

INSTALLATION INSTRUCTIONS

PRODUCT: AUXILIARY HEATED FUEL FILTER BASE AND LINE KIT

FPE-2022-73
April, 2022

FITMENT: 2003-2018 Dodge Ram with Cummins

P/N: FPE-CUMM-HFFBA-0318

EST. INST. TIME: 3-4 Hours

TOOLS REQUIRED: Clean drain pan, 10mm socket or wrench, 14mm socket or wrench, 16mm socket or wrench, 17mm socket and wrench, 5mm allen socket or wrench, -8AN wrench, side cuts.

KIT CONTENTS:

Item	Description	Qty
1	Donaldson 3 Micron Fuel Filter	1
2	Filter base mounting bracket	1
3	Fuel filter base with fuel heater	1
4	-8 to 3/4"-16 straight fitting	3
5	3/4"-16 hex plug socket	1
6	M12 to -8AN fitting (used with 5.9L pumps only)	1
7	-8, 45deg to hose barb fitting	3
8	-8, 90deg to hose barb fitting	1
9	1/8" NPT socket plug	1
10	1/2" push lock hose	16 ft
11	Zip tie	10
12	CP3 feed fitting (use with 6.7L pumps only)	1
13	Mounting fastener kit	1
14	M8 x 3/4" long spacers	2
15	Water in fuel sensor (only one will be used)	2



WARNINGS:

- USE OF THIS KIT REQUIRES THE USE OF THE APPROPRIATE MODEL YEAR FUEL FILTER DELETE KIT; FPE-FFD-RO-3G (2003-2007), FPE-FFD-RO-3G-67 (2007.5-2010), FPE-FFD-RO-4G (2011-2018).
- Fuel lines must be clean before installation.
- The purchaser and end user releases, indemnifies, discharges, and holds harmless Fleece Performance Engineering, Inc. from any and all claims, damages, causes of action, injuries, or expenses resulting from or relating to the use or installation of this product that is in violation of the terms and conditions on this page, the product disclaimer, and/or the product installation instructions. Fleece Performance Engineering, Inc. will not be liable for any direct, indirect, consequential, exemplary, punitive, statutory, or incidental damages or fines cause by the use or installation of this product.

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To injection pump feed
(use new sealing washer)

For 5.9L engines – Use the
12mm to -8AN fitting

For 6.7L engines – Use the
CP3 barbed feed fitting

Connect heater to
OE fuel heater
power circuit.



Cut hose to length
for routing from
filter block to the
injection pump.

Spare outlet port –
use O-Ring plug
fitting to block off if
the port is not
utilized.

Cut hose to length for
routing from lift pump
to filter block.

To lift pump outlet.
If adapting to a
stock lift pump, use
a quick disconnect
style fitting such as
Fleece part number:
FPE-QUCON-OE-38

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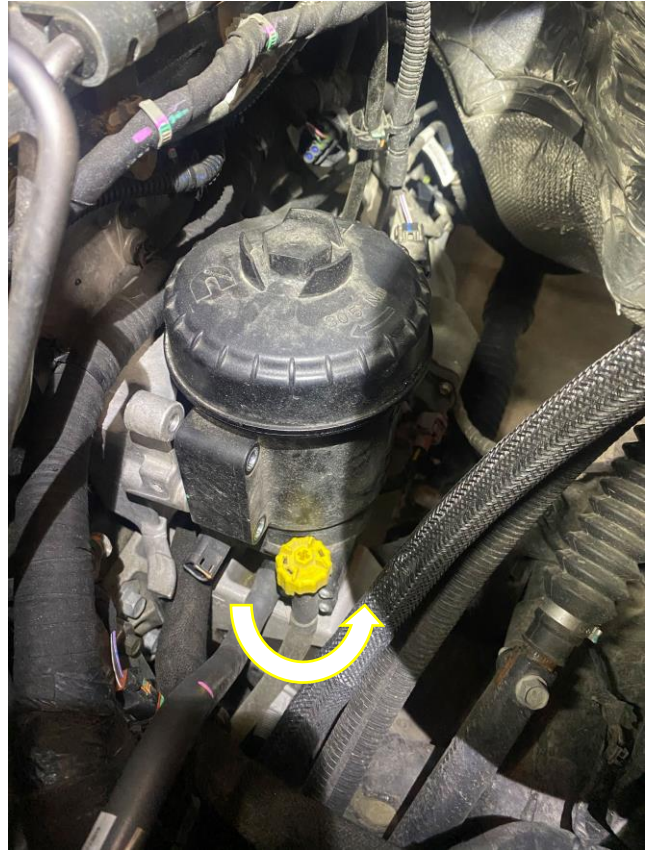
IMPORTANT NOTES:

- ❖ A proper model year fuel filter delete (NOT INCLUDED WITH THIS KIT) is required for use with this heated fuel filter base kit to complete the installation.
- ❖ For trucks equipped from the factory with a rear fuel filter housing equipped with WIF and fuel heater – the rear fuel filter housing will not be removed when installing this kit. Removal of the rear fuel filter housing or unplugging of the rear WIF and fuel heater will result in the illumination of a check engine lamp.

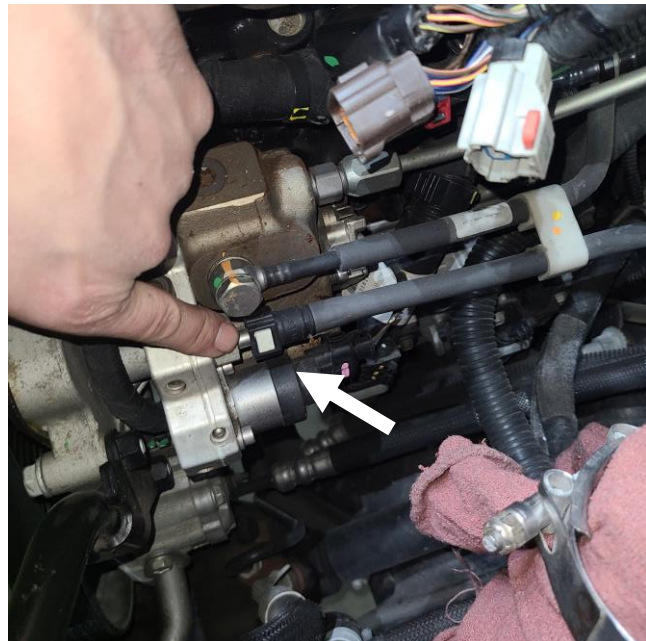
STEP 1: Disconnect the batteries.

STEP 2: Remove the intake horn and associated components to allow for improved access to the OE fuel filter housing.

STEP 3: Drain the OE fuel filter housing by twisting the yellow knob counter-clockwise.



STEP 4: Disconnect the fuel supply line from the high-pressure injection pump. Remove the fitting from the pump body.

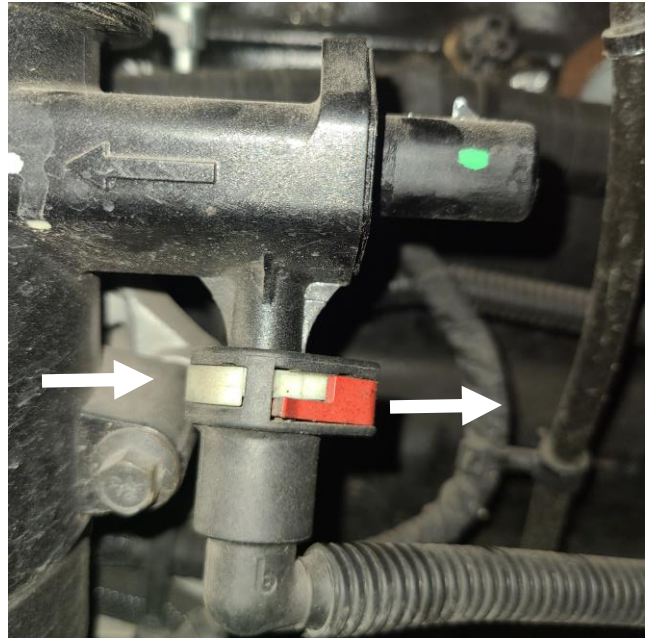


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STEP 5: Remove fuel filter supply line from rear of filter housing.

- i. Pull the ends of the red lock out and slide the lock to the rear of the vehicle.
- ii. Push in the white tab and pull down.

STEP 6: Unplug the electrical connectors for the water in fuel (WIF) sensor and fuel heater.

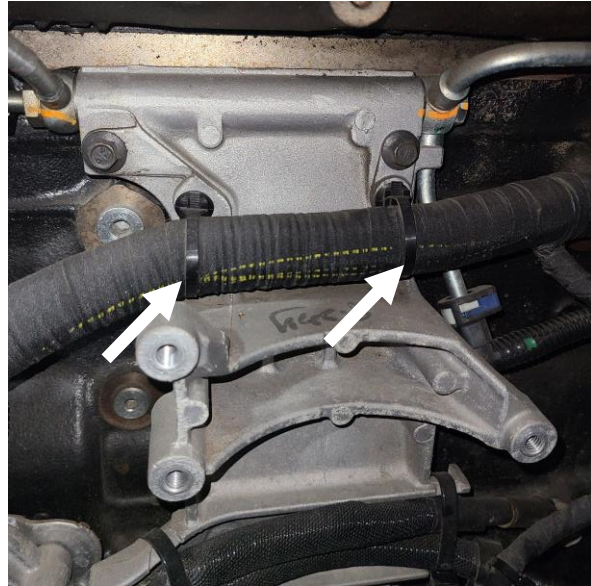


STEP 7: Remove the three bolts from the fuel filter housing and remove the housing (two are on the left side and one is on the right side of the housing).



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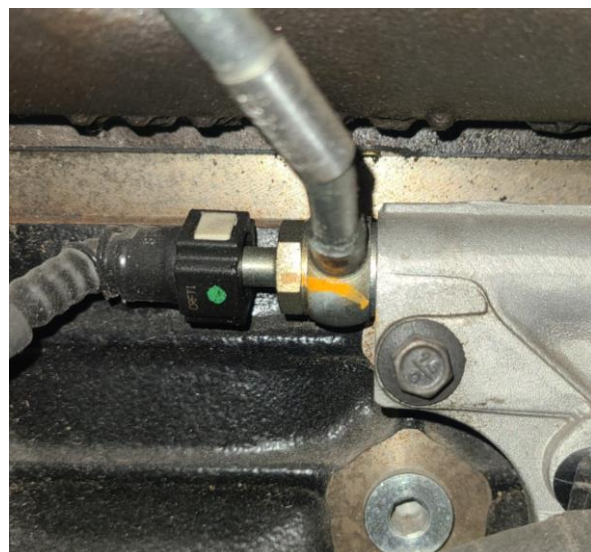
STEP 8: Remove the two zip ties retaining the electrical harness to the fuel filter base.



STEP 9: Remove the right-side banjo bolt. This bolt will be re-used.



STEP 10: Remove the left-side quick disconnect. This fitting will be re-used.

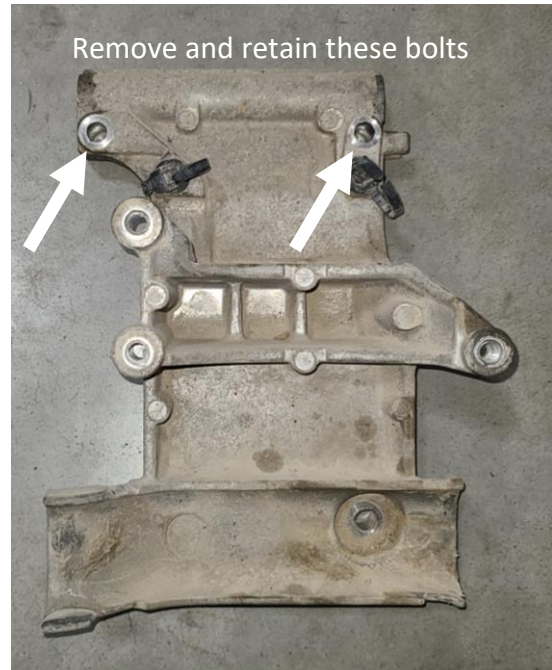


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REMINDER: REMOVE and REUSE the fuel return quick disconnect adapter fitting that is installed into the OE filter base.



STEP 11: Remove the three bolts from the fuel filter base and remove it. Retain the two upper most bolts that were removed, these will be re-used to mount the fuel filter delete block.



STEP 12: Remove the water-in-fuel sensor from the factory housing and install it into the fuel filter delete block.

STEP 13: Using a new crush washer included with the kit, install the rear banjo bolt first and hand tighten. Then install the front quick disconnect fitting onto the adapter fitting installed into the fuel filter delete block. Start and tighten the two bolts securing the fuel filter delete block to the engine, and then tighten the rear fuel line banjo bolt.



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STEP 14: Mount the filter base. The installation will vary based on the model year, multiple configurations are possible and are outlined below and shown on the right.

MY 2003-2009: For 3rd gen applications the fuel filter base will be mounted on top of the fuel filter delete. Use 14mm long, M8x1.5 button head bolts to attach the filter base to the mounting bracket. Use the 45mm long, M8x1.25 button head bolts to mount the bracket to the fuel filter bracket to the engine. The bolts will pass through the fuel filter delete and secure the entire assembly to the cylinder head.



MY 2003-2009; mounted over fuel filter delete

MY 2010-2018: For 4th gen applications the fuel filter base may be mounted in multiple configurations depending on application and setup. Use the 14mm long, M8x1.5 button head bolts to attach the filter base to the mounting bracket. The filter housing may be mounted in an upward, or downward configuration. To allow for clearance, it may be necessary to use the provided spacers when using the kit in the upward mounting configuration. Use the 20mm length or 45mm length, M8x1.25 button head bolts to mount the bracket to the cylinder head.



MY 2010+; mounted upward with spacers



MY 2010+; mounted downwards directly to head

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STEP 15: Remove the water drain from the Donaldson fuel filter and install the new water-in-fuel (WIF) sensor. Choose the specific WIF sensor included in the kit for your model year. One of the WIF sensors will not be used. The later model WIF sensor includes and extension harness.



STEP 16: Install the fuel filter onto the filter base and connect the WIF sensor and fuel heating element.



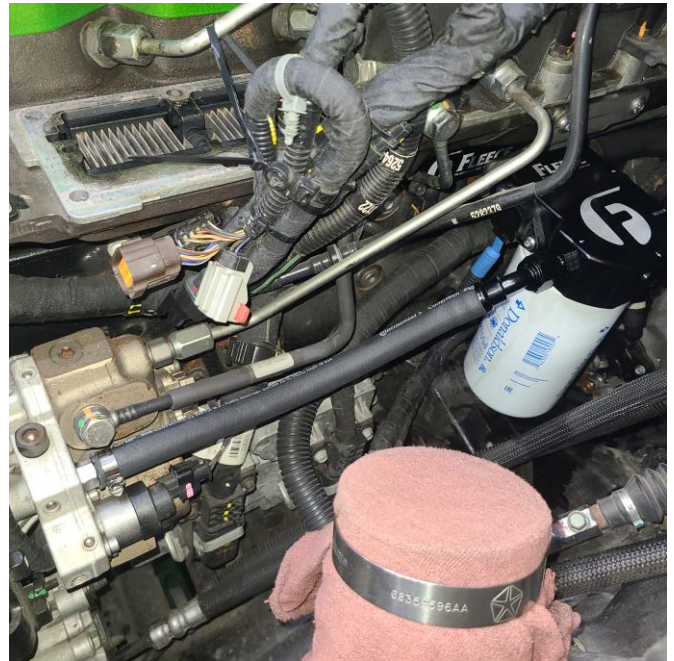
The WIF connector and fuel heater connector will be located near the base of the original filter housing. Both wires are run in the same loom alongside the engine.



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STEP 17: Install the new 12mm sealing washer and 12mm to -8AN fitting onto the high-pressure pump for 5.9L engines. Install the CP3 barbed feed fitting onto the high-pressure pump for 6.7L engines. Ensure that the original sealing washer has been removed from the pump surface.

STEP 18: Route the fuel hose from the filter block to the high-pressure pump. Use the 45 deg pushlock fitting on the filter block end.



STEP 19: Route the fuel line from the fuel tank to the filter block housing. Retain the fuel line to the chassis using zip ties. Avoid routing the line near moving components. Install a 45-degree pushlock fitting at either end of the hose.

NOTE: If connecting to a stock lift pump with a quick disconnect style fitting, Fleece part number: FPE-QUCON-OE-38 must be used.

STEP 20: Re-assemble all components that were removed from the engine. Re-connect the batteries.

STEP 21: Key on the ignition and check for any leaks. Bleed the fuel system all the way to the injectors. Start the engine and verify operation is leak-free.

Fuel heater temperature switching points:

ON: 28.4F +/-5.4F

OFF: 48.2F +/- 5.4F

At typical fuel flow a temperature increase of between 4-8F will occur across the heating element.