



# TECHNOLOGICAL SKILLS CHALLENGES

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## DSBN REGIONAL **OUTDOOR POWERED EQUIPMENT SKILLS** CHALLENGE 2023 SECONDARY LEVEL SCOPE

### CHAIRS:

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### PURPOSE OF THE CONTEST:

To diagnose, service and repair four cycle and two cycle gasoline small engines.

### EVENT DETAILS:

**Date:** Wednesday, February 28, 2024

**Time:** 4.5 hour period

**Max Competitors:** 8 Students

**Location:** Niagara College, Welland Campus – RM TC112A

**ENTRY:** Students must register online at [2024 Skills Challenge Registration](#) with all the required information completed to be eligible to participate.

### SKILLS AND KNOWLEDGE TO BE TESTED:

Competitors must be able to diagnose, disassemble, reassemble a 4-stroke & 2-stroke engine, measure internal components (metric or imperial micrometer), diagnose a 4-stroke & 2-stroke engine, identify carburetor components, perform a written test, be able to solder with shrink tube, and understand & perform diagnostics with a multimeter.

## **SAFETY REQUIREMENTS and SUPERVISION**

Teachers or another designate must supervise the student to ensure that safety is adhered to and to maintain the integrity of the competition.

## **EQUIPMENT, MATERIALS, TOOLS, AND SUPPLIES:**

All Tools and Equipment must be supplied by the school the student is competing for.

All measuring equipment (micrometers, verniers, feeler gauge, multimeter) (Can be digital)

All hand tools

- Safety Clothing (Glasses, Safety Boots)

## **Materials Supplied Centrally:**

- Engines
  - 4 Stroke Engine
  - 2 Stroke Engine
- Computers
- Heat Gun
- Soldering Gun
- Shrink Tube
- Miscellaneous Tools and Equipment
- Micrometer Metric/50-75mm/Socket Set/complete
- Vernier Calipers
- Ring Compressor
- Hammer
- General Pliers
- Multi-Meter
- Socket-Set
- Any other hand tools required

## **CLOTHING REQUIREMENTS:**

- Shop Appropriate clothing as outlined by the individual school's teacher.
  - Safety Glasses

## **JUDGING INSTRUCTION:**

- Engines will be provided on the day of the competition.
- Each contestant will be required to complete all 4 sections for Small Powered Equipment.
- Once the engine is completely diagnosed and disassembled, students will complete the record sheet with their answers.
- Once the engine is together, a judge will verify that all parts are in the correct order, with nothing missing.
- The test will be completed online at Niagara College on the day of the competition.

### **TEACHER'S ROLE:**

Instructors are expected to acquaint their student participants with all of the enclosed guidelines. Teachers may accompany their students or visit any time during the competition but may **not** assist the competitors during the challenge.

**\*\* Each competitor will be given a number by their coordinator upon registration at the location and will be judged anonymously during the competition.**