



Australian Government

MARB3005A Slip or dock a vessel and maintain hull on a vessel up to 80 metres

Release: 1

MARB3005A Slip or dock a vessel and maintain hull on a vessel up to 80 metres

Modification History

Release 1

This is the first release of this unit.

This unit replaces and is equivalent to TDMMB707B Slip vessel and maintain hull.

Unit Descriptor

This unit involves the skills and knowledge required to slip or dock a vessel of up to 80 metres and carry out all required maintenance procedures to manage hull deterioration and to maintain the watertight integrity of the vessel.

Application of the Unit

This unit applies to those working in the capacity of Master on a range of vessels up to 80 metres.

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 Safely dock vessel into dry dock or slipway**
 - 1.1 *Slipway or dry dock particulars* are assessed for suitability for dry docking or slipping vessel
 - 1.2 Ship supports, scaffolding and other service systems are assessed for compatibility to dry dock or slipway particulars
 - 1.3 Plan is prepared for docking or slipping vessel
 - 1.4 Cradle, supports and/or slings are prepared prior to slipping vessel
 - 1.5 Vessel is made ready for slipping according to organisational and dry dock requirements
 - 1.6 Vessel is slipped according to environmental safe work practices and safety instructions

- 2 Inspect underwater hull, equipment and fittings**
 - 2.1 Checks of vessel hull, equipment and fittings are carried out according to maintenance schedules and vessel manufacturer instructions
 - 2.2 Deterioration in vessel structure, equipment and fittings is identified
 - 2.3 Checks on watertight integrity of vessel are carried out according to organisational procedures and safety regulations
 - 2.4 Damage to watertight integrity is identified and appropriate action is determined
 - 2.5 Listed work plan is prepared to rectify all identified faults
 - 2.6 Surveyor or authorised person is engaged to ensure appropriate certification can be issued or endorsed on completion of work, where applicable

- 3 Select and use maintenance equipment and materials**
 - 3.1 Tools and equipment are correctly identified, selected and used
 - 3.2 Maintenance materials are obtained, prepared and used according to organisational procedures and manufacturer instructions
 - 3.3 *Environmental procedures* are followed and waste from cleaning and maintenance tasks is collected, treated and disposed of, or recycled, according to organisational procedures
 - 3.4 Malfunctions, faults, wear or damage to tools are reported according to organisational procedures
 - 3.5 Equipment and tools are cleaned, returned to operating order and stored according to organisational procedures and manufacturer

- instructions
- 3.6 Chemicals are used and stored according to organisational procedures and manufacturer instructions
- 3.7 Paint is used and stored according to organisational procedures and manufacturer instructions
- 4 Carry out required maintenance and repairs to hull, equipment and fittings**
- 4.1 Suitable personal protective clothing is selected and used according to work health and safety (WHS)/occupational health and safety (OHS) requirements
- 4.2 Permits for hot work, confined space entry and other high risk activities are completed according to organisational and regulatory requirements
- 4.3 Faults and imperfections in painted surfaces are repaired according to organisational procedures
- 4.4 Weathered surfaces are restored using cleaners and liquid abrasives
- 4.5 Lubricants are applied to moving parts of vessel underwater equipment according to manufacturer instructions
- 4.6 Corrosion control is carried out according to organisational procedures and manufacturer instructions
- 4.7 Action to ensure watertight integrity is completed
- 4.8 ***Routine adjustments*** are made to equipment and fittings according to manufacturer instructions
- 4.9 Faulty vessel machinery and fittings are identified and replacement procedures are implemented
- 5 Supervise crew completing maintenance and repairs to hull, equipment and fittings**
- 5.1 Workload is organised in order of priority, taking into consideration all listed work including survey work
- 5.2 Maintenance tasks are allocated to appropriate crew members with consideration of individual experience and qualifications
- 5.3 Crew members are clearly briefed on their responsibility, maintenance tasks and WHS/OHS requirements
- 5.4 Guidance is provided appropriate to the maintenance task and individual experience
- 5.5 Completed work is checked to ensure maintenance is performed according to dry dock plan and organisational procedures

- 6 Complete duties prior to refloating**
- 6.1 Final internal inspection of vessel is conducted to ensure all listed work is completed to a satisfactory standard
 - 6.2 External inspection of hull and underside is carried out to ensure all listed work is completed to a satisfactory standard
 - 6.3 All tank plugs that have been drawn are replaced
 - 6.4 Crew are instructed on activities to be completed to make vessel ready for sailing
 - 6.5 Check is conducted to ensure a full set of tank soundings has been taken and the distribution of fresh water, fuel and lubricating oil are according to soundings taken on arrival
 - 6.6 Tank quantities are applied to complete stability check to ensure that the vessel has an acceptable GM once she floats clear of the keel blocks or slipway
 - 6.7 All hatch covers are closed and watertight integrity of uppermost deck is assured
 - 6.8 Anchors and cables are heaved up and stowed correctly, and all shore pipelines and powerlines are disconnected
 - 6.9 Confirmation that refloating can proceed is agreed with person in charge of refloating operation

Required Skills and Knowledge

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

Required Skills:

- Complete maintenance records
- Implement safe and environmentally responsible work practices
- Liaise with surveyor to ensure work is carried out to regulatory requirements for the issue or endorsement of relevant certificates
- Read, interpret and apply:
 - operating and service manuals for the slipping/docking of a vessel and the maintenance of its hull
 - manufacturer instructions including all WHS/OHS requirements and safety data sheets (SDS)/material safety data sheets (MSDS)
- Recognise faulty equipment
- Recognise hull damage and deterioration, and take appropriate action according to organisational procedures
- Select and use correct tools and equipment for maintenance task

Required Knowledge:

- Basic stability and stability terms
- Component parts, operation and routine maintenance requirements of vessel equipment and fittings
- Equipment cleaning and preservation techniques
- Maintenance hazards and problems
- Nature and causes of corrosion of marine surfaces and structures, and the available methods for its control
- Organisational procedures for cleaning and maintenance
- Paint types and applications
- Preservatives and finishes used in marine maintenance and the related procedures for their handling, preparation, application and storage
- Principal features of structure of vessels
- Principles and procedures of lubrication as they relate to underwater vessel equipment and fittings
- Procedures for:
 - working in confined spaces
 - initiating and coordinating repair and/or replacement of underwater equipment and fittings
 - checking and inspecting vessel hull as part of routine maintenance procedures
- Regulatory certification requirements

- Relevant sections of state and territory regulations, National Standard for Commercial Vessels (NSCV) Code and Uniform Shipping Laws (USL) Code dealing with Master responsibilities
- Relevant WHS/OHS and pollution control legislation
- Rust treatment
- Slipping and docking procedures suitable for various types of hull forms
- Stability as it relates to docking or slipping operation and refloating
- Types, characteristics and functions of:
 - underwater vessel machinery and equipment
 - equipment/tools used in cleaning and maintenance

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:

- developing effective planning documents
- ensuring currency of relevant WHS/OHS skills and knowledge.

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 slipping or docking a vessel and maintaining the hull on a vessel up to 80 metres 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 slipping or docking a vessel and maintaining the hull on a vessel up to 80 metres
- 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.

Slipway or dry dock particulars may include:

- Acceptable draught
- Crane lifting capacities
- Dimensions
- Electric power supply
- Firefighting provisions
- Insurances
- Policy and facility for atmospheric checks of confined spaces
- Responsibility for WHS/OHS
- Safe vessel access
- Safe working load
- Type of floor

Environmental procedures must include:

- Application of paint
- Disposal of waste from hull scraping operations
- Disposal of waste material
- Fuel transfer operations

Routine adjustments may include:

- Ranging and examination of anchors and cables
- Withdrawing and examination of:
 - propeller and shafts
 - rudder and rudder stock

Unit Sector(s)

Not applicable.

Competency Field

Equipment Checking and Maintenance