

Title	Demonstrate knowledge of operating a light 4WD vehicle in an off-road environment		
Level	3	Credits	4

Purpose	People credited with this unit standard are able to demonstrate knowledge of the types and features of light 4WD off-road vehicles; describe light 4WD vehicle stability and dynamics; describe characteristics and condition of tyres used on light 4WD vehicles; describe hazard assessment in light 4WD off-road vehicle operation; describe safe techniques for driving a light 4WD off-road; describe driving a light 4WD vehicle through water; and explain how to prepare 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 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 include but are not limited to 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, water and open paddocks.

On-road means a sealed or unsealed, formed road or track.

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 in terms of fitted accessories.
- Range fitted accessories may include – tow-bar, exhaust pipe protector, spare wheel.

Outcome 2

Describe light 4WD vehicle stability and dynamics.

Performance criteria

- 2.1 Centre of gravity and its effect on vehicle stability is described.
- Range acceleration, deceleration, cornering.
- 2.2 Requirements for safe loading of goods in terms of load type and load security are described.
- Range livestock, liquids, passengers, freight.
- 2.3 Driving techniques required to counter load movement are described.

Outcome 3

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

Performance criteria

- 3.1 Performance characteristics of types of tyre are described.
- 3.2 Effects of tyre type and condition on vehicle handling are described.

Outcome 4

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

Performance criteria

- 4.1 Identification of hazards and their effects are described.
- Range uphill, downhill, across a slope, uneven surfaces, soft surfaces, water.
- 4.2 Factors affecting route selection are described.

Outcome 5

Describe safe techniques for driving a light 4WD off-road.

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

Performance criteria

- 5.1 Preparation for safe driving is described.
- 5.2 Appropriate safe driving techniques for the terrain are described.

Outcome 6

Describe driving a light 4WD vehicle through water.

Performance criteria

- 6.1 Methods of determining maximum water depth for specified light 4WD vehicle are described.
- 6.2 Possible hazards encountered while driving through water are described.
- 6.3 Components of vehicle to be inspected to confirm suitability for driving in water are described.
- 6.4 Precautions to be taken before entering water are described.
- 6.5 4WD driving techniques in water are described.
- 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 Checks to prepare the light 4WD vehicle for on-road use are explained.

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	28 November 2000	31 December 2020
Revision	2	31 May 2001	31 December 2020
Review	3	24 May 2004	31 December 2020
Review	4	28 March 2019	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.