



Australian Government

Department of Education, Employment and Workplace Relations

TLIS3045A Install turnouts

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to install turnouts in accordance with approved standards, safeworking and regulatory requirements and workplace procedures. It includes installing points and crossings, and completing required documentation.

Licensing or certification requirements are not currently applicable to this unit. Persons achieving competence in this unit will need to fulfil legislated rail safety requirements, including acts and regulations from each applicable state and territory, together with any nationally approved compliance codes and/or guidelines.

Application of the Unit

The unit involves the application of routine operational principles and procedures to the installation of points and crossings 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

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 Prepare and install turnouts

- 1.1 Existing track work is removed from worksite
- 1.2 Track bed is prepared for installation of points and crossings in accordance with workplace procedures
- 1.3 New points and crossings are installed in accordance with specified design, manufacturer instructions and workplace procedures
- 1.4 Dimensions, geometry, condition and operation are checked for compliance with standards in accordance with design, manufacturer instructions and workplace procedures

2 Complete documentation

- 2.1 Required documentation is completed in accordance with organisational procedures
- 2.2 Appropriate personnel are informed that the installation has been completed in accordance with organisational procedures

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 safety, OH&S and environmental procedures and regulations
- Workplace procedures for the installation of points and crossings
- Problems that may occur when installing points and crossings, and action that can be taken to report or resolve them
- Hazards that may exist when installing points and crossings, and ways of controlling the risks involved
- Features and principles of operation of points and crossings
- Measurement techniques
- Clearances and tolerances
- Point and crossing acceptance standards
- Techniques for the installation of points and crossings
- Relevant communication systems and procedures
- Authorisation/approval processes and procedures for the installation of points and crossings
- Documentation and record-keeping requirements

Required skills:

- Communicate effectively with others when installing points and crossings
- Read and interpret technical data, standards and drawings relating to installing points and crossings
- Interpret and follow operational instructions and prioritise work when installing points and crossings
- Complete documentation relating to the installation of points and crossings
- Work collaboratively with others when installing points and crossings
- 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 equipment
- Install points and crossings to plans and specifications
- Use appropriate equipment to make accurate measurements of points and crossings
- Select and use required personal protective equipment (PPE)

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 that demonstrate competent performance of the following in a range of situations:
 - implementing the installation of points and crossings on at least two separate occasions

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

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

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.

Work may involve:	• exposure to chemicals, and dangerous or hazardous substances • movement of equipment, materials and vehicles
Points and crossing may include:	• turnouts • diamond crossings • slips • catchpoints • expansion switches
Equipment may include:	• off-track plant • cranes • mechanical lifting and handling devices • rail-mounted transporter vehicles • hand tools and small plant • rail saws and rail drills
Measurement equipment may include:	• measuring tapes • stringline • rail gauges (switch and/or crossing) • gauge boards
Materials may include:	• rail • rail jewellery • sleepers and/or ties • bearers
Liaison may include:	• internal or external personnel from other work areas, such as signalling staff
Communication systems may include:	• two-way radios • telephones, including mobile phones • agreed audible or hand signals
Safety and PPE may include:	• high visibility clothing • hearing protection • gloves • sunscreen • sunglasses • safety glasses • dust mask • insect repellent • safety headwear

Depending on the type of organisation concerned and the local terminology used, organisational procedures may be known as:

- safety footwear
- portable radios and mobile phones
- hand lamps
- flags
- safety devices
- company procedures
- enterprise procedures
- workplace procedures
- established procedures

Information and documents may include:

- operational instructions, policies and workplace procedures
- local authority regulations and procedures
- works orders
- technical instructions, plans and specifications
- manufacturer or workplace equipment operation manuals and specifications
- emergency procedure manuals
- two-way radio or mobile telephone operation procedures
- quality assurance (QA) plans, data and document control

Information may be provided:

- electronically
- in writing, via forms, documents and plans
- orally, via face-to-face communications
- 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 and territory legislation relating to:
 - environmental protection
 - OH&S

Applicable regulations and legislation may include:

Unit Sector(s)

Not applicable.

Competency Field

S – Construction and Installation