



Australian Government

Department of Education, Employment and Workplace Relations

TLIX1607B Erect and mount structures and housings for signalling equipment

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to erect and mount structures and housings for signalling equipment in accordance with safeworking and regulatory requirements and workplace procedures including installing the foundations, assembling the components, and installing and mounting the structures and housings in accordance with specifications.

Application of the Unit

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

Work is performed with under minimal supervision, generally within a team environment. It involves the application of routine operational principles and procedures to general site maintenance carried out as part of workplace activities across a variety of operational contexts within the Australian rail system.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this competency is packaged will assist in identifying employability skill requirements.

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

Elements and Performance Criteria

Element	Performance Criteria
1 Install foundations	1.1 The worksite is inspected and appropriate arrangements made for safe access for heavy plant and equipment
	1.2 Foundations are poured/laid in the correct location, size and quality requirements as per the work orders and job specifications
	1.3 Required authorisation is confirmed to ensure safe train operations may continue
2 Assemble components	2.1 Components are correctly identified, prepared and laid out for assembly as per work orders/assembly specifications
	2.2 Components are pre-assembled in the correct sequence and checked to ensure safe and efficient installation can commence
3 Install and mount structures and housings	3.1 Structures are positioned on foundations and checked for compliance to job specifications in preparation for securing
	3.2 Structures are secured and checked for compliance with safety requirements and job specifications
	3.3 Housings and other equipment/components are correctly positioned, installed and secured to comply with work orders and job specification requirements
	3.4 Housings and other equipment/components are secured to ensure correct orientation to track and to prevent unauthorised access
	3.5 Structures and housings are positioned to ensure they are clear of all other structures, obstructions

and interference, including minimum structure
gauge

- 3.6 All equipment is locked and secured to maintain
site safety and security

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 state and territory together with any nationally approved compliance codes and/or guidelines

Relevant OH&S and environmental procedures and regulations

Workplace procedures for the erection and mounting of structures and housings for signalling equipment

Problems that may occur during the erection and mounting of structures and housings for signalling equipment and action that can be taken to report or resolve the problems

Hazards that may exist during the erection and mounting of structures and housings for signalling equipment and ways of controlling the risks involved

Information in workplace technical manuals and instructions

Characteristics of plant and equipment, transport, structures, hardware and components used in work activities

Impact on work activities of regulatory requirements

Workplace documentation and records system management related to the work concerned

Material safety data sheets

Chemicals, paints and lubricants

Rail operations and train movement

Materials procurement procedures

Track layout

Principles of signalling

Hazardous materials and situations and related personal protection measures

Relevant recording and documentation procedures

Required skills:

Communicate effectively with others when erecting and mounting structures and housings for signalling equipment

Read and interpret technical data, instructions and manuals relevant to the erection and mounting of structures and housings for signalling equipment

Interpret and follow operational instructions and prioritise work when erecting and mounting structures and housings for signalling equipment

Complete documentation related to the erection and mounting of structures and housings for signalling equipment

Operate electronic communication equipment to required protocol

Work collaboratively with others when erecting and mounting structures and housings for signalling equipment

Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others

Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when erecting and mounting structures and housings for signalling equipment in accordance with regulatory requirements and workplace procedures

Plan own work including predicting consequences and identifying improvements

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 equipment

Measure and lay out plans

Assemble and pre-assemble pre-made components

Check compliance between work and job specifications

Use and dispose of a range of chemicals, paints and lubricants

Position, secure and check structures, housings and components

Work at heights and in confined spaces

Select and use required personal protective equipment

Select and use relevant equipment and tools

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

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

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 appropriately simulated activities at the registered training organisation, 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:	by day or night in all possible weather conditions
Site preparation may include:	site clearance positioning levelling sub-foundation and ground preparation drainage and concrete form work (prefabricated or prepared on site using steel or timber)
Foundations may be:	poured concrete (pre-mixed or mixed on site) or pre-cast concrete slabs flooring sub-stands blocks
Structures may include:	signal posts level crossing protection gantries ground frames/bases A frames cranks prefabricated structures, but do not include major structures covered by the Building Code
Housings:	may include prefabricated structures, cupboards and location cases may be mounted on the ground, on structures, inside control cases or on external surfaces. Housings covered by the building code are not included
Preparation may include:	ensuring compliance with drawings/specifications, functionality, minor adjustments locating/securing and painting or other protective measures
Job specifications may be defined in:	relevant technical manuals

Installation and assembly may include the application of:	protective coatings, paints or lubricants
Gauge structure is:	as required by each organisation for clearance
Communications equipment may include:	two-way radios, and/or telephones
Depending on work context, 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 local terminology used, workplace procedures may include:	company procedures enterprise procedures organisational procedures established procedures
Information/documents may include:	applicable legislated rail safety requirements including acts and regulations from each state and territory together with any nationally approved compliance codes and/or guidelines operational instructions, policies and workplace procedures relevant logs or record books work orders technical instructions manufacturers or workplace equipment instructions and operation manuals 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
Applicable procedures and codes may	relevant state/territory regulations, codes of practice and safeworking system

include:

requirements
relevant Australian Standards and related
requirements
relevant state/territory OH&S legislation
relevant state/territory environmental
protection legislation

Unit Sector(s)

Not applicable.

Competency Field

X - Construction