

## 3.5L GTDI—INTERMITTENT STUMBLE/MISFIRE ON ACCELERATION FROM HIGHWAY CRUISE IN HUMID OR DAMP CONDITIONS WITH POSSIBLE DTC P0304, P0305, P0306, OR P0430

TSB 13-8-1

### FORD:

2011-2012 F-150

This article supersedes TSB **13-3-3** to update the Service Procedure and Part List.

### ISSUE

Some 2011-2012 F-150 equipped with a 3.5L gasoline turbocharged direct injection (GTDI) Ecoboost engine may exhibit an intermittent stumble and/or misfire on hard acceleration after an extended drive at highway speeds during high humidity or damp conditions. This may result in either a steady or flashing malfunction indicator lamp (MIL). Diagnostic trouble codes (DTCs) P0304, P0305, P0306, or P0430 may also be present. Evidence of misfire may be available in Misfire Freeze Frame Data even with no active DTCs.

### ACTION

Follow the Service Procedure steps to correct the condition.

### SERVICE PROCEDURE

1. Acquire Misfire Freeze Frame Data and DTCs with the Integrated Diagnostic System (IDS) service tool. Use the following steps with IDS to obtain Misfire Freeze Frame Data.

- a. Select Toolbox
  - b. Then Data Logger
  - c. Then Modules
  - d. Then PCM
  - e. Next, select the following PIDs: MFF\_LOAD and MFF\_RPM.
2. Is the misfire concern only repeatable in humid or damp conditions?
    - a. Yes - Proceed to Step 3.
    - b. No - This article does not apply. Refer to Powertrain Control/Emissions Diagnosis (PC/ED) Manual Section 3: Powertrain Symptom Index to inspect such areas as Ignition, Compression, and Injection.
  3. Does the Misfire Freeze Frame Data indicate engine speed above 2500 rpm and load 100% or above? (Figure 1)

**NOTE:** The information 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 or Lincoln 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 supersede this information with updates. The most recent information is available through Ford Motor Company's on-line technical resources.

# TSB 13-8-1 (Continued)

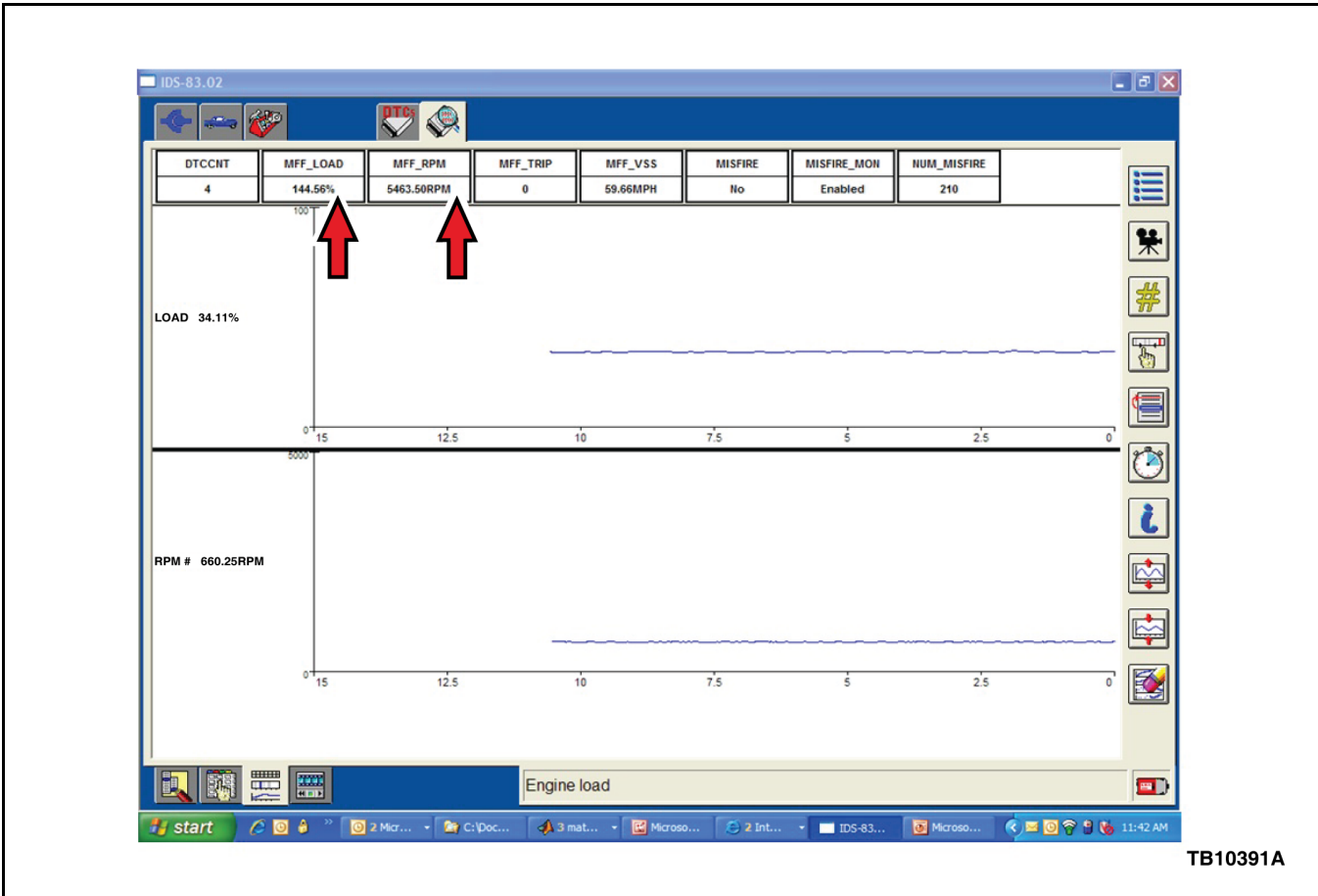


Figure 1 - Article 13-8-1

- a. Yes - Proceed to Step 4.
  - b. No - This article does not apply. Refer to PC/ED Manual Section 3: Powertrain Symptom Index to inspect such areas as Ignition, Compression, and Injection.
4. Is vehicle equipped with latest level charge air cooler, engineering part number BL34-9L440-AE? (Figure 2)

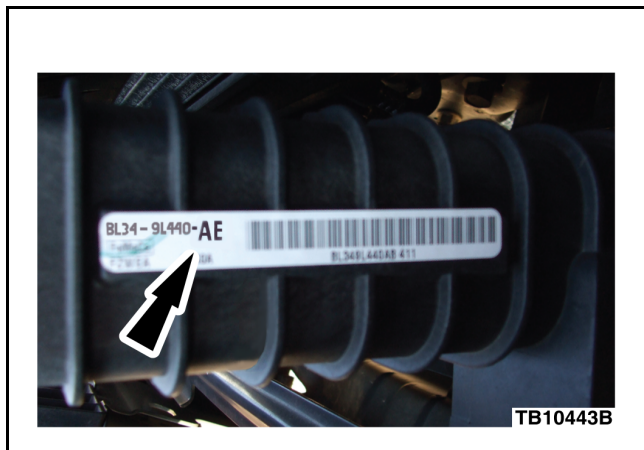


Figure 2 - Article 13-8-1

- a. Yes - This article does not apply. Refer to PC/ED Manual Section 3: Powertrain Symptom Index to inspect such areas as Ignition, Compression, and Injection.
- b. No - Proceed to Step 5.

**NOTE**

CARE NEEDS TO BE TAKEN NOT TO INSTALL THE REVISED BOTTOM AIR DEFLECTOR ONTO CHARGE AIR COOLER ENGINEERING PART BL34-9L440-AE AS IT WILL RESULT IN HIGHER MANIFOLD AIR CHARGE TEMPERATURES AND SIGNIFICANT LOSS OF ENGINE PERFORMANCE.

- 5. Is DTC P0430 present?
  - a. Yes - replace the left hand catalytic converter. Refer to Workshop Manual (WSM), Section 309-00. Proceed to Step 6.
  - b. No - Proceed to Step 6.
- 6. Is the Charge Air Cooler equipped with the top air deflector? (Figure 3)

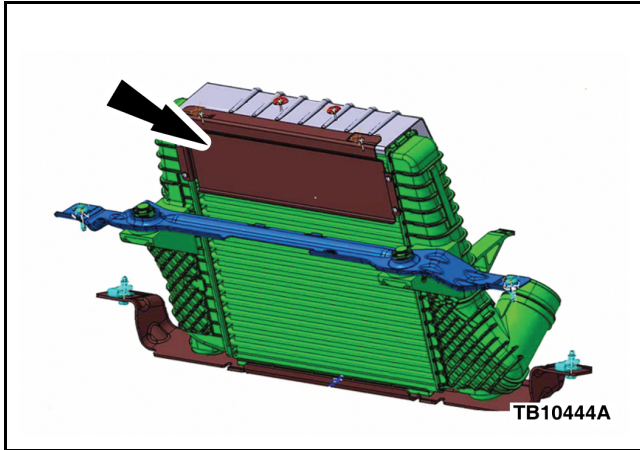


Figure 3 - Article 13-8-1

- a. Yes - remove and discard. Refer to WSM, Section 303-12. Proceed to Step 7.
  - b. No - Proceed to Step 7.
7. Install revised bottom air deflector.
- a. Make sure that the lower forward facing bottom seven (7) tubes and eight (8) rows of fins on the Charge Air Cooler are dry and free of dirt and debris. (Figure 4)

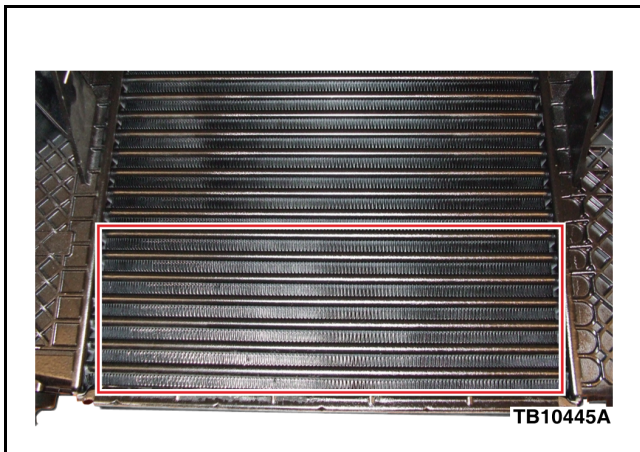


Figure 4 - Article 13-8-1

- b. Clean the charge air cooler lower forward facing bottom seven (7) tubes and eight (8) rows of fins by wiping surface down with isopropyl alcohol.
- c. Peel the protective tape off the adhesive side of the deflector.
- d. Install the deflector onto the charge air cooler core surface insuring the forward facing bottom seven (7) tubes and eight (8) rows of fins are covered and pressing firmly into place by hand maintain even pressure for 30 seconds. (Figure 5)

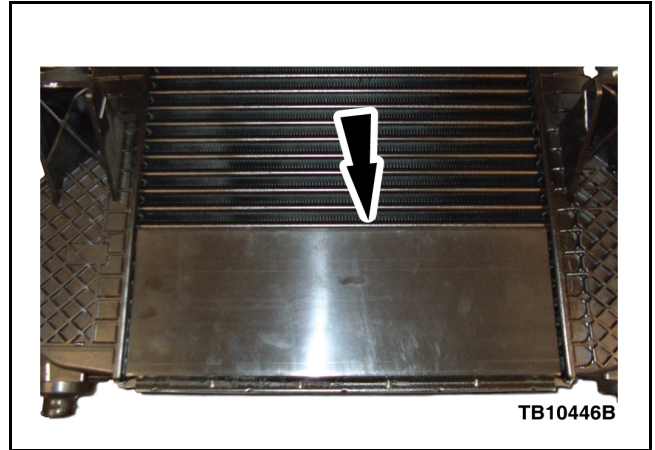


Figure 5 - Article 13-8-1

8. Reprogram the PCM to the latest calibration level using IDS release 79.02A or higher. This new calibration is not included in the 2012.5 DVD. Calibration files may also be obtained at [www.motorcraft.com](http://www.motorcraft.com).

**NOTE**

PLEASE ADVISE THE CUSTOMER THAT 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.

Obtain Part Locally
Isopropyl Alcohol

PART NUMBER	PART NAME
BL3Z-5E212-E	Catalytic Converter Assembly
W520514-S440	Nuts (2 Req)
DL3Z-2021702-A	Air Deflector
W711281-S300	Push Pin (2 Req)

**TSB 13-8-1 (Continued)**

**WARRANTY STATUS:** Eligible Under Provisions Of New Vehicle Limited Warranty Coverage And Emissions 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.

130801B 2011-2012 F-150 3.5L GTDI: Diagnose And Inspect The Charge Air Cooler, Replace The Left Hand Catalytic Converter, Install Revised Bottom Air Deflector And Reprogram The PCM Includes Time To Remove Top Air Deflector If Equipped And Clear DTCs (Do Not Use With Any Other Labor Operations) 1.0

**DEALER CODING**

<b>OPERATION</b>	<b>DESCRIPTION</b>	<b>TIME</b>	<b>DEALER CODING</b>	<b>CONDITION CODE</b>
130801A	2011-2012 F-150 3.5L GTDI: Diagnose And Inspect The Charge Air Cooler, Install Revised Bottom Air Deflector And Reprogram The PCM Includes Time To Remove Top Air Deflector If Equipped And Clear DTCs (Do Not Use With Any Other Labor Operations)	0.5	BASIC PART NO. 6K775	42