



Australian Government

Department of Education, Employment and Workplace Relations

TLIB3046A Service and clean mechanical signalling equipment and infrastructure

Release: 1

TLIB3046A Service and clean mechanical signalling equipment and infrastructure

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to service and clean mechanical signalling equipment and infrastructure in accordance with safeworking and regulatory requirements and workplace standards and procedures. It includes cleaning and servicing the equipment/infrastructure, and checking/testing the operation and functionality of the equipment/infrastructure after cleaning. Licensing or certification requirements are not applicable to this unit.

Application of the Unit

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Persons achieving competence in this unit will need to fulfil the applicable legislated rail safety requirements including acts and regulations from each applicable state and/or territory together with any nationally approved compliance codes and/or guidelines. Work is performed under minimal supervision, generally within a team environment. It involves the application of routine operational principles and procedures to the servicing and cleaning of mechanical infrastructure signalling equipment as part of workplace activities across a variety of operational contexts within the Australian rail system.

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 Clean and service equipment

- 1.1 All necessary cleaning and servicing equipment, resources and consumables are confirmed ready for use
- 1.2 All rubbish, weeds and obstructions are removed from equipment and housings
- 1.3 Initial visual check of operational equipment is performed to identify any equipment faults
- 1.4 External surfaces are inspected and where necessary are prepared/painted to organisational standards to protect the equipment
- 1.5 All internal and external surfaces and operational components are cleaned and lubricated to ensure operational effectiveness
- 1.6 All chemicals, lubricants and consumables are used and disposed of in compliance with material safety data sheets and OH&S codes and practices and environmental procedures

2 Check equipment operation

- 2.1 Approval to conduct a check of equipment operation is obtained in accordance with relevant operational rules and procedures
- 2.2 Track clearance check is made before conducting equipment operation check to ensure safe train movement
- 2.3 Authorised equipment operation check is carried out in accordance with operating procedures to identify any equipment faults
- 2.4 Operational effectiveness of equipment is confirmed through observation during train movements if required
- 2.5 Equipment faults are identified, reported and appropriate corrective action is taken
- 2.6 Serviced equipment is locked and secured to prevent unauthorised access

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge:

- Applicable legislated rail safety requirements including acts and regulations from each applicable state and/or territory together with any nationally approved compliance codes and/or guidelines
- Relevant OH&S and environmental procedures and regulations
- Workplace standards and procedures for the servicing and cleaning of mechanical signalling equipment and infrastructure

REQUIRED KNOWLEDGE AND SKILLS

- Problems that may occur during the servicing and cleaning of mechanical signalling equipment and infrastructure, and action that can be taken to report or resolve the problems
- Hazards that may exist when servicing and cleaning mechanical signalling equipment and infrastructure, and ways of controlling the risks involved
- Fundamentals of signalling and operations of mechanical signalling equipment
- Rail/train movement systems
- Fault detection techniques
- Relevant communication systems and procedures
- Authorisation/approval processes and procedures
- Documentation and record keeping requirements
- Recording procedures
- Track/turnout layout

Required skills:

- Communicate effectively with others when servicing and cleaning mechanical signalling equipment and infrastructure
- Read and interpret instructions, procedures, information, diagrams and signs relevant to the servicing and cleaning of mechanical signalling equipment and infrastructure
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the servicing and cleaning of mechanical signalling equipment and infrastructure
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when servicing and cleaning mechanical signalling equipment and infrastructure
- Promptly report any identified problems, faults or malfunctions that may be identified when servicing and cleaning mechanical signalling equipment and infrastructure in accordance with regulatory requirements and workplace procedures
- Implement contingency plans for unexpected events when servicing and cleaning mechanical signalling equipment and infrastructure
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures

Required skills:

- Select and use required personal protective equipment conforming to industry and OH&S standards
- Use hand, portable, power and air tools
- Safely use chemical cleaning agents, solvents and lubricants
- Carry out visual inspection and functional checking tests
- Check/confirm operational requirements
- Use basic computer skills

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
- Assessment must include exercises which demonstrate competent performance of the following in a range of situations:
 - cleaning and servicing equipment to organisational standards
 - checking correct operation of equipment

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:
 - relevant and appropriate materials and equipment,

EVIDENCE GUIDE

and

- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

EVIDENCE GUIDE

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, 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:

- in all weather conditions

Work may be conducted in:

- restricted spaces or exposed conditions
- controlled or open environments

Work may involve exposure to:

- chemicals
- dangerous or hazardous substances
- movements of equipment, materials and vehicles

Signal equipment may include:

- point machines
- hydraulic and pneumatic points
- signals
- points
- ground frames
- channel irons
- wire ropes
- point rodding
- level crossings
- signal signage
- signal locations/housings
- foundations/support/sleepers
- indicating devices point and signal
- cranks compensators

Cleaning and servicing equipment may include:

- steam cleaners
- hand tools
- brushes/wire and paint

RANGE STATEMENT

- hand held power/air tools
- brush/weed trimmers

RANGE STATEMENT

Chemicals and consumables may include:

- paints and paint strippers
- cleaning and de-greasing agents
- solvents
- weed killers
- oils
- greases
- cleaning rags

Rubbish removal/disposal may be carried out using:

- internal and/or external operating rules and procedures

Visual checks may include:

- security of nuts, bolts, support structures, equipment housings
- rust
- breakage
- graffiti
- rubbish build up
- environmental damage/degradation

Operational checks may include:

- mechanical movement
- linkages
- interferences
- alignment
- wear
- loose fittings

Communication equipment may include:

- two-way radios
- telephones/ mobile phones

Safety and protective equipment may include:

- high visibility clothing
- hearing protection
- gloves
- sunscreen
- sunglasses
- safety glasses
- insect repellent
- safety headwear
- safety footwear
- portable radios
- hand lamps
- flags
- safety devices

Depending on the type of organisation concerned and the

- company procedures
- enterprise procedures

RANGE STATEMENT

local terminology used, workplace procedures may include:

- organisational procedures
- established procedures
- operational instructions, policies and workplace procedures
- authority to access the site or to operate equipment, including:
 - written authority
 - verbal authority
 - authority as detailed in organisation operating rules and procedures
- notices, records and requests
- technical instructions
- manufacturers or workplace equipment operation manuals and specifications
- emergency procedure manuals
- two-way radio operation procedures
- QA plans, data and document control
- conditions of service, legislation and industrial agreements including workplace agreements and awards
- legislated rail safety requirements including acts and regulations from each applicable state and territory together with any nationally approved compliance codes and/or guidelines
- relevant Australian Standards and related requirements
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation

Information/documents may include:

Applicable regulations and legislation may include:

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

B - Equipment Checking and Maintenance