

Title	Test, diagnose and rectify marine electronic fuel injection (EFI) system faults		
Level	4	Credits	6

Purpose	People credited with this unit standard are able to test, diagnose, and rectify electronic fuel injection (EFI) system faults on a marine engine.
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Classification	Boating Industries > Boatbuilding
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Available grade	Achieved
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Guidance Information

- 1 Legislation, regulations, references and/or industry standards relevant to this unit standard include but are not limited to the:
 - [Health and Safety at Work Act 2015](#)
 - [Resource Management Act 1991](#)
 Any new, amended or replacement Acts, regulations, rules, 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.
- 2 Definition

Manufacturer's specifications refer to technical information of a boat or product detailing: operation, installation and servicing procedures; technical terms and descriptions; and illustrations. Manufacturer specifications must be followed to ensure compliance with manufacturer warranty, safe operation, and operation that meets manufacturer performance claims.
- 3 Assessment information

Range
marine engines – inboard or outboard; petrol or diesel.
Assessment for this unit standard must include evidence of two marine engines. Evidence presented for assessment against this unit standard must be consistent with manufacturers' specifications and legislative requirements.

Outcomes and performance criteria

Outcome 1

Test and diagnose a marine electronic fuel injection system.

Performance criteria

- 1.1 The self-diagnostic system report is interpreted to identify any system faults.
- 1.2 Any system faults identified in the diagnostic report are located and tested.
- 1.3 Any parts of the electronic fuel injection system not covered by the self-diagnostic system are tested and faults are located.
- 1.4 Blockages and leaks on air intake system are checked to determine the operating condition.
- Range may include but is not limited to – intake manifold, inter cooler, plenum, turbo, air filter, air flow sensor.
- 1.5 Fuel supply system is tested for operating pressure, pressure retention, return, and fuel flow rate.
- 1.6 Fuel supply system is monitored and measured at normal operating temperature.
- 1.7 Reports are prepared.

Outcome 2

Rectify EFI system faults on a marine engine.

Performance criteria

- 2.1 EFI system faults on a marine engine are recorded and rectified.
- 2.2 Rectified faults are checked and tested.
- Range electrical system, fuel system, air intake system.

Planned review date	31 December 2030
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 July 2018	31 December 2027
Review	2	26 June 2025	N/A

Consent and Moderation Requirements (CMR) reference	0136
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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 Hanga-Aro-Rau Engineering, Manufacturing and Logistics Workforce Development Council at qualifications@hangaarorau.nz if you wish to suggest changes to this unit standard.