



CONTEST DESCRIPTION

Outdoor Power and Recreation Equipment

POST-SECONDARY

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1 THE SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY

In response to the evolving labour market and changing skill needs, the Government of Canada has launched the new Skills for Success (*former Essential Skills*) model defining nine key skills needed by Canadians to participate in work, in education and training, and in modern society more broadly. SCC is currently working with Employment and Social Development Canada (ESDC) to bring awareness of the importance of these skills that are absolutely crucial for success in Trade and Technology careers. Part of this ongoing initiative requires the integration and identification of the Skills for Success in contest descriptions, projects, and project documents. The next phase and very important aspect of our Skills for Success (SfS) initiative is to provide a *Skills Report Card* to each competitor at the Skills Canada National Competition. The purpose of the report card is to inform the competitor about their current level of nine identified Skills for Success based on their competition scores. With this knowledge, the competitor will be made aware which skill may require improvement. Full implementation is expected in the next Skills Canada National Competition.

The following 9 skills have been identified and validated as key skills for success for the workplace in the legend below:

¹Numeracy, ²Communication, ³Collaboration, ⁴Adaptability, ⁵Reading, ⁶Writing, ⁷Problem Solving, ⁸Creativity and Innovation, ⁹Digital

These Skills for Success have been identified in section 2.3 and/or 3.2 of your Contest Description and if applicable, in your Project and supporting documents.

2 CONTEST INTRODUCTION

2.1 Description of the associated work role(s) or occupation(s)

https://www.skillscompetencescanada.com/en/skill_area/outdoor-power-recreation-equipment/

2.2 Purpose of the Challenge

To test each student's skill and knowledge in the areas of inspection, measurement, maintenance and repair of small engines and recreational vehicles. Prepare each student for employment in the industry.

2.3 Duration of contest

12 hours

2.4 Skills and Knowledge to be tested.

Theory 35% Practical 65%

All phases of measurement will deal exclusively with metric only.

3 CONTEST DESCRIPTION

3.1 List of documents produced and timeline for when competitors have access to the documents on the Skills/Compétences Canada website

DOCUMENT	DATE OF DISTRIBUTION
Motorcycle Powertrains	December 2022
Motorcycle Electrical Diagnosis	December 2022
Outboard Service	December 2022
Engine Top End Measurement	December 2022

3.2 Tasks that may be performed during the contest

- To demonstrate the skill and knowledge involved with the service and repair of two and four stroke engines
- Use of metric precision measuring tools¹
 - Micrometers
 - Dial bore gauge
 - Vernier caliper
 - Feeler gauge
 - Dial indicator
 - Plastigauge®
- Accurately measure and analyze engine components for wear ¹
- Metal cutting, tapping, drilling, filing
- Fuel Injection and Carburetor theory, adjustment procedures⁷
- Use of repair manuals for retrieval of procedures, specifications, and troubleshooting charts⁵
- Accurately perform compression, leak down, and crankcase pressure and vacuum test⁷
- Technical competence and safe work practice/procedures⁷
- Tool handling and recognition⁷
- CVT Transmission service and theory of operation
- Belt, Chain, Gear Final Drive System Service
- Multiplate Clutch and Constant Mesh Transmission operation
- Knowledge of Trade related Tire applications and designs⁷
- General knowledge of 4 Cycle theory
- General knowledge of 2 Cycle theory
- Use of Digital Volt-Ohm Meter⁹
- Electrical Measurements including Volts, Ohms, Amps, and Voltage Drops¹
- Ignition, charging, starting, and lighting system theory, inspection, and diagnosis⁷

Skills for Success—¹Numeracy, ⁵Reading, ⁷Problem Solving, ⁹Digital

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- All necessary equipment, engines, hand tools, measuring tools and specialty tools
- DVOM
- Compression Tester
- Leak down Tester
- Tec Angle Torque Wrench
- Dial Torque Wrench
- Micrometer Feed Torque Wrench
- Bit set
- Flashlight
- Screwdrivers
- Pliers
- Sockets, Ratchets, Extensions
- Wrenches
- Back Probes
- Feeler gauges
- Tape Measure
- Manufacturer Specific Tools
- Taps, Drills, Files
- Drill Press

COMPETITORS WILL BE REQUIRED TO USE THE MATERIAL AND EQUIPMENT PROVIDED BY SCC. ALL OTHER MATERIAL AND EQUIPMENT WILL BE REMOVED FROM THE SKILL AREA.

4.2 Equipment and material provided by the competitor

- Competitors are not required to supply any tools.

4.3 Required clothing provided by the competitor

- Clean provincially supplied clothing or an unmarked t-shirt (work shirt) and work pants

5 HEALTH AND SAFETY

5.1 Safety program

SCC has implemented a comprehensive safety program as health and safety is an integral part of our competitions. Our safety program includes guidelines and procedures to make the work environment in each skill area safer.

5.1.1 Safety manual

As part of our program a safety manual has been created to monitor and document health and safety within each skill area. It includes a definite plan of action designed to prevent accidents. The safety manual will be provided for every skill and these instructions must be followed and respected by all participants and officials at the SCNC.

5.1.2 Safety workshop

During orientation, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition. Any Competitor breaking any health, safety, and environmental rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

5.2 COVID-19 Protocol

The COVID-19 guidelines will be shared as soon as they are available. The COVID-19 guidelines will be subject to change based on your local COVID-19 guidelines in place at the time of the competition.

5.3 List of required personal protective equipment (PPE) provided by Skills/Compétences Canada

- Nitrile Gloves

5.4 List of required personal protective equipment (PPE) provided by the competitor

- Safety Glasses
- CSA approved Safety footwear
- Hearing protection (optional)
- Mechanics Gloves (optional)

Note: Competitors who do not have the required protective equipment will not be allowed to participate in the competition

6 ASSESSMENT

6.1 Point breakdown

Note: This list is subject to change.

TASKS	/100
Ohm's Law Circuit Building and Testing	12.5
Hand Skills Machine Shop Practices	12.5
Outboard Service	12.5
Engine Top End Measurement	12.5
DOHC Valve Adjustment	12.5

Motorcycle Powertrains	12.5
4 Stroke Bottom End Measurement	12.5
Motorcycle Electrical Diagnosis	12.5

7 CONTEST SPECIFIC RULES

Contest specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from contest to contest. Any additional contest rules will be reviewed during the competitor orientation.

TOPIC/TASK	CONTEST SPECIFIC RULE
Cell Phone	<ul style="list-style-type: none"> Use not permitted during project work.

8 ADDITIONAL INFORMATION

8.1 Interpreter

If a competitor requires the help of an interpreter once onsite during the competition, the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this service may not be guaranteed.

8.2 Ties

- Tiebreaker #1: The competitor with the highest score in the Outboard Motor Lower Unit Service, Powerhead Service Lab will be declared the winner.
- Tiebreaker #2: The competitor with the highest score in the Motorcycle Electrical diagnostic Lab will be declared the winner.
- Tiebreaker #3: The competitor with the highest score in the Bottom End Measurement Lab will be declared the winner.

8.3 Test Project change at the Competition

Where the Test Project has been circulated to Competitors in advance, NTC shall change a maximum of 30% of the work content. Please refer to the Competition Rules.

8.4 Competition rules

Refer to the competition rules of the Skills Canada National Competition which can be found on our website.

9 NATIONAL TECHNICAL COMMITTEE MEMBERS

MEMBER ORGANIZATION	NAME
Prince Edward Island	David MacMillan
Ontario	Roy King – Co Chair
Manitoba	Dustin Blackwell - Chair
Saskatchewan	Cecil Machnee
British Columbia	Marcie Ladubec
Northwest Territory	Gord Olson

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Nathalie Maisonneuve (nathaliem@skillscanada.com).