

MIL "ON" DTC P030#, Intermittently Runs Rough, and/or Engine Oil Consumption

Service Category Engine/Hybrid System

Section Engine Control

Market USA

Lexus Supports
ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2006 – 2010	IS250, IS250C	

SUPERSESSION NOTICE

The information contained in this bulletin supersedes SB No. L-SB-0068-11.

- Warranty Information and Parts Information have been updated.

Service Bulletin No. L-SB-0068-11 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this bulletin before proceeding.

Introduction

Some 2006 – 2010 model year IS 250 and IS 250C vehicles may exhibit one or more of the following conditions:

- MIL "ON" DTC P0300, P0301, P0302, P0303, P0304, P0305, and/or P0306.
- Intermittently runs rough after coming to a stop with the engine at operating temperature.
- Intermittently runs rough with engine misfires present after a cold soak startup.
- Engine oil consumption exceeding 1 quart in 1,200 miles.

The pistons and piston ring set have been updated. Follow the procedures in this bulletin to address these conditions.

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Production Change Information

This bulletin applies to:

- ALL 2006 – 2009 IS 250 vehicles.
- 2010 IS 250/250C vehicles produced **BEFORE** the Production Change Effective VINs shown below.

MODEL	PLANT	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
IS 250	Tahara	2WD	JTHBF5C2#A5111623
		4WD	JTHCF5C2#A5038437
	TMK	2WD	JTHBF5C2#A2095122
		4WD	JTHCF5C2#A2032829
IS 250C	TMK	2WD	JTHFF2C2#A2507313

Warranty Information

OP CODE	DESCRIPTION	TIME		OFP	T1	T2
		2WD	4WD			
EG1230	R & R Pistons/Piston Ring Set, Valve Springs, Valve Lash Adjusters, and Valve Spring Retainers (if applicable)	23.9		RH: 13101-31050 LH: 13301-31020	8A	99
		24.8				
EG1231	Diagnostic Labor Time (for Non-repair Vehicles)*	0.6				

* To be applied for vehicles in which the condition was not duplicated, therefore no repair is attempted (diagnostic time only).

APPLICABLE WARRANTY

- This repair is covered under the Lexus Powertrain Warranty. This warranty is in effect for 72 months or 70,000 miles, whichever occurs first, from the vehicle's in-service date.
- Warranty application is limited to occurrence of the specified condition described in this bulletin.

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Parts Information

NOTE

Refer to the Repair Procedure PRIOR to ordering parts.

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
04111-31530 04111-31780 04111-31781	04111-31B40	Gasket Kit, Engine Overhaul	1
13011-31120 13011-31121	13011-31122	Ring Set, Piston	1
13101-31050-A0	Same	Piston Sub-assy, w/Pin, RH	*
13101-31050-B0	Same		*
13101-31050-C0	Same		*
13301-31020-A0	Same	Piston Sub-assy, w/Pin, LH	*
13301-31020-B0	Same		*
13301-31020-C0	Same		*
13750-75020	13750-31020	Adjuster Assembly, Valve Lash	24**
90501-33019	90501-30030	Spring, Compression (for inner)	24**
13741-20021	13741-31020	Retainer, Valve Spring	24**
04152-31080	04152-YZZA3	Element Kit, Oil Filter (2WD)	1
04152-31060 04152-38010	04152-YZZA5	Element Kit, Oil Filter (4WD)	1

* Refer to Repair Procedure prior to ordering pistons to ensure the correct size is ordered. See NOTE in step 5 of the Repair Procedure for more details.

** Only applicable to 2006 model year vehicles that fall before the production break and have NOT had SB [L-SB-0088-08](#) or [EG019-06](#), "MIL 'ON' DTC P0300, P0301, P0302, P0303, P0304, P0305, or P0306", performed.

NOTE

Although "B" pistons are the most common pistons used in production, any engine can have any combination of ALL 3 pistons (A/B/C). The approximate production mix for pistons is as follows:
A = 10%, B = 80%, C = 10%.

EXAMPLE: One engine may have 1 "A" piston, 4 "B" pistons, and 1 "C" piston when another could have all 6 "B" pistons.

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Required Tools & Equipment

TOOLS & MATERIAL	PART NUMBER	QUANTITY	
Three Bond 1324 or Equivalent	08833-00070	As Needed	
Three Bond 1282B or Equivalent	08826-00100	As Needed	
Three Bond 1207B or Equivalent	00295-00103	As Needed	
Super Long Life Coolant (SLLC)	00272-SLLC2	9.6 U.S. qts. (9.1 liters)	
ILSAC GF-4 Multi-grade SAE 5W-30	–	2WD	6.7 U.S. qts. (6.3 liters)
	–	4WD	6.8 U.S. qts. (6.4 liters)
Green Plastigage™	–	As Needed	
Torque Yield Wrench	–	1	
Precision Straight Edge	–	1	
Piston Heater	–	1	
Piston Ring Compressor	–	1	
Torque Wrench	–	1	
Large Brass Punch	–	1	
Piston Ring Expander	–	1	
Thread Chaser	–	1	
Feeler Gauge	–	1	
Caliper Gauge	–	1	
Micrometer	–	1	
Vernier Caliper	–	1	
Engine Stand	–	1	
Dye Penetrant	–	As Needed	

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Gasket Seal Cutter*	09032-00100	1
Crankshaft Pulley Holding Tool*	09213-70011-01	1
Companion Flange Holding Tool*	09330-00021	1
Universal Puller Set "C"*	09950-50013-02	1
Valve Service Tool Set (Valve Spring Compressor) (Starter Armature Bearing Replacer)	00002-53464C-02 (09202-70020) (09201-41020)	1

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Required Tools & Equipment (Continued)

SPECIAL SERVICE TOOLS (SST)	PART NUMBER	QTY
Variable Open Wrench*	09922-10010-01	1
Crankshaft Service Tool Set* (Connecting Rod Bushing Remover/Replacer) (Crankshaft Rear Oil Seal Replacer)	00002-62091-02 (09222-30010) (09223-15030)	1
Crankshaft Front Oil Seal Replacer	09223-22010	1
Hydraulic Lash Adjuster	09276-75010-01	1
Handle Set*	09950-70010-02	1
Pinion Rear Bearing Cone Replacer	09506-35010	1
Oil Filter Wrench*	09228-06501	1

* Essential SST.

NOTE

Additional SSTs may be ordered by calling 1-800-933-8335.

Repair Procedure Overview

1. Confirm the condition referring to the correct diagnostic procedure:
 - Refer to Diagnostic Procedure A for MIL "ON" P030# and/or Intermittently Runs Rough.
 - Refer to Diagnostic Procedure B for engine oil consumption.
2. Following duplication of the condition, proceed with engine removal and disassembly.
3. Replace all pistons and piston rings with the updated parts.
4. **DECARBONIZE THE CYLINDER HEADS, VALVES, AND CYLINDER BORES.**
5. Replace the valve stem seals.
6. Replace the valve springs and valve lash adjuster assemblies ONLY if applicable (refer to Repair Procedure for more details).

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Diagnostic Procedure A

1. Confirm the condition per the Introduction.
2. Perform misfire diagnosis.

Refer to the Technical Information System (TIS), applicable model and model year Repair Manual:

- [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) IS 250; [2010](#) IS 250C:

Engine/Hybrid System – Engine Control – “4GR-FSE Engine Control System: SFI System: P0300-P0306: Random / Multiple Cylinder Misfire Detected”

NOTE

- **Normal mechanical engine condition, engine control system, fuel supply/injection systems, and ignition system operation must be present or this bulletin does NOT apply.**
- **Utilize the Techstream Snapshot function and Misfire Monitor information following startup and test drive to determine if a duplicated rough running condition coincides with misfire counts.**
- **Multiple misfire counts for one or more cylinders must be recorded for this bulletin to apply. The misfire must be intermittent for this bulletin to apply.**

3. If the concern is NOT resolved after following the Repair Manual misfire diagnosis, proceed with the repair procedure below.

Diagnostic Procedure B

Perform an oil consumption test to determine the consumption rate.

1. Confirm the engine oil level is full.
2. Mark the oil dipstick to indicate the current level.
3. Replace the oil dipstick.
4. Mark the oil dipstick, oil drain plug, and oil fill cap to prevent/indicate tampering during the test.

HINT

Use tape, sealer, cable ties, or equivalent to mark the oil dipstick, oil drain plug, and oil fill cap.

5. Advise the customer to drive the vehicle normally for 1,200 miles and return for inspection.

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Diagnostic Procedure B (Continued)

6. Determine the quantity of oil that was consumed in 1,200 miles.

Was the oil level more than 1 quart low after 1,200 miles of normal driving?

- **YES** — Go to the Repair Procedure.
- **NO** — This bulletin does NOT apply. Warranty guideline for acceptable oil consumption is 1 quart per 1,200 miles of operation. No warranty claim should be filed.

Repair Procedure

1. Prior to disassembly confirm NO abnormal engine knock noises are present.

HINT

If no abnormal engine knock is detected, all bearings and bushings should be OK to reuse.

2. Remove the engine assembly.

Refer to TIS, applicable model and model year Repair Manual:

- [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) IS 250; [2010](#) IS 250C:

Engine/Hybrid System – Engine Mechanical – “4GR-FSE Engine Mechanical: Engine Assembly: Removal”

3. Disassemble the engine to replace the pistons and piston rings.

HINT

Only disassemble what is necessary for the parts being replaced.

Refer to TIS, applicable model and model year Repair Manual:

- [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) IS 250; [2010](#) IS 250C:

Engine/Hybrid System – Engine Mechanical – “4GR-FSE Engine Mechanical: Engine Unit: Disassembly”

4. Inspect and **CLEAN THE ENGINE COMPONENTS RELATED TO THIS REPAIR.**

Refer to TIS, applicable model and model year Repair Manual:

- [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) IS 250; [2010](#) IS 250C:

Engine/Hybrid System – Engine Mechanical – “4GR-FSE Engine Mechanical: Engine Unit: Inspection”

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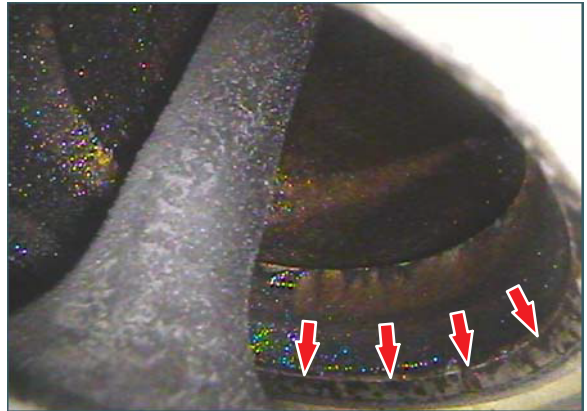
Repair Procedure (Continued)

A. THOROUGHLY CLEAN AND DECARBONIZE THE CYLINDER HEAD AND VALVES.

NOTE

- It is normal for small pitting to be present on the valve seats.

Figure 1.



- If any cylinder head components (i.e., valve guides, valves, etc.) are found to be outside of Repair Manual specification as per the Inspection Procedure, each should be replaced as necessary.

B. THOROUGHLY CLEAN AND DECARBONIZE THE ENGINE BLOCK CYLINDER BORES.

NOTE

Engine block components (i.e., piston pin bushing, connecting rod bearings, etc.) found to be outside of Repair Manual specification as per the Inspection Procedure, should be replaced as necessary.

HINT

If necessary, sublet specialized and precision operations to a local engine machining shop.

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Repair Procedure (Continued)

C. Inspect the cylinder bore for abnormal damage.

Visually check the cylinder bore for the presence of crosshatch.

- If the cylinder bore has visible crosshatch, the cylinder block is OK to re-use.
- Confirm that only light vertical marks are present, if any.

NOTE

- It is normal for an in-service block to have light markings present from carbon and should not be interpreted as excessive cylinder wall scratches.
- **ONLY** replace the short block if multiple, severe scratches are present.
- Do **NOT** hone the cylinder walls.

D. Following engine component inspection and piston identification, note the part numbers required for the repair. See the Repair Manual for piston identification.

Refer to TIS, applicable model and model year Repair Manual:

- [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) IS 250; [2010](#) IS 250C:

*Engine/Hybrid System – Engine Mechanical – “4GR-FSE Engine Mechanical:
Engine Unit: Inspection”*

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Repair Procedure (Continued)

5. Reassemble the engine with the following new parts:

- Pistons
- Piston ring set
- Valve stem seals
- Valve springs, valve lash adjusters, and valve spring retainers (applicable 2006 MY vehicles ONLY – See Note below).

NOTE

FOR 2006 MY IS 250 ONLY:

BEFORE starting the repair procedure, the following **MUST** be confirmed:

Is the VIN applicable to Service Bulletin No. [L-SB-0088-08](#), "MIL 'ON' DTC P0300, P0301, P0302, P0303, P0304, P0305, or P0306"? (Was the vehicle produced BEFORE the Production Change Effective VINs shown below?)

MODEL	PLANT	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
IS 250	Kyushu	2WD	JTHBK262#62017120
		4WD	JTHCK262#62007184
	Tahara	2WD	JTHBK262#65020537
		4WD	JTHCK262#65006155

- **NO** — Replacement of valve springs, valve lash adjusters, and valve spring retainers is **NOT** necessary.
- **YES** — Was Service Bulletin No. [EG019-06](#) or [L-SB-0088-08](#) performed?
 - **YES** — Replacement of valve springs, valve lash adjusters, and valve spring retainers is **NOT** necessary.
 - **NO** — Replace the valve springs, valve lash adjusters, and valve spring retainers.

- Replace any other components as necessary **ONLY** if measured out of specification during inspection.

For reassembly instructions, refer to TIS, applicable model and model year Repair Manual:

- [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) IS 250; [2010](#) IS 250C:

Engine/Hybrid System – Engine Mechanical – “4GR-FSE Engine Mechanical: Engine Unit: Reassembly”

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Repair Procedure (Continued)

6. Reinstall the engine assembly.

Refer to TIS, applicable model and model year Repair Manual:

- [2006](#) / [2007](#) / [2008](#) / [2009](#) / [2010](#) IS 250; [2010](#) IS 250C:

*Engine/Hybrid System – Engine Mechanical – “4GR-FSE Engine Mechanical:
Engine Assembly: Installation”*

7. Verify normal vehicle operation.