

Title	Diagnose and rectify faults in a motorcycle electronic ignition system		
Level	4	Credits	4

Purpose	<p>This unit standard is intended for people in the motorcycle and automotive electrical repair industries.</p> <p>People credited with this unit standard are able to: diagnose faults in an electronic ignition system on a motorcycle engine; test electronic ignition system components for faults; and rectify faults in an electronic ignition system on a motorcycle engine.</p>
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Classification	Motor Industry > Automotive Electrical and Electronics
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Available grade	Achieved
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Guidance Information

- 1 It is recommended that people hold credit for Unit 30574, *Demonstrate knowledge of ignition systems* 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, and company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 3 Performance of the outcomes of this unit standard must comply with the following: Health and Safety at Work Act 2015.
- 4 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 5 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 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 means 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 working practices.

- 6 Range
This unit standard includes – either computer controlled electronic ignition systems or standard (stand-alone) electronic ignition systems used on motorcycle engines.
- 7 Personal injury or injury to others could result from the high voltages generated by electronic ignition systems.
- 8 For this unit standard, it is essential that the practical assessment evidence is obtained in the workplace under normal workplace conditions.

Outcomes and performance criteria

Outcome 1

Diagnose faults in an electronic ignition system on a motorcycle engine.

Performance criteria

- 1.1 Self-diagnostic test codes are activated, read, and interpreted, to identify any circuit that has a fault.
- 1.2 The circuit indicated by the self-diagnostic test codes is tested, and the fault is located and identified.
- 1.3 The battery is tested for cranking voltage, and the result noted.
- 1.4 A check is made to determine if the triggering device turns when the engine is cranked, and the result noted.
- 1.5 A test is made to determine whether the ignition cables and leads are connected correctly, and if high tension (HT) is present at a spark plug and at the ignition coil when cranking, and the results noted.
- 1.6 Tests are made to determine the presence of the appropriate low tension (LT) signal at the ignition coil, and the results noted.

Range may include – signal absent, steady, pulsing.
- 1.7 The initial ignition timing is checked with a timing light, and the result noted.
- 1.8 The results of all tests are analysed, and any faults and their probable causes are identified.

Outcome 2

Test electronic ignition system components for faults.

Performance criteria

- 2.1 The HT components are tested for serviceability, and any faults identified and noted.
- Range HT leads, ignition coil, spark plugs.
- 2.2 Sensors and actuators are tested.
- 2.3 The pulse coil is tested, and any faults identified and noted.
- 2.4 The rotor air gap is checked.
- 2.5 All ignition system ground connections are tested, and the state of their conductivity noted.

Outcome 3

Rectify faults in an electronic ignition system on a motorcycle engine.

Performance criteria

- 3.1 All unserviceable components are replaced.
- 3.2 The spark plug electrode clearances are adjusted.
- 3.3 Air gap fault is rectified.
- Range adjustment, replacement of components.
- 3.4 All methods of advance are checked and adjusted.
- Range may include – mechanical, electronic.
- 3.5 The initial ignition timing is adjusted.
- 3.6 All faulty ground connections are rectified.
- 3.7 A final check is made, to ensure that self-diagnostic test codes show no fault present.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	23 February 1999	31 December 2022
Revision	2	16 April 2003	31 December 2022
Review	3	25 January 2008	31 December 2022
Review	4	25 March 2021	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.