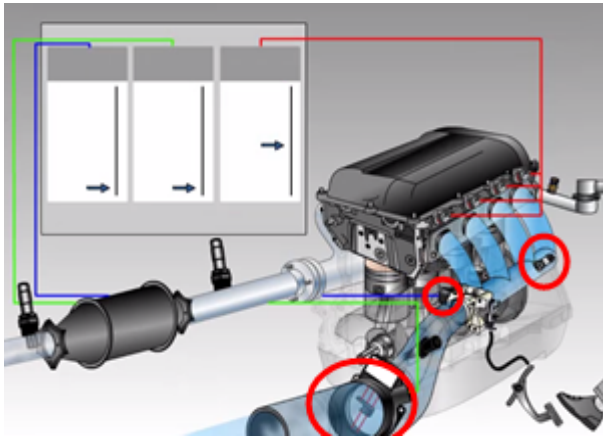
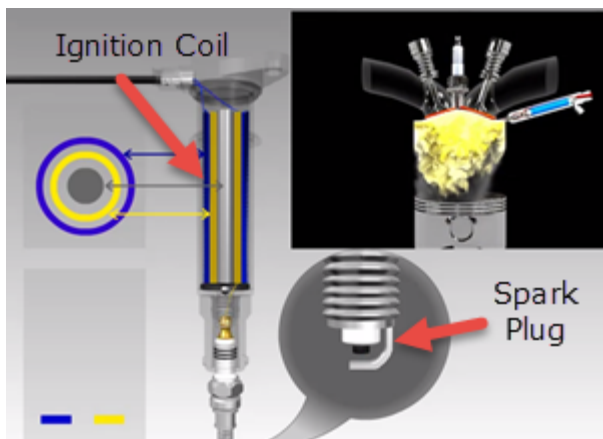


# Ignition System



A variety of sensors are used to ensure proper timing of the engine spark.



The ignition coil and spark plug are the primary elements of the ignition system, providing the voltage to create a spark.

The ignition system creates the spark that ignites fuel and air in a gasoline engine. The ignition coil increases the 12 volts supplied by the battery to around 20,000 volts. Although older vehicles used a single ignition coil and a mechanical distributor to send the high voltage to each spark plug, most vehicles now have a smaller ignition coil for each cylinder of the engine.

The engine computer determines when the spark should happen by the signal it receives from the crankshaft position sensor. The timing is further fine-tuned according to readings from other sensors such as the knock sensor, which listens for the noise created when the spark happens too early, the throttle position sensor, and the mass air flow or manifold pressure sensors.

When the engine computer activates the coil, the high voltage jumps the gap between the electrode and ground strap on the spark plug, igniting the compressed fuel and air in the cylinder to create an explosion that pushes the piston downwards.

Failed or worn ignition system components cause misfires - where the fuel is not burned correctly in the cylinder. This causes rough running, loss of power and increased fuel consumption.