

2021 PROVINCIAL SKILLS CANADA COMPETITION



CONTEST DESCRIPTION

CONTEST AREA: AUTOMOBILE TECHNOLOGY			LEVEL: Post-Secondary
COMPETITION DATE AND TIMES:			LOCATION: Competitors will compete individually from their local Post-Secondary Institution
Orientation	April 24	8:00 AM	
Competition Day 1	April 24	8:30 AM – 3:00 PM	
Competition Day 2	April 25	8:30 AM – 3:00 PM	
Lunch		12:00-12:30pm	
DURATION: 8 HOURS			WorldSkills Trade #: 33
<p>COMPETITION FORMAT: (VIRTUAL, AT A POST-SECONDARY INSTITUTION)</p> <p>Competitors will compete individually, in person, from their local Post-Secondary Institution. Location specific COVID-19 protocols must be followed. Post-Secondary Institutions and competitors will need to work together to ensure the competitor is ready for success on their competition day. They will need to prepare their competition space with all of the required tools, equipment, materials, and technology (as listed below) that will be needed to complete the competition. This competition will be closed to the public. Only registered competitors and assigned Provincial Technical Committee members will be allowed to attend.</p> <p>COMPETITION ORIENTATION: The competition will begin with a virtual orientation. Competitors will join the assigned videoconference link that will be emailed to all registered competitors for the competition orientation. Camera’s MUST be on and competitors visible on the camera during the orientation.</p>			
<p>PROJECT SUBMISSION LINK:</p> <ul style="list-style-type: none"> • https://form.jotform.com/SkillsAB/2021PSCC • Multiple files can be uploaded at once, each file has a maximum size of 1G. If file sizes are larger than 1G, please follow alternate instructions through the submission link. <p>ACCEPTED FILE TYPE: pdf, doc, docx, xls, xlsx, csv, txt, rtf, html, zip, mp3, wma, mpg, flv, avi, jpg, jpeg, png, gif. If you would like to submit a different type of file, please place it in a zip folder.</p> <p>To create a zip folder – Select all the files that you would like to submit and right-click your mouse, a menu will open, select Send To, and then click on Compressed (zipped) folder. A zip file will then be created containing your submission documents.</p>			

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SAFETY:

The health, safety, and welfare of all individuals involved with Skills Canada Alberta are of vital importance. Safety is a condition of participation with Skills Canada Alberta 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.

Safety Checklist: It is the responsibility of each competitor and teacher to review the Safety Checklist (<https://skillsalberta.com/additional-2021-competition-resources/>) in advance of the competition and ensure they are able to meet all safety requirements. During the orientation, the safety checklist will be formally reviewed.

AWARDS CEREMONY INFORMATION: Please join us for a live virtual awards ceremony on May 13th at 6:30PM.

Please note: This document is subject to change as competition information is updated. Competitors are responsible for staying up to date with the most recent information. Check the footer for last updated date. Changes will be highlighted in yellow

CONTEST INTRODUCTION

To identify and evaluate a competitor's knowledge of Automobile Technology. The competitor will display his or her understanding of specific areas of the automobile and demonstrate their skills for maintaining and repairing components related to those areas.

SKILLS AND KNOWLEDGE TO BE TESTED

There will be a combination of practical skill assessments and analysis of information and case studies.

PROJECT DESCRIPTION

Brakes and Stability Control Systems

Competitors may be required to:

- Dis-assemble and assemble disc and drum brake assemblies.
- Measure minimum rotor thickness, maximum rotor thickness variation, and rotor run-out.
- Measure brake drum diameter and brake drum out of round.
- Properly adjust brake shoe to drum clearance.
- Adjust wheel bearings.

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- Flare and bend brake tubing.
- Machine brake components using an on car lathe and or off car lathe.

Suspension and Steering Systems

Competitors may be required to:

- Identify the type of suspension and steering systems used in a vehicle.
- Remove and install the coil spring in a strut assembly.
- Dismount and mount a tire on a rim.
- Perform a tire repair.
- Balance a tire and rim assembly and check the assembly for road force variation.
- Interpret wheel alignment readings and recommend corrective adjustments.

Driveline

Competitors may be required to:

- Measure differential pinion bearing preload.
- Measure backlash in a differential assembly.
- Identify whether a gear tooth pattern is acceptable.
- Identify paths of power in a manual transmission.
- Identify components in a manual transmission.
- Interpret driveline angles.

Body Electrical

Competitors may be required to:

- Perform electrical measurements on an electrical circuit to verify operation.
- Perform electrical measurements with a DVOM, Lab Scope and/or a test light.
- Manufacture basic electrical systems using crimping and soldering tools.
- Interpret a wiring diagram.
- Diagnose faults in an electrical circuit.

Engine Mechanical

Competitors may be required to:

- Remove and install components on an engine.
- Measure engine components for flatness, out of round, taper, diameter, endplay, clearance and lift.
- The competitor may be required to use dial indicators, straight edges, feeler gauges, micrometers, cylinder bore gauge, telescopic gauges, plastigauge or calipers.
- Perform a cylinder leak down test and compression test.

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Engine Performance

- Diagnose operational characteristics of the engine. Use a scan tool to identify DTC's in the engine management system. Follow the manufacturer's diagnostic procedures to identify the cause of the DTC and the repair required to remedy the condition. This may require the competitor to use common diagnostic tools to verify electrical circuits for voltage, amperage and resistance as well as identifying opens, shorts to ground, shorts to voltage and excessive resistance.
- Use a scan tool to activate engine management outputs.

EQUIPMENT & MATERIALS

All materials and equipment required for the competition will be supplied by the institutes.

Competitor Provided Tools, Materials, and Equipment

CSA Approved Steel Toed Footwear	Calculator	
CSA Approved Safety Glasses		
Pencil		

JUDGING CRITERIA

Each competitor will be judged for their ability to comprehend written instructions, interpret and perform tasks related to each practical or written test. Each competitor must demonstrate common safety practices. All tasks are equally weighted, and the total is comprised of an average of all tasks combined.

TIE BREAKING PROCESS

Highest mark in Engine Mechanical and Body Electrical combined will break the tie.

CLOTHING REQUIREMENT

Appropriate work clothing must be worn to compete. All clothing must be neat and clean, and free of rips and tears. Casual wear such as shorts and open toed shoes/sandals will not be permitted. No loose-fitting clothes or jewelry.

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ADDITIONAL INFORMATION

Skills Canada Alberta Regional and Provincial Rules and Regulations
[Regional and Provincial Rules and Regulations](#)

Post-Secondary Competitor Information is [available here](#).

Lunch

Lunch will be provided by Skills Canada Alberta

Team Alberta Information

Team Alberta will be selected from competition Gold medalists who will then be eligible to participate at the Skills Canada National Competition (SCNC) in a virtual format May 25-30, 2021. It is recommended that competitors review the SCNC contest description to be familiar with the national contest description and project at <http://www.skillsCanada.com/>.

Ethical Conduct

We recognize that participants will be competing individually in their own unique environments. We expect all competitors to compete fairly, respecting and abiding by the established rules in the true spirit of Skills Canada Alberta.

Letter of Participation

Competitors who participate in the 2021 Provincial Skills Canada Competition are eligible for a Letter of Participation by request by contacting katherinek@skillsalberta.com.

COMMITTEE MEMBERS and DESIGNERS

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