

Diagnostic Procedures

Sufficient Clean Fuel

NOTICE: Only use ultra low sulfur diesel fuel that is 20% or less biodiesel with this vehicle. Use of any other fuel type may damage the vehicle or cause an emission concern. Refer to the Owner's Literature for more information.

Note: The fuel conditioning module is designed to filter particulates and separate water from the fuel and collect them in the filter bowl assembly. Multiple samples may be required to determine the fuel quality.

Note: If the initial fuel sample taken from the drain valve shows any signs of contamination, the fuel filter should be removed and inspected. If the filter shows signs of contamination, waxing, gelling or sediment, it should be replaced before further diagnosing the low pressure fuel system.

Recommended Procedure:

Observe the water in fuel (WIF) indicator. If the WIF indicator is illuminated, the fuel may be contaminated with water.

Open the drain valve integrated in the fuel conditioning module and drain fuel into a clear 0.95 liter (1 quart) container. Close the drain valve.

Inspect the fuel in the container. The fuel should be clear of water or contaminants. Dyed red or blue fuel indicates off-highway fuel.

Inspect the fuel for waxing or gelling. Waxing or gelling in the fuel may clog fuel filters, the fuel pump, cause restrictions in the fuel, or cause low fuel pressure.

Sediment and water in the fuel sample may indicate the fuel conditioning module has not been drained recently or fuel filter maintenance may be required. A second sample may be required to determine fuel quality.

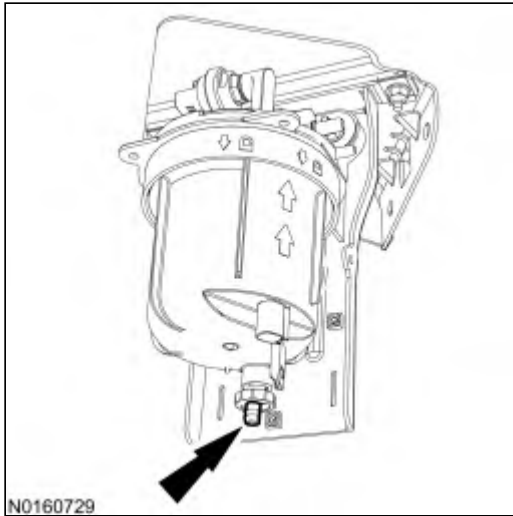
Cloudy fuel indicates the fuel may not be a suitable grade for cold temperatures.

Excessive water or contaminants may indicate the tank and fuel system may need to be flushed and cleaned.

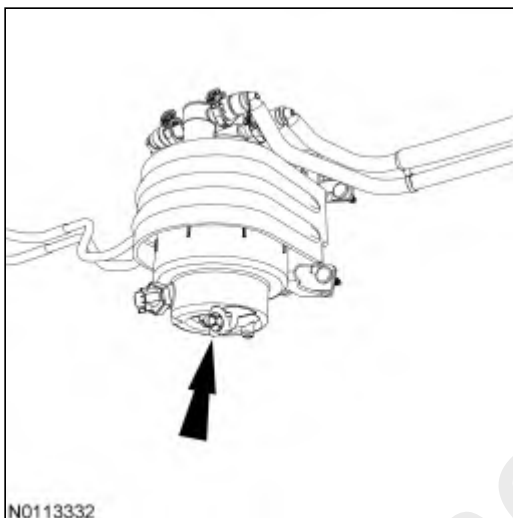
Aeration in fuel may indicate a leak in the low pressure fuel supply line between the fuel tank and the fuel conditioning module. Aeration can also be caused by a loose fuel conditioning module filter bowl. Make sure the filter bowl is correctly installed.

Remove the fuel filter element and allow it to evaporate for one hour. Check for the presence of urea crystals, indicating diesel exhaust fluid (DEF) contamination. If DEF is found in the fuel filter, carry out the Diesel Fuel System Contamination Repair/Flushing procedure. Refer to the Workshop Manual Section 310-00, Fuel System, General Procedures.

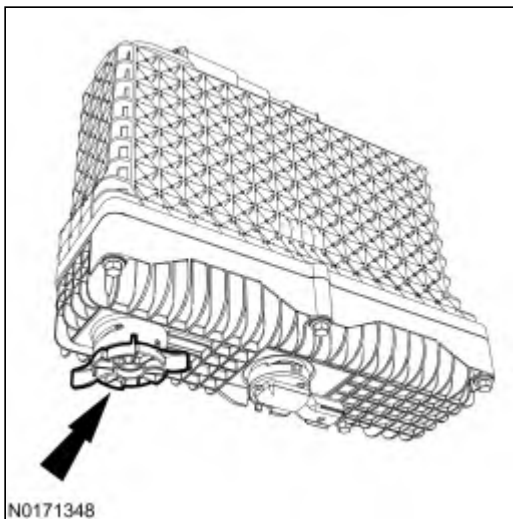
Fuel Conditioning Module Drain Valve (Transit)



Typical Fuel Conditioning Module Drain Valve (F-650 / F-750)



Typical Fuel Conditioning Module Drain Valve (All Others)



Possible Causes:

- No fuel in the tank
- Fuel gelled
- Fuel quality
- Aeration
- Biodiesel-water separation, seal degradation, corrosion
- Restricted fuel filters
- Fuel supply line broken or crimped
- Corrosion to fuel system components
- Fuel pump (FP) assembly damaged (pressure regulator, pump, screen) (Transit)
- Pickup tube screen in tank restricted (all others)

Tools Required:

Clear container 0.95 L (1 quart)

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