

Title	Demonstrate knowledge of power boat propeller operation, types, and servicing		
Level	3	Credits	4

Purpose	<p>This theory-based unit standard is for people in the trailer boat repair industry.</p> <p>People credited with this unit standard are able to: explain propeller operation in the water; and demonstrate knowledge of propeller types, parts, and propeller servicing.</p>
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Classification	Motor Industry > Trailer Boat Systems
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Available grade	Achieved
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Guidance Information

- 1 Definition
Service information refers to technical information of a boat or product detailing: operation; installation and servicing procedures; manufacturer instructions and specifications; technical terms and descriptions; or illustrations.
- 2 This unit standard can lead on to Unit 15465, *Check and determine the suitability of a propeller for a trailer boat*.
- 3 Assessment against this unit standards is in accordance with service information.

Outcomes and performance criteria

Outcome 1

Explain propeller operation in the water.

Performance criteria

- 1.1 The operation of a propeller in the water is explained in terms of water flow past the blades, negative and positive pressure creating thrust.

Outcome 2

Demonstrate knowledge of propeller types and parts.

Performance criteria

- 2.1 Types of propeller are described in terms of blade shape and type of materials used.
- 2.2 Parts of a propeller are described in terms of blade face, ribs, leading edge, hub, and shock absorber.
- 2.3 Types of blades are explained in terms of constant and progressive pitch.
- 2.4 The purpose of cupped blades is explained in terms of its advantages.
- 2.5 The differences between left- and right- hand propellers are described in term of rotation and blade position.
- 2.6 The propeller rake is described in terms of purpose and uses.
Range zero, flat, progressive.
- 2.7 Diffuser, diverging, and converging ring is explained in terms of operation.

Outcome 3

Demonstrate knowledge of propeller servicing.

Performance criteria

- 3.1 Repairs of blade propeller are described in terms of limitations.
- 3.2 Procedures to measure a propeller are described.
Range diameter, pitch, coding.
- 3.3 Detrimental effects of water flow past a propeller are explained in terms of ventilation and cavitation.
- 3.4 Procedures to repair propeller assemblies are described.
Range blades, hub.

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	21 September 2007	31 December 2022
Rollover and Revision	4	20 July 2017	31 December 2022
Review	5	27 August 2020	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 the NZ Marine and Composites Industry Training Organisation training@nzmarine.com if you wish to suggest changes to the content of this unit standard.