



2018

# SCNC

SKILLS CANADA  
NATIONAL COMPETITION

# OCMT

OLYMPIADES CANADIENNES  
DES MÉTIERS ET  
DES TECHNOLOGIES



**SkillsCompétences**  
Canada  
Edmonton2018

ELECTRICAL SYSTEM TASK /  
TÂCHE RELATIVE À L'INSTALLATION ÉLECTRIQUE

# HEAVY EQUIPMENT SERVICES MÉCANIQUE DE MACHINERIE LOURDE

POST - SECONDARY /  
NIVEAUX POSTSECONDAIRE



<b>Electrical System</b> <b>TASK</b>	<i>(5 of 6)</i>
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Competitor number \_\_\_\_\_ Start time \_\_\_\_\_

Judge's name \_\_\_\_\_ Finish time \_\_\_\_\_

**Competition Overview**

- Time limit:**            **2 hours**
- Equipment:**        **Freightliner Truck**
- Number of tasks:** **2**

- Task 1: Diagnose faulty lighting system. **Value 70 %**
- Task 2: Evaluate inoperative heater controls. **Value 30 %**

**General Instructions:**

The National Technical Committee (NTC) 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.

**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.
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**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.

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** \_\_\_\_\_

**Evaluation:**

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.*



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THINKING

**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.

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Ask  
Information

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



DOCUMENT USE



THINKING

**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.

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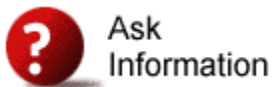
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DOCUMENT USE



THINKING

