#PIP4499D: Start Up Lifter Tick Noise After Engine Has Been Off For 2 Hours Or More - AFM Engines - (May 25, 2010)

Subject: **Start Up Lifter Tick Noise After Engine Has Been Off for 2 Hours or More - AFM Engines**

Models:

2007 Cadillac Escalade

built before April 1, 2006 with 6.2L L92 Engine

(these engines were built with AFM Hardware but the AFM system was disabled)

2009 Buick Lacrosse Super, Allure Super (Canada Only)

2007 Buick Rainier

2010 Chevrolet Camaro SS

2007-2010 Chevrolet Avalanche, Silverado, Suburban, Tahoe, Trail Blazer

2007-2009 Chevrolet Impala

2007 Chevrolet Monte Carlo

2007-2010 GMC Envoy, Sierra, Yukon

2007-2008 Pontiac Grand Prix

2008-2009 Pontiac G8

2007-2009 Saab 97x

With an AFM (Active Fuel Management) V8 Engine:

(RPOs L76, L77, L94, L99, LC9, LFA, LH6, LMG, LS4, LY5, LZ1)

This PI was superseded to remove the portion that recommended oil pump and pick up tube o-ring replacement for an extended duration tick noise, also removed the part that referred dealers to PIP4725A if they were dealing with a non-AFM engine since PIP4725A has been deleted since oil pump replacement is no longer suspected as a source of cold tick noises. Please discard PIP4499C.

Important: This PI only applies to the AFM V8 engines above. It does not apply to engines that are not equipped with AFM.

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

Condition/Concern:

Some customers may comment on a lifter tick noise that occurs after the engine has been off for at least 2 hours. In most cases, the noise will last less than 10 seconds, which should be

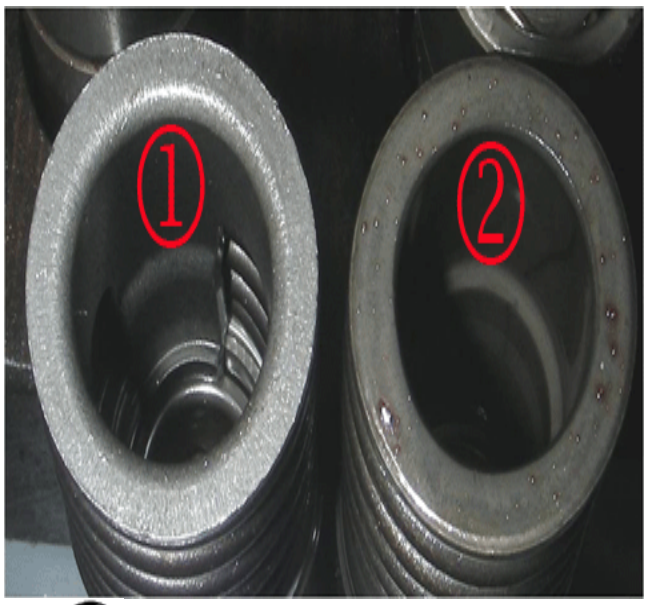
considered a short duration tick noise. If the noise last longer than 10 seconds, it should be considered an extended duration tick noise.

Recommendation/Instructions:

If the SI diagnostics do not isolate the cause of this lifter tick noise and normal oil pressure is noted during the concern, perform the following suggestions as necessary:

- Check the oil condition and level. If it's more than 1 quart low or if poor oil quality is noted, change the oil and filter, and re-evaluate the noise. Allow at least a 2 hour soak time between start ups when re-evaluating the noise.
- If a short duration tick noise (less than 10 seconds) is randomly experienced on cold start, updated AFM lifters will most likely be needed to repair the noise but they will not be available until July or August 2010. This P.I. will be updated with additional information as soon as they are available. If the noise occurs less than 10 seconds, there is no need to follow steps 3 and 4.
- If an extended duration tick (10 seconds or more) is experienced on every cold start and it lasts long enough, perform a cylinder power balance test with the Tech 2 to cancel each fuel injector while listening to the noise. If the noise is eliminated, or greatly improved, each time a specific fuel injector is cancelled, there is most likely a concern with the related piston pin or piston to cylinder wall clearance of that cylinder. If this does not isolate a specific cylinder, continue with step 4.
- If an extended duration tick (10 seconds or more) is experienced on every cold start but the noise diminishes within a few minutes, determine if the noise occurs at cam speed (half of crank speed). If so, isolate the area that the noise is coming from. If the noise is too excessive or if the customer does not want to wait for the updated lifters mentioned above, use the information below to determine if the suspect lifter pack is equipped with Eaton lifters or Delphi lifters. Replace all of the lifters on both banks if Eaton lifters are present. Replace all of the lifters on the suspect bank if Delphi lifters are present. The new lifters from GMSPO should be Delphi lifters.

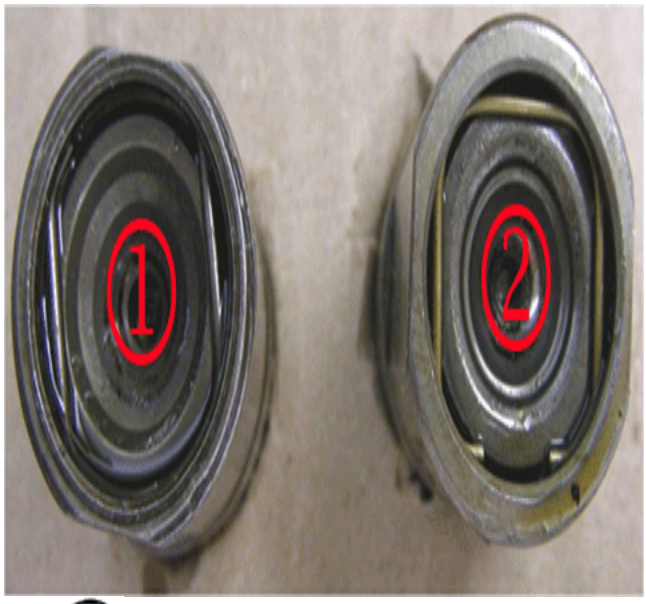
AFM Lifters:



1) Eaton - 3 Slots in Tube

2) Delphi - No Slots in Tube

Non-AFM Lifters:



1) Eaton - 2 Parallel Clip Wires Visible

2) Delphi - 3 Clip Wires Visible

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.