



Australian Government

TLIB2125A Apply awareness of tram or light rail track fundamentals

Release 1

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Modification History

Release 1 - New unit of competency

Unit Descriptor

This unit involves the skills and knowledge required to apply an awareness of tram or light rail fundamentals.

It includes identifying tram/light rail track terminology, track and system components and the tools and equipment used on or around tram/light rail track.

Licensing or certification requirements are not applicable to this unit.

Application of the Unit

People achieving competence in this unit will need to fulfil the applicable legislated rail safety requirements including state acts and regulations together with any nationally approved compliance codes and/or guidelines.

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

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|---|--|
| 1 Identify tram/light rail track and structures terminology and components | 1.1 Basic terminology related to tram/light rail track and structures infrastructure is identified |
| | 1.2 Main components of tram/light rail track and structures are identified |
| 2 Identify tram/light rail track components | 2.1 Track components and their purpose are identified and explained |
| | 2.2 Tram crossing types and components and their purpose are identified and explained |
| | 2.3 Manual, electrical and spring-operated points are identified and their use is explained |
| 3 Identify tram/light rail electrical system features | 3.1 Overhead trolley system components, voltages and exclusion zones are identified and explained |
| | 3.2 Below ground electrical system is identified and explained |
| | 3.3 Reporting procedures and protocols for identified electrical system faults and defects are explained |
| 4 Identify tram/light rail tools and equipment | 4.1 Tools and equipment for tram/light rail track installation and maintenance are identified |
| | 4.2 Track machines for tram/light rail track installation and maintenance are identified |
| 5 Identify tram/light rail track and system faults or problems | 5.1 Possible faults for tram/light rail track and system are identified |
| | 5.2 Reporting procedures and protocols for identified track and system faults are explained |

Required Skills and Knowledge

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

Required knowledge:

- Applicable safety, occupational health and safety (OH&S) and environmental procedures and regulations related to tram/light rail
- Authorisation/approval processes and procedures
- Fundamentals of tram/light rail track and structures
- Fundamentals of tram/light rail track layout and geometry
- Relevant communication systems and procedures
- Tools and equipment used in tram/light rail track construction and repair
- Traffic management requirements
- Tram/light rail track and overhead trolley components
- Tram/light rail track terminology

Required skills:

- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Communicate effectively with others
- Interpret and follow operational instructions
- Modify activities depending on operational contingencies, risk situations and environments
- Select and use required personal protective equipment conforming to industry and OH&S standards

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 required 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:
 - identifying a range of tram/light rail terminology
 - identifying a number of different tram/light rail components
 - identifying tools and equipment relevant to their job role
- Performance is demonstrated in a suitable range of contexts
- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated 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, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Context of and specific resources for assessment

Method of assessment

- 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

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

- Measuring equipment may include:
- tape measures
 - gauge boards
- Tools and equipment may include:
- mechanical handling/lifting equipment
 - track machines
 - hand tools including grinders, friction rail saws, track jacks, sledge hammers, jack hammers, shovels, pick axes and bars
 - cutting equipment
 - fastening equipment
 - on-track equipment
- Track components may include:
- rails and rail fastenings
 - sleepers and sleeper fastenings
 - ballast
 - formation and earthworks
 - temporary crossover
- Track layout may include:
- plain track
 - turnouts
 - special trackwork, including catchpoints, spring loaded points, manual points, automatic points
 - H crossing
 - scissor crossing
 - crossover
 - grand union
 - terminus
 - sidings
- Basic track geometry may include:
- tangent track
 - curves
 - transitions
 - super-elevation
- Track maintenance and construction methods may include:
- closures
 - track repairs
 - ballasting
 - rail grinding
 - welding
 - point adjusting
 - track cleaning
 - drain cleaning
 - re-sleepering

- Liaison may include:
- re-timbering
 - internal or external personnel from other work areas (e.g. signaller/controller)
- Communication equipment may include:
- two-way radios
 - telephones/mobile phones
- Depending on work context, safety and personal protective equipment may include:
- high visibility clothing
 - flame retardant clothing
 - hearing protection
 - gloves
 - sunscreen
 - sunglasses
 - safety glasses
 - insect repellent
 - safety headwear
 - safety footwear
 - portable radios/mobile phones
 - hand lamps
 - flags
 - safety devices
 - whistle
- Information/documents may include:
- operational instructions, policies and workplace procedures
 - local authority regulations and procedures
 - works orders
 - material safety data sheets (MSDS)
 - timekeeping records
 - traffic management plans
 - technical instructions
 - manufacturers or workplace equipment operation manuals and specifications
 - two-way radio/mobile phone operation procedures
 - conditions of service, legislation and industrial agreements including workplace agreements and awards
- Applicable regulations and legislation may include:
- legislated rail safety requirements including acts and regulations from each applicable state and territory together with any nationally approved compliance codes and/or guidelines
 - local authority regulations
 - relevant state/territory OH&S legislation
 - relevant state/territory environmental protection legislation

Unit Sector(s)

Not applicable.

Competency Field

B – Equipment Checking and Maintenance