



Direction-Plus Combo Kit PreLine-Plus Pre-Filter + ProVent Ultimate Catch Can Kit Installation guide for Toyota Hilux 2011-2015 N70

1. PreLine-Plus Pre-Filter Installation Guide

This document is to be used as a guide for the installation of the Direction-Plus™ Pre-Line Plus pre-filter to a **Toyota Hilux N70 1KD-FTV (2011-2015)**. 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 contaminates.
- 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.

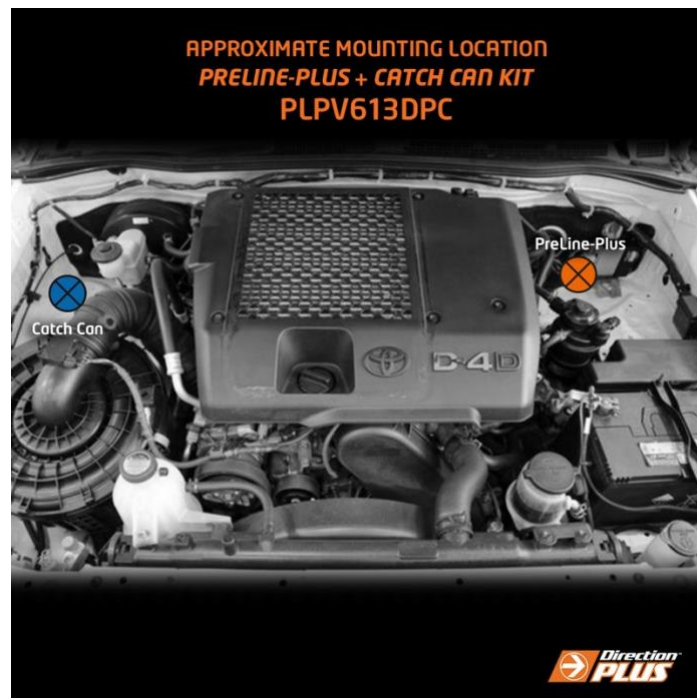
Included in the kit:



<i>Pre-assembled</i>	<i>Hardware Bag</i>	<i>Wiring Bag - (PLWSIND)</i>
1 x MANN+HUMMEL PreLine 150 (PL150WSDP)	2 x M16x1.5 Alloy Washers (PLFW16)	Wiring Harness
1 x Mounting Bracket A (PL628-BR)	2 x M16x1.5 to -6 Adaptors (DP816-6-M1615)	Warning Light
1 x Brace Mounting Bracket B (PL612-BR)	2 x -6 90° Elbows to 3/8" Tail (DPP0090-06)	Short Earth Lead
1 x 1000mm 3/8" Fuel Hose (DPFH10)	2 x 15-17mm Fuel Line Clamp (FMC10)	10 x 100mm Cable Ties
	9 x Cable Ties (802078)	
		<i>PreLine Mounting Kit Bag – (FMB10KIT)</i>
		2 x M10x30 Bolts
		2 x M10 Nyloc Nuts
		4 x M10 Flat Washers

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

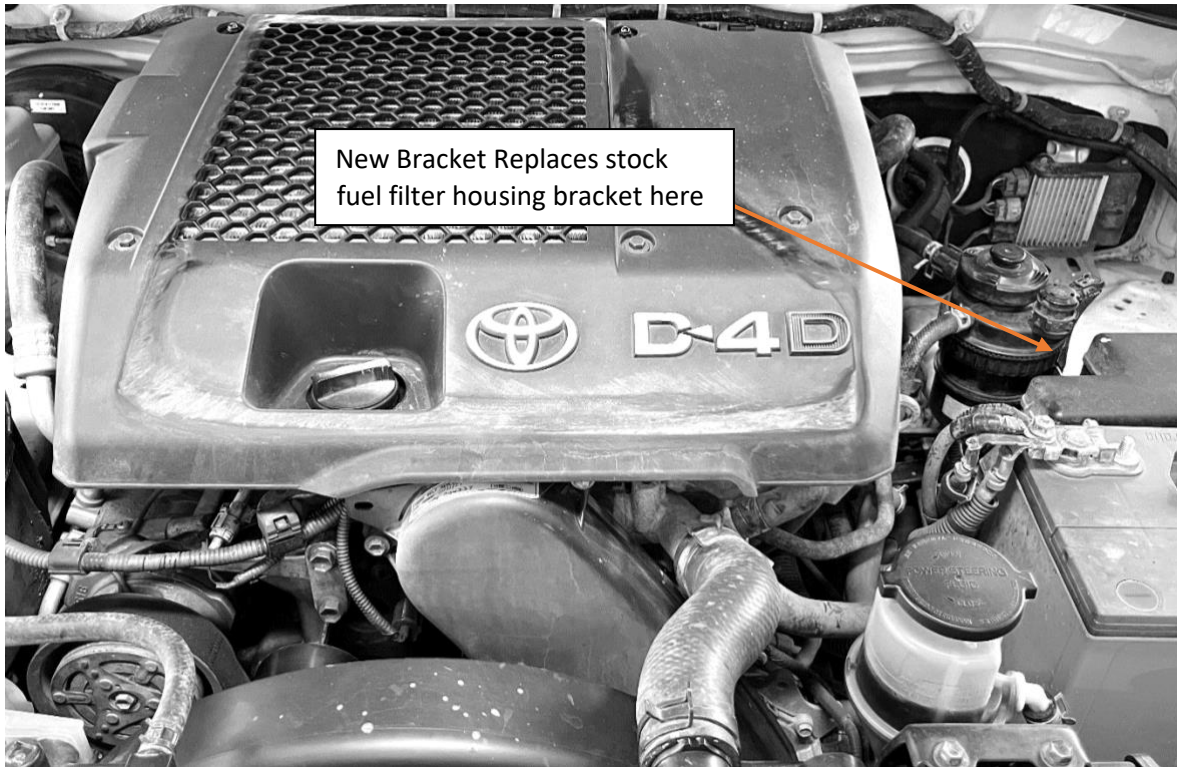
Mounting Location



Basic Tools Needed:

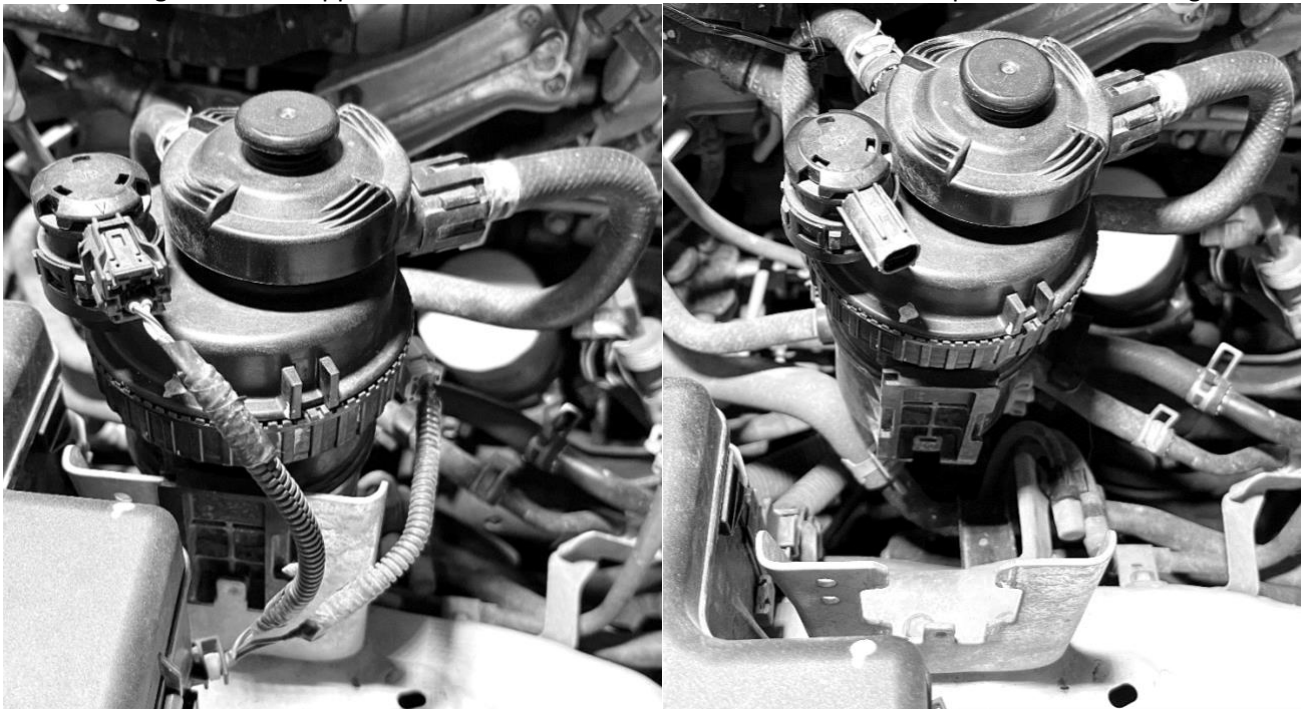
- Spanners
- Sockets
- Screw drivers
- Pliers
- Snips/Cutters
- Rags

Installation Guide

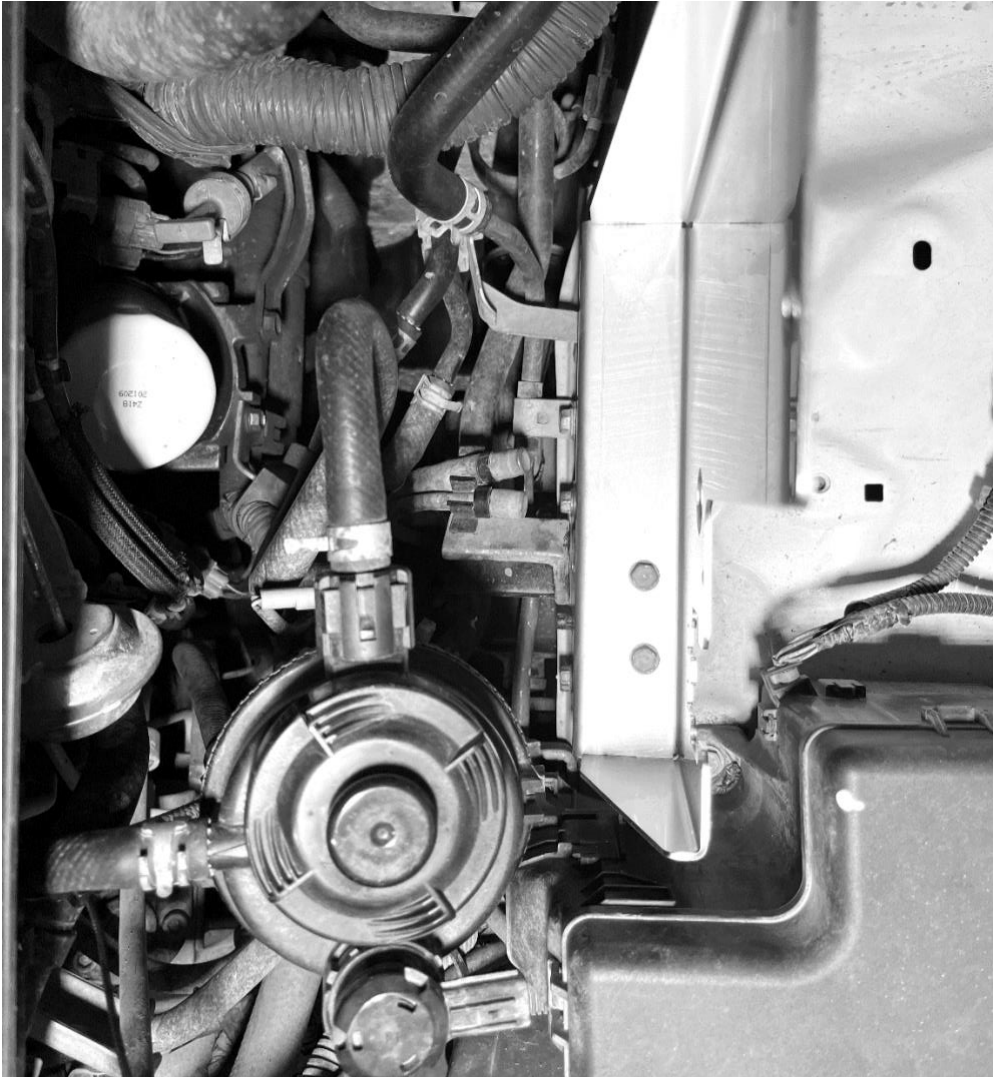


N70 Hilux Engine Bay Overall View

1. Begin by unplugging the electrical connections to the factory fuel filter. Then, slide the factory fuel filter housing up and off the mounting bracket. The bracket supporting the filter needs to be replaced with mounting bracket A supplied in the kit. There are two M6 bolts from the top and 4 from the engine side.

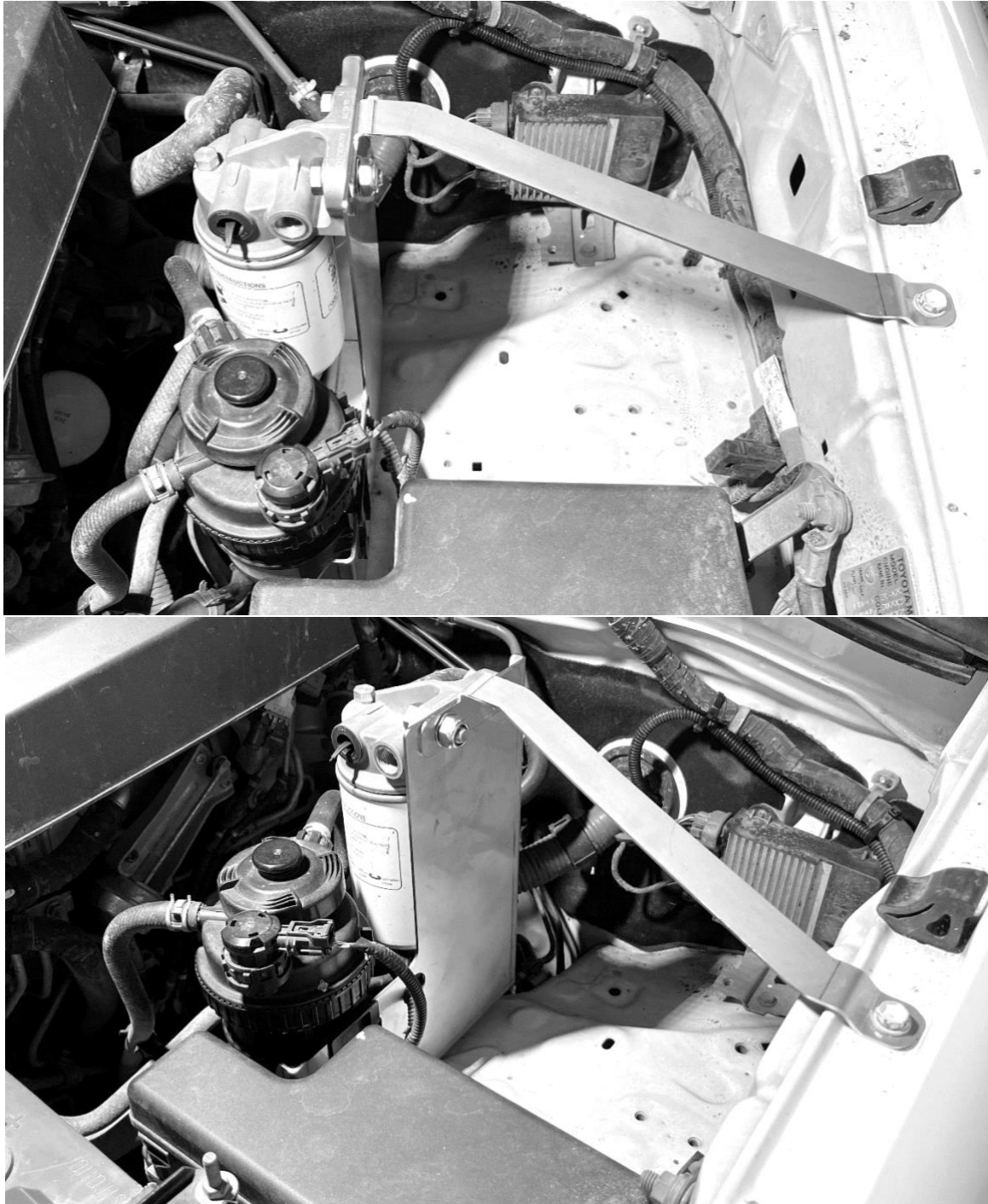


Left – wiring connected and factory filter in place, Right – wiring unplugged and factory filter removed from bracket



New mounting bracket A bolted in place, use factory bolts to secure it to the original mounting locations

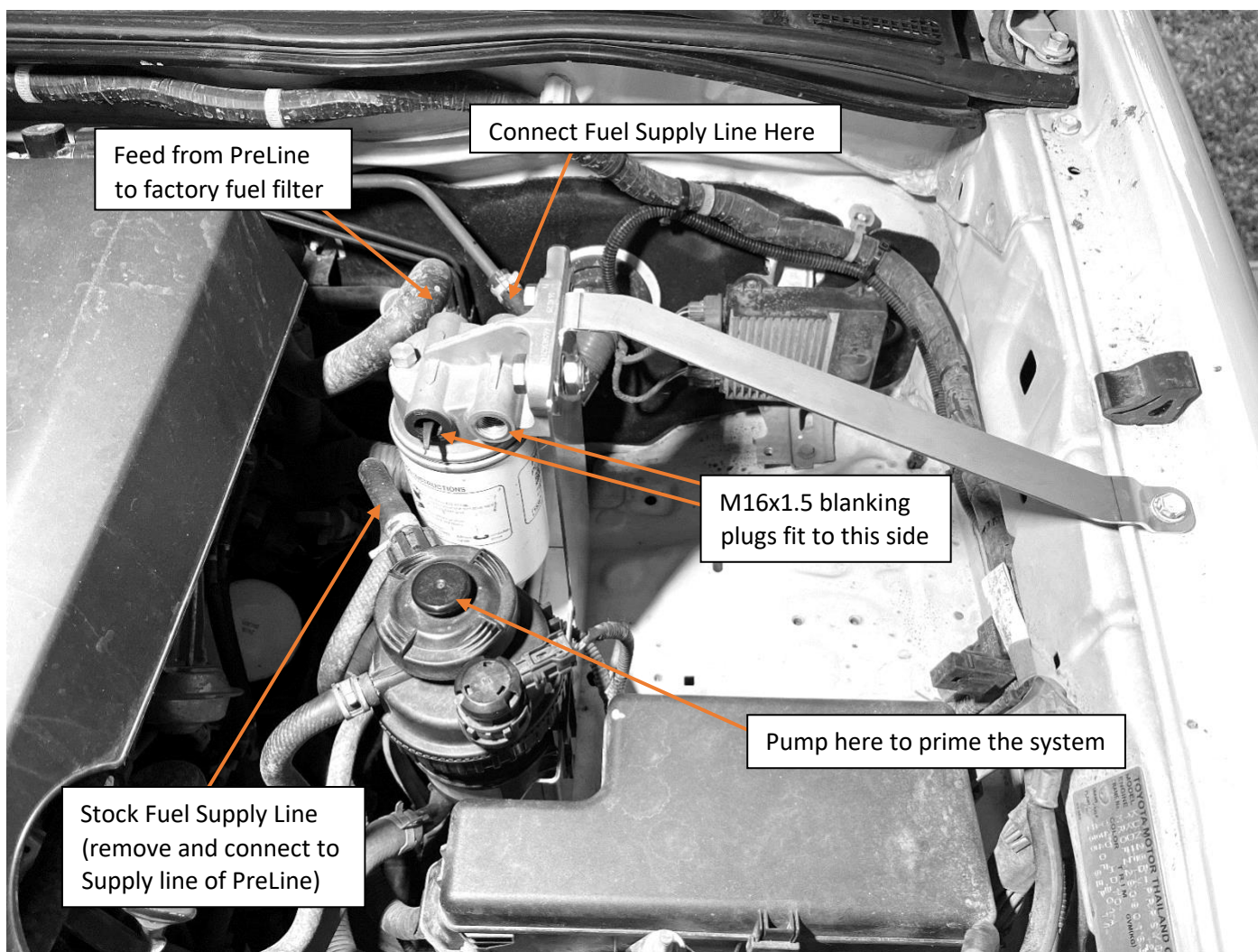
2. Once the new bracket is installed, slide the factory fuel filter back into place. The electrical connections can now be plugged back in.
3. Connect the wiring harness to the water sensor in the bottom of the fuel filter. Check to make sure the water sensor and the filter are tight on the assembly.
4. Bolt the fuel filter assembly into place, using the M10x30mm bolts and nyloc nuts, making sure to use a flat washer under each bolt head and nut. Install mounting bracket B directly to the rear face of mounting bracket A, the bolts and washers should sandwich the two together. Adjust the position of the fuel filter assembly till you are happy with the location, mounting the other end of mounting bracket B to the guard. When you're happy with the position, tighten the bolts and nuts.



PreLine 150 mounted in place to mounting bracket A and B

5. There are three wires on the harness, a long wire (signal), a short wire with an eyelet (earth) and a short wire with an in-line fuse holder (power). The fuse is a mini blade type and rated at 5A.
6. Route the signal wire for the in-cabin warning light into the cabin via a spare grommet in the firewall. Use cable ties to secure in place.
7. Mount the in-cabin warning light in the desired location, you will need a 20mm hole-saw to do this cleanly and quickly. We recommend installing it in one of the empty switch covers.

8. Secure the signal wire to one of the terminals on the warning light (it doesn't matter which). To the other terminal, connect the short earth lead. Use one of the M6 earth locations just above the kick panel on the driver's side to secure the eyelet on the short earth lead.
9. Connect the Positive eyelet on the harness to the positive terminal on the battery.
10. Connect the Negative eyelet on the harness to the negative terminal on the battery or a body earth.
11. Secure any excess wiring out of the way with the supplied cable ties.



12. Install the M16x1.5 to -6 threaded adaptors with the M16 alloy washers into the fuel filter head, facing towards the rear of the vehicle. Use Loctite 567 or similar on the threads to ensure sealing.
13. Install the M16x1.5 blanking plugs with M16 alloy washers into the fuel filter head, facing towards the front of the vehicle. Use Loctite 567 or similar on the threads to ensure sealing.
14. Fit the -6 90° elbow fittings to the -6 threaded adaptors, use Loctite 567 or similar on the threads to ensure sealing. Leave loose until all hoses are fitted so fitting angles can be set.
15. Disconnect the fuel supply line to the factory fuel filter and reconnect the line to the inlet port on the PreLine (there is an arrow marking flow direction cast into the filter head.)



16. Connect the supplied fuel hose to the outlet port of the PreLine.
17. Connect the hose from the pre-filter assembly outlet to the factory fuel filter (the hose may need trimming to length). Secure in place with a fuel clamp. Use the priming pump on the factory fuel filter to prime the system.
18. Once complete start the vehicle, carefully and thoroughly check for leaks.
19. Run the vehicle for at least 20 minutes to ensure there are no air pockets in the fuel system.

END OF GUIDE

Direction-Plus ProVent Ultimate Catch Can Installation guide for Toyota Hilux 2011-2015 N70

This document is to be used as a guide for the installation of the **Direction-Plus ProVent Ultimate Catch Can Kit (PV613DPK)** to a **2011-2015 Toyota Hilux N70 1KD-FTV Diesel**.

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



Included in the kit:

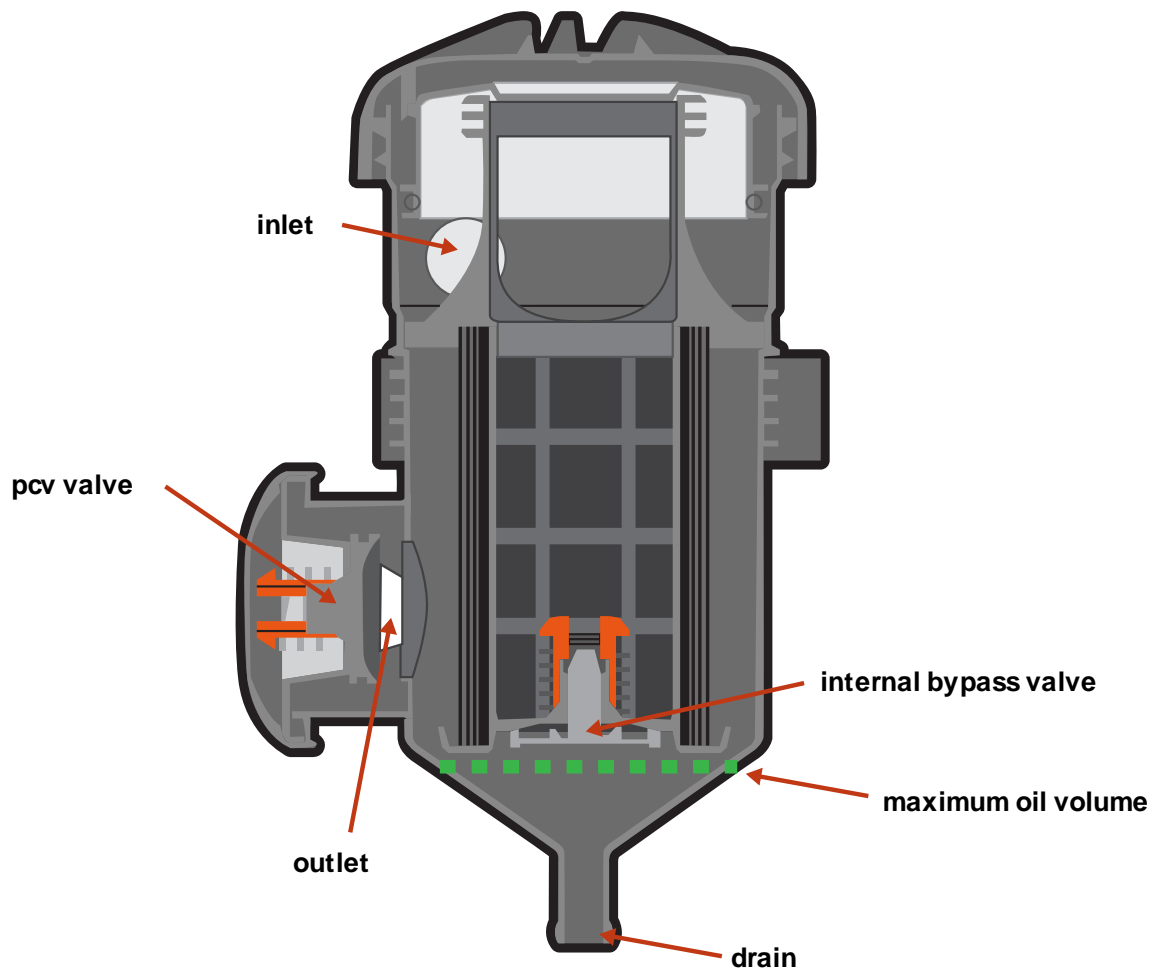
<i>Pre-assembled</i>	<i>Hardware Bag</i>	<i>ProVent Fitting Kit Bag</i>
1 x Mann + Hummel ProVent 200 (PV200DP)	1 x M6x16 Bolt (SSSS304M612)	2 x M8x25 Bolts (SSSS304M825)
1 x Mounting Bracket A (PV612-BR)	1 x M6 Flat Washer (FMW6)	4 x M8 Flat Washers (FMW8)
1 x Mounting Bracket B	1 x M6 Spring Washer (FMSW6)	2 x M8 Spring Washers (FMSW8)
1 x 1200mm 16mm Hose (DPPH16)	8 x 200mm Cable Ties (802078)	2 x M8 Stainless Steel Nuts (FMN8)
	2 x 25-16mm Reducers (PV2516DP)	<i>Drain Bag</i>
	2 x 25mm Spring Clamps (DPSC25)	1000mm of 12mm Hose (DPFH12-PEX)
	8 x 16mm Spring Clamps (DPSC16)	1x Drain Tap Assembly (DPDRAIN)
	2 x 16mm Straight Joiners (DPC0016)	2 x 12mm Spring Clamps (DPSC12)
	2 x 16mm 45° Joiners (DPC4516)	



Basic Tools Needed:

- 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.

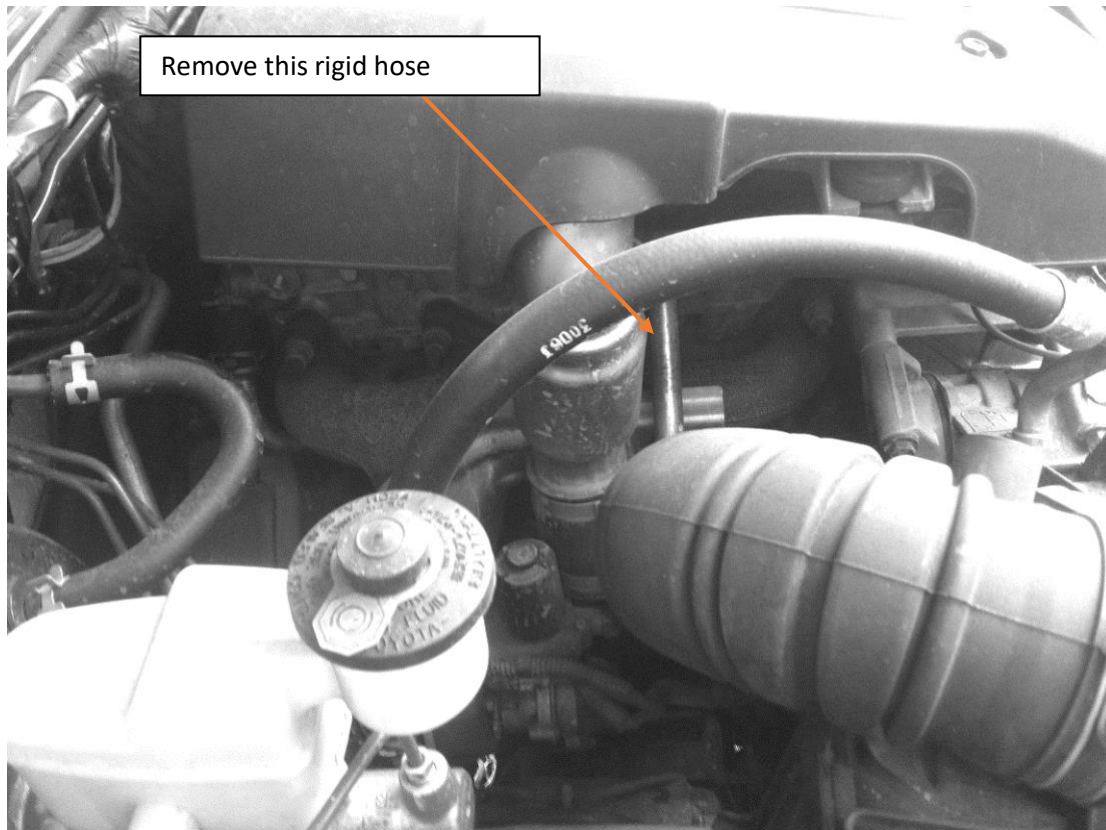
The ■ ■ ■ in the diagram indicates the maximum permissible oil level. For the PV200 internal bypass valve to correctly operate the internal oil volume MUST NOT exceed the level indicated by the ■ ■ ■ shown in the diagram.

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.

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20. Begin by removing the factory bypass hose which runs from the top of the rocker cover, down to the air inlet hose just before the turbocharger. You will need to leave the rubber 25mm to 16mm reducer in place on the inlet pipe as well as the elbow attached to the valve cover. Note: You may need to remove the engine cover and intercooler for better access.



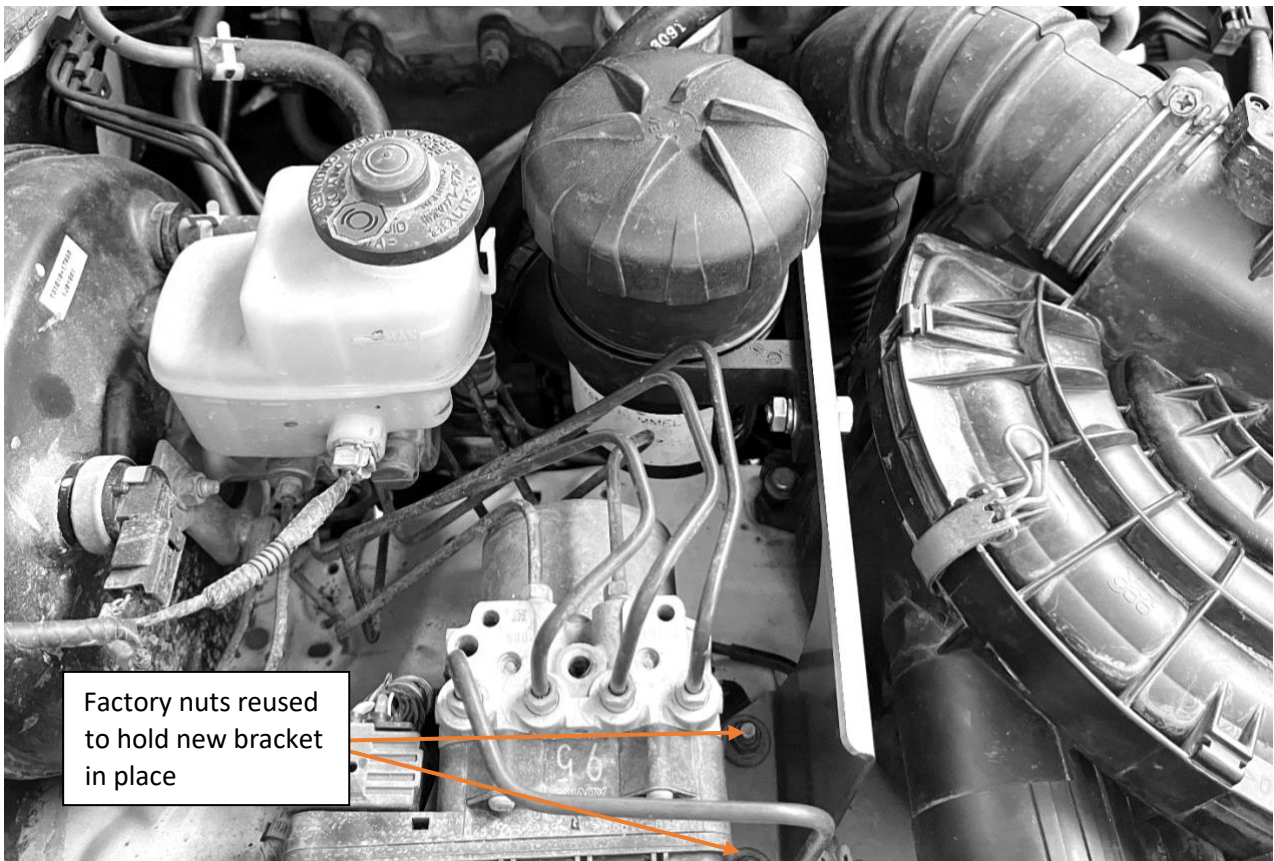
Hilux Engine Bay- Exhaust Side

21. The bracket bolts to the two front studs that mount the ABS unit, remove the nuts and bolt the bracket in place.
22. 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 200 with 12mm hose connected and secured with a clamp

23. 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.



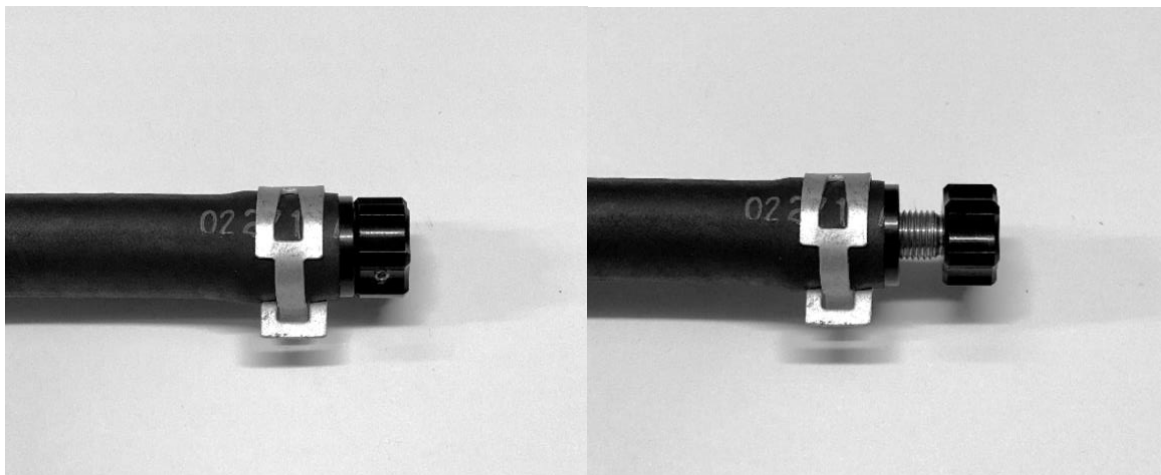
ProVent 200 bolted to bracket— Please note ProVent rotation in this image is correct, refer to the image on the last page of this installation guide for how to rotate the unit.

24. 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

25. 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.
26. 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.

27. Use the brace to mount the side closest to the engine to the vacant threaded M6 hole in the inner guard. Use the supplied M6 Bolt, flat washer and spring washer to secure in place.



ProVent 200 bolted to bracket– 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. Brace upper mounting location shown.



Brace lower mounting location, M6 hardware used to secure

28. Install the 25-16mm reducers to the ports on the ProVent 200. Use a 25mm spring clamp to secure it in place.
29. Install the two straight joiners, one in the elbow attached to the valve cover the stock metal hose was removed from, one to the upper ProVent 200 Port, use a 16mm clamp on each to secure in place.
30. Install the two 45° joiners, one into the vacant 16mm port on the air intake pipe the stock metal hose was removed from, one to the lower ProVent 200 Port, use a 16mm clamp on each to secure in place. The fittings should be aimed towards each other.

31. Install one end of the 16mm hose to the straight joiner attached to valve cover installed in step 10, measure and cut the hose to length and join it to the straight joiner on the upper ProVent 200 Port. Use a 16mm clamp on each end of the hose to secure in place.
32. Install one end of the remaining 16mm hose to the 45° joiner connected to the air intake pipe in step 11, measure and cut the hose to length and join it to the 45° joiner on the lower ProVent 200 Port. Use a 16mm clamp on each end of the hose to secure in place.

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).

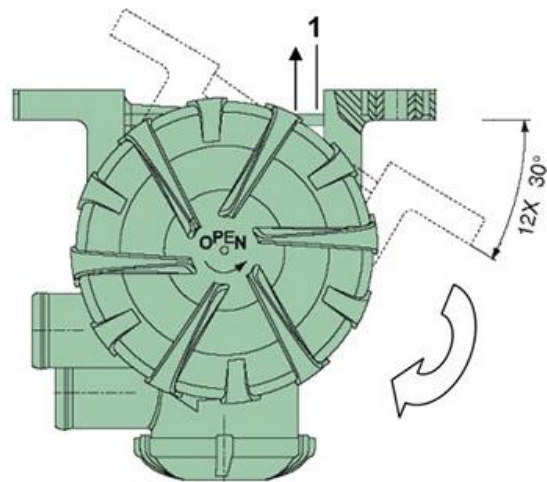


Fig. 5 Positions of outlet for ProVent 200

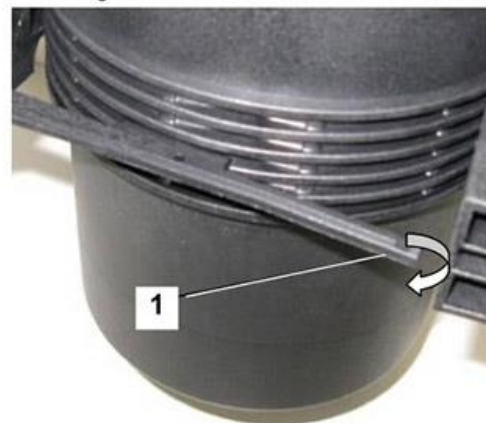


Fig. 6 Holder for ProVent 200

End of Installation Guide