



WORKSHEET 4-6 Starting System Voltage Drop Testing

Vehicle	Year/Prod. Date	Engine	Transmission
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Worksheet Objectives

When you have completed this worksheet you will be able to demonstrate measuring voltage drops in the starting system.

Tools and Equipment

For this exercise you will need the following:

- Technician's Handbook
- EWD (or TIS)
- DMM or VAT 40 (or equivalent)
- Vehicle (as assigned)

Exercise 1: Preparation

1. Locate the starting system circuit for your assigned vehicle in TIS or the EWD.
2. Set the DMM to measure DC voltage (auto range or 20 volt scale).
3. Locate the EFI or Fuel pump fuse (or relay) to disable engine starting.
4. Use the DMM to measure voltage drops in the starting circuit applicable to your vehicle. Conduct the voltage drop test by cranking the engine and note the reading on the DMM. Write the readings in the chart below.

Caution: Do not crank the engine for more than 10 seconds at a time. Longer cranking periods can damage the starter and related components.

Location	Voltage Drop
Positive battery post to battery cable	_____
Positive battery cable to starter	_____
Starter relay to starter (if equipped)	_____
Terminal C to terminal 30 (if equipped)	_____
Positive battery cable to terminal 50 (if equipped)	_____
Positive battery cable to starter ground	_____
Starter ground to negative battery cable	_____
Negative battery cable to negative battery post	_____

5. Are any of the test results out of range? YES / NO (circle one)

If YES, list here along with possible cause of the condition:

6. Reinstall the EFI fuse or fuel pump relay.
7. Start the vehicle and run for 2-5 minutes to recharge the battery.

Starting System Voltage Drop Testing

Name: _____ Date: _____

Review this sheet as you are doing the Starting System Voltage Drop Testing worksheet. Check each category after viewing the instructor's presentation and completing the worksheet. Ask the instructor if you have questions regarding the topics provided below. Additional space is provided under topic for you to list any other concerns that you would like your instructor to address. The comments section is provided for your personal comments, information, questions, etc.

I have questions

I know I can

Topic	Comment		
Measure Voltage Drop			



Notes