



Preliminary Information

PIP5331E Ticking, Tap, or Rattle Noise From Engine

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Buick	Enclave	2013 - 2018	ALL	ALL	3.6 LFY, 3.6 LLT	ALL
Buick	LaCrosse	2013 - 2017	ALL	ALL	3.6 LFX	ALL
Cadillac	ATS	2013 - 2015	ALL	ALL	3.6 LFX	ALL
Cadillac	ATS-V	2016 - 2017	ALL	ALL	3.6 LF4	ALL
Cadillac	CTS	2013 - 2015	ALL	ALL	3.6 LFX, LF3	ALL
Cadillac	SRX	2013 - 2016	ALL	ALL	3.6 LFX	ALL
Cadillac	XTS	2013 - 2018	ALL	ALL	3.6 LFX, LF3	ALL
Chevrolet	Camaro	2013 - 2015	ALL	ALL	LFX	ALL
Chevrolet	Colorado	2015 - 2016	ALL	ALL	LFX	ALL
Chevrolet	Captiva Sport	2013 - 2016	ALL	ALL	LFX	ALL
Chevrolet	Equinox	2013 - 2017	ALL	ALL	LFX	ALL
Chevrolet	Impala	2013 - 2018	ALL	ALL	LFX	ALL
Chevrolet	Traverse	2013 - 2018	ALL	ALL	3.6 LFY, 3.6 LLT	ALL
GMC	Acadia	2013 - 2017	ALL	ALL	LLT	ALL
GMC	Terrain	2013 - 2017	ALL	ALL	LFX	ALL
GMC	Canyon	2015 - 2016	ALL	ALL	LFX	ALL

Supersession Statement

This PI was superseded to update model years and engine RPO's. Please discard PIP5331D.

Condition / Concern

Customers may bring their vehicle into the dealership for a rattle, tick, or knock type noise.

NOTE: If there are any drivability concerns they should be addressed prior to the following diagnostic progression.

NOTE: Please take a sound file or video with sound of the noise prior to dis-assembly.

This may be needed when contacting TAC or to be sent to engineering.

This could be all the time, only under load, or intermittent depending on the severity of the noise.

You may find this noise hard to isolate to one area in the engine.

After you have recorded a sound file of the noise try to isolate the noise to a general area of the engine.

At that point following the steps in this PI in ORDER may help pinpoint the concern.

Recommendations / Instructions

- Perform injector diagnosis to ensure there are no leaking injectors causing a noise due to excessive fuel in 1 cylinder.
 - Perform GDS2 or AFIT test on injectors to isolate a leaking injector.
 - Replace any out of specification injectors
 - Reevaluate the noise.
- Remove the intake manifold and visually inspect for excessive carbon on the intake valve stems and top of the valve causing noise.
 - If carbon is present then follow the latest version of PIP5029 to clean the valves or replace heads as needed.
 - Reevaluate the noise concern.
- Remove the cam cover of the affected bank (both if needed) to inspect for soft or spongy SHLAS (stationary hydraulic lash adjusters) (Lifters).
 - Push down on the rocker end at the SHLA to test for soft or spongy. (right side exhaust are most common but could be any)
SEE PICTURE

b) If soft or spongy SHLAS are found, carefully remove the affected head and inspect the oil passage below the head gasket for debris.

- c) If debris is found, inspect the camshaft caps for wear or discoloration due to lack of oil.
d) If wear or discoloration is found then replace the cylinder head assembly with camshafts.
e) If there is no wear or discoloration, clean the oil passages and replace the head gasket.
f) Change the oil and filter.
g) Reevaluate the noise concern.
4. Raise the vehicle while running or with an assistant inside.
a) With chassis ears or a stethoscope, listen to the right and left side of the engine.
b) Once the noise is isolated or if unable to isolate, remove the piston and rod assemblies from the affected bank(s) to inspect for either; a loose rod bushing in the rod, or a loose wrist pin in the bushing. We have seen both.
c) There should be no metal through the oil for this condition.
d) If this is found a piston and rod assembly will repair this noise.

For all of the above engine replacement is not necessary. Please perform the repairs for these conditions.

NOTE: If metal is found in the oil or throughout the system refer to the latest version of [PIP5216](#)

Once all of the above inspections and / or diagnostics are completed, If nothing is found to be the cause for the noise, engine replacement MAY be necessary.

Warranty Information

For Vehicles Repaired Under Warranty Use Appropriate Labor Operation For Process Performed.



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