

### For Manual Transmission

The Vehicle Speed Sender for the manual transmission provides an indication of road speed to the speedometer, the ECM, the trip computer, and the body control module. The sender is mounted to the transmission where it is gear-driven by the transmission output shaft. The sender is an electronic Hall switch that pulses to earth a voltage signal coming from the instrument case. These pulses occur 10 times per sender revolution, and are used by the speedometer for driver information.

This vehicle speed sensor also earths a 12 volt signal voltage coming from the ECM, providing 10 earth pulses per sender revolution (6250 pulses per km) to the ECM. This information is used by the ECM for IAC valve operation and some engine fueling modes. If the ECM receives no pulses on its vehicle speed sender input while certain conditions exist, a DTC 24 will set.

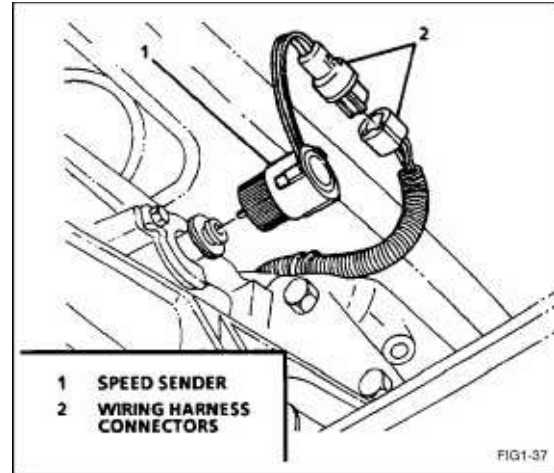


Figure 6C2-1-37 VSS Location - Manual Transmission

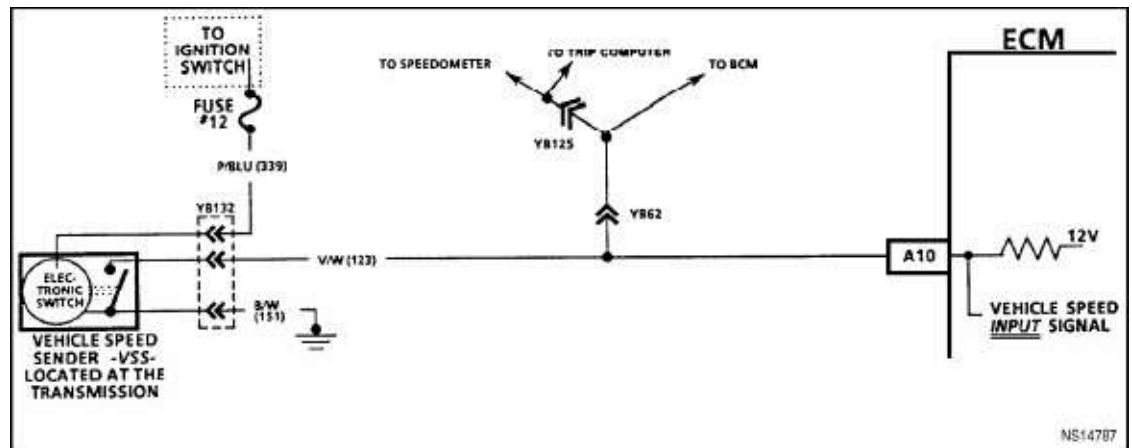
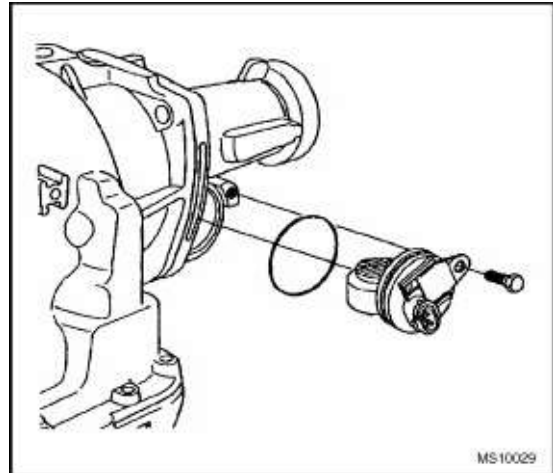


Figure 6C2-1-38 ECM VSS Circuit

### For Automatic Transmission

The vehicle speed sensor for the automatic transmission is located on the transmission extension housing and is accessible from the left side of the vehicle.

The vehicle speed sensor contains a coil that has continuous magnetic field. A voltage signal is induced in the vehicle speed sensor by teeth on the output shaft that rotate past the sensor and break the magnetic field. Each break in the field sends an electrical pulse to the PCM. This voltage output will vary with speed from a minimum of 0.5 volts AC at 100 RPM to more than 100 volts AC at 8000 RPM on the vehicle, with the engine at 4000 RPM and in fourth gear, the voltage will be approximately 25 volts AC.



**Figure 6C2-1-39 VSS Location - Automatic Transmission**

The PCM uses speed information from this sensor to determine the following:

- Vehicle speed.
- Control shift points.
- Calculate transmission slip.
- Engine fueling modes.

Diagnostic Trouble Code 24 will set if a fault exists in the vehicle speed sensor circuit when the vehicle is not moving. As the vehicle is accelerated, the PCM will shift the transmission into second gear at approximately 50 km/h if vehicle speed signal is still not present while in second gear, DTC 24 will set and a default value will be substituted by the PCM if the fault occurred in fourth gear. If the fault occurred in P/N or first gear, the PCM will allow 1-2 shifts to occur. If DTC 24 is set, then the PCM will default to second gear. If the fault is removed, normal operation will resume after the next ignition cycle.

DTC 72 will set if there is an intermittent failure in the VSS circuit while the vehicle is moving.

As long as the fault remains and the diagnostic trouble code 72 is set, the PCM will only allow third gear only. If the fault is removed, normal operation will resume after the next ignition cycle.

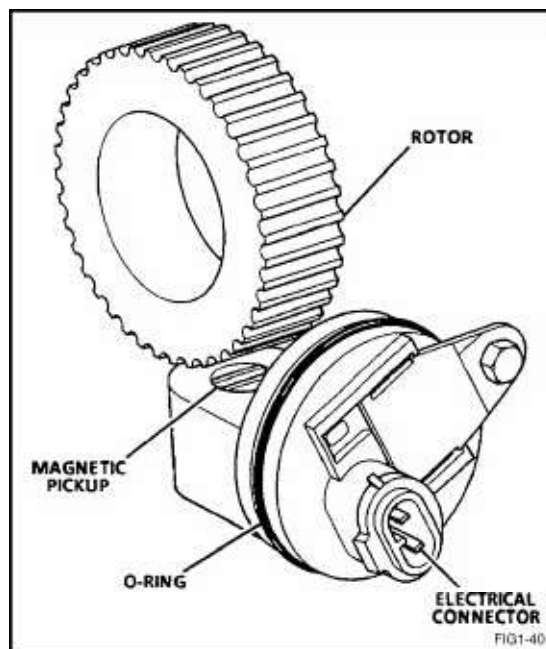


Figure 6C2-1-40 Vehicle Speed Sensor

