



Australian Government

Department of Education, Employment and Workplace Relations

TLIB3013A Maintain mobile cranes

Release: 1

TLIB3013A Maintain mobile cranes

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to carry out routine maintenance of a mobile crane, including obtaining and confirming job instructions and work specifications, coordinating the loading of gear and equipment, assessing job requirements and work areas, designing the job plan and setting up the work area. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in compliance with the licence/permit requirements and regulations of the relevant state/territory authorities pertaining to mobile crane operations and maintenance.

Work is performed under general supervision, with some accountability and responsibility for self and others in achieving the prescribed outcomes. It involves the application of routine maintenance principles and procedures to servicing and maintenance of mobile cranes in a variety of operational contexts.

This unit applies to maintenance activity on equipment used by the operator and is limited to lubrication, fluid, filter and accessory changing and checks for cracks, surface or structural faults or other damage.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills 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

ELEMENT	PERFORMANCE CRITERIA
1 Plan maintenance operations	<p>1.1 Tags, service records, log books and crane manufacturers information are read prior to commencing maintenance, noting previously identified and manufacturers recommendations</p> <p>1.2 Maintenance schedules are read and maintenance tasks noted to match the schedule</p> <p>1.3 A step by step procedure is worked out to minimise time delays and to sequence maintenance processes consistent with manufacturers recommendations</p>
2 Complete pre-maintenance checks	<p>2.1 Appropriate safe work area is selected for conduct of maintenance</p> <p>2.2 Required tools, consumables and equipment are identified and assembled</p> <p>2.3 Equipment is inspected for visible faults and loose or damaged components</p>
3 Identify and assess any faults found	<p>3.1 Conditions found are compared with manufacturers information and intended use of crane</p> <p>3.2 Conditions noticed which may cause difficulties in the future are identified and the potential effect on the safe and efficient operation of the mobile crane is documented</p> <p>3.3 Potential fault conditions are reported to the appropriate personnel</p>
4 Conduct maintenance operations and safety check	<p>4.1 Fluid replacements and lubrication operations are completed</p> <p>4.2 Fluid levels are checked and adjusted</p> <p>4.3 Mechanical components are checked for secure attachments and tensions</p> <p>4.4 Mechanical adjustments are made</p> <p>4.5 The maintenance plan is followed and appropriate adjustments are made to the plan to deal with unexpected events</p> <p>4.6 Own work and crane system operations are checked to ensure that the crane's operational condition is to the required specifications</p> <p>4.7 Tools, equipment and unused consumables are returned to the appropriate locations and waste is disposed of within workplace policy and procedures</p>
5 Complete maintenance records	<p>5.1 Accurate reporting of the results of the safety check and the maintenance conducted is completed and filed in accordance with procedures, industry guidelines and any statutory requirements</p> <p>5.2 Clear reference in reports is made to any items which may not yet require maintenance but may affect the future working</p>

ELEMENT**PERFORMANCE CRITERIA**

condition or safety of the mobile crane

Required Skills and Knowledge**REQUIRED KNOWLEDGE AND SKILLS**

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant regulations, permit and licence requirements pertaining to mobile crane operational safety and maintenance
- Relevant OH&S and environmental procedures and regulations
- Mobile crane applications, capacities, configurations, safety hazards and control mechanisms
- Operational safety and maintenance procedures for crane crews
- Use, characteristics, capabilities and limitations of the lubrication and adjustment tools and equipment
- Workplace procedures for the planning of mobile crane jobs and the setting up of work areas
- Guidelines relating to the safe use of machinery and equipment
- Focus of operation of crane systems and equipment
- Application of relevant agreements, codes of practice or other legislative requirements

Required skills:

- Communicate effectively with others when maintaining a mobile crane
- Read and interpret instructions, procedures, information and signs relevant to the maintenance of a mobile crane
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the maintenance of a mobile crane
- Work collaboratively with others when maintaining a mobile crane
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions in accordance with regulatory requirements and workplace procedures
- Plan own work including predicting consequences and identifying improvements
- Identify non-conformities which may compromise operational capability
- Implement contingency plans for unexpected maintenance issues
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities

Required skills:

- Prioritise and multi-task work when maintaining a mobile crane
- Monitor work activities in terms of planned maintenance schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self, others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Identify and correctly use crane equipment and related maintenance processes and procedures
- Service equipment in terms of maintenance schedule and standard operating procedures
- Check and replenish fluids and carry out lubrication processes when maintaining a mobile crane

Evidence Guide**EVIDENCE GUIDE**

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

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

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement

Context of and specific resources for assessment

- Performance is demonstrated consistently over a period of time and in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:

EVIDENCE GUIDE

- relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- Method of assessment**
- Assessment of this unit must be undertaken by a registered training organisation
 - As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
 - Practical assessment must occur:
 - through activities in an appropriately simulated environment at the registered training organisation, and/or
 - in an appropriate range of situations in the workplace

Range Statement

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.

- Operations may be conducted:
- day or night
 - in a variety of weather conditions
- Environment may include:
- movement of equipment, goods, materials and vehicular traffic
- Customers may be:
- internal or external
- Mobile crane may be involved in work in a range of industry sectors including:
- construction and demolition
 - manufacturing
 - waterfront
 - mining
 - primary industry
 - utilities (electricity, gas, water)
 - arboricultural
 - swimming pool
 - quarrying
- Maintenance may include:
- routine inspections of crane and its associated equipment
 - checks prior to operations
 - checks on completion of operations

RANGE STATEMENT

Routine checks/servicing may include:

- checks on completion of repairs
- checking and topping up of water levels
- replacement of oils
- replacement of air in tyres
- checking pressure, fluid leaks, temperature
- checking tightness of bolts, fixtures, attachments and fittings to ensure they are within specifications
- checking for cracks, surface or structural faults or other damage

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company procedures
- enterprise procedures
- organisational procedures
- established procedures

Safety checks may include:

- warning devices
- operating lights or audible cues
- braking and transmissions
- lifting devices
- steering and suspension
- windscreen wipers
- isolation switches and shut down devices
- mechanical, electrical, electronic, hydraulic or pneumatic components

Hazards may include:

- power lines
- noise, light, energy sources
- overhead service lines
- surrounding buildings, structures, facilities
- underground services
- obstructions
- uneven or unstable ground and recently filled trenches
- stationary and moving machinery and equipment
- hazardous or dangerous materials
- traffic hazards and congestion
- other vehicles and personnel

Hazard management is:

- consistent with the principle of hierarchy of control with elimination, substitution, isolation and engineering control measures being selected before safe working practices and personal protective equipment

Consultative processes may involve:

- other employees and supervisors
- management
- union representatives

RANGE STATEMENT

- clients
 - industrial relations and OH&S specialists
 - other professional or technical staff
- Requirements for access and/or lift may include:
- site restrictions and procedures
 - authorities and permits
 - hours of operation
 - induction
 - slings, chains, nets, brackets and other specialised lifting equipment
 - noise restrictions
 - personal protective equipment
 - support trucks
 - additional gear and equipment
 - communications equipment
- Personal protective equipment may include:
- gloves
 - safety headwear and footwear
 - sunscreen, sunglasses and safety glasses
 - two-way radios
 - high visibility clothing
- Documentation/records may include:
- codes of practice and regulatory requirements concerning crane maintenance and safety
 - operations manuals including load charts and crane and rigging manuals
 - competency standards and training materials
 - job specifications and procedures
 - manufacturers specifications
 - workplace operating procedures and policies
 - supplier and/or client instructions
 - material safety data sheets
 - communications technology equipment, oral, aural or signed communications
 - personal and work area procedures and practices
 - induction documentation
 - conditions of service, legislation and industrial agreements including:
 - workplace agreements and awards
 - occupational health&safety procedures
 - standards and certification requirements
 - quality assurance procedures
 - emergency procedures

RANGE STATEMENT

Applicable regulations and legislation may include:

- relevant state/territory regulations pertaining to the maintenance and safety of mobile cranes
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

B - Equipment Checking and Maintenance