

2022 POST-SECONDARY PROVINCIAL SKILLS CANADA COMPETITION



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Contest Description

Edmonton Expo Centre, Edmonton

May 4 & May 5, 2022

EVENT: Automobile Technology	LEVEL: Post Secondary																
WORLDSKILLS TRADE #: 33	LOCATION: Hall C, Edmonton Expo Centre, Edmonton																
DURATION: 10 Hrs. (Two Days)																	
COMPETITION SCHEDULE:																	
<div> <div>May 4:</div> <table> <tr> <td>ORIENTATION</td><td>8:00AM-8:30AM</td></tr> <tr> <td>Competition Start</td><td>8:30 AM</td></tr> <tr> <td>Lunch</td><td>11:45-12:45</td></tr> <tr> <td>Competition Ends</td><td>4:00 PM</td></tr> </table> </div> <div> <div>May 5:</div> <table> <tr> <td>ORIENTATION</td><td>8:00AM-8:30AM</td></tr> <tr> <td>Competition Start</td><td>8:30AM – 10:00AM</td></tr> <tr> <td>LUNCH</td><td>11:45AM-12:45PM</td></tr> <tr> <td>Competition Ends</td><td>3:00 PM</td></tr> </table> </div>		ORIENTATION	8:00AM-8:30AM	Competition Start	8:30 AM	Lunch	11:45-12:45	Competition Ends	4:00 PM	ORIENTATION	8:00AM-8:30AM	Competition Start	8:30AM – 10:00AM	LUNCH	11:45AM-12:45PM	Competition Ends	3:00 PM
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Please Note: Due to the uncertainty caused by COVID 19, the PSCC could be subject to change at any time based on the public health context. 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 the Automotive Technology trade. 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:

Practical Demonstrations – 100%

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PROJECT DESCRIPTION

Automotive Technicians perform preventative maintenance, diagnose faulty operations and repair automotive vehicles and light trucks. The competitor is required to complete multiple competition areas while being held to industry standard. The areas are as follows:

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.
- Flare and bend brake tubing.
- Determine if a wheel speed sensor needs replacing.
- Use a scan tool to diagnose chassis systems.
- 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.
- Perform a toe adjustment.
- Diagnose and repair a tire pressure monitor system.

Driveline

Competitors may be required to:

- Remove and install universal joints in a driveshaft.
- Remove and install a CV boot on an axle shaft.

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- 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.
- Remove and install a clutch assembly to a flywheel.
- Perform flywheel runout check.
- Install a clutch housing and transmission input assembly.

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.

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.

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Equipment & Materials

Equipment and Materials Competitors Must Supply:

CSA Approved Safety Glasses	CSA approved Footwear	HB Pencil and Eraser
Appropriate work clothing		

Equipment and Materials Supplied by the Committee:

Materials	Hand tools	
Electrical test equipment required to perform the tasks	Calculators	

JUDGING CRITERIA

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

TIE BREAKING PROCESS

In the event of a tie the competitor's safety mark will be added into their total mark. The competitor with the highest total points will be the winner. In the event of a second tie the competitor will be given points based on their standing in each individual competition area.

1st place 5 points

2nd place 4 points

3rd place 3 points

4th place 2 points

5th place 1 point

The competitor with the highest total points will be the winner.

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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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.

ADDITIONAL INFORMATION

Skills Canada Alberta Regional and Provincial Rules and Regulations

[Regional and Provincial Rules and Regulations](#)

Competitors must be prepared to adhere to all public health measures in place at the time of the PSCC.

Lunch

Lunch for competitors will be provided by Skills Canada Alberta.

Parking & Venue Maps

<http://edmontonexpocentre.com/attend/parking/>

Competitor Registration

Competitor Registration for the PSCC will take place on Tuesday May 3, 2022 from 9:00am-6:00pm outside Hall B of the Edmonton EXPO Centre. Please note you will be required to present your COVID-19 proof of vaccination.

Virtual Awards Ceremony

The Virtual Awards Ceremony will take place **Friday, May 6th at 6:30pm**. A link will be made available on the website with additional information prior to the ceremonies.

Team Alberta Information

Team Alberta (Post-Secondary) will be selected at the PSCC happening on May 4 - May 5, 2022. Top eligible medalists will compete at the Skills Canada National Competition (SCNC) May 24-28, 2022 in Vancouver, BC. It

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is recommended that competitors review the SCNC contest description to be familiar with the national contest description and project at <http://www.skillscanada.com/>.

If a competitor is not able to attend the SCNC, competitors MUST notify Victoria Anderson Victoriaa@skillsalberta.com prior to the start of competition. If a gold medalist is not able to attend the SCNC, the next top-ranking individual will be asked to participate.

Test Project change at the Competition

Where the Test Project has been circulated to Competitors in advance, PTC can change a maximum of 30% of the work content.

Questions?

Please contact Mike Sury Mikes@skillsalberta.com if you have any questions regarding the Contest Description.

Committee Members

Lee Swalm- SAIT	Harley Breadner-SAIT
Russ Belik - NAIT	Rick Martineau - ConsuLab
Tim Isaac	Darcy Wallace - SAIT
Dave Daniels – Lethbridge College	Martin Larsen – Grande Prairie Regional College
Wayne Richardson-AIT	Mark Hager- Lakeland College
Brad Gabrielson – Red Deer College	Mike Kaziechko – AIT
Patrick Brown-Harrison - SAIT	Allan Hopper- Lakeland College

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