



Australian Government

Assessment Requirements for AURETR017 Overhaul charging system alternators

Release: 1

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Modification History

Release	Comment
Release 1	New unit of competency.

Performance Evidence

Before competency can be determined, individuals must demonstrate they can perform the following according to the standards defined in this unit's elements, performance criteria, range of conditions and foundation skills:

- overhaul charging system alternators of two different vehicles, vessels or machinery, which include an alternator with a:
 - star connected stator
 - delta connected stator.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to overhauling charging system alternators, including procedures for:
 - using specialised tools and equipment
 - using appropriate personal protective equipment (PPE)
 - identifying hazards and controlling risks associated with wearing jewellery while working around high current wiring systems
- environmental requirements, including procedures:
 - found in safety data sheets (SDS) relating to toxic and corrosive substances
 - for disposing of replaced alternator components
- types, characteristics and operating principles of charging system alternators, including alternators with both star and delta connected stators
- charging system alternator overhaul procedures, including:
 - methods for cleaning and preparing charging system alternators for overhaul
 - charging system alternator dismantling procedures
 - charging system alternator repair and adjustment procedures, including:

- brushes to slip ring alignment
- bearings shimmed and seated in alternator housing
- rotors rebalanced
- rectifier installation to alternator housing
- component assembly procedures, including procedures for measuring and calculating tolerances, and adjusting components
- post-overhaul bench testing procedures, including:
 - use of load simulator load tester for complete system analysis
 - analysis of system operation while using gauges, current clamps, electrical test equipment, scan tools, oscilloscopes and other industry-relevant test equipment
- post-overhaul testing procedures of alternator in vehicle, vessel or machinery, including:
 - accessing and interpreting diagnostic trouble codes (DTCs)
 - DTC clearing procedures
 - checking for electrical connector mating
 - checking for correct charging voltage at battery.

Assessment Conditions

Assessors must satisfy NVR/AQTF assessor requirements.

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 charging system alternators that they have worked on, 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 specifications relating to charging system alternators
- two different vehicles, vessels or machinery with star and delta connected stators and requiring overhaul
- tools, equipment and materials appropriate for overhauling and adjusting a range of alternators.

Links

Companion Volume implementation guides are found in VETNet -

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

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