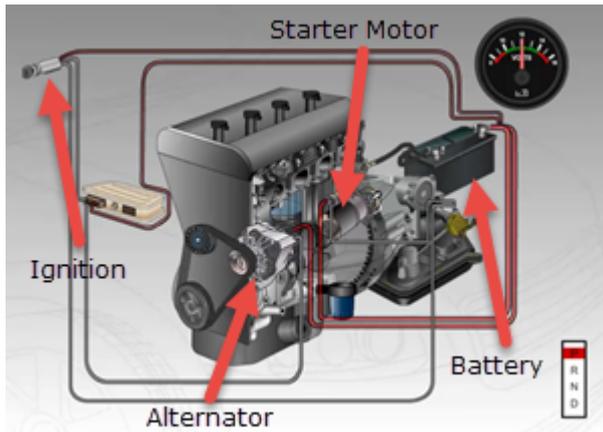
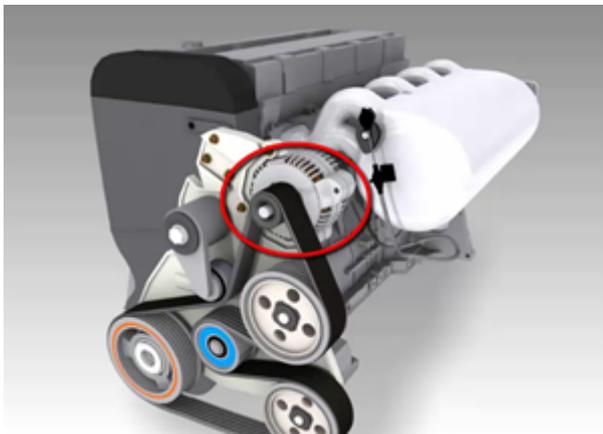


Electrical System



The electrical system provides power to electrical accessories in the car.



The alternator converts mechanical power from the engine to electrical power.

Most non-hybrid vehicles use a closed circuit electric system that operates on 12 volts DC. The charging system includes the alternator, voltage regulator and connected wiring. Its purpose is to keep the battery charged while the vehicle is being operated. The alternator is driven by the accessory drive belt system. As the belt turns, it spins the alternator. The alternator produces an AC voltage that is converted to DC voltage by the bridge rectifier. A normal output voltage from the alternator is 14.4 volts -- enough to charge a 12 volt battery.

The starting system includes components such as the ignition switch, starter motor, battery, and connected wiring. The starter motor rotates the engine until it can rotate on its own power. When a vehicle is started, current flows from the closed ignition switch to the starter solenoid.

Some vehicle use a park/neutral safety switch or clutch safety switch in this circuit and will only allow current to the starter if the automatic transmission is placed in Park or Neutral or the clutch pedal is pressed. When the starter solenoid is activated, it pushes the starter pinion gear outwards so that is engages with the flywheel ring gear. At the same time, it also allows current to the starter motor, causing the pinion gear to spin. The spinning pinion gear rotates the flywheel until the engine can rotate on its own.