

Testing the Charging System

Start your testing by checking the belts for wear and belt tension. Many perfectly good alternators have been replaced due to a loose or glazed belt. **With today's high amperage alternators, belt condition and tension are critical in proper alternator performance.**

IF THE ALERNATOR YOU ARE WORKING WITH HAS A FAN AND YOU ARE ABLE TO TURN IT BY HAND, YOU DO NOT HAVE THE BELT TIGHT ENOUGH.

Make sure the battery is fully charged and in good working condition. (Refer to Pg. 1 & 2)

Connect the voltmeter leads to the battery post, **not to the cable ends.** (See diagram below left.) Crank the engine and increase the RPM to a fast idle. Observe the voltage reading. On most systems, the correct voltage will read between 13.8 volts and 14.2 volts. Some systems with gel cell batteries may have a lower voltage setting of 13.5 to 13.8 volts. **If the voltage reading is 12.6 or lower, the alternator is not functioning.** If the voltage is within range leave the voltmeter connected to the battery and the engine running and switch the voltmeter to the AC volt position and observe the reading. You should have no more than 0.250 AC voltage or ripple at the battery while the alternator is charging. A reading over 0.250 AC volts indicates the alternator has defective diodes and must be service or replaced. Leaking or shorted diodes will reduce the alternator's ability to produce it's rated output amperage.



If the voltage reading is below 13.5 volts, connect the positive voltmeter lead to the output post of the alternator and the negative to the ground post of the alternator. (See diagram below.) Crank the engine and increase the RPM to a fast idle. Check the voltage reading. If the voltage reading is within range, resistance in the charging circuit is the problem. (Refer to Pg.4)

