#PIP3146D: Rough Idle Crank No Start Extended Crank Or Misfire When Cold Due To Sticking Valves Or Excessive Carbon On Top Of The Valves - (May 11, 2011)

Subject: **Rough Idle Crank No Start Extended Crank Or Misfire When Cold Due To Sticking Valves or excessive carbon on top of the valves**

Models: 2000-2012 All Passenger Cars with Gasoline Engines
2000-2012 All Light Duty Trucks with Gasoline Engines

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

Condition/Concern:

Rough idle, misfires, extended crank, or crank no start when cold. The engine may run rough for up to 5 minutes after starting the engine and may exhibit a P0300 DTC too. This may be caused by sticking valves or excess carbon due to fuel contamination

Note: fuel oxidation and volatility concerns can often cause these issues as well, however they cannot generally be checked in service. Trying a different, high quality fuel is sometimes the best diagnostic.

When the engine is cold, the compression on multiple cylinders may be at 0 PSI. The engine also may pop through the intake or exhaust while cranking and the spark plugs may be fuel fouled when inspected. Some engines may also experience valve damage or cam followers that are out of position as a result of this.

This condition can occur in specific areas of the country for a period of time and then it will no longer occur after the suspect fuel source has been consumed in that area of the country.

Recommendation/Instructions:

If the SI Diagnosis leads to a compression loss due to sticking valves, the following information may help:

If there is no sign of valve damage or cam followers that are out of place, perform the following procedure to free up sticking valves and to prevent the valves from sticking again. If valve damage is present or if there are cam followers that are out of place, perform engine mechanical repairs as necessary to correct the concern and then perform the procedure below to prevent the valves from sticking again.

1. Clean the fuel system by following the applicable "Fuel System Cleaning" procedure outlined in SI.
2. Add fuel injector cleaner "GM Fuel System Treatment PLUS, P/N 88861011 (for U.S. ACDelco, use 88861013) (in Canada, 88861012)"... see This PI was superseded to update recommended field, model years and engine list. Please discard PIP3146C. bulletin # 05-00-89-078B, to the fuel tank in the approved quantities.
3. Refill the fuel tank using fuel from a high volume, high quality filling station.
4. Clean the induction system using GM Top Engine Cleaner. Follow the directions on the can but DO NOT force the engine to stall since forcing the engine to stall with liquid Top Engine Cleaner could cause the engine to hydro-lock. * If available use an atomizer with Top Engine Cleaner through the throttle body.
5. Advise the customer to change fuel filling stations. They should use fuel from only high volume, high quality filling stations or they should use a Top Tier Detergent Gasoline if available. See 04-

06-04-047I (U.S.) or 05-06-04-022G (Canada) for details regarding Top Tier Detergent Gasolines.