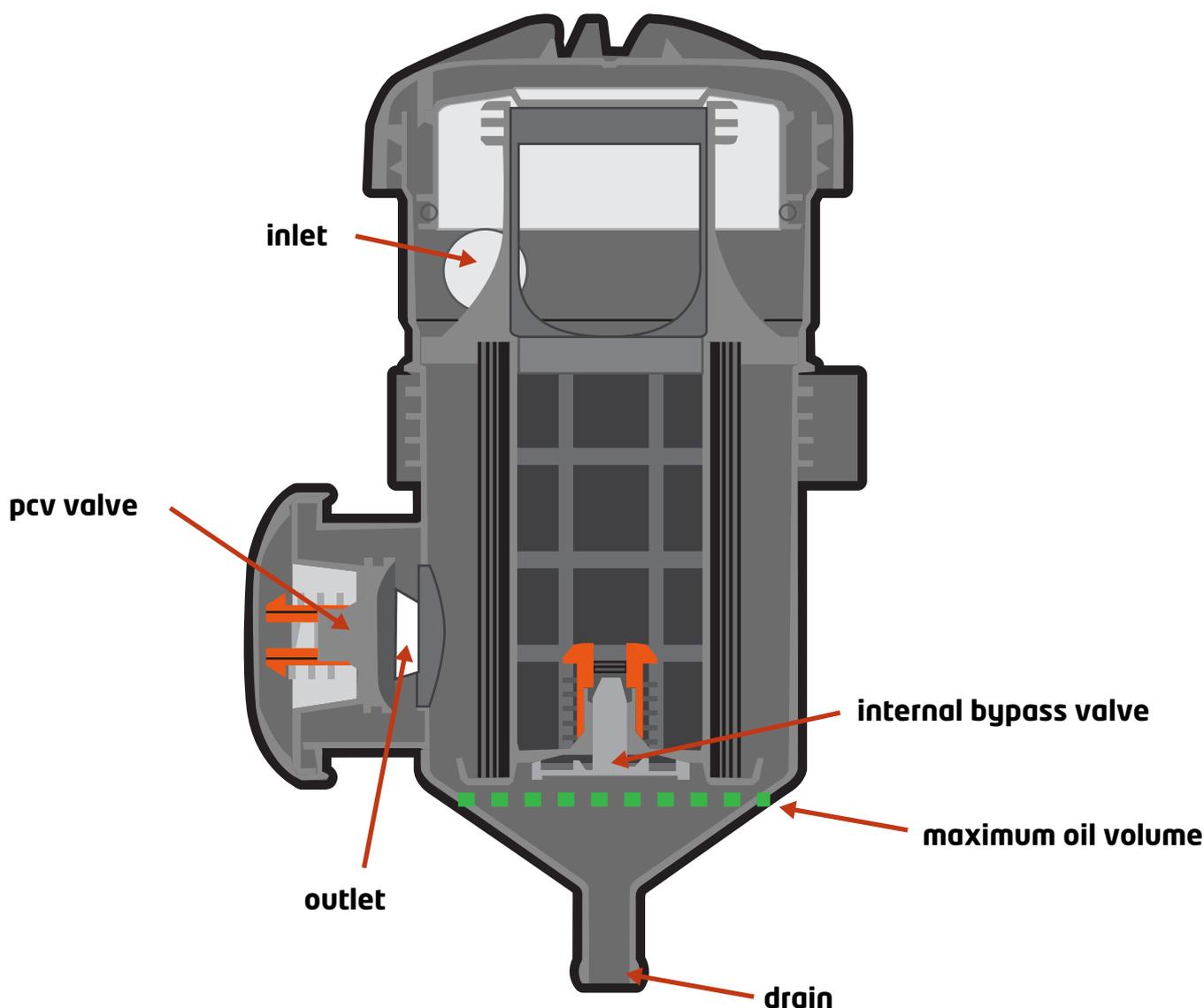


Image shows passengers side hose layout on 1KD-FTV Prado 120 series

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).

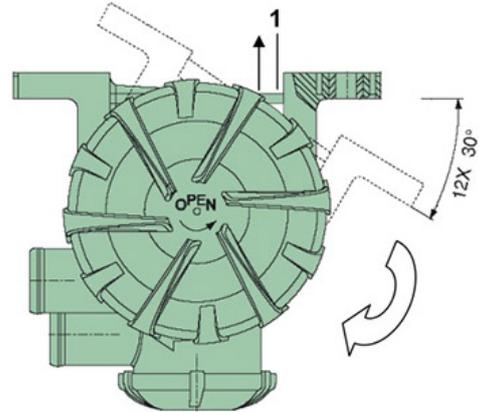


Fig. 5 Positions of outlet for ProVent 200

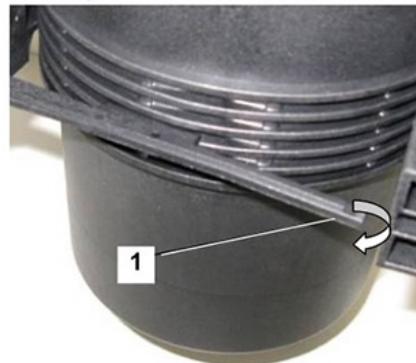


Fig. 6 Holder for ProVent 200