

Title	Demonstrate knowledge required to install, repair, and maintain systems in boats		
Level	4	Credits	4

Purpose	<p>People credited with this unit standard are able to: take account of boat characteristics when making installation, repair and maintenance decisions; explain the possible effects of installation, repair and maintenance between boat systems; and demonstrate the housekeeping and safety skills required when working on boats.</p> <p>This unit standard is primarily for tradespeople and others with land-based skills who wish to transfer those skills into the marine environment. This unit standard is applicable to such systems as: electrical and electronic, hydraulic, pneumatic, motive power, fuel, plumbing, refrigeration, air conditioning, internal and external finishing, steering, and physical construction systems.</p>
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Classification	Boating Industries > Marine Sales and Services
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Available grade	Achieved
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Guidance Information

Recommended for entry: Unit 9913, *Demonstrate knowledge of the New Zealand marine and composite industry.*

Outcomes and performance criteria

Outcome 1

Take account of boat characteristics when making installation, repair, and maintenance decisions.

Performance criteria

1.1 Comparisons of the physical characteristics of boats and buildings establish the characteristics of boats that can impact on marine installation, repairs, and maintenance.

Range complex shaped surfaces, non-level and non-vertical flat surfaces, buoyancy, non-cavity partitions.

- 1.2 Installation, repair, and maintenance decisions are made on the basis of assessments of boat construction method, materials, condition, and accessibility.
- Range examples of decisions are – drilling, routing of services, and selection and use of materials.
- 1.3 Sealants and mechanical waterproofing systems are explained in terms of their uses and compatibility with other materials.
- Range room temperature vulcanising sealants (RTVs), chemical reacting sealants, non-curing sealants.
- 1.4 Datum points and lines are established to enable components to be aligned to client's specifications.
- Range methods – line and blocks, offset templates.
- 1.5 Decisions regarding the location of installations are made without detriment to the boat's design performance.

Outcome 2

Explain the possible effects of installation, repair, and maintenance between boat systems.

Performance criteria

- 2.1 Analysis of available working space determines the requirements of allied trades for access, and non-interference of systems.
- Range access for – installation, repair, maintenance, use of equipment; examples of interference – friction, electrical and signal interference.
- 2.2 Identification of other systems which draw on the same resources as the system being worked on enables decisions to be made that prevent damage to systems.
- Range resources include but are not limited to – electricity, water, hydraulic and pneumatic pressure.
- 2.3 Permission is gained from authorised people before altering the settings of unfamiliar items and installations.

Outcome 3

Demonstrate the housekeeping and safety skills required when working on boats.

Performance criteria

- 3.1 Actions taken ensure personal and equipment safety, and the integrity of the boat.

Range actions include but are not limited to – eliminating or minimising hazards within own area of competence, reporting of situations that are potentially hazardous or potentially compromise boat integrity, compliance with safety, evacuation, and other requirements and procedures.

3.2 Apparent faults, problems, and hazards outside the individual’s own area of expertise are clarified with authorised people before proceeding with the task in hand.

3.3 Reporting of own work progress is carried out to ensure maintenance of essential boat services.

Range starts, stops, delays, completion.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	7 May 1997	31 December 2022
Revision	2	21 March 2001	31 December 2022
Revision	3	16 April 2004	31 December 2022
Rollover	4	20 March 2009	31 December 2022
Rollover and Revision	5	31 May 2018	31 December 2022
Review	6	24 September 2020	31 December 2022

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>.