

# Isuzu D-MAX / MU-X / BT-50 Fuel Manager Pre-Filter + ProVent Ultimate Catch Can Kit Installation Guide

This document is to be used as a guide for the installation of the **Direction-Plus™ Isuzu DMAX Fuel Manager Pre-Filter + ProVent Ultimate Catch Can Kit to Isuzu D-MAX, MU-X and Mazda BT-50 4JJ3-TCX (2020-2022)**. It is recommended that the installation of these products be carried out by a competent, qualified mechanic.

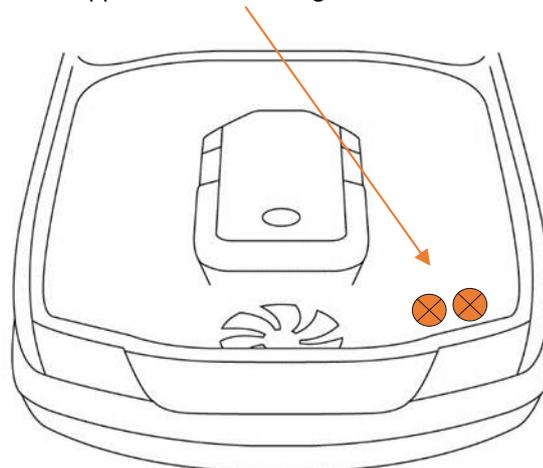
## Important before starting

- Ensure the engine bay is clean and free from contaminants
- 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

## Included in the kit

1x Mann + Hummel ProVent  
200 1 x Mounting Bracket  
2x 25mm - 16mm reducer  
1x 540mm of 16mm Hose  
1x 570mm of 16mm hose  
1x 175mm of 16mm hose  
  
1x 80mm of 16mm Hose  
2x 60mm of 16mm Hose  
6x 16 mm 90° Joiners  
1 x 16mm straight connector  
14 x 16mm Spring Clamps  
2x 25mm Spring Clamps  
8x Cable Ties  
1 x M8x16 Bolt  
5x M8 Flat Washers  
2x M8x25 Bolts  
3x M8 Stainless Steel Nuts  
2x M6 Flat Washers  
2x M6 nyloc Nut  
  
1x 1000mm of 12mm Hose  
1x Drain Tap Assembly  
2x 12mm Spring Clamps  
1x Fuel Manager Pre-filter  
1x water alarm installation kit  
2x M10x35 bolt  
4x M10 flat washer  
2x M10 nyloc nut  
2x M16 flat washer  
2x 90° -8 12mm barbed fitting  
2x M16 to -8 adapters  
1x 2000mm of 12mm fuel hose  
2x 12mm hose clamps

Approximate mounting location

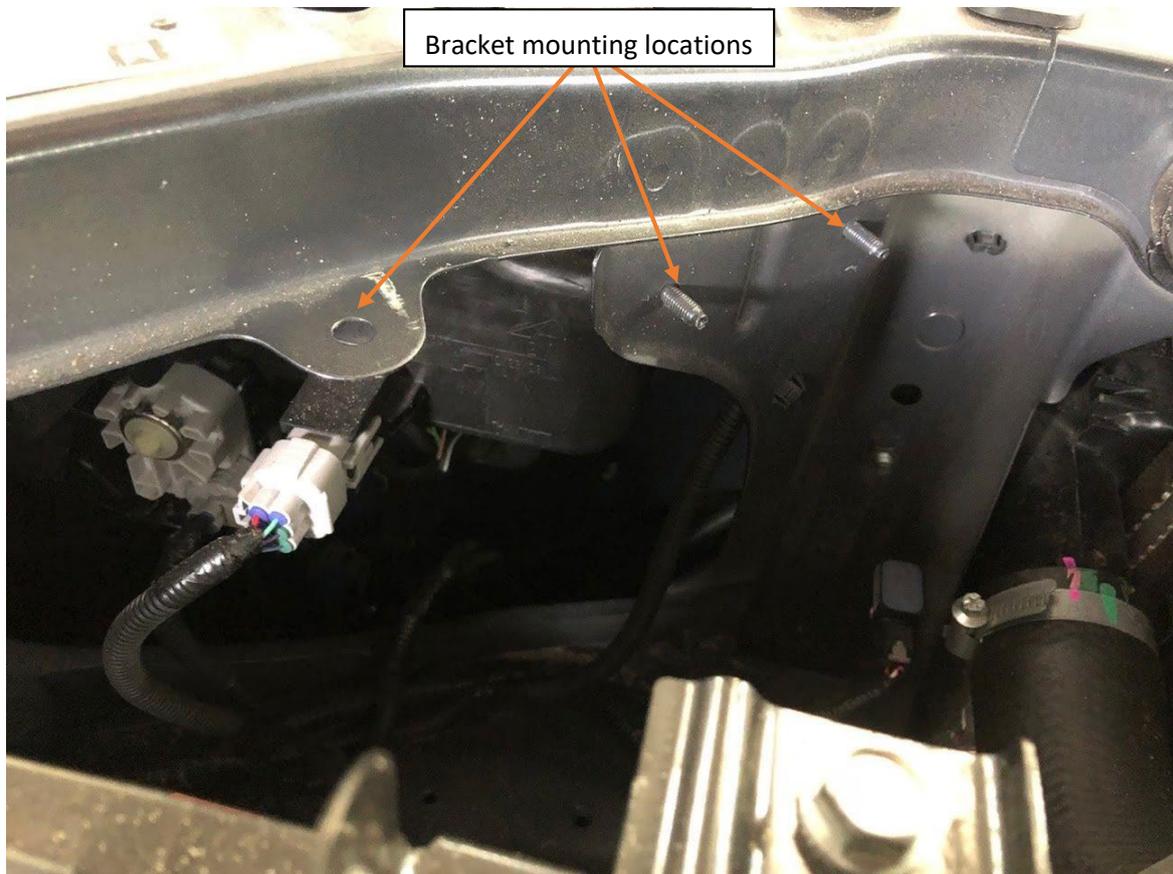


Kit contents are subject to change based on availability

## Provent Ultimate Catch Can Installation Guide

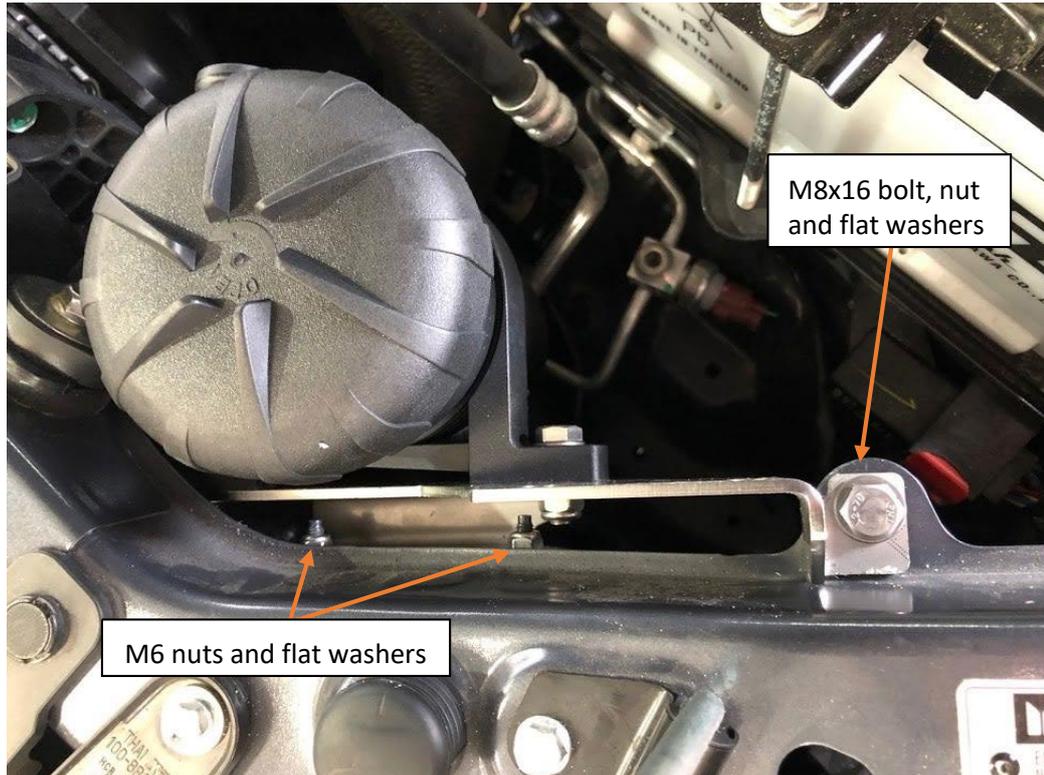


1. Start by installing the drain hose to the ProVent using one of the 12mm spring clams. The drain tap does not need to be installed at this point
2. Mount the ProVent to the mounting bracket like in the image below.  
**Note the orientation of the ports in relation to the mounting bracket**



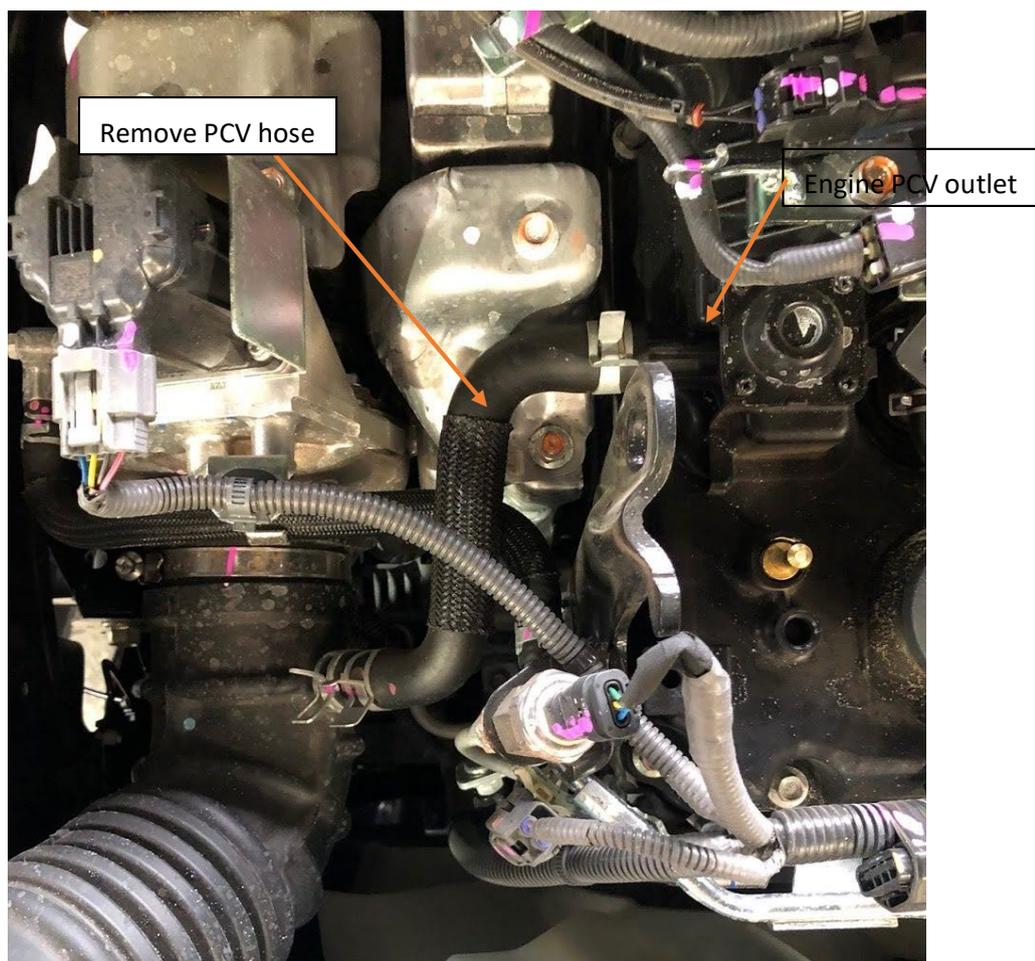
*Picture taken showing behind the passenger side head light*

3. Mount the ProVent and the mounting bracket using 1x M8 bolt 2x M8 flat washer 1x M8 nyloc nut 2x M6 nyloc nut and 2x M6 flat washers, you will need to feed the drain hose down the inner guard at the same time. Loosely install the M8 bolt and Start both M6 nuts on the threads before you start tightening. When tight **Note: the ProVent will need to be rotated, refer to the last page for instructions**

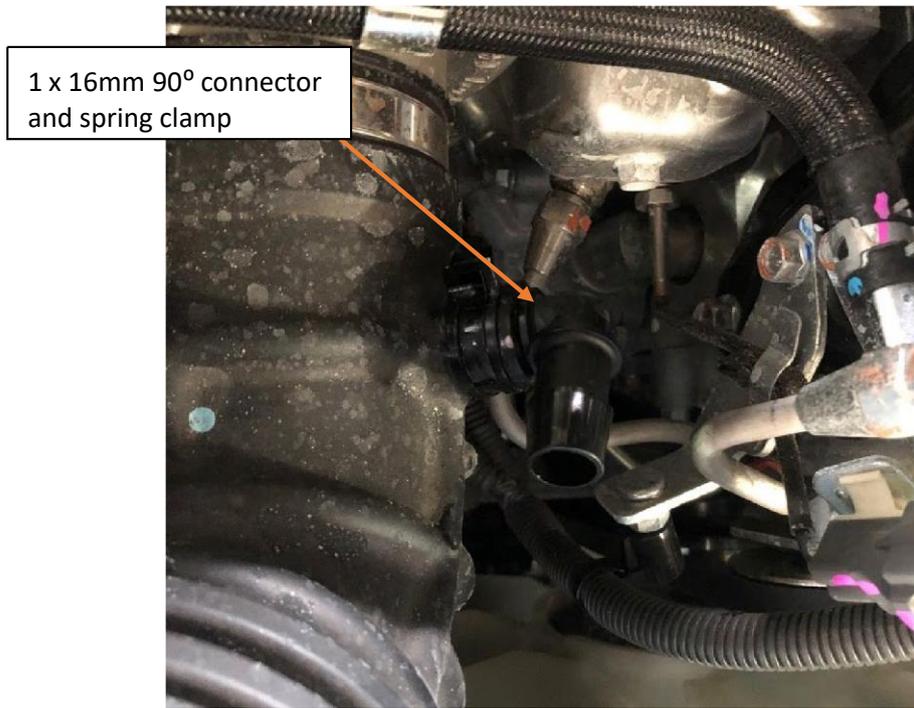


*Bracket a ProVent Installed*

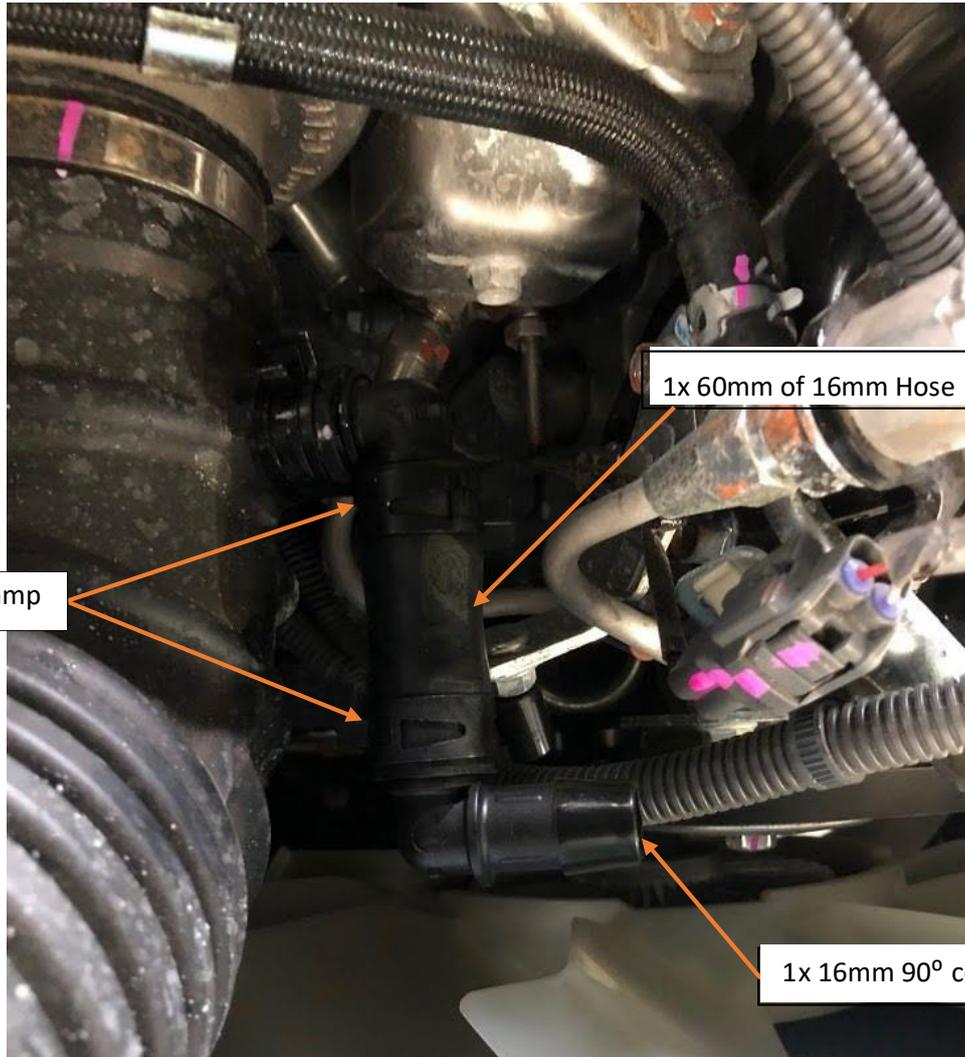
4. Remove the engine cover, locate the PCV hose and revoke the hose. You will also need to remove the original connector installed into the intake pipe.



5. Using a 16mm spring clamp install 1 x 16mm 90° connectors into the intake pipe so that it is facing toward the front of the vehicle

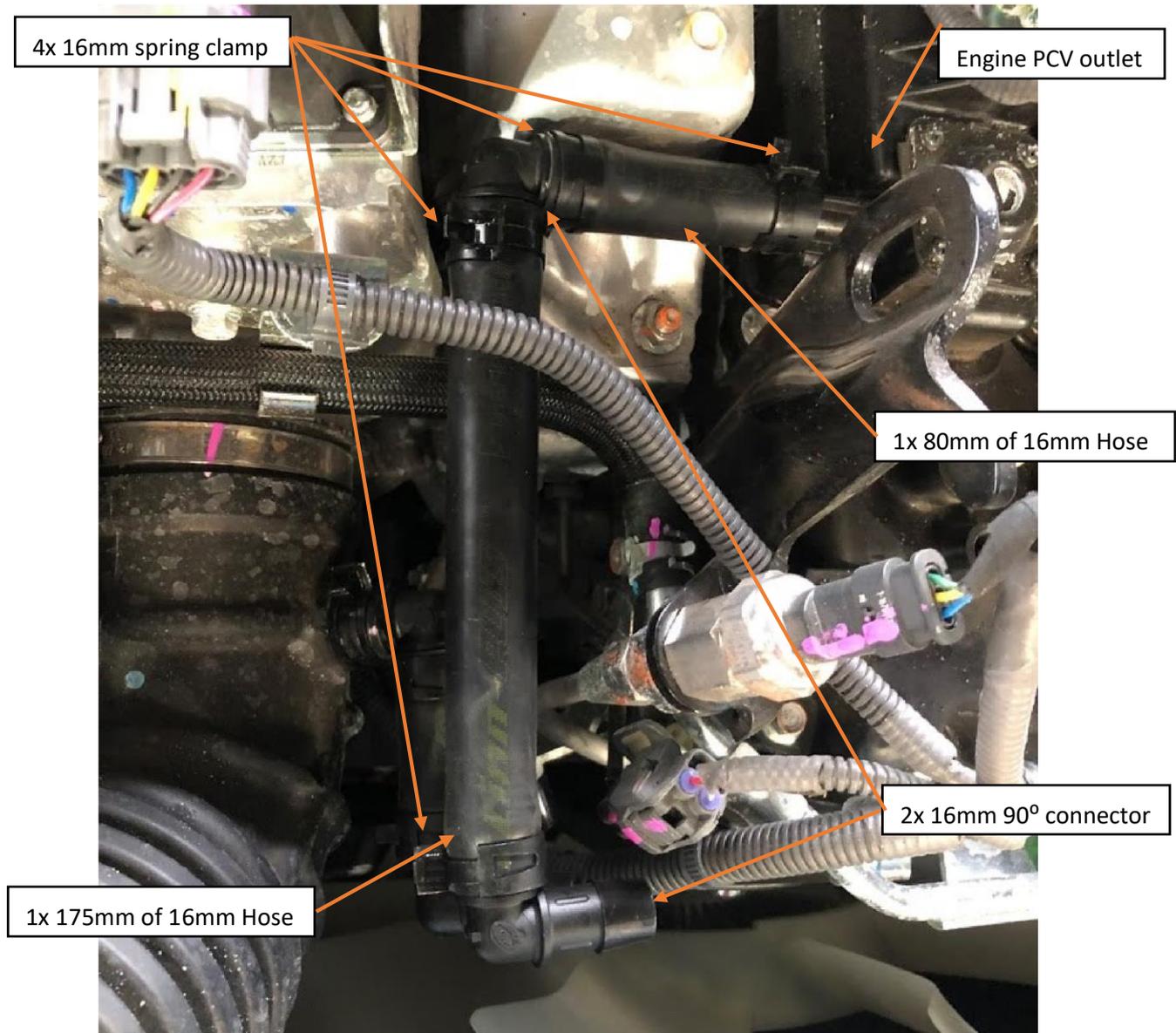


6. Install 1x 60mm of 16mm Hose, 2x 16mm spring clamp and 1x 16mm 90° connectors as illustrated in the image below. Note the direction in which the fittings are facing.

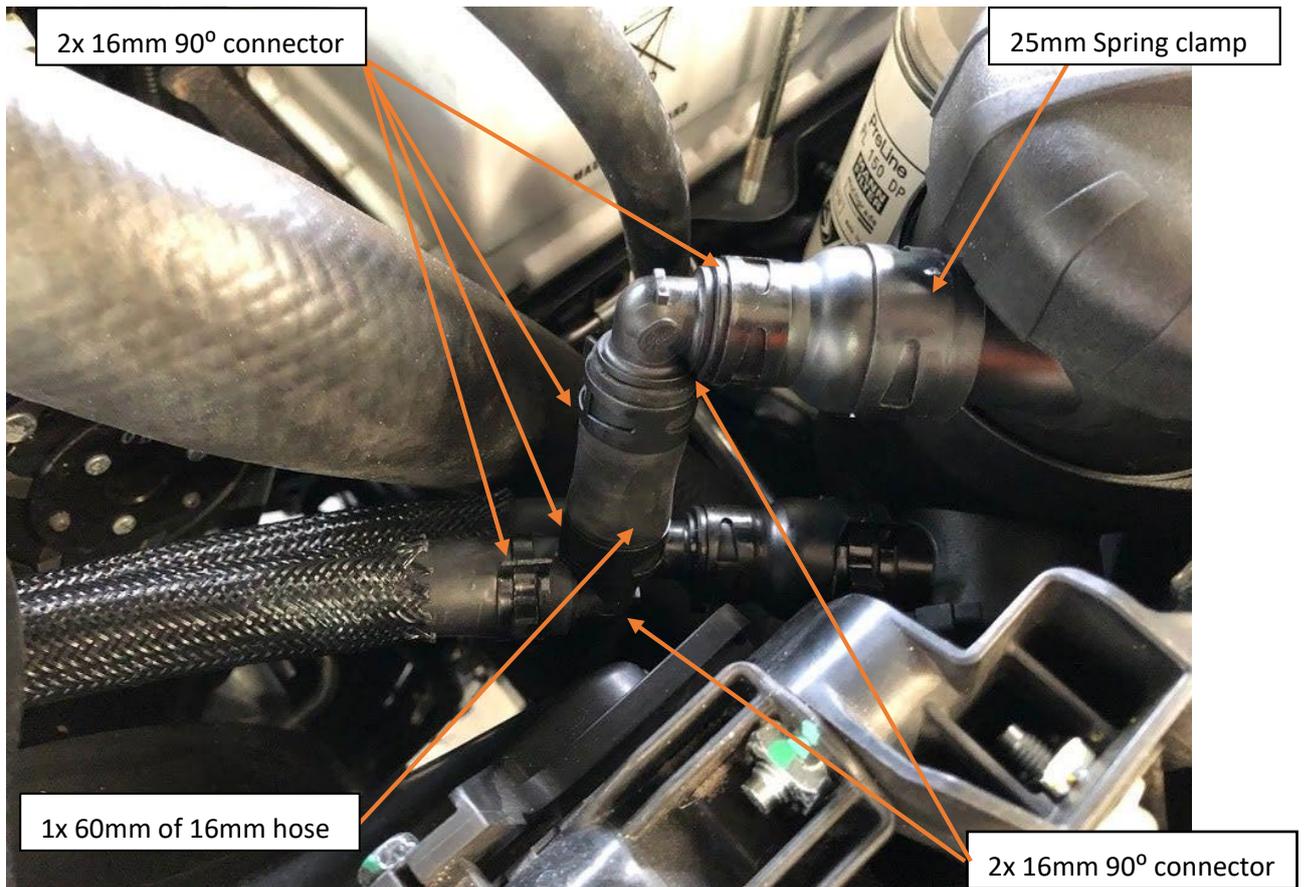


*Intake hose to ProVent outlet connection*

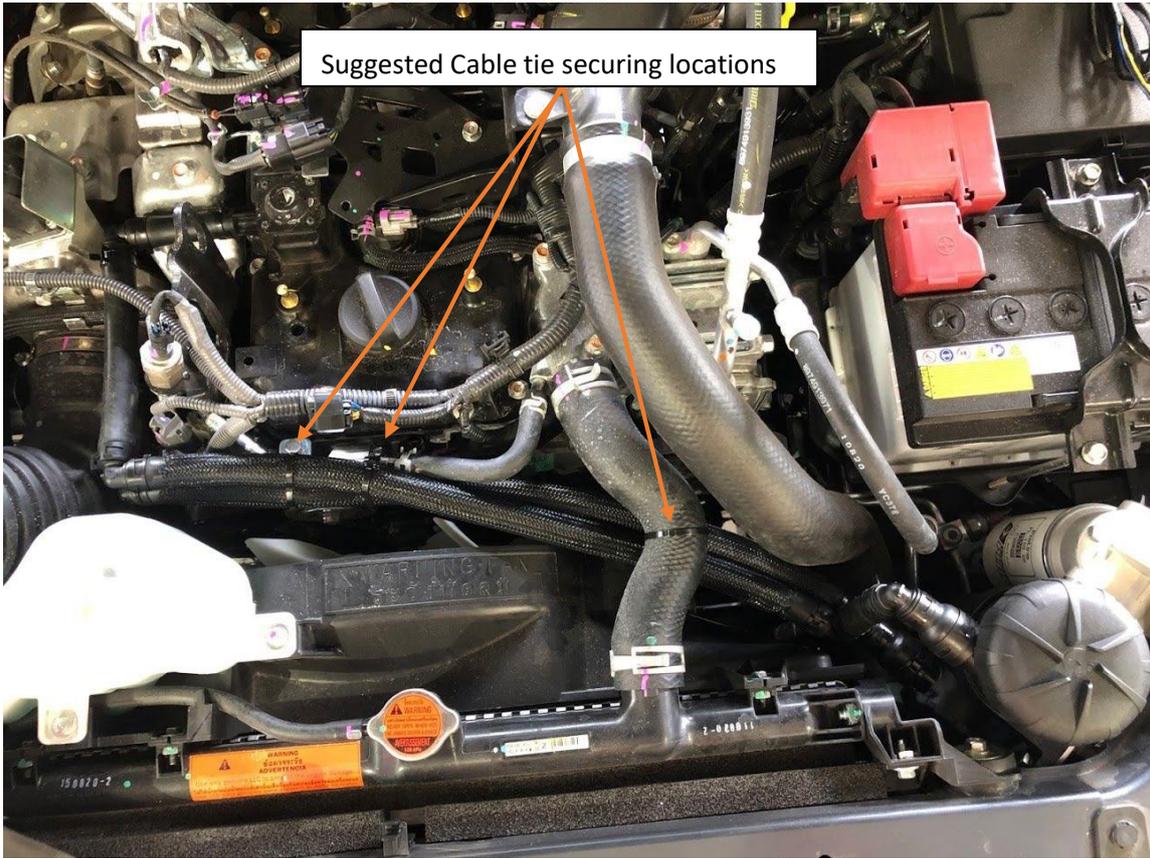
7. Install the supplied 1x 630mm expandable braid over the 1 x 540mm of 16mm Hose
8. Using 1x 16mm spring clamps install one end of the 1 x 540mm of 16mm Hose to the 1x 16mm 90° connector previously installed
9. At the other end of the same 1 x 540mm of 16mm Hose, using 2x 16mm spring clamps install 1x 16mm straight connector and 1x 25mm-16mm reducer.
10. Using 1x 25mm spring clamp install the hose to the bottom/lower outlet port of the ProVent.
11. Using 1x 80mm of 16mm Hose, 1x 175mm of 16mm Hose, 2x 16mm 90° connectors and 4x 16mm spring clamps and install them to the PCV outlet on the engine rocker cover. Use the image below as a reference



12. Install the supplied 1x 670mm expandable braid over the 1 x 570mm of 16mm Hose
13. Using 1x 16mm spring clamps install one end of the 1 x 570mm of 16mm Hose to the 1x 16mm 90° connector previously installed on the PCV port on the engine rocker cover
14. At the other end of the same 1 x 570mm of 16mm Hose, using 4x 16mm spring clamps install 2x 16mm 90° connector, 1x 60mm of 16mm Hose and 1x 25mm-16mm reducer.
15. Using 1x 25mm spring clamp install the hose to the top/upper inlet port of the ProVent. Refer image on the next page for reference.



16. Once the hoses are installed used the supplied cable ties to secure the hoses. **Note: The hoses run above the engine fan. If the hoses are NOT secured properly, subsequent damage will occur if the hoses come in contact with the engine fan.**



17. Re-install engine cover.
18. Locate the ProVent drain hose under the vehicle
19. Using WD40 or similar, lubricate the inside of the hose and the barbs of the drain tap. Install the drain tap into the end of the hose. If required cut the hose to length based on your preference



*Hose tail and tap assembly inserted into 12mm hose*

20. Make sure the tap is in the closed position, secure the drain hose and tap to the vehicle where the tap won't become damaged by road debris



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

### 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).

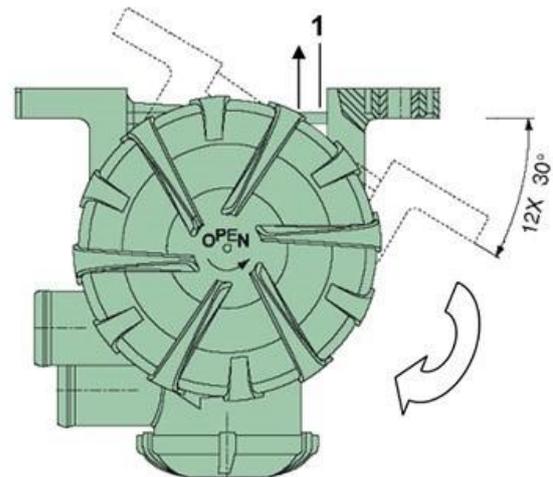
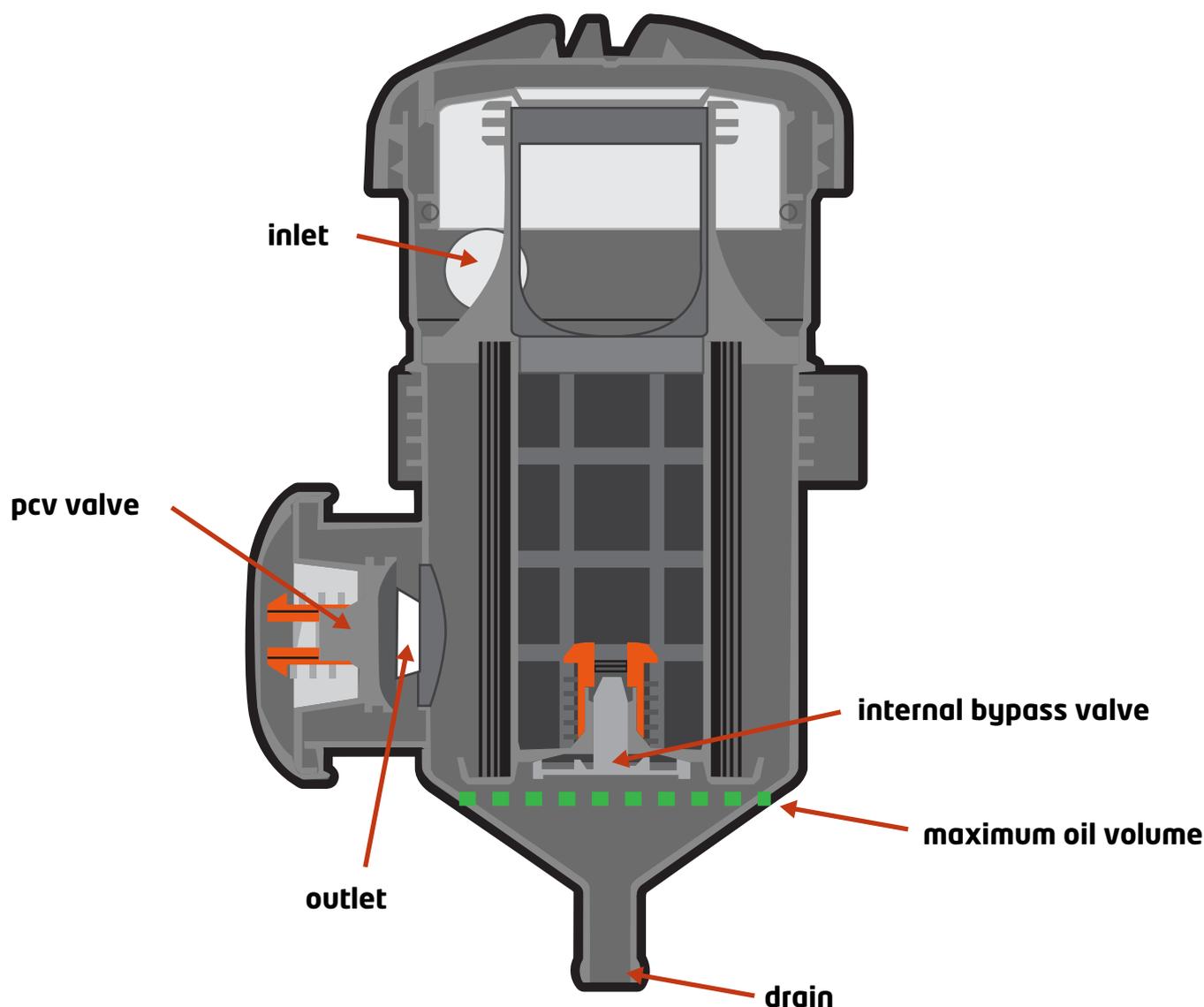


Fig. 5 Positions of outlet for ProVent 200



Fig. 6 Holder for ProVent 200

## PV200 INTERNAL BYPASS VALVE SECTIONAL DIAGRAM



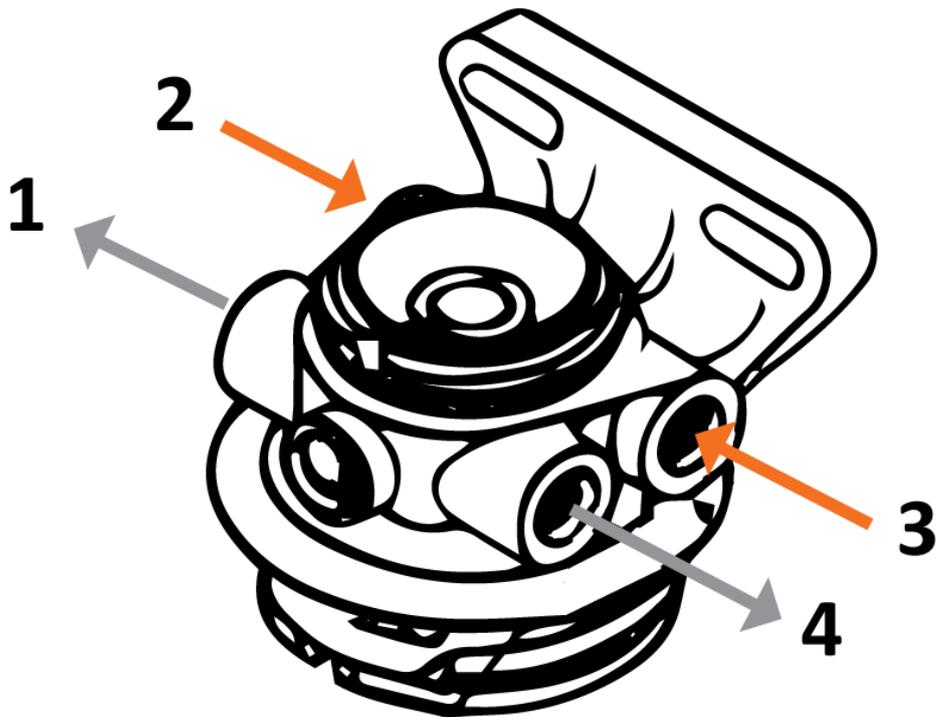
Due to the way the internally vented PV200 works, the PV200 must be drained regularly to ensure correct operation of the internal bypass valve. Failure to regularly draining/servicing the Catch Can may cause engine damage due to over pressurisation of the crankcase ventilation system.

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.

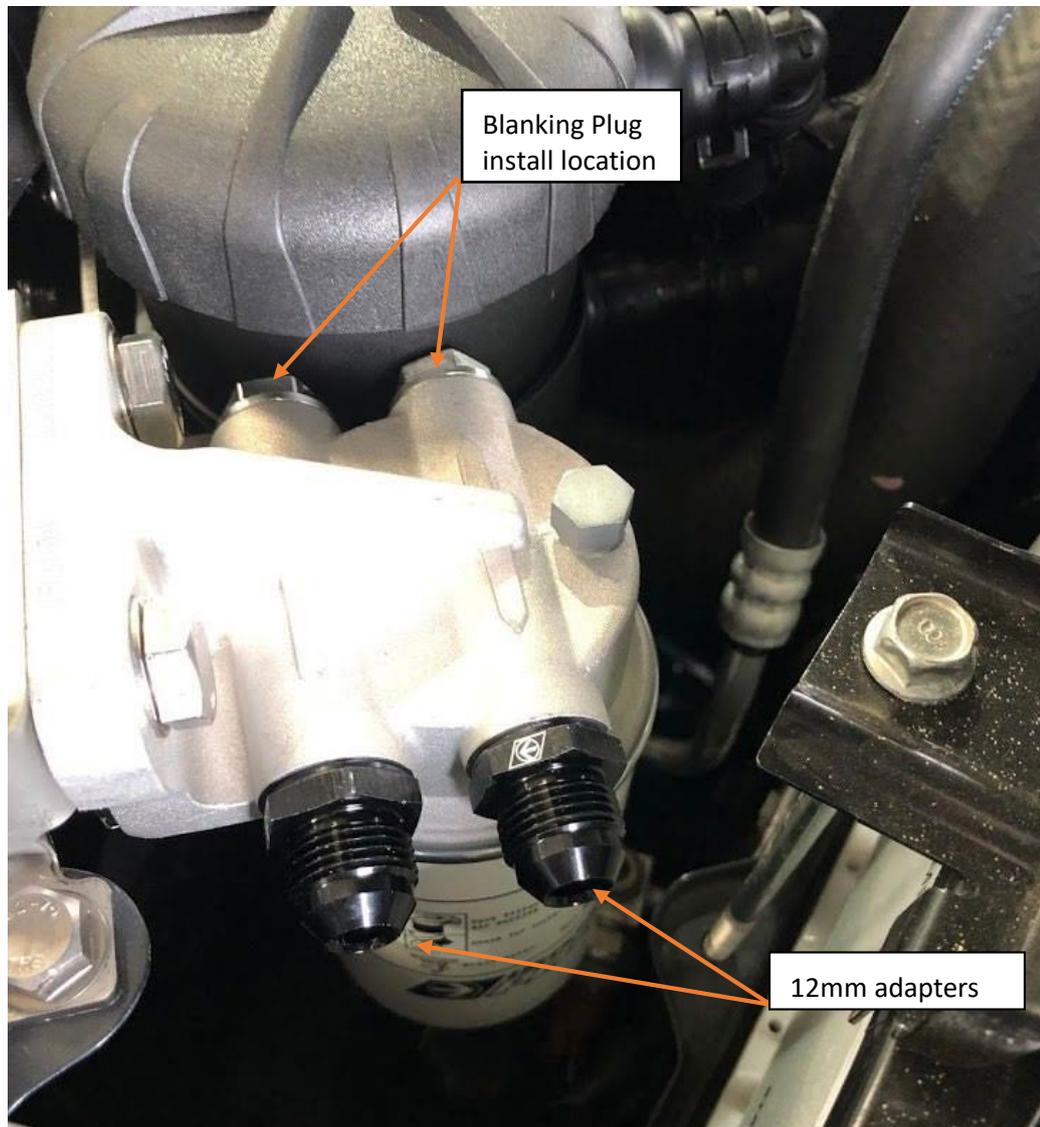
**WARNING:** Colder climates can cause increased condensation inside the Catch Can. This will fill the reservoir quicker than oil and will need to be drained regularly. Failure to do so could & can damaged the Catch Can or vehicle.

## Fuel Manager Pre-Filter Normal Flow Header Connection

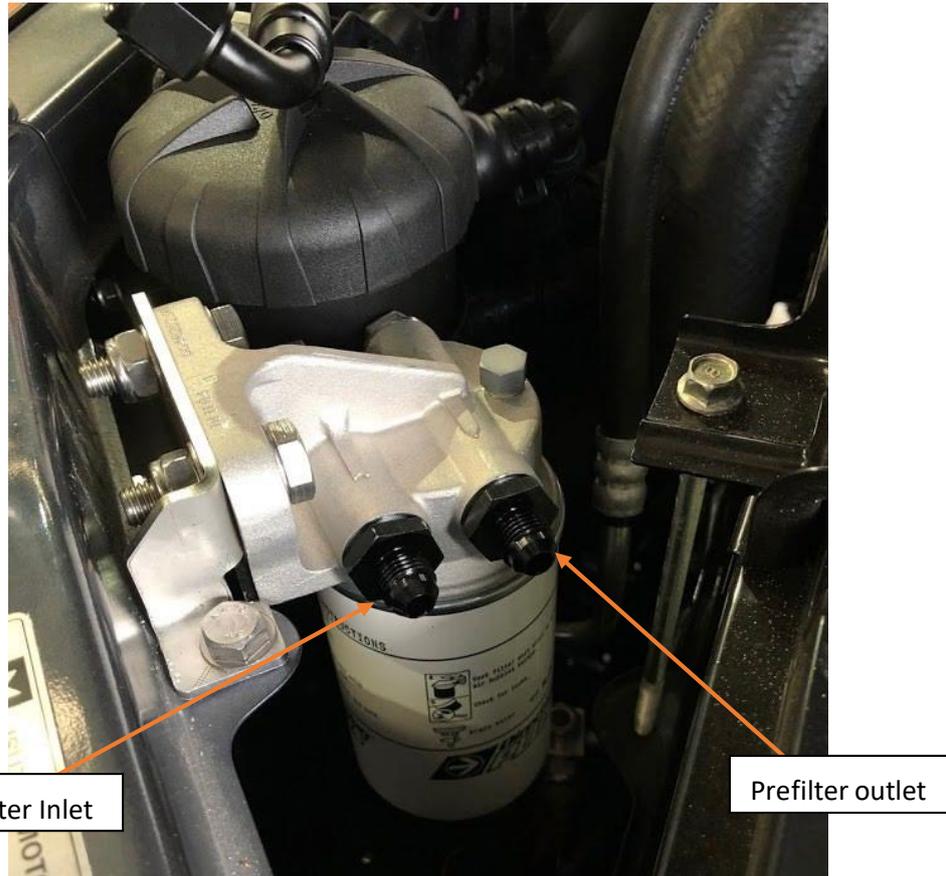


**Ports 2 and 3 = INLET**  
**Ports 1 and 4 = OUTLET**

1. Using the supplied thread sealant Install the 2x blanking to the Pre-filter is installed that they are both on the side closest to the Engine.
2. Using the supplied thread sealant Install the 2x 12mm adapters to the remaining ports

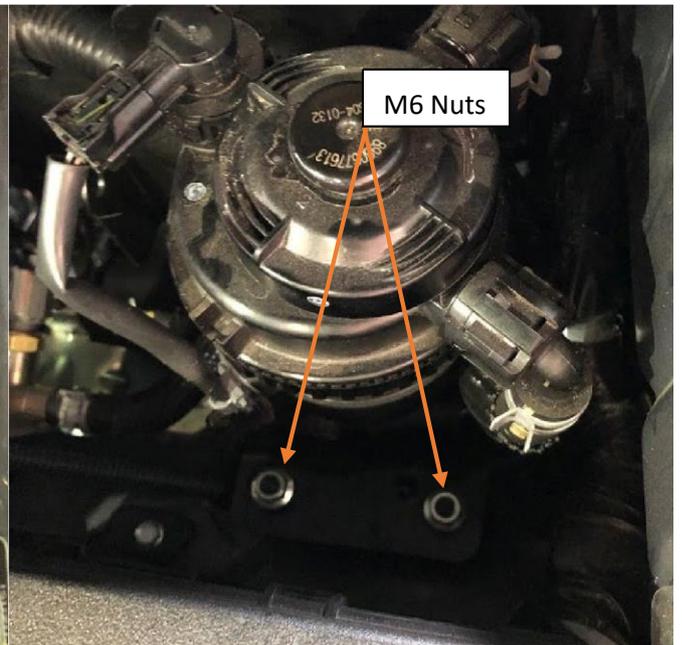


3. Using 2x M10x35 bolt, 4x M10 flat washer and 2x M10 nyloc nuts, install the pre-filter assembly to the mounting bracket. See image on next page for reference.

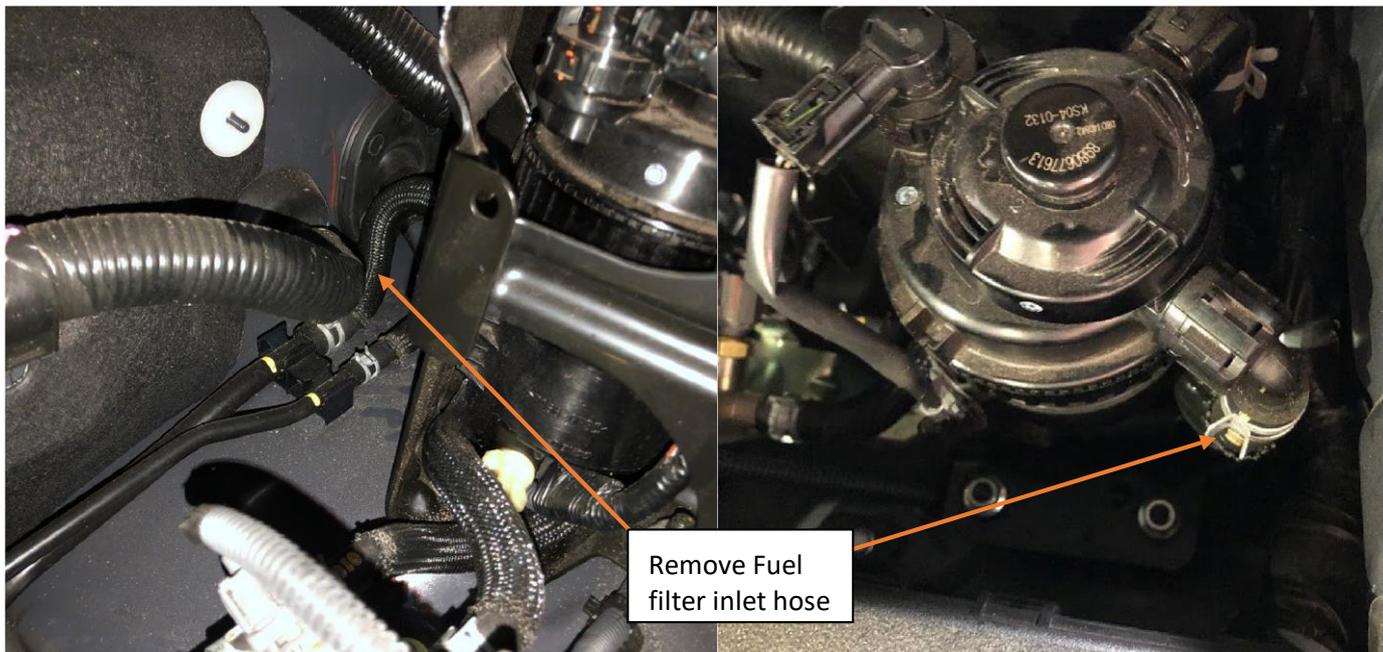


*Pre-filter installed on mounting bracket*

4. Remove the steel plate that surrounds the front part of the factory fuel filter. It is secured in place by 2 10mm head nuts. The nuts only need to be loosened and then the plate can be slid towards the front of the vehicle and lifted out



5. Locate the factory fuel filter inlet hose. Disconnect both ends of the hose and remove.



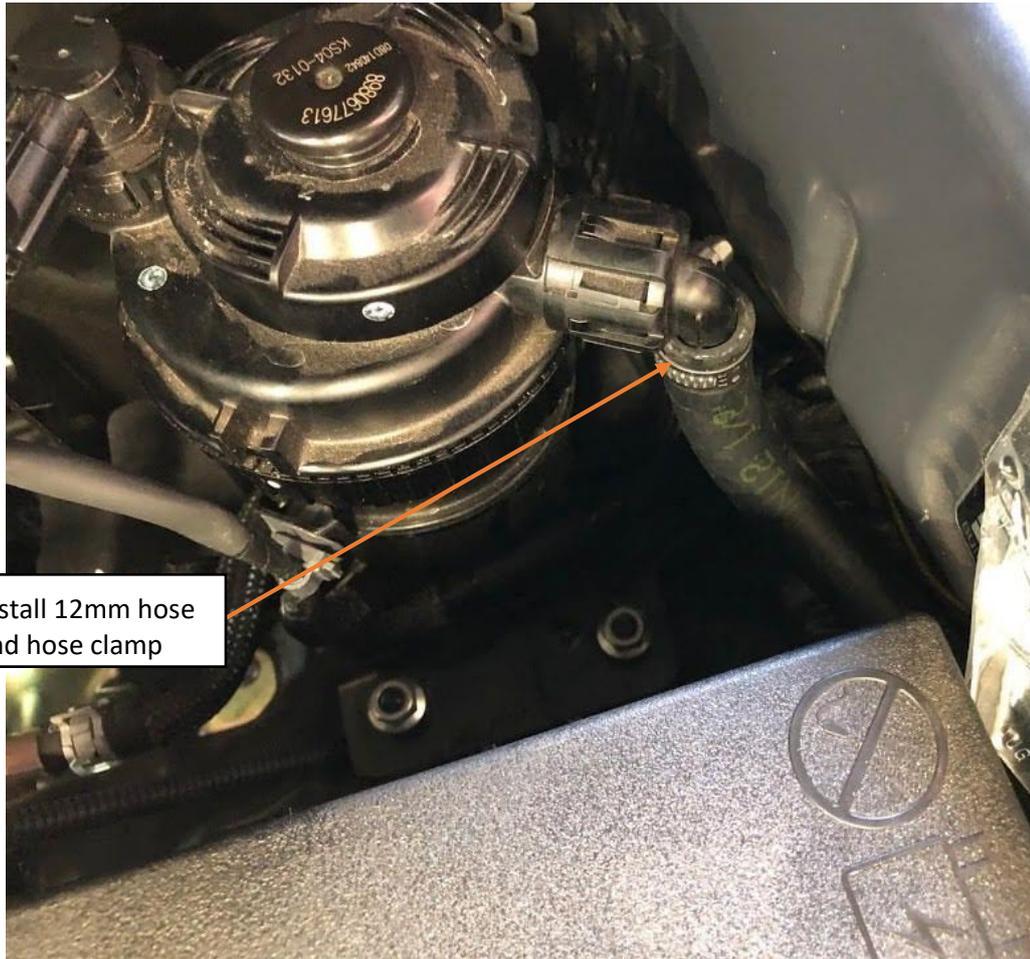
6. Using 1x 12mm hose clamp and the supplied 12mm hose install one end of the hose onto the steel fuel line coming from the fuel tank



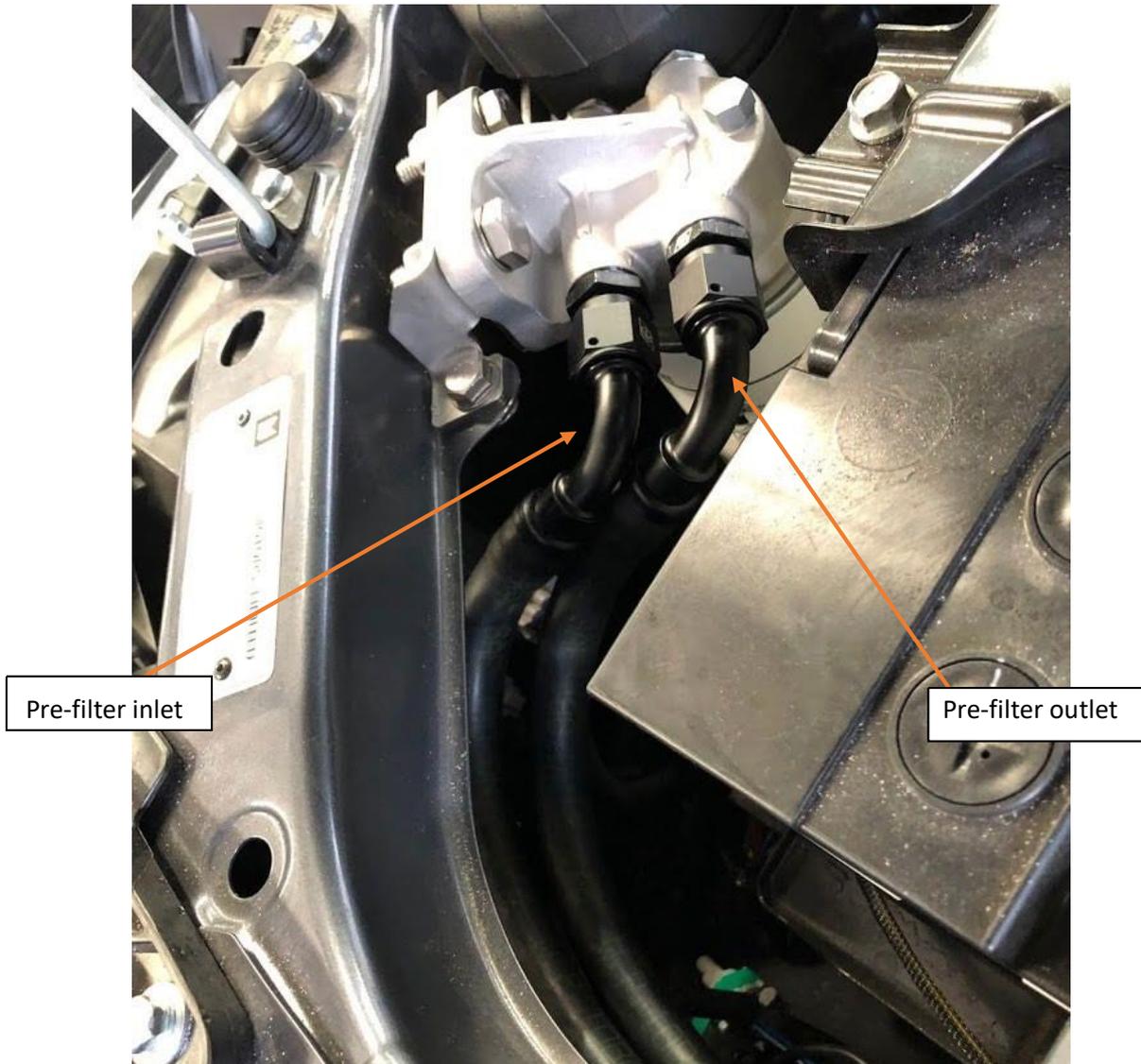
7. Route the 12mm fuel hose around the factory filter and down the inner guard to the Inlet port of the Pre-filter.



8. Once you have determined the correct length cut the hose. Ensure there is enough slack in the hose so as not to kink. Refer to images below as reference
9. Using WD40 or similar install 1x 90° -8 12mm barbed fitting to the cut end of the 12mm hose. **Note: Hose clamps are not required for this type of hose fitting**
10. Loosely connect the previously installed 1x 90° -8 12mm barbed fitting to the inlet port of the Pre-filter.
11. With the remaining length of 12mm hose and 1x 12mm hose clamp. Connect one end of the 12mm hose to the inlet of the factory fuel filter and secure with the 12mm hose clamp
12. Route the 12mm fuel hose down the inner guard to the outlet port of the Pre-filter.
13. Once you have determined the correct length cut the hose. Ensure there is enough slack in the hose so as not to kink. Refer to images below as reference
14. Using WD40 or similar install 1x 90° -8 12mm barbed fitting to the cut end of the 12mm hose. **Note: Hose clamps are not required for this type of hose fitting**
15. Loosely connect the previously installed 1x 90° -8 12mm barbed fitting to the outlet port of the Pre-filter
16. When satisfied out the routing of the 12mm fuel hose tighten the fittings on the Pre-filter



Install 12mm hose  
and hose clamp



17. Using cable ties secure any loose fuel hose to prevent rubbing.
18. Prime the fuel system using the hand primer on the factory filter. When the primer goes firm, the engine is ready to start. **Note: this may take some time as the pre-filter needs to be filled with fuel.**
19. Start and run the engine whilst checking ALL connections for leaks.
20. If the engine stalls repeat step 40.

### END OF FITTING GUIDE