Skills Compétences Canada











CONTEST DESCRIPTION

Automobile Technology

POST-SECONDARY

Table of Contents

1 THE SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY 2
2 CONTEST INTRODUCTION 2
3 CONTEST DESCRIPTION 3
4 EQUIPMENT, MATERIAL, CLOTHING 4
5 HEALTH AND SAFETY 5
6 ASSESSMENT 6
7 CONTEST SPECIFIC RULES 6
8 ADDITIONAL INFORMATION 6
9 NATIONAL TECHNICAL COMMITTEE MEMBERS 7

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

The Government of Canada has updated the previous Essential Skills framework to the new Skills for Success model in response to the evolving labour market and changing skill requirements. This model outlines nine fundamental skills Canadians need to thrive in work, education, training, and daily life.

Skills/Compétences Canada aims to highlight the importance of these skills, vital for success in trade and technology careers. Competitors can see how Skills for Success are integrated into contest descriptions, projects, and project documents. Recognizing these skills during the competition helps competitors match tasks with specific skills necessary for success and understand how these skills apply within their trade or technology programs and future careers.

The nine key Skills for Success, validated for workplace success, are:

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

These Skills for Success are detailed in sections 2.4 and/or 3.2 (to be completed by SCC) of your Contest Description and, if relevant, 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/automobile-technology/

2.2 Purpose of the Challenge

Assess the competitor skills in correctly inspecting, repairing and adjusting detached and / or mounted auto parts, as compared to industry standards. Practical assignments will be based on selected areas of the scope document.

2.3 Duration of contest

12 HOURS

2.4 Skills and Knowledge to be tested.

The following will be tested during the contest: Service Information Retrieval, Engine Mechanical, Engine Management, Ignition Systems, Vehicle Emission Systems, Electrical Accessories, Electrical, Braking systems, Suspension and Steering, and Power Trains.[1,5,7,9]

Skills for Success – [1]Numeracy, [5]Reading, [7]Problem Solving, [9]Digital

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
No other document will be available prior to competition days	

3.2 Tasks that may be performed during the contest.

- **Transferrable skills may be evaluated throughout the competition.**
- **Workshop Procedures that include[2,5,9]**
  - Service Information Retrieval
  - Electronic system use
  - Traditional manual/information printouts use.
  - Interprets work order information to convey diagnostic approach.
  - Explanation of service work performed.
- **Internal Combustion Engine Mechanical [1,7,9]**
  - Identify components
  - Component fault diagnosis
  - Inspection and operational testing (including compression, leak-down and timing)
  - Diagnosis and service of engine cylinder heads and blocks
  - Measurements with precision measuring tools which could include but not limited to; Plastigage®, micrometers, feeler gauges, and straight edges
- **Engine Management and Emissions[7,9]**
  - Drivability diagnostics and repair
  - Test equipment usage
  - Scan Tool
  - Multi-meter (DVOM)
  - Lab-scope
  - System repair
- **Component operation and testing of Electrical Systems[7,9]**
  - Starting and Charging Systems

- Batteries (12volt, High Voltage)
- Accessories
- Testing and diagnosis Body and Chassis Electrical
- Electric Drive System operation and Safety

- **Braking Systems (excluding air brake systems)[7,9]**
  - Base Brake systems
  - ABS / Traction / Stability/ Electric parking systems
  - Maintenance, repairs, & adjustments (may include rotor and drum service).
  - Diagnostics
- **Suspension and Steering[7,9]**
  - Maintenance, repair and adjustment
  - Diagnostics
  - Component replacement
  - Wheel Alignment / ADAS
- **Transmission and Drivetrain Components[1,7,9]**
  - Inspection, measurement and testing
  - Maintenance / adjustments
  - Driveline measurements and adjustments
  - Component repair

Skills for Success – [1]Numeracy, [2]Communication, [5]Reading, [7]Problem Solving, [9]Digital

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- Automotive Technician general hand/ power tools
- Precision Measuring tools for engines, brakes and driveline (SAE & Metric)
- Digital multimeter and accessories
- Digital storage oscilloscope
- Diagnostic scan tools
- Wheel alignment equipment with ADAS capability
- Hydraulic brake line service tools
- Brake machining equipment
- Diagnostic test leads
- Engine assembly tools and holding fixtures
- Engine cylinder diagnostic tools
- Vehicle lifting and support equipment
- Electric Vehicle Personal Protective Equipment, test equipment

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 bring any tools or equipment.
- Competitors are required to bring at least 2 writing instruments with them

4.3 Required clothing provided by the competitor.

- A professional image must be portrayed. Appropriate work apparel must be worn. (Provincial shirts, coveralls, shop coats, work pants only and shirts must be tucked in)

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

- Nitrile Gloves (Large and Extra Large)
- Hearing protection (in-ear style)

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

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

- 2 pairs of **Clear** Safety Glasses (meets CSA Standard Z94.3 Class 1)
- CSA approved Safety shoes
- Hearing protection optional (specialized if required)

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
Engine Mechanical Measurement / Testing	16
Electrical	17
Engine Management	17
Suspension / Steering	17
Brakes and related systems	17
Drivetrain	16

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
(Use of technology - personal laptops, tablets and mobile phones)	• Competitors are not allowed cameras, cell phones and or other personal electronics in the skill area.

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 at the Brake Station criteria will be declared the winner.

- Tiebreaker #2: Tiebreaker #2: The competitor with the highest score in the Engine Mechanical criterial will be declared the winner.
- Tiebreaker #3: Tiebreaker #3: The competitor with the highest score in the Drivetrain criteria will be declared the winner.

8.3 Competition rules

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

NATIONAL TECHNICAL COMMITTEE MEMBERS

MEMBER ORGANIZATION	NAME
Newfoundland and Labrador	Charlie Druken
Prince Edward Island	Jeff Dingwell – Co-Chair
Nova Scotia	Percy Thurston
New Brunswick	Lloyd Keirstead
Quebec	Vincent Brochu
Ontario	Martin Restoule – Chair
Manitoba	Rahim Hosein
Saskatchewan	Andrew Humphreys
Alberta	Harley Breadner
British Columbia	Cateno Vassallo
Yukon	
Northwest Territory	John Spoelder
Nunavut	

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Olga Malvine Rwemera (olgamr@skillscanada.com).