Skills Compétences Canada

CONTEST DESCRIPTION

Heavy Vehicle Technology

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 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:
[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 have been identified in section 2.4 and/or 3.2 (to be completed by SCC) 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/skills/transportation/heavy-vehicle-technology/

2.2 Purpose of the Challenge

Provide competitors with an opportunity to display their skills, knowledge, and professionalism as they safely and efficiently diagnose, repair, and maintain any part of the power train, including its control systems, in mobile and stationary industrial equipment.

2.3 Duration of contest

12 hours

2.4 Skills and Knowledge to be tested.

Use hand, power, and diagnostic tools to safely and competently carry out repairs according to manufacturer's specifications.[5,7]
Read and understand work orders, interpret technical manuals, and keep service records.[5,6,7]

Skills for Success – [5]Reading, [6]Writing, [7]Problem Solving

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
Test Project only available at the start of the competition	May 2024

3.2 Tasks that may be performed during the contest.

Competitors will complete practical tasks in the following modules relating to on-road, off-road, mobile, and stationary heavy equipment. The tasks are designed to evaluate the competitor's ability to safely and efficiently maintain, diagnose, and repair heavy equipment (on-road and off-road, mobile and stationary)[4,7]

Engine Systems	2 hours
Electrical Systems	2 hours
Hydraulic Systems	2 hours
Drive-Train Systems	2 hours
Steering, Braking and Undercarriage Systems	2 hours
Workplace Practices	2 hours

Skills for Success – [4]Adaptability, [7]Problem Solving

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

Below are the manufactures that may be used along with the service information software:

- Caterpillar – software (SIS 2.0)
- Volvo – PROSIS, Tech Tool (PROSIS)
- Cummins – software (INSITE)
- Due to unforeseeable uncertainties, competition material, suppliers, and equipment are subject to change.

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.

- Pencils and pens
- Flashlight
- Multimeter (optional)
- Pocket screwdriver
- No other tools or toolbox is required by the competitor.

4.3 Required clothing provided by the competitor.

Competitors must wear pants and a shirt plus either coveralls or a shopcoat will long sleeves. All must be clean and in good condition. Clothing must not be loose-fitting and must not have drawstrings or dangling pieces.

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

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

- Nitrile gloves

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

- Snug fitting mechanics gloves
- CSA-approved safety footwear
- CSA-approved safety eyewear (clear lenses)
- Hearing protection (ear plugs or earmuffs)

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.

The format of the Test Project is a series of six modules, each involving multiple tasks, to be completed in rotation. Two hours are allocated for each module.
The six modules are:

1. Diesel Engines Systems
2. Hydraulic Systems
3. Electrical and Electronic Systems
4. Drive Train Systems
5. Steering, Braking, and Undercarriage Systems
6. Workplace Practices

The tasks will involve the maintenance, diagnosis, or repair of components or systems relating to diesel engines, hydraulics, electrical and electronics, drive trains, pre-delivery inspections, steering, brake and undercarriage systems, and precision measuring.

Each of the 9 sections of the Standards Specification will be tested at least once throughout the Test Project as indicated below:

1. Safety
2. Logical order of repair
3. Use and interpretation of technical information
4. Precision measurement
5. Fault finding
6. Appropriate use of tools
7. Maintenance or repair of components or systems
8. Communication of maintenance or repair process
9. Superior Workmanship

All Competitors will be given the same amount of time to complete each module.

The modules at each workstation will be completed on the assigned day so that progressive marking can take place.

TEST PROJECT MODULES	/100
Diesel Engines Systems	16.7
Hydraulic Systems	16.7
Electrical and Electronic Systems	16.7
Drive Train Systems	16.7
Steering, Braking, and Undercarriage Systems	16.7
Workshop Practices	16.5

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
Safety	• Competitors must not wear jewellery (rings, bracelets, watches, necklaces, pins), ties, lanyards, ID badges, or anything attached to them or dangling from them that might get caught in a piece of moving equipment • Long hair must be tied up or tied back and tucked away down the back of the shirt so none is dangling, for protection from moving equipment • Consistently and diligently follow the best procedures to protect health and safety in the working environment • Use appropriate personal protective equipment: Individuals must wear safety footwear and eye protection with side shields, and must wear ear protection, respiratory protection, and either barrier gloves or fitted mechanic's gloves, as needed • Select and handle appropriate substances, materials, tools, and equipment safely and in compliance with manufacturers' instructions • Dispose of substances and materials safely and sustainably • Predict and eliminate all risks related to required activities • Prepare and maintain an orderly workspace with regard to health and safety

Technology	No cell phones, camera, video recorders, music playing devices, and earphones
Tools / Infrastructure	No additional competitor supplied tools are allowed
External Judges	No competitor trainers will be judging.

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: In the event of a tie, the competitor with the highest score in the Safety criteria will be declared the winner.
- Tiebreaker #2: If a tie still remains, the competitor with the highest score in the Superior Workmanship criteria will be declared the winner.
- Tiebreaker #3: If a third tie occurs, the competitor with the highest score in the "Accurate Measurements" 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.

9 NATIONAL TECHNICAL COMMITTEE MEMBERS

MEMBER ORGANIZATION	NAME
Newfoundland and Labrador	Kent Hulan
Nova Scotia	Gerry Brymer
New Brunswick	Joey St-Amand
Quebec	Marco Bisson
Ontario	Angelo Spano – Co-Chair
Manitoba	Bryan Neufeld
Alberta	Bobby Haraba - Chair
British Columbia	Brad Holcik
Yukon	Doug McRae

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