



Australian Government

TLIB3047 Repair and adjust mechanical signalling equipment and infrastructure

Release: 1

TLIB3047 Repair and adjust mechanical signalling equipment and infrastructure

Modification History

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to repair and adjust mechanical signalling equipment and infrastructure (excluding interlocking equipment), in accordance with safeworking and regulatory requirements, and workplace procedures.

It includes diagnosing equipment faults, correcting equipment faults, and testing and adjusting the equipment after repair.

People achieving competence in this unit will need to fulfil the applicable state/territory legislated rail safety requirements and to comply with relevant codes of practice and/or guidelines.

Work is performed under minimal supervision, generally within a team environment. It involves the application of routine operational principles and procedures when repairing and adjusting mechanical signalling equipment and infrastructure (excluding interlocking equipment), as part of workplace activities across a variety of operational contexts within the Australian rail system.

Cleaning and lubrication includes:

- all cleaning operations by hand
- chemical or steam cleaning
- applying lubricating oils and greases.

Operational compliance includes the manufacturer and/or safeworking operational specifications for functional movements, operations and outcomes.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

B – Equipment Checking and Maintenance

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Diagnose equipment faults	1.1 Out-of-specification or non-operating equipment/components are correctly identified through operational testing 1.2 Viability of adjustments/replacements/repairs to equipment/components is correctly evaluated to ensure cost effective operations 1.3 Hazards are identified, risks are assessed and control measures are implemented 1.4 Work is planned to ensure minimum disruption to train operations and safe repair activities 1.5 Support/assistance with diagnosis or repair operation is obtained through liaison with appropriate personnel 1.6 Work health and safety (WHS)/occupational health and safety (OHS) and environmental requirements for a given task area are obtained and clarified as required, in consultation with appropriate personnel
2 Correct equipment faults	2.1 Liaison with or support to other personnel is maintained to ensure equipment is maintained within specification 2.2 Equipment and components are replaced or repaired in accordance with operational specifications to ensure required level of operations 2.3 Equipment and component adjustment is performed to specifications to ensure required level of operations 2.4 Viability of repairs to replaced equipment/components is evaluated and equipment is tagged for repair or disposed of in accordance with organisational requirements
3 Test and adjust equipment	3.1 Final cleaning, lubricating and adjustments to equipment is carried out to ensure operational compliance

- 3.2 Equipment functions are tested to ensure operational compliance with required standards
- 3.3 Equipment is locked/secured as specified to ensure safety and protection from elements or people
- 3.4 Records of repair activities are correctly completed and forwarded to appropriate personnel for use in identifying future maintenance requirements

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIB3047A Repair and adjust mechanical signalling equipment and infrastructure.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIB3047 Repair and adjust mechanical signalling equipment and infrastructure

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- adapting to differences in equipment in accordance with operating procedures
- applying relevant test procedures
- applying relevant workplace procedures
- checking compliance with operational specification
- communicating effectively with others
- completing relevant documentation
- identifying job hazards and taking required action to minimise, control or eliminate identified hazards
- interpreting and following operational instructions and prioritising work
- modifying activities depending on operational contingencies, risk situations and environments
- monitoring work activities in terms of planned schedule
- operating mechanical signalling equipment
- reading and interpreting relevant instructions, procedures, information, diagrams and signs
- repairing and replacing equipment
- reporting and/or rectifying identified problems, faults or malfunctions promptly, in accordance with regulatory requirements and workplace procedures
- testing and adjusting equipment function after repair has been completed to ensure compliance with manufacturer and operational requirements
- using chemical cleaning agents, solvents and lubricants in accordance with safety data sheets (SDSs)/material safety data sheets (MSDSs) and/or manufacturer instructions and organisational procedures.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- documentation/authorisation processes and procedures, and technical specifications manuals
- fault detection techniques
- fundamentals of signalling and operations of mechanical signalling equipment
- hazards that may exist when repairing and adjusting mechanical signalling equipment and infrastructure, and ways of controlling the risks involved
- mechanical fitting techniques
- problems that may occur when repairing or adjusting mechanical signalling equipment and infrastructure, and action that can be taken to report or resolve these problems
- recording procedures
- relevant safety, work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations
- SDSs/MSDSs for cleaning and lubricating equipment
- workplace procedures and rail industry standards for repairing and adjusting mechanical signalling equipment and infrastructure (excluding interlocking equipment).

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the *Standards for Registered Training Organisations* current at the time of assessment.

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Assessment must occur in workplace operational situations or, where this is not available, in simulated workplace operational situations that replicate workplace conditions.

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

Resources for assessment include:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment currently used in industry
- applicable documentation including workplace procedures, rail industry standards, codes of practice and operation manuals.

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