

Wheels: This week we will finish our discussion about Dennis and his idle problems with his Chevrolet Corvette. Last week we discussed the various scan tools that are available and this week we will discuss how the scan tool data can help pinpoint the idle problem with the Corvette.

Halderman: Most scan tools will be able to display data from the computer of the vehicle. This applies to most General Motors Corp. vehicles since 1981 and Chrysler vehicles since 1983 and Ford Motor Co. vehicles since 1996 (some older Ford models were also capable of displaying data). The wise service technician should look at the following information:

- **ECT (engine coolant temperature)** – The temperature displayed on the scan tool is the temperature that the computer is seeing. If this temperature is not correct, the computer does not know this and can cause the engine to speed to be too high if the computer “thinks” that the temperature is cold.
- **IAC/ISC (idle air control/idle speed control)** – If the engine has a vacuum leak (air leak), then the IAC as data will be lower than normal because the engine is getting air from the leak and not through the IAC. Poor idle quality could be due to dirty throttle plates. If the throttle plates are dirty, the IAC data in “counts” will be higher than normal. Normal counts for most vehicles are 15-25.

Wheels: In his letter Dennis stated that the idle speed is often too high and at times too low. How can the scan data help a service technician decide what is wrong?

Halderman: The first step in any diagnostic process is to verify the fault and try to determine exactly when it occurs. A scan tool can be connected to the vehicle during this verification process and a snapshot of the data can be retrieved for analysis back in the shop. When the engine speed is too high or too low, the technician can look to see if the computer is commanding (asking) for a higher speed or if the computer is trying to correct a lower speed due to a fault. If the computer is commanding the speed be increased, then the computer is getting a signal from an input sensor that indicates to the computer that the speed be increased. If the computer is trying to slow the engine speed, then the engine should be checked for a possible vacuum leak.

Wheels: From your experience, what is possibly wrong that can cause the idle speed to be incorrect?

Halderman: The most likely cause is a vacuum leak in the intake manifold or a fault in the PCV (positive crankcase ventilation) system. A faulty IAC is also possible. Again, a thorough diagnosis by using a scan tool will often help the service technician pin down the exact cause of the fault.

