CDX Tasksheet Number: MHT5D006

Student/Intern Information

Name _____ Date _____ Class _____

Vehicle, Customer, and Service Information

Vehicle used for this activity:

Year _____ Make _____ Model _____

Odometer _____ VIN _____

Materials Required

- Vehicle with possible alternator concern, including cable, wiring, or connector faults
- Vehicle manufacturer's workshop materials
- Digital volt-ohmmeter (DVOM); ammeters; and alternator testing equipment, such as load banks and oscilloscope
- Exhaust hoses
- Personal protection equipment (PPE)

Task-Specific Safety Considerations

- Activities may require running the engine and managing an environment of rotating equipment and large current draw, which carry severe risks. Attempt this task only with full permission from your supervisor/instructor, and follow all the guidelines exactly.
- Ensure that your supervisor/instructor checks the connectors of any test equipment.
- Do not run the alternator without a load connected or allow the output voltage to exceed the manufacturer's specified maximum.
- Use extreme caution when working around batteries. Immediately remove any electrolyte that may come in contact with you. Electrolyte is a mixture of sulfuric acid and water. Batteries may produce explosive mixtures of gas containing hydrogen; avoid creating any sparks around batteries. Consult with the shop safety and emergency procedures when working with or around batteries.
- Make sure you follow the manufacturer's operation procedures. Also make sure you have your supervisor's/instructor's permission to use any particular type of lifting equipment.
- Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with federal, state, and local regulations.
- Always wear the correct protective eyewear and clothing, and use the appropriate safety equipment, as well as wheel chocks, fender covers, seat protectors, and floor mat protectors.
- Make sure you understand and observe all legislative and personal safety procedures when carrying out practical assignments. If you are unsure of what these are, ask your supervisor/instructor.

Time off _____

Time on _____

Total time _____

▶ TASK Perform charging circuit voltage-drop tests; determine needed action.

MTST ***V.D.6; P1***

Student Instructions: Read through the entire procedure prior to starting. Prepare your workspace and any tools or parts that may be needed to complete the task. When directed by your supervisor/instructor, begin the procedure to complete the task and check the box as each step is finished.

Procedure:	Step Completed
1. Locate "Perform Charging Circuit Voltage-Drop Tests; Determine Necessary Action" in the service information for the vehicle you are working on.	
a. List the procedure as outlined in the service information to perform charging circuit voltage-drop tests:	☐
b. List the maximum specified allowable charging circuit voltage drop: _____ volts	☐
2. Prepare the vehicle, attach exhaust hose(s), tilt cabin or lift hood, and set the parking brake.	☐
3. Connect the tester as outlined in the appropriate service information or as listed in Step 1a.	☐
4. Have your supervisor/instructor verify your test procedure and connections. Supervisor's/instructor's initials:	☐
5. Conduct the charging system voltage-drop test. Repeat the tests as many times as required to test all parts of the charging circuit as described in Step 1. List the measured results.	
a. Voltage drop between _____ and _____ is _____ volts at _____ amps.	☐
b. Voltage drop between _____ and _____ is _____ volts at _____ amps.	☐
c. List the total voltage drop for the charging circuit: _____ volts	☐
6. Compare your results to the manufacturer's specifications.	
a. List your observations:	☐

7. Determine any necessary corrective action(s) and list them:	☐
8. Return any tools you used to their proper locations.	☐
9. Discuss your findings with your supervisor/instructor.	☐

Non-Task-Specific Evaluations:	**Step Completed**
1. Tools and equipment were used as directed and returned in good working order.	☐
2. Complied with all general and task-specific safety standards, including proper use of any personal protection equipment.	☐
3. Completed the task in an appropriate time frame (recommendation: 1.5 or 2 times the flat rate).	☐
4. Left the workspace clean and orderly.	☐
5. Cared for customer property and returned it undamaged.	☐

Student signature _____ Date _____

Comments:

Have your supervisor/instructor verify satisfactory completion of this procedure, any observations made, and any necessary action(s) recommended.

Evaluation Instructions: The scoring box below is intended to act as a guide for both student and supervisor/instructor. Each criterion listed will help students understand what is expected of them and help supervisors/instructors articulate the level of success at a particular task. The scoring is set up to allow a second attempt at each task (see the Test and Retest columns). Scoring is also designed to award students points only for task criteria that were completed correctly. Points are lost for failure to complete the employability requirements (see Non-Task–Specific Evaluation criteria). When all criteria are evaluated, tally the points for a total at the bottom of each column.

Tasksheet Scoring

	Test		Retest	
Evaluation Items	**Pass**	**Fail**	**Pass**	**Fail**
Task-Specific Evaluation	**(1 pt)**	**(0 pts)**	**(1 pt)**	**(0 pts)**
Student used the appropriate service information to research charging system voltage-drop tests.				
Student accurately performed the charging system voltage-drop test on all necessary parts of the circuit.				
Student compared results to the manufacturer's specifications, then determined any necessary actions.				
Student reinstalled all removed components undamaged and in working order.				
Non-Task-Specific Evaluation	**(0 pts)**	**(−1 pt)**	**(0 pts)**	**(−1 pt)**
Student successfully completed at least three of the non-task–specific steps.				
Student successfully completed all five of the non-task–specific steps.				
Total Score: <total # of points/4 = %>				

Supervisor/Instructor:

Supervisor/instructor signature _____ Date _____

Comments:

Retest supervisor/instructor signature _____ Date _____

Comments: