

Title	Explain forced air intake systems on a marine engine		
Level	3	Credits	4

Purpose	People credited with this unit standard are able to explain forced air intake systems on a marine engine, and servicing procedures of forced air intake systems.
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Classification	Boating Industries > Boatbuilding
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Available grade	Achieved
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Guidance Information

1 Definition

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

2 Assessment information

Evidence presented for assessment against this unit standard must be in accordance with manufacturers' specifications.

Outcomes and performance criteria

Outcome 1

Explain forced air intake systems on a marine engine.

Performance criteria

- 1.1 Types of air intake systems are explained and compared in terms of air volumes required.

Range air intake systems include – naturally aspirated, turbocharge, blower.

- 1.2 Main components of forced air intake systems are explained in terms of their purpose.

Range terms of their purpose include – turbine wheel, compressor, bearing system, boost pressure control system, intercooler, wastegates, blow-off valves, piping, manifolds.

1.3 Principles of turbocharging are described.

Range principles of turbocharging include – induction, compression, expansion, exhaust.

1.4 Principles of a Roots-type blower are described.

Range principles of Roots-type blower include – induction, compression, expansion, drive type

Outcome 2

Explain servicing procedures of forced air intake systems.

Performance criteria

2.1 Servicing procedures of forced air intake systems are explained.

Range procedures include – diagnosing, dismantling, cleaning of parts, inspection, assembly, reinstallation.

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Status information and last date for assessment for superseded versions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	14 December 2017	31 December 2027
Review	2	29 May 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 skill standard.