

12/14/09

6.0L DIESEL CALIBRATION UPDATE - VARIOUS ISSUES

FORD:

2003-2005 Excursion

2003-2007 F-Super Duty

2004-2010 E-Series

This article supersedes TSB 9-7-11 to update the model years covered and Integrated Diagnostic System (IDS) calibration level.

ISSUE

Some 2003-2007 F-Super Duty vehicles, 2003-2005 Excursions and 2004-2010 E-Series vehicles, equipped with a 6.0L diesel engine may exhibit hard start, no start, white smoke, lack of power, running rough condition after cold engine start up, or diagnostic trouble codes (DTCs) P0404, P0470, P0611, P1260 and/or P1378 issues. Refer to the Calibration Content for information detailing specific vehicle content by vehicle application and model year that is being addressed by this calibration update.

This article includes previously released calibration content that improves injector performance in cold engine operation and additional diagnostic capabilities and product protection strategy enhancements. These enhancements provide additional diagnostic capabilities, adds additional new DTCs and engine protection strategies. Refer to the Calibration Content for additional details. See the appropriate Powertrain Control/Emissions Diagnostic (PC/ED) manual for technical descriptions and diagnostic routines associated with new DTCs.

ACTION

Reprogram the powertrain control module (PCM) using IDS release 63.13 and higher or 64.01 and higher. The transmission control module (TCM) and fuel injector control module (FICM) , will automatically update if they are not at the latest calibration level. This new calibration is not included in the VCM 2009.11 DVD. Calibration files may also be obtained at the website.

CALIBRATION CONTENT

Reprogram the PCM to the latest calibration following Workshop Manual (WSM), Section 418-01.

The PCM and FICM calibration update contains improvement actions to address the following symptoms:

2005 F-Super Duty 6.0L:

^ False DTC P0470 - Exhaust pressure sensor A circuit fault due to a freezing condition.

^ False DTC P0404 - Exhaust gas recirculation (EGR) performance due to a stuck turbocharger condition.

^ Cooling loss protection - Revised engine protection strategy when an engine over-temperature condition is present. Vehicles updated with this service calibration will display higher temperature gauge readings when high engine oil temperature (EOT) conditions or high engine coolant temperature (ECT) are encountered and may disable EGR operation to prevent possible EGR cooler damage.

^ Oil cooler efficiency monitor - DTC P012F stored and wrench warning lamp illuminated when the oil coolers efficiency drops below a specified threshold for a given speed and vehicle load condition.

^ Turbocharger vane sweep strategy - Performs a sweep of the turbocharger vanes and unison ring during stationary idle conditions. Vane sweep can occur once per hour to help reduce turbocharger sticking.

^ FICM low voltage detection monitor - DTC P0560 stored and wrench warning lamp illuminated when PCM vehicle power (VPWR) parameter identifier (PIDS) is below 10.25V for 60 seconds or below 9V for 4 seconds.

^ Turbocharger over boost detection - DTC P0234 stored and wrench warning lamp illuminated when a turbocharger over boost condition occurs.

2006-2007 F-Super Duty 6.0L:

^ False DTC P0404 - EGR performance due to a stuck turbocharger condition.

^ Cooling loss protection - Revised engine protection strategy when an engine over-temperature condition is present. Vehicles updated with this service calibration will display higher temperature gauge readings when high EOT conditions or high ECT are encountered and may disable EGR operation to prevent possible EGR cooler damage.

^ Oil cooler efficiency monitor - DTC P012F stored and wrench warning lamp illuminated when the oil coolers efficiency drops below a specified threshold for a given speed and vehicle load condition.

^ FICM low voltage detection monitor - DTC P0560 stored and wrench warning lamp illuminated when PCM VPWR PIDS is below 10.25V for 60 seconds or below 9V for 4 seconds.

^ Turbocharger over boost detection - DTC P0234 stored and wrench warning lamp illuminated when a turbocharger over boost condition occurs.

2005-2007 And 2009-2010 E-Series 6.0L:

^ False DTC P0470 Exhaust pressure sensor A circuit fault due to a freezing condition.

^ False DTC P0404 EGR Performance due to a stuck turbocharger condition.

^ Cooling loss protection - Revised engine protection strategy when an engine over-temperature condition is present. Vehicles updated with this service calibration will display higher temperature gauge readings when high EOT conditions or high ECT are encountered and may disable EGR operation to prevent possible EGR cooler damage.

^ Oil cooler efficiency monitor - DTC P012F stored and wrench warning lamp illuminated when the oil coolers efficiency drops below a specified threshold for a given speed and vehicle load condition.

^ FICM low voltage detection monitor - DTC P0560 stored and wrench warning lamp illuminated when PCM VPWR PIDS is below 10.25V for 60 seconds or below 9V for 4 seconds.

^ Turbocharger vane sweep strategy - Performs a sweep of the turbocharger vanes and unison ring during stationary idle conditions. Vane sweep can occur once per hour to help reduce turbocharger sticking

^ FICM low voltage detection monitor - DTC P0560 stored and wrench warning lamp illuminated when PCM VPWR PIDS is below 10.25V for 60 seconds or below 9V for 4 seconds.

^ Turbocharger over boost detection - DTC P0234 stored and wrench warning lamp illuminated when a turbocharger over boost condition occurs.

2008 E-Series 6.0L:

^ False DTC P0470 - Exhaust pressure sensor A circuit fault due to a freezing condition.

^ False DTC P0404 - EGR performance due to a stuck turbocharger condition.

^ False P1260 induced during cranking due to low battery voltage.

^ Generic on-board diagnostics (OBD) improvements including; Mode 1, Mode 2, Mode 4 and J1699 OBD data test results as reported to the service tool.

^ Cooling loss protection - Revised engine protection strategy when an engine over-temperature condition is present. Vehicles updated with this service calibration will display higher temperature gauge readings when high EOT conditions or high ECT are encountered and may disable EGR operation to prevent possible EGR cooler damage.

^ Oil cooler efficiency monitor - DTC P012F stored and wrench warning lamp illuminated when the oil coolers efficiency drops below a specified threshold for a given speed and vehicle load condition.

^ Turbocharger vane sweep strategy - Performs a sweep of the turbocharger vanes and unison ring during stationary idle conditions. Vane sweep can occur once per hour to help reduce turbocharger sticking

^ FICM low voltage detection monitor - DTC P0560 stored and wrench warning lamp illuminated when PCM VPWR PIDS is below 10.25V for 60 seconds or below 9V for 4 seconds.

^ Turbocharger over boost detection - DTC P0234 stored and wrench warning lamp illuminated when a turbocharger over boost condition occurs.

Previous released calibration content included in IDS software release 48.2 or higher for: 2003-2007 F-Super Duty, 2003-2005 Excursion and 2004-2008 E-Series 6.0L diesel equipped vehicles:

^ White smoke, lack of power, running rough condition after cold engine start up due to injector spool valve sticking internally during cold engine operation.

^ No start/hard start when accompanied with DTC P0611 (FICM Performance), P1378 (FICM System Voltage Low) and/or all eight (8) injector circuit codes.

^ The new calibration changes the frequency of injector spool valve shuttling under certain conditions and will sound differently from previously released versions.

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

IMPORTANT: Warranty coverage limits/policies are not altered by a TSB. Warranty coverage limits are determined by the identified causal part.

OPERATION	DESCRIPTION	TIME
092403A	2004-2010 Econoline, 2003-2007 F-Super Duty, 2003-2005 Excursion 6.0L: Check For DTCs And Reprogram The PCM (Do Not Use With Any Other Labor Operations)	0.6 Hr.

DEALER CODING CONDITION CODE
BASIC PART NO. 04
RECALEM

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, Lincoln, or Mercury dealership to determine whether the Bulletin applies to your vehicle.

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