

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	GS300	

SUPERSESSION NOTICE

The information contained in this bulletin supersedes SB No. L-SB-0069-11.

- Warranty Information and Parts Information have been updated.

Service Bulletin No. L-SB-0069-11 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this bulletin before proceeding.

Introduction

Some 2006 model year GS 300 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 piston ring set has been updated. Follow the procedures in this bulletin to address these conditions.

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Warranty Information

OP CODE	DESCRIPTION	TIME		OFP	T1	T2
		2WD	4WD			
EG1232	R & R Piston Ring Set, Valve Springs, Valve Lash Adjusters, and Valve Spring Retainers (if applicable)	22.9		RH: 13101-31040 LH: 13301-31010	8A	99
			23.6			
EG1233	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.

Parts Information

NOTE

Refer to the Repair Procedure PRIOR to ordering parts.

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
04111-31290 04111-31291	04111-31252	Gasket Kit, Engine Overhaul	1
13011-31110	13011-31170	Ring Set, Piston	1
90501-33018	90501-30030	Spring, Valve	24**
90501-33019			
13741-20021	13741-31020	Retainer, Valve	24**
13750-0W030 13750-75020	13750-31020	Adjuster Assy, Valve Lash	24**
04152-31080	04152-YZZA3	Element Kit, Oil Filter (2WD)	1
04152-31060 04152-38010 04152-YZZA2	04152-YZZA5	Element Kit, Oil Filter (4WD)	1

** Only applicable to vehicles that fall before the production break and/or have NOT had SB [L-SB-0087-08](#), "MIL 'ON' DTC P0300, P0301, P0302, P0303, P0304, P0305, or P0306", performed. See NOTE in step 5 of the Repair Procedure for more details.

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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 the piston rings with the updated parts.
4. **DECARBONIZE THE CYLINDER HEADS, VALVES, PISTONS, 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).

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

Diagnostic Procedure A

1. Confirm that the condition is applicable per the Introduction.
2. Perform misfire diagnosis.

Refer to the Technical Information System (TIS), 2006 model year GS 300 Repair Manual: [Engine/Hybrid System – Engine Control – “3GR-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.
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.

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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, 2006 GS 300 Repair Manual:

[Engine/Hybrid System – Engine Mechanical – “3GR-FSE Engine Mechanical: Engine Assembly: Removal”](#)

3. Disassemble the engine to replace the piston rings.

HINT

Only disassemble what is necessary for the parts being replaced.

Refer to TIS, 2006 GS 300 Repair Manual:

[Engine/Hybrid System – Engine Mechanical – “3GR-FSE Engine Mechanical: Engine Unit: Disassembly”](#)

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Repair Procedure (Continued)

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

Refer to TIS, 2006 GS 300 Repair Manual:

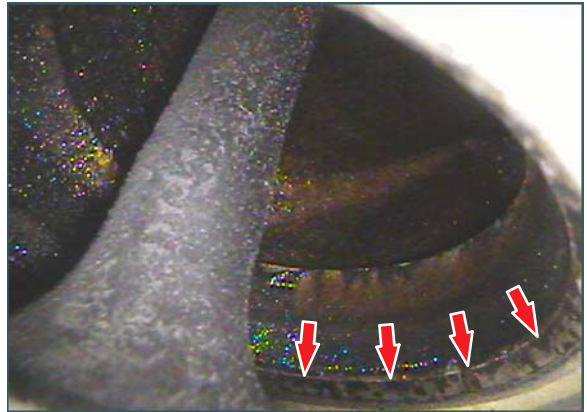
[Engine/Hybrid System – Engine Mechanical – “3GR-FSE Engine Mechanical: Engine Unit: Inspection”](#)

- 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 PISTONS AND 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, note the part numbers required for the repair.

5. Reassemble the engine with the following new parts:

- Piston ring set
- Valve stem seals
- Valve springs, valve spring retainers, and valve lash adjusters, if necessary (see Note below)

NOTE

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

Is the VIN applicable to Service Bulletin No. [L-SB-0087-08](#), "MIL 'ON' DTC P0300, P0301, P0302, P0303, P0304, P0305, or P0306"? (Was the vehicle produced **BEFORE** the Production Change Effective VINs shown below?)

MODEL	DRIVETRAIN	PRODUCTION CHANGE EFFECTIVE VIN
GS 300	2WD	JTHBH96S#65027366
	4WD	JTHCH96S#60014171

- **NO** — Replacement of valve springs, valve spring retainers, and valve lash adjusters is **NOT** necessary.
- **YES** — Was Service Bulletin No. [L-SB-0087-08](#) performed?
 - **YES** — Replacement of valve springs, valve spring retainers, and valve lash adjusters is **NOT** necessary.
 - **NO** — Replace the valve springs, valve spring retainers, and valve lash adjusters.

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Repair Procedure (Continued)

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

For reassembly instructions, refer to TIS, 2006 GS 300 Repair Manual:

[Engine/Hybrid System – Engine Mechanical – “3GR-FSE Engine Mechanical: Engine Unit: Reassembly”](#)

6. Reinstall the engine assembly.

Refer to TIS, 2006 GS 300 Repair Manual:

[Engine/Hybrid System – Engine Mechanical – “3GR-FSE Engine Mechanical: Engine Assembly: Installation”](#)

7. Verify normal vehicle operation.