Nissan Navara NP300
Direction-Plus™ Fuel Manager Post-Filter & ProVent Ultimate Catch Can Installation Guide

This document is to be used as a guide for the installation of the **Direction Fuel Manager Pos-Filter + ProVent Ultimate Catch Can Kit to a 2015-onward Nissan Navara NP300 2.3L 4-cylinder diesel.** 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
- Ensure the engine bay is clean and free from contaminants
- The fuel manager filter head has direction arrows indicating the direction of flow

Included in the kit

1x Mann + Hummel Provent® 200	1x Mounting Bracket	1x 1100mm Of 16mm Hose
1x 75mm Of 16mm Hose	1x 750mm of 16mm Hose	1x 50mm Of 16mm Hose
1x 125mm Of 16mm Hose	3x 16mm 90˚joiner	2x 16mm Straight Joiner
12x 16mm Spring Clamps	2x 25mm Spring Clamps	2x 16mm To 25mm Hose Coupler
8x Cable Ties	2x M8x25 Bolts	4x M8 Flat Washers
2x M8 Spring Washers	2x M8 Stainless Steel Nuts	1x M3 Stainless Steel Bolt
1x M3 Stainless Steel Nut	1x M3 Stainless Steel Washers	1x 1000mm Of 12mm Hose
1x Drain Tap Assembly	2x 12-20mm Hose Clamps	2x NPT Straight - 10mm
1x 2 Bolts 2 Nuts 4 Washers	1x 9.89 Elbow 8mm Barb	1x 1000mm Fuel Line Rubber (10mm)
2x Dp733-04 - Npt Plug	1x End 9.89 Str 10mm Barb	1x FM Engine Bay Label
1x Fuel Manager Post-Filter	2x Hose Clamp - 10mm	1x Loctite 567 Thread Sealant – 6ml
1x Push On Straight – 10mm	1x Windscreen Label	

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

Mounting Location

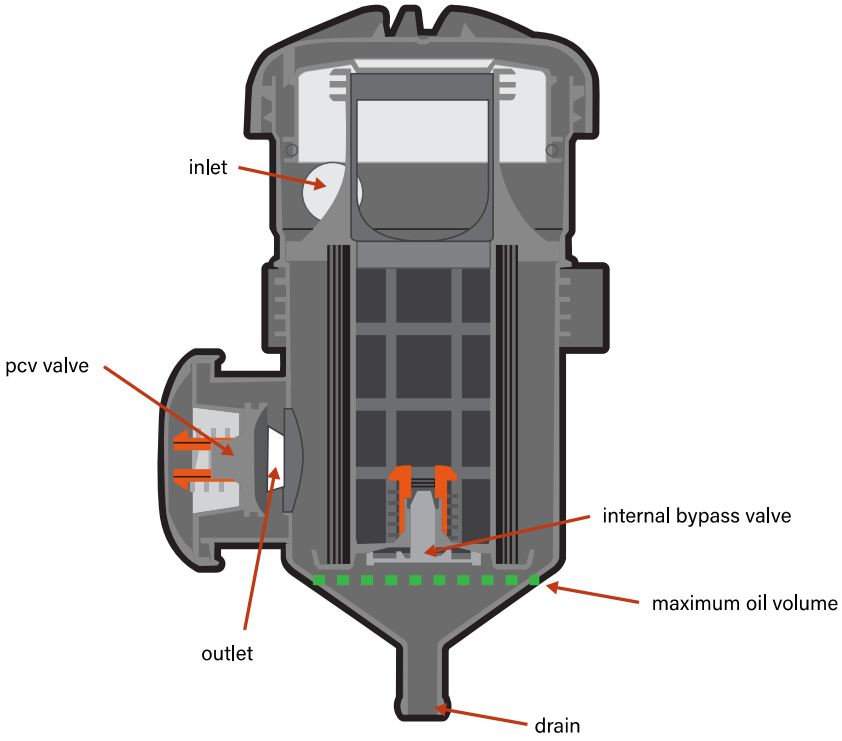
PROVENT ULTIMATE CATCH CAN

SERVICING / MAINTENANCE:

In addition to regular monitoring, the following maintenance is required:

- Drain every 5,000km or earlier.
- Replace element every 40,000km or when oil wetting appears around the catch can by-pass valve.

PROVENT ULTIMATE CATCH CAN (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.

1. Installation Guide – ProVent Ultimate catch can

Nissan Navara NP300 Engine Bay – Overall View

1. Begin by locating the factory bypass hose which runs from the valve cover on the driver's side to the intake pipe in front of it. The hose is only about 250mm in length, shaped like an "L" and has an aluminum sleeve over it. Once located, this hose needs to be removed.

2. Remove the two (2) M6 nuts shown in the image below, secure the mounting bracket in place reusing the original nuts. Please note the "kink" in the bracket should angle towards the engine.

3. Remove the M6 nut underneath the relay box, mount the mounting bracket support arm and secure in place reusing the original M6 nut.

4. Using the supplied M6 bolt, nut and 2 flat washers, secure the top of the support arm to the main bracket

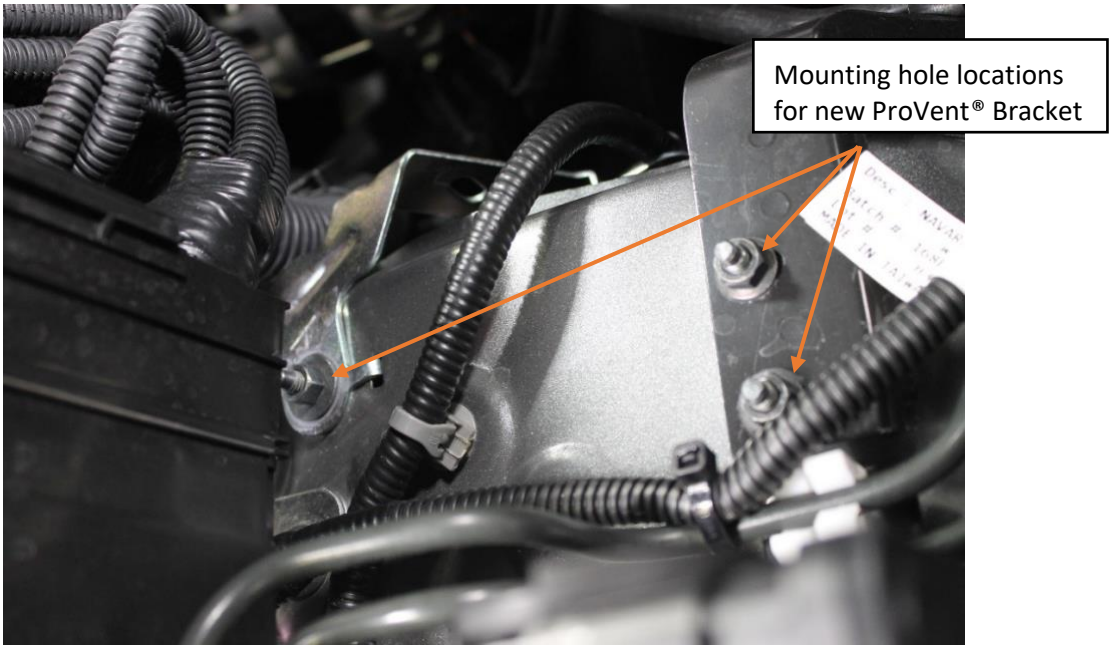


Image shows new ProVent® bracket location

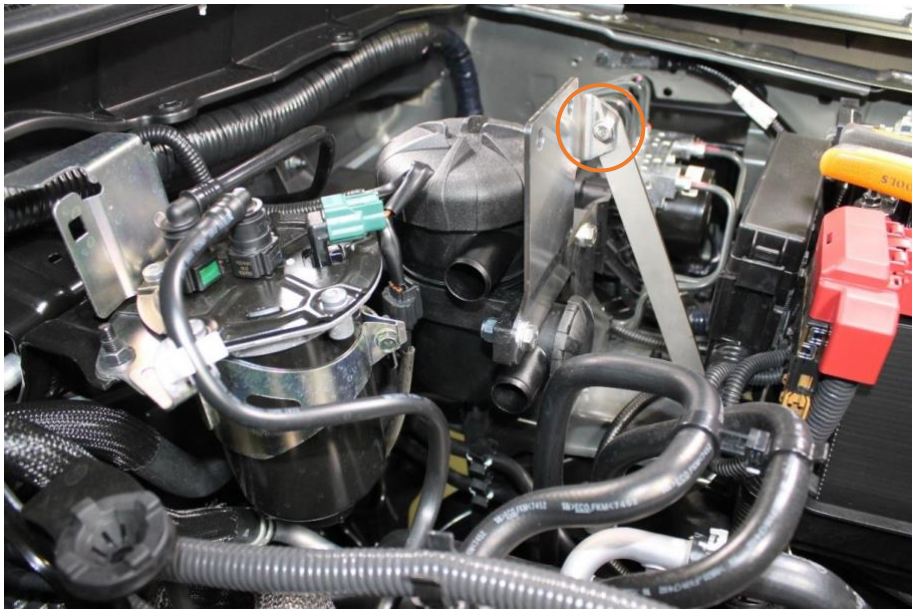
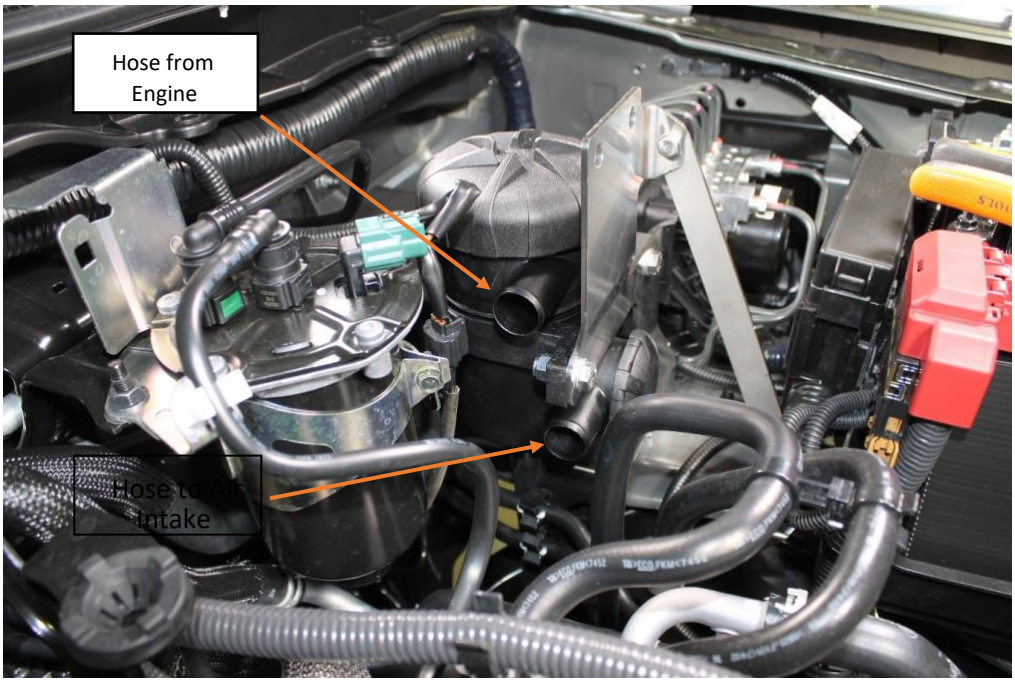


Image shows where the support arm attaches to the main bracket

5. 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 spring clamp

6. 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, your ProVent® should come at the correct rotation in the box – if it is not please refer to the image on the last page of this installation guide.

7. 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.

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

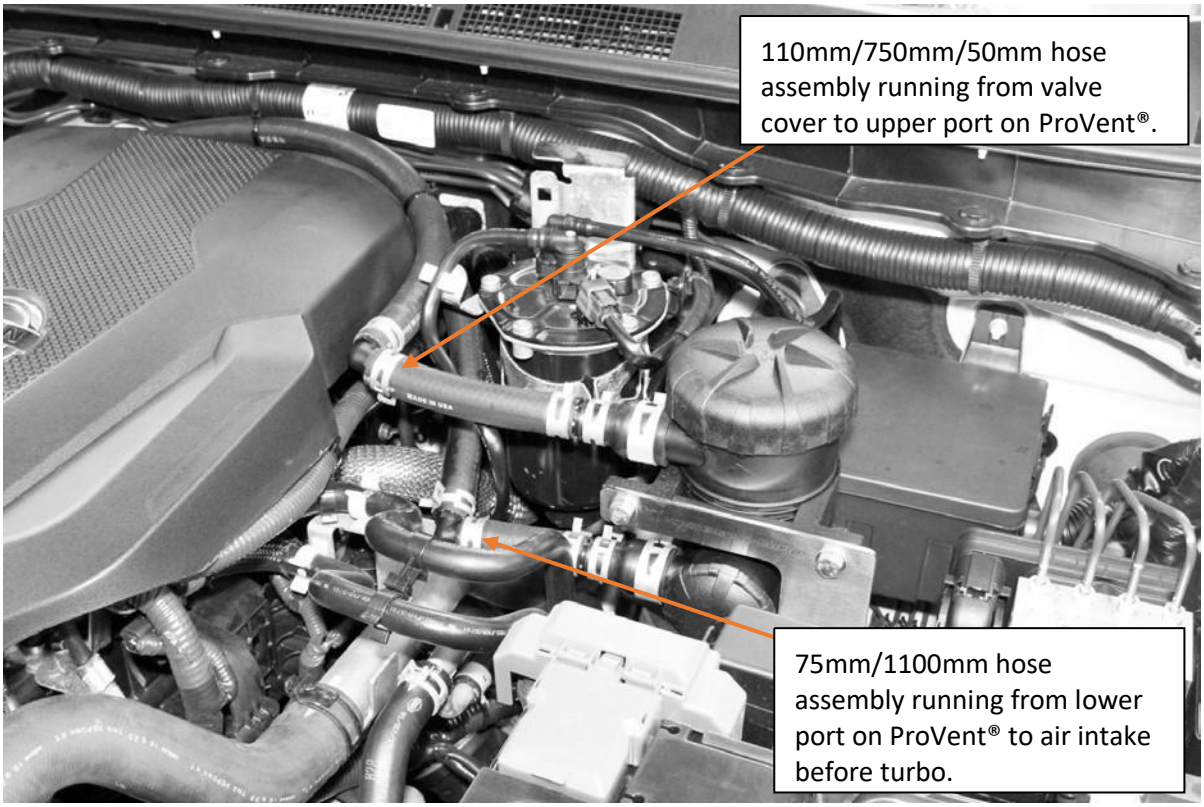
8. Use the supplied cable ties to secure the 12mm hose into the location required under the vehicle to prevent movement. Note: Leave a slight amount of slack in the line where the body and chassis join to prevent stretching the hose.

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.

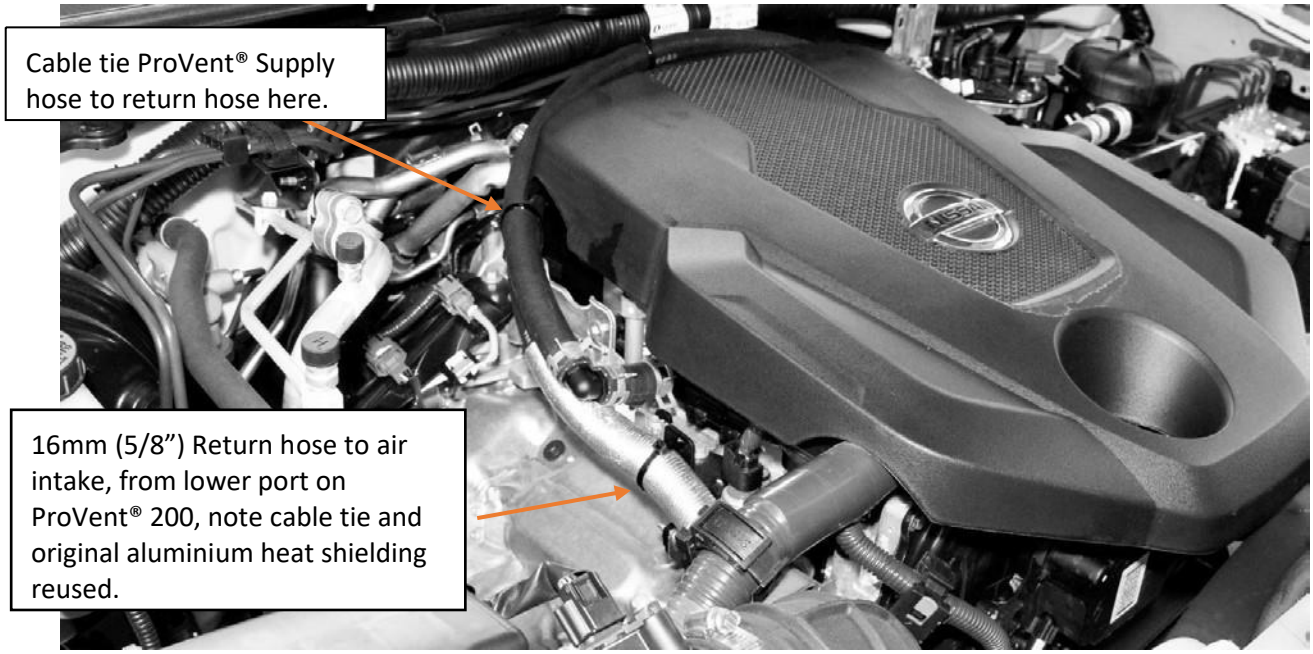
Left image – Tap Open. *Right image – Tap Closed.*

10. Remove the aluminium sleeve from the stock ventilation hose you removed earlier. Slide it over one end of the 1100mm long 16mm hose leaving enough room for a 16mm spring clamp on the end. Push this end of the hose onto the ventilation hose return port just before the turbo. Run the hose around the back of the engine and connect a 16mm 90 ˚ joiner in the end and secure with a spring clamp. To the other end of this 90 ˚ joiner, connect the 75mm length of 16mm hose and secure with a clamp. This hose joins to the lower port on the ProVent with the use of a 16mm straight joiner and clamps.

11. The 50mm length of 16mm hose connects to the head of the car and secures in place with a clamp. On the outlet side of this connect the second 90 ˚ joiner (facing rearwards), secure in place with a clamp. Connect the 750mm length of 16mm hose to rearward facing 90 ˚ joiner and secure in place with a clamp. Run the hose around the back of the engine on top of the other breather hose you just fitted. Into the vacant end insert the final 16mm 90 ˚ joiner and secure with a clamp. Connect the final hose 110mm long to the 90 ˚ joiner and connect the other end to the top port on the ProVent. Secure all ends with clamps.



Hose configuration in NP300 Navara with ProVent® 200 installed.



Hose configuration in NP300 Navara with ProVent® 200 installed.

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).

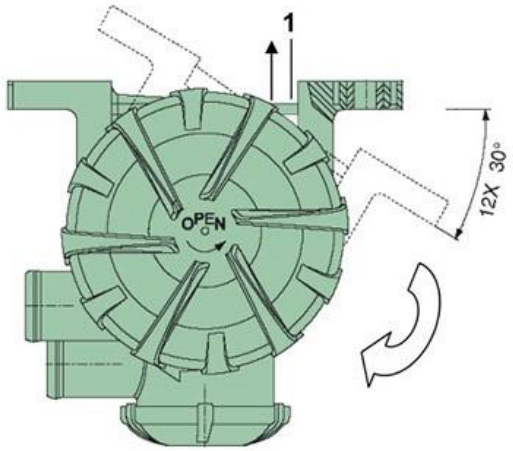


Fig. 5 Positions of outlet for ProVent 200

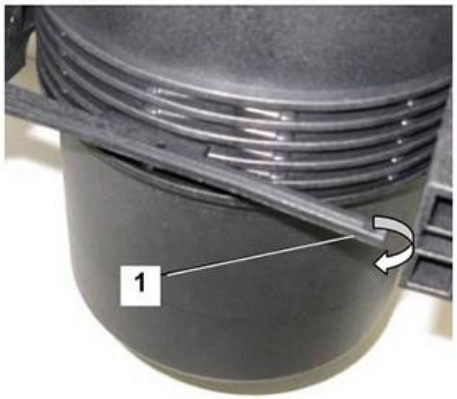
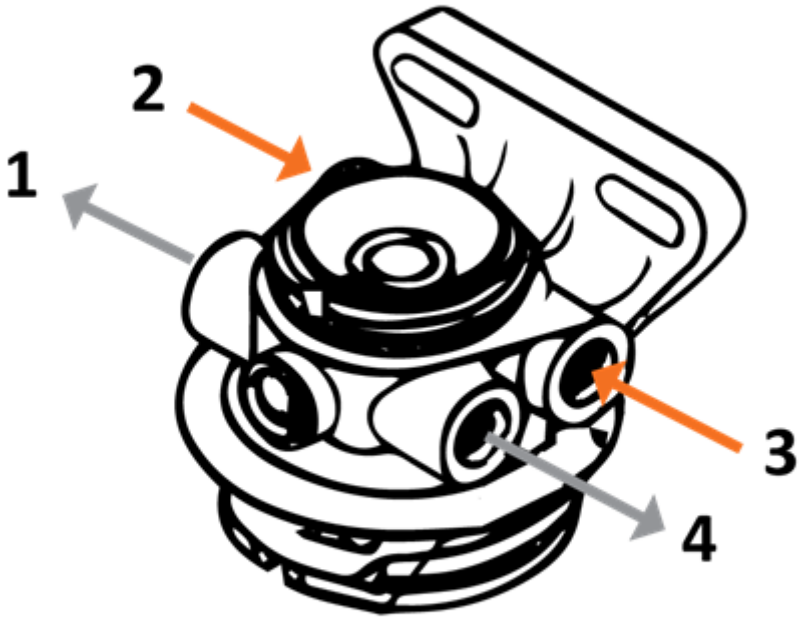


Fig. 6 Holder for ProVent 200

Go to next page for Fuel Manager Post-Filter Installation Guide

Fuel Manager Post-Filter
Normal Flow Header Connection



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

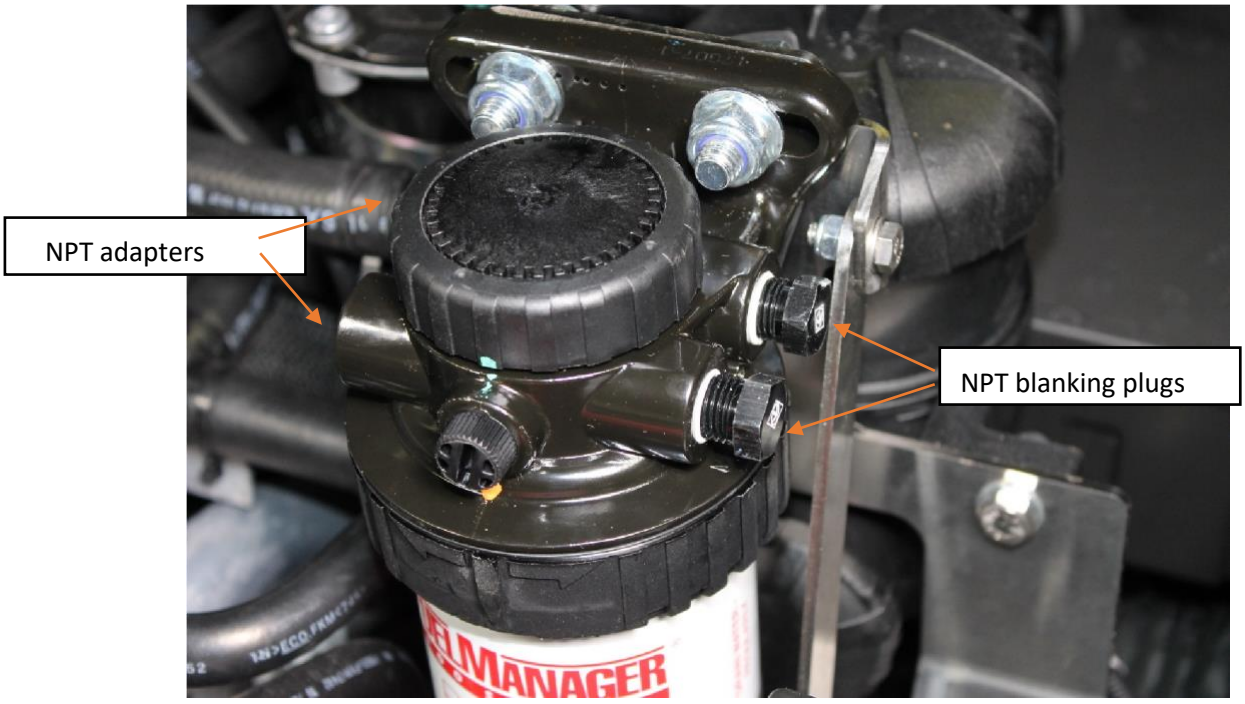
2. Installation Guide – Fuel Manager Post-Filter

1. Using the supplied 10mm bolts, washers and nuts, mount the Fuel Manager Post-filter assembly filter the front side of the mounting bracket

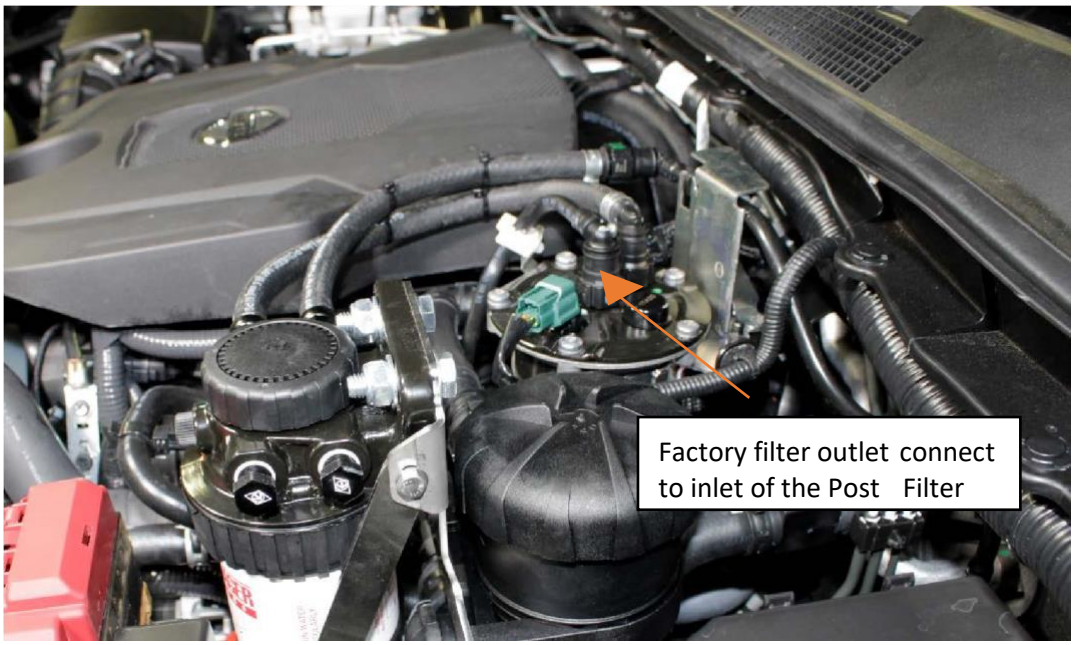
2. Install the NPT adaptors into the filter head ports that are facing towards the center of the vehicle using the supplied LOCTITE thread sealant.

3. Apply a small amount of LOCTITE thread sealant to the two black NPT plugs and install them into the two remaining ports of the Post-filter head.

Fitting with Loctite applied



Fitting installation locations



Factory fuel hose orientation

Correctly installed push lock fitting

4. Assembled hose and screw the push-lock fitting on to the inlet port of the Post-filter. Connect the other end of the same hose to the outlet of the factory filter and secure using a supplied 10mm hose clamp

Push lock fitting connected to the Post-Filter head

5. 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

6. 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.

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

8. Measuring the hose in place between the outlet port of Post-filter and the inlet of the common rail supply pump, cut the hose to length

9. Install the 90^{o} female quick disconnect fitting to the 10mm fuel hose, secure with a supplied 10mm hose clamp. Connect the fitting to the outlet of the factory fuel filter.

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

11. To prime the fuel manager assembly with fuel, turn the ignition key to the ON position and wait 5 seconds, then switch the ignition OFF. Repeat this process another 3 times.

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

Completed installation of both the Post-Filter and ProVent

End of Installation Guide