Installation Guide of Direction-Plus
Fuel Manager Pre-Filter + ProVent Ultimate Catch Can Kit for Ford Ranger / Everest V6 2022+

This document is to be used as a guide for the installation of **the Direction-Plus Fuel Manager pre-filter + ProVent Ultimate Catch Can kit to a 2022+ Ford Ranger / Everest V6 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

1. Fuel Manager Pre-Filter Installation Guide

Maintenance / servicing

- It is recommended to drain the FUEL MANAGER element every 5,000 – 10,000km.
- FUEL MANAGER element is to be replaced every 40,000km or as per your vehicles service interval.

Included in the kit:

Pre-assembled	*Hardware Bag*	*Mounting Kit Bag*
1 x Fuel Manager PRE-FILTER	1 x Bracket (PL671-BR)	2 x M10x30 Bolts
2 x M16x1.5 to -6 Adaptors	2 x M6x16 Bolts	2 x M10 Flat Washers
2 x -6 to 3/8” 90° Fittings	2 x M6 Spring Washers	2 x M10 Spring Washers
4 x M16 Alloy Washers	4 x M6 Flat Washers	
2 x M16x1.5 Plugs	2 x M6 Nyloc Nut	
	2 x 15-17mm Hose Clamps	
	1 x 3500mm 3/8” Fuel Hose	
	1 x Male 3/8 QR to 3/8 Adaptor	
	1 x Female 3/8 QR to 3/8 Adaptor	

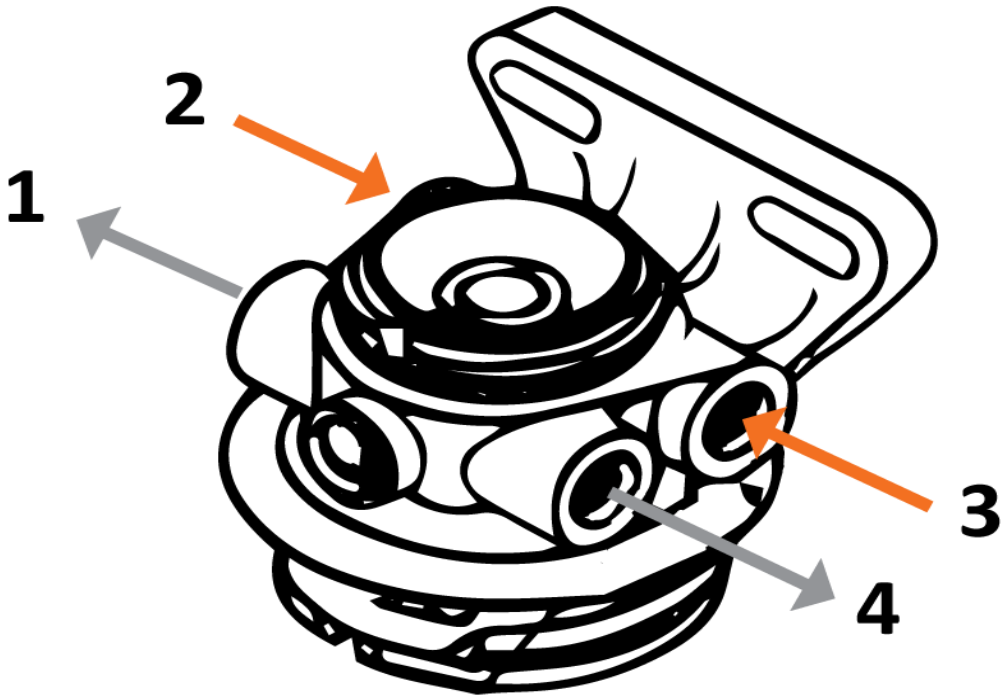
	1 x 180 Deg Push on Hose Adaptor	
	10 x 200mm Cable Ties	

Mounting Location

Tools Needed:

- Spanners
- Sockets
- Screw Drivers
- Pliers
- Snips/Cutter
- Rags
- Small container for priming
- We suggest using a thread sealant like Loctite 567 or equivalent.

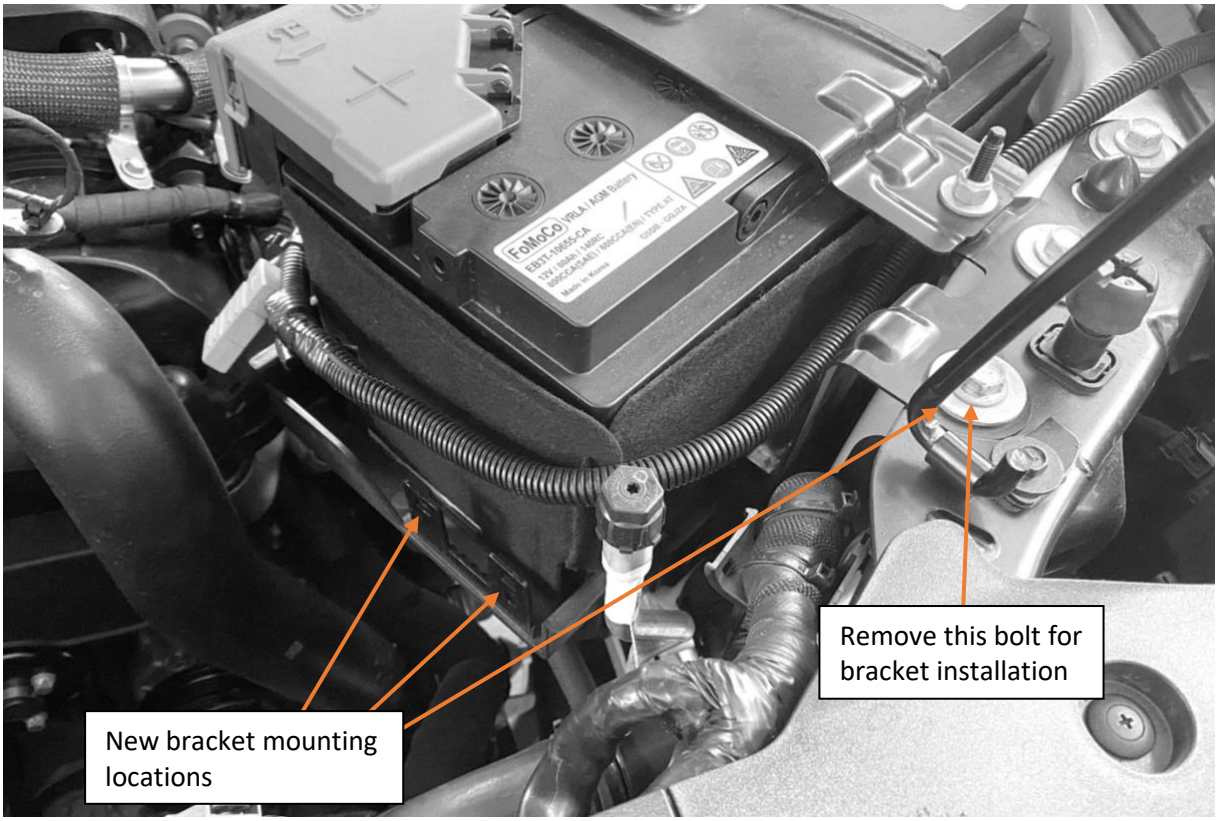
Fuel Manager Pre-Filter
Normal Flow Header Connection



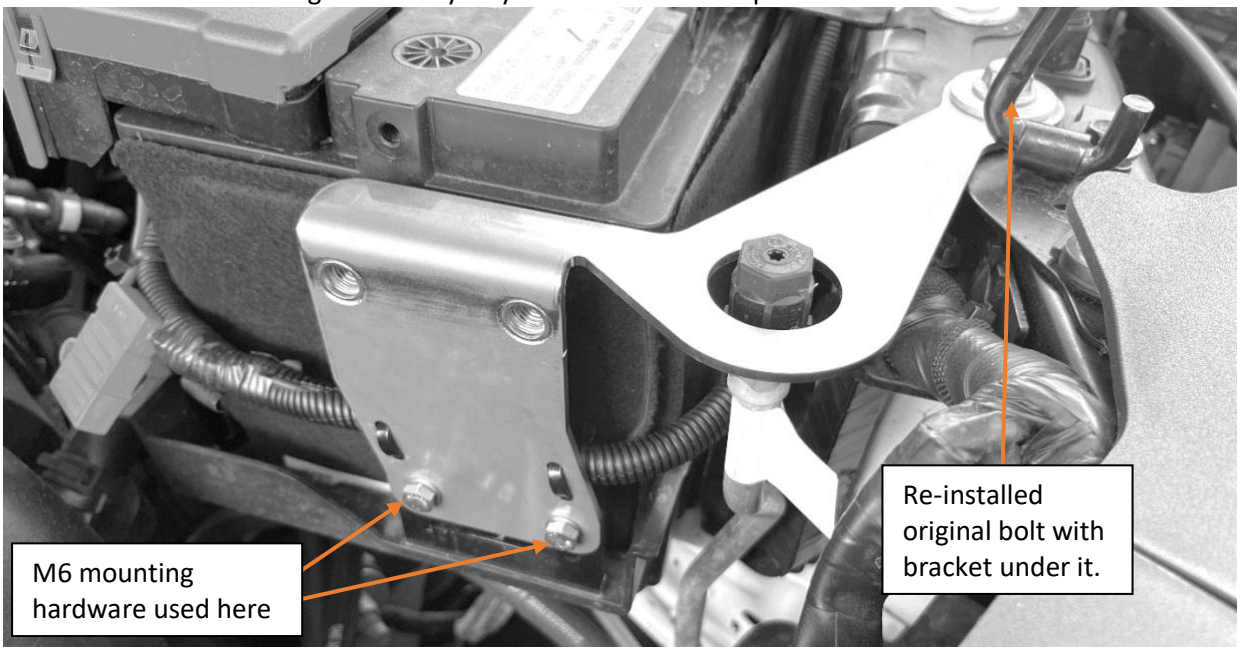
Ports 2 and 3 = INLET
Ports 1 and 4 = OUTLET

Installation Guide

1. Begin by removing the bolt that secures the battery tray to the radiator support panel.



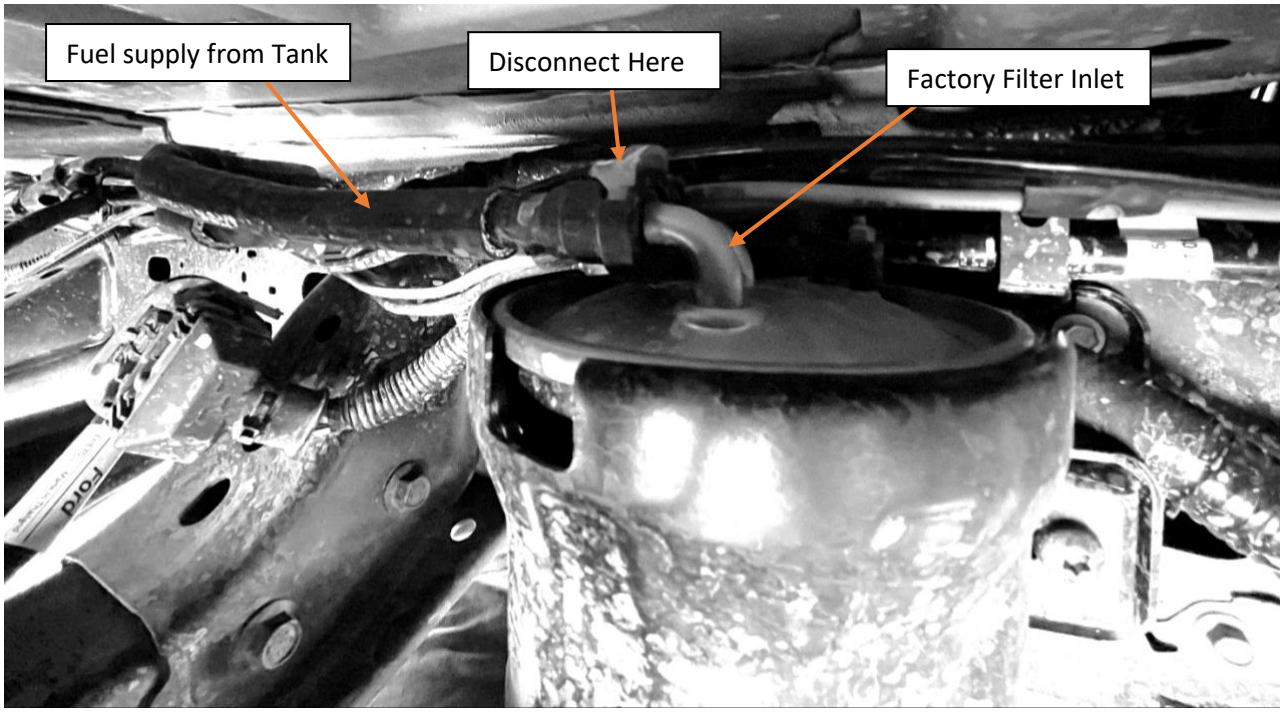
2. Using the M6x12mm bolts, four flat washers and M6 nyloc nuts, secure the bracket in place as per the photo below. Re-install the original Battery tray bolt removed in step 1.



3. Install the threaded adaptors and blanking plugs onto the FUEL MANAGER PRE-FILTER, using the M16 washers between the filter head and the fittings. Make sure to use a sealant like Loctite 567 or equivalent. Keep the exposed -6 thread clean when installing.

Fuel Manager in place on bracket with M16x1.5 to -6 Adaptors and Plugs installed

4. Install the FUEL MANAGER PRE-FILTER to the fuel filter bracket using the two M10x30 bolts, 2 x spring washers and 2 x flat washers.



Factory Fuel Filter hose locations

5. Install the first -6 90° hose fitting to one end of the hose. Make sure the hose is seated all the way on the push lock fitting. Finally, suggest applying Loctite 567 to the -6 thread on the supply port adaptor in the fuel filter before securing the 90° -6 hose fitting in place.

6. Find the factory fuel hose that supplies the factory fuel filter under the passenger side of the vehicle. Run the new hose to this location measure and cut it to length. Install the 3/8 QR male fitting with a hose tail on it into the end of the hose and secure with one of the new hose clamps.

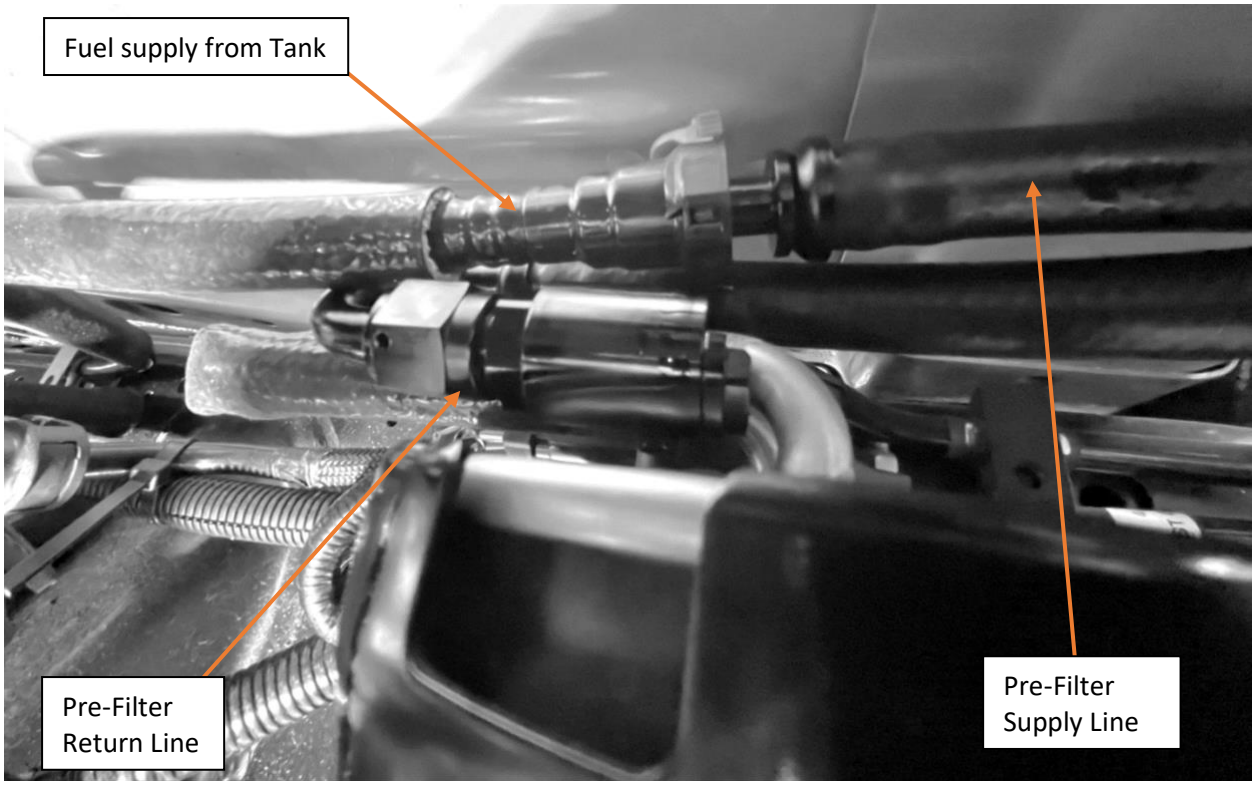
7. Disconnect the factory 3/8 QR female fitting from the inlet to the factory fuel filter. Install the new 3/8 QR male fitting with the hose secured to it into this connector making sure it seats all the way.

8. Install the second -6 90° hose fitting to one end of the remaining hose. Make sure the hose is seated all the way on the push lock fitting. Finally, suggest applying Loctite 567 to the -6 thread on the return port adaptor in the fuel filter before securing the 90° -6 hose fitting in place.

9. Run the remaining new hose to the top of the stock fuel filter you removed the female 3/8 QR fitting from earlier, measure and cut to length. Install the new female 3/8 QR fitting with a hose tail in the kit to the end of the hose and secure with one of the new hose clamps.

10. Connect the new female 3/8 QR fitting to the male port on the top of the factory fuel filter. Take care to make sure it seats all the way.

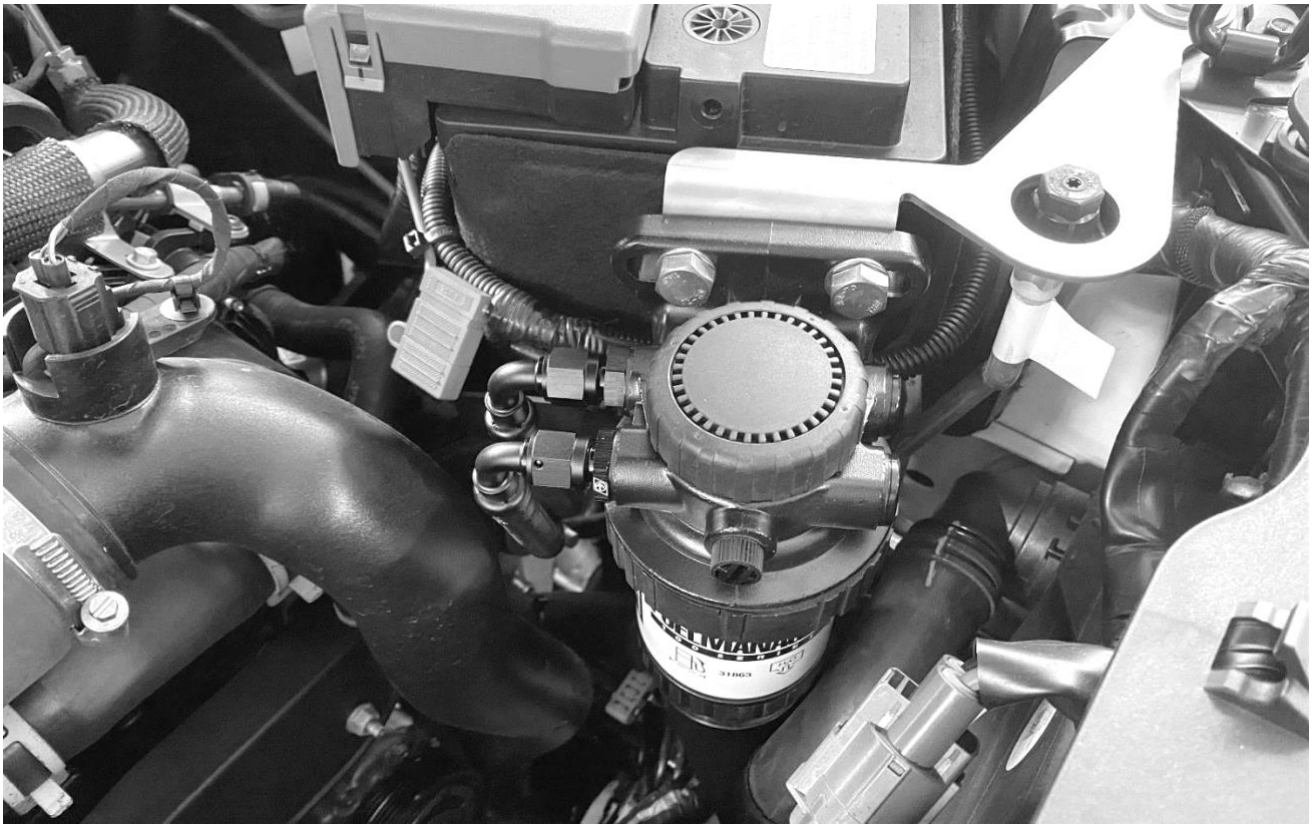
11. Open the bleed port on the new pre filter head and prime the system to remove the excess air in the new filter and lines. Once bled close the bleed port in the filter head.



Ranger 2022+ Pre-filter fuel hose installed

12. Once complete start the vehicle, carefully and toughly check for leaks.

13. Run the vehicle for at least 20 minutes to ensure there are no air pockets in the fuel system.



Fuel hose routing for pre-filter on Ranger 2022+

End of Installation Guide

Go to next page for ProVent Ultimate Catch Can Installation Guide

2. Direction-Plus ProVent Ultimate Catch Can Installation Guide

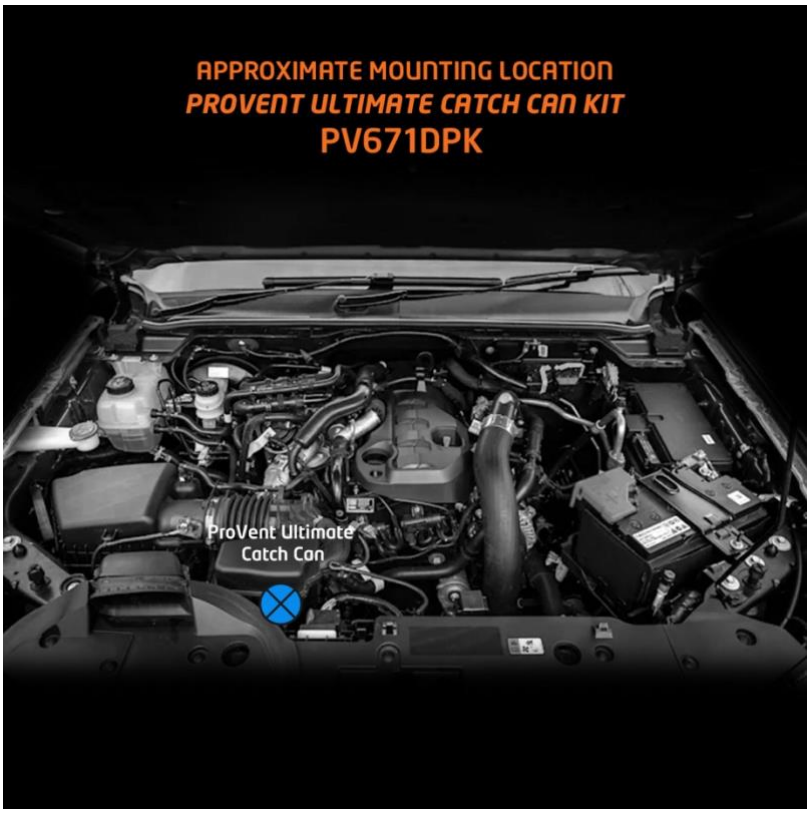
This document is to be used as a guide for the installation of the **Direction-Plus™ ProVent Ultimate Catch Can Kit (PV671DPK)** to a **Ford Ranger/Everest 3.0L V6 Diesel (2022 on).**

It is recommended that the installation of the product be carried out by a competent qualified mechanic.

Included in the kit:

Loose in Box	*Bagged*	*Provent Fitting Kit Bag*
1 x Mann + Hummel Provent 200	4 x 19mm 90˚Joiners	2 x M8x25 Bolts
1 x Mounting Bracket A	2 x 19mm 45° Joiners	4 x M8 Flat Washers
1x Alloy Spacer	8 x 200 Cable Ties	2 x M8 Spring Washers
1x 2m of 19mm hose	2 x 25mm Clamps	2 x M8 Stainless Steel Nuts
	12 x 19mm Clamps	
	1 x M6x12 Bolt	*ProVent Drain Kit Bag*
	1 x M6 Spring Washer	1 x 1000mm of 12mm Hose
	1 x M6 Flat Washer	1x Drain Tap Assembly
		2 x 12mm Spring Clamps

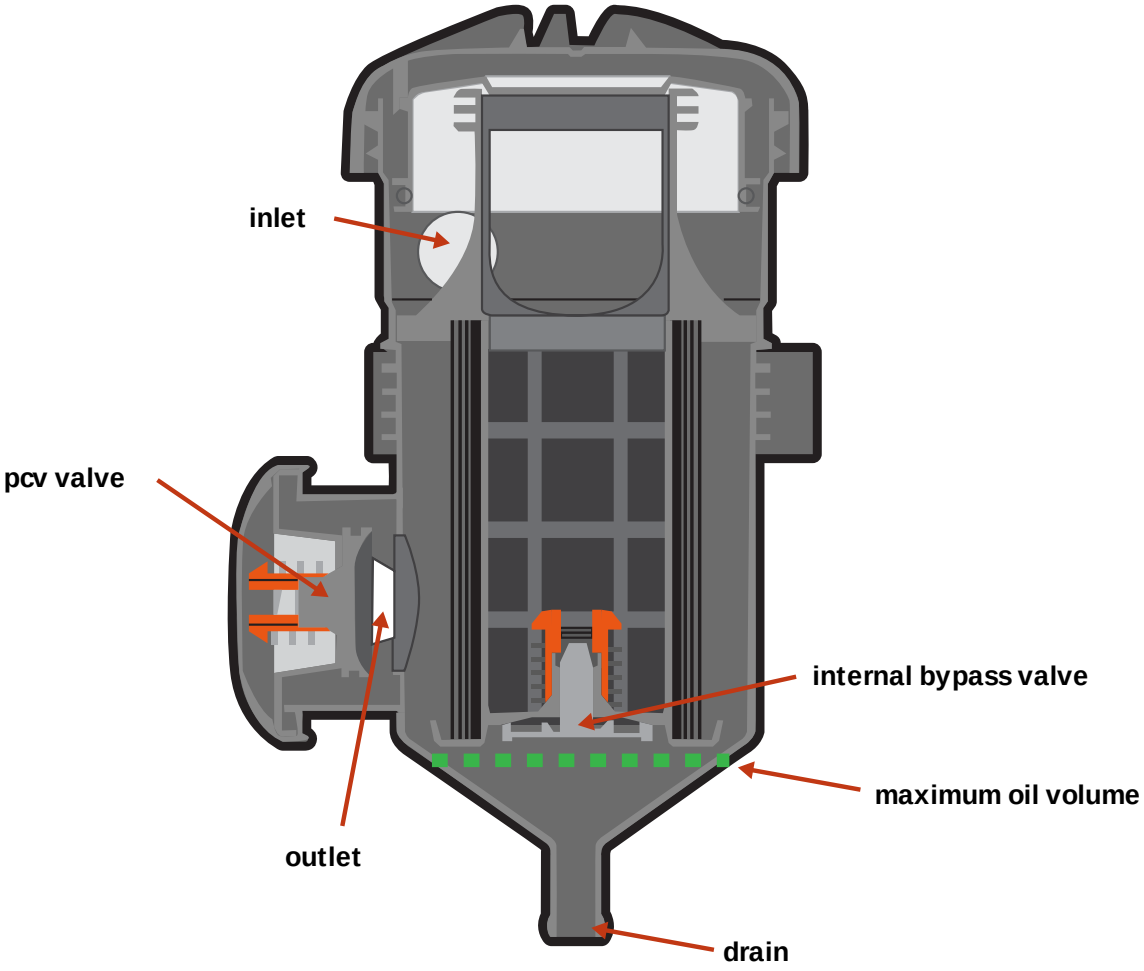
Mounting Location



Basic Tools Required:

- Spanners
- Sockets
- Screw drivers
- Pliers
- Snips/Cutters
- Rags

PV200 INTERNAL BYPASS VALVE SECTIONAL DIAGRAM



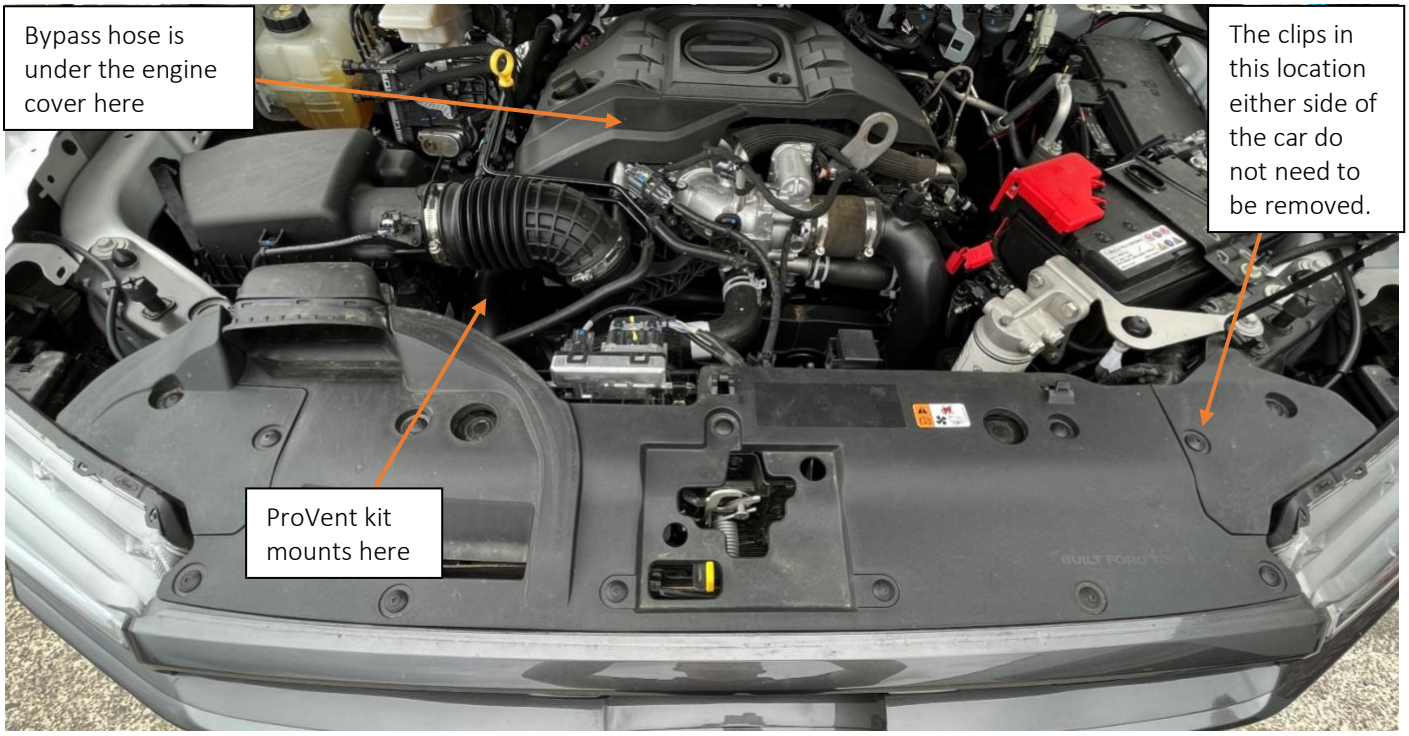
Due to the way the internally vented PV200 works, the PV200 must be drained regularly to ensure correct operation of the internal bypass valve. Failure to regularly draining/ servicing the Catch Can may cause engine damage due to over pressurisation of the crankcase ventilation system.

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.

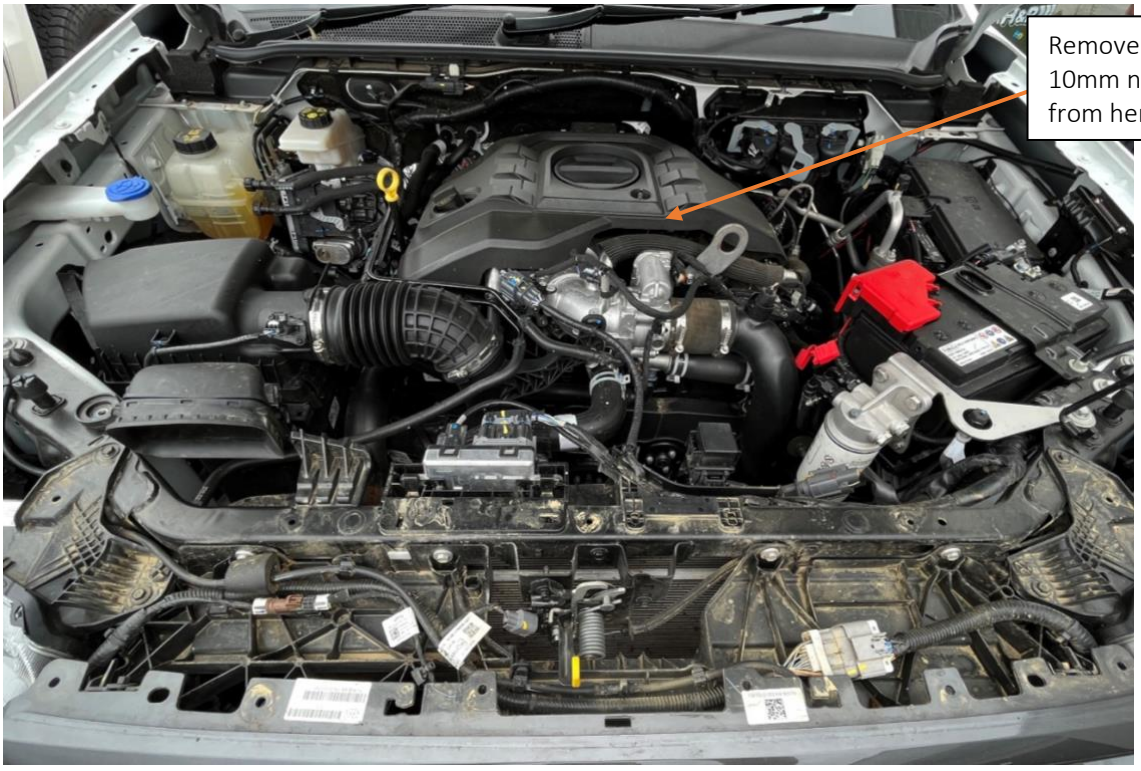
WARNING: Colder climates can cause increased condensation inside the Catch Can. This will fill the reservoir quicker than oil and will need to be drained regularly. Failure to do so could & can damaged the Catch Can or vehicle.

14. Begin by removing the radiator cowl panel at the front of the vehicle. There are 11 clips that need to be removed, once they are removed the panel lifts off, taking care around the air intake entry.



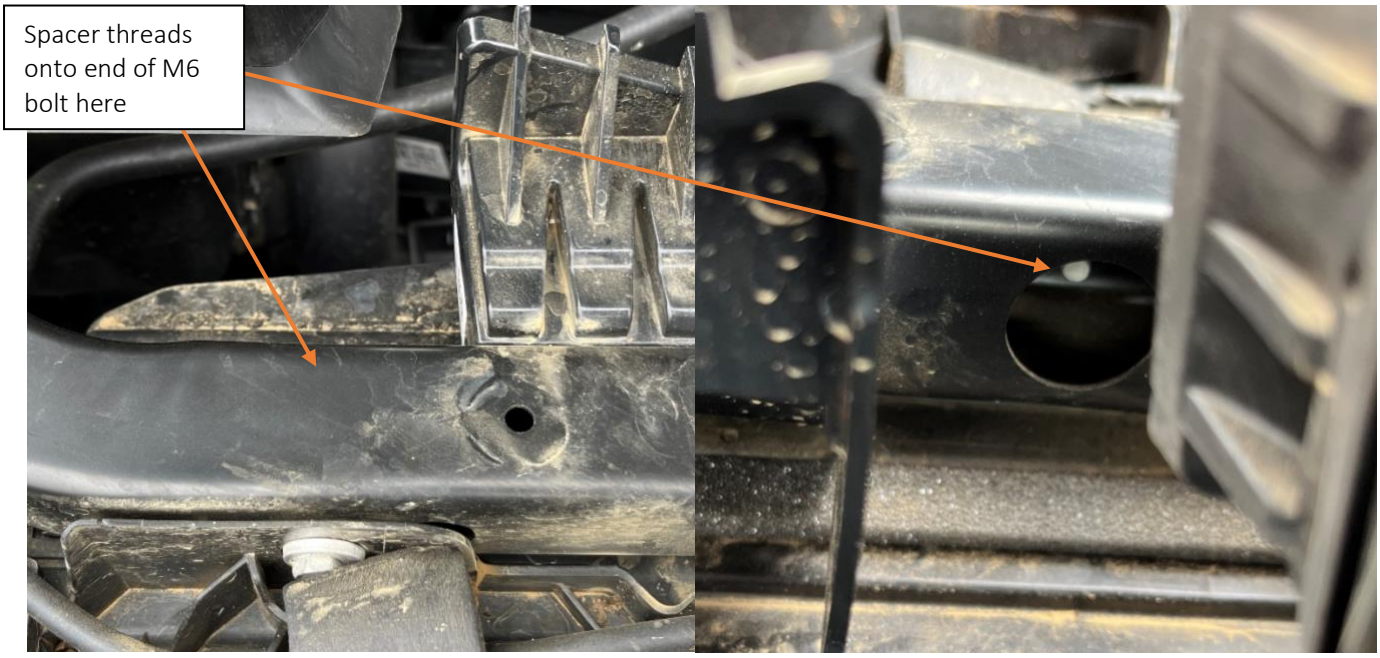
Ranger V6 2022+ Engine Bay – Overall View

15. Remove the engine cover, one 10mm nut on the front near the engine lift point and it lifts from the front up 45° and then pulls out towards the front of the vehicle.



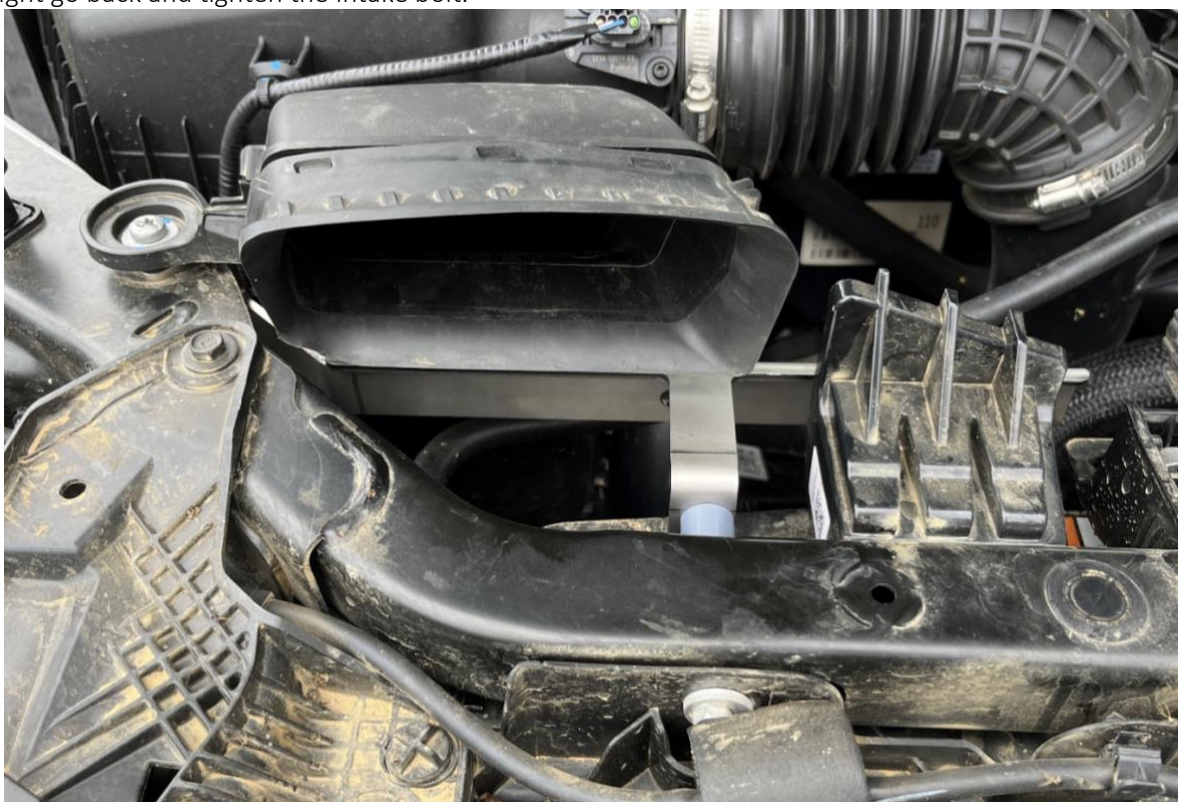
Ranger V6 2022+ Engine Bay – Overall View, radiator cowl panel removed

16. Thread the supplied M6 alloy spacer into the end of the bolt that goes through the radiator support panel on the driver's side, make sure it is seated all the way, hand tight is enough.



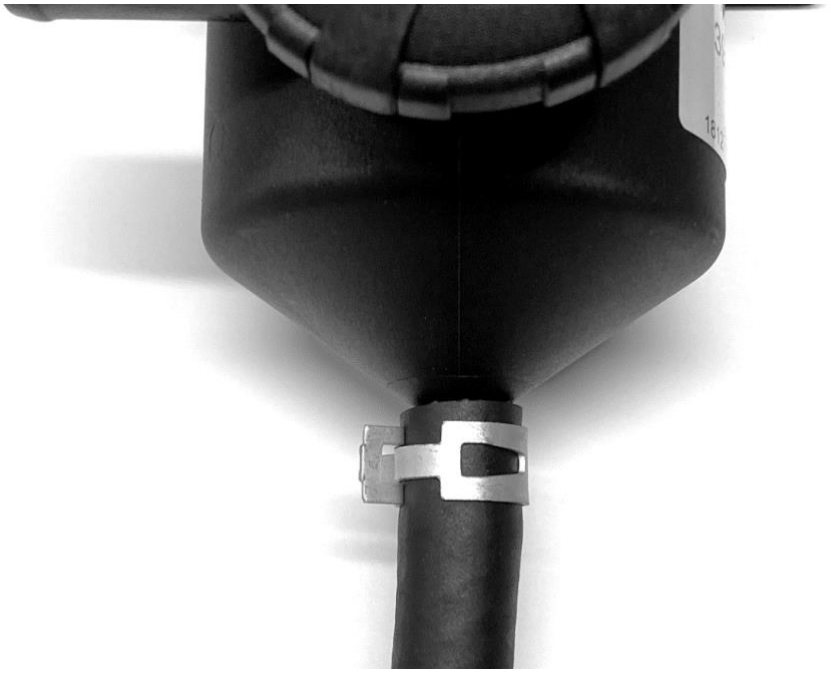
Location of alloy spacer mounting

17. Remove the M6 bolt that secures the factory intake, install the ProVent mounting bracket between the radiator support panel and the intake mounting tab. Reinstall the original bolt but don't tighten yet. Use the M6x12 bolt, flat washer and spring washer to secure the ProVent mounting bracket to the alloy spacer. Once tight go back and tighten the intake bolt.



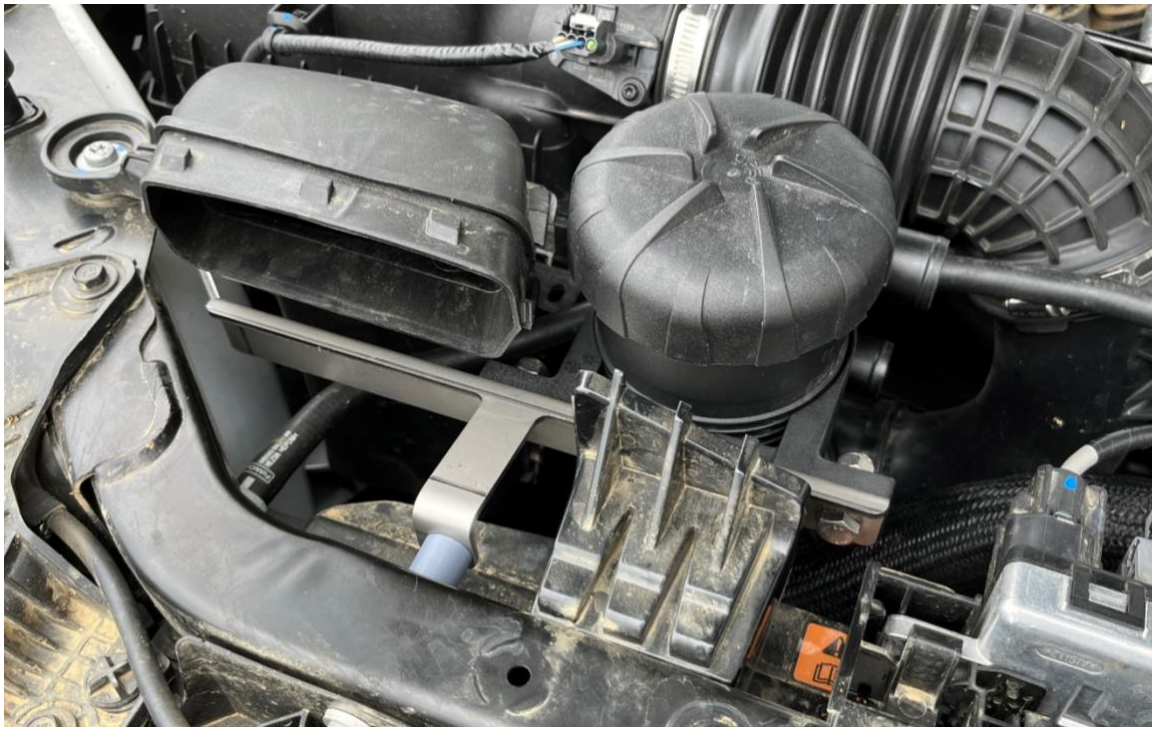
ProVent Ultimate Catch Can Mounting Bracket in Place

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



ProVent Ultimate Catch Can with 12mm hose connected and secured with a clamp

19. With a flat washer on each of the M8x25mm bolts, mount the ProVent Ultimate Catch Can to the mounting bracket.
    Use a flat washer, spring washer and nut to secure the bolts on the other side.



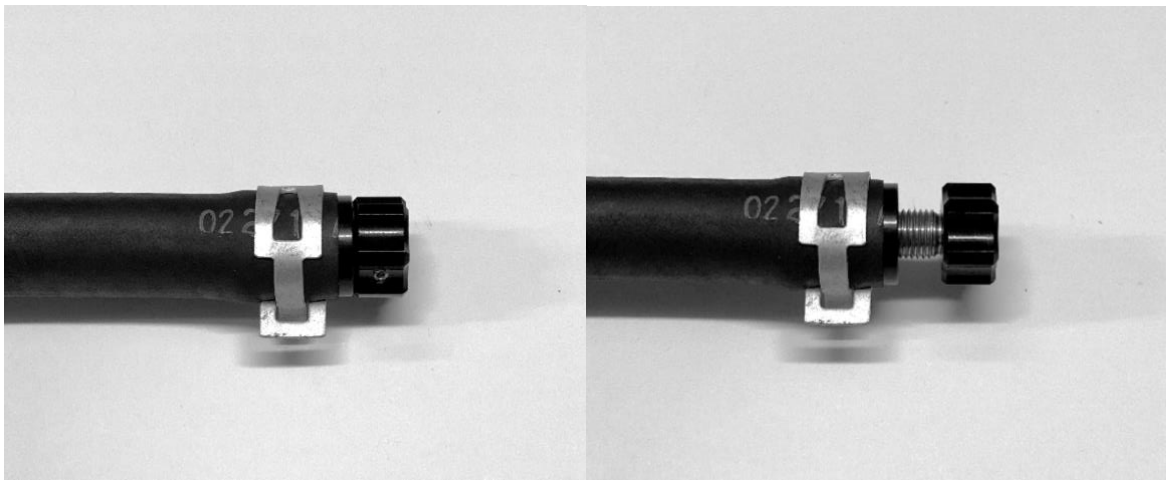
ProVent Ultimate Catch Can bolted to bracket and with couplers and fittings installed – Please note: ProVent rotation in this image is correct, refer to the image on the last page of this installation guide for how to rotate the unit.

20. 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 Drain Tap into the hose and secure with a 12mm spring clamp.

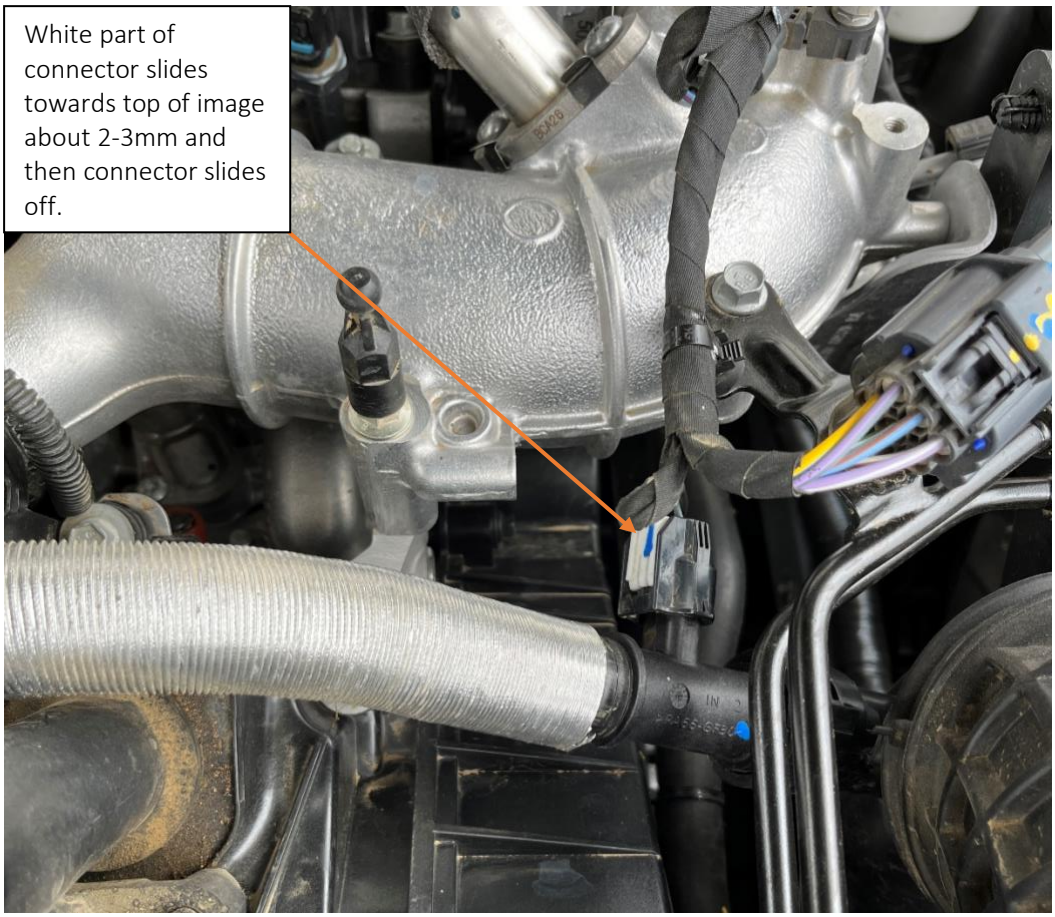
Drain Tap inserted into 12mm hose, secured with a clamp

21. 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.

22. Make sure the tap position is closed and avoid placing the tap in a location in which it will fill with dirt and mud.

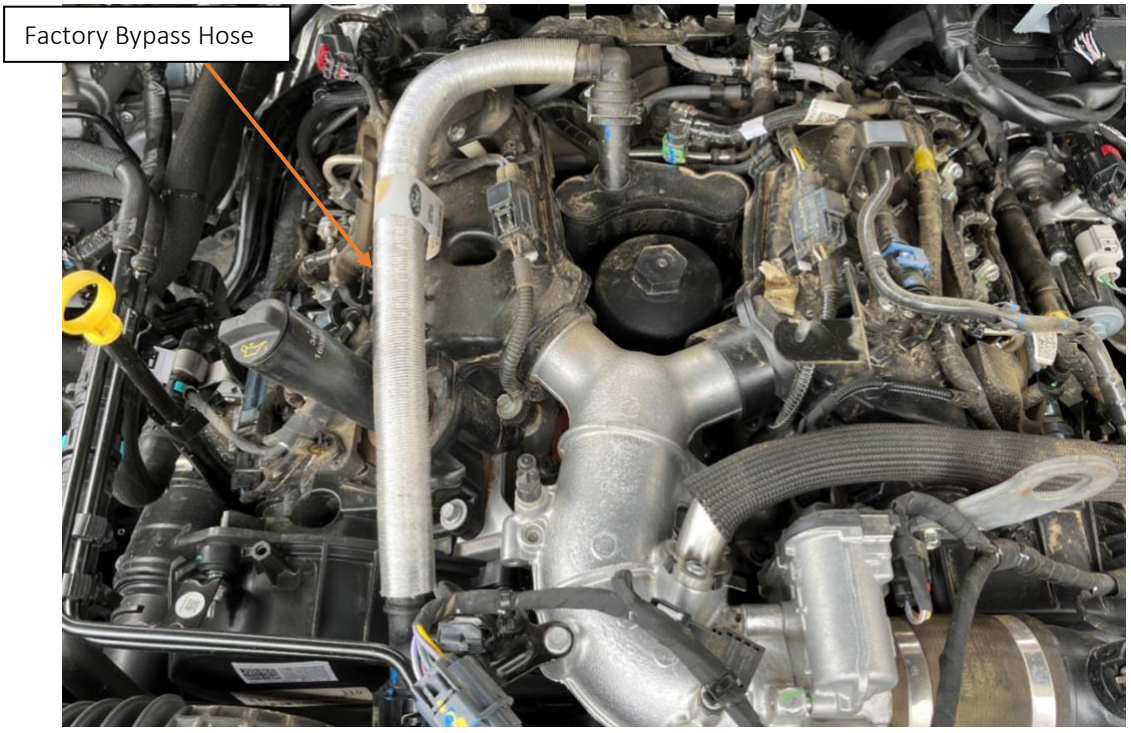


Left image – Tap Open. Right image – Tap Closed.



Bypass hose wiring connector

23. Remove the factory bypass hose shown in the image below, you will need to use a small flat blade screwdriver to remove the wire clips retaining the fittings at each end.



Factory bypass hose location

24. Once removed, disassemble the factory bypass hose for the components, we will be reusing the end fittings and the heat sleeving.

Factory bypass hose after disassembly

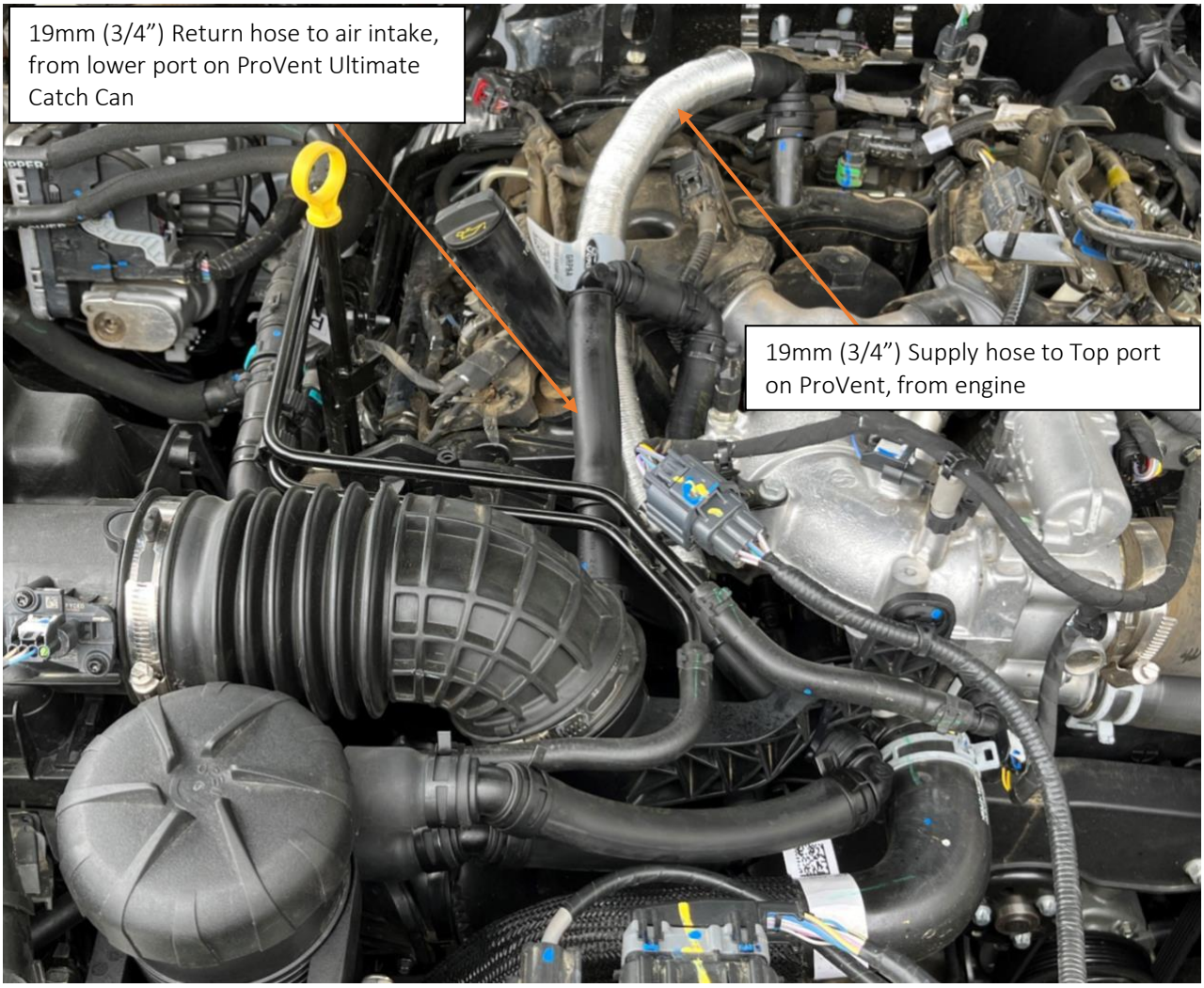
25. Connect the 25-19mm reducers to the ports on the side of the ProVent Ultimate Catch Can unit. Use the 25mm spring clamps to secure in place.

26. To the 19mm end of these reducers, fit the 19mm 45° elbows and use 19mm clamps to secure in place.

27. Cut a length of hose 600mm long and fit it to the 90° fitting from the factory bypass hose. Fit the factory heat sleeve over the hose. Fit a 90° elbow to the other end of the hose and secure with a 19mm spring clamp. To the other end of the 90° elbow cut and fit a length of hose 185mm long and secure with a 19mm spring clamp. Connect the other end of this 185mm long hose to the 45° elbow you installed into the top reducer in the previous step.

ProVent Ultimate Catch Can Supply Line Installed

28. Cut a length of hose 115mm long and fit it to the return fitting from the factory bypass hose. Fit a 90° elbow to the other end of the hose and secure with a 19mm spring clamp. To the other end of the 90° elbow cut and fit a length of hose 55mm long and secure with a 19mm spring clamp. Fit a 90° elbow to the other end of the hose and secure with a 19mm spring clamp. To the other end of the 90° elbow cut and fit a length of hose 320mm long and secure with a 19mm spring clamp. Fit a 90° elbow to the other end of the hose and secure with a 19mm spring clamp. To the other end of the 90° elbow cut and fit a length of hose 140mm long and secure with a 19mm spring clamp. Connect the other end of this 140mm long hose to the 45° elbow you installed into the bottom reducer on the ProVent Ultimate Catch Can.



Hose configuration in P703 Ranger with ProVent Ultimate Catch Can installed – Note: The hoses need to be run in such a way to fit the engine cover back on, the hoses are long enough to allow for this. (not all hose clamps not shown)

Finished Install – Check to make sure everything is secure and then put the engine cover and radiator cowl panel back on

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).

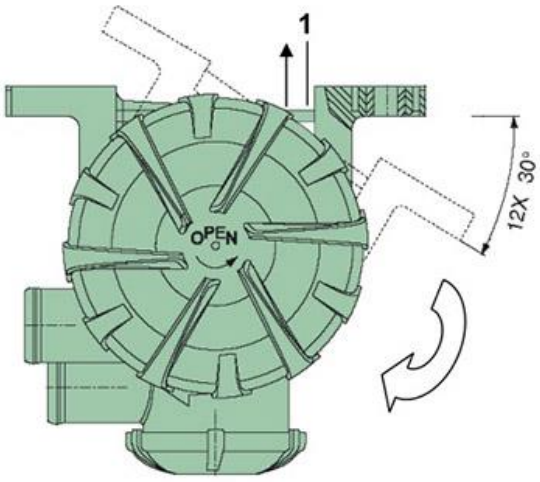


Fig. 5 Positions of outlet for ProVent 200

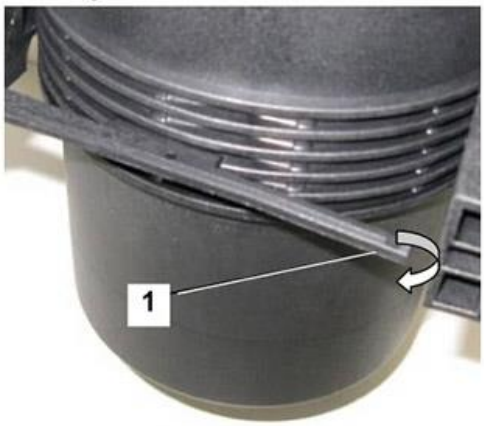


Fig. 6 Holder for ProVent 200

End of Installation Guide