

Trade Profile

Automotive Service Technician



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RED SEAL

TRADE PROFILE

Automotive Service

Technician



STRUCTURE OF THE TRADE PROFILE

This profile has two sections that provide a snapshot of the trade's description, and all trade activities as they are organized in the Red Seal Occupational Standard:

Description of the Automotive Service Technician trade: an overview of the trade's duties, work environment, job requirements, similar occupations and career progression

Task Matrix: a chart which outlines graphically the major work activities, tasks and sub-tasks of this trade

Major Work Activity (MWA): the largest division within the standard that is comprised of a distinct set of trade activities

Task: distinct actions that describe the activities within a major work activity

Sub-task: distinct actions that describe the activities within a task

A complete version of the occupational standard, which provides additional detail for the trade activities, skills and knowledge can be found at www.red-seal.ca.

Description of the Automotive Service Technician Trade

“Automotive Service Technician” is this trade’s official Red Seal occupational title approved by the CCDA. This standard covers tasks performed by automotive service technicians.

Automotive service technicians possess the full range of knowledge and abilities required to perform preventative maintenance, diagnose faults and repair automotive vehicle, light truck, hybrid vehicle and electric vehicle systems. These systems include engines, vehicle management, steering, braking, tires, wheels, drivetrains, suspension, electrical, advanced driver assistance systems [ADAS], electronics, heating, ventilation and air conditioning (HVAC), restraints, trim and accessories.

Automotive service technicians may be employed by automotive repair shops, dealerships, automotive specialty repair shops, large organizations that may own a fleet of vehicles and motor vehicle body repair companies.

While the scope of the automotive service technician trade includes many aspects of vehicle service and repair, an increasing number of technicians specialize in specific areas of automotive vehicle repair due to the complexity of today’s motor vehicle systems.

Technicians usually work indoors and can expect a work environment that includes noise, fumes, odours, hazardous compounds, drafts, vibrations, and confined spaces. The work often requires considerable standing, bending, crawling, lifting, pulling and reaching. Safe work practices must be observed.

Some important attributes of automotive service technicians are: good hand-eye coordination, mechanical aptitude, time management skills, logical, analytical and critical thinking and decision-making skills, excellent communication and mentoring skills, computer skills and the ability to continue learning as technology advances. It is also imperative to have a valid driver’s licence.

With additional training, experienced automotive service technicians may advance to shop supervisor or service manager positions. Technicians can transfer their skills and knowledge to related occupations such as automotive instructor, industry parts and equipment representative, truck and transport mechanic, agricultural equipment technician or heavy duty equipment technician. Some technicians may open their own garage or automotive specialty shop.

Automotive Service Technician

Task Matrix and Weightings

A – Performs common occupational skills

7%

Task A-1 Performs safety-related functions 42%	A-1.01 Maintains safe work environment	A-1.02 Uses personal protective equipment (PPE) and safety equipment	A-1.03 Implements specific safety protocols for hybrid and electric vehicles (EV)
Task A-2 Uses tools, equipment and documentation 50%	A-2.01 Uses tools and equipment	A-2.02 Uses fasteners, tubing, hoses and fittings	A-2.03 Uses hoisting and lifting equipment
	A-2.04 Uses electronic service tools and systems for diagnostics and programming	A-2.05 Uses documentation and technical information	
Task A-3 Uses communication and mentoring techniques 8%	A-3.01 Uses communication techniques	A-3.02 Uses mentoring techniques	

B – Diagnoses and repairs engine and engine support systems

17%

Task B-4 Diagnoses engine systems 19%	B-4.01 Diagnoses cooling systems	B-4.02 Diagnoses lubricating systems	B-4.03 Diagnoses engine assembly
	B-4.04 Diagnoses accessory drive systems		

Task B-5 Repairs engine systems 16%	B-5.01 Repairs cooling systems	B-5.02 Repairs lubricating systems	B-5.03 Repairs engine assembly
	B-5.04 Repairs accessory drive systems		
Task B-6 Diagnoses gasoline engine support systems 21%	B-6.01 Diagnoses gasoline fuel delivery and injection systems	B-6.02 Diagnoses gasoline electronic ignition systems	B-6.03 Diagnoses gasoline intake and exhaust systems
	B-6.04 Diagnoses gasoline emission control systems		
Task B-7 Repairs gasoline engine support systems 18%	B-7.01 Repairs gasoline fuel delivery and injection systems	B-7.02 Repairs gasoline electronic ignition systems	B-7.03 Repairs gasoline intake and exhaust systems
	B-7.04 Repairs gasoline emission control systems		
Task B-8 Diagnoses diesel engine support systems 14%	B-8.01 Diagnoses diesel fuel delivery and injection systems	B-8.02 Diagnoses diesel intake and exhaust systems	B-8.03 Diagnoses diesel emission control systems
Task B-9 Repairs diesel engine support systems 12%	B-9.01 Repairs diesel fuel delivery and injection systems	B-9.02 Repairs diesel intake and exhaust systems	B-9.03 Repairs diesel emission control systems

C – Diagnoses and repairs vehicle module communications systems

10%

Task C-10 Diagnoses vehicle networking systems 62%	C-10.01 Reads diagnostic trouble codes (DTCs)	C-10.02 Monitors data	C-10.03 Tests system circuitry and components
	C-10.04 Interprets test results		
Task C-11 Repairs vehicle networking systems 38%	C-11.01 Updates component software	C-11.02 Replaces components	C-11.03 Repairs system circuitry and components
	C-11.04 Verifies vehicle module communications system repair		

D – Diagnoses and repairs driveline systems

14%

Task D-12 Diagnoses driveline systems 57%	D-12.01 Diagnoses drive shafts and axles	D-12.02 Diagnoses manual transmissions and transaxles	D-12.03 Diagnoses automatic transmissions and transaxles
	D-12.04 Diagnoses clutches	D-12.05 Diagnoses transfer cases	D-12.06 Diagnoses final drive assemblies
Task D-13 Repairs driveline systems 43%	D-13.01 Repairs drive shafts and axles	D-13.02 Repairs manual transmissions and transaxles	D-13.03 Repairs automatic transmissions and transaxles
	D-13.04 Repairs clutches	D-13.05 Repairs transfer cases	D-13.06 Repairs final drive assemblies

E – Diagnoses and repairs electrical and comfort control systems

18%

Task E-14 Diagnoses electrical systems and components 36%	E-14.01 Diagnoses wiring and electrical systems	E-14.02 Diagnoses starting/charging systems and low voltage (12 volt) batteries	E-14.03 Diagnoses lighting and wiper systems
	E-14.04 Diagnoses entertainment systems	E-14.05 Diagnoses electrical options and accessories	E-14.06 Diagnoses instrumentation and information displays
	E-14.07 Diagnoses advanced driver assistance system (ADAS) components		
Task E-15 Repairs electrical systems and components 24%	E-15.01 Repairs wiring and electrical systems	E-15.02 Repairs starting/charging systems and low voltage (12 volt) batteries	E-15.03 Repairs lighting and wiper systems
	E-15.04 Repairs entertainment systems	E-15.05 Repairs electrical options and accessories	E-15.06 Repairs instrumentation and information displays
	E-15.07 Repairs advanced driver assistance system (ADAS) components		
Task E-16 Diagnoses heating, ventilation and air conditioning (HVAC) and comfort control systems 24%	E-16.01 Diagnoses air flow control systems	E-16.02 Diagnoses refrigerant systems	E-16.03 Diagnoses heating systems
	E-16.04 Diagnoses instrumentation and information displays		
Task E-17 Repairs heating, ventilation and air conditioning (HVAC) and comfort control systems 16%	E-17.01 Repairs air flow control systems	E-17.02 Repairs refrigerant systems	E-17.03 Repairs heating systems
	E-17.04 Repairs instrumentation and information displays		

F – Diagnoses and repairs steering, suspension, braking and control systems, tires, hubs and wheel bearings

19%

Task F-18 Diagnoses steering, suspension, braking and control systems, tires, wheels, hubs and wheel bearings 56%	F-18.01 Diagnoses steering, suspension and control systems	F-18.02 Diagnoses braking and control systems	F-18.03 Diagnoses tires, wheels, hubs and wheel bearings
	F-18.04 Diagnoses advanced driver assistance system (ADAS) components related to steering, suspension and braking systems		
Task F-19 Repairs steering, suspension, braking and control systems, tires, wheels, hubs and wheel bearings 44%	F-19.01 Repairs steering, suspension and control systems	F-19.02 Repairs braking and control systems	F-19.03 Repairs tires, wheels, hubs and wheel bearings
	F-19.04 Repairs advanced driver assistance system (ADAS) components related to steering, suspension and braking systems		

G – Diagnoses and repairs restraint systems, body components, accessories and trim

8%

Task G-20 Diagnoses restraint systems, body components, accessories and trim 59%	G-20.01 Diagnoses restraint systems	G-20.02 Diagnoses wind noises, rattles and water leaks	G-20.03 Diagnoses interior and exterior components, accessories and trim
	G-20.04 Diagnoses latches, locks and movable glass		
Task G-21 Repairs restraint systems, body components, accessories and trim 41%	G-21.01 Repairs restraint systems	G-21.02 Repairs wind noises, rattles and water leaks	G-21.03 Repairs interior and exterior components, accessories and trim
	G-21.04 Repairs latches, locks and movable glass		

H – Diagnoses and repairs hybrid and electric vehicle (EV) systems

7%

Task H-22 Diagnoses hybrid and electric vehicle (EV) systems 58%	H-22.01 Diagnoses hybrid vehicle systems	H-22.02 Diagnoses electric vehicle (EV) systems	H-22.03 Diagnoses high voltage batteries
	H-22.04 Diagnoses hybrid and electric vehicle (EV) HVAC systems		
Task H-23 Repairs hybrid and electric vehicle (EV) systems 42%	H-23.01 Repairs hybrid vehicle systems	H-23.02 Repairs electric vehicle (EV) systems	H-23.03 Services high voltage batteries
	H-23.04 Repairs hybrid and electric vehicle (EV) HVAC systems		