

COLD START DRIVEABILITY—WHITE SMOKE, LACKS POWER, EXHAUST ODOR, SURGES, RUNS ROUGH, OR NO START—6.0L

TSB 07-5-4

FORD:
2003-2005 Excursion

2003-2007 F-Super Duty
2004-2007 E-350, E-450

This article supersedes TSB **06-22-3** to update the Service Procedure.

ISSUE

Some vehicles equipped with a 6.0L diesel engine may experience white smoke, lack of power, exhaust odor, surges, running rough, or no start when cold. These conditions are caused by the injector spool valve sticking internally during cold engine operation (engine oil temperature (EOT) less than 70 °F (21 °C)) . The concern is typically evident following a cold start after an overnight soak at ambient temperatures below 70 °F (21 °C). and may last 3-5 minutes or longer as the vehicle warms up. The concern completely disappears after driving and the EOT is greater than 150 °F (66 °C). This concern typically occurs on vehicles with greater than 15,000 miles (24,140 Km/h).

ACTION

Diagnose and address any warm driveability issues or hard fault diagnostic trouble codes (DTCs) prior to performing this TSB. Then if cold driveability symptoms still exist use the following Service Procedure.

SERVICE PROCEDURE

This procedure includes a FICM calibration that adds inductive heating of the injector coils to locally heat the oil in the injector to normal operating temperatures very rapidly and keep it hot until normal overall engine oil temperature is achieved. This will prevent cold spool valve sticking on all injectors. Therefore, it will not be necessary to replace fuel injectors for the cold driveability symptoms listed in this TSB.

NOTE

DO NOT USE CLICK TEST OR POWER BALANCE TO IDENTIFY COLD INJECTOR PERFORMANCE ISSUES, BECAUSE THE INDUCTIVE HEATING STRATEGY IS NOT ACTIVE DURING THESE TESTS. INJECTORS WHICH DO NOT RESPOND IN CLICK TEST OR POWER BALANCE WILL RESPOND IN NORMAL RUN MODE WITH THE INDUCTIVE HEAT CALIBRATION

Inductive heat is active in Key On Engine Run (KOER) mode below 2500 RPM. It is tapered out from 131-167 °F (55-75 °C) EOT, and is fully deactivated above 185 °F (85 °C) EOT.

NOTE

IF THE VEHICLE RUNS ROUGH OR HAS A MISFIRE WHEN THE ENGINE IS AT OPERATING TEMPERATURE, DIAGNOSE THOSE CONCERNS BEFORE PROCEEDING WITH THIS TSB.

This updated calibration strategy is a greater improvement than the previous post-cycle Fuel Injector Control Module (FICM) software release that cycled the injectors after shutdown (TSB 06-22-3). This strategy will eliminate the need to post-cycle the injector spool valves, and as a result will also eliminate the need to perform the E-Series wiring modification. The strategy achieves rapid heating of the oil in the injector through inductive heating of the injector coils. The Customer Information Sheet that was included with TSB 06-22-3 is no longer necessary.

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. 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 07-5-4 (Continued)

Customers who receive this new calibration after previously having received the post-cycle calibration (described in 06-22-3) will notice the buzzing noise at shutdown has been eliminated. This is normal, as the post-cycle is no longer needed with inductive heating. Additionally, for E-Series there is no need to remove wiring modifications that were previously performed per TSB 06-22-3. Unmodified E-Series vehicles will NOT need the wiring modification with this calibration.

1. Using Module Reprogramming: FICM menu in IDS, reprogram the FICM to the latest calibration using IDS release 47.8 and higher or 48.2 and higher. This new calibration is not included in the VCM 2007.3 DVD. Calibration files may also be obtained at www.motorcraft.com.
2. If the customer previously had the Post Cycle calibration, notify them they will no longer hear the injector cycling after engine shutdown.

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
070504A	2003-2007 F-Super Duty, 2003-2005 Excursion, 2004-2007 Econoline 350/450 6.0L: Reprogram The Fuel Injector Control Module (FICM) (Do Not Use With 12650D, 12650D84)	0.7 Hr.
DEALER CODING		
BASIC PART NO.		CONDITION CODE
9E527		42