

## *Contest Description*

<b>COMPETITION DATE:</b> March 24, 2023	<b>CONTEST AREA NAME:</b> Automobile Technology
<b>CONTEST AREA NUMBER:</b> 33	<b>LEVEL:</b> Post-Secondary
<b>DURATION OF CONTEST:</b> 3 Hours	<b>LOCATION:</b> College of the north Atlantic (Prince Philip Drive)

### CONTEST INTRODUCTION

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.

Skills and Knowledge to be tested.

The following will be tested during the contest: Engine Mechanical, Engine Management, Ignition Systems, Vehicle Emission Systems, Electrical Accessories, Electrical, Braking systems, Suspension and Steering, and Power Trains.

### CONTEST DESCRIPTION

List of documents produced and timeline for when competitors have access to the documents.

- No documentation to be released prior to competition.

Tasks that **may** be performed during the contest:

- Workshop Procedures that include <sup>2,5,9</sup>
  - Traditional manual/information printouts use.
  - Interprets work order information to convey diagnostic approach.
  - Explanation of service work performed.
- Internal Combustion Engine Mechanical Assembly/Disassembly <sup>1,7,9</sup>
  - Identify components
  - Component fault diagnosis
  - Inspection and operational testing (including compression, leak-down and timing)
  - Diagnosis and service of cylinder heads and blocks
  - Measurements with precision measuring tools which could include but not limited to; plastigauge, micrometers, feeler gauges, and straight edges



- Engine Management and Emissions <sup>7,9</sup>
    - Drivability diagnosis and repair
    - Test equipment usage
    - Scan Tool
    - Multi-meter (DVOM)
    - Lab-scope
    - System repair
  - Component operation and testing of Electrical Systems <sup>7,9</sup>
    - Starting and Charging Systems
    - Batteries
    - Accessories
    - Testing and diagnosis
    - Testing and Diagnosis Body and Chassis Electrical
    - Electric Drive System Safety
  - Braking Systems (excluding air brake systems) <sup>7,9</sup>
    - Base Brake systems
    - ABS / Traction / Stability/ Electric parking systems
    - Maintenance, repairs, & adjustments (may include rotor and drum service).
    - Diagnostics
  - Suspension and Steering <sup>7,9</sup>
    - Maintenance, repair and adjustment
    - Diagnosis
    - Component Replacement
  - Manual Transmission and Drivetrain Components <sup>1,7,9</sup>
    - Inspection, measurement and testing
    - Maintenance / adjustments
    - Driveline measurements and adjustments
    - Component repair
- Skills for Success –<sup>1</sup> Numeracy, <sup>2</sup>Communication, <sup>5</sup>Reading, <sup>7</sup>Problem Solving, <sup>9</sup>Digital*

## **EQUIPMENT, MATERIAL, CLOTHING**

Equipment and Material supplied by Skills Canada-Newfoundland and Labrador

- Automotive Technician general hand tools
- Precision Measuring tools for engines, brakes and driveline
- Digital multimeter and accessories
- Digital storage oscilloscope
- Diagnostic scan tools
- 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

Equipment and material provided by the competitor

- Competitors are **not** required to bring any tools or equipment.

Required clothing provided by the competitor

- A professional image must be portrayed. Appropriate work apparel must be worn. (Work shirts, coveralls, shop coats, work pants only, no hats and shirts must be tucked in)

## SAFETY Requirements

The health, safety and welfare of all individuals involved with Skills Canada NL are of vital importance. Safety is a condition of participation and shall not be sacrificed for the sake of expediency. At the discretion of the judges and technical committees, any competitor can be denied the right to participate should they not have the required proper safety equipment and/or act in an unsafe manner that can cause harm to themselves or others.

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

- Nitrile Gloves (Large and Extra Large)
- Hearing Protection

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

- Safety Glasses (meets CSA Standard Z94.3 Class 1)
- CSA approved Safety shoes
- Hearing protection optional

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

## EVALUATION/JUDGING CRITERIA

Point Breakdown

Note: This list is subject to change.

POINT BREAKDOWN	/100
Engine Mechanical	35
Electrical	35
Brakes and Related Systems	30

## ADDITIONAL INFORMATION

Tie (No ties are allowed)

- **Tiebreaker #1:** The competitor with the highest score at the Electrical station criteria will be declared the winner.
- **Tiebreaker #2:** The competitor with the highest score in the Engine Mechanical criteria will be declared the winner.
- **Tiebreaker #3:** The competitor with the highest score in the Brakes and related systems criteria will be declared the winner.

## Competition Rules

Please refer to the competition rules for all general SCPC information.

## PROVINCIAL TECHNICAL COMMITTEE MEMBERS

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