



**Australian Government**

**Assessment Requirements for AURETH102  
Inspect and maintain battery electric  
vehicles**

**Release: 1**

# Assessment Requirements for AURETH102 Inspect and maintain battery electric vehicles

## Modification History

Release	Comments
Release 1	<p>This version first released with the Automotive Retail, Service and Repair Training Package Version 7.0.</p> <p>Supersedes and is equivalent to AURETH002 Service and maintain battery electric vehicles.</p>

## Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- inspect and maintain at least two different battery electric vehicles (BEVs).

## Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- methods to locate and interpret information required to inspect and maintain battery electric vehicles, including:
  - Australian Standards (AS) 5732 Electric vehicle operations - Maintenance and repair
  - vehicle manufacturer specifications and procedures or equivalent documentation
- workplace procedures and policies required to inspect and maintain battery electric vehicles, including:
  - documentation procedures
  - housekeeping procedures, including those for:
    - examining and storing tools and equipment
    - identifying, tagging and isolating faulty equipment
    - disposing and recycling of excess materials
- work health and safety (WHS) relating to inspecting and maintaining BEVs, including procedures for:
  - identifying hazards and controlling risks associated with:
    - working with high voltages on BEV electrical systems
    - wearing jewellery while working around high electrical currents

- minimising risk associated with hazards, including applying electrical safety precautions when:
  - using personal protective equipment (PPE), including electrical safety gloves with 1000 volt rating and Australian standards rated high voltage (HV) insulating mat
  - identifying and using firefighting equipment as appropriate
  - using the 'one hand' rule
  - following live system warning tags and signs
  - depowering vehicle
  - isolating HV rechargeable energy storage system (RESS) electrical supply
  - stabilising vehicle electrical system
- key components of BEVs and their functions
- RESS battery construction, including:
  - battery internal resistance
  - battery types
  - terminal corrosion
  - terminal resistance
- key components of RESS theory, including:
  - cell failure theory
  - charging characteristics
  - open circuit cells
  - reverse polarisation
  - series cell configuration
  - strapping and layout
- battery charger characteristics and operation, including battery cooling system and refrigerant flow through RESS
- battery management system (BMS) theory
- power distribution unit (PDU) operation.

## Assessment Conditions

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Assessment must include direct observation of tasks.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the BEVs that they have inspected and maintained e.g. repair orders.

Assessors must verify performance evidence through questioning on skills and knowledge to ensure correct interpretation and application.

The following resources must be made available:

- automotive repair workplace or simulated workplace

- PPE and safety equipment, including electrical safety gloves with 1000 volt rating and Australian standards rated HV insulating mat
- manufacturer specifications and inspection procedures for the BEVs being inspected and maintained
- AS 5732 Electric vehicle operations - Maintenance and repair
- two different BEVs as specified in the performance evidence
- electrical test equipment, including:
  - digital multimeter with Cat III 1000 volt rating
  - insulation tester
  - residual voltage tester, if specified in original equipment manufacturer (OEM) test requirements
  - scan tool
  - tools, equipment and materials appropriate for servicing and maintaining BEVs.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

## **Links**

Companion Volume Implementation Guide is found on VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1>