



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **AURR346108B Carry out hull repairs**

**Release: 1**

## AURR346108B Carry out hull repairs

### Modification History

Not Applicable

### Unit Descriptor

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| <b>Unit descriptor</b> | <p>This unit of competency describes the skills and knowledge required to inspect the hull of a vessel for deterioration and damage and complete repairs using approved methods, materials and equipment.</p> <p>It requires the ability to identify and confirm work requirements, inspect and repair the hull of a vessel and complete work finalisation processes.</p> <p>No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication.</p> |
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### Application of the Unit

|                                |                                                                                                                                                                        |
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| <b>Application of the unit</b> | <p>This unit applies to individuals who undertake an inspection of the hull of a vessel for deterioration and damage and complete repairs in a marine environment.</p> |
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### Licensing/Regulatory Information

Refer to Unit Descriptor

### Pre-Requisites

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|---------------------------|--|--|
| <b>Prerequisite units</b> |  |  |
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## Employability Skills Information

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| <b>Employability skills</b> | This unit contains employability skills. |
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## Elements and Performance Criteria Pre-Content

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| Elements describe the essential outcomes of a unit of competency. | Performance criteria describe the performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide. |
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## Elements and Performance Criteria

| ELEMENT                                                       | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Prepare for work                                           | 1.1. Confirm nature and scope of work to be carried out<br>1.2. Locate occupational health and safety (OHS) and workplace environmental and sustainable procedures and practices, applicable to the work<br>1.3. Access and interpret repair method, workshop manuals and manufacturer information<br>1.4. Check and prepare tools, equipment and materials<br>1.5. Set up work area                                    |
| 2. Inspect hull deterioration and damage and complete repairs | 2.1. Inspect hull and identify deterioration and damage<br>2.2. Carry out repairs in accordance with vessel manufacturer and component specifications, and OHS and workplace environmental and sustainable procedures and practices<br>2.3. Test repairs, make required adjustments and re-test<br>2.4. Determine the need for water testing                                                                            |
| 3. Clean up work area and maintain equipment                  | 3.1. Clean and inspect equipment and tooling according to workplace requirements<br>3.2. Tag unserviceable equipment and faults identified in accordance with workplace requirements<br>3.3. Clean work area, dispose of waste and scrap, and store tools and equipment in accordance with workplace procedures<br>3.4. Finalise and process work completion documentation and give to appropriate persons, as required |

## 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 the diagnosis and repair of marine hulls, to use specialist tooling and equipment and computerised measuring equipment, and to report and record actions

**REQUIRED SKILLS AND KNOWLEDGE**

- 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 classification, component types and identification
- repair requirements and standards as specified by the manufacturer and component supplier
- types of materials used in vessel hulls
- repair methods related to vessel hulls
- use and application of testing, measuring and specialised servicing equipment
- inspection techniques
- manufacturer and component supplier specifications, including workshop manuals and repair guides
- applicable commonwealth, state or territory legislation, regulations, standards and codes of practice, including OHS, personal safety and environment, relevant to the diagnosis and repair of vessel hulls, including safety precautions, properties and use of repair materials and products used in repair procedures
- organisational policies and procedures, including quality, reporting and recording procedures, related to the repair of vessel hulls

## 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 to the circumstances
- complete preparatory activity in a systematic manner
- carry out repairs to a range of faults in vessel hulls and using a variety of materials, including aluminium, wood and composite materials within workplace timeframes
- test prior to placing in service
- complete workplace and equipment records and workplace clean-up requirements.

#### 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
  - materials to the repair of marine hulls
  - equipment, hand and power tools appropriate to the repair of marine hulls
  - specifications and work instructions.

#### Method of assessment

- Assessment must satisfy the endorsed Assessment Guidelines of this Training Package.
- Assessment methods must confirm consistency and

| <b>EVIDENCE GUIDE</b>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                                            | <p>accuracy of performance (over time and in a range of workplace relevant contexts) together with application of Required Skills and Knowledge.</p> <ul style="list-style-type: none"> <li>• Assessment methods must be by direct observation of tasks and include questioning on Required Skills and Knowledge to ensure its correct interpretation and application.</li> <li>• Assessment may be applied under project-related conditions (real or simulated) and require evidence of process.</li> <li>• 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.</li> <li>• Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role.</li> </ul> |
| <b>Guidance information for assessment</b> | 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

| <b>RANGE STATEMENT</b>                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                   |
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| <p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. 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.</p> |                                                                                                                                                                                                                                                   |
| <b>Repairs</b>                                                                                                                                                                                                                                                                                                                                                                                      | <p>Repairs may include:</p> <ul style="list-style-type: none"> <li>• wood repairs</li> <li>• plastic repairs</li> <li>• composite material repairs</li> <li>• aluminium repairs</li> <li>• steel repairs</li> <li>• fibreglass repairs</li> </ul> |
| <b>Tooling and equipment</b>                                                                                                                                                                                                                                                                                                                                                                        | Tooling and equipment may include:                                                                                                                                                                                                                |

| <b>RANGE STATEMENT</b>           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                                  | <ul style="list-style-type: none"> <li>• hand tools</li> <li>• testing equipment, including multimeters</li> <li>• power tools</li> <li>• air tools</li> <li>• specialist tools and equipment</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Safe operating procedures</b> | <p>Safe operating procedures may include:</p> <ul style="list-style-type: none"> <li>• operational risk assessment and treatments</li> <li>• toxic substances</li> <li>• electrical safety</li> <li>• machinery movement and operation</li> <li>• manual and mechanical lifting and shifting</li> <li>• working in proximity to others</li> </ul>                                                                                                                                                                                                                                                                                                                                   |
| <b>Information/documents</b>     | <p>Information/documents may include:</p> <ul style="list-style-type: none"> <li>• verbal, written and graphical instructions issued by authorised internal and external persons</li> <li>• parts listing prices and catalogues</li> <li>• inventory systems</li> <li>• material safety data sheets (MSDS)</li> <li>• diagrams or sketches</li> <li>• engineer's design specifications and instructions</li> <li>• manufacturer specifications</li> <li>• industry standards (e.g. American Boat and Yacht Council, National Marine, Manufacturer's Association and US Coast Guard)</li> <li>• Australian standards</li> <li>• workplace specifications and requirements</li> </ul> |
| <b>Legislative requirements</b>  | <p>Legislative requirements are to be in accordance with applicable commonwealth, state or territory legislation, regulations, certification requirements and codes of practice, and may include:</p> <ul style="list-style-type: none"> <li>• award and enterprise agreements</li> <li>• industrial relations</li> <li>• Australian standards</li> <li>• Australian Design Rules</li> <li>• confidentiality and privacy</li> <li>• OHS</li> </ul>                                                                                                                                                                                                                                  |

| <b>RANGE STATEMENT</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                               | <ul style="list-style-type: none"> <li>• the environment</li> <li>• equal opportunity</li> <li>• anti-discrimination</li> <li>• duty of care</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>OHS requirements</b>                       | <p>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:</p> <ul style="list-style-type: none"> <li>• personal protective equipment and clothing</li> <li>• safety equipment</li> <li>• first aid equipment</li> <li>• hazard and risk control</li> <li>• elimination of hazardous materials and substances</li> <li>• manual handling, including shifting, lifting and carrying</li> <li>• emergency procedures</li> <li>• road rules</li> <li>• safe driving policy</li> </ul> |
| <b>Environmental requirements</b>             | <p>Environmental requirements may include:</p> <ul style="list-style-type: none"> <li>• waste management</li> <li>• noise</li> <li>• dust</li> <li>• clean-up management</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Organisational policies and procedures</b> | <p>Organisational policies and procedures may include:</p> <ul style="list-style-type: none"> <li>• quality policies and procedures, including Australian standards</li> <li>• OHS, sustainability, environment, equal opportunity and anti-discrimination</li> <li>• manufacturer specifications and industry codes of practice</li> <li>• safe work procedures</li> <li>• reporting and recording procedures</li> </ul>                                                                                                                                                                                             |

## Unit Sector(s)

|                    |        |
|--------------------|--------|
| <b>Unit sector</b> | Marine |
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## Co-requisite units

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|---------------------------|--|--|
| <b>Co-requisite units</b> |  |  |
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## Competency field

|                         |  |
|-------------------------|--|
| <b>Competency field</b> |  |
|-------------------------|--|