



Task prepared for the project “Using Technology to Facilitate Connections between Literacy and the Broader Community” (2014)

This task set was vetted by this project and was not reviewed by the QUILL team.

### OALCF Task Cover Sheet

**Task Title:** Explore the Automotive Service Technician Trade

<b>Learner Name:</b>	
<b>Date Started:</b>	<b>Date Completed:</b>
<b>Successful Completion:</b> Yes ___ No ___	
<b>Goal Path:</b> Employment ___ Apprenticeship <input checked="" type="checkbox"/> Secondary School ___ Post Secondary ___ Independence ___	
<b>Task Description:</b> Learners will read about the trade and then try out some Automotive Service Technician skills.	
<b>Competency:</b> A: Find and Use Information B: Communicate Ideas and Information C: Understand and Use Numbers	<b>Task Group(s):</b> A1: Read continuous text A2: Interpret documents B2: Write continuous text B3: Complete and create documents C3: Use measures
<b>Level Indicators:</b> A1.3: Read longer texts to connect, evaluate and integrate ideas and information A2.2: Interpret simple documents to locate and connect information B2.1: Write brief texts to convey simple ideas and factual information B3.2: Use layout to determine where to make entries in simple documents C3.1: Measure and make simple comparisons and calculations	
<b>Performance Descriptors:</b> see chart on last page	
<b>Materials Required:</b> <ul style="list-style-type: none"><li>• Instruction sheet</li><li>• Handout “On the Job with an Automotive Service Technician”</li><li>• Handout “Do you have the essential skills to be an automotive service technician?”</li><li>• Pen or pencil</li></ul>	



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The Canadian government provides information for persons interested in entering the skilled trades. Here is an opportunity to learn about being an automotive service technician.

**Learner Information and Tasks:**

**Task 1:** Look at the entire handout “On the Job with an Automotive Service Technician”. List the essential skills used by an automotive service technician.

**Tasks 2-5:** Look at the handout “Do you have the essential skills to be an Automotive Service Technician?” Try the questions. Keep in mind that these are questions that a **journeyperson** (who has had about 5 years of training on the job and in a classroom) should be able to answer.



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## Using Essential Skills: On the Job with an Automotive Service Technician

Are you starting an apprenticeship in automotive service or are you thinking about a career in this trade? Pursuing a career as an automotive service technician requires strong essential skills such as reading continuous text, interpreting and completing documents, using measures and critical thinking.

Use this booklet to:

- learn how automotive service technicians use essential skills;
- follow the daily routine of an automotive service technician; and
- find out how your essential skills compare to those of a journeyman in automotive service.

### How automotive service technicians use essential skills

**Automotive service technicians** use essential skills to perform a variety of job-related tasks, for example:

- **interpret and complete documents** to read work orders, record repair and service information, and fill out vehicle inspection forms and job estimates;
- **interact with others** to discuss with supervisors and co-workers what jobs need to be done and who needs to do them; and
- **problem solving** to be able to troubleshoot, determine the logical cause of the problem and figure out how to resolve it.

**Automotive service technicians** inspect, diagnose, repair and service the mechanical, electrical and electronic systems of passenger vehicles. They work for car dealerships, garages and service stations, as well as automotive specialty shops and stores that have automotive service centres. They may also be self-employed.

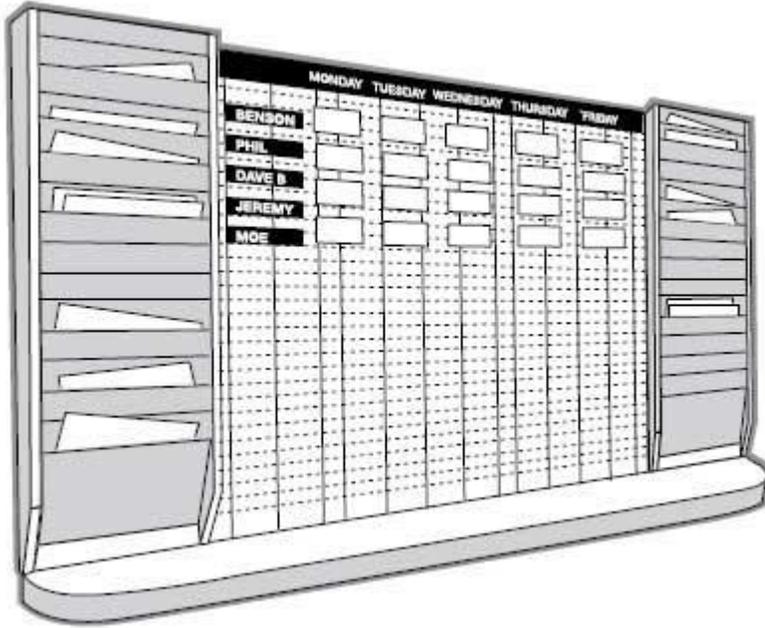
### A day in the life of an automotive service technician: Phil’s story

#### Reading a work order

Phil is an automotive service technician in the service department of a car dealership. When he arrives for his shift, Phil looks at the work order board to see the tasks he has been assigned for the day (*interpret documents*). Before getting started, he asks his supervisor if there are any “waiters”— jobs where the customer waits at the dealership while the technician performs the repair or service (*interact with others*). These jobs must be done first. Phil’s supervisor answers that there are no waiters at the moment and tells Phil he can start on his first work order.

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Phil punches in with his time card to record the start time for this particular job. He then reads over the work order, which tells him to do a pre-owned vehicle inspection and fill out a vehicle safety inspection form (*complete documents*). The estimated time for this job is two hours, so Phil will have to plan his time carefully (*manage time*). He gets the car keys from the key box, finds the car in the lot and takes it out for a road test.

## Completing a road test

Every automotive service technician has a different way of doing things. Phil prefers to do a road test first when he is inspecting a car. He listens to the engine to check for rattling or other unusual noises; changes gears to make sure that the shift is smooth; tests the brakes, including the parking brake; and makes sure that the steering is aligned. He also tests the lights, signals, windshield wipers, heater and air conditioner to make sure the electrical system is in working order (*thinking skills – critical thinking*). When the road test is finished, he drives the car back to the dealership, puts it on a hoist to lift it off the ground and checks off the items he just tested on the inspection form (*complete documents*).

## Checking the wheels and tires

In the shop, Phil uses a tire tread depth gauge to measure the tread remaining on all four tires. He pushes down on the plunger, inserts the needle into the tire groove, pushes down on the gauge and checks the gauge reading. Most new tires have a reading of  $\frac{10}{32}$ ". Tires need to be replaced when the tread depth is under  $\frac{2}{32}$ ". The gauge reads  $\frac{9}{32}$ ", so the tire is safe (*use measures*). He enters this information on the inspection form and continues to check the tires for cracks, cuts or bulges in the sidewall (*complete documents*). He also looks for uneven wear, which is a sign of a wheel alignment or suspension problem (*thinking skills – problem solving*). He inspects the spare tire and makes sure all the tires have enough air. When he has finished this part of the inspection, Phil fills out the relevant sections of the inspection form (*complete documents*).

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## Checking the fluids

Next, Phil checks the car’s fluids to make sure they are topped up and that there are no leaks. When he checks the master cylinder for the brake fluid, he notices that the fluid level is low. He will need to find out why it is low, and he makes a note of this on the work order (*write continuous text*). He also reads the reservoir cap on the master cylinder to find out what grade of brake fluid the car takes so that he can top it up (*read continuous text*).



## Checking the brakes

When the brake fluid is low, it could be a sign of a problem such as a leak or brake pad wear. Phil removes the wheels and inspects the brakes to make sure there are no fluid leaks. He checks the brake hoses and lines and looks at the condition of the rotors and brake pads. Any discoloration, cracking or unevenness may be a sign of damage. Phil uses a manual brake gauge to find out how much brake pad is left; he places each gauge against the pad to find the gauge that matches the thickness of the pad (*use measures*). He checks the vehicle

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specifications and finds that front brake pads under 3 mm and rear brake pads under 2 mm are considered unsafe. Phil finds that the front brake pad has 6 mm left, so it does not need to be changed. However, the rear brake pad has only 2 mm left, so it will need to be replaced (*thinking skills – decision making*).

Next, Phil uses a digital vernier caliper to measure the thickness of the rotors. The rotors can be measured in either inches or millimetres (*use measures*). He checks the vehicle specifications on a computer to determine minimum rotor thickness (*use digital technology*). For this vehicle, rotors under 9 mm are considered unsafe and must be replaced. The front rotor is 25.03 mm and is in very good condition. The rear rotor is 9.93 mm, which is still good, but since it is slightly warped, Phil decides that it should be replaced. He makes a note of this on the back of the work order (*write continuous text*).

### *Vehicle inspection:*

- Checked fluid levels. Noticed that brake fluid is low. Further diagnosis is needed.
- Checked brake hoses and brake lines. No sign of leaks.
- Checked brake pads. Front brakes are 6 mm and rear brakes are 2 mm.
- Recommended replacing rear brake pads and rear rotors.

## Solving problems

Phil is about to start the next part of the inspection when his supervisor tells him that there is a waiter and the customer wants to speak to the technician. Phil punches out to indicate that he is stopping work on the current job and punches in to record the start time for this new job. He talks with the customer and finds out that the hood of his car is not latching closed properly (*interact with others*). Phil opens the hood and inspects the latch; he finds that it is loose. He tightens the latch retaining bolt with a wrench, but the hood still doesn't close properly. After further investigation, he finds that the latch is slightly bent. It will need to be replaced (*thinking skills – decision making*). He explains the problem and the solution to the customer and writes a repair order telling the parts department to order a hood latch assembly (*complete documents*). He reports to the supervisor about what he did in this job (*interact with others*). Phil punches out to stop the clock for the waiter and then in again to restart the clock for his first work order.

Adapted from **Using Essential Skills: On the Job with an Automotive Service Technician**

[http://www.esdc.gc.ca/eng/jobs/les/tools/awareness/ast\\_story.shtml](http://www.esdc.gc.ca/eng/jobs/les/tools/awareness/ast_story.shtml)



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## Do you have the essential skills to be an automotive service technician?

Complete the following questions to see how your skills compare to those of a journey person in automotive service.

### 2. Reading a work order

Automotive service technicians read work orders to find out what needs to be done on a vehicle.

Look at the work order below and list the type of work to be done on this car.

#### SERVICE

CUSTOMER INFORMATION		
YEAR, MAKE, MODEL		LICENSE NO.
03 / HONDA / ACCORD / 4DSDN		
VEHICLE ID NO.	DELIVERY KM	DATE RECEIVED
72631A801096	134,061	02/13
		DATE PROMISED
AUTO PARK PLAZA LTD. 798 STEEL PLACE RICHMOND, B.C. V5J 1T5		02/18 05:30 PM
		PHONE NO.
		604-123-4567
SERVICE INFORMATION		
USED CAR CHECK		
PERFORM PRE-OWNED CHECK OVER		
USED CAR CLEAN UP		



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PERFORM USED CAR CLEAN UP FILL OUT FORM
<b>RECONDITIONING</b>
N/A

### 3. Reading a tire tread depth gauge

Automotive service technicians use a tire tread depth gauge to measure approximately how much tread is left on each tire. The automotive service technician measures the front left tire. What is the remaining tread on this tire, in 32nds of an inch?



#### 4. Looking up specifications

Automotive service technicians need to find the specifications for tire pressure.

What is the cold tire pressure for the rear tires?

##### Tire and Loading Information



##### Tire and Loading Information

<b>Seating Capacity</b>	Total: 5	Front: 2	Rear: 3
The combined weight of occupants and cargo should never exceed 385 kg or 850 lbs.			
<b>TIRE</b>	<b>SIZE</b>	<b>COLD TIRE PRESSURE</b>	
<b>FRONT</b>	P205 / 50R17	220 kPa, 32 psi	
<b>REAR</b>	P205 / 50R17	220 kPa, 32 psi	
<b>SPARE</b>	T125 / 70D16	420 kPa, 60 psi	



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## 5. Completing an inspection form

When inspecting a vehicle, automotive service technicians fill out an inspection form to indicate what is satisfactory (S) and what needs attention (N). The automotive service technician measures the brake pads and finds that the front brake pads have about 8 mm left and the rear brake pads have about 1.5 mm left. Based on this information, complete the inspection form below.

### BRAKES

	S	N
Lines/Hoses	√	
Front approx. _____mm		
Rear approx. _____mm		
Fluid Level/Condition	√	
Fluid	√	

Date modified:

2013-04-15

Adapted from Using Essential Skills: On the Job with an Automotive Service Technician

[http://www.esdc.gc.ca/eng/jobs/les/tools/awareness/ast\\_story.shtml](http://www.esdc.gc.ca/eng/jobs/les/tools/awareness/ast_story.shtml)



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**Answer Key**

**Task 1:** Read continuous text                      Problem solving  
Interpret documents                              Manage time  
Complete documents                              Write continuous text  
Use measures                                      Decision making  
Critical thinking                                  Use digital technology  
Interact with others

**Task 2:** Perform pre-owned check over.  
Perform used car clean up; fill out form.

**Task 3:** The remaining front left tire tread is  $\frac{10}{32}$ ".

**Task 4:** The cold tire pressure for the rear tires is **220 kPa, 32 psi.**

**Task 5:**

**BRAKES**

	<b>S</b>	<b>N</b>
<b>Lines/Hoses</b>	√	
<b>Front approx. 8 mm</b>	√	
<b>Rear approx. 1.5 mm</b>		√
<b>Fluid Level/Condition</b>	√	
<b>Fluid</b>	√	



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Performance Descriptors		Needs Work	Completes task with support from practitioner	Completes task independently
A1.3	<ul style="list-style-type: none"> <li>integrates several pieces of information from texts</li> </ul>			
	<ul style="list-style-type: none"> <li>manages unfamiliar elements (e.g. vocabulary, context, topic) to complete tasks</li> </ul>			
	<ul style="list-style-type: none"> <li>identifies the purpose and relevance of texts</li> </ul>			
	<ul style="list-style-type: none"> <li>infers meaning which is not explicit in texts</li> </ul>			
	<ul style="list-style-type: none"> <li>uses organizational features, such as headings, to locate information</li> </ul>			
	<ul style="list-style-type: none"> <li>obtains information from detailed reading</li> </ul>			
A2.2	<ul style="list-style-type: none"> <li>performs limited searches using one or two search criteria</li> </ul>			
	<ul style="list-style-type: none"> <li>extracts information from tables and forms</li> </ul>			
	<ul style="list-style-type: none"> <li>uses layout to locate information</li> </ul>			
	<ul style="list-style-type: none"> <li>makes connections between parts of documents</li> </ul>			
	<ul style="list-style-type: none"> <li>makes low-level inferences</li> </ul>			
B2.1	<ul style="list-style-type: none"> <li>writes simple texts to request, remind or inform</li> </ul>			
	<ul style="list-style-type: none"> <li>conveys simple ideas and factual information</li> </ul>			
B3.2a	<ul style="list-style-type: none"> <li>uses layout to determine where to make entries</li> </ul>			
	<ul style="list-style-type: none"> <li>begins to make some inferences to decide what information is needed, where and how to enter the information</li> </ul>			



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C3.1	<ul style="list-style-type: none"><li>recognizes values in number and word format</li></ul>			
	<ul style="list-style-type: none"><li>measures distance, length, width, height, weight, liquid volume, angles and temperature</li></ul>			
	<ul style="list-style-type: none"><li>chooses appropriate units (e.g. metres, inches) and non-standard units (e.g. paces, cupfuls, scoops)</li></ul>			
	<ul style="list-style-type: none"><li>identifies and performs required operation</li></ul>			
	<ul style="list-style-type: none"><li>interprets and represents measures using whole numbers, decimals and simple, common fractions (e.g. <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>)</li></ul>			
	<ul style="list-style-type: none"><li>interprets and represents measures using symbols and abbreviations (e.g. inches as “, centimeters as cm, pounds as lbs, kilograms as kilos or kg)</li></ul>			
	<ul style="list-style-type: none"><li>follows apparent steps to reach solutions</li></ul>			

**This task:** was successfully completed\_\_\_\_ needs to be tried again\_\_\_\_

<b>Learner Comments</b>

\_\_\_\_\_  
**Instructor (print)**

\_\_\_\_\_  
**Learner Signature**