Bulletin No.: PIT5404

Date: May-2015

Service Bulletin

PRELIMINARY INFORMATION

Subject: **Buffeting Vibration Drone Type Noise Exhaust Tone Change Body Pressure Booming (AFM Exhaust)**

Models: **2015 Cadillac Escalade Models**

2015 Chevrolet Suburban, Tahoe

2015 GMC Yukon Models

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

Condition/Concern

Some owners may comment on a buffeting vibration drone type noise, exhaust tone change, and/or body pressure booming.

These concerns may be caused when the Active Fuel Management (AFM) system changes into 4 cylinder mode.

While some slight changes in exhaust tone and/or vibration/drone type noises can be normal when AFM is in 4 cylinder mode, there have been some complaints of them being excessive.

If the concern is excessive, it may excite the roof sheet metal and compound the issue. (See the latest version of PIT5318.)

Tip: Verify the concern by test driving the vehicle at the vehicle speed and engine RPM range of the customer concern. If equipped, use the colored DIC Display to monitor the AFM V8 to V4 cylinder activation. For vehicles without color DIC display, use a scan tool to monitor AFM V8 to V4 cylinder activation. Confirm the concern is present during V4 mode. The concern may be most noticeable in the 1,100-1,400 engine RPM range. Place the transmission in manual mode 5th gear to force the engine to stay in V8 mode. Then operate the vehicle at the same speed and engine RPM range to confirm that the concern is no longer present in V8 mode.

Recommendation/Instructions

- If the concern is deemed to be normal by comparing to a like vehicle, then no further repairs should be made, as this is a normal characteristic.
- If the concern is excessive perform the following suggestions:

A. If equipped with the 6.2L engine, inspect the Active Noise Cancellation (ANC) system for proper operation. The Active Noise Cancellation system is a method used to reduce the perception of certain undesirable sounds generated by the engine into the vehicle cabin. If the system is not working or working incorrectly this can be the cause of the issue

The main components of the ANC system are:

- 3 microphones in the vehicle headliner.
- A discrete engine speed (RPM) signal from the engine control module to the amplifier
- Active Noise Cancellation electronics and software integrated into the audio amplifier
- The vehicle speaker system, connected to the amplifier, to output the desired cancellation frequencies

The Active Noise Cancellation system is operational under the following conditions:

- The amplifier has passed all self-diagnostic checks
- All doors are closed
- Battery voltage is between 9.5 V and 16 V
- The vehicle cabin temperature is less than 140°F (60°C)
- Engine speed is between 550 and 3000 RPM

ANC system Diagnostic Tips:

- Inspect for any aftermarket audio components. If the audio system has been altered this will cause increased exhaust drone.
- inspect for anything inside the truck that may be blocking the speakers and/or microphones.
- Inspect for any DTC's example: B0560, B1277, B127C, B127D, door ajar issues/DTC's, etc.
- Disable the ANC system by removing the AMP fuse. If the exhaust drone noise improves there may be an issue with the ANC system. Some examples of system issues have been: faulty speaker or subwoofer, speaker or subwoofer improperly wired (-/+ wires backward), speaker or subwoofer inoperative, etc.

The Audio System Diagnostic CD EL-50334-6 contains audio tracks that can be used to test the speakers.

B. Inspect the exhaust system components for the following:

- Loose and/or missing fasteners
- Heat Shields
- Joints and/or couplings: Nuts, bolts, studs, clamps, straps
- Bracket and/or insulator mounting
- Inadequate clearance to body and/or chassis components
- Inspect with the exhaust system both COLD and HOT; in NEUTRAL, FORWARD and REVERSE gears
- Improper alignment
- Disconnected and/or missing insulators
- Cracked, dry-rotted, and/or oil-soaked insulators
- Stretched, twisted, broken, torn, and/or collapsed insulators
- Bent, twisted, cracked, and/or deformed brackets

Repair and/or replace exhaust system components as indicated by the inspection.

C. Incorrectly seated and/or aligned powertrain components and/or exhaust system components may create a transfer path into the passenger compartment. Perform the following procedure to re-bed the powertrain/exhaust:

1. Loosen, but do not remove, all powertrain mounts and exhaust system hangers
2. Ensure that the exhaust flexible coupling, if equipped, moves freely.
3. Start the engine.
4. Settle the powertrain by shifting the transmission from DRIVE to REVERSE.
5. Place the transmission into NEUTRAL
6. Turn OFF the ignition
7. Tighten all of the loosened fasteners with the powertrain in a relaxed position.

D. If after performing the above suggestions and the concern has not been resolved, as a test, swap the exhaust muffler and tail pipe assembly from a known good truck. If this corrects the concern, order and replace the exhaust muffler and tail pipe assembly.

If the concern is still excessive after performing the above suggestions and the vehicle is equipped with a 5.3L engine, engineering is aware of the issue and working on improvements to the exhaust system

Warranty Information

The correction for this concern may be one of several repairs described above. For vehicles repaired under warranty, please use the appropriate warranty labor operation based on the actual cause and repair.

ADDITIONAL SI KEYWORDS:

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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.
