Skills Compétences Canada











HEAVY VEHICLE TECHNOLOGY (Skill 49) 2027

POST-SECONDARY

Skills Compétences Canada
Calgary2027

CONTEST DESCRIPTION

Heavy Vehicle Technology

POST-SECONDARY

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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:

- ☐ Numeracy
- ☐ Communication
- ☐ Collaboration
- ☐ Adaptability
- ☐ Reading
- ☐ Writing
- ☐ Problem Solving
- ☐ Creativity and Innovation
- ☐ 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/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 and heavy equipment.

2.3 Duration of contest
12 hours (Daily: 8:30am Orientation, 9:00am Start Time)

2.4 Skills and Knowledge to be tested.

Use hand, power, and diagnostic tools to safely and competently diagnose and repair according to manufacturer's specifications.[5,7]

Read and understand work orders, interpret technical manuals, and keep service records.[2,5,6,7]

Skills for Success – [2]Communicaiton, [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 2027

3.2 Tasks that may be performed during the contest.

Competitors will complete practical tasks in the following stations 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)[2,4,7]

A Engine Systems	2 hours
B Hydraulic Systems	2 hours
C Electrical Systems	2 hours
D Drive-Train Systems	2 hours
E Steering, Braking and Undercarriage Systems	2 hours
F Workplace Practices	2 hours

Skills for Success – [2]Communication, [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 and diagnostic software:

- Caterpillar
- Volvo
- Cummins
- Vermeer
- John Deere
- Komatsu
- Case
- International

Note: 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 may be provided by the competitor.

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

4.3 Required clothing provided by the competitor.

Competitors must wear work wear with high visibility stripes. Competitors must wear well-fitting, full-length pants and a long-sleeve shirt plus either coveralls or a shop coat

with long sleeves. All must be clean and in excellent or new condition. Clothing must not be loose-fitting and must not have drawstrings or dangling pieces.

1 HEALTH AND SAFETY

4.4 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 safer in each skill area.

4.4.1 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.

4.4.2 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

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

Nitrile gloves

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

- Snug fitting mechanics gloves
- CSA-approved safety 15cm (6") work boots
- CSA-approved safety eye wear (clear lenses)
- Hearing protection (ear plugs or ear muffs)

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

2 ASSESSMENT

4.6 Point breakdown

Note: This list is subject to change.

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

The six stations are:

A. Diesel Engines Systems

B. Hydraulic Systems

C. Electrical and Electronic Systems

D. Drive Train Systems

E. Steering, Braking, and Undercarriage Systems

F. 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, braking 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:

A. Safety

B. Use and interpretation of technical information

C. Logical order of repair

D. Appropriate use of tools

E. Accurate measurement

F. Identification of faults, codes, or components

G. Maintenance or repair of components or systems

H Communication of maintenance or repair process

I. Superior Workmanship

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

The stations will be completed on the assigned day so that progressive marking can take place.

TEST PROJECT STATIONS	/100
1 Diesel Engines Systems	16.7
2 Hydraulic Systems	16.7
3 Electrical and Electronic Systems	16.7
4 Drive Train Systems	16.7
5 Steering, Braking, and Undercarriage Systems	16.7
6 Workshop Practices	16.5

3 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

4 ADDITIONAL INFORMATION

4.7 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.

4.8 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.

4.9 Competition rules

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

5 NATIONAL TECHNICAL COMMITTEE MEMBERS

MEMBER ORGANIZATION	NAME
Nova Scotia	Gerry Brymer
New Brunswick	Joey St-Amand
Quebec	Marco Bisson
Ontario	Angelo Spano
Manitoba	Bryan Neufeld
Alberta	Bobby Haraba
British Columbia	Brad Holcik
Yukon	Kelsey Schmidt
Saskatchewan	Brandi McTavish
Newfoundland and Labrador	Position vacant

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