# 3.5L GTDI - FUEL ODOR FROM ENGINE OIL AND/OR ENGINE OIL LEVEL OVERFULL

TSB 14-0040

SB-10055225-3894

## FORD:

2011-2014 F-150

This article supersedes TSB 14-0014 to update the Warranty Causal Code and the Service Procedure.

### ISSUE

Some 2011-2014 F-150 vehicles equipped with a 3.5L Gasoline Turbocharged Direct Injection (GTDI) engine may exhibit a raw fuel odor from the engine oil and/or an engine oil level indication overfull.

#### **ACTION**

Follow the Service Procedure steps to correct the condition.

## SERVICE PROCEDURE

- Determine the vehicle build date. Refer to Workshop Manual (WSM), Section 100-01. Is the vehicle build date on or before 12/15/2013?
  - a. Yes the vehicle build date is on or before 12/15/2013, proceed to Step 2.
  - b. No this procedure does not apply. Refer to Powertrain Control/Emissions Diagnosis (PC/ED) manual for normal diagnostics.
- 2. Is the vehicle equipped with a block heater in the thermostat housing? Refer to Workshop Manual (WSM), Section 303-03.
  - a. Yes remove and discard the heater and cord. Refer to WSM, Section 303-03. Proceed to Step 3.
  - b. No proceed to Step 3.
- Remove the left hand (LH) Turbocharger. Refer to WSM, Section 303-04.
- 4. Install the block heater kit following the instructions provided in the kit.
  - a.
- Install the LH Turbocharger. Refer to WSM, Section 303-04.
- Change the engine oil and oil filter.
- Replace the Positive Crankcase Ventilation (PCV) valve. Refer to WSM, Section 303-08.
- Determine the vehicle build date. Refer to WSM, Section 100-01.
  - a. a. If the vehicle build date is on or before 10/24/2011, proceed to Step 9.
  - b. b. If the vehicle build date is after 10/24/2011, proceed to Step 13.
- Remove and discard the brake booster vacuum hose. (Figure 1)

NOTE: The information contained in Technical Service Bulletins is intended for use by trained, professional technicians with the knowledge, tools, and equipment to do the job properly and safely. It informs these technicians of conditions that may occur on some vehicles, or provides information that could assist in proper vehicle service. The procedures should not be performed by "do-it-yourselfers". Do not assume that a condition described affects your car or truck. Contact a Ford, Lincoln, or Mercury dealership to determine whether the bulletin applies to your vehicle. Warranty Policy and Extended Service Plan documentation determine Warranty and/or Extended Service Plan coverage unless stated otherwise in the TSB article. The information in this Technical Service Bulletin (TSB) was current at the time of printing. Ford Motor Company reserves the right to supercede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.

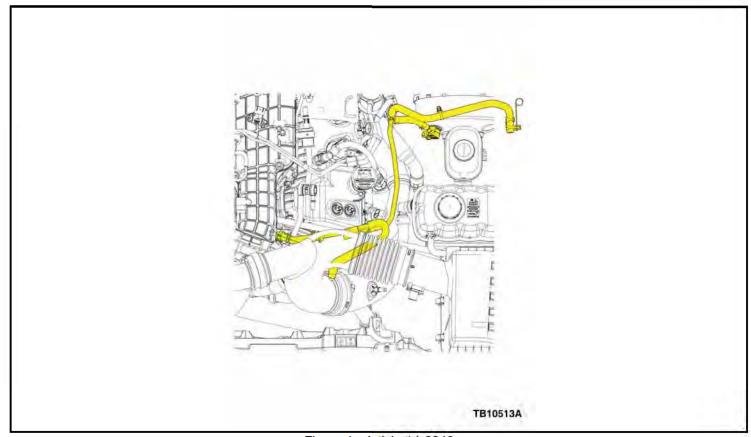


Figure 1 - Article 14-0040

10. Install a new brake booster vacuum hose. (Figure 2)

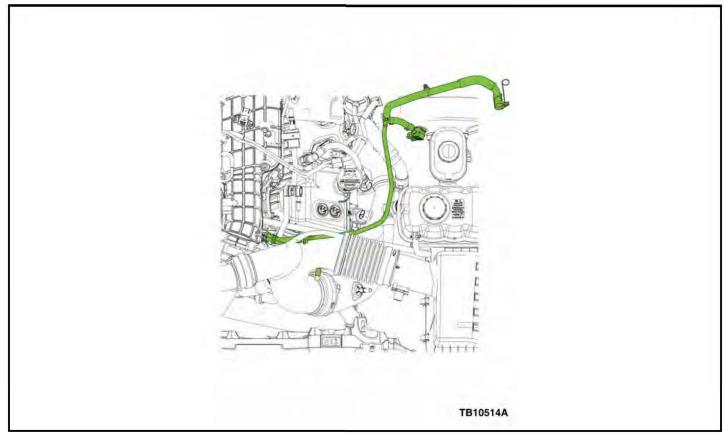


Figure 2 - Article 14-0040

- 11. Install the cap on the air intake. (Figure 2)
- 12. Reprogram the Anti-lock Brake System (ABS) module to the latest calibration using IDS release 88.02A and higher. Calibration files may also be obtained at www.motorcraft.com.
- 13. Reprogram the powertrain control module (PCM) to the latest calibration using IDS release 88.02A and higher. Calibration files may also be obtained at www.motorcraft.com.

## 14. NOTE:

PLEASE ADVISE THE CUSTOMER THIS VEHICLE IS EQUIPPED WITH AN ADAPTIVE TRANSMISSION SHIFT STRATEGY WHICH ALLOWS THE VEHICLE'S COMPUTER TO LEARN THE TRANSMISSION'S UNIQUE PARAMETERS AND IMPROVE SHIFT QUALITY. WHEN THE ADAPTIVE STRATEGY IS RESET, THE COMPUTER WILL BEGIN A RE-LEARNING PROCESS. THIS RE-LEARNING PROCESS MAY RESULT IN FIRMER THAN NORMAL UPSHIFTS AND DOWNSHIFTS FOR SEVERAL DAYS.

Print the customer information sheet and provide it to the customer.

a. Advise the customer the block heater should be plugged in at -18 °C (0 °F) or less to improve fuel-in-oil symptoms.

PART NUMBER	PART NAME
DL3Z-6D008-A	Immersion Block Heater
W520514-S440	Exhaust Nut (4 Req)
BL3Z-6N652-B	Turbo Oil Line Gasket
AA5Z-00815-C	Oil Line O-Ring
CL3Z-9450-B	Gasket - Exhaust Manifold
AA5Z-6A666-D	PCV valve

PART NUMBER	PART NAME	
CL3Z-9C490-B	Vacuum Hose	
W716372-S300	Vacuum Cap	
W715673-S900	Bolt - Turbocharger (3 Req)	
VC-3-B	Motorcraft® Orange Antifreeze/Coolant Concentrated	
FL-500S	Motorcraft® Oil Filter	
XO-5W30-QSP	Motorcraft® SAE 5W-30 Premium Synthetic Blend Motor Oil	

OPERATION	DESCRIPTION	TIME
140040A	2011-2014 F-150 4X2, 2013-2014 F-150 4X4 3.5L GTDI: Install Block Heater And PCV Valve Includes Time To Remove And Install Left Hand Turbocharger, Reprogram The PCM/ABS Modules And Replace The Brake Booster Brake Booster Vacuum Hose If Necessary (Do Not Use With Any Other Labor Operations)	3.7 Hrs.
140040A	2011-2012 F-150 4X4 3.5L GTDI: Install Block Heater And PCV Valve Includes Time To Remove And Install Left Hand Turbocharger, Reprogram The PCM/ABS Modules And Replace The Brake Booster Brake Booster Vacuum Hose If Necessary (Do Not Use With Any Other Labor Operations)	3.8 Hrs.
140040B	2011-2014 F-150 4X2, 2013-2014 F-150 4X4 3.5L GTDI: Remove Existing Block Heater Per Procedure, Install Block Heater And PCV Valve Includes Time To Remove And Install Left Hand Turbocharger, Reprogram The PCM/ABS Modules And Replace The Brake Booster Brake Booster Vacuum Hose If Necessary (Do Not Use With Any Other Labor Operations)	3.9 Hrs.
140040B	2011-2012 F-150 4X4 3.5L GTDI: Remove Existing Block Heater Per Procedure, Install Block Heater And PCV Valve Includes Time To Remove And Install Left Hand Turbocharger, Reprogram The PCM/ABS Modules And Replace The Brake Booster Brake Booster Vacuum Hose If Necessary (Do Not Use With Any Other Labor Operations)	4.0 Hrs.

# **WARRANTY STATUS:**

Eligible Under Provisions Of New Vehicle Limited Warranty Coverage

Warranty/ESP coverage limits/policies/prior approvals are not altered by a TSB. Warranty/ESP coverage limits are determined by the identified causal part and verified using the OASIS part coverage tool.

# **DEALER CODING**

BASIC PART NO.	CONDITION CODE
6009	42



# **Customer Information Sheet**

Some owners of 3.5L Ecoboost equipped F-150 vehicles have observed a fuel odor when checking their engine oil level. The direct injection combustion process may result in slightly elevated fuel odor. This is normal for direct injection engines and does not pose long term durability concerns for the engine.

In colder climates (near or below -18 C° or 0 F") the fuel odor may be more noticeable if the vehicle is used for short trips where the engine does not reach full operating temperature. In an effort to assist this small number of owners that operate their vehicle under these conditions, we have installed an engine block heater and positive crankcase ventilation valve (PCV). Additionally, we reprogrammed the powertrain control module (PCM). The vehicle driving characteristics will be unchanged.

Owners who operate the vehicle in temperatures at or below -18 C° or 0 F° or can reduce the potential for increased fuel odor in the engine oil by utilizing the engine block heater overnight or during extended times of non-operation. To use the block heater, see the Owner's Guide Section - "Starting and Stopping the Engine."

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