Title	**Describe fault diagnosis in marine engines**		
Level	**4**	**Credits**	**3**

Purpose	People credited with this unit standard are able to describe; marine fault information systems and diagnostic codes and methods for interpreting and analysing marine fault data.

Classification	Motor Industry > Trailer Boat Systems

Available grade	Achieved

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

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 Definitions
Manufacturers' 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.
Workplace policies and procedures refer to the documented procedures and policies providing guidelines for the tasks and activities carried out in the workplace. This typically includes relevant health and safety policies to manage hazards and/or risks in the workplace.

Outcomes and performance criteria

Outcome 1

Describe marine fault information systems and fault codes.

Performance criteria

1.1 Methods for retrieving relevant fault information in marine engines are described in accordance with manufacturers' specifications and workplace policies and procedures.

Range customer reports, original equipment manufacturer (OEM) diagnostic tools, generic diagnosis tools, multi-function displays (MFD's) and user interfaces, malfunction indicator lamp (MIL), recording of live engine data, historical operational data, fault codes.

1.2 Fault code types used in the marine industry are described.

Range manufacturer specific, generic (canbus), universal fault codes (UFC's), malfunction indicator lamp (MIL), hard codes, specific codes, logic codes, critical codes, non-critical codes.

Outcome 2

Describe methods for interpreting and diagnosing marine fault data.

Performance criteria

2.1 Methods for referencing fault codes in manufacturer's service manuals are described.

2.2 Possible sources of fault codes in marine engines are described.

2.3 Techniques for diagnosing faults when no fault code is present are described.

Planned review date	31 December 2030

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 June 2025	N/A

Consent and Moderation Requirements (CMR) reference	0136

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 Manufacturing, Engineering and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.

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