



TOTAL CAR CARE SERVICES

TECHNICAL SERVICE BULLETINS

Manufacturer: Ford

by David Skora, AAMCO Master Support Technician

TCC Group: 07 -33 -0313

Subject: Servicing the Ford 6.0L Power Stroke Fuel Filters and Related Information

Model: 2003-07 Ford Vans and Trucks with the 6.0L Diesel engine.

Issue: The following information applies to the Super Duty F Series and Excursion models with the 6.0L DIT engine. On Econoline vans with the 6.0L DIT engine, some information may be different. Please consult your Direct Tech data base or the AAMCO technical support department for correct information. These engines require careful and regular maintenance to ensure long life.

WARNING: Note the Following Important Information

- If Diesel fuel enters your blood stream, severe damage to your health or even death may result.
- Use extreme caution working around exposed high pressure fuel.
- You will need to know the VIN and/or engine serial number to obtain the correct replacement parts.
- Make sure you use high quality and the correct replacement parts.
- Use extreme care to not contaminate the fuel or engine oil system with dirt or incorrect chemicals.
- Be aware that the Fuel Injection Control Module (FICM) operates the fuel injectors at 48 volts.

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FUEL SERVICE INTERVALS

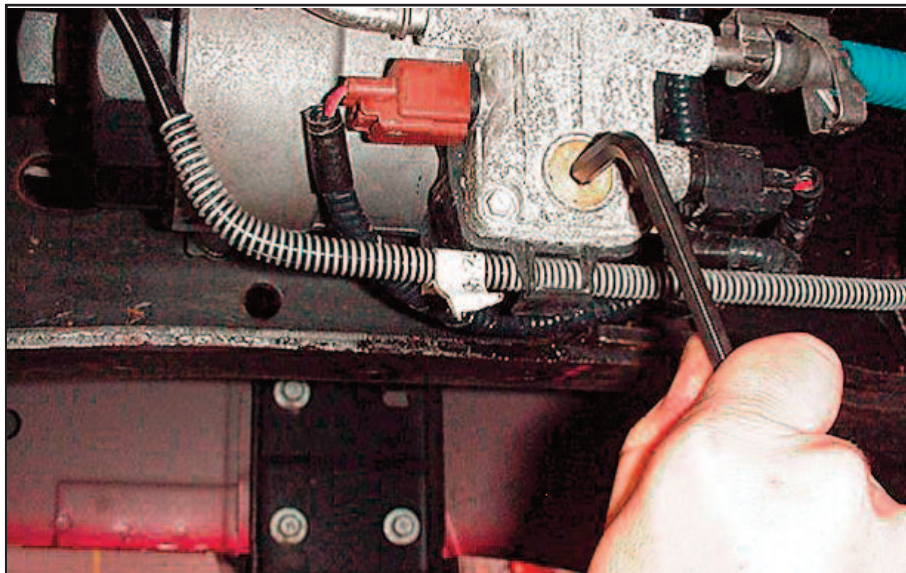
The recommended service interval for replacing the fuel filters on the Ford 6.0L DIT engines, under normal use, is every 15,000 miles or about 600 hours of engine operation (on vehicles that mostly sit idling). Under any other use, the recommended service interval is 10,000 miles or 400 hours.

NOTE: An engine that idles for 1 hour is equivalent to about 25 miles of driving.

NOTE: The fuel/water separator plug should be opened briefly every month or sooner if the WATER in FUEL light on the dash comes on.

SERVICING PRIMARY FUEL FILTER

Place a drain pan under the Primary filter housing. Mark the position of the drain plug to a relative position on the primary filter housing with a pencil or marker. Remove the fuel/water drain plug as shown. After the fluid is finish draining, use a large 36mm socket to remove the primary filter cap.



This illustration of the water/fuel drain plug is an early type which uses an Allen wrench. Later designed drain plugs are larger with a knurled edge which should be removed and tighten by hand only.

NOTE: Some early vehicles may have been retrofitted with the later designed drain plug.



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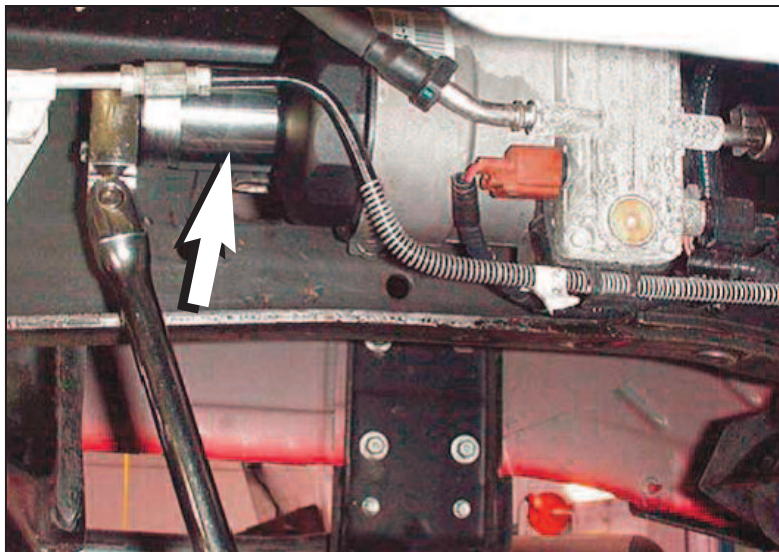
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IMPORTANT: Take a look at the drained fuel for any signs to dark colored streaks, which may be due to the presents of algae or old fuel. Products are available, which can be added to the fuel system to kill the algae and condition the fuel system. Also the fuel should not be cloudy. A cloudy appearance can indicate old, contaminated or gelling fuel. Further service or repair to the fuel systems may be necessary to ensure proper operation of the vehicle.

WARNING: Evidence of rust colored liquid or rust particles in the drained fuel suggests that all parts of the fuel system including the fuel tank(s), secondary fuel filter, fuel injectors and all fuel lines will need to be inspected, and repaired or corrected before the vehicle can be re turned to service.

The old primary filter should come out with the filter cap. Install a new primary filter and new filter cap O-ring. Tread the primary filter cap into the housing. Tighten the primary fuel filter cap to 19ft. lbs. Install and tighten the fuel /water drain plug. Use the marks you made earlier to avoid over tightening it.



Tighten the Primary Filter Cap to 19ft. lbs.



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SERVICING SECONDARY FUEL FILTER

To replace the secondary fuel filter, use a 24mm socket to remove the filter cap.

WARNING: DO NOT use a 1/2 drive or socket extension to remove the filter cap. It may distort or crack the filter cap.



NOTE: Use a Turkey baster or similar device to remove the fuel in the filter housing. Make sure there are no signs of dirt, rust etc. in the housing. If you do, please see the CAUTIONS and WARNINGS in the Primary Fuel Filter servicing section, for additional service and repair information.

Install a new O-ring seal and new filter element into the secondary filter cap. Use a 24mm socket and tighten the filter cap to 110 INCH lbs. (14N.m).

ATTENTION: DO NOT attempt to start a 6.0L DIT engine without FIRST pressurizing the fuel system. Severe damage to the fuel injectors, injector system or engine can result.

IMPORTANT: After servicing the fuel filters and before starting the engine, you must pre-charge the fuel system. This can be done either by cycling the ignition on for 30 seconds. Then repeat this step 2 more times. Or use a scanner with bi-directional controls; command the fuel pump ON until the fuel system reaches operating pressure.



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CHECKING FUEL PRESSURE

After service and/or replacement of fuel system components, the fuel pressure should be checked while driving on the road to ensure the engine and fuel injection system will operate correctly.

NOTE: The 6.0L DIT engine requires a minimum amount of fuel pressure to start and operate correctly. If the fuel pressure is low, hard starting, reduced power or even damage to the fuel injector components or engine may result.

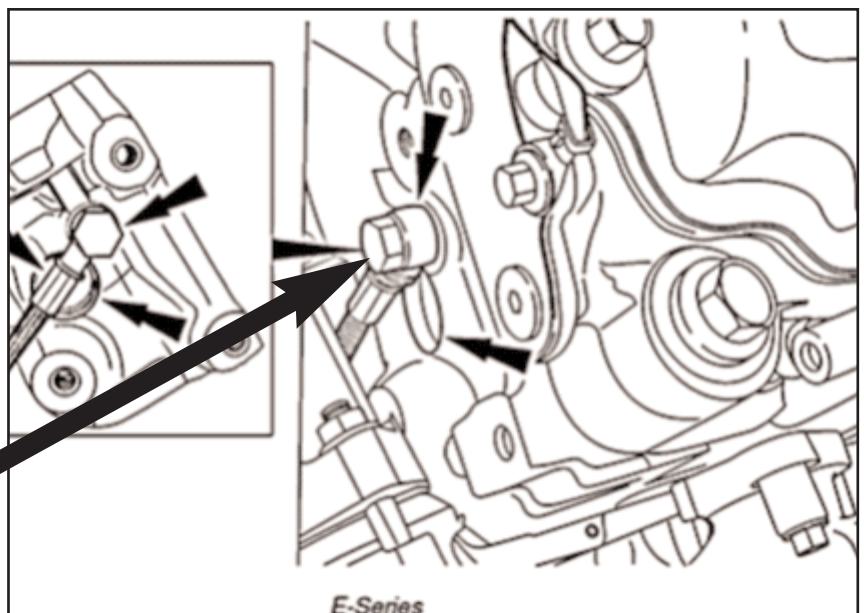
NOTE: The Diesel Fuel Flow Tester (OTC 310-193) or equivalent provides a pressure reading while simulating maximum fuel consumption at full load on the fuel system. Check with the AAMCO Equipment Support Department for tool cost and availability. The Diesel Fuel Flow Tester 310-193 uses a 1.193 mm (0.047 in) calibrated orifice integrated in the tool assembly to simulate the fuel consumption. Always follow the steps and test procedures included with the Diesel Fuel Flow Tester.

For E-Series vehicles, measure the fuel system pressure at the right hand cylinder head fuel passage plug on the back of the right hand cylinder head.

For F-Super Duty and Excursion vehicles, measure the fuel system pressure at the secondary fuel filter housing test port next to the bottom fuel pressure regulator cover.

The fuel pressure value at the secondary fuel filter housing test port is higher than the fuel pressure value at the back of the cylinder head due to a pressure drop through the fuel rails, fuel injectors and other fuel system components.

Connect Fuel Pressure Gauge with Banjo Bolt Watch Freeze Plug to avoid Damaging.

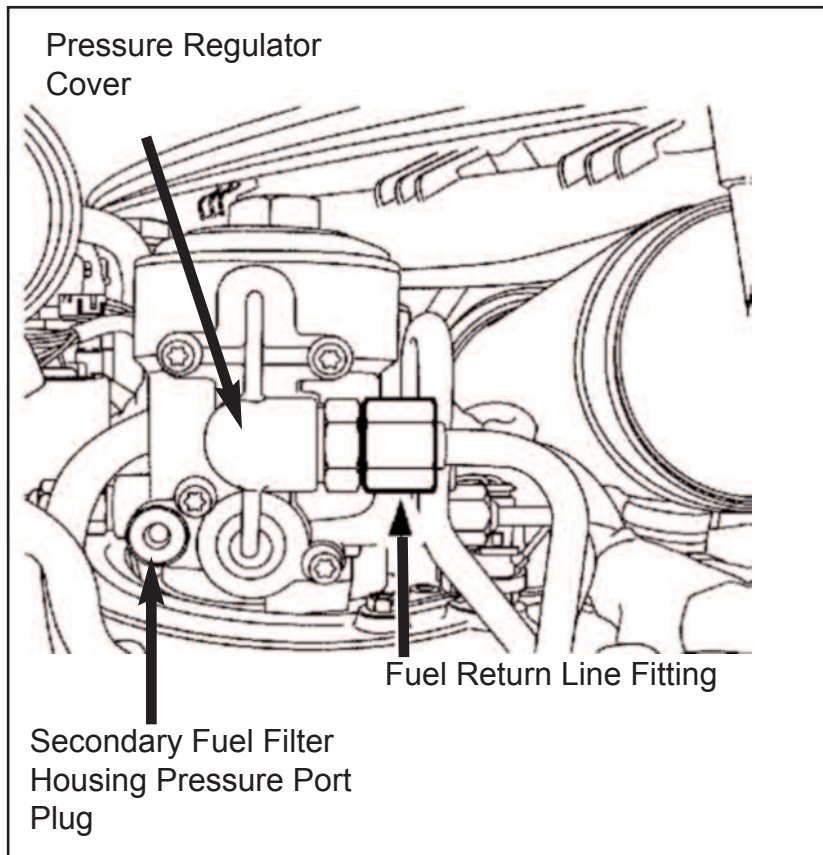




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Fuel pressure tap on F series and Excursion is located at the lower left side of the pressure regulator cover on the secondary fuel filter housing. Normal fuel pressure with ambient temperature above 32° degrees, and under all operating conditions including while driving under load.

Econoline Van	38-66 psi at right rear cylinder head pressure tap
F Series and Excursion	45-73 psi at secondary filter pressure tap

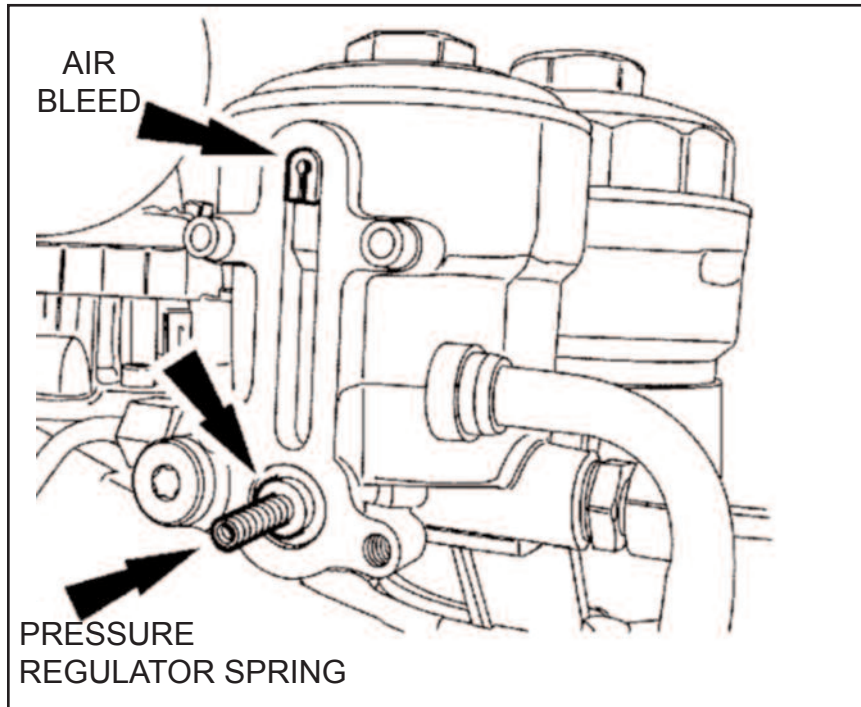
There is a fuel pressure regulator spring kit available from Ford to increase fuel pressure about 10-15 psi. If the maximum fuel pressure is currently more than 60 psi on F Series/Excursion or 54 psi on Econoline Van, do not install the pressure regulator kit.



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The updated fuel pressure regulator service kit part No. 3C3Z-9T517-AG includes a seal and a Blue regulator spring.