



Australian Government

MARC3006A Operate deck machinery, cargo handling gear and equipment on a vessel

Release 1

MARC3006A Operate deck machinery, cargo handling gear and equipment on a vessel

Modification History

Release 1

This is the first release of this unit.

This unit replaces and is equivalent to TDMMR3407B Operate deck machinery.

Unit Descriptor

This unit involves the skills and knowledge required to operate deck machinery and cargo handling gear and equipment on a vessel.

Application of the Unit

This unit applies to an Integrated Rating.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

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 required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

- | | |
|--|---|
| 1 Prepare for operation | <ul style="list-style-type: none">1.1 Routine pre-operational checks of deck machinery or cargo handling gear and equipment are completed prior to use according to manufacturer specifications and organisational procedures1.2 Preparations for operations are made and lifting equipment is set up according to organisational procedures1.3 Tools and equipment appropriate to work requirements are selected, checked for safety and set up for operation1.4 Safety equipment appropriate to work requirements are made ready and are in good condition1.5 Methods of communication are established and agreed to1.6 Equipment faults or malfunctions are identified and reported according to organisational procedures1.7 Work health and safety (WHS)/occupational health and safety (OHS) hazards in the work area are identified and risks are assessed and reported according to organisational procedures |
| 2 Operate deck machinery, cargo handling gear and equipment | <ul style="list-style-type: none">2.1 Suitable personal protective equipment is selected and used according to organisational procedures2.2 Hazard control procedures are identified and applied to ensure safe operation of deck machinery and cargo handling equipment2.3 Deck machinery and cargo handling gear and equipment are operated in a safe and controlled manner2.4 Performance and efficiency of deck machinery and cargo handling gear and equipment operations is monitored2.5 Safe operational practices are used to anticipate and control hazards2.6 Adverse sea and weather conditions that may impact on the operation of deck machinery, and cargo handling gear and equipment are identified and operational practices are adjusted to maintain safety of vessel and personnel |
| 3 Complete operations | <ul style="list-style-type: none">3.1 Shut-down procedures are conducted according to manufacturer instructions and organisational procedures3.2 Malfunctions, faults, irregular performance or damage to deck machinery and cargo handling gear and equipment are reported according to organisational procedures |

- 3.3 Deck machinery and cargo handling gear and equipment are maintained and secured according to organisational procedures
- 3.4 Operational records are completed according to organisational procedures

Required Skills and Knowledge

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

Required Skills:

- Apply risk assessment and hazard control strategies
- Complete any required records related to the operation of deck machinery and cargo handling gear and equipment
- Follow work schedules laid down in organisational instructions and safety management systems
- Operate anchoring equipment under various conditions such as anchoring, weighing anchor, securing for sea and in emergencies
- Read, interpret and apply instructions on the operation of deck machinery and cargo handling gear and equipment
- Recognise faulty equipment and take appropriate action
- Recognise routine hazards and problems while operating deck machinery and cargo handling gear and equipment
- Select and use relevant tools and equipment
- Use and handle deck and cargo handling gear and equipment
- Use basic signals to operate equipment including winches, cranes, windlasses and hoists
- Work safely and collaboratively with others when operating and maintaining deck machinery and cargo handling gear and equipment
- Work safely at heights and correctly apply and use safety equipment

Required Knowledge:

- Basic signals for the operation of equipment including winches, cranes, windlasses and hoists
- Communication techniques and signals needed during the operation of deck machinery and cargo handling gear and equipment
- Correct application and use of all rigging and associated equipment
- Fibre and wire ropes, cables and chains including their construction, use markings, maintenance and proper stowage
- Function and uses of:
 - valves and pumps, hoists, cranes, booms and related equipment
 - winches, windlasses, capstans and related equipment
- Hatches, watertight doors, ports and related equipment
- Principal features and operating characteristics of steering gear and deck machinery used on a range of vessel types
- Procedures for:
 - checking and inspecting deck machinery and cargo handling gear and equipment used

on vessels

- safe operation of deck machinery and cargo handling gear and equipment
- Problems related to operating deck machinery and cargo handling gear and equipment and appropriate actions and solutions
- Records that must be maintained on a vessel
- Relevant regulatory, WHS/OHS and pollution control regulations and policies
- Safe working loads of ropes, wires, blocks, chains and lifting gear
- Safety, environmental and hazard control precautions and procedures relevant to the operation of deck machinery and cargo handling gear and equipment
- Types and functions of rigging, safety and associated equipment, and their limitations

Evidence Guide

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

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

The evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the Elements, Performance Criteria, Required Skills, Required Knowledge and include:

- exercising all safety, environmental and hazard control precautions and procedures during operation of deck machinery, cargo handling gear and equipment on a vessel
- effectively communicating with others when operating deck machinery, cargo handling gear and equipment on a vessel.

Context of and specific resources for assessment

Performance is demonstrated consistently over time and in a suitable range of contexts.

Resources for assessment include access to:

- industry-approved marine operations site where operating deck machinery, cargo handling gear and equipment on a vessel may be conducted
- tools, equipment and personal protective equipment currently used in industry
- relevant regulatory and equipment documentation that impacts on work activities
- range of relevant exercises, case studies and/or other simulated practical and knowledge assessments
- appropriate range of relevant operational situations in the workplace.

In both real and simulated environments, access is required to:

- relevant and appropriate materials and equipment
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

Method of assessment

Practical assessment must occur in an:

- appropriately simulated workplace environment and/or
- appropriate range of situations in the workplace.

A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate to this unit:

- direct observation of the candidate operating deck machinery, cargo handling gear and equipment on a vessel
- direct observation of the candidate applying relevant WHS/OHS requirements and work practices.

Guidance information for assessment

Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.

In all cases where practical assessment is used it should be combined with targeted questioning to assess Required Knowledge.

Assessment processes and techniques must be appropriate to the language and literacy requirements of the work being performed and the capacity of the candidate.

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.

- Deck machinery may include:
- Anchoring equipment
 - Blocks and tackle
 - Booms
 - Cables and chains
 - Cranes
 - Derricks
 - Fibre and wire ropes
 - Freeing ports
 - Hatches and hatch covers
 - Hoists
 - Internal ramps associated with bow and stern door loading arrangements
 - Pipeline systems – bilge and ballast suction and wells
 - Side/bow/stern doors or elevators
 - Valves and pumps
 - Watertight doors
 - Winches and capstans
 - Windlasses
- Cargo handling gear and equipment may include:
- Chain blocks
 - Chains
 - Eye bolts
 - Fibre ropes
 - Flexible steel wire rope (FSWR)
 - Rigging screws
 - Shackles
 - Sheaves
 - Turnbuckles
 - Wire and synthetic slings
- Preparations must include:
- Cargo gear record book entries
 - Checking safe working load of equipment
 - Establishing communications
 - Identifying hazards
 - Identifying locations of load site and destination
 - Planning for lifting operations
 - Pre-operational checks
 - Safety devices
- Safety equipment must
- Free fall arrest devices

- include:
- Safety harness
 - Safety nets
 - Static safety lines
- Methods of communication may include:
- Hand signals
 - Hand held radios
 - Listening
 - Questioning to confirm understanding and appropriate worksite protocol
 - Signage
 - Written instructions
- Hazards may include:
- Insufficient lighting
 - Overhead obstructions
 - Other personnel in area of operation
 - Weather conditions
- Hazard control procedures may include:
- Ensuring operation is visible to operator at all times or a watchperson is utilised to ensure a lift is monitored at all times
 - Identifying hazards and assessing risks of the operation
 - Inspecting equipment and record books before commencing operations
 - Providing adequate lighting
 - Wearing appropriate protective clothing

Unit Sector(s)

Not applicable.

Competency Field

Equipment Operations