

2012 South West Regional Skills Canada Competition

Scope Document

Lethbridge College

Thursday, April 19, 2012

EVENT: Auto Service	LEVEL: Secondary
TIMES: Check-in Time: 7:30am Orientation: 8:00 am Start Time: 8:30 am End Time: 2:30pm	LOCATION: Lethbridge College
DURATION: 6 Hours	REGIONALIZED: Yes
Number of Competitors That Will Qualify for the 2012 Provincial Skills Canada Competition: 2	

GENERAL DESCRIPTION

Practical testing to identify and evaluate a student's (2 per team) performance of Automotive Service technology, while demonstrating the skills required for maintaining and repairing automobiles. Please Note: The Provincial Skills Canada competition is an individual event in Automotive Service.

SKILLS AND KNOWLEDGE TO BE TESTED

Practical Demonstrations 100%

SENIOR COMPETITION TOPICS – Practical Demonstrations 100%

All events must have a "Component Identification" segment for each of the following topics - The students will be identifying automotive components, both on and off the vehicle.

Steering and Suspension

- The students will be required to correctly inspect a suspension and steering system. Component identification and system identification may be tested. Adjustments and service procedures for these systems may be tested also.

Drivability & Scan Tools

- The students will be able to diagnose a drivability concern on a 2006 Pontiac G6 General Motors vehicle. The MAC Mentor or Snap-on Modis scan tools will be used for this competition. Electrical diagnosis, scan data interpretation and basic sensor operation and identification will be required.

Body Electrical

- The students will be diagnosing basic electrical circuits and components using a DVOM. These could include series circuits, parallel circuits and series-parallel circuits. Relay operation may be incorporated into the circuits. DVOM use for making voltage measurements, voltage drops, amperage and resistance measurements. The student will also identify basic electrical components and switches

Brakes and Stability

- The student may be required to identify components of the brake and stability systems. Component removal, inspection, measurement and replacement of the above systems may be tested.

Engine Measurement

- The students will be required to correctly identify various engine components and measure those components. The engine measurements may include cylinder block measurements, crankshaft or connecting rod bore measurements, camshaft measurements, piston measurements and valve train measurements. The student may also be tested on basic engine timing concepts.

Manual Transmissions

- The students will be required to identify paths of power through a manual transmission. Service checks such as endplay measurements may be tested as well as component descriptions.

Written Exam

- The students will be allotted 40 minutes to take a written exam of 79 questions.

EQUIPMENT & MATERIALS

Equipment and Materials Competitors Must Supply:

The committee will supply all necessary hand tools, materials and electrical test equipment required to perform the tasks. Appropriate footwear (sandals and synthetic footwear are not appropriate). Competitors must wear steel-toed footwear to compete, please bring your own or Career Transitions will provide competitors with steel-toe caps.

Equipment and Materials Supplied by the Committee:

HB Pencil Hearing Protection Safety Glasses
 Calculator Steel-toe Caps Coveralls or Shop Coat

NOTE: No portable, personal sound systems (ipod, mp3, etc.) and no cell phones allowed in the contest area.

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.

COMPETITORS MUST WEAR THE FOLLOWING:

CSA Approved Safety Glasses
 CSA Approved steel toed shoes/boots
 Smock or Coverall

JUDGING CRITERIA

Each student will be scored for their ability to comprehend written instructions, interpret and perform tasks related to each practical test, and demonstrate common safety practices. All competition topics will be scored equally to ensure fairness.

RELATED CAREER AND TECHNOLOGY STUDIES COURSES

Descriptions of all modules are located at the following website:

<http://www.education.gov.ab.ca/cts>

(ANY OF THESE MODULES THAT PERTAIN TO THE SEVEN COMPETITION AREAS LISTED ABOVE)

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|------------------------------------|---|
| MEC 1040: Engine Fundamentals | MEC 2150: Suspension Systems |
| MEC 1090: Electrical Fundamentals | MEC 2160: Steering Systems |
| MEC 2030: Lubrication & Cooling | MEC 3030: Engine Diagnosis |
| MEC 2040: Fuel & Exhaust Systems | MEC 3040: Engine Tune Up |
| MEC 2060: Ignition Systems | MEC 3060: Engine Reconditioning – Head |
| MEC 2070: Emission Controls | MEC 3070: Engine Reconditioning – Block |
| MEC 2090: Electrical Components | MEC 3090: Computer Systems |
| MEC 2110: Braking Systems | MEC 3130: Automatic Transmissions |
| MEC 2130: Drive Line | MEC: 3150: Wheel Alignment |
| MEC 2140: Transmissions/Transaxles | |

ADDITIONAL INFORMATION

Event Schedule

7:30	Students check-in
8:00	Orientation & Safety
8:30	Competition Begins
11:30	Lunch Break – 30 minutes
12:00	Competition resumes
2:30	Competition ends – Judging Begins Competitors may proceed to the competitor lounge
3:30	Awards Ceremony (IB Theater) – open to the public

Parking Information

Parking Lot N is reserved for the Skills event. If you are coming by bus or van please park in Lot J.

COMMITTEE MEMBERS

- Jerry de Jager – Lethbridge College
- David Daniels – Lethbridge College
- Sheldon Anderson – Lethbridge College
- Alan Oudshoorn – Calvin Christian School
- Margaret Vennard – Career Transitions



OCCUPATIONAL HEALTH AND SAFETY

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Hazard Assessment Worksheet

Department/Faculty: Automotive	Position: Skill Canada Competition	
Assessment completed by:	Date: 2011	Revision Date:

Type of Work/Activity	Hazard Type: (Physical, Chemical, Biological, Ergonomic, Environmental)	Risk (1-3) See below				Controls in Place	Controls Needed
		Exposure Frequency	Severity	Probability	Total		
List all types of work done in this work area or job	List the hazards for each work related activity					Engineered Administrative Personal Protective Equipment	List if any additional controls are required for that Hazard and the date they will be in place
Using hand tools	Pinch points, cuts/puncher wounds	1	1	1	3	Proper hand position, personal protective equipment as required	
Using power tools, example grinders, impact wrenches	Noise, cuts and entanglement	1	1	1	3	Hearing protection as required, proper clothing, no jewelry	
Working on engines	Pinch points, noise, cuts, entanglement	1	2	1	4	Hearing protection as required, proper clothing, no jewelry	
Varsol tank, cleaning parts	Chemical exposure	1	1	1	3	Use personal protective equipment specified on MSDS (Material Safety Data Sheet)	
Working with compressed air	'Stuck by' when connecting and disconnecting, injection, noise	1	1	1	3	Proper hand position, hearing protection. Do not blow dust off clothing, regulate air pressure.	

Frequency Rating:

1. Low, less than 10% of work day
2. Medium, up to 65% of work day
3. High, over 66% of work day

Severity:

1. Minor, potential for minor injury
2. Moderate, potential for lost time injury
3. Severe, potential for severe injury

Probability:

1. Low, unlikely to happen
2. Medium, likely to happen
3. High, very likely to happen

Hazard Rating:

- 3-4 Low, requires monitoring
- 5-6 Moderate, requires attention
- 7-9 High, requires immediate attention