COMPONENTS

SYSTEM OPERATION

The generator is belt-driven by the engine using a serpentine type drive belt. It is serviced only as a complete assembly. If the generator fails for any reason, the entire assembly must be replaced.

As the energized rotor begins to rotate within the generator, the spinning magnetic field induces a current into the windings of the stator coil. Once the generator begins producing sufficient current, it also provides the current needed to energize the rotor.

The Y type stator winding connections deliver the induced AC current to 3 positive and 3 negative diodes for rectification. From the diodes, rectified DC current is delivered to the vehicle electrical system through the generator battery terminal.

Although the generators appear the same externally, different generators with different output ratings are used on this vehicle. Be certain that the replacement generator has the same output rating and part number as the original unit. Refer to Generator Ratings in the Specifications for amperage ratings and part numbers.

Noise emitting from the generator may be caused by: worn, loose or defective bearings; a loose or defective drive pulley; incorrect, worn, damaged or misadjusted fan drive belt; loose mounting bolts; a misaligned drive pulley or a defective stator or diode.

GENERATOR FIELD SOURCE (+) - PCM OUTPUT

This output from the Powertrain Control Module (PCM) regulates charging system voltage to the generator field source (+) circuit. The voltage range is **12.9 to 15.0 volts**. Models of previous years had used the ASD relay (directly) to apply the **12 volt +** power supply to the generator field source (+) circuit. Refer to charging system information.

GENERATOR FIELD DRIVER (-) - PCM OUTPUT

This output from the Powertrain Control Module (PCM) regulates charging system ground control to the generator field driver (-) circuit. Refer to charging system information.

GENERATOR LAMP - PCM OUTPUT

If the Powertrain Control Module (PCM) senses a low charging condition in the charging system, it will illuminate the generator lamp (if equipped) on the instrument panel. For example, during low idle with all accessories turned on, the lamp may momentarily go on. Refer to charging system information.

GENERATOR CARTRIDGE FUSE

A 140 ampere generator cartridge fuse is secured with two screws to the input and output bus bars within the Power Distribution Center. This cartridge fuse helps to protect the vehicle electrical system from damage that could be caused by overcharging and/or excessive electrical system current due to a faulty generator or faulty charging system circuits.

If a generator cartridge fuse fails, be certain to inspect and test the vehicle charging system before replacing the cartridge fuse and returning the vehicle to service. Refer to Charging System Testing for the proper procedures.

The generator cartridge fuse is available for service replacement. This cartridge fuse cannot be repaired and, if faulty or damaged, must be replaced.