



Australian Government

Assessment Requirements for AURRTQ006 Diagnose and repair marine jet drive propulsion 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:

- diagnose and repair a fault in the following two jet drive propulsion systems in different marine vessels:
 - centrifugal
 - axial flow.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to diagnosing and repairing jet drive propulsion systems, including procedures for lifting and supporting jet drive propulsion systems
- environmental requirements, including procedures for trapping, storing and disposing of fluids released from jet drive propulsion systems
- operating principles of jet drive propulsion systems and associated components, including:
 - producing thrust using water pressure
 - changing vessel direction
- application, purpose and operation of jet drive propulsion systems and components, including:
 - types of jet pumps, including:
 - centrifugal
 - axial flow
 - methods of reversing thrust, including:
 - cable-operated buckets

- hydraulically-operated buckets
 - electrically-operated buckets
- gearboxes
- diagnostic testing procedures for jet drive propulsion systems, including:
 - housing to impeller clearance and wear
 - bearing wear
 - seal wear
 - bilge pump operation
 - gearbox operation
 - bucket operation
- dismantling procedures for jet drive propulsion systems, including procedures for:
 - measuring clearances and tolerances
 - inspecting components
- repair procedures for jet drive propulsion systems, including procedures for:
 - replacing impellers and housing
 - replacing bearings and seals, including oil replacement
 - replacing couplings
 - servicing buckets
- post-repair testing procedures for jet drive propulsion systems, including procedures for water testing.

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 jet drive propulsion 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 jet drive propulsion system specifications
- a centrifugal jet drive propulsion system in a marine vessel with system faults
- an axial flow jet drive propulsion system in a marine vessel with system faults
- diagnostic equipment for jet drive propulsion systems

- tools, equipment and materials appropriate for dismantling, repairing, reassembling and adjusting marine jet drive propulsion systems.

Links

Companion Volume implementation guides are found in VETNet -
<https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>

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