

Title	Demonstrate knowledge of vehicle or machine batteries		
Level	2	Credits	3

Purpose	This unit standard is for people who wish to enter or are employed in the motor industry. People credited with this unit standard are able to demonstrate knowledge of automotive batteries, battery testing and charging, and protecting electronics.
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Classification	Motor Industry > Motor Industry - Introductory 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 or replacements.
- 3 This unit standard is to cover batteries used in 12-volt or 24-volt vehicles or machines, and does not cover the high-voltage systems used in hybrid electric or battery electric vehicles.
- 4 **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.
Machines may include – forklifts, earth moving equipment, grader equipment, loaders, dozers, tractors, agricultural equipment, dump trucks, prime movers; electric machines including – forklift, walk-behind pallet, ride-on pallet, reach truck, order picker, counterbalance truck, turret truck.
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 automotive batteries.

Range may include – dry cell, wet cell, gel cell.
Evidence of four is required

Performance criteria

- 1.1 Types of batteries are identified.
- 1.2 Operating principles of a battery are described.

Outcome 2

Demonstrate knowledge of battery testing and charging.

Performance criteria

- 2.1 Battery testing is described.
- 2.2 Battery charging is described.
- 2.3 Removing, refitting, or replacing a battery is described.
- 2.4 Safely jump-starting a vehicle or machine is described.
- 2.5 Correct disposal of batteries is described.

Outcome 3

Demonstrate knowledge of protecting electronics.

Performance criteria

- 3.1 Preventing damage to electronic systems is described.

Range may include – disconnecting or connecting components, removing and refitting batteries, welding, jump starting, steam or pressure cleaning, using a paint oven.

Replacement information	This unit standard replaced unit standard 3877 and unit standard 21675.
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Planned review date	31 December 2022
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 October 2017	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.