#PIP3461: INFORMATION ON NORM...

#PIP3461: INFORMATION ON NORMAL APP AND TP SIGNAL CIRCUIT 2 VOLTAGE FLUCTUATION - KEYWORD DTC LOW MIL P0122 P0123 P0220 P0222 P01120 P1220 P1221 P1271 P1275 P1280 P1512 P1514 P1515 P1523 P2101 P2120 P2122 P2123 (JUN 8, 2005) Document ID# 1671424

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Subject: **Information on Normal APP and TP Signal Circuit 2 Voltage Fluctuation**

Models:
2004-2006 Buick Rainier
2005-2006 Chevrolet Cobalt
2004-2006 Chevrolet Colorado
2002-2006 Chevrolet TrailBlazer
2004-2006 GMC Canyon
2002-2006 GMC Envoy
2006 Hummer H3
2002-2004 Oldsmobile Bravada
2005-2006 Pontiac Pursuit (Canada Only)
2005-2006 Saab 9-7X
2005-2006 Saturn Ion
2004-2006 Chevrolet Malibu
with 2.2L Engine (VIN F - RPO L61)
2002-2006 Saturn Vue
with 2.2L Engine (VIN D - RPO L61)

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

Condition/Concern:

If the APP sensor 2 or TP sensor 2 signal circuit is monitored with an oscilloscope or Fluke 87 DVOM on the 1 ms min/max setting, it may be noted that the signal voltage decreases every 156 ms for 6.25 - 7.8 ms each time.

Recommendation/Instructions:

It is normal for these voltages to drop as described above. This is the result of the PCM testing the APP and TP sensors for internal shorts. During the PCM test for a DTC P2135 (P1221 on 02-03 Vue), the PCM shorts the TP sensor 2 signal to ground every 156 ms for 6.25 - 7.8 ms each time. During the PCM test for a DTC P2138 (P1271 on 02-03 Vue), the PCM shorts the APP sensor 2 signal to ground every 156 ms for 6.25 - 7.8 ms each time. At this time, the PCM monitors the APP sensor 1 and TP sensor 1 signal circuit voltages to ensure that they do not decrease with the sensor 2 signal circuits. If they do, an internal sensor short is present or the signal circuits are shorted together.

If there are no DTCs resetting but toggling voltages are encountered during inspection with an oscilloscope or Fluke 87 DVOM on the 1 ms min/max setting, no repairs should be attempted to prevent the voltages from toggling as it is a normal condition. If DTCs are resetting, follow the related SI diagnostic charts to diagnose the ETC system.

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.

GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.

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