

CDX Tasksheet Number: MHT5E005

Student/Intern Information

Name _____ Date _____ Class _____

Vehicle, Customer, and Service Information

Vehicle used for this activity:

Year _____ Make _____ Model _____

Odometer _____ VIN _____

Materials Required

- Vehicle or simulator with electrical lighting concern(s)
- Vehicle manufacturer's workshop materials, including schematic wiring diagrams
- Digital volt-ohmmeter (DVOM)
- Personal protection equipment (PPE)

Task-Specific Safety Considerations

- Activities require you to measure electrical values. Always ensure that the instructor/supervisor checks test instrument connections prior to connecting power or taking measurements. High current flows can be dangerous; avoid accidental short circuits or grounding the battery's positive connections.
- Activities may require test-driving the vehicle on the school grounds or on a hoist, both of which carry severe risks. Attempt this task only with full permission from your supervisor/instructor and follow all the guidelines exactly.
- 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.

► TASK Diagnose faults in switches, relays, bulbs/light-emitting diodes (LEDs), wires, terminals, connectors, sockets, and control components/modules of exterior lighting systems; determine needed action.

MTST
V.E.5; P2

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.

Time off _____

Time on _____

Total time _____

Procedure:	Step Completed
1. List the customer complaint regarding the exterior lighting fault:	<input type="checkbox"/>
2. Consult the appropriate manufacturer service manual for the correct wiring diagram information to do this task.	<input type="checkbox"/>
3. Inspect and test all switches associated with the circuit by operating them and checking for illumination of all lights in the circuit.	
a. Are the switches working? Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
b. If No, consult the appropriate service information to repair or replace faulty switches.	<input type="checkbox"/>
4. Test relay(s) for proper operation.	
a. Consult manufacturer workshop materials and record the proper procedures to test these components:	<input type="checkbox"/>
5. Inspect and test all bulbs/LEDs associated with the circuit.	
a. Are the bulbs/LEDs working? Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
b. If No, consult the appropriate service information to replace the bulbs/LEDs.	<input type="checkbox"/>
6. Check all wiring that is present to that circuit for bare spots, cracked insulation, and no connection to the connector or component. Perform voltage-drop tests to the circuit if necessary.	
a. Condition of wiring: Good: <input type="checkbox"/> Bad: <input type="checkbox"/>	<input type="checkbox"/>
7. If the condition of the wiring is bad, make recommendations for repairing or replacing the wiring:	<input type="checkbox"/>
8. Check all switch connections/terminals for corrosion and connector tightness.	<input type="checkbox"/>

9. Check all connectors to relays and control modules for looseness, cracking, and burn marks that may cause the system to malfunction. Any burn marks or discoloration of the connectors may indicate excessive amperage running through them.	
a. Condition of connectors: Good: <input type="checkbox"/> Bad: <input type="checkbox"/>	<input type="checkbox"/>
10. If the connectors are bad, make recommendations for repairing or replacing the connections.	<input type="checkbox"/>
11. Check all sockets for any water damage or burnt conditions.	
a. Condition of sockets: Good: <input type="checkbox"/> Bad: <input type="checkbox"/>	<input type="checkbox"/>
12. Test modules for proper operation.	
a. Consult manufacturer service manual and record the proper procedures to test these components:	<input type="checkbox"/>
13. Return the vehicle to its beginning condition, and return any tools to their proper locations.	<input type="checkbox"/>
14. Consult with your supervisor/instructor and record any recommendations to bring the circuit back to manufacturer specifications:	<input type="checkbox"/>

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

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 to 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 the customer complaint.				
Student accurately tested and inspected the exterior lighting circuit.				
Student compared the results to the specifications, then correctly 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:

