WORKSHEET 5-3
Alternator Output Tests

Vehicle	Year/Prod. Date	Engine	Transmission

Worksheet Objectives

In this worksheet, you will practice performing alternator output tests. When you have completed this module, you should be able to use a VAT-40 or VAT-60 tester to determine if an alternator is operating correctly.

Tools and Equipment

For this exercise you will need the following:

- EWD
- Repair Manual or TIS machine
- Vehicle
- VAT-40 or VAT-60 tester

Exercise 1: Alternator Output Test - No Load

Use the following steps to perform the test with a Sun VAT-40 or VAT-60 tester:

1. Set the tester's Load control to OFF.
2. Connect the tester leads.
   - Red lead to positive terminal
   - Black lead to negative terminal
   - Clamp the ammeter clamp-on probe onto the battery's ground cable.
3. Set the tester's voltage range to the appropriate setting.
   - Set "Test Selection" to position 2 "Charging"
4. Zero both meters on the tester, if needed.
5. Turn the ignition switch to ON (do not start the engine).
6. Record the ammeter reading here: _____ amps
7. Start the engine and adjust engine speed to about 2,000 RPM.
8. Allow engine to warm up for 3 to 4 minutes, and then proceed to the next page.
9. Record the ammeter reading here: _____ amps.

10. Add the discharge current (from Step 6) to the reading now on the ammeter. Record the total here: _____ amps.

    Is the total more than 10 amps? ___ Yes ___ No

Note - If the total current is more than 10 amps, the battery may not have been fully charged. Continue to monitor the ammeter; the reading should decrease as the battery charges.

11. Record the voltmeter reading here: _____ volts

    Is the reading within specification for this vehicle? ___ Yes ___ No

12. Keep the tester set up for the next exercise.

Exercise 2: Alternator Output Test - With Load

Adjust engine speed to specified RPM (refer to the appropriate service manual).

Adjust the tester's load control to obtain the highest ammeter reading possible while keeping the voltage reading at or above 12 volts.

Record the highest ammeter reading.

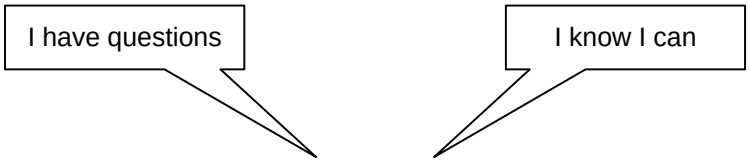
Is the reading within specification for this vehicle? ___ Yes ___ No

What should you do if the reading is more than 10% below the specification for this vehicle?

Alternator Output Tests

Name: _____ Date: _____

Review this sheet as you are doing the Alternator Output Tests 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 you instructor to address. The comments section is provided for your personal comments, information, questions, etc.



Topic			Comment
Output Test - No Load			
Output Test - With Load			

Notes