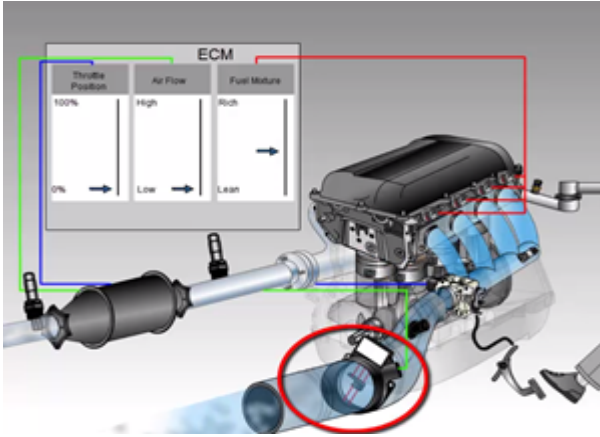


Defective Mass Air Flow Sensor



A hot wire system is preferred because it causes very little restriction to airflow, although it does become contaminated under prolonged use.

The type of mass air flow sensor shown in this animation is referred to as a hot wire air flow sensor. In this type of system, a bare wire is located in the path of the incoming intake air. As current flows through the wire, it heats up, increasing its resistance. As air flows past the wire, the wire is cooled, decreasing its resistance and increasing the flow of the current. Based upon this change in current flow and the signal from the intake air temperature sensor, the engine computer determines how much fuel to mix with the air entering the engine.

Since mass air flow sensors are located in the incoming air stream and the air filter does not filter out 100% of contaminants, the wire on the mass air flow sensor may eventually become dirty. Sometimes the sensor can be cleaned with special intake cleaner and returned to normal operation. However, where cleaning is unsuccessful or not possible, a defective sensor will need to be replaced. Some mass air flow sensors should not be cleaned.

When a mass air flow sensor becomes defective, it is unable to accurately measure the amount of air entering the engine. As a result, the engine will run poorly and even in some cases, will not run at all. Defective mass air flow sensors usually illuminate the check engine light for air flow problems or misfire problems.