



Australian Government

Assessment Requirements for AURRTQ004 Diagnose and repair marine inboard propeller drive 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 three different marine inboard propeller drive systems, including two of the following:
 - direct drive
 - V-drive
 - drop-centre.

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 inboard propeller drive systems, including procedures for working with rotating shafts
- application, purpose and operation of inboard propeller drive systems and components, including:
 - direct drive, including:
 - drive plate
 - transmission (forward, neutral and reverse)
 - coupling and key
 - propeller shaft
 - gland
 - log
 - strut, including A frame and I type
 - bearing, including cutlass and fibre bearings

- propeller
- V-drive, including:
 - drive plate
 - jack shaft
 - transmission (forward, neutral and reverse)
 - coupling and key
 - propeller shaft
 - gland
 - log
 - strut, including A frame and I type
 - bearing, including cutlass and fibre bearings
 - propeller
- drop-centre drive, including:
 - drive plate
 - transmission (forward, neutral and reverse)
 - coupling and key
 - propeller shaft
 - gland
 - log
 - strut, including A frame, I type and stern tube
 - bearing, including cutlass and fibre bearings
 - propeller
- diagnostic testing procedures for inboard propeller drive systems, including:
 - propeller shaft wear, including trueness and run-out
 - bearing wear and run-out measurements
 - coupling alignment checking methods, including laser and feeler gauge procedures
 - engine and transmission mount testing procedures
- dismantling procedures for inboard propeller drive systems, including procedures for:
 - using propeller pullers
 - using bearing pullers
 - applying heat and cooling
 - inspecting components, including shaft run-out
- repair procedures for inboard propeller drive systems, including procedures for replacing couplings and bearings
- assembly procedures for inboard propeller drive systems, including procedures for:
 - checking and adjusting propeller shaft run-out
 - aligning couplings
- post-repair testing procedures for inboard propeller drive 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 inboard propeller drive systems in marine vessels 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 inboard propeller drive system specifications
- three different marine vessels with faults in the inboard propeller drive systems specified in the performance evidence
- diagnostic equipment for inboard propeller drive systems
- tools, equipment and materials appropriate for repairing and adjusting marine inboard propeller drive 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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