



Service Bulletin

File in Section: 06 - Engine

Bulletin No.: 14-06-04-004

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INFORMATION

Subject: Various Engine Noises During Cold Start and Warm Engine Operation

Models: 2014-2015 Chevrolet Silverado 1500
2015 Chevrolet Suburban, Tahoe
2014-2015 GMC Sierra 1500, Denali Models
2015 GMC Yukon, Yukon XL
Equipped with 4.3L – RPO LV3, 5.3L – RPO L83 or 6.2L – RPO L86

Information For Why New Engine Technologies Are Generating Noises

The latest generation of full size trucks and utilities incorporate a new generation of technologies not previously seen in full size truck and utility applications. As a result these engines generate noises during cold start and during warm operation that owners of previous generation multipoint fuel injection (MFI) vehicles may not be familiar with.

Direct Injection (DI) / High Pressure Fuel Pump / Fuel Injectors

The new Small Block Generation 5 engine family incorporates a new fuel system technology known as Direct Injection (DI). With DI, fuel is injected directly into the cylinder using a high pressure fuel system. DI provides many benefits in improving engine efficiency. In particular, DI improves power, torque, and most importantly fuel efficiency. This technology is included as standard equipment on all Generation 5 engines in the Small Block engine family which are the: 4.3L V6, 5.3L V8, and 6.2L V8.

The high pressure fuel system does have unique operating characteristics, in particular the noise emanating from the high pressure fuel pump can result in a subtle ticking noise that is apparent when the vehicle is idling. The sound is more evident when outside around the vehicle, when the hood is open or the vehicle is operated in a drive thru. The sound may be more noticeable during a cold start, but lessens once the engine is warm. A slightly higher pitched clicking sound is the fuel injectors pulsing **ON** and **OFF**

under the high fuel pressures. These sounds are a normal characteristics of the DI high pressure fuel system.

Another operating characteristic is a slightly longer crank time when the engine is started. The increased crank time is the result of the time required to build high pressure in the fuel system before the engine starts.

Split Pulse Injection

The Split Pulse Injection used on these engines aggressively controls fuel and spark in order to get the catalytic converters hot as soon as possible during a cold start, to meet emission requirements. While doing this a tick noise may be generated that is heard at the fender well. The customer may mistake this for a lifter tick. This noise will be heard for about a minute. It is controlled by a timer in the engine control module (ECM). At the end of the controlled time it will shut off and the noise will be gone. No repairs should be attempted for this condition.

Oil Pump Cold Start Rrrrp or Rasp

The oil pump design has changed from a gerotor gear type pump to a two speed vane type pump for fuel economy reasons. At temperatures of 32°F (0°C) or colder, when the engine has been sitting for a few hours it is possible to have air enter the pump through normal oil drainback. Upon startup the owner may hear a short Rrrrp or Rasp coming from the front of the engine. It is most often heard during a remote start. There is nothing wrong with the oil pump or oil system. No repairs should be attempted for this condition.

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