

## GOOD TO THE LAST DROP

**Application:**

Vehicles with electronic engine controls

**Problem:**

- Constant or intermittent engine light with no codes stored (GM)
- Stalling with no codes set (all vehicles)
- Check engine light goes out when accessing codes (GM)
- Various drivability problems (all vehicles)

**Cause:**

Resistance in ECM ground circuit

**Solution:**

Do not use an OHM meter to check these circuits for resistance or continuity. Use this voltage drop test to check each ground circuit at the ECM harness (refer to vehicles service manual for correct pinouts).



**Testing Procedure:**

Set a DIGITAL VOLT METER to its 1 volt DC scale and connect the negative meter lead to the negative battery post. With key-on-engine-off, probe each ground circuit at the ECM harness (be careful not to short pins together). The allowable voltage drop is 0.1 volt. A reading greater than 0.3V is not acceptable as corrosion has set in or the wiring is faulty. Clean or replace circuit and test.

**Tip:**

Use this voltage drop test to verify all sensor grounds including Mass Air Flow, O<sup>2</sup>, TPS and engine ground.