



## Electrical System: Alternator



**Description:** The alternator consists of a spinning set of electrical windings called a rotor, a stationary set of windings called a stator, a rectifier assembly, a set of brushes to maintain electrical contact with the rotor, and a pulley. All of these parts except the pulley are contained in an aluminum housing. Today's alternators use compact, electronic voltage regulators that may be housed inside the alternator or the voltage regulator function may be handled by the vehicle's power train control module (PCM).

**Purpose:** The alternator generates direct current for recharging the battery and for powering vehicle electrical loads.

**Maintenance Tips/Suggestions:** Have the alternator's drive belt tension checked at every oil change. A loose belt can reduce alternator output and run down your car's battery. Each spring, prior to travel season, it's wise to have your car's charging system tested as part of a comprehensive starting, charging and battery test. This test will determine whether your car's alternator is putting out the proper amount of current and voltage. Your car's alternator is designed to recharge the battery after slight discharging such as engine starting; the alternator is not designed for charging heavily discharged (dead) batteries. Relying on the alternator to charge a heavily discharged battery can overload the alternator and cause damage. In such cases, use a battery charger instead. An alternator problem can cause a discharged battery, poor accessory and light operation, frequent bulb replacement, repeat voltage regulator failures, erratic engine operation, or a dashboard warning light to illuminate. To pinpoint the cause, have your car's charging system checked out by a qualified service technician.