



Ford Ranger PX Direction Plus™ ProVent® 150 and PreLine-Plus Installation Guide

This document is to be used as a guide for the installation of the Direction Plus™ Ranger PX ProVent® 150 Crankcase Ventilation unit and PL150DP pre-filter Kit to a 2011-2016 Ford Ranger PX & PXII 3.2 & 2.2 Diesel. It is recommended that the installation of the product be carried out by a competent qualified mechanic.

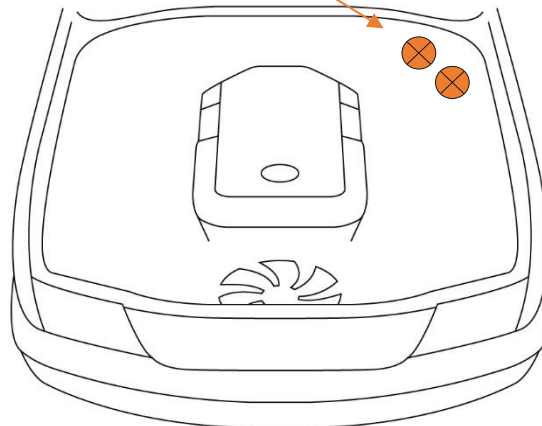
Important before starting

- 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

RPXPV150-BR	1
PROVENT 150	1
19MM ELBOW CONNECT	2
SPRING CLAMP - 19MM	6
CABLE TIE	8
FLAT WASHER M8	4
NYLOC NUT M8	3
PROVENT KIT TAP	1
HOSE CLAMP - 12MM SPRING	2
FUEL LINE 10MM	1
BOLT KIT 10MM	1
9.89 ELBOW QD	2
DFL10 - FUEL LINE RUBBER (10MM)	1
BOLT M8X25	2
HOSE CLAMP 10MM	2
WINDSCREEN LABEL	1
PV ENGINE BAY LABEL	1
PL ENGINE BAY LABEL	1
HOSE 19MM	0.65
HOSE 19MM	0.65
HOSE 19MM	0.07
M16X1.5 ADAPTER – 10MM	2
WATER ALARM KIT	1
PL150DP ASSEMBLY	1
PUSH ON 90 DEG - 10MM	2
16MM FLAT WASHERS	2

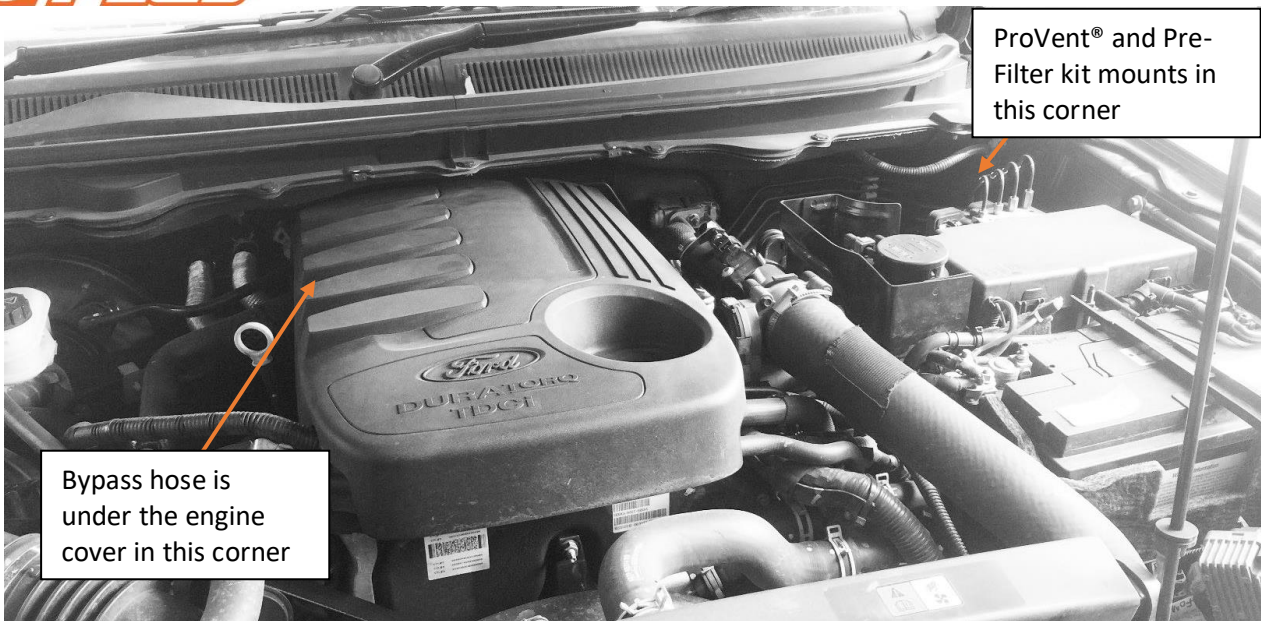
Approximate mounting location



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

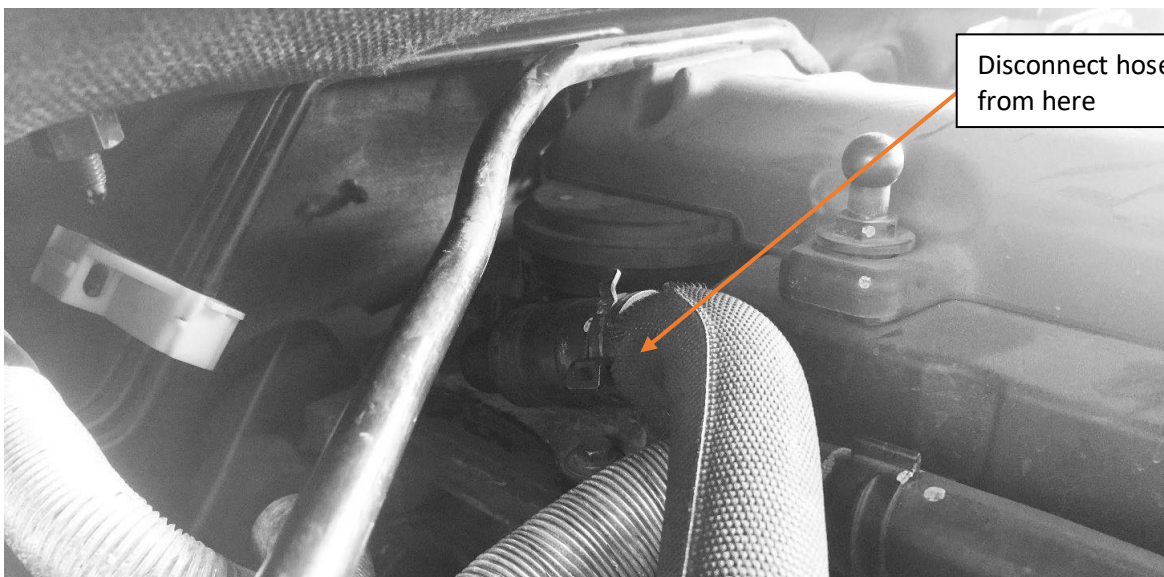
Installation Guide

1. Begin by removing the engine cover to give access to the crankcase bypass hose in the front passenger corner.



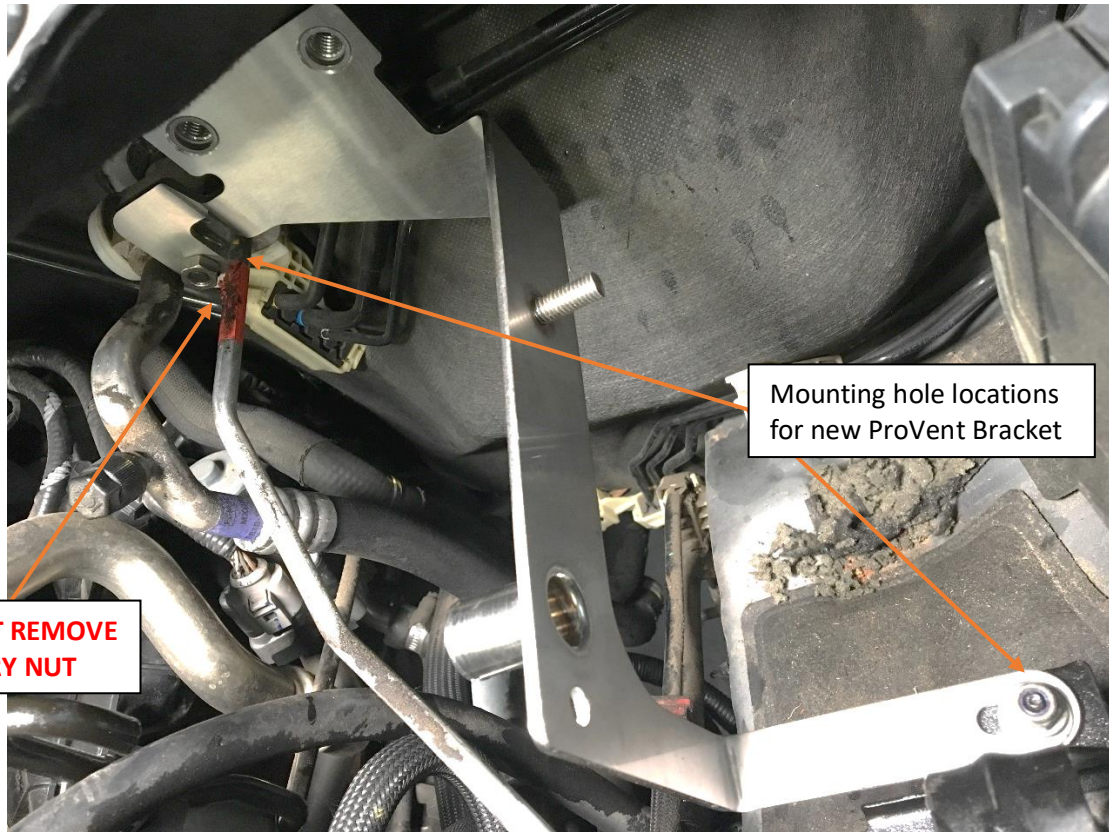
Ranger PX Engine Bay – Overall View

2. Begin by locating the factory bypass hose which runs from the valve cover on the driver's side of the engine to the intake pipe just after the concertina section. The hose is about 500mm in length and has a few bends in it. Once located, this hose needs to be disconnected from the valve cover and the 90° fitting on the valve cover needs to be rotated to face the rear of the vehicle.



Factory bypass hose location

3. Locate the M6 nut located behind the fuse box on the passenger's side. It needs to be removed to allow fitment of the bracket.



Top down view: image shows new ProVent® bracket location

4. Connect the 12mm (1/2") Hose to the underside of the catch can body, using a 12-20mm Clamp to secure it in place.



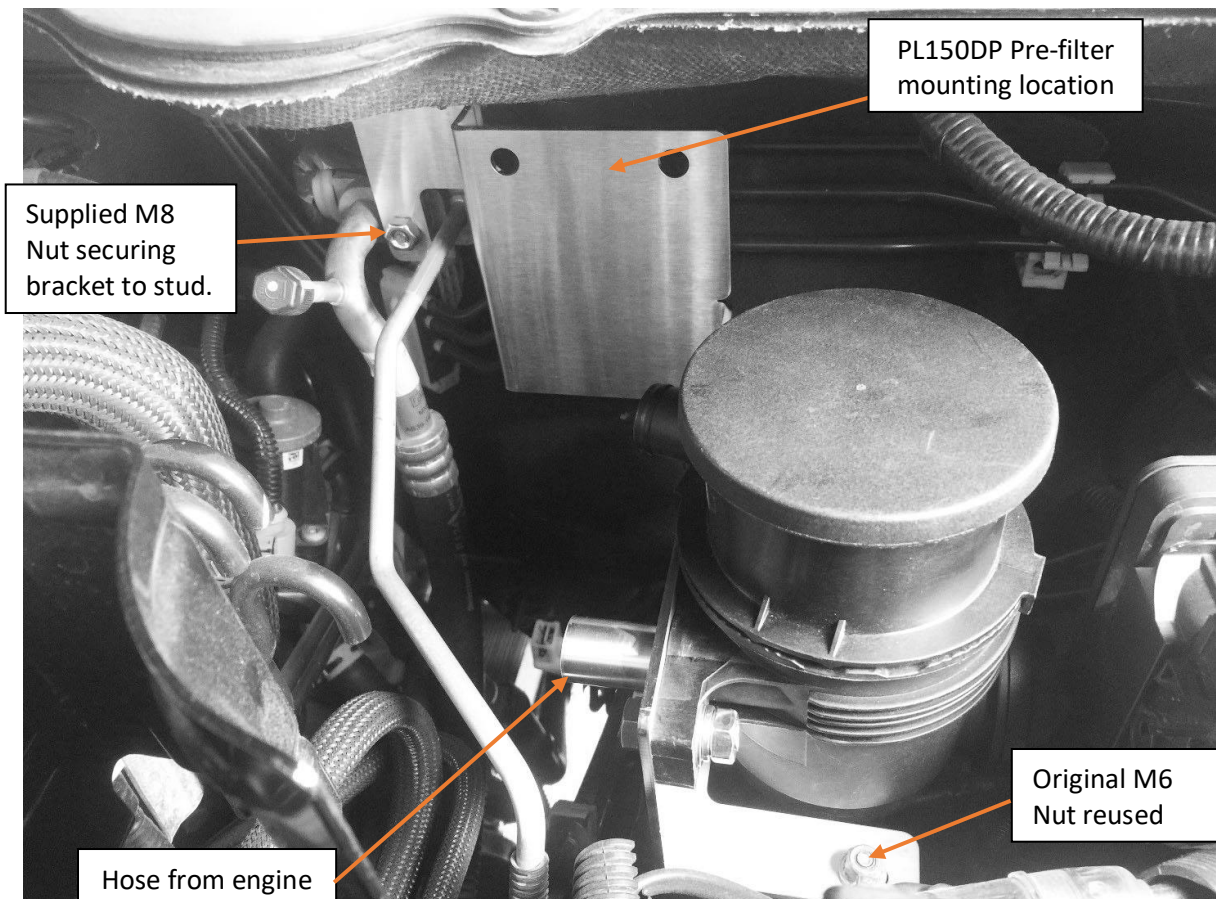
Provent® 150 with 12mm hose connected and secured with 12mm spring clamp

5. 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 and secure with a 12-20mm clamp.

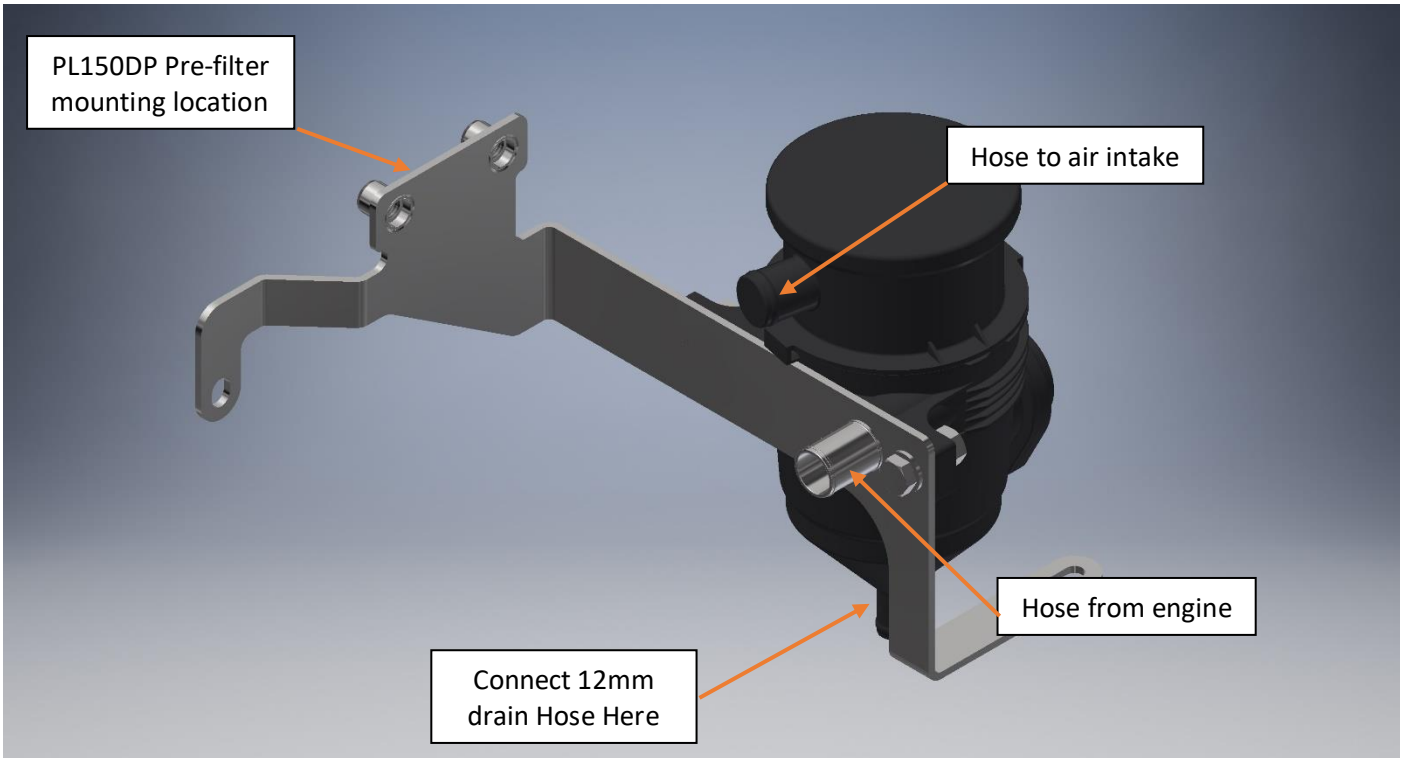


Hose tail and tap assembly inserted into 12mm hose, hose clamp not required

6. Fit the new bracket / ProVent® 150 bracket assembly onto the two mounting locations. Using the original M6 nut to secure the end behind the fuse box. Once this is tight, use the supplied M8 nut to secure the other end of the bracket to the stud between the air conditioning lines. We recommend the use of Loctite thread locker here.

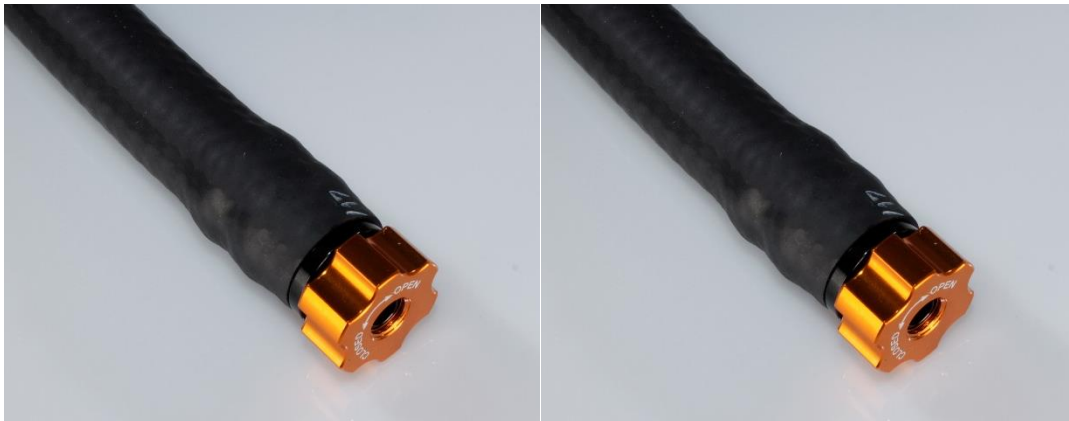


Top down view: Ranger PX Engine Bay- Passenger's Side



Pre-assembled Provent 150 with bracket.

7. 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.
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.



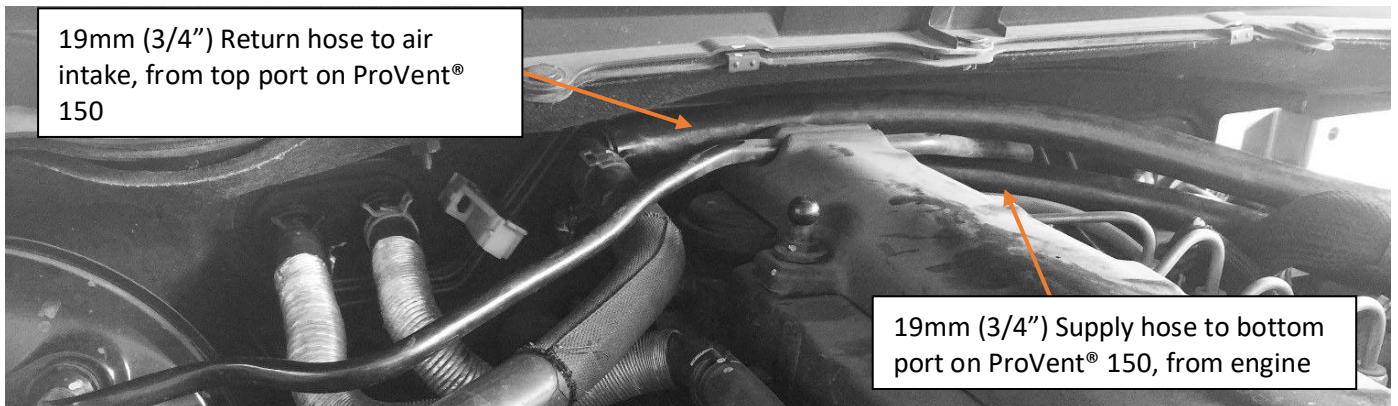
Left image – Tap Open.

Right image – Tap Closed.

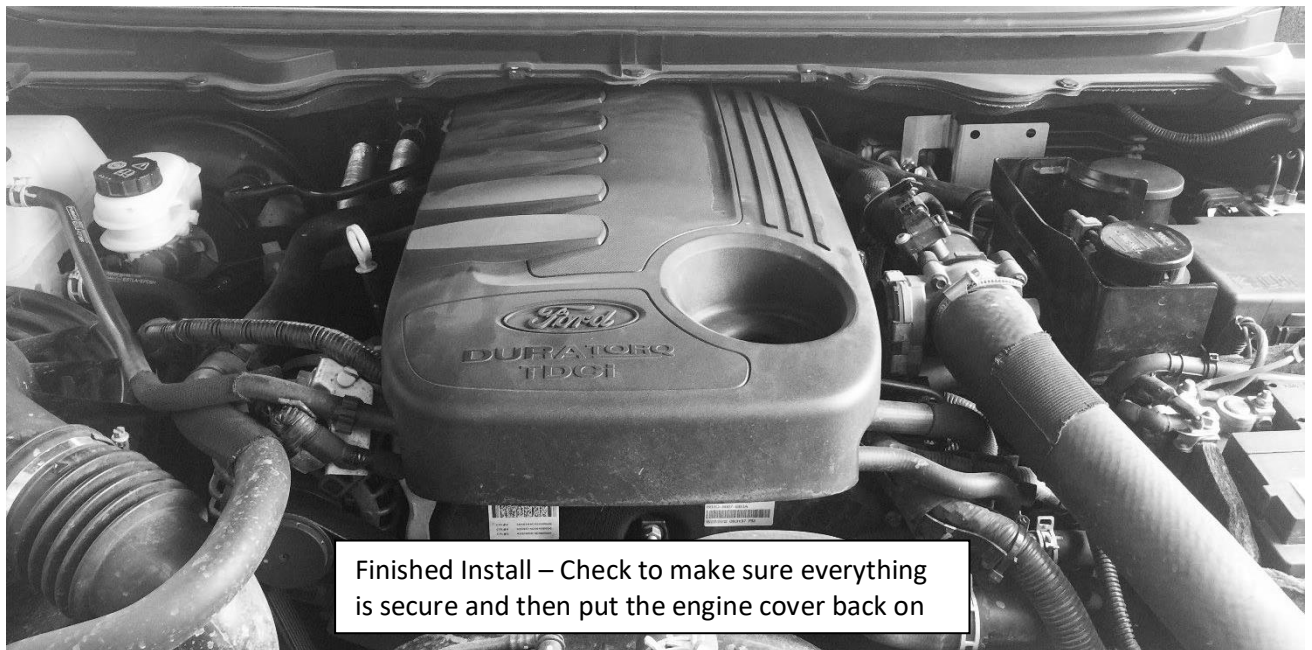
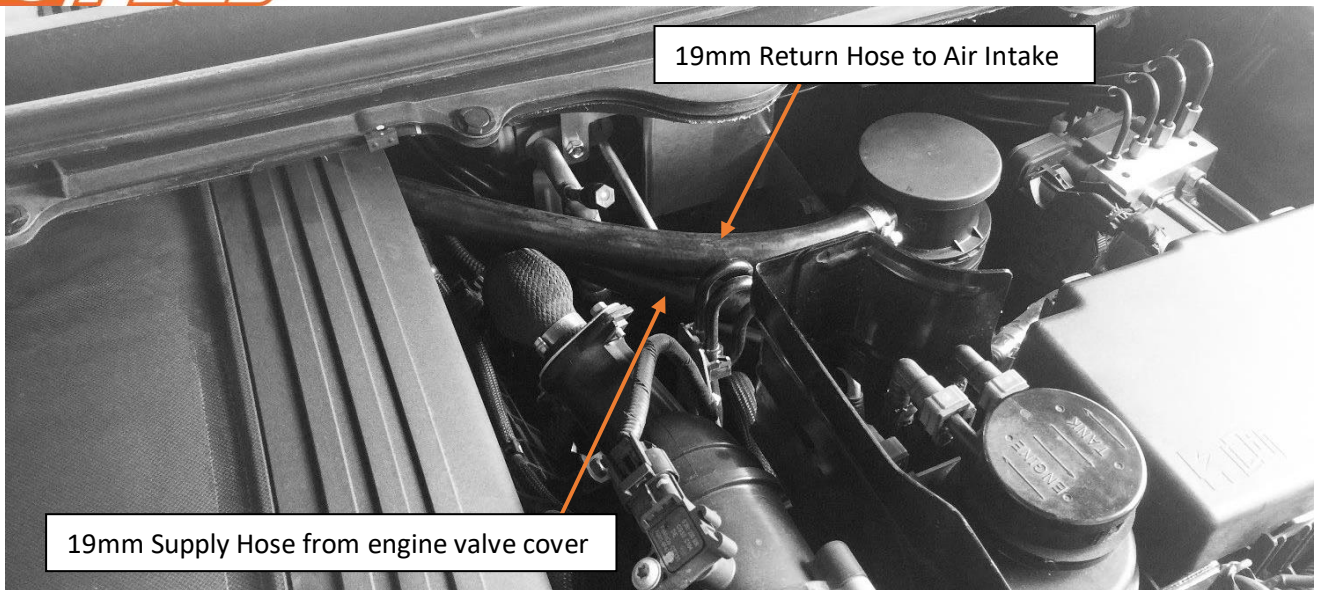


This image shows how the ProVent® Lines are to be assembled

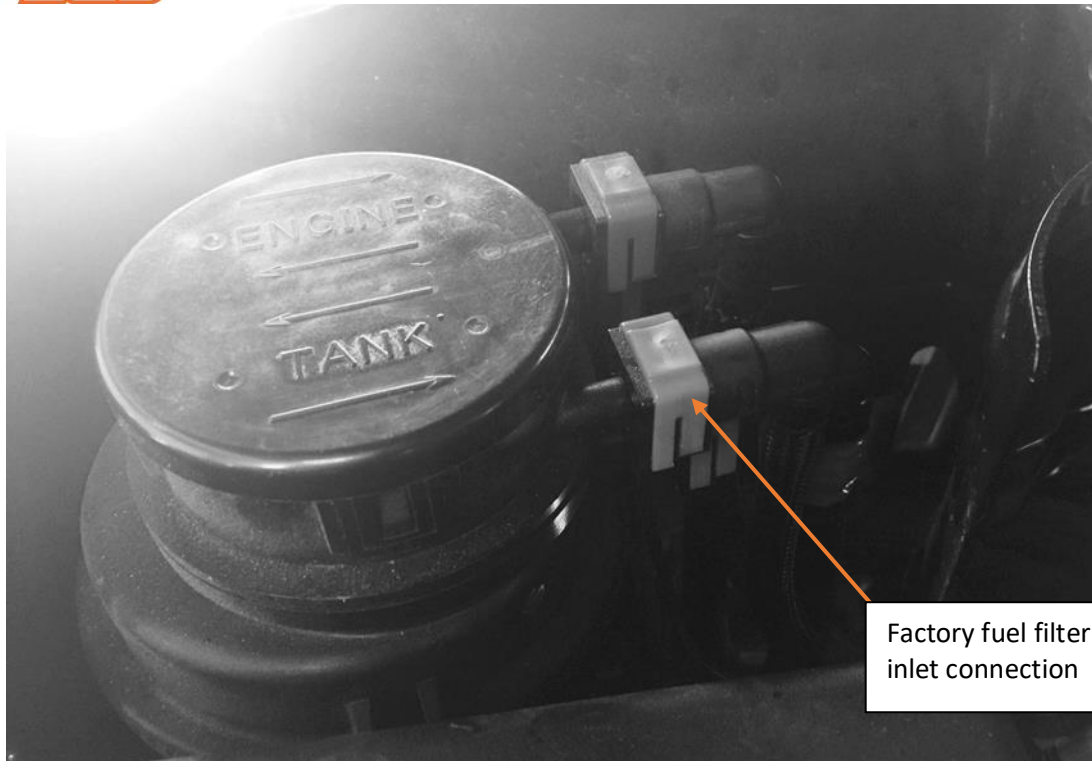
9. Mount one end of the first 650mm long 19mm (3/4") hose to the lower 19mm (3/4") fitting on the ProVent 150. Secure with hose clamp.
10. Mount the other end of the same 650mm long 19mm (3/4") hose to the 19mm (3/4") 90° joiner fitting on the hose connected to the engine head on the front driver's side. Secure with hose clamp.
11. Mount one end of the second 650mm 19mm (3/4") hose to the upper 19mm (3/4") fitting on the ProVent 150. Secure with hose clamp.
12. Mount the other end of the second 650mm 19mm (3/4") hose to the 19mm (3/4") 90° joiner fitting on the hose connected to the hose running to the black box in front of the intercooler on the front passenger side. Secure with hose clamp.



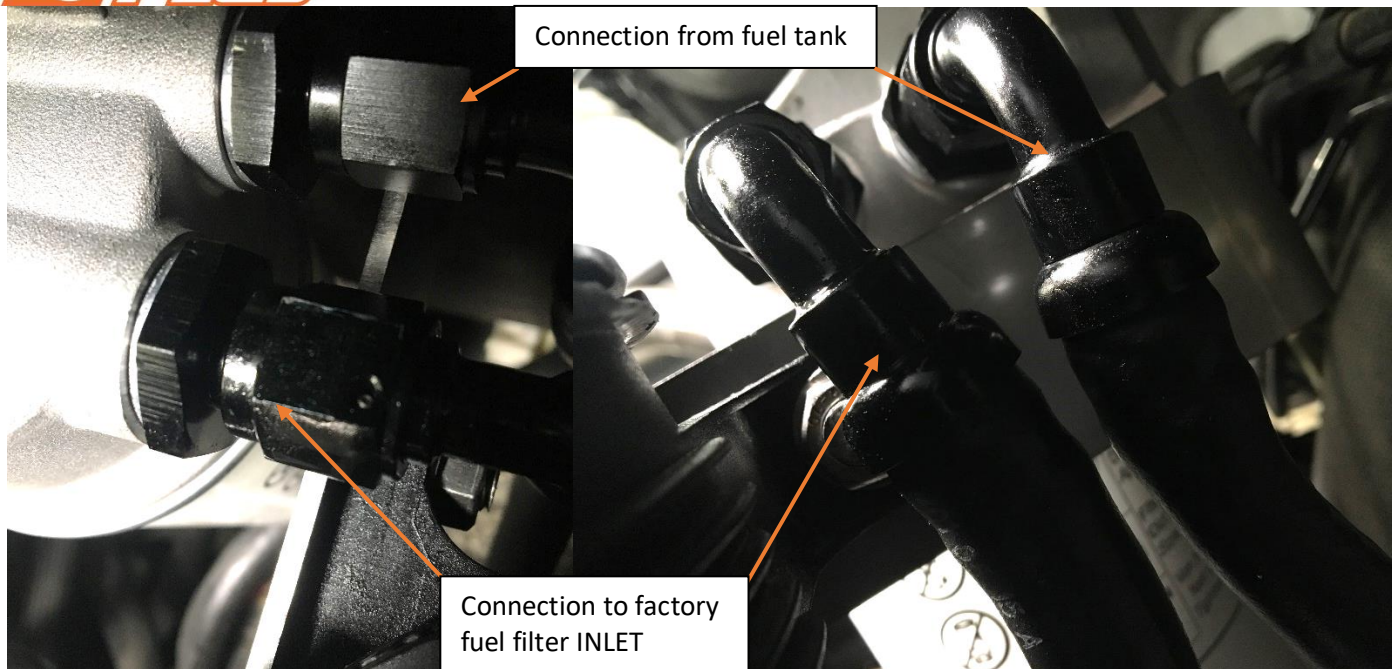
Hose configuration in PX Ranger with ProVent® 150 installed – Note, the hose to the ProVent® need to be run underneath the hard pipe in order to fit the engine cover back on, the hoses are long enough to allow for this. (hose clamps not shown)



13. Install the M16x1.5 adapters and M16 flat washers to the inlet and outlet ports that are facing outward, towards the inner guard and tighten. **Note: depending on installation you may need to remove and reposition the already installed plugs**

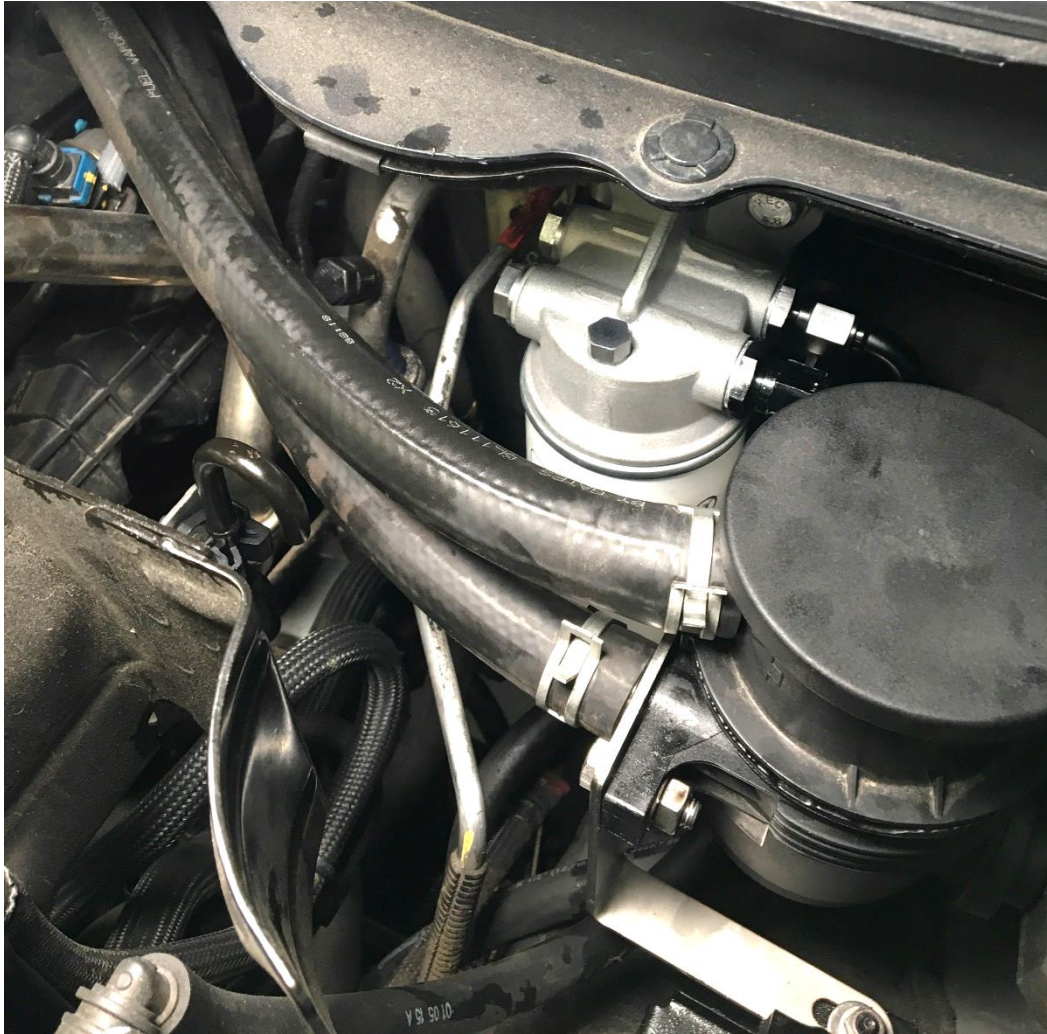


14. Mount the PL150DP Pre-filter assembly to the mounting bracket using the 2 x 10mmx30mm bolts, 2 x 10mm flat washers.
15. Remove the RED quick disconnect fitting from the original filter head (the larger lower fitting) and the other end of the pipe coming from the tank. Remove the factory piece of pipe. Keep this pipe in a safe place as it will be needed if the vehicle needs to be return to factory specification
16. With one end of the supplied 10mm fuel hose, Lubricate the inside portion of one end using diesel fuel or WD40
17. Install one of the 10mm 90° push-lock fittings into the pre-lubricated end of the 10mm fuel hose, ensuring that the hose stops firmly against the inside of the bell cover.
18. Connect the 10mm 90° push-lock fitting to the inlet of the pre-filter housing. Adjust the angle of the fitting tail to clear any obstructions.
19. Route the 10mm fuel hose down to the steel fuel pipe that was connected to inlet of the factory fuel filter and cut the hose to length approximately 25mm past the end of the steel fuel pipe
20. In the end of the same piece of fuel hose, install one of the 9.89mm female quick disconnect fitting and secure with a hose clamp. Connect this hose to the supply line from the tank.
21. With the remaining length of 10mm fuel hose Lubricate the inside portion of one end using diesel fuel or WD40.
22. Install the last 10mm 90° push-lock fitting into the pre-lubricated end of the 10mm fuel hose, ensuring that the hose stops firmly against the inside of the bell cover.
23. Connect the 10mm 90° push-lock fitting to the outlet of the pre-filter housing. Adjust the angle of the fitting tail to clear any obstructions.



example of PL150DP fitting orientation

24. Route the 10mm fuel hose to the inlet of the factory fuel filter and cut the hose to length, approximately 25mm past the end of the inlet barb
25. Install the last 9.89mm female quick disconnect fitting in the end of the same fuel hose and secure with a hose clamp. Connect this hose to the inlet of the factory fuel filter and secure with a supplied hose clamp.
26. Using the supplied nylon cable ties carefully secure both fuel hoses, ensuring they are not kinked and cannot contact any hot components.
27. Remove any loose tools from the work area
28. Turn the ignition key ON and allow the system to prime for approximately 30-60 seconds, repeat 4-6 times
29. Start and run the vehicle checking for leaks
30. Refer to supplementary instruction for water alarm connection



Completed installation of the ProVent® and PL150DP

End of Installation Guide