



Australian Government

AURETR115 Inspect, test and service batteries

Release: 1

AURETR115 Inspect, test and service batteries

Modification History

Release	Comments
Release 1	This version first released with AUR Automotive Retail, Service and Repair Training Package Version 6.0

Application

This unit describes the skills and knowledge required to inspect and service vehicle, vessel and machinery batteries. It involves preparing for the task, inspecting battery systems, servicing the systems, and completing workplace processes and documentation, including any associated recommendations for further action.

The unit applies to those who work in the automotive service and repair industry. The battery systems include those in agricultural machinery, heavy commercial vehicles, light vehicles, vessels, motorcycles, mobile plant machinery or outdoor power equipment.

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

Unit Sector

Electrical Technical – Electrical and Electronics

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare to inspect, test and service battery	1.1 Identify job requirements from workplace instructions 1.2 Obtain and interpret servicing information 1.3 Identify hazards and environmental issues, assess potential risks and implement control measures in line with workplace policies and procedures 1.4 Identify tools and equipment required for inspect and servicing activity and establish serviceability according to workplace procedures
2. Inspect and test battery	2.1 Carry out inspection and testing of battery systems according to manufacturer specifications, workplace procedures and

ELEMENT	PERFORMANCE CRITERIA
	workplace health and safety and environmental requirements 2.2 Carry out inspection and testing of battery circuits according to manufacturer specifications, workplace procedures and workplace health and safety and environmental requirements 2.3 Compare inspection results against manufacturer specifications 2.4 Report inspection findings and make recommendations for necessary repairs according to workplace procedures
3. Service and maintain battery	3.1 Service and maintain battery according to manufacturer and battery specifications, workplace procedures and workplace health and safety and environmental requirements 3.2 Carry out post-service testing according to manufacturer specifications workplace procedures, workplace health and safety and environmental requirements
4. Complete work processes	4.1 Conduct final inspection according to workplace procedures and confirm vehicle is ready for use 4.2 Clear work area and dispose of or recycle materials according to workplace procedures 4.3 Complete documentation according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.

SKILL	DESCRIPTION
Learning	Locates required sources of information efficiently
Reading	Interprets information from manufacturer and workshop literature when seeking battery service procedures and specifications
Oral communication	Clarifies instructions and reports inspection findings to required personnel
Numeracy	- Matches battery types and identification numbers to workplace instructions and manufacturer specifications - Interprets and compares battery specifications and procedures
Technology	Uses specialised tools and equipment when inspecting, testing and servicing batteries

Unit Mapping Information

Supersedes and is equivalent to AURETR015 Inspect, test and service batteries.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for AURETR115 Inspect, test and service batteries

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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, test and service the batteries of three different vehicles, vessels or machinery, in which the work must involve one maintenance-free battery.

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, test and service batteries, including:
 - vehicle manufacturer specifications and procedures or equivalent documentation
 - battery manufacturer specifications
- workplace procedures required to inspect, test and service batteries, including:
 - inspecting, testing, servicing and post-service testing batteries
 - establishing the serviceability of tools and equipment
 - documentation procedures
 - housekeeping procedures, including:
 - examination of tools and equipment
 - storage of equipment
 - identification, tagging and isolation of faulty equipment
 - disposal of excess materials
 - recycling procedures
- workplace health and safety (WHS) requirements relating to inspecting, testing and servicing batteries, including procedures for:
 - selecting and using personal protective equipment (PPE), including clothing, and eye and hand protection
 - identifying a hybrid vehicle

- identifying a battery electric vehicle
- working with high current electrical systems
- manually handling batteries and toxic and corrosive substances
- conducting risk assessments of battery, vehicle and equipment movement before carrying out work
- working safely when using battery testing equipment
- environmental requirements, including procedures:
 - found in safety data sheets (SDS) relating to toxic and corrosive substances
 - for recycling and disposing of replaced batteries
- tools, equipment and materials relating to inspecting, testing and servicing batteries, including:
 - battery load testing device
 - multimeter
 - battery cleaning materials
- basic operating principles of batteries, including:
 - using chemical energy to produce electrical energy
 - the difference between voltage and current
- types of automotive batteries, including:
 - lead acid batteries
 - deep cycle batteries
 - maintenance-free batteries
 - gel batteries
 - absorbed glass mat batteries
 - calcium batteries
 - lithium ion and lithium ion phosphate batteries
- battery classifications, including:
 - reserve capacity
 - amp hour rating
 - cold cranking amps
- battery specifications and measurements, including:
 - battery-specific gravity measurements
 - cold cranking amp (CCA) measurements
- battery connection methods for 6 volt, 12 volt, 24 volt and 48 volt, including:
 - series
 - parallel
 - series parallel
- inspection and testing procedures for batteries, including:
 - terminals and leads
 - battery securing system
 - testing battery with load testing devices

- testing battery with a hydrometer
- battery memory retention
- servicing procedures for batteries, including:
 - cleaning battery and battery compartments
 - topping up battery fluid
- post-service testing procedures, including confirming that battery is serviceable and operating to manufacturer specifications.

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 batteries that they have inspected, tested and serviced, 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
- workplace instructions
- manufacturer battery specifications
- PPE, including clothing, and eye and hand protection
- three different vehicles, vessels or machinery with batteries as specified in the performance evidence requiring servicing
- tools, equipment and materials appropriate for inspecting, testing and servicing batteries, including battery load testing devices, multimeters and cleaning materials.

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

Links

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