



ELECTRICAL SYSTEM TASK / TÂCHE RELATIVE À L'INSTALLATION ÉLECTRIQUE

HEAVY EQUIPMENT SERVICES

MECANIQUE DE MACHINERIE LOURDE

POST-SECONDARY /
NIVEAU POSTSECONDAIRE

Competitor number _____ Start time _____

Judge's name _____ Finish time _____

Competition Overview

Time limit: 2 hours

Equipment: Caterpillar wheel loader

Number of tasks: 2

Task 1: Diagnose faulty lighting system.

Value 70 %

Task 2: Evaluate inoperative heater controls.

Value 30 %

General Instructions:

The judge has all the materials you will need.

If you are unsure about any procedure, you may ask your judge for clarification.
Marks may be deducted if the judge decides you should know the procedure.

Your judge will operate the machine for you for testing purposes.

Please be very specific with what you would like them to do.

Before you start, you must go through the following Hazard Assessment with your judge so that you will be able to work safely.

Hazard Assessment:

This Hazard Assessment is to discuss the following **6 hazards** and the counteractive measures you must take.

Hazard 1: You might slip while getting into and out of the cab.



- Use three points of contact at all times.
- Always face the cab.
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Hazard 2: Shorting electrical connections might damage electrical components.



- Do not short electrical components together.

Hazard 3: Sparks or ignition sources may cause the battery to explode.



- Do not generate sparks or bring ignition sources near the batteries.
- Wear a face shield.

Hazard 4: Battery electrolyte (sulfuric acid) is corrosive.



- Wear a face shield, gloves and an apron when handling electrolyte.

Hazard 5: Moving components on the engine can catch loose clothing and hurt you.



- Keep hands clear of moving components such as fan, pulleys, and belts.

Hazard 6: Power steering system can create extreme forces that could crush you.



- Stay clear and keep others clear of pinch zones near the steering tires and steering linkages.



Ask
Information

*If you do not quite understand or are unsure about the hazards,
please ask your judge for assistance.
No marks will be deducted for asking about hazards.*

I have read this hazard assessment and the judge has explained it to me.
I understand the hazards and I will take precautions to avoid them.

Competitor's name _____ Judge's name _____ Date _____

Number of marks possible: **16.7**

| Skills Evaluated |
|---|
| a. Use of safety equipment. Safe and clean workspace |
| b. Use and interpretation of service manuals & schematic diagrams |
| c. Logical order of repair |
| d. Proper use of tools |
| e. Precise adjustment of components |
| f. Accurate measurements |
| g. Superior Workmanship |
| h. Identification of faults, codes, or components |



Ask
Information

If you cannot proceed with a task, ask your judge for assistance.

Task 1 of 2: Diagnose faulty lighting system.

Value 70 %

1. Follow the manufacturer's procedures to safely, appropriately, and accurately:
 - Diagnose faulty lighting system.
2. In point form; briefly record your findings and any adjustments or components that were out of specifications.



Ask
Information

If you cannot proceed with a task, ask your judge for assistance.

Task 2 of 2: Evaluate inoperative heater controls.

Value 30 %

3. Follow the manufacturer's procedures to safely, appropriately, and accurately:
 - Evaluate inoperative heater controls.
4. In point form; briefly record your findings and any adjustments or components that were out of specifications.



Ask
Information

If you cannot proceed with a task, ask your judge for assistance.

