## **Charging Circuit Voltage Drop**

Meets ASE Task: (A6-D-5) P-1 Perform charging circuit voltage drop tests; determine necessary action.

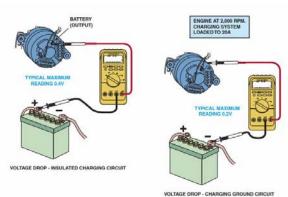
 Name
 Date
 Time on Task

 Make/Model/Year
 VIN
 Evaluation: 4 3 2 1

- 1. Check service information for specified procedures and voltage drop specifications of the charging circuit.
- **2.** Connect one test lead of a digital multimeter set to read DC volts to the alternator output terminal and the positive (+) terminal of the battery.
- **3.** Start the engine and run to 2,000 RPM (fast idle).
- **4.** Turn on the headlights to force the alternator to charge the battery.
- **5.** The voltage drop reading should not exceed 0.40 volt.
  - = the voltage drop of the *insulated* (power side) of the charging circuit (between the output terminal of the alternator and the positive (+) terminal of the battery).

OK NOT OK

- 6. To test if the generator is properly grounded, continue operating the engine at a fast idle with the lights on, connect the meter leads to the case of the generator and the negative (-) terminal of the battery. A reading of greater than 0.20 volt indicates a poor generator ground.
  - = the voltage drop of the *ground side* of the alternator (between the rear housing of the alternator and the negative (-) terminal of the battery).



OK\_\_\_\_ NOT OK\_\_\_\_

7. Based on the test results, what is the necessary action?