



# Service Bulletin

## PRELIMINARY INFORMATION

**Subject:** Cylinder Head Tick Noise And/Or Damage - Possible Plugged Oil Feed Orifice

**Models:**           **2010 Buick Allure (Canada Only)**  
                          **2010-2013 Buick LaCrosse**  
                          **2011-2013 Buick Regal**  
                          **2012-2013 Buick Verano**  
                          **2012-2013 Chevrolet Captiva Sport**  
                          **2002-2005 Chevrolet Cavalier**  
                          **2005-2010 Chevrolet Cobalt, Cobalt SS**  
                          **2010-2013 Chevrolet Equinox**  
                          **2006-2011 Chevrolet HHR**  
                          **2008-2010 Chevrolet HHR SS**  
                          **2004-2013 Chevrolet Malibu**  
                          **2004-2005 Chevrolet Malibu Classic**  
                          **2010-2013 GMC Terrain**  
                          **2002-2004 Oldsmobile Alero**  
                          **2007-2010 Pontiac G5**  
                          **2006-2010 Pontiac G6**  
                          **2002-2005 Pontiac Grand Am, Sunfire**  
                          **2005-2006 Pontiac Pursuit (Canada Only)**  
                          **2006-2010 Pontiac Solstice**  
                          **2007-2010 Pontiac Solstice GXP**  
                          **2007-2010 Saturn Aura, Aura Hybrid**  
                          **2003-2007 Saturn Ion**  
                          **2004-2007 Saturn Ion Redline**  
                          **2001-2005 Saturn L Series**  
                          **2007-2010 Saturn Sky, Sky Redline**  
                          **2002-2010 Saturn Vue**  
                          **2007-2010 Saturn Vue Hybrid**  
                          **With any of the following engines:**  
                          **2.0L Engine (RPO LHU, LNF or LSJ)**  
                          **2.2L Engine (RPO L61, LAP or LE8)**  
                          **2.4L Engine (RPO LAF, LAT, LE5, LE9, LEA or LUK)**

***This PI was superseded to update recommended field. Please discard PIP4495C.***

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

### **Condition/Concern**

Some customers may complain of a loud tick/rattle noise under the hood at all operating conditions. In some cases, the noise may have started shortly after an oil change or previous internal engine repairs. During diagnosis, the technician will find that the noise is coming from the cylinder head area and believes that several/all of the valve lash adjusters (lifters) are making noise.

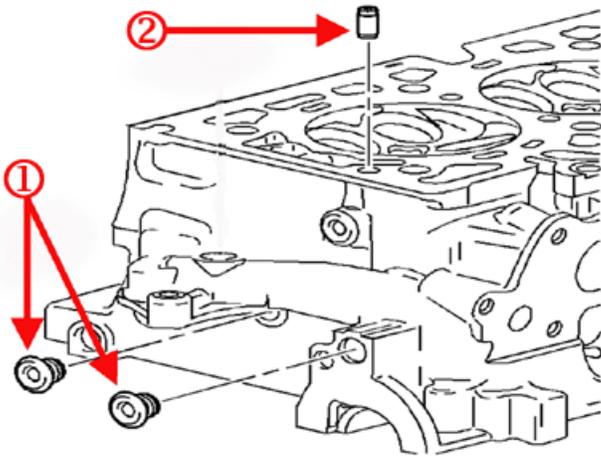
The cylinder head is equipped with oil feed orifice (2) that may become plugged with debris, such as excessive RTV/sealer or broken down oil filter material. If this occurs, this noise may occur as a result of no/low oil pressure to the valve train.

### **Recommendation/Instructions**

If a major valve train noise is encountered that sounds like several/all valve lash adjusters (lifters), it is suggested to compare the lower end oil pressure to the upper end oil pressure as outlined below:

1. Check the lower end oil pressure by attaching an oil pressure gauge to the oil pressure sender port or to one of the gallery plug ports in the engine block.
2. Check the upper end oil pressure by attaching another oil pressure gauge to one of the oil gallery plug ports on the back of the cylinder head (1).
3. Start the engine and note the oil pressure gauge readings from both locations while at the same engine RPM and engine temperature.
4. Turn the engine off.
5. Compare the oil pressure readings.
  - 5.1. If the lower end oil pressure is below SI specification, this PI does not apply so normal SI diagnosis should be followed to diagnose and repair the noise.
  - 5.2. If the upper end oil pressure is near 0 PSI/KPA but the lower end oil pressure is within SI specification, the oil feed orifice (2) is most likely plugged with debris. Please note that it is not uncommon for the upper end oil pressure of a normally functioning engine at idle to measure as much 35% less than the bottom end oil pressure. This is due to the large amount of oil pressure bleed off that normally occurs in the valve train, combined with the small size of the oil feed orifice (2).

If you suspect a plugged oil feed orifice after performing the test above, remove the cylinder head and visually inspect the oil feed orifice (2) for debris. If debris is present, it can normally be cleaned out to repair the noise. Please note that the orifice is not available separate from the cylinder head and cannot be inspected/cleaned without cylinder head removal.



**Important:** To prevent future concerns, care must be taken not to use excessive amounts of engine sealant during internal engine repairs, use the proper oil filter that is listed in the parts catalog, and change the engine oil/filter according to the schedule in the owner's manual.

**Notice:** The oil gallery plug port threads (1) on the back of the cylinder head are M12x1.75 and it is unlikely that a related oil pressure gauge adapter will be found at a hardware or auto parts store. The 509376 Kent Moore Fitting that comes with the Engine Preluber Kit (EN-45299/J-45299) will screw into the head and may be adapted to some oil pressure gauges. Or, there are also several online retailers that can supply a fitting that will work as an adapter - the male end has to be M12x1.75 while the female end has to be 1/8"x27 NPTF so a standard oil pressure gauge hose can screw into it. It has also been found that some automotive gauge companies, such as Auto Meter, offer the necessary adapter/fitting (M12x1.75 / 1/8"x27 NPTF) for \$5-\$20. Some technicians have also reported success in making a temporary fitting out of an oil pressure sender body.

## Warranty Information

For vehicles repaired under warranty use:

Labor Operation	Description	Labor Time
J0508	Cylinder Head Gasket Replacement	Use Published Labor Operation Time

### ADDITIONAL SI KEYWORDS:

adjuster cam camshaft follower installation lash lifter replacement valve

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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