

Title	Plan the installation of inboard power plants and power trains		
Level	5	Credits	20

Purpose	People credited with this unit standard are able to: specify installation locations and measurements for inboard power plants and power trains, and plan the installation process.
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Classification	Boating Industries > Boatbuilding
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Available grade	Achieved
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Guidance Information

1 Definitions

Power plant – the engine may be petrol or diesel and it includes subframe, ancillary equipment and systems, water jacketed manifolds, exhaust systems, coolers such as exchangers, intercoolers, oil coolers, gearbox coolers, raw water pumps, charging systems, drives (hydraulic or electric), engine controls and instrumentation, steering system (mechanical, hydraulic, or electronic), and fuel system.

Power train – includes flywheel damper, clutch, gearbox (mechanical and hydraulic reverse production), propeller shaft, and propulsion device (propeller, jet unit, or drive line system).

2 Evidence of installation is either new installation or re-power of an existing installation.

3 Engine bed load support structure can be made of any of the following materials: ferrous metals, non-ferrous metals, timber, composite.

Outcomes and performance criteria

Outcome 1

Specify installation locations and measurements for inboard power plants and power trains.

Performance criteria

1.1 Drawings align with the manufacturers or suppliers requirements and specifications for installation and operation.

1.2 Engine bed load support structure allows for the weight, load, thrust, and torque of the installed power plant including the ancillary systems.

1.3 Installation requirements are coordinated with relevant stakeholders.

Range examples of stakeholders may include – naval architects or designers, boat builders, clients, client’s representative, engineers.

Outcome 2

Plan the installation process.

Performance criteria

2.1 Plan enables the installation specifications to be achieved.

2.2 Plan includes installation timeline for activities that meets workplace or stakeholder requirements.

Range activities include – uncoupling, removal, preparation of engine frame, installation, alignment, coupling, testing.

Planned review date	31 December 2021
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 August 1997	31 December 2018
Revision	2	20 March 2001	31 December 2018
Revision	3	16 April 2004	31 December 2018
Rollover	4	20 March 2009	31 December 2018
Review	5	20 April 2017	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 the NZ Marine and Composites Industry Training Organisation training@nzmarine.com if you wish to suggest changes to the content of this unit standard.