



**Australian Government**

# **DEFCA320 Prepare, operate and maintain small watercraft**

**Release: 1**

## DEFCA320 Prepare, operate and maintain small watercraft

### Modification History

Release	TP Version	Comments
1	DEF12 V2	First release. Replaces and is equivalent to DEFCA304B. Prepare, operate and maintain small watercraft.

### Unit Descriptor

This unit covers the competency required to operate small watercraft, including:

- Motorised and non-motorised boats up to five metres in length capable of accommodating a maximum ten personnel and the operator and crewman
- Motorised and non-motorised rigid and non-rigid inflatable craft
- Powered by outboard motors of up to 40 hp
- Motorised and non-motorised bridge and ferry construction craft

The watercraft will normally be operated in an environment of protected or calm inland waterways, conducting a range of tasks including the transport of personnel and/or equipment. While the technical aspects of this competency are concerned with 'operating a boat', the specialisation of the skill, and safety issues associated with waterborne operations confer additional responsibilities upon the operator. For all watercraft operations the individual may need to provide directions to personnel within the boat concerning specific safety matters such as seating, movement and actions on incidents such as man overboard and capsized. The individual must demonstrate sound judgement in the use of authority, and where possible, work within the existing lines of authority.

No licensing, legislative, regulatory or certification requirements apply to this unit at the time of publication. In a Defence context, this means that there is no civilian need to hold this unit in order to meet licensing, legislative, regulatory or certification requirements.

### Application of the Unit

This competency was developed for combat arms personnel required to operate small watercraft in a deployed operational environment but is applicable to any individual in this field of work.

Typically, operators work independently under indirect supervision, use discretion and judgement, and take responsibility for the quality of their outputs.

All activities are carried out in accordance with relevant organisational policies and procedures.

## Licensing/Regulatory Information

Not applicable.

## Pre-Requisites

Not applicable.

## Employability Skills Information

This unit contains employability skills.

## Elements and Performance Criteria Pre-Content

### ELEMENT

Elements describe the essential outcomes of a Unit of Competency.

### PERFORMANCE CRITERIA

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Where ***bold italicised*** text is used, further information is detailed in the Range Statement. Assessment of performance is to be consistent with the Evidence Guide.

## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<b>1. Prepare for watercraft operations</b>	<p>1.1 <b>Operating instructions</b> are interpreted to determine the task, the cargo, the destination and route, and navigation data is compiled in accordance with <b>standard procedures</b>.</p> <p>1.2 <b>Hasty buoyancy/floatation calculations</b> are completed to ensure passengers and cargo are safe to move.</p> <p>1.3 <b>Equipment</b> is selected, checked for serviceability and unserviceable items are replaced or rejected, and reported to the supervisor in accordance with standard procedures.</p> <p>1.4 <b>Shore preparation</b> is conducted in accordance with standard procedures and the watercraft is prepared and readied for launch.</p> <p>1.5 Appropriate personal protective equipment is selected and worn by all personnel.</p> <p>1.6 Passengers and crew are given a safety brief by the operator prior to embarking on <b>watercraft operations</b>.</p>
<b>2. Construct improvised watercraft</b>	<p>2.1 <b>Improvised flotation craft</b> are constructed/assembled, when required, in accordance with technical specifications and supervisor's instructions.</p> <p>2.2 Improvised flotation craft are inspected for safety prior to use and shore preparation is completed.</p>
<b>3. Operate small watercraft</b>	<p>3.1 Watercraft is launched safely in accordance with standard procedures and local conditions.</p> <p>3.2 Watercraft is loaded and trimmed to ensure safety of crew and load.</p> <p>3.3 Watercraft is <b>operated</b> consistent with <b>hazards and environmental conditions</b>, and in accordance with standard procedures.</p> <p>3.4 Directions are provided, as necessary, to passengers in order to maintain safety and efficient boat operation.</p> <p>3.5 <b>Contingency and emergency drills</b> are carried out, as necessary, to minimise threat to personnel and equipment.</p> <p>3.6 Personnel and/or loads are disembarked and/or unloaded safely in accordance with standard procedures.</p>

#### **4. Recover and restore vessel**

- 4.1 Watercraft is recovered from a ramp or improvised landing site.
- 4.2 Watercraft and associated equipment are checked for serviceability, cleaned and serviced, defects are reported and documentation is completed in accordance with standard procedures.
- 4.3 Debriefing requirements are completed, as required, in accordance with standard procedures.

## **Required Skills and Knowledge**

### **Required Skills**

- use knots and lashings to secure watercraft
- use clear interpersonal communication as operator of the vessel
- constantly monitor hazards and apply safety principles to operations
- follow instructions/directives and report information
- participate in team
- encourage other team members
- use a variety of verbal and non-verbal communication techniques including language style, active listening
- read and interpret operating instructions
- calculate and record number and weight of passengers, stores and equipment

### **Required Knowledge**

- applicable statutory waterways rules for watercraft operation
- local water hazards and environmental conditions
- effects of water moving over objects and obstacles
- team work
- techniques for supporting others
- composition of teams, and roles and responsibilities of team members
- verbal and non-verbal communication techniques including language style, active listening
- hasty buoyancy/floatation calculations

## Evidence Guide

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

Assessment must confirm the ability to safely operate selected small watercraft and improvised flotation craft on various waterways under a range of environmental conditions. The operator must demonstrate competency at carrying both equipment and personnel, and demonstrate the ability to manage the full range of contingency and emergency actions.

### **Consistency in performance**

Competency should be demonstrated over time and across a range of simulated or actual workplace situations that allow for the preparation, operation and maintenance of small watercraft and the construction of improvised flotation craft under a range of water operating conditions while carrying personnel and cargo.

### **Context of and specific resources for assessment**

#### **Context of assessment**

Competency should be assessed in the workplace or in a simulated workplace environment.

#### **Specific resources for assessment**

The following resources should be made available:

- watercraft, equipment and accessories
- materials for constructing improvised flotation craft
- equipment appropriate to the task
- suitable training areas with access to flowing water

## 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 in the Performance Criteria is detailed below.

<p><b><i>Small watercraft</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• motorised and non-motorised boats up to five metres in length capable of accommodating a maximum ten personnel and the operator and crewman</li> <li>• motorised and non-motorised rigid and non-rigid inflatable craft</li> <li>• powered by outboard motors of up to 40 hp</li> <li>• motorised and non-motorised bridge and ferry construction craft</li> </ul>
<p><b><i>Environment</i></b> include:</p>	<ul style="list-style-type: none"> <li>• under a range of water conditions</li> <li>• in enclosed waters including tidal rivers, protected harbours, non-tidal rivers, lakes and dams</li> <li>• in all weather conditions</li> <li>• by day or night and under illumination</li> </ul>
<p><b><i>Operating instructions</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• access and egress routes</li> <li>• details of enemy threat and own force operations</li> <li>• details of ramps or launching points</li> <li>• details of resupply or evacuation requirements</li> <li>• number and nature of personnel, including casualties to be transported</li> <li>• potential hazards</li> <li>• tidal information</li> <li>• types of general cargo and weights</li> <li>• weather forecast</li> </ul>
<p><b><i>Standard procedures</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• manufacturer's handbooks, industry specifications and technical instructions</li> <li>• procedures manuals, job guides, watermanship pamphlets and other publications</li> <li>• statutory waterways rules</li> <li>• WHS regulations for water safety</li> <li>• written and verbal orders and instructions</li> </ul>
<p><b><i>Hasty bouyancy/floatation calculations</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• freeboard when loaded within load limits</li> <li>• number and weight of passengers within load limits</li> <li>• weight of stores and equipment within load units</li> </ul>
<p><b><i>Equipment to be used</i></b> may include:</p>	<ul style="list-style-type: none"> <li>• appropriate rescue and recovery equipment</li> <li>• items of stores and equipment</li> <li>• personal protective equipment such as life jackets</li> <li>• safety equipment that may be required under</li> </ul>

	<p>state/territory legislation or standard procedures</p> <ul style="list-style-type: none"> <li>• vehicles and equipment used to transport boats</li> </ul>
<b><i>Shore preparation</i></b> may include:	<ul style="list-style-type: none"> <li>• assembly for launch</li> <li>• equipment checks</li> <li>• loading of stores and equipment</li> <li>• positioning vessel on ramp or launching site</li> <li>• pre-start checks of engine</li> </ul>
<b><i>Watercraft operations</i></b> may include:	<ul style="list-style-type: none"> <li>• a float for people operating near, in or over water</li> <li>• transport of personnel</li> <li>• support to bridge, ferry and raft operations</li> <li>• evacuation of personnel, stores and equipment</li> <li>• searches, rescues</li> <li>• resupply operations</li> <li>• support to divers</li> <li>• providing safety</li> </ul>
<b><i>Improvised flotation craft</i></b> may include	<ul style="list-style-type: none"> <li>• inflatable, rigid body or improvised watercraft constructed of timber, drums, canvas, inflatable tubes or any combination</li> </ul>
<b><i>Operating the watercraft</i></b> may include:	<ul style="list-style-type: none"> <li>• compliance with waterways rules and regulations</li> <li>• engine start-up procedures</li> <li>• moving at a safe speed consistent with the conditions</li> <li>• navigating to destination</li> </ul>
<b><i>Hazards and environmental conditions</i></b> may include:	<ul style="list-style-type: none"> <li>• adverse weather</li> <li>• eddies</li> <li>• fast flowing streams and near still waters</li> <li>• floating and submerged debris and snags</li> <li>• fog or drizzle</li> <li>• heat and cold</li> <li>• reduced visibility due to after dark operations</li> <li>• time pressure</li> <li>• undertows</li> <li>• underwater hazards</li> <li>• wildlife</li> </ul>
<b><i>Contingency and emergency drills</i></b> may include:	<ul style="list-style-type: none"> <li>• abandon ship drills</li> <li>• action on capsizing</li> <li>• diagnosing and rectifying minor engine faults</li> <li>• fire drills</li> <li>• man overboard drills</li> <li>• propeller replacement</li> <li>• towing disabled vessels</li> </ul>



	<ul style="list-style-type: none"><li>• use of improvised rudder</li><li>• use of oars/improvised oars</li><li>• use of sail</li></ul>
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**Unit Sector(s)**

Not applicable.