



# Service Bulletin

## PRELIMINARY INFORMATION

**Subject:** Engine Misfire At Idle

**Models:** 2005-2007 Buick Rainier  
2006-2012 Chevrolet Colorado  
2005-2009 Chevrolet Trail Blazer  
2006-2012 GMC Canyon  
2005-2009 GMC Envoy  
2006-2010 Hummer H3  
With 2.8L 2.9L, 3.5L, 3.7L, 4.2L Inline Truck Engines (RPO's LK5 LLV L52 LLR LL8)

*This PI was superseded to update Recommendation/Instructions and Administrative Details. Please discard PIP4013C.*

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

### Condition/Concern

On rare occasions, a SES light and P0300 DTC may be encountered as a result of single cylinder misfires only at idle.

These misfires may or may not be felt and they will disappear off of idle. If the engine misfires do not occur at idle, this PI does not apply.

### Recommendation/Instructions

This concern may be caused by a damaged valve, valve seat or piston ring.

If the SI diagnostics do not isolate a cause for this concern, perform a cylinder leakage test as outlined in the "Cylinder Leakage Test" procedure in SI and document all leakage rates on the repair order.

When performing the cylinder leakage test, it is very important to hold the crankshaft with the related piston at top dead center to ensure that the valves are fully closed or inaccurate results may be obtained.

**Note:** Performing a cylinder leakage test at full shop air pressure 100 psi and higher, at times may cause a sticky valve or cylinder head with a loose/worn valve guide to fully seat giving an incorrect indication of a sealed cylinder. Regulating the air supply to 50-60psi may yield more accurate results.

If a leaking intake valve is found, replace the cylinder head and valves by following the latest versions of 07-06-01-018 (LL8 4.2L), 06-06-01-017 (RPO's L52, LK5) and 07-06-01-019 (RPO's LLR, LLV).

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.

**Important:** Before replacing the cylinder head, review the latest version of PIP3940, which contains some tips for using the lower timing gear tensioner holding tool (EN48464) described in the latest version of the above bulletins. These bulletins contain a revised cylinder head replacement procedure that no longer requires removal of the oil pan, front cover, water pump, or crankshaft dampener. Also, as mentioned in the above bulletins; it is important to install the cylinder head before you install the camshafts. Once the head is installed, the J44221 (Camshaft Holding Tool) should be used to hold the cam flats as the camshafts are installed with the #1 piston at top dead center

**Note:** If the cylinder head is installed with the camshafts in place, without using the J44221 to hold the cam flats or without the #1 piston at TDC, one of the valves could bend resulting in an engine misfire at idle once the repairs are complete. As a result, it may appear that the new head has the same concern as the cylinder head that you just replaced, when it is actually the result of a bent valve.

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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