



Australian Government

TLIB3124 Apply awareness of steam locomotive fundamentals

Release: 2

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Modification History

Release 2. This is the second release of this unit of competency in the TLI Transport and Logistics Training Package:

- Minor statement changes in Knowledge Evidence
- Minor statement changes in Assessment Conditions.

Release 1. This is the first release of this unit of competency in the TLI Transport and Logistics Training Package.

Application

This unit involves the skills and knowledge required to apply an awareness of steam locomotive fundamentals.

It includes configurations, components, types of equipment and their basic operation.

This unit is intended as an introduction for people entering the rail industry who will be working on or around steam locomotives.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable.

Competency Field

B – Equipment Checking and Maintenance.

Unit Sector

Rail sector.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Identify basic locomotive

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

1.1 Different locomotive configurations are identified

configurations	1.2 Basic layout of different types of locomotive is identified
	1.3 Hazards are identified, risks are assessed and risk control measures are implemented
2 Identify boiler construction and components	2.1 Different boiler construction and configurations are identified
	2.2 Primary boiler fittings are identified
	2.3 Secondary boiler fittings are identified
3 Identify air/vacuum systems and operation	3.1 Basic air/vacuum components relevant to locomotive type are located and identified
	3.2 Uses and operation of air/vacuum system are identified
4 Identify electrical systems and operation	4.1 Basic electrical components relevant to locomotive type are located and identified
	4.2 Uses and operation of electrical system/s are identified
5 Identify mechanical systems and operation	5.1 Basic mechanical components relevant to locomotive type are located and identified
	5.2 Uses and operation of mechanical system are identified
6 Identify control systems and operation	6.1 Basic control system components relevant to locomotive type are located and identified
	6.2 Uses and operation of control systems are identified
7 Identify lubricating systems and operation	7.1 Basic lubricating systems and components relevant to locomotive type are located and identified
	7.2 Uses and operation of lubricating systems are identified
8 Identify auxiliary equipment and its operation	8.1 Basic auxiliary equipment components relevant to locomotive type are located and identified
	8.2 Uses and operation of auxiliary equipment are identified

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions can be found in the TLI Transport and Logistics Training Package Companion Volume Implementation Guide.

Unit Mapping Information

This unit replaces and is equivalent to TLIB3124A Apply awareness of steam locomotive fundamentals.

Links

Companion Volume Implementation Guides are found in VETNet -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=df441c6e-213d-43e3-874c-0b3f7036d851>

Assessment Requirements for TLIB3124 Apply awareness of steam locomotive fundamentals

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria on at least one occasion and include:

- identifying equipment on a steam locomotive including:
 - air/vacuum systems and operation
 - auxiliary equipment and its operation
 - boiler construction and components
 - control systems and operation
 - electrical systems and operation
 - lubricating systems and operation
 - mechanical systems and operation
- identifying job hazards and taking required actions to minimise, control or eliminate identified hazards.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- fundamentals of:
 - boiler and/or pressure vessel construction configuration
 - track layout
 - locomotive boiler code of practice
 - railway terminology
- relevant work health and safety (WHS)/occupational health and safety (OHS), and

- environmental procedures and regulations
- steam locomotive fundamentals including:
 - auxiliary equipment
 - cooling and lubricating systems
 - electrical components and equipment, as required
 - lubricating systems
 - mechanical equipment, as required
 - primary boiler fittings
 - safety system equipment and components
 - secondary boiler fittings
 - steam locomotive control systems
 - types of air/vacuum equipment
- workplace procedures.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated workplace operational situations that replicate rail workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals.

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