



Service Bulletin

PRELIMINARY INFORMATION

Subject: SES Light Intermittent DTC P0017 After Cylinder Head Replacement Engine Oil Debris Contamination

Models: 2006- 2009 Buick Rainier
2006- 2012 Chevrolet Colorado
2006- 2009 Chevrolet TrailBlazer
2006- 2012 GMC Canyon
2006- 2009 GMC Envoy
2006- 2010 Hummer H3
with 4.2, 3.7, 3.5, 2.92.8 Engine (RPO LL8, LLR, L52, LLV, LK5)

This PI was superseded to update Model Years. Please discard PIP4913.

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

Condition/Concern

On rare occasions, an intermittent SES light, P0017 DTC may set, in some instances the engine will not have any drivability concerns.

In other instances the concern may be shortly after the cylinder head was replaced for an internal cylinder head concern.

In even rarer cases the engine may stall. If it does, the engine will restart.

Recommendation/Instructions

Note: If the SI diagnostics and the latest version of PIP3694 do not isolate the cause of this concern for either 1 or 2, monitor the oil pressure and oil level and address any concern seen.

1. This may be caused by an intermittently sticking Camshaft Exhaust Actuator affecting the mechanical timing of the engine caused by debris in the oil from poor oil change maintenance.
 - In some instances the code cannot be reproduced.
 - If no head replacement or internal engine repairs were made prior to this concern, inspect the engine for oil contamination, sludge, or poor oil change maintenance that may cause the Cam actuator to stick intermittently.
 - Correct the oil condition first.
 - If needed replace the exhaust actuator for sticking.
 - Due to the tight clearances and build of the actuator it is cannot be taken apart and cleaned.
2. The second cause may be a binding camshaft shortly after cylinder head replacement. If the Head was recently replaced for an internal cylinder head concern, continue with the below diagnostics:
 - Use the Tech 2 to take a center trigger snapshot of Engine Data when the concern occurs.
 - If the engine stalls in the bay, do not restart it.
 - If the snapshot shows that the Camshaft Phase Solenoid DC Parameter spiked to 99% just before the engine concern, the ECM has seen an anomaly with the Crank or Cam Timing and the ECM has stroked the Actuator in an attempt to clear any oil or debris restrictions.
 - Remove the camshaft cover, place a wrench on the hex that is between the cam lobes, and move the cam slightly to see if the exhaust cam actuator sprocket is unlocked.

- If the exhaust cam actuator sprocket is unlocked, move the exhaust cam slightly to determine if it is binding in the cam journals.
- It is normal to feel some resistance from the valve-train pushing back on the cam lobes but if the cam is sticking no matter where it is moved, the cam is binding in the journals.
- If the engine was restarted before removing the cam cover, the exhaust cam actuator sprocket will be locked and it will be necessary to follow SI repair procedures to remove the cam followers (rockers) or the CMP actuator sprocket in order to determine if the cam is binding in the journals.
- Also note that this is an interference engine, so the technician needs to use caution when moving the cam independently of the crank or they could bend the valves if they forcefully rotate the cam too far in either direction.
- If the exhaust cam is binding in the journals, replace the cylinder head and camshafts using parts from GMSPO stock.

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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