

5.4L INTERMITTENT RATTLE NOISE / ROUGH IDLE WHEN ENGINE IS AT OPERATING TEMPERATURE

TSB 12-7-10

FORD:

2004-2010 F-150
2005-2010 F-250, F-350
2005-2012 Expedition

LINCOLN:

2005-2012 Navigator
2006-2008 Mark LT

ISSUE

Some 2004-2010 F-150, 2005-2010 F-Super Duty, 2005-2012 Expedition, Navigator and 2006-2008 Mark LT vehicles equipped with a 5.4L 3V engine may exhibit an intermittent rattle noise/rough idle when engine is at operating temperature. The issue is caused by oscillating cam timing, diagnostic trouble codes (DTCs) P0022, P0021, P0340, and/or P0341 may be stored in the powertrain control module (PCM).

ACTION

Follow the Service Procedure steps to correct the condition.

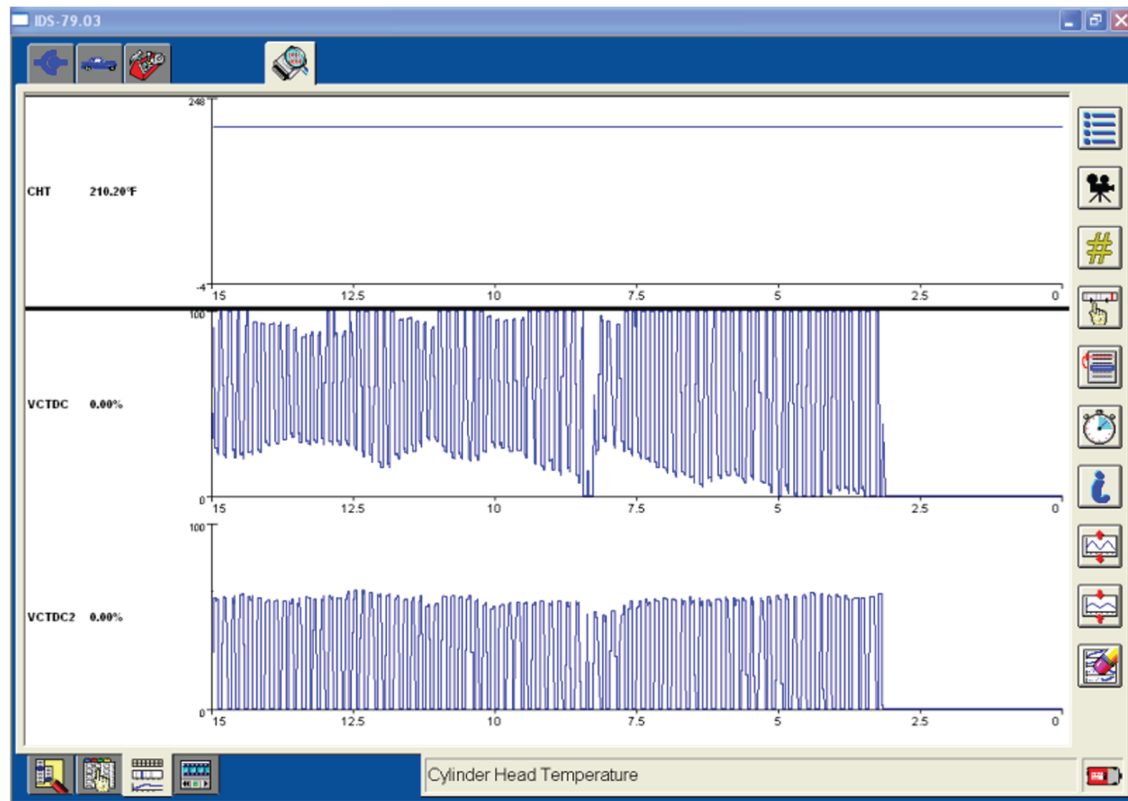
SERVICE PROCEDURE

1. Using the Integrated Diagnostic System (IDS) scan tool or equivalent monitor cam solenoid duty cycle and cylinder head temperature (CHT) Parameter Identification (PIDs):

- a. Start IDS
 - b. Select Data Logger
 - c. Select PIDs VCTDC, VCTDC2, and CHT
2. With the engine idling at normal operating temperature CHT above 93 °C (200 °F) apply the parking brake and hold service brake pedal firmly with transmission selector lever in (D). Raise engine RPMs from idle to approximately 1500 RPMs and release the throttle. Does the vehicle exhibit a rattle type noise with a rough idle and are the cam solenoid duty cycle PID values oscillating after RPMs return to idle speed? (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.

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Figure 1 - Article 12-7-10

- a. Yes - Proceed to Step 3.
- b. No - This article does not apply. Refer to Workshop Manual (WSM), Section 303-00 for normal diagnostics.
3. Replace both the left and right Variable Camshaft Timing (VCT) Oil Control solenoids. Refer to WSM, Section 303-04B for 2004 vehicles OR 303-14 for 2005-2012 vehicles.

PART NUMBER	PART NAME
8L3Z-6M280-B	Variable Camshaft Timing Solenoid
7L1Z-6584-B	LH Cam Cover Gasket For 14 Bolt Cam Cover
7L1Z-6584-A	RH Cam Cover Gasket For 8-9 Bolt Cam Cover
3L3Z-6584-EA	RH Cam Cover Gasket For 14 Bolt Cam Cover
3L3Z-6584-DB	LH Cam Cover Gasket For 15 Bolt Cam Cover
3L3Z-6C535-AA	VCT Solenoid To Cam Cover Gasket 2004-2006

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.

OPERATION	DESCRIPTION	TIME
120710A	2006 Mark LT, 2004-2006 F-150, 2005-2006 Expedition, Navigator: Diagnose And Replace Both VCT Solenoids (Do Not Use With Any Other Labor Operations)	0.7 Hr.

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120710A	2007-2010 F-Super Duty 250/350: Diagnose And Replace Both VCT Solenoids (Do Not Use With Any Other Labor Operations)	2.7 Hrs.	120710A	2005-2006 F-Super Duty 250/350: Diagnose And Replace Both VCT Solenoids (Do Not Use With Any Other Labor Operations)	0.6 Hr.
120710A	2007-2012 Expedition, Navigator: Diagnose And Replace Both VCT Solenoids (Do Not Use With Any Other Labor Operations)	3.2 Hrs.	DEALER CODING BASIC PART NO. 6M280		
120710A	2007-2010 F-150, 2007-2008 Mark LT: Diagnose And Replace Both VCT Solenoids (Do Not Use With Any Other Labor Operations)	3.6 Hrs.	CONDITION CODE 42		