

Wheels: Don asks via E-mail what could be wrong with his 1985 Chevrolet Cavalier because the battery goes dead if not driven every day. He states that the alternator, battery, and starter are all new. What could be the problem?

Halderman: A likely cause is a battery drain that causes the battery to become discharged and prevents the engine from starting. The quick answer would be for Don to look carefully at his vehicle at night looking for any lights that may be on such as:

- glove box light
- trunk light
- underhood light

A fault in any of the switches that control these lights could cause the lights to remain on all the time drawing the battery. The most common problem I have seen is the glove box light being on all the time due to a misadjusted latch that allows the switch to remain on all the time. Look for a glow of light around the edges of the glove box at night. If this is the cause, try to adjust the latch by loosening the retaining screws and repositioning the latch so that the light switch will turn off the light with the glove box lid closed. If the glove box latch cannot be adjusted, simply remove the bulb. This will at least solve your immediate problem so your vehicle will start and run everyday.

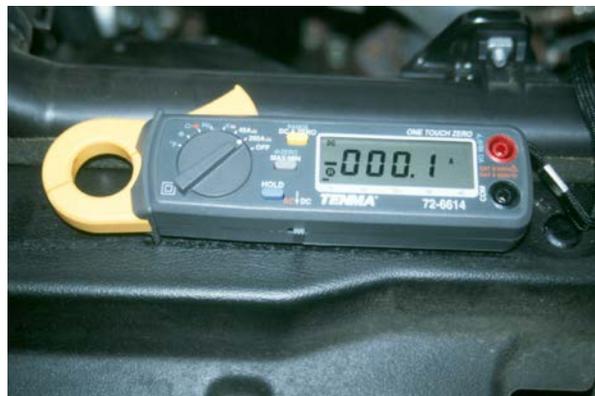
Wheels: You mentioned that was the quick answer. Is there a more involved answer? What if all the lights are okay? What can be done to locate the problem?

Halderman: I would recommend that Don have further testing done by a professional service technician because it involves disconnecting the negative battery cable from the battery. The technician should then connect an ammeter between the disconnected battery cable end and the negative (-) terminal of the battery. A reading over 50 mA (0.05 A) is generally considered to be excessive and could drain the battery.

To determine the exact location of the problem, the service technician then unplugs one fuse at a time until the battery drain returns to normal. This step narrows the cause of the drain to a single fuse. Many fuses protect multiple circuits so the technician has to continue to disconnect the individual circuits until the actual component that is causing the drain is located.

Wheels: This procedure sounds like a lot of work. Is there anything new on the market that can help the technician find the problem?

Halderman: Yes. Within the last year, a small hand-held clamp-on meter has been available that can measure DC amperes down to 10 mA, which is suitable to locate battery drain also called “ignition off drain” (IOD) or “parasitic load.” To measure battery drain using a clamp-on meter, simply involves clamping the jaws of the meter around either battery cable and then current drain appears on the display. At a cost of less than \$200, a clamp-on meter is reasonably priced for the professional service technician or serious do-it-yourselfer.



Wheels: After the fuse is identified, how will this tell the technician where the problem is located?

Halderman: Most vehicles power several components from a single fuse. After the fuse has been identified, the technician must start unplugging each component that operates off of the fuse one at a time until the source of the drain is identified. For example, it is common for the dome light, cigarette lighter, and the clock in the radio to share the same fuse. The technician would then disconnect the wire to the lighter and check the drain again. If the drain is now normal, then the lighter is the fault and should be replaced or kept disconnected to prevent future battery drain problems.