



21ST ANNUAL **TERRITORIAL COMPETITION**

CONTEST DESCRIPTION DOCUMENT

53 – OUTDOOR POWER AND RECREATION EQUIPMENT Secondary Level

(NOTE: Scope may change without notice)

PURPOSE OF THE CHALLENGE

DURATION: 6 HOURS

To recognize and reward the Small Powered Equipment students who demonstrate achievement in skills and knowledge necessary to service today's small powered equipment.

SKILLS AND KNOWLEDGE TO BE TESTED

- To demonstrate the skill and knowledge involved with the service and repair of two and four stroke engines
- Use of metric precision measuring tools
 - Micrometers
 - Dial bore gauge
 - Vernier caliper
 - Feeler gauge
 - Dial indicator
 - Plastigauge
- Accurately measure and analyze engine components for wear
- Fuel Injection and Carburetor theory, adjustments, measuring and parts and circuits identification
- Use of repair manuals for retrieval of procedures, specifications, and Troubleshooting charts
- Accurately perform compression and crankcase pressure and vacuum test

- Technical competence and safe work practice/procedures
- Tool handling and recognition
- CVT Transmission service and theory of operation
- Belt, Chain, Gear Final Drive System Service
- Hydraulic Brake System Inspection
- Knowledge of Trade related Tire applications and designs
- General knowledge of 4 Cycle theory
- General knowledge of 2 Cycle theory
- Use of Digital Volt-Ohm Meter
- Electrical Measurements including Volts, Ohms, Amps, and Voltage Drops
- Ignition, charging, starting, and lighting system theory, inspection, and diagnosis

Due to physical constraints equipment will not be operational.

ESSENTIAL SKILLS

Essential skills are used in nearly every job to varying degrees. They provide a foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. Good Essential Skills will help you understand and remember concepts introduced in technical training. The level of Essential Skills required for most trades is as high or higher that for many office jobs.

Of the nine skills that have been identified and validated as key essential skills for the workplace, this contest involves the following:

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|-------------------------------------|---------------------|-------------------------------------|--------------------|-------------------------------------|---------------------|
| <input type="checkbox"/> | Continuous Learning | <input checked="" type="checkbox"/> | Numeracy | <input checked="" type="checkbox"/> | Thinking |
| <input type="checkbox"/> | Digital | <input type="checkbox"/> | Oral Communication | <input type="checkbox"/> | Working with Others |
| <input checked="" type="checkbox"/> | Document Use | <input checked="" type="checkbox"/> | Reading Text | <input type="checkbox"/> | Writing |

EQUIPMENT, TOOLS, SUPPLIES, AND CLOTHING

PROVIDED BY THE COMPETITOR:

- Safety glasses
- CSA approved safety footwear
- Coveralls

PROVIDED BY THE COMMITTEE:

- Small engine components and vehicles
- All necessary materials, hand tools, diagnostic equipment, and shop equipment to perform the tasks

SAFETY REQUIREMENTS

Failure to comply with safety regulations will result in disqualification or removal of competitor from competition.

Safety goggles/glasses, CSA approved safety footwear, and appropriate work apparel (coveralls/shop coats) must be worn at all times

JUDGING CRITERIA

1. Knowledge exhibited by the level of completion of the written test
2. Comprehension of written instructions and safe service procedures
3. Interpretation and performance of all tasks
4. Diagnostic abilities
5. Safe and clean work habits

POINT BREAKDOWN / 100 TOTAL

SECONDARY - POINT BREAKDOWN	/100
50 Question Multiple Choice Theory Exam & Parts Identification Lab	10
Electrical Circuit Diagnostics and Ohm's Law Lab	10
Recoil Starter Diagnostic, Service and Theory Lab	10
Ignition, Charging, and Starting System Diagnostics Lab	10
Carburetor and EFI Service and Theory Lab	10
Motorcycle Brake and Final Drive Service and Theory Lab	10
2 Stroke Top End Assembly and Measurement Lab	10
4 Stroke Engine Diagnostics Lab i.e. Compression & Leakdown Tests	10
1 Cylinder DOHC Valve Adjustment and Cam Timing Lab	10
2 Stroke Compression and Crankcase Pressure/Vacuum Test Lab	10

TECHNICAL COMMITTEE MEMBERS - JUDGES

Greg Skauge, Tech Chair

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For details regarding the Skills Canada National Competition Small Powered Equipment Contest Description, please visit:

<https://www.skillscompetencescanada.com/en/scnc-2019-competition-documents/>