



Tech Tip

Lube Service 173

ENGINE NOISES Tips for the Lube Service Technician

The lube service technician often gets blamed for conditions that are beyond his control. While the symptom could involve an installation concern or the quality of the parts installed, it may be a condition inherited in the vehicle since production. When faced with a customer that is convinced that the condition is something that we initiated, it is imperative that we explore all options prior to addressing the issue. This may require some research to determine if there is a factory service solution for the encountered symptoms. Let's cover some issues that could result in engine noise complaints.

COLD START KNOCK

When cold start-up knock conditions occur, the anti-drain back valve in the oil filter is often blamed for the symptom. The purpose of the valve is to prevent oil from draining from the oil galleries/passages and back into the oil pan following engine shut-down. The valve ensures that the engine has adequate lubrication during start-up, thereby eliminating engine wear during this critical start-up period. If the valve fails to seal, an engine knock that diminishes after 10–15 seconds of engine run time is the usual symptom. Be aware, there could be other causes of the noise.

A lot of publicity has been generated concerning the quality of aftermarket oil filters and engine damage due to defective anti-drain back valves. Much of this stems from a TSB published by GM concerning engines that were damaged due to defective anti-drain back valves. We have reviewed the bulletin and couldn't agree more. The bulletin contained pictures of an engine in various stages of disassembly. The damage resulted from oil starvation due to an anti-drain back valve that had disintegrated and plugged the oil galleries with fragments of the silicone valve. The silicone was found beneath the rod and main bearings, oil galleries in the block that supply oil to the crankshaft, restrictions to the piston skirts and sprayers and other oil passages. Know your filter supplier and only install a quality oil filter on your customer's vehicle. If not, it may cost you more than an engine. Loyal customers are difficult to replace. And they share their experiences with others.

ENGINE TICKING NOISE ON COLD START

GM advises in Service Bulletin PIP5191 that customer complaints of an engine ticking noise that lasts for 3–15

seconds following a cold start after sitting more than 6 hours may be due to a defective oil pump pick-up tube to block seal. The engine will usually start up quiet and within a few seconds encounter the ticking noise for 3–15 seconds, and the symptoms will not recur until the next day or until the vehicle sits for 6 hours or more. The anti-drain back valve in the oil filter often gets blamed for the noise symptoms. Unfortunately, the source of the noise goes much deeper in the engine. Vehicles affected include the following:

2005–2015 Buick LaCrosse Allure (Canada Only)

2008–2015 Buick Enclave

2013–2015 Cadillac ATS, XTS

2004–2015 Cadillac CTS, SRX

2005–2011 Cadillac STS

2010–2015 Chevrolet Camaro

2012–2015 Chevrolet Caprice PPV

2008–2015 Chevrolet Captiva Sport

2008–2015 Chevrolet Equinox

2012–2015 Chevrolet Impala

2008–2012 Chevrolet Malibu

2009–2015 Chevrolet Traverse

2007–2015 GMC Acadia

2010–2015 GMC Terrain

2007–2010 Pontiac G6

2008–2009 Pontiac G8 Torrent

2007–2009 Saturn Aura

2007–2010 Saturn Outlook

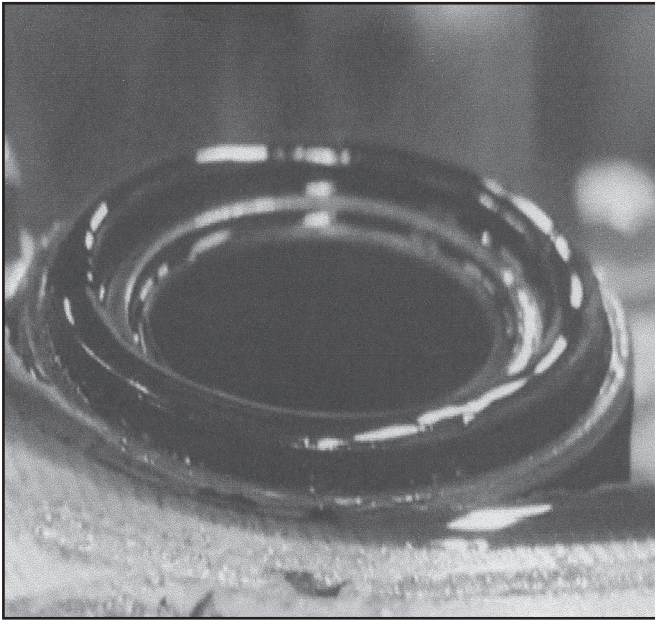
2008–2010 Saturn Vue

EQUIPPED WITH ANY HIGH FEATURE V6 ENGINE

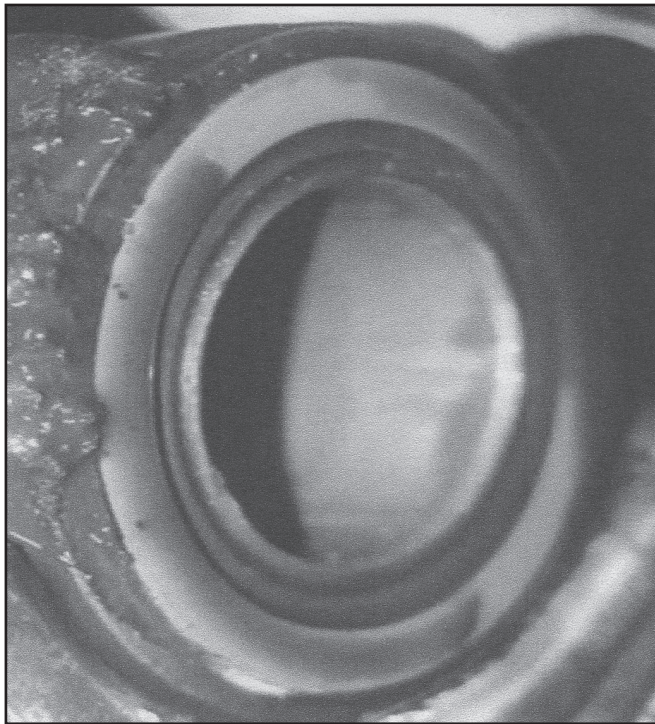
GM advises that the condition is due to the oil pump pick-up tube seal being compressed.

When this condition occurs, air is drawn in when the engine is first started. Seconds later the oil pump picks up oil and seals the air space, eliminating the noise.

Obviously, this requires major disassembly to verify the condition (see illustrations).



NEW SEAL



COMPRESSED SEAL

Photos courtesy of ALLDATA

COLD START TICKING NOISE

GM advises that you may encounter a vehicle that exhibits a cold engine ticking noise that will diminish within 50 seconds after start-up. The noise will quit immediately as if you flipped a switch.

Vehicles affected include:

2009–2013 Cadillac Escalade Models

2009–2015 Chevrolet Express, Silverado and Suburban

2009–2015 GMC Savana and Sierra

With the following V8 Engine RPO Codes:

6.0L–L76, L96, LC8, LY6

6.2L–L94, L9H

The noise condition is due to a design calibration in the ECM to meet cold start emissions. The noise is actually due to combustion taking place in the exhaust manifold. When the timer hits 50 seconds, the timing is advanced, eliminating the noise condition.

This is an ECM calibration condition that has been present since the vehicle was new. No corrective action is offered by GM. Allowing the engine to warm-up for one minute will greatly minimize the noise symptom. Unfortunately, most will not give the engine that amount of time for warm-up.

FORD'S COLD ENGINE START-UP TICKING NOISE

Ford advised that the following vehicles equipped with a 3.5L or 3.7L engine built on or before 5-1-2011 may exhibit a cold start-up ticking noise coming from the left hand valve cover and lasting up to ten minutes.

2011–2012 Mustang

2011 Edge, Explorer, F150

2011 Lincoln MKX

The necessary repair to correct the condition involves more than the average lube shop would want to get involved in. Many full service repair shops would send the customer back to the dealership for the necessary repairs, as it is intense and requires an engine modification.

The procedure involves removing the left hand valve cover to access the camshafts and camshaft caps. Special plugs are required to plug oil feed holes in the camshaft journals. Deeper grooves will be cut into the camshaft caps. Fords TSB 12-1-17 will illustrate the proper procedure, the necessary components and modifications to eliminate the cold-start ticking noise.

Summary: When noise symptoms prevail, do your research to get to the cause of the condition. Installing a second or third oil filter will likely result in the customer making additional returns in a futile effort to resolve the noise complaint. If they get the symptom resolved at another facility that may be the last time you see them for service or repairs, as our credibility will have been challenged.

LARRY HAMMER
Technical Services

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