

Charging Circuit Voltage Drop

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

Name _____ Date _____ Time on Task _____

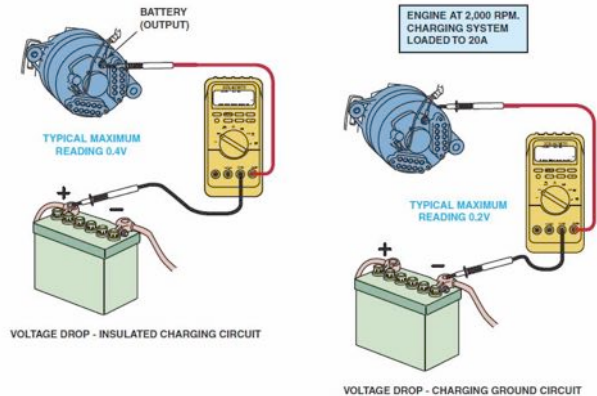
Make/Model/Year _____ VIN _____ Evaluation: 4 3 2 1

- _____ 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 alternator and the negative (-) terminal of the battery. A reading of greater than 0.20 volt indicates a poor alternator 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? _____