

2007 - 2009 Cadillac XLR: Service Bulletin: #PIP4577M: SES Light With DTCs P0171 And P0174 - Possible Air Leaks - (Jul 5, 2012)

#PIP4577M: SES Light With DTCs P0171 And P0174 - Possible Air Leaks - (Jul 5, 2012)

Subject: SES Light With DTCs P0171 And P0174 - Possible Air Leaks
Models: 2007 - 2009 Cadillac SRX, STS, XLR
With 4.6L Engine (RPO Code LH2)

This PI was superseded to update recommended field. Please discard PIP4577L.

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

Condition/Concern:

Some customers may complain of a SES light but it is unlikely that they will complain of any engine performance concerns if this PI applies. Upon inspection, DTCs P0171 and P0174 will be stored and freeze frame data will normally indicate that they set at approximately the same time. This may be the result of a small air leak or distortion/misalignment in the air induction system.

Recommendation/Instructions:

If SI diagnosis does not isolate the cause of this concern, perform the steps below as necessary:

1. Inspect the following areas for potential air/vacuum leaks and repair as necessary:
 - a. PCV systems, especially the PCV vacuum pipe connection at the intake manifold.
 - b. Oil fill cap and dipstick seals.
 - c. Canister purge line.

- d. Induction system leaks, such as; manifold porosity around the brake booster port area, air induction clamps that are loose or out of position, brake booster hose that is soft or cracked.
 - e. An air cleaner assembly that is loose or deformed slightly.
 - f. Engine covers, seals and crankcase halves for obvious oil leaks that could cause unmetered air to be drawn in through the PCV system.
2. Confirm that the Ethanol Content of the gasoline is less than 10%. If it exceeds this limit, re - evaluate the concern using gasoline that has Ethanol Content of less than 10%.
 3. Perform SI Fuel System Diagnosis and repair if necessary.
 - a. If no concern has been found turn the engine off "after it reaches operating temperature".
 - b. Allow it to hot soak for 10 minutes while monitoring the fuel pressure.
 - c. If the fuel pressure drops more than 5 PSI after this 10-minute hot soak, determine if it is dropping due to leaking fuel injectors.
- Note:** Running the engine from the injection-cleaning canister on known good fuel from a different source than the vehicle can also help rule out the Fuel and fuel pump as a potential cause.
4. If any of the following concerns are found, replace the air filter:
 - a. Damaged air filter pleats.
 - b. Incorrect air filter part number for this application.
 - c. An after-market air filter.
 5. With the engine cold, individually loosen and re-torque all of the intake manifold bolts to the SI torque specification.
 6. After performing the steps above, use the following test procedure to determine if the vehicle is repaired:
 - a. Start and run the engine and allow to run for 45 minutes to an hour, keep the HVAC system off to prevent the AC compressor from engaging and keep the hood closed.

- b. Turn the engine off and let it HOT soak with the hood closed for 5 minutes.
- c. Restart the engine and let it idle. After 5 minutes, record the actual MAF sensor grams (not the calculated MAF readings) also record the LT fuel trim values.
- d. Repeat Steps 6a - 6c three times, recording the MAF sensor grams and LT fuel trims each time because they may be useful if the DTC(s) resets and further diagnosis is necessary.

Note: It is not uncommon for the LT fuel trims to increase 2-3% each time step 6 is performed on a known good vehicle. As a result, this will eventually cause the LT fuel trims to go as high as 12-13%% when performing step 6 three times in a row as recommended above. If repairs have been performed and the P0171/P0174 do not reset after performing step 6 three times in a row, the vehicle should be considered repaired.

Warranty Information:

For vehicles repaired under warranty use:

Please use the labor operation closest to the repair that fixes the vehicle, along with the related labor time. If additional time is needed for diagnosis and/or additional repairs, please use well-documented straight time.

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.

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