



Provincial Scope Document

REFRIGERATION (Post-Secondary) 2011

Contest Length: 6 hrs

Check in time: 8:30

Contest Start: 9:00

Purpose of the Challenge:

Assess contestant's problem-solving skills relating to the repair, operation, of refrigeration electrical and mechanical systems.

Skills & Knowledge to be Tested:

- Perform refrigerant tubing installation tasks.
- Perform refrigerant recovery, system evacuation & charging procedures.
- Prepare an electrical schematic diagram and wire a HVAC control circuit.
- Comply with all Provincial and Federal codes and regulations.
- Applying health and safety regulations.

The goal of the contest is to encourage students to learn more about refrigeration and air-conditioning. Some systems will be in the operating mode. Refrigerant handling is an important component, and contestants must be aware of current regulations.

Pre-requisites:

- Thorough knowledge of the refrigeration cycle
- The ability to use refrigeration tools and specialized equipment
- The ability to use tools required for working with copper tubing
- Knowledge of and compliance with current industry codes and safety regulations
- The ability to use precision electrical test equipment
- A good operating knowledge of typical controls used in refrigeration and air-conditioning systems (to include: mechanical, electrical)

Equipment / Tools / Supplies / Clothing

- Contestants must wear the appropriate clothing and standard safety gear (Gloves, safety boots and safety goggles). Contestants must provide their own personal safety equipment.
- Contestants must provide the basic hand tools listed below.
- All consumables will be provided by the organization.
- Any additional safety equipment, testing equipment or special tools will be supplied

List of tools to be supplied by the contestant:

1 – Set of common screwdrivers	1 – combination wire crimpers
1 – Set of Phillips screwdrivers	1 – combination ratchet valve wrench
1 – Set of Robertson screwdrivers	1 – Mirror
1 – Set of nut drivers	1 – Multimeter
1 – 6in, 10in and 12in adjustable wrench	1 – Clamp-on ammeter
1 – electrical side cutters	1 – Thermometer
1 – needle nose pliers	– Pencils, pens, notepad
1 – slip joint pliers	– Pressure / temperature chart.

This is a minimum requirements list of tools for each contestant; additional tools can be added.

Safety Requirements:

Safety awareness/requirements will be maintained at the minimum industry standards at all times. A contestant will not be allowed to compete without the safety equipment noted on this scope document.

Evaluation will be based on the following:

- Testing will be performed on refrigeration and air-conditioning equipment. Judging will determine proficiency by knowledge, skills and speed of task. Special consideration will be paid to health and safety rules.
- **Marking Scheme:** Practical 100%

Technical Committee:

Matt Buss BC Technical Chair, National Committee mattbuss@ua516.org

Gold medal winners at the BC Skills Competition are eligible to compete at the Canadian Skills Competition May 20-23, 2009 in Charlottetown, PEI

Skills Canada BC reserves the right to update contest information. Please check the website for changes.