



Australian Government

Department of Education, Employment and Workplace Relations

AURR346931A Water test a vessel

Release: 1

AURR346931A Water test a vessel

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit of competency describes the skills and knowledge required to water test a vessel so as to meet specific customer performance specifications and ensure conformity to statutory regulations. It requires the ability to establish customer requirements, conduct pre-water safety inspection, water test and repair failed system and components, and complete work processes. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication. This unit replaces AURR346927A Identify the need for water testing of vessel, AURR347030A Check configuration to meet specific customer performance specification and AURR346930A Water test vessels.
------------------------	--

Application of the Unit

Application of the unit	This unit applies to individuals who undertake the water testing of a vessel after service, repair or installation work to ensure that the work meets specific customer performance specifications and conformity to statutory regulations.
--------------------------------	--

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
-----------------------------	--

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
---	--

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work	1.1. Establish vessel configuration performance to be checked with customer 1.2. Select test procedure and equipment required for water testing 1.3. Check manufacturer and component supplier specifications 1.4. Check equipment and tools for safe and effective operation 1.5. Locate occupational health and safety (OHS) requirements, including personal safety needs, for the work activity
2. Conduct pre-water test safety inspection	2.1. Check safety of vessel according to industry regulations and guidelines, OHS and environmental legislation, and enterprise policies and procedures 2.2. Repair systems and components that fail the safety inspection prior to vessel leaving mooring
3. Water test vessel	3.1. Test and document engine performance 3.2. Test and document propulsion unit 3.3. Test and document hull and hull fittings 3.4. Compare water test performance data with manufacturer and component supplier specifications 3.5. Prepare customer test report and recommend any additional repairs and/or modifications required 3.6. Present vessel to customer as required by workplace procedures 3.7. Carry out all activities according to industry regulations and guidelines, OHS and environmental legislation, and enterprise policies and/or procedures
4. Clean up work area and maintain equipment	4.1. Collect and store material that can be reused 4.2. Remove waste and scrap following workplace procedures 4.3. Clean and inspect equipment and work area for serviceable condition in accordance with workplace procedures 4.4. Tag unserviceable equipment and faults identified in accordance with workplace requirements 4.5. Complete operator maintenance in accordance with manufacturer and component supplier specifications and site procedures

ELEMENT	PERFORMANCE CRITERIA
	4.6. Maintain tooling and equipment in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- technical skills to the level required to use workplace technology related to safety and water testing a vessel, to use specialist tooling and equipment and computerised measuring equipment, and to report and record actions
- communication skills to the level required to confirm work requirements and diagnosis and repair procedures and specifications, to communicate effectively regarding work requirements with supervisor, other workers and customers, to relate to people from a range of social, cultural and ethnic backgrounds and of varying physical and mental abilities, and to report work outcomes and problems
- literacy skills to the level required to research, analyse and interpret information related to work orders and manufacturer and component supplier requirements, and to record servicing details
- numeracy skills to the level required to correctly complete tests and measurements, including assessing tolerances, applying accurate measurements and calculating material requirements
- problem-solving skills to the level required to identify technical and procedural problems to avoid planning and scheduling problems, and time and material wastage
- team skills to the level required to work effectively and cooperatively with others to optimise workflow and productivity

Required knowledge

Required knowledge includes:

- vessel, component and system performance assessment standards based on manufacturer and component supplier specifications and regulatory requirements
- vessel operating systems, components and fittings
- inspection techniques
- test report compilation and presentation
- manufacturer and component supplier specifications, including workshop manuals

REQUIRED SKILLS AND KNOWLEDGE

- and repair guides
- applicable commonwealth, state or territory legislation, regulations, standards and codes of practice, including OHS, personal safety and environment, relevant to water testing a vessel so as to meet specific customer performance specifications and conformity to statutory regulations
- organisational policies and procedures, including quality, reporting and recording procedures, related to water testing a vessel

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Assessors must be satisfied that the candidate can competently and consistently:

- observe safety procedures and requirements
- communicate effectively with others involved in or affected by the work
- select methods and techniques which are appropriate
- complete preparatory activity in a systematic manner
- conduct water testing of configuration and vessel in accordance with workplace and manufacturer and component supplier requirements for a range of vessels
- accurately record and interpret the test data for a range of vessel testings
- complete the testing within workplace timeframes
- present equipment to customer in compliance with workplace requirements
- complete the configuration checking within workplace timeframes.

Context of, and specific resources for assessment

- The application of competency is to be assessed in the workplace or a simulated environment that reflects as far as possible the actual working environment.
- Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints.
- Assessment is to comply with relevant regulatory requirements, including specified Australian standards.
- Where applicable, reasonable adjustment must be made to work environments and training situations to accommodate ethnicity, age, gender, demographics and disability.
- The following resources should be made available:
 - workplace location or simulated workplace
 - appropriate vessels for water testing
 - materials relevant to the water testing of vessels
 - equipment, hand and power tools appropriate to the water testing of vessels

EVIDENCE GUIDE	
	• specifications and work instructions.
Method of assessment	• Assessment must satisfy the endorsed Assessment Guidelines of this Training Package. • Assessment methods must confirm consistency and accuracy of performance (over time and in a range of workplace relevant contexts) together with application of Required Skills and Knowledge. • Assessment methods must be by direct observation of tasks and include questioning on Required Skills and Knowledge to ensure its correct interpretation and application. • Assessment may be applied under project-related conditions (real or simulated) and require evidence of process. • Assessment must confirm a reasonable inference that competency is able not only to be satisfied under the particular circumstance, but is able to be transferred to other circumstances. • Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role.
Guidance information for assessment	Assessment processes and techniques must be culturally sensitive and appropriate to the language and literacy capacity of the candidate and the work being performed.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Water testing	Water testing may include: • testing engine performance by operating the engine through the full operating range • testing propulsion unit by operating through the full range of speeds and directions

RANGE STATEMENT	
	• testing hull and hull fittings by operating through the full range of performance conditions • testing to establish that current configuration is performing to manufacturer and component supplier specification • testing components • checking hull performance • checking faults as referred by the customer
Factors influencing vessel performance	Factors influencing vessel performance may include: • hull design • engine and hull match • engine propeller match • engine set-up • aerodynamics • vessel type, size, age, modifications, developmental and additions to existing vessel • engine type, size, single or multi • propulsion unit installed propeller or jet drive • hull type, including planing, displacement, single, multi-hull and hull fittings • variance between performance data and specifications • climatic (e.g. time of day, saltwater or freshwater, coastal, estuary or marine, water depth and weather)
Safety check of vessel	Safety check of vessel may include: • auditing vessel safety equipment • visually inspecting systems and components for conformity to manufacturer and component supplier specification • inspecting for conformity to regulations • adequate fuel and freshwater for journey
Test report	Test report may include: • recommendations for repairs and/or modifications • component conformity to manufacturer and supplier specifications

RANGE STATEMENT	
	• performance enhancing components which may satisfy the customer requirement • conformity to and implications of local, state and territory regulations and laws which may influence customer decisions • component manufacturer and component supplier warranty considerations
Tooling and equipment	Tooling and equipment may include: • hand tooling • testing equipment, including multimeters • power tooling • air tooling • specialist tooling and equipment
Safe operating procedures	Safe operating procedures may include: • operational risk assessment and treatments • toxic substances • electrical safety • machinery movement and operation • manual and mechanical lifting and shifting • working in proximity to others
Information/documents	Information/documents may include: • verbal, written and graphical instructions issued by authorised internal and external persons • parts listing prices and catalogues • inventory systems • material safety data sheets (MSDS) • diagrams or sketches • engineer's design specifications and instructions • manufacturer specifications • industry standards (e.g. American Boat and Yacht Council, National Marine, Manufacturer's Association and US Coast Guard) • Australian standards • workplace specifications and requirements • current boating licence
Legislative requirements	Legislative requirements are to be in accordance

RANGE STATEMENT	
	with applicable commonwealth, state or territory legislation, regulations, certification requirements and codes of practice, and may include: • award and enterprise agreements • industrial relations • Australian standards • Australian Design Rules • confidentiality and privacy • OHS • the environment • equal opportunity • anti-discrimination • duty of care
OHS requirements	OHS requirements are to be in accordance with applicable commonwealth, state or territory legislation and regulations, and organisational safety policies and procedures, and may include: • personal protective equipment and clothing • safety equipment • first aid equipment • hazard and risk control • elimination of hazardous materials and substances • manual handling, including shifting, lifting and carrying • emergency procedures
Environmental requirements	Environmental requirements may include: • waste management • noise • dust • clean-up management
Organisational policies and procedures	Organisational policies and procedures may include: • quality policies and procedures, including Australian standards • OHS, sustainability, environment, equal opportunity and anti-discrimination • manufacturer specifications and industry codes of practice

RANGE STATEMENT

	• safe work procedures • reporting and recording procedures
--	---

Unit Sector(s)

Unit sector	Marine
--------------------	--------

Co-requisite units

Co-requisite units		

Competency field

Competency field	
-------------------------	--