



Australian Government

AURRTQ001 Inspect and service marine inboard propeller drive systems

Release: 1

AURRTQ001 Inspect and service marine inboard propeller drive systems

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to inspect and service inboard propeller drive systems on vessels. It involves preparing for the task, inspecting the system, reporting the inspection findings, servicing and adjusting the system, and completing workplace processes and documentation.

It applies to those working in the marine service and repair industry.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.

Competency Field

Marine

Unit Sector

Technical - Driveline and Final Drives

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to inspect and service inboard propeller drive system	1.1 Job requirements are determined from workplace instructions 1.2 Servicing information is sourced and interpreted 1.3 Hazards associated with the work are identified and risks are managed 1.4 Tools, equipment and materials are selected and checked for

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
	serviceability
2. Inspect propeller drive system	2.1 Inspection is carried out according to manufacturer specifications, workplace procedures and safety requirements 2.2 Inspection results are compared with manufacturer specifications 2.3 Inspection findings are reported according to workplace procedures, including recommendations for necessary repairs or adjustments
3. Service propeller drive system	3.1 Service and adjustments are carried out according to manufacturer specifications, workplace procedures, and safety requirements, and without causing damage to components or systems 3.2 Post-service testing is carried out according to workplace procedures
4. Complete work processes	4.1 Final inspection is made to ensure work is to workplace expectations and vessel is presented ready for use 4.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 4.3 Tools and equipment are checked and stored according to workplace procedures 4.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	locate appropriate sources of information efficiently.
Reading skills to:	interpret information from manufacturer and workshop literature when seeking service procedures and specifications relating to inboard propeller drive systems.
Writing skills to:	legibly and accurately fill out workplace documentation when reporting inspection findings, making recommendations, and recording parts and material used.

Skills	Description
Oral communication skills to:	- clarify instructions - report inspection findings and make repair recommendations.
Numeracy skills to:	measure components and use basic mathematical operations, including addition and subtraction, to calculate distances, tolerances and deviations from manufacturer specifications.

Range of Conditions

This section specifies work environments and conditions that may affect performance.

Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included.

Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Safety requirements</i> must include:	work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for identifying hazards and controlling risks associated with working with rotating shafts and component sharp edges.
---	--

Unit Mapping Information

Equivalent to AURRTQ2001 Service inboard propeller drive systems

Links

Companion Volume implementation guides are found in VETNet -

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

Assessment Requirements for AURRTQ001 Inspect and service marine inboard propeller drive systems

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:

- inspect and service three different vessels with inboard propeller drive systems.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting and servicing inboard propeller drive systems, including procedures for identifying hazards and controlling risks associated with working with rotating shafts and component sharp edges
- identification and function of inboard propeller drive system components, including:
 - stern tube
 - propeller shaft and coupling
 - 'A' frame strut
 - 'I' strut
 - cutlass bearing
 - stern tube bearings
- basic operation of inboard propeller drive systems
- types and applications of lubricants and lubricating fluids for inboard propeller drive systems
- inspection procedures for inboard propeller drive systems, including procedures for checking clearances
- service and adjustment procedures for inboard propeller drive systems, including:
 - adjusting or replacing components

- greasing components
- post-service testing procedures for inboard propeller drive systems, including procedures for:
 - checking alignment
 - checking for abnormal noises.

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 marine inboard propeller drive 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 inboard propeller drive system specifications
- three different vessels with inboard propeller drive systems requiring servicing
- tools, equipment and materials appropriate for inspecting and servicing marine inboard propeller drive systems.

Links

Companion Volume implementation guides are found in VETNet -

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

Companion Volume implementation guides are found in VETNet -

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