

Title	Demonstrate knowledge of operating a light four wheel drive (4WD) vehicle in an off-road environment		
Level	3	Credits	4

Purpose	People credited with this unit standard are able to demonstrate knowledge of: light 4WD off-road vehicle configuration; light 4WD vehicle stability and dynamics when operating off-road; light 4WD vehicle tyre characteristics as applied to light 4WD off-road operations; hazard assessment in light 4WD off-road vehicle operation; safe techniques for driving a light 4WD off-road; driving a light 4WD vehicle through water; and preparing a light 4WD vehicle for on-road use after it has been driven off-road or through water.
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Classification	Driving > Specialist Driving Knowledge and Skills
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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 working practices and be in accordance with applicable service information, and company 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 include but are not limited to the current version of the 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.
light 4WD vehicle means any four wheel vehicle with a gross laden weight less than 3500kg and capable of having motive power applied simultaneously to all four wheels. It does not include an all-terrain vehicle;
off-road means a surface other than a sealed or unsealed, formed road or track and includes but is not limited to bush tracks, beaches, river beds and open paddocks;
on-road means a sealed or unsealed, formed road or track;
Service information may include – technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of the types and features of light 4WD off-road vehicles.

Performance criteria

- 1.1 Vehicle types are described in terms of their design, purpose and passenger carrying capacity.
- Range: long or short wheel-base, designed to carry goods, passengers or a combination of goods and passengers.
- 1.2 Suspension types and their effect on ground clearances are explained.
- Range: independent suspension, beam axle suspension systems.
- 1.3 Operation of the drive train is identified in terms of function, controls and components.
- Range: may include – transmissions, electronic stability control, traction control, hill descent control, differentials, hub types.
- 1.4 Approach, departure and break-over angles are explained.

Outcome 2

Describe light 4WD vehicle stability and dynamics.

Performance criteria

- 2.1 Description includes centre of gravity and its effect on vehicle stability.
- Range: acceleration, deceleration, cornering.
- 2.2 Description includes requirements for safe loading of goods in terms of load type and load security.
- Range: livestock, liquids, passengers, freight.
- 2.3 Description includes driving techniques required to counter load movement.

Outcome 3

Describe characteristics and condition of tyres used on light 4WD vehicles.

Performance criteria

- 3.1 Description includes the performance characteristics of types of tyre.
- 3.2 Description includes the effects of tyre type and condition on vehicle handling.

Outcome 4

Describe hazard assessment in light 4WD off-road vehicle operation.

Performance criteria

4.1 Description includes the identification of hazards and their effects.

Range uphill, downhill, across a slope, uneven surfaces, soft surfaces, water.

4.2 Description includes the factors affecting route selection.

Outcome 5

Demonstrate knowledge of safe techniques for driving a light 4WD off-road.

Range uphill, downhill, across a slope, uneven surfaces, soft surfaces, water.

Performance criteria

5.1 Description includes preparation for safe driving.

5.2 Description includes appropriate safe driving techniques for the terrain.

Outcome 6

Demonstrate knowledge of driving a light 4WD vehicle through water.

Performance criteria

6.1 Description includes methods of determining maximum water depth for specified light 4WD vehicle.

6.2 Description includes identification of possible hazards encountered while driving in water.

6.3 Description includes components of vehicle to be inspected to confirm suitability for driving in water.

6.4 Description includes precautions to be taken before entering water.

6.5 Description includes 4WD driving techniques in water.

Range: driving - with current, against current, across current.

Outcome 7

Explain how to prepare a light 4WD vehicle for on-road use after it has been driven off-road or through water.

Performance criteria

7.1 Explanation includes reasons for checking light 4WD vehicle to ensure it is ready for on-road use.

Range: checks may include – brakes, lights, indicators, mirrors, windscreen, 4WD disengaged, differential lock disengaged, hubs, tyres.

Planned review date	31 December 2023
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1		31 December 2020
	2		31 December 2020
	3		31 December 2020
Review	4	2018	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 MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.