



Isuzu D-Max 4JJ1 ProVent Ultimate Catch Can and PreLine-Plus Pre-filter 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 2012-2019 Isuzu D-Max/MUX 3.0L 4JJ1 Diesel**. It is recommended that the installation of the product be carried out by a competent qualified mechanic.

Note: if your vehicle is fitted with a DPF (Diesel particulate filter) refer to the appendix at the end of the guide

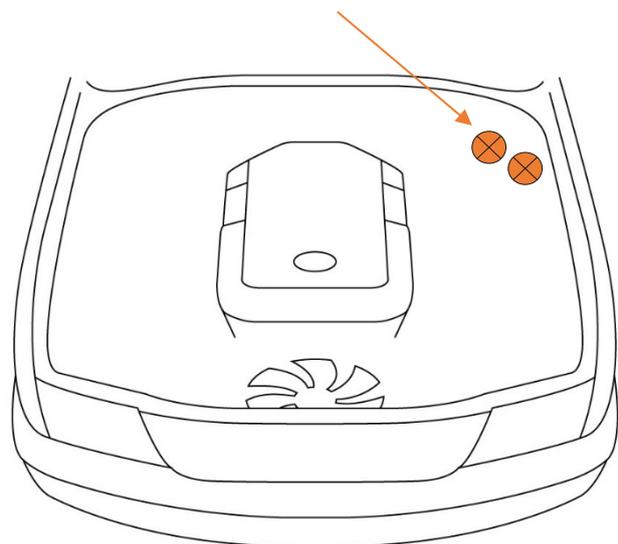
Important Before Starting

- 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
- Refer supplement guide for fitting the water alarm system
- It is sometimes easier to run the alarm wiring first

Included in the kit

1 x Mann + Hummel ProVent 200
1 x Mounting Bracket Part A
1 x Mounting Bracket Part B
1 x Mounting Bracket Part C
1 x 80mm of 16mm Hose
1 x 100mm of 16mm Hose
2 x 750mm of 16mm Hose
6 x M6x16 Bolts
10 x M6 Flat Washers
2 x M6 Spring Washers
4 x M6 Nyloc Nuts
11 x 16mm Spring Clamps
2 x 25mm Spring Clamps
2 x 16mm 90° Elbow
3 x 16mm Straight Joiner
2 x 25-16mm Reducing Couplers
2 x M8x25 Bolts
4 x M8 Flat Washers
2 x M8 Spring Washers
2 x M8 Stainless Steel Nuts
1000mm of 12mm Hose
1x Drain Tap Assembly
2 x 18-20mm Clamps
8 x Cable Ties
1 x Mann + Hummel PreLine 150 + sensor
1m x 12mm Fuel Hose
2 x M16 to -8 Adaptors
2 x M16 Alloy Washers
2 x -8 90° Push Lock Fittings
4 x 18-20mm EFI Clamps
2 x M10x30 Bolts
4 x M10 Flat Washers
2 x M10 Nyloc Nuts
1 x WATER ALARM KIT

Approximate mounting location



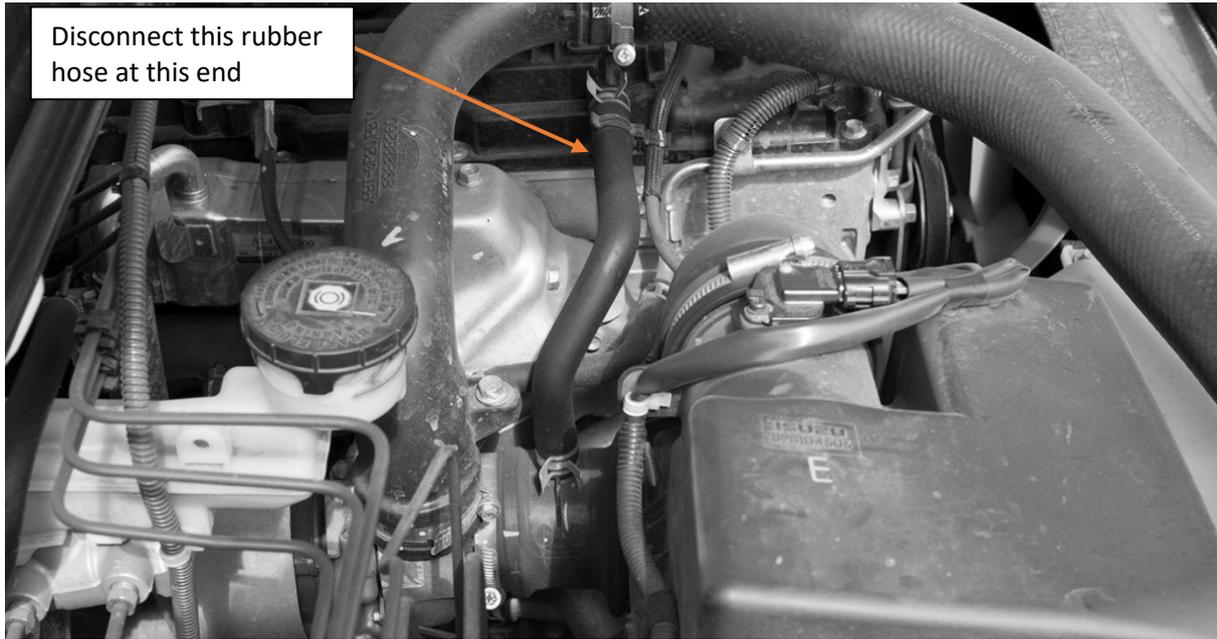
PROVENT ULTIMATE CATCH CAN Installation Guide

1. Begin by removing the engine cover, it just pops off plastic pins, it requires no tools to remove. Some Covers require the oil filler cap to be removed first, if this is needed please reinstall oil filler cap once cover is removed to prevent and contamination inside the engine.



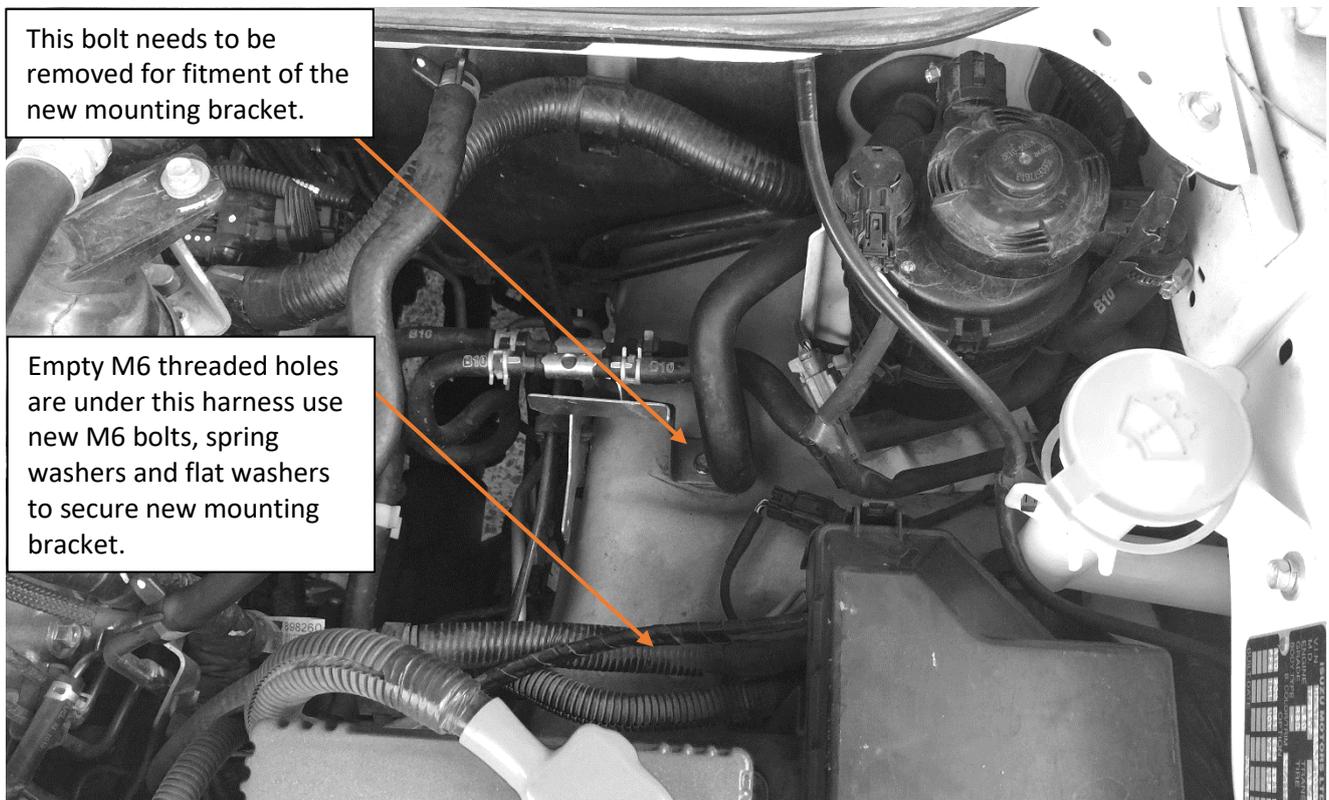
D-Max Engine Bay- Overall View

2. Disconnect the factory bypass hose from the valve cover which runs down to the air inlet hose just before the turbocharger.



D-Max Engine Bay- Exhaust Side

3. Remove the bolt securing the fuel line bracket in the rear passenger side of the engine bay. Locate the two additional blank M6 threaded holes under the wiring harness. Place the new mounting bracket in place and secure with M6x16 bolts, M6 spring washers and flat washers. Reuse the original M6 flange head bolt in the original location, but now securing the new bracket in addition to the original one.



D-Max Engine Bay- Rear Passenger Side



D-Max Engine Bay- Rear Passenger Side with new bracket installed

4. Connect the 12mm 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 spring clamp

5. Install the ProVent 200 onto the bracket using the supplied M8 Hardware. During the installation you will need to feed the 12mm drain hose down the side of the engine bay.

6. Run 12mm Hose down 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, secured with a clamp

7. Use the supplied cable ties to secure the 12mm hose into the location required to prevent movement, just 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. Make sure the tap position is closed and avoid placing the tap in a location in which it will fill with dirt and mud.
10. Install the 25-16mm reducers to the inlet and outlet ports of the ProVent 200 using the supplied spring clamps to secure in place.



ProVent 200 bolted in place at correct orientation with first support bracket in place. 25-16mm reducing couplers and clamps are also installed in this picture

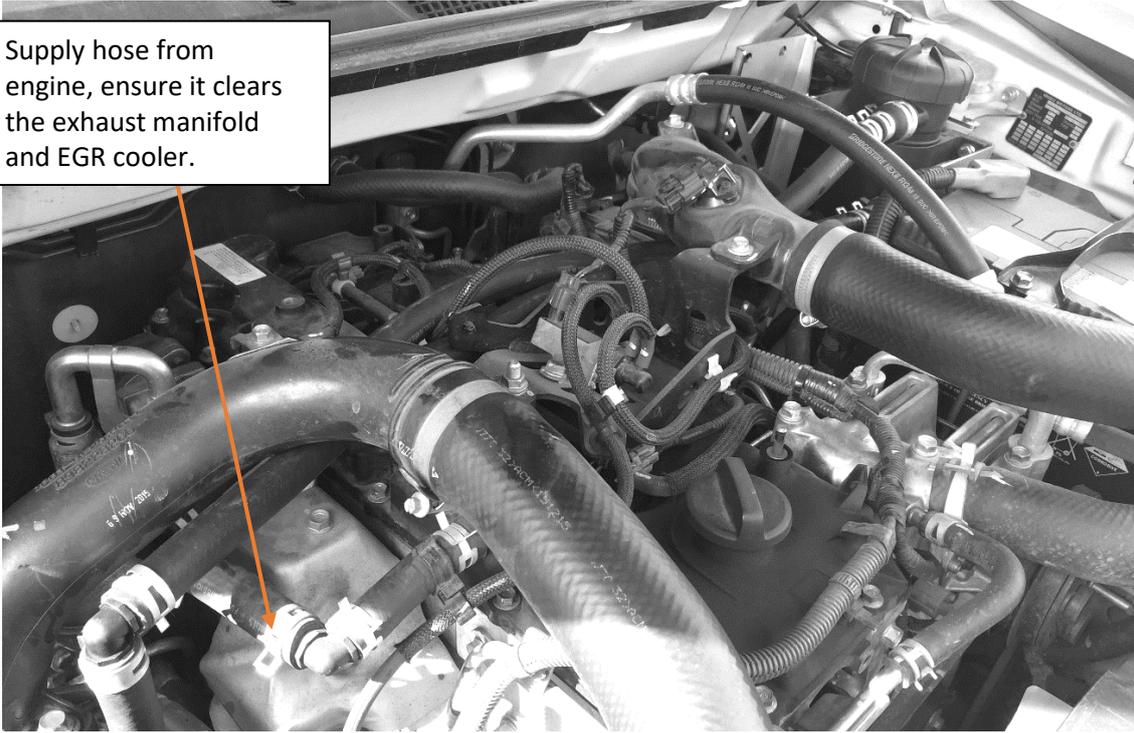
11. Install the both braces using the M6x16 bolts, M6 flat washers and M6 nyloc nuts. It reuses the original washer bottle filler mounting bolt and location.
12. Mount one end of the 80mm long 16mm hose to the fitting on the valve cover in which the factory bypass hose was removed. Use a 16mm spring clamp to secure it in place.
13. Mount the other end of the 80mm long 16mm hose to a 16mm 90° elbow, face the elbow towards the cabin and secure in place with a spring clamp. To the other end of this elbow secure one end of the 100mm length of 16mm hose. To the other end of the 100mm long 16mm hose to a 16mm 90° elbow, face the elbow towards the ProVent and secure in place with a spring clamp.
14. Use a 750mm length of 16mm hose to run from the inlet port of the ProVent 200 to the 90° elbow you just installed. Secure in place with a spring clamp at each end.
15. Use the other 750mm length of 16mm hose to run from the outlet port of the ProVent 200 to the factory bypass hose, using a 16mm joiner to connect the two. It may need to be trimmed shorter depending on route taken. Secure in place with a spring clamp at each end.
16. Once complete reinstall the engine cover and check system for leaks.

Return Hose to Air Intake



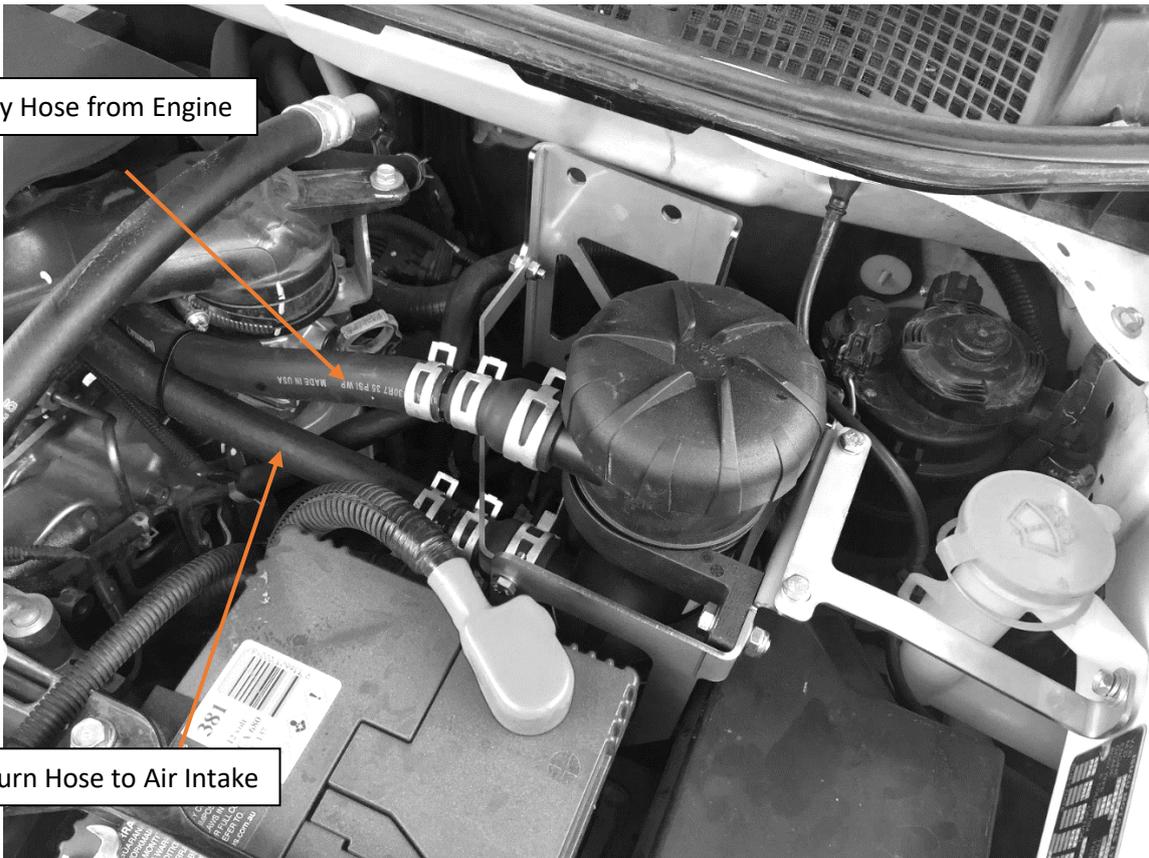
Hose routing for ProVent 200 with engine cover removed, please note this vehicle had already had the factory bypass hose removed, hence why it wasn't used in the assembly, installation is neater using factory hose.

Supply hose from engine, ensure it clears the exhaust manifold and EGR cooler.



Supply Hose from Engine

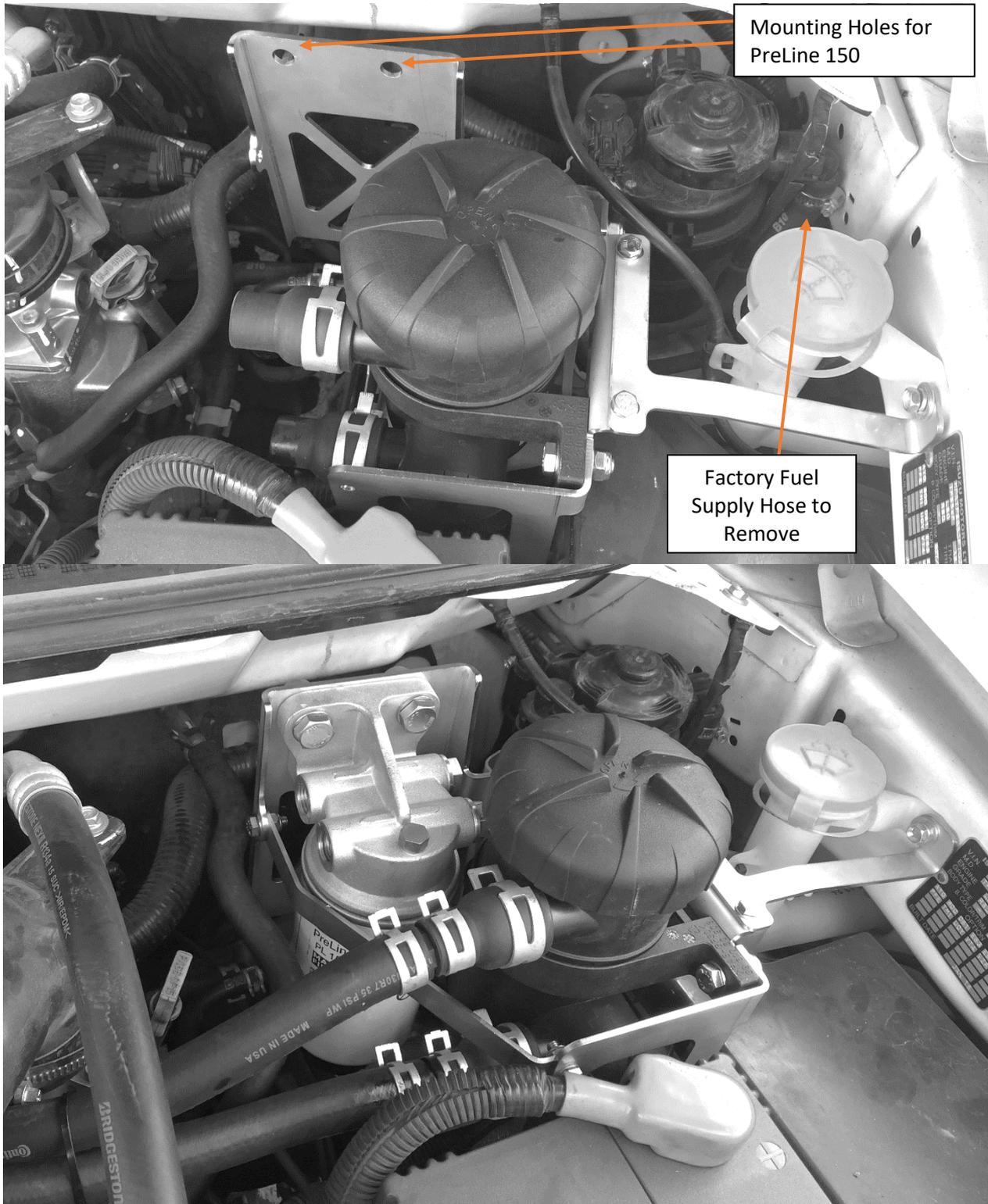
Return Hose to Air Intake



End of ProVent Guide

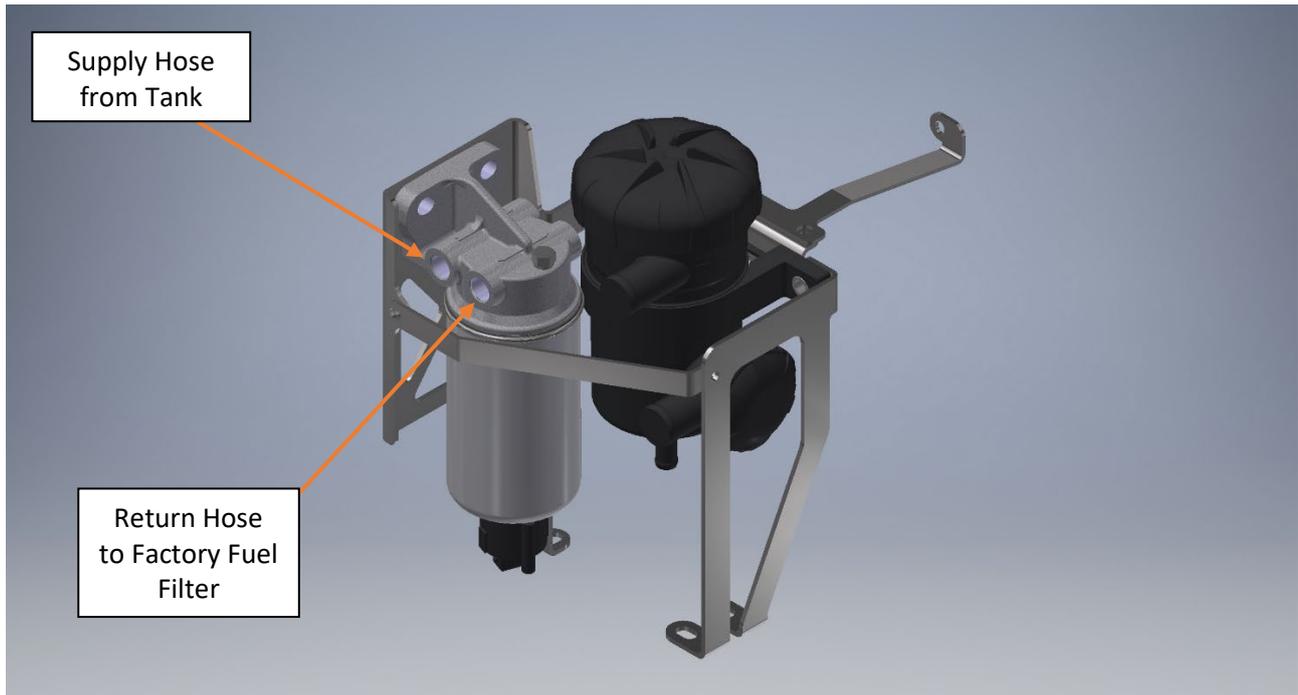
PRELINE-PLUS Installation Guide

1. With an M10 flat washer on each of the M10x30mm bolts, mount the PreLine 150 to the mounting bracket. Use a flat washer and nyloc nut to secure the bolts on the other side.



Provent 200, PreLine 150 with bracket assembly— Please note fuel fittings not installed yet in this picture

Note: it may be required to remove the pre-installed plugs and reinstall them based on the specific installation.



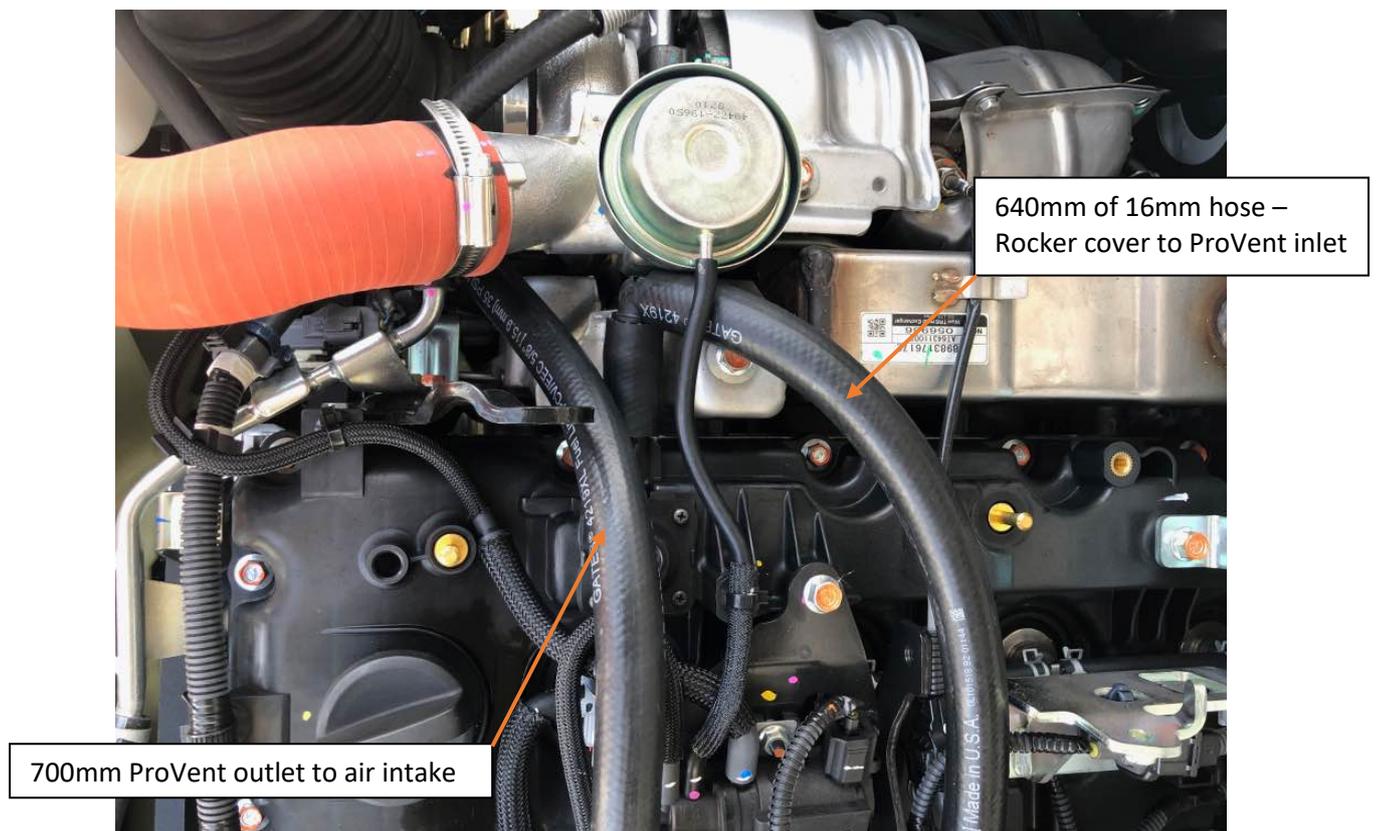
Provent 200, PreLine 150 with bracket assembly– Please note fuel fittings not shown in this image

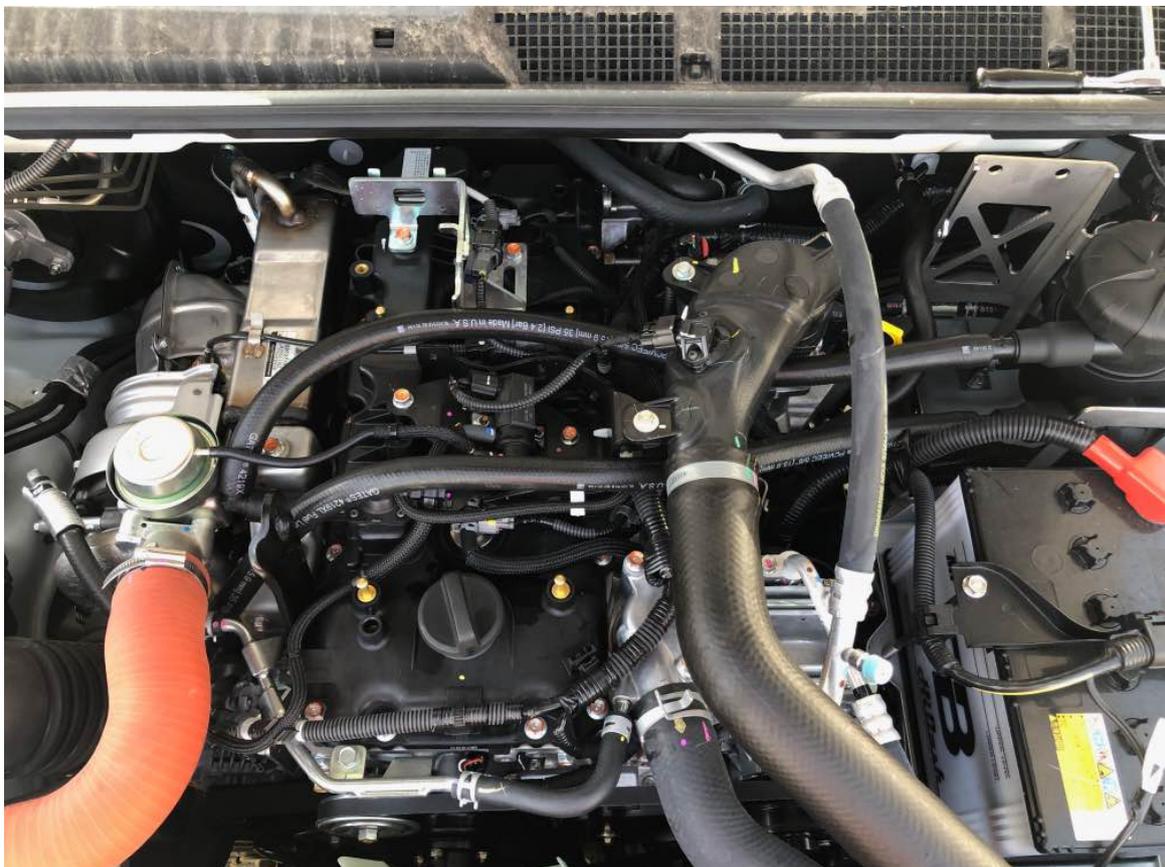
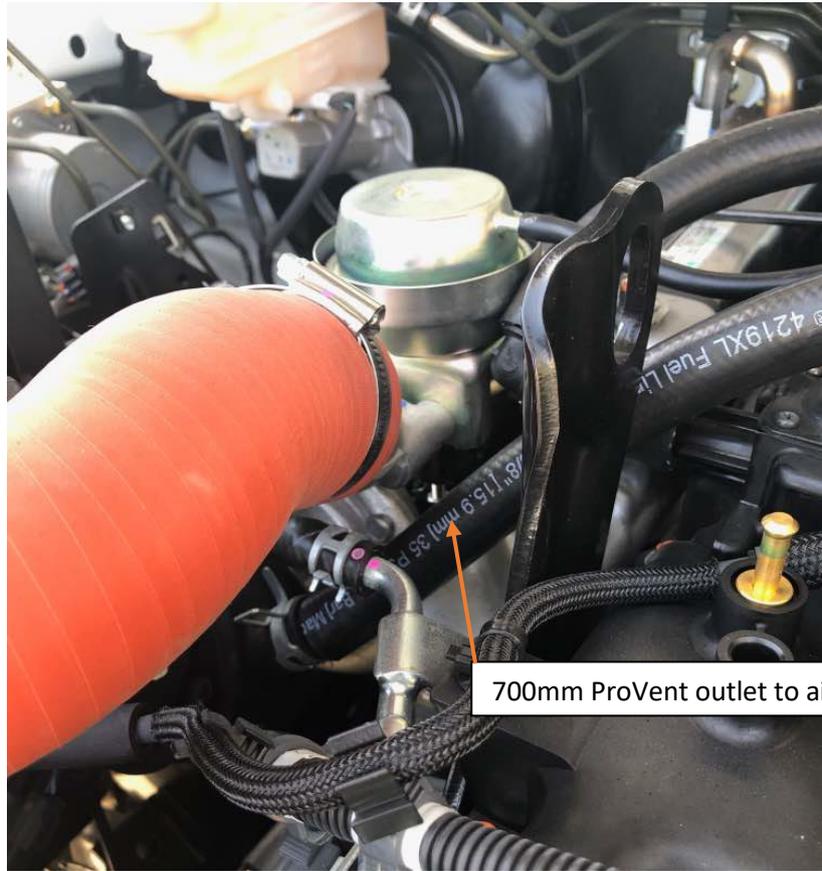
2. Install the M16 to -8 Adaptors to the ports on the PreLine, then need to be on the same side as the engine. The blanking ports should be on the other side.
3. Install two of the -8 to 12mm 90° push lock fittings to the -8 adaptors just installed. Face the fittings down and slightly rearward.
4. Lift the factory fuel filter out of its bracket. The hose facing down on the inner guard is the inlet hose, remove this hose completely.
5. To the rigid end of the steel line the hose was just removed from (line from tank), measure and cut a piece of hose and connect to the inlet port on the PreLine 150.
6. To the factory fuel filter inlet port measure and cut a piece of hose and connect to the outlet port on the PreLine 150.
7. Prime the system using the factory filter priming pump. If additional bleeding is required (and after a filter change) there is a bleed screw on top of the PreLine unit to remove air.
8. Once complete start the vehicle, carefully and thoroughly checking for leaks.
9. Run the vehicle for at least 20 minutes to ensure there are no air pockets in the fuel system.
10. Refer supplement guide for fitting the water alarm system

End of PreLine Guide

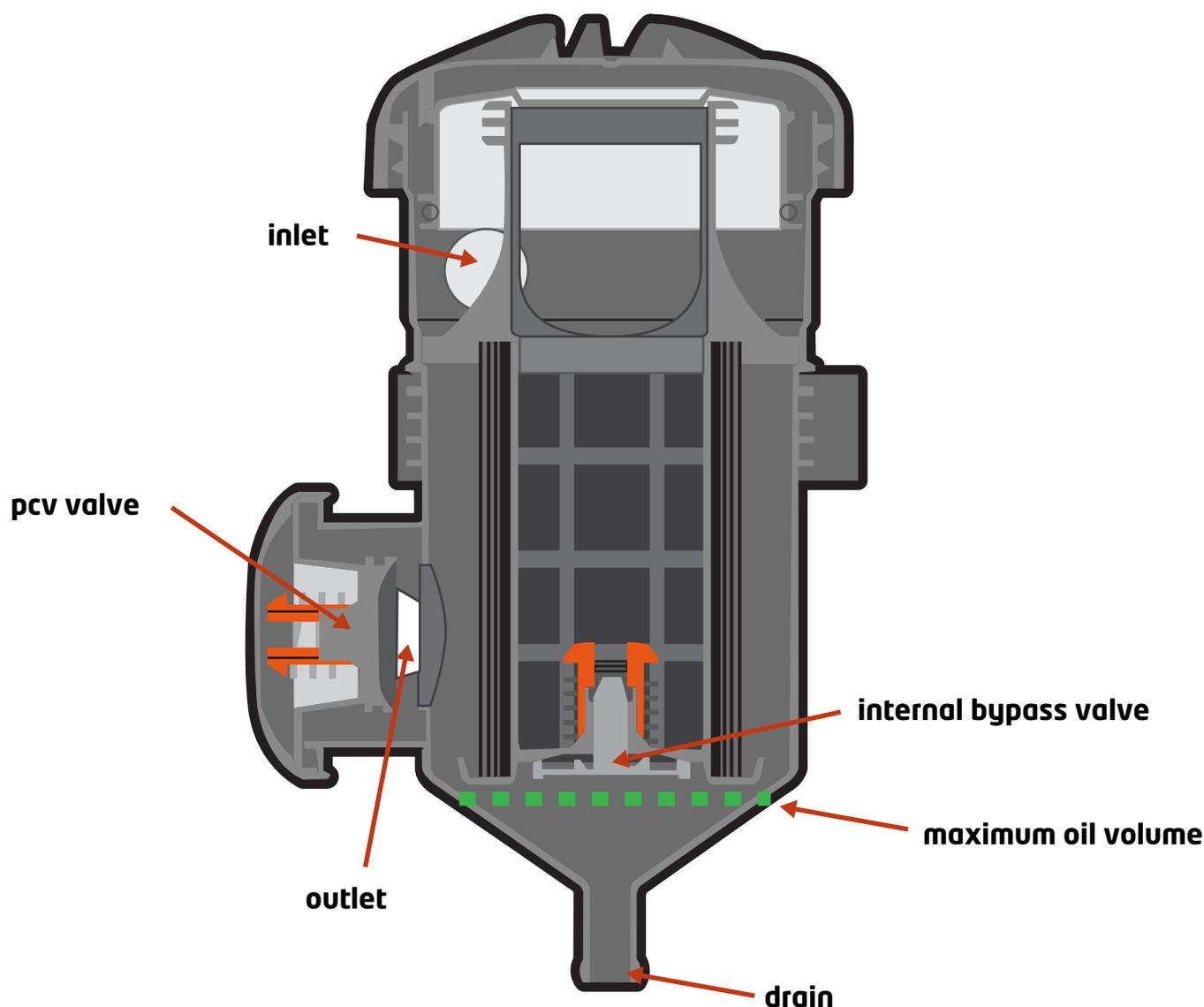
Appendix

The hoses will need to be shortened to suit applications fitted with a DPF and connected as outlined in the following images.





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).

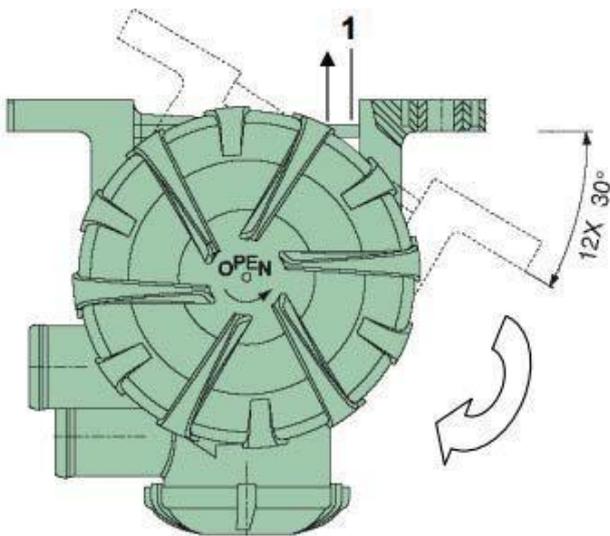


Fig. 5 Positions of outlet for ProVent 200

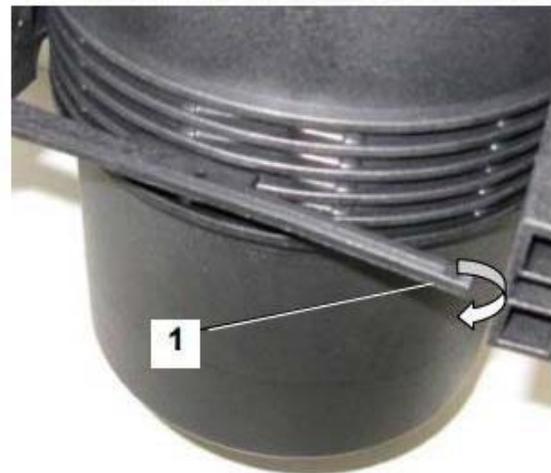


Fig. 6 Holder for ProVent 200