

# JOB SHEET 56

## Perform a Starter Circuit Voltage Test

Name: \_\_\_\_\_ Station: \_\_\_\_\_ Date: \_\_\_\_\_

### NATEF Correlation

This Job Sheet addresses the following NATEF task(s):

- 6.C.2** Perform starter circuit voltage drop tests; determine necessary action. (P-1)
- 6.C.5** Inspect and test switches, connectors, and wires of starter control circuits; perform necessary action. (P-2)

### Performance Objective(s)

Upon completion of this Job Sheet, you will be able to understand how to properly perform a starter circuit test that includes testing the cables, wire, switches, and connectors.

### Tools and Materials

- Service manual
- Technician's tool set
- Vehicle
- DMM with alligator clips

### Protective Clothing/Equipment

- Goggles or safety glasses with side shields

Describe the vehicle being worked on:

Year	Make	Model	VIN	Engine type and size

### PROCEDURE

1. Describe how the starting circuit works in the car you are working on. Include whether a computer module is involved or not.

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2. Visually check the starter connections. Do they appear tight and free of corrosion?

\_\_\_\_\_

3. Using Job Sheet 53, test the battery. You will need a good battery to perform a starter circuit test.

**Task Completed** \_\_\_\_\_

4. Disable the ignition and fuel systems to prevent the engine from starting.

**Task Completed** \_\_\_\_\_

5. Describe the method you used to disable the ignition and fuel systems.

\_\_\_\_\_

\_\_\_\_\_

6. Connect the voltmeter across the battery with the alligator clips.

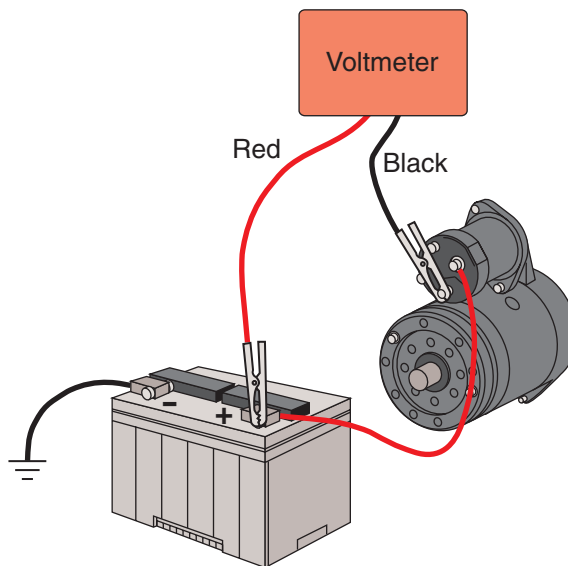
**Task Completed** \_\_\_\_\_

7. Crank the engine over and record the voltage level the battery dropped to during cranking.

\_\_\_\_\_

8. Connect the voltmeter across the battery positive cable with the alligator clips (one lead on the positive battery terminal and the other lead on the starter connection for that same cable).

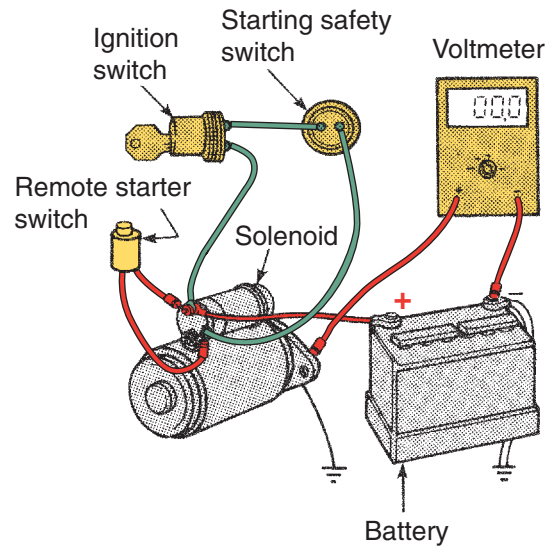
**Task Completed** \_\_\_\_\_



9. Crank the engine over and record the voltage drop during cranking. \_\_\_\_\_ volts

10. Connect the voltmeter on the battery negative cable **with and** the starter casing.

Task Completed \_\_\_\_\_



11. Crank the engine over and record the voltage drop during cranking. \_\_\_\_\_ volts

12. Based on your testing so far, are the battery cables good?

\_\_\_\_\_

13. How can excessive voltage drop affect the engine cranking speed?

\_\_\_\_\_

\_\_\_\_\_

14. Continue to test the following components for voltage presence with the DMM.

a. Fuse for ignition switch input \_\_\_\_\_ volts

b. Ignition switch input \_\_\_\_\_ volts

c. Safety switch input \_\_\_\_\_ volts

### Problems Encountered

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### INSTRUCTOR EVALUATION

- 4 Mastered Task
- 3 Able to Perform Task Independently; Some Additional Training Suggested
- 2 Able to Perform Task with Close Supervision; Requires Additional Training
- 1 Unable to Perform Task
- 0 Not Attempted

### Comments

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Instructor Name: \_\_\_\_\_ Date: \_\_\_\_\_

Instructor Signature: \_\_\_\_\_