Starting and Charging Tests

Meets NATEF Task: (A6-A-7) Demonstrate proper use of electrical test equipment. (P-1)

Name _____ **Date** _____ **Time on Task** _____

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

_____ **1. General Voltmeter Test**

a. battery voltage = _____ (Remove the surface charge.)
b. cranking voltage = _____ (Should be above 9.6 volts.)
c. charging voltage = _____ (Should be 13.5=15.0 volts.)

_____ **2. Voltage-Drop Testing**

Connect the red voltmeter lead to the most positive (+).
Connect the black voltmeter lead to the most negative (-).
Crank the engine. (Voltage drop should not exceed .2 volt.)

Voltage drop across the positive (+) cable(s) = _____.
Voltage drop across the negative (-) cable = _____.
Voltage drop across the solenoid = _____.

_____ **3. Battery Load Test** Load the battery to 1/2 CCA for 15 seconds.

CCA = _____. Load to = _____.
Terminal voltage at the end of 15 seconds = _____. (should be above 9.6 volts)

_____**4. Starter Amperage Test**

4 and 6 cylinders = 150 A. maximum. V-6 and V-8 = 200 A. maximum.
GM V-8 = 250 A. maximum.

Cranking amps = _____. **OK**_____ **NOT OK**_____

_____ **5. Generator Output Test** At 2,000 engine RPM:

_____amps tested _____amps specifications **OK**____ **NOT OK**___
(Results should be within 10% of specifications.)

_____ **6. Charging System Requirement Test**

(Turn on all accessories, read the ammeter, add 5A.) = _____ amps.