



Australian Government

TLIW3042A Grind rail on tram/light rail systems

Release: 1

TLIW3042A Grind rail on tram/light rail systems

Modification History

Release 1 - New unit of competency

Unit Descriptor

This unit involves the skills and knowledge required to grind rail welds and faults on tram/light rail systems in accordance with approved standards, safeworking and regulatory requirements, and organisational procedures.

It includes determining job requirements, grinding weld and/or weld repair, grinding rail to repair surface defects, and completing all required documentation.

Licensing or certification requirements are not applicable to this unit.

Application of the Unit

This competency relates to the grinding of new welds and welded repairs on both the rail and check rail, grinding out corrugations and re-profiling the rail.

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 Determine job requirements | <ul style="list-style-type: none">1.1 New welds and weld repairs are located1.2 Corrugations on the rail are identified1.3 Appropriate equipment is selected1.4 Appropriate repair method and/or profile is selected to ensure completed work will meet specifications1.5 Site is cleared of obstructions and combustible material |
| 2 Grind weld repair | <ul style="list-style-type: none">2.1 Rail and check rail are ground to profile using approved equipment in accordance with workplace procedures2.2 Grinding equipment is operated safely in accordance with occupational health and safety (OH&S) and environmental requirements2.3 Rail profile and vertical and horizontal alignment are measured to ensure compliance with acceptance standards2.5 Rail surface condition is assessed for compliance with acceptance standards |
| 3 Grind rail to repair corrugations | <ul style="list-style-type: none">3.1 Rail is ground using approved equipment in accordance with workplace procedures3.2 Grinding equipment is operated safely in accordance with OH&S and environmental requirements3.3 Finished surface is checked to ensure compliance with specification |
| 4 Re-profile rail | <ul style="list-style-type: none">4.1 Rail is re-profiled using approved equipment in accordance with workplace procedures4.2 Equipment is operated safely in accordance with OH&S and environmental requirements4.3 Finished surface is checked to ensure ground profile complies with organisational requirements and specifications |
| 5 Complete documentation | <ul style="list-style-type: none">5.1 Documentation is completed in accordance with organisational requirements |

Required Skills and Knowledge

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

Required knowledge:

- Acceptance standards for rail profile and surface condition
- Authorisation/approval processes and procedures
- Documentation and recordkeeping requirements
- Grinding methods and results
- Hazards that may exist when grinding rail and welds, and ways of controlling the risks involved
- Problems that may occur when grinding rail and welds, and action that can be taken to report or resolve the problems
- Relevant communication systems and procedures
- Relevant safety, OH&S and environmental procedures and regulations
- Workplace procedures for grinding rail and welds

Required skills:

- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Communicate effectively with others when grinding rail and welds
- Complete documentation related to grinding rail and welds
- Interpret and follow operational instructions and prioritise work when grinding rail and welds
- Modify activities depending on operational contingencies, risk situations and environments
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Read and interpret technical data, drawings, instructions and manuals relevant to grinding rail and welds
- Report and/or rectify any identified problems, faults or malfunctions that may occur when grinding rail and welds in accordance with regulatory requirements and workplace procedures
- Select and use hand tools, power tools and equipment
- Select and use required personal protective equipment
- Work collaboratively with others when grinding rail and welds
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment

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 job requirements
 - operating grinding equipment safely
 - grinding welds and weld repairs using appropriate grinding wheel speed and rate of metal removal
 - grinding rail to repair surface defects
 - completing documentation correctly

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

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

Type and rate of grinding may vary according to:	• location • purpose of grinding
Equipment may include:	• hand held grinders • rail profile grinders • ride on rail profile grinders • hand tools • gauges • electronic rail profiler
Measuring equipment may include:	• straight edge • electronic straight edge • profile gauge
Materials may include:	• grinding wheels
Liaison may include:	• internal or external personnel from other work areas (e.g. signallers/controllers, electricians)
Communication equipment systems may include:	• two-way radios • telephones/mobile phones • agreed audible or hand signal
Depending on the work context, safety and personal protective equipment may include:	• high visibility clothing • hearing protection • gloves • sunscreen • sunglasses • safety glasses • insect repellent • safety headwear • fire retardant clothing and overgear (aprons, spats etc.) • face shields • safety footwear • portable radios/mobile phones • hand lamps • flags • safety devices
Information/documents may include:	• operational instructions, policies and workplace procedures • local authority regulations and procedures • information provided by other workplace personnel • track inspection reports

- work orders
 - technical instructions
 - manufacturer or workplace equipment instructions and operation manuals
 - two-way radio/mobile phone operation procedures
 - conditions of service, legislation and industrial agreements including workplace agreements and awards
- Applicable procedures and codes may include:
- legislated rail safety requirements including state acts and regulations together with any nationally approved compliance codes and/or guidelines
 - relevant state/territory OH&S and environmental protection legislation

Unit Sector(s)

Not applicable.

Competency Field

W – Equipment and Systems Operations