



# Cariboo Regional Skills Competition

Scope Document

*Automotive Service (Post-Secondary)  
(2024)*

Thompson Rivers University  
*March 1, 2024*

## Automotive Service (Post-Secondary) (2024)

### **Purpose of the Challenge:**

To evaluate a student's performance in areas such as automotive theory and diagnosis and repair of automotive systems.

### **Skills & Knowledge to be Tested: The competition topics MAY include:**

#### **1. DRIVABILITY PROBLEM – FUEL / IGNITION / EMISSION**

- a) Use of fuel pressure testing equipment.
- b) Primary and secondary ignition scope pattern analysis (ignition scope will be connected to vehicle).
- c) Use of “scan tool” to access data stream trouble codes and information.
- d) Testing emission control devices or systems.
- e) Use of service manuals or electronic information systems for accessing test procedures or technical data.

#### **2. “MIL” LIGHT – DIAGNOSE CAUSE**

- a) Use of “scan tool” to retrieve fault codes and/or clear codes.
- b) Use of service manuals or electronic information systems for accessing test procedures or technical data.

#### **3. ELECTRICAL SYSTEMS – LIGHT OR ACCESSORY CIRCUITS**

- a) Visual inspection of components and/or wiring/connection integrity.
- b) Use of digital “D.V.O.M.” for testing components and/or wiring/connection integrity.
- c) Use of service manuals or electronic information systems for accessing test procedures, wiring schematics or technical data.

#### **4. CRANKING SYSTEMS – DIAGNOSIS**

- a) Use of “A.V.R.” tester for battery, alternator, starter and circuit testing.
- b) Use of digital “D.V.O.M.” for “voltage drop” testing and/or wiring/connection integrity.
- c) Use of service manuals or electronic information systems for accessing test procedures or technical data.

#### **5. COMPONENT TESTING – ELECTRICAL / ELECTRONIC**

- a) Use of digital “D.V.O.M.” for circuit testing.
- b) Use of service manuals or electronic information systems for accessing test procedures or technical data.

#### **6. BRAKES – INSPECT, EVALUATION AND REASSEMBLY**

- a) Visual inspection of parts and written recommendations.
- b) Use of applicable measuring tools (micrometer, calipers, drum gauge, etc.).
- c) Reassembly of brake system.
- d) Use of service manuals or electronic information systems for accessing test procedures or technical data.
- e) Multiple choice questions for identifying various automotive components and tools.

#### **7. OIL CHANGE**

- a) Change the oil in a vehicle.

#### **8. THEORY EXAM**

- a) Multiple choice questions that include questions from all automotive mechanical systems and servicing techniques.

### **Safety Instructions:**

Safety awareness/requirements will be maintained within minimum industry standards at all times. A contestant will not be allowed to compete without the safety equipment noted on this document.

### **Equipment / Tools / Materials**

#### **Supplied by Committee:**

- All necessary tools and equipment

#### **Supplied by Contestant:**

- Safety footwear (CSA approved or similar)
- Safety glasses
- Coveralls

### **Judging / Distribution of Marks**

Each student will be evaluated on:

- a) Diagnosis / Repair / Adjustment procedures and sequences (20 points)
- b) Accuracy of Diagnosis / Repairs / Adjustments (20 points)
- c) Correct use of equipment and tools (20 points)
- d) Correct Safety Procedures (20 points)
- e) Efficient use of written and electronic information systems (20 points)

**Total 100 points Note: If Theory Exam is used it will be based on 100 points**

#### **Technical Committee:**

Technical Chair: John Wrigley [jwrigley@tru.ca](mailto:jwrigley@tru.ca)