



**Australian Government**

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

# **TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

**Revision Number: 1**

## **TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

### **Modification History**

Not applicable.

### **Unit Descriptor**

UNIT DESCRIPTOR:

**This unit involves the skills and knowledge required to operate lifesaving appliances and equipment, including survival craft and rescue boats, their launching appliances and arrangements, and their equipment such as radio, lifesaving equipment, satellite EPIRBs, SARTs, immersion suits and thermal protective aids. It also includes skills and knowledge to organise abandon vessel drills in accordance with accepted practices, standards and emergency procedures.**

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### **Application of the Unit**

<b>Application of the unit</b>	The unit applies to qualifications for Master (Unlimited), Watchkeeper (Deck), Master (Less than 500 GT), Master Class 3 and Marine Engineers Classes 1 and 2, Engineer Watchkeeper and Engineer Class 3, i.e. Advanced Diploma of Transport&Distribution(Maritime Operations - Master Unlimited), Diploma of Transport&Distribution(Maritime Operations - Deck Watchkeeper), Advanced Diploma of Transport&Distribution(Marine Engineering Class 1), Advanced Diploma of Transport&Distribution(Marine Engineering Class 2), Diploma of Transport&Distribution(Marine Engineering - Engineer Watchkeeper) and Diploma of Transport&Distribution(Coastal Maritime Operations - Master Class 3).
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## Licensing/Regulatory Information

<b>Licensing/legislative requirements</b>	Relevant maritime regulations, including Commonwealth, State and Territory regulations and pertinent international conventions and codes.
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## Pre-Requisites

Not applicable.

## Employability Skills Information

Not applicable.

## Elements and Performance Criteria Pre-Content

<i>Elements describe the essential outcomes of a unit of competency.</i>	<i>Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.</i>
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## Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<b>1 Launch and operate survival craft and rescue boats</b>	<ul style="list-style-type: none"> <li>a Preparations for the launch of survival craft or rescue boat are as per vessel's procedures and manufacturer's directions</li> <li>b An appropriate launch strategy is adopted following an assessment of weather and sea conditions and the nature of the emergency situation</li> <li>c Launching equipment is operated as per instructions and accepted practice</li> <li>d Survival craft is launched smoothly as per instructions and regulations</li> <li>e Pre-start checks are made on the engine of the survival craft</li> <li>f The survival craft engine is started using the sequence of actions provided in vessel's procedures and manufacturer's</li> </ul>

ELEMENT	PERFORMANCE CRITERIA
	<p>instructions</p> <p>g Orders are given for survivors to board the survival craft using appropriate means</p>

ELEMENT	PERFORMANCE CRITERIA
<p><b>1 Launch and operate survival craft and rescue boats (continued)</b></p>	<p>h The survival craft is cleared of the vessel and operated in accordance with manufacturer's instructions and accepted nautical practice</p> <p>i Appropriate handling strategies are applied to manoeuvre the survival craft in rough weather and sea conditions</p> <p>j</p> <p>k Survivors displaying signs of hypothermia or other distress are identified and treated in accordance with accepted survival medical practice</p> <p>l Exposure cover is deployed on an open lifeboat in accordance with accepted survival practice and manufacturer's instructions</p> <p>m Strategies are adopted and implemented to counter threats to survival following the abandonment of a vessel in accordance with accepted survival practice</p> <p>n Food and water is rationed to survivors in accordance with accepted survival practice</p>

<p><b>2 Operate lifesaving and survival equipment</b></p>	<p>a Location and accessibility of all lifesaving and survival equipment is established</p> <p>b Survival equipment is checked and operated in accordance with instructions and accepted survival practice</p> <p>c Survival radio equipment is operated in accordance with manufacturer's instructions and regulatory protocols</p> <p>d Immersion suit, various thermal protective aids, life-jacket</p>
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ELEMENT	PERFORMANCE CRITERIA
	<p>and other lifesaving clothing are correctly donned and used in accordance with instructions</p> <p>e Faulty lifesaving equipment is identified and reported to enable prompt repair and/or replacement</p>
<b>3 Recover survival craft</b>	<p>a Persons are disembarked from the survival craft in accordance with vessel's procedures</p> <p>b The survival craft is recovered using the sequence of actions provided in vessel's procedures and manufacturer's instructions</p> <p>c Survival craft is checked for signs of damage</p> <p>d Identified damage or faulty equipment on the survival craft is reported in accordance with vessel's procedures</p>

ELEMENT	PERFORMANCE CRITERIA
<b>4 Participate in abandon vessel drills</b>	<p>a Participation in organisation and conduct of abandon vessel musters and drills is consistent with regulatory requirements and company procedures</p> <p>b Instruction is provided to others, when required, on the correct use of lifesaving equipment and procedures to be followed in the event of the order to abandon vessel</p> <p>c Documentation on the checking and replenishment of consumable materials used in lifesaving, fire detection, firefighting and other safety system is completed in accordance with company procedures and regulatory requirements</p>

## Required Skills and Knowledge

### REQUIRED KNOWLEDGE

*This describes the knowledge required for this unit.*

- 1 Relevant sections of applicable maritime regulations
- 2 ISM Code safety management system plans, procedures, checklists and instructions (where applicable)
- 3 Relevant OH&S legislation and policies
- 4 SOLAS regulations
- 5 Procedures and sequences of action for (1) launching, (2) carrying out pre-start engine checks and (3) operating survival craft and rescue boats in a variety of sea and weather conditions
- 6 Construction, outfit and particular characteristics of various types of lifeboats, liferafts and rescue boats
- 7 Typical manoeuvring and engine characteristics for survival craft, including handling strategies to overcome hazards caused by a head sea, a following sea and a beam sea
- 8 Ways of maximising detectability and location of survival craft using pyrotechnic distress signals, portable VHF radios, satellite EPIRBs and SARTs
- 9 Procedures for correctly operating and using lifesaving appliances and personal safety equipment on board vessels and survival craft and specifically:
  - a donning a life-jacket and using a life-jacket light and whistle
  - b donning an immersion suit
  - c deployment of a mob combination light and smoke float
  - d use of hand-held pyrotechnics

## **REQUIRED KNOWLEDGE**

- 10 Initial actions for survival on abandonment of vessel as summarised in maritime survival publications such as the AMSA publication 'Survival at Sea - a Training and Instruction Manual'
- 11 Emergency muster and abandon vessel signals
- 12 Incidents that may result in an emergency on board vessel and the appropriate response in each case
- 13 Threats to survival on abandonment of a vessel and appropriate strategies for countering these threats
- 14 Procedures for emergency response on board vessels, including abandoning vessel
- 15 Procedures for the rationing of food and water in survival craft
- 16 Symptoms of hypothermia, its prevention and treatment and the related use of protective covers and garments such as immersion suits and thermal protective aids
- 17 IMO safety symbols

## **REQUIRED SKILLS**

*This describes the basic skills required for this unit.*

- 1 Read and interpret instructions, procedures and information relevant to the operation of lifesaving appliances on board a vessel
- 2 Work as a team with others when operating lifesaving appliances on board a vessel
- 3 Select and use appropriate lifesaving appliances and communications equipment
- 4 Take appropriate initiatives related to the operation of lifesaving appliances on board a vessel
- 5 Interpret and apply SOLAS practices and regulations
- 6 Communicate effectively with others on matters related to the operation of lifesaving appliances on board a vessel
- 7 Modify activities dependent on differing real and simulated emergency contingencies, risk situations and environments

## REQUIRED SKILLS

- 8 Identify and solve problems associated with the operation of lifesaving appliances on board a vessel and take appropriate action based on available information
- 9 Monitor and anticipate problems related to the operation of lifesaving appliances on board a vessel

## Evidence Guide

### Evidence Guide

### TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES

*The Evidence Guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.*

<p><b>1 Critical aspects of evidence required to demonstrate competency in this unit</b></p>	<p>Assessment must confirm appropriate knowledge and skills to:</p> <ol style="list-style-type: none"> <li>a Launch and operate the various types of survival craft in suitably simulated situations</li> <li>b Operate and use the various types of survival equipment in suitably simulated situations</li> <li>c Participate in abandon vessel musters and drills</li> <li>d Communicate effectively with others as required when operating survival craft and ancillary survival equipment</li> </ol>
<p><b>2 Evidence required for demonstration of consistent performance</b></p>	<ol style="list-style-type: none"> <li>a Performance is demonstrated consistently over a period of time and in a suitable range of contexts</li> <li>b Consistently applies underpinning knowledge and skills when:             <ol style="list-style-type: none"> <li>1 participating in simulated emergency response musters and drills</li> </ol> </li> </ol>



## **Evidence Guide**

### **TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

- 2 launching and operating survival craft and ancillary survival equipment
  - 3 applying safety precautions relevant to survival operations
  - 4 assessing operational capability of survival craft and equipment
- c Shows evidence of application of relevant workplace procedures, including:
- 1 relevant sections of IMO STCW 95 Convention and Code and AMSA Marine Orders
  - 2 vessel's safety management system and procedures
  - 3 OH&S regulations and hazard prevention policies and procedures
  - 4 accepted survival procedures and maritime survival practice
  - 5 relevant manufacturer's guidelines relating to the operation and use of survival craft and equipment
- d Action is taken promptly to report and/or rectify problems in the launching and operation of survival craft and equipment in accordance with established procedures
- e Work is completed systematically with required attention to detail
- f Recognises and adapts appropriately to cultural differences in the workplace, including modes of behaviour and interactions between crew and others

**Evidence Guide (continued)**

**TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

**3 Context of assessment**

- a Assessment of competency must comply with the assessment requirements of the relevant maritime regulations
- b Assessment of this unit must be undertaken within relevant marine authority approved and audited arrangements by a registered training organisation:
  - 1 As a minimum, assessment of knowledge must be conducted through appropriate written/oral examinations, and
  - 2 Appropriate practical assessment must occur:
    - i at the registered training organisation; and/or
    - ii on an appropriate working or training vessel

**4 Specific resources required for assessment**

- Access is required to opportunities to:
- a carry out a range of suitably simulated practical and knowledge assessments that demonstrate the skills and knowledge to launch and operate survival craft and equipment; and/or
  - b organise and conduct abandon vessel musters and drills in appropriate simulations of maritime conditions and assist in the launch and operate survival craft and equipment during emergency response simulations and drills on board an operational commercial or training vessel
- Note: Simulated first aid situations and assessments may require access to open and enclosed lifeboat fittings and equipment, on-load release gear training aid, open lifeboat and davit, lifeboat and rescue boat equipment, life-jackets and hard hats, davit-launched liferaft and davit, inflatable throw over liferaft, cradle and hydrostatic release, lifeboat/liferaft boarding ladders, foul weather gear, training pool with jumping platform or equivalent, immersion suits, a selection of shipboard lifesaving, alerting and detection equipment typically found on vessels.

**Evidence Guide (continued)**

**TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

Assessments must be conducted in accordance with relevant OH&S requirements. Protective clothing must be worn in accordance with current maritime practices and Australian standards.

At least one assessor must hold a current lifesaving qualification appropriate for in-water training and assessment exercises

**Range Statement**

**Range Statement**

**TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

*The Range Statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.*

**VARIABLE**

**SCOPE**

**1. GENERAL CONTEXT**

<b>a. Work must be carried out:</b>	1 in compliance with the relevant maritime regulations
<b>b. Work is performed:</b>	1 relatively independently under broad operational requirements, with limited accountability and responsibility for self and others in achieving the prescribed outcomes

**Range Statement**

**TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

<b>c. Work involves:</b>	<ol style="list-style-type: none"> <li>1 the application of established maritime survival principles and practices to the launching and operation of survival craft, the use of survival equipment and the regular involvement in abandon vessel drills. Implementation of established survival strategies and procedures is involved. Limited accountability and responsibility for self and others in achieving the outcomes is involved</li> </ol>
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**2. WORKSITE ENVIRONMENT**

<b>a Vessel may include:</b>	<ol style="list-style-type: none"> <li>1 any Australian or international commercial vessel</li> </ol>
<b>b Launching and operation of survival craft and equipment may take place:</b>	<ol style="list-style-type: none"> <li>1 by day or night in both normal and emergency situations</li> <li>2 under normal and adverse conditions of sea and weather</li> <li>3 while underway</li> <li>4 while hove to</li> <li>5 while anchored or moored</li> <li>6 in appropriately simulated situations</li> </ol>
<b>c Survival craft may include:</b>	<ol style="list-style-type: none"> <li>1 free-fall lifeboats</li> <li>2 davit-launched lifeboats</li> </ol>

**Range Statement (continued)**

**TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

<b>VARIABLE</b>	<b>SCOPE</b>
<p><b>c Survival craft may include: (continued)</b></p>	<p>3 Liferrafts 4 rescue boats</p>
<p><b>d Lifesaving and survival equipment may include:</b></p>	<p>1 life-jackets 2 life-buoys 3 hard hats 4 immersion suits and other thermal protective aids 5 rocket line throwing appliances 6 pyrotechnic distress signals 7 GMDSS survival craft VHF radios 8 satellite emergency position indicating radio beacons (EPIRBs) 9 SARTs 10 whistles</p>
<p><b>e Consumable materials and items that may be used in lifesaving equipment may include:</b></p>	<p>1 batteries for detectors, radios, beacons, etc. 2 flares 3 survival rations</p>

**Range Statement (continued)**

**TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

<b>f In-water survival techniques may include:</b>	1	swimming in a life-jacket
	2	towing with a life-jacket
	3	remaining afloat without a life-jacket
	4	donning a life-jacket in water
	5	the group huddle
	6	heat escape lessening posture
<b>g Threats to survival after abandoning vessel may include:</b>	1	cold water shock
	2	hypothermia
	3	psychological response to disaster

**Range Statement (continued)**

**TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

<b>VARIABLE</b>	<b>SCOPE</b>	
<b>g Threats to survival after abandoning vessel may include:</b>  <b>(continued)</b>	4	loss of will to live
	5	sea sickness
	6	dehydration
	7	injuries
	8	starvation

**Range Statement (continued)**

**TDMMF1907B OPERATE SURVIVAL CRAFT AND OTHER LIFESAVING APPLIANCES**

<p><b>h Documentation and records may include:</b></p>	<ol style="list-style-type: none"> <li>1 relevant maritime regulations</li> <li>2 ISM Code safety management system plans, procedures, checklists and instructions (where applicable)</li> <li>3 SOLAS regulations</li> <li>4 AMSA publication: Survival at Sea - a Training and Instruction Manual</li> <li>5 vessel's log</li> <li>6 instructions from official search and rescue authorities</li> <li>7 vessel's procedures for emergency response, including abandoning vessel</li> <li>8 manufacturer's instructions for the use of survival craft and equipment</li> <li>9 instructions of relevant maritime authorities related to survival at sea</li> <li>10 relevant OH&amp;S legislation, codes of practice, policies and procedures</li> <li>11 relevant Australian and international standards</li> </ol>
<p><b>i Applicable legislation, regulations and codes may include:</b></p>	<ol style="list-style-type: none"> <li>1 IMO STCW 95 Convention and Code dealing with survival at sea and use of survival craft and equipment</li> <li>2 relevant sections of AMSA Marine Orders dealing with survival at sea and use of survival craft and equipment</li> <li>3 relevant sections of the Australian USL Code dealing with survival at sea and use of survival craft and equipment</li> <li>4 Safety of Life at Sea (SOLAS) regulations</li> <li>5 relevant international, Commonwealth, State and Territory OH&amp;S legislation</li> </ol>

## Unit Sector(s)

Not applicable.

## Field

Field MF Operational Quality and Safety

## Relationship to other units

<b>Relationship to other units</b>	The unit may be assessed in conjunction with other units that relate to the functions of the occupation(s) concerned.
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