



Australian Government

Department of Education, Employment and Workplace Relations

TLIB3102A Adjust rail

Release: 1

TLIB3102A Adjust rail

Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to adjust rail in accordance with safeworking and regulatory requirements and workplace procedures. It includes identifying and determining the requirements for rail adjustment, undertaking rail adjustment, and completing all required documentation. Licensing or certification requirements may be applicable to this unit.

Application of the Unit

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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 under some supervision, generally within a team environment. It involves the application of routine operational principles and procedures to adjust rail as part of workplace activities across a variety of operational contexts within the Australian rail system.

Operators of mechanised equipment must have undertaken training and, where appropriate, hold the relevant licence, permit or certificate and be recognised as competent for the class of machinery being used.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills 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 and determine the requirements for rail adjustment	1.1 Appropriate adjustment method is determined and resources are arranged 1.2 Adjustment length is established depending on track geometry and location in accordance with workplace procedures
2 Adjust rail	2.1 Anchor points are identified and created as necessary to enable rail adjustment to be undertaken in accordance with workplace procedures 2.2 Track is released and rail is vibrated to achieve stress free state in accordance with workplace procedures 2.3 Appropriate measurements are taken and used to calculate adjustment requirements in accordance with workplace procedures 2.4 Rail length is adjusted using appropriate method to achieve desired rail stress 2.5 Rail is joined using appropriate method in accordance with workplace procedures 2.6 Track fastenings are restored in accordance with workplace procedures 2.7 Creep control marks are installed or reset in CWR track in accordance with workplace procedures (if applicable)
3 Complete documentation	3.1 Completed work is checked for compliance to standards to ensure safe operations of trains 3.2 Required documentation is completed in accordance with workplace 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 rail adjustment
- Problems that may occur when adjusting rail, and action that can be taken to report or resolve the problems
- Hazards that may exist when adjusting rail, and ways of controlling the risks involved
- Basic rail adjustment theory and critical aspects of rail stress

REQUIRED KNOWLEDGE AND SKILLS

- Rail adjustment procedures
- Temperature and alignment limitations on adjustment
- Documentation and record keeping requirements

Required skills:

- Communicate effectively with others when adjusting rail
- Read and interpret instructions, procedures, information and signs relevant to rail adjustment
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to rail adjustment
- Operate communication equipment to required protocol
- Work collaboratively with others when adjusting rail
- Promptly report and/or rectify any identified problems, faults or malfunctions that may be identified when adjusting rail in accordance with regulatory requirements and workplace procedures
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- 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 goods or equipment
- Operate and adapt to differences in equipment in accordance with standard operating procedures
- Select and use required personal protective equipment
- Identify, select and use hand tools
- Establish appropriate adjustment length
- Measure and calculate adjustment condition
- Use rail adjustment procedures for adjustment in different track configurations
- Use 'rail out - rail in' method appropriately and correctly (if applicable)
- Install and reset creep control marks in CWR track (if applicable)
- Complete documentation and record keeping requirements

Evidence Guide

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 which demonstrate competent performance of the following in a range of situations:
 - identifying and determining appropriate methods for rail adjustment
 - taking appropriate measurements and calculating adjustments
 - ensuring track is restored 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

- 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 activities in an appropriately simulated environment at the registered training organisation, and/or

EVIDENCE GUIDE

- 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 weather conditions
Work may be conducted in:	• restricted spaces • exposed conditions • controlled or open environments
Work may involve exposure to:	• chemicals • dangerous or hazardous substances • movements of equipment, materials and vehicles
Adjustment methods may vary according to:	• rail length • adjustment condition (initial or re-adjustment) • proximity to fixed points (turnouts, bridges etc.)
Adjustment methods may include:	• conversion of jointed track to CWR • adjustment of existing CWR • adjustment of existing jointed track • 'rail out - rail in' method
Adjustment length may vary according to:	• track curvature • proximity to fixed points (turnouts, bridges etc.) • adjustment temperature • equipment limitations
Appropriate measurements may include:	• rail temperature • rail gaps • rail longitudinal movement
Rail joints may include:	• aluminothermic welds • flashbutt welds • fishplated joints
Track fastenings may include:	• anchors • non-resilient fastenings • resilient fastenings
Measuring equipment may	• rail thermometers

RANGE STATEMENT

include:

- gap gauges
- tape measures
- measuring wheels
- stringline

Tools and equipment may include:

- mechanical handling/lifting equipment
- hand tools including hammers, impact wrenches, grinders, tension wrenches, friction rail saws, and rail punches
- rail tensors
- rail heaters
- rail threaders
- fastening equipment

Communication

equipment/systems may include:

- two-way radios
- telephones/mobile phones
- agreed audible or hand signals

Liaison may include:

- internal or external personnel from other work areas (e.g. train controllers)

Safety and personal protective equipment may include:

- high visibility clothing
- hearing protection
- gloves
- sunscreen
- sunglasses
- safety glasses
- dust mask
- insect repellent
- safety headwear
- safety footwear
- portable radios/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

Information/documents may include:

- operational instructions, policies and workplace procedures
- works orders
- notices, records and requests
- technical instructions
- manufacturers or workplace equipment operation manuals

RANGE STATEMENT

- emergency procedure manuals
 - two-way radio/mobile phone operation procedures
 - QA plans, data and document control
 - conditions of service, legislation and industrial agreements including workplace agreements and awards
- Information may be provided:
- electronically
 - in writing, via forms/documents/plans
 - orally, via face-to-face communications
 - trackside signals
- 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
 - relevant state/territory regulations, codes of practice and safeworking system requirements
 - relevant Australian Standards and related requirements, including AS 4292
 - relevant state/territory OH&S legislation
 - relevant state/territory environmental protection legislation

Unit Sector(s)

Not Applicable

Competency Field

Competency Field B - Equipment Checking and Maintenance