Active Fuel Management (AFM) Deletion on GM LS GEN IV Engines

The AERA Technical Committee offers the following information regarding deletion of the Active Fuel Management (AFM) system on GM LS Gen IV engines. The AFM lifters can collapse and stay collapsed causing a ticking noise and potential damage to the pushrod, lifter, camshaft or entire engine if not addressed promptly.

To avoid the issues with these lifters, members have reported deleting these systems making sure that the correct items are replaced. The following items should be looked at and replaced or plugged when performing and AFM deletion on these engines.

1. The camshafts on AFM systems have a special grind profile compared to a non-AFM camshaft. Not replacing the AFM camshaft will lead to check engine light illumination.

2. The AFM lifters are taller and have a spring on one end as shown in Figure 1. When converting to a non-AFM system, a non-AFM camshaft and traditional LS lifters must be used. Also, the original lifter guides are designed to have 2 standard lifters and 2 AFM lifters. These lifter guides need to be replaced with lifter guides designed to have 4 non-AFM lifters. See Figure 1 for lifter guide differences.

3. AFM systems use a VLOM (Valve Lifter Oil Manifold) that has solenoids to feed the 8 AFM lifters with high pressure oil to activate or deactivate them. When deleting the AFM system, this VLOM is no longer required. The oil feed holes in the cylinder blocks AFM towers, shown in Figure 4, can be plugged or the valley cover swapped to a non-AFM version.

4. Plug the oil pressure relief valve in the oil pan or install the available oil shield if staying with the high-volume pump after deletion shown in Figures 5 & 6. This will help keep oil from spraying onto the bottom of the cylinders and causing excessive oil consumption.

5. Change pushrod length (depending on what camshaft is chosen). If the customer is using a stock camshaft profile requires no change in pushrod length. The AFM and non-AFM pushrods are the same length. If a camshaft upgrade other than stock is being used, then different pushrods will need to be purchased.

Note: Many deletion kits are sold that contain most items plus the gaskets needed to do the deletion. The camshaft is often not included in kits as personal preferences vary on what profile is wanted.

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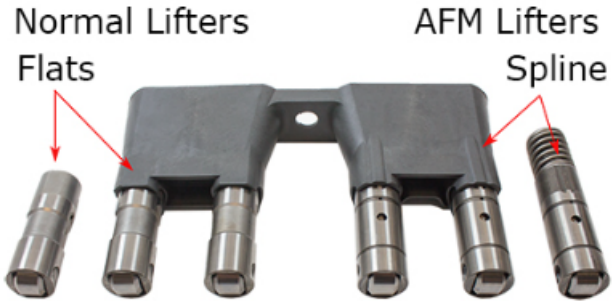

FIGURE 1: AFM and Non-AFM Lifters

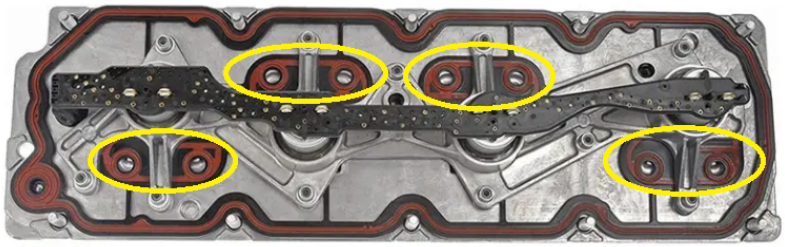

FIGURE 2: VLOM

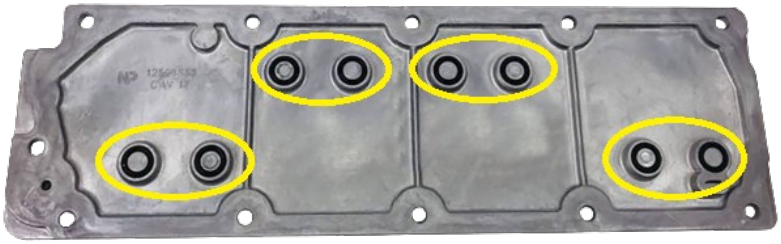

FIGURE 3: Non-VLOM

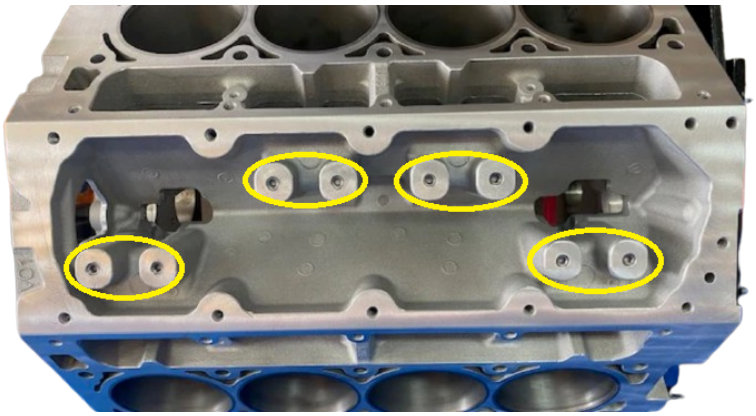

FIGURE 4: AFM Towers

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FIGURE 5: Oil Pan Pressure Relief Valve



FIGURE 6: Oil Pan Pressure Relief Valve Shield

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