



Australian Government

Department of Education, Employment and Workplace Relations

TLIS2044A Carry out rail installation

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to install rail in accordance with safeworking and regulatory requirements and organisational policies and procedures. It includes identifying job requirements, preparing rail for installation, installing rail, joining rail ends, restoring track, and completing documentation.

Licensing or certification requirements are not 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

Work is performed under supervision, generally in a team environment. It involves the application of routine operational principles and procedures to install rail 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 Identify job requirements	1.1 Scope of work is determined and resources are arranged 1.2 Replacement rail is checked for compliance with acceptance standards in accordance with organisational policies and procedures
2 Prepare rail for installation	2.1 Rails are loaded and unloaded using approved methods to minimise risk to health and safety and damage to rail components 2.2 Rails are cut to required length using an appropriate method to minimise delays and wastage 2.3 If required, rails are bent to the correct curvature to ensure correct track geometry is maintained to standard
3 Position rail	3.1 Where required, existing rail is unfastened and removed using appropriate equipment or manual method 3.2 New rail is lifted into place using appropriate equipment or manual method maximising efficiency and minimising risk of injuries
4 Join rail ends	4.1 Rail joints are prepared for welding or are assembled and installed to specifications in accordance with organisational policies and procedures 4.2 Rail bonds or other track circuit connections are installed or restored as required in accordance with organisational policies and procedures
5 Restore track	5.1 Track fastenings are restored in accordance with organisational policies and procedures
6 Complete documentation	6.1 Required documentation is completed in accordance with organisational policies and 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 applicable to the job role
- Workplace procedures for installing and replacing rail
- Problems or hazards that may occur when loading and unloading rail and when installing and replacing rail, and action that can be taken to report or resolve them
- Acceptance standards for re-use of rails
- Rail installation acceptance standard
- Characteristics of plant and equipment, transport, structures, hardware and components used in work activities
- Relevant recording and documentation procedures

Required skills:

- Communicate effectively with others when installing and replacing rail
- Interpret and follow operational instructions and prioritise work when installing and replacing rail
- Complete documentation relating to the installation and replacement of rail
- Work collaboratively with others when installing and replacing rail
- Report and rectify within limits of own role problems, faults and malfunctions that may occur when installing and replacing rail in accordance with regulatory requirements and workplace procedures
- Modify activities depending on differing operational contingencies, risk situations and environments
- Measure rail weight and dimensions
- Check compliance between work and job specifications
- Select and use required personal protective equipment (PPE)
- Select and use relevant equipment and tools

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:
 - loading and unloading rails correctly
 - removing existing rail and/or lifting new rail into place using appropriate equipment and methods
 - preparing rail joints and installing them correctly
 - restoring track fastenings according to workplace procedures
 - checking that replacement rails meet requirements

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.

Rail loading and unloading equipment may include:	• off-track or on-track plant • manual methods • rail trains • mechanical handling and lifting equipment
Rail loading and unloading methods may vary according to:	• rail length • on-site storage • rail re-use intentions
Rail installation and replacement may include:	• laying new rail • replacing worn or defective rail with new or second-hand rail • replacing rail defects with new or second-hand closure rails • installing bonded insulated joints • transposing rails
Equipment may include:	• mechanical handling and lifting equipment • hand tools, including impact wrench, grinder, tension wrench, friction rail saw, and velocity rail punch • rail threaders • fastening equipment • cutting and boring equipment
Materials may include:	• new or second-hand rail • fastenings • plates • anchors • bolts • nuts • washer clips • rail jewellery
Rail joint parts and surroundings to be checked may include:	• joint insulation • fishbolts • rail bonds • rail geometry
Fastenings may include:	• bolts

Depending on work context, safety and PPE may include:

- rail fasteners
- coach screws
- high visibility clothing
- hearing protection
- gloves
- sunscreen
- sunglasses
- dust masks
- safety glasses
- insect repellent
- safety headwear
- safety footwear
- portable radios and mobile phones
- hand lamps
- flags
- safety devices

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

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

Unit Sector(s)

Not applicable.

Competency Field

S – Construction and Installation