



Australian Government

TLIC0028 Operate a battery electric bus or coach

Release: 1

TLIC0028 Operate a battery electric bus or coach

Modification History

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 operate a battery electric passenger coach or bus across a variety of contexts in compliance with relevant state/territory road and traffic authority licence requirements and regulations, including road rules for heavy vehicle.

It includes maintaining systematic and efficient control of the electric passenger coach or bus functions, monitoring traffic and road conditions, managing coach or bus condition and performance, and effectively managing hazardous situations.

Operation of an electric passenger coach or bus is performed with limited supervision, and with duty of care responsibility for self and others in achieving the prescribed outcomes.

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

Pre-requisite Unit

Not applicable.

Competency Field

C – Vehicle Operation

Unit Sector

Not applicable.

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Operate an electric passenger coach or bus

PERFORMANCE CRITERIA

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

1.1 Pre-start operational checks are undertaken in accordance with workplace procedures and original equipment manufacturer instructions

- 1.2 Job hazards are identified and required actions are taken to minimise, control or eliminate identified hazards
 - 1.3 Electric passenger coach or bus is steered, manoeuvred, positioned and stopped in accordance with original equipment manufacturer instructions
 - 1.4 Drive system is managed to ensure efficiency and performance, and to minimise vehicle component or transmission damage
 - 1.5 Drive system operation is maintained within the original equipment manufacturer specified torque range and temperature by effectively using transmission and drive mode
 - 1.6 Electric passenger coach or bus braking system is operated to ensure effective control of vehicle under all conditions
 - 1.7 Regenerative braking system is used to ensure maximum range and capability
 - 1.8 Road and traffic hazards are identified and/or anticipated and avoided or controlled through defensive driving techniques
 - 1.9 Electric passenger coach or bus is driven in reverse, maintaining visibility and achieving accurate positioning in accordance with workplace procedures
 - 1.10 Electric passenger coach or bus is parked, secured and, if required, connected to charging device in accordance with original equipment manufacturer specifications and workplace procedures
 - 1.11 Low risk driving behaviour is applied towards other road users in accordance with workplace procedures
- 2 **Monitor and respond to traffic and road conditions**
 - 2.1 Efficient route of travel is taken by monitoring and anticipating traffic flows and conditions, road standards and other factors likely to cause delays or route deviations
 - 2.2 Traffic and road conditions are constantly monitored and acted on to enable safe operation and to ensure no injury to people or damage to property, equipment, loads and facilities

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| | 2.3 | Autonomous system functionality is explained in accordance with original equipment manufacturer specifications |
| 3 | Monitor and maintain electric passenger coach or bus performance | |
| | 3.1 | Electric passenger coach or bus performance is maintained through pre-operational inspections and checks of coach or bus and ancillary equipment |
| | 3.2 | Performance and efficiency of electric passenger coach or bus operation is monitored during use |
| | 3.3 | Defective or irregular performance or malfunctions are repaired or reported to appropriate authority in accordance with workplace procedures |
| | 3.4 | Passenger coach or bus records are maintained in accordance with workplace procedures |
| | 3.5 | Vehicle monitoring devices are operated in accordance with workplace procedures |
| 4 | Operate an electric passenger coach or bus safely | |
| | 4.1 | Passenger positioning and dispersion is undertaken in accordance with original equipment manufacturer instructions and workplace procedures |
| | 4.2 | Coach or bus doors are operated safely for entry and exit from coach or bus in accordance with original equipment manufacturer instructions and workplace procedures |
| | 4.3 | Visual checks are conducted on entry to and exit from coach or bus stop and whilst driving in accordance with workplace procedures |
| | 4.4 | Electric passenger vehicle is positioned and moved conveniently and safely for passengers embarking and disembarking in accordance with regulatory and workplace procedures |
| | 4.5 | Connecting vehicle to recharging station is undertaken in accordance with workplace procedures and original equipment manufacturer instructions |
| | 4.6 | Traffic and road conditions are monitored when parking and charging vehicle |
| | 4.7 | Emergency response is assessed and actioned in accordance with workplace procedures and traffic management plans |

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| 5 Operate electric passenger coach or bus associated equipment | 5.1 Coach or bus associated equipment is operated in accordance with original equipment manufacturer instructions and workplace procedures |
| | 5.2 Faults and warnings with coach or bus associated equipment are reported in accordance with workplace procedures |
| | 5.3 Route destination is clearly displayed on passenger vehicle in accordance with workplace procedures |
| 6 Provide customer service to passengers on coach or bus | 6.1 Comfort and wellbeing of passengers are managed in accordance with workplace instructions |
| | 6.2 Lost property is processed in accordance with workplace procedures |
| | 6.3 Assistance is provided for identified customer-specific needs or luggage and ancillary equipment requirements in accordance with workplace procedures |

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.

Unit Mapping Information

This unit is a new unit. No equivalent unit.

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 TLIC0028 Operate a battery electric bus or coach

Modification History

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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:

- applying industry and organisational customer service standards
- applying precautions and required actions to minimise, control or eliminate identified hazards
- carrying out electric passenger vehicle and battery pre-operational checks in accordance with workplace procedures
- checking warning systems are checked for operational effectiveness
- communicating effectively and working collaboratively with others
- completing relevant documentation
- connecting and disconnecting electric vehicle to and from charging device
- demonstrating low risk driving behaviours, including implementing appropriate responses to changing road conditions
- explaining difference between types of electric passenger vehicle warnings and faults
- monitoring and anticipating traffic hazards and taking appropriate actions
- monitoring battery electric vehicle performance of coach or bus and its equipment, and taking appropriate actions, as required
- operating, checking and adapting to differences in electrical equipment in accordance with workplace procedures
- reading and interpreting relevant instructions, procedures, information and signs
- reporting and/or rectifying identified problems, faults or malfunctions promptly in accordance with regulatory and workplace procedures requirements.

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:

- battery electric coach or bus components and vehicle terminology including controls, instruments and indicators, and their use
- causes and effects of fatigue on drivers, including fatigue management strategies and on-road techniques
- differences between types of warnings and types of faults
- drive system management and safe driving strategies

- driving hazards and related defensive driving techniques
- efficient electric coach or bus driving techniques
- electric coach or bus vehicle handling procedures
- emergency management plan including evacuation procedures
- factors that may cause traffic delays and diversions, and related actions that can be taken
- pre-operational checks carried out on electric coaches/buses and related actions
- principles of electric passenger coach or bus braking management systems operation
- road navigation techniques
- state/territory regulations and procedures in relation to bus stops
- state/territory road and traffic authority road rules, regulations, permits and licence requirements
- torque characterises including the impact that can have on smooth vehicle operation and passenger comfort
- using regenerative braking system to ensure maximum range and capability
- vehicle capacity, mass and passenger management requirements
- vehicle monitoring devices (such as tachographs)
- work health and safety (WHS)/occupational health and safety (OHS) and environmental procedures and regulations including procedures to be followed in case of an emergency, abnormal event or limp mode
- workplace electric passenger coach or bus driving and operational instructions.

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 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.

Electric bus or coach simulator is not suitable for final practical assessment of this unit.

Resources for assessment must include access to:

- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
- relevant materials, tools, equipment, personal protective equipment (PPE) and appropriate electric bus or coach vehicle used in industry.

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