



Service Bulletin

File In Section: 06 - Engine

Bulletin No.: 08-06-01-022

Date: November, 2008

TECHNICAL

Subject: Tick Type Noise Coming From Engine (Inspect Exhaust Valve Stem to Guide Clearance)

Models: 2006–2008 Chevrolet Equinox
2006–2008 Pontiac Torrent
Equipped with 3.4L Engine (VIN F – RPO LNJ)

Condition

Some customers may comment that they hear a ticking noise coming from the engine. Some may describe the noise as sounding like a lifter tick.

Cause

The finish on the exhaust valve stem(s) may have caused excessive wear on the exhaust valve guide(s) in the cylinder heads. When this occurs, the exhaust valve stem to guide clearance becomes out of specification and the tick noise is created each time the valve stem comes in contact with the guide.

Correction

Inspect the exhaust valve stem to guide clearance following the procedure below. Repair the vehicle as outlined.

1. Verify that the engine oil level is within the operating range.
2. Verify that the noise in question is not the normal ticking type sound produced by the fuel injectors.
3. Connect a mechanical oil pressure gauge and verify that the engine has adequate oil pressure. Refer to SI for additional information if necessary.
4. If the oil pressure is within specification, then remove the left (front) rocker cover and gasket. Refer to the Valve Rocker Arm Cover Replacement - Left Side in SI.
5. Place shop towels over the rocker arms and push rods to contain engine oil in the next step.

6. Start the engine and allow to idle.

Important: The following steps only need to be done on the exhaust valves.

7. Using a block of wood or the wooden handle on a hammer, place a side load on cylinder number 2 exhaust valve spring.
 - If the noise is reduced or eliminated, then there is excessive clearance between that exhaust valve stem and the guide in the cylinder head. Proceed to Step 8.
 - If the noise is NOT reduced or eliminated, then proceed to cylinder number 4 and 6 exhaust valve springs and apply the same type of side load. If the noise is reduced or eliminated then there is excessive clearance between an exhaust valve stem and guide in the cylinder head. Proceed to the next step.
8. Remove the right (rear) rocker cover.

Important: It may not be possible to apply a side load to the exhaust springs with a piece of wood or hammer handle because there is less clearance at the rear side of the engine. As a result, the inspection procedure on the rear side is different than the left (front) side.

9. Remove the rocker arm and push rod from cylinder # 1 exhaust valve.

Important: With one rocker arm and push rod removed at a time in the next steps the engine will exhibit a noticeable misfire or rough idle during the test.

10. With shop towels in place to contain any oil, start the engine and allow to idle.
 - If the tick noise is reduced or eliminated, then there is excessive clearance between that exhaust valve stem and guide in the cylinder head. Proceed to Step 11.
 - If the noise is NOT reduced or eliminated, then reinstall the push rod and rocker arm and tighten the bolt to specification. Then proceed to cylinder number 3, and if necessary number 5, exhaust valve and repeat the process. If the noise is reduced or eliminated, then there is excessive clearance between an exhaust valve stem and guide in the cylinder head. Proceed to the next step.
 - If the tick noise is always present and never is reduced or eliminated when testing all 6 exhaust valves, then the noise is coming from some other source and it is not necessary to continue with this bulletin. Refer to SI for additional diagnostic information.
11. Replace any cylinder head that has an exhaust valve stem with excessive clearance to the guide. It will be necessary to install three new exhaust valves in each cylinder head replaced. Please note that the exhaust valve part number listed below will have an improved stem finish. Refer to the Cylinder Head Replacement procedure in SI.

Parts Information

Replacement cylinder heads DO NOT come with any valvetrain components or expansion (freeze) plugs. When ordering a replacement head, it will also be necessary to order 3 exhaust valves and 2 expansion plugs for each head ordered. The intake valves and "all" springs, caps and locks are reusable. In addition, new valve stem seals (intake and exhaust) will be needed and are included in the head gasket kit listed.

Part Number	Description	Quantity
12598259	Cylinder Head – Right (if needed)	1
12598262	Cylinder Head – Left (if needed)	1
12617048	Valve- Exhaust	3 (per cylinder head)
24502262	Expansion Plug	2 (per cylinder head)
89018138	Gasket Kit – Cylinder Head	1
11588915	Bolt – Lower Intake Manifold	4
11609991	Bolt – Lower Intake Manifold	4
11518953	Bolt – Cylinder Head	4 (per Cylinder Head)
11518992	Bolt – Cylinder Head	4 (per Cylinder Head)

Warranty Information

For vehicle repaired under warranty, use:

Labor Operation	Description	Labor Time
J7541*	Inspect Exhaust Valve Stem to Guide Clearance	1.8 hrs**
Add	To Replace Right Bank Cylinder Head	5.1 hrs
Add	To Replace Left Bank Cylinder Head	5.2 hrs
Add	To Relace Both Banks Cylinder Head	6.6 hrs

*This is a unique labor operation for bulletin use only. It will not be published in the Labor Time Guide.
 ** This time includes R&R of both rocker arm covers.

