



Australian Government

**Assessment Requirements for AURRTE012
Analyse and evaluate faults in light marine
engine and powerhead systems**

Release: 1

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Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- analyse and evaluate a fault in the engine and power head systems of three different light marine vessels, including:
 - a fault in one inboard engine system
 - a fault in one outboard engine system.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to analysing and evaluating faults in light marine engine and power head systems, including procedures for:
 - lifting and supporting engines
 - running engines, including working with:
 - exhaust fumes
 - rotating shafts
- environmental requirements, including procedures for trapping, storing and disposing of fluids released from engine and power head systems
- principles and processes involved in planning and implementing analysis and evaluation of engine and power head systems
- design and planning of diagnostic procedures of light marine engine and powerhead systems
- design, manufacture, operation and limitations of light marine engine and power head systems and components, including:

- two-stroke and four-stroke petrol engines
- diesel engines
- vessel systems and their impact on engine operation, including:
 - ignition systems
 - intake and exhaust systems
 - lubrication systems
 - cooling systems
 - engine mounting systems
- testing procedures for light marine engine and powerhead systems, including:
 - non-destructive testing (NDT)
 - engine performance and maximum speed
 - full load water testing
- types, functions, operation and limitations of diagnostic testing equipment required to analyse and evaluate faults in light marine engine and power head systems
- procedures for documenting and reporting the analysis and evaluation process
- requirements of Australian Design Rules (ADRs) relating to light marine engine and power head systems.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the light marine engine and power head systems that they have worked on, e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- marine repair workplace or simulated workplace
- workplace instructions
- manufacturer engine and power head system specifications
- three different light marine vessels with faults in the light marine engine and power head systems specified in the performance evidence
- diagnostic equipment for light marine engine and power head systems
- tools, equipment and materials appropriate for analysing and evaluating light marine engine and power head systems.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

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