

Title	Identify the general locations and functions of vehicle systems and main components		
Level	2	Credits	4

Purpose	People credited with this unit standard are able to identify the locations and layouts of systems and main components on vehicles, and demonstrate knowledge of the functions of vehicle systems and their main components.
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Classification	Motor Industry > Automotive Preventive Maintenance
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Available grade	Achieved
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Guidance Information

- 1 Evidence presented for assessment against this unit standard must be consistent with safe work practices and be in accordance with applicable service information, and company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 2 Legislation, regulations and/or industry standards relevant to this unit standard may include:
 - Health and Safety at Work Act 2015; and any subsequent amendments and replacements.
- 3 Definitions

Company requirements refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.

Service information refers to information such as technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

Suitable tools and equipment refer to industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe work practices.

Outcomes and performance criteria

Outcome 1

Identify the locations and layout of systems and main components on vehicles.

Range car, heavy commercial vehicle, motorcycle.

Performance criteria

- 1.1 Layout of the engine's main components is identified.
- Range cylinder block and/or barrel, cylinder head.
- 1.2 Locations of the drive train and transmission systems on vehicles and layout of its main components are identified.
- Range may include – manual clutch assembly, manual transmission, torque converter (car, heavy commercial vehicle only), automatic transmission (car, heavy commercial vehicle only), driveline, final drive assembly.
- 1.3 Layouts of body and chassis components on vehicles are identified.
- Range sub-frames, chassis members, seats and interior trim, bumpers, body panels (car, heavy commercial vehicle only).
- 1.4 Layout of braking system components on vehicles is identified.
- Range brake pedal assembly, master cylinder, brake booster, brake lines, disc and drum brake assemblies.
- 1.5 Location of steering system assemblies on vehicles and layout of their main components are identified.
- Range steering column assembly (car, heavy commercial vehicle only) front fork assembly (motorcycle only), steering box (car, heavy commercial vehicle only), steering rack (car, heavy commercial vehicle only), steering linkage assembly, wheel hubs.
- 1.6 Location of suspension systems on vehicles and layout of their main components are identified.
- Range springs, pivots and ball joints, shock absorbers, stabilisers.
- 1.7 Locations of electrical systems components on vehicles are identified.
- Range battery, wiring loom, alternator, starter motor, headlights, sidelights, tail lights, stop lights, indicator lights.
- 1.8 Location and layout of fuel system components on vehicles are identified.
- Range carburettor, intake manifold, fuel pump, fuel injection pump assembly, injectors, fuel filters, air filter.
- 1.9 Locations of engine cooling system components on vehicles are identified.
- Range direct air – air ducting, fan assembly;
indirect air – radiator, thermostat, water pump, fan assembly.

Outcome 2

Demonstrate knowledge of the functions of vehicle systems and their main components.

Performance criteria

- 2.1 The function of the engine and each of its main components are described.
- Range cylinder block and/or barrel, cylinder head.
- 2.2 The function of the drive train and transmission and each of their main components are described.
- Range manual clutch assembly, manual transmission, torque converter, automatic transmission, driveshaft (propeller shaft), axle, final drive assembly.
- 2.3 Functions of braking system components are described.
- Range master cylinder, brake booster, disc and drum brake assemblies, parking brake.
- 2.4 Functions of steering system components are identified.
- Range steering column assembly, steering box, steering rack, steering linkage assembly, wheel hubs.
- 2.5 Functions of suspension system components are identified.
- Range springs, pivots and ball joints, shock absorbers, stabilisers.
- 2.6 Functions of electrical system components are identified.
- Range battery, wiring loom, alternator, starter motor, headlights, sidelights, taillights, stop lights, indicator lights.
- 2.7 Functions of fuel system components are identified.
- Range carburettor, fuel injection pump, fuel pump, injector, fuel filter, air filter.
- 2.8 Functions of engine cooling system components are identified.
- Range radiator, thermostat, water pump, fan.
- 2.9 Functions of body and chassis components on vehicles are identified.
- Range sub-frames, chassis members, seats and interior trim, bumpers, glass, body panels (car, heavy commercial vehicle only).

Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 February 1993	31 December 2018
Review	2	4 August 1995	31 December 2018
Revision	3	30 October 1997	31 December 2018
Revision	4	28 May 1998	31 December 2018
Review	5	20 December 1998	31 December 2018
Revision	6	13 March 2001	31 December 2018
Revision	7	16 October 2003	31 December 2018
Review	8	27 July 2005	31 December 2018
Rollover and Revision	9	26 November 2007	31 December 2018
Review	10	21 April 2016	31 December 2023
Review	11	24 March 2022	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.