



2018

SCNC

SKILLS CANADA
NATIONAL COMPETITION

OCMT

OLYMPIADES CANADIENNES
DES MÉTIERS ET
DES TECHNOLOGIES



SkillsCompétences
Canada
Edmonton2018

HYDRAULIC SYSTEM TASK /
TÂCHE RELATIVE AUX SYSTÈMES HYDRAULIQUES

HEAVY EQUIPMENT SERVICES MÉCANIQUE DE MACHINERIE LOURDE

POST - SECONDARY /
NIVEAUX POSTSECONDAIRE



**Hydraulic System
TASK**

(1 of 6)

Competitor number _____ Start time _____

Judge's name _____ Finish time _____

Competition Overview

Time limit: 2 hours

Equipment: Volvo loader

Number of tasks: 2

Task 1: Diagnose inoperative hydraulic functions.

Value 80 %

Task 2: Disassemble and inspect a hydraulic cylinder.

Value 20 %

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.



DOCUMENT USE



THINKING

Hazard Assessment:

This Hazard Assessment is to discuss the following **7 hazards** and the counteractive measures you must take.

Hazard 1: Hot and moving engine parts can hurt you.



- Keep hands clear of exhaust components and moving objects. (Fan, pulleys and belts.)

Hazard 2: Hydraulic systems can create extreme forces.



- Stay clear and keep others clear of pinch zones near the machine.

Hazard 3: Raised hydraulic components may not hold raised equipment.



- Use the supplied safety supports.
- The judge will assist you with these safety supports.
- Lower all implements once testing is complete.

Hazard 4: Highly pressurized oil can pierce skin.



- Only use a piece of cardboard or similar material to check for any leaks.
- Do not direct pressurized oil toward your skin.
- Ensure that the system is off and depressurized.

Hazard 5: You might slip on any spilled hydraulic oil.



- Wipe and clean all oil drips and spills immediately.

Hazard 6: Hot components and fluids can cause severe burning.



- Use caution when touching any parts in the hydraulic and engine system.

Hazard 7: Pressurized components (accumulators) can explode causing death or severe injury if mishandled or dropped.



- Follow the manufacturer's instructions and procedures.

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.



DOCUMENT USE



THINKING

Task 1 of 2: Diagnose inoperative hydraulic functions.

Value 80 %

1. Follow the manufacturer’s procedures to safely, appropriately, and accurately:
 - Diagnose inoperative hydraulic functions.

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.



DOCUMENT USE



THINKING

Task 2: Disassemble and inspect a hydraulic cylinder.

Value 20 %

3. Follow the manufacturer's procedures to safely, appropriately, and accurately:
 - Disassemble and inspect a hydraulic cylinder.
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.



DOCUMENT USE



THINKING

