



TECHNOLOGICAL **SKILLS** CHALLENGES

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2025 DSBN REGIONAL **OUTDOOR POWERED EQUIPMENT** SKILLS CHALLENGE 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 26, 2025

Time: 4.5 hour period

Max Competitors: 9 Students

Location: Niagara College, Welland Campus – RM TC112A

ENTRY: Students must register online at [2025 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 & a 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)
- No battery or air powered tools- **Only hand tools**
- No phones or headphones

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
 - Steel toe footwear
 - Pants- **No shorts!**
 - Hair must be tied back

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.**