Title	**Describe hybrid and battery electric vehicle or machine high voltage system fault diagnosis and rectification methods**		
Level	**4**	**Credits**	**3**

Purpose	People credited with this unit standard are able to describe hybrid and battery electric vehicle or machine high voltage system fault diagnosis and rectification methods.

Classification	Motor Industry > Automotive Electrical and Electronics

Available grade	Achieved

Guidance Information

1 It is recommended that people hold credit for Unit 30569, *Demonstrate knowledge of hybrid electric and battery electric vehicles or machines*, before being assessed against this unit standard.

2 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.

3 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.

4 Competency under this unit standard does not entitle the learner to legally perform prescribed electrical work. Any prescribed electrical work must be undertaken by a person who has been registered and licensed under the Electricity Act 1992. Prescribed electrical work is defined in Schedule 1 of the Electricity (Safety) Regulations 2010.

5 Hybrid electric vehicles may include – plug in hybrid electric vehicles (PHEV), fuel cell electric vehicles (FCEV), additional new hybrid technology.

6 Battery electric vehicles may include – range extended electric vehicles (REEV), additional new electric vehicle technology.

7 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.
High voltage refers to voltages above 60 V.

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.

8 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.

Outcomes and performance criteria

Outcome 1

Describe hybrid and battery electric vehicle or machine high voltage system fault diagnosis and rectification methods.

Performance criteria

1.1 Methods of diagnosing high voltage system faults are described.

1.2 Methods of rectifying faults in high voltage systems are described.

Range may include – replacement of high voltage battery or battery bank.

Replacement information	This unit standard and unit standard 31807 replaced unit standard 30879.

Planned review date	31 December 2023

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 June 2019	N/A

Consent and Moderation Requirements (CMR) reference	0014

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.