



Australian Government

Assessment Requirements for AURETR019

Inspect, service and repair AC electric motor drive systems

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:

- inspect, service and repair three of the following alternating current (AC) electric motor drive systems in different vehicles, vessels or machinery:
 - AC single phase induction motor
 - AC three phase induction motor
 - AC brush commutator motor
 - AC synchronous motor.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to inspecting, servicing and repairing AC electric motor drive systems, including procedures for:
 - selecting and using personal protective equipment (PPE), including clothing, and eye and hand protection
 - working safely with high current electrical systems
- operating principles of AC electric motor drive systems, including of:
 - AC single phase induction motor
 - AC three phase induction motor
 - AC brush commutator motor
 - AC synchronous motor
- application, purpose and operation of AC electric motor drive systems, including:
 - forklifts

- golf karts and buggies
- electric vehicle transportation
- recreational vehicles, including quad bikes and motorcycles
- inspection procedures for AC electric motor drive systems, including for analysing system operation
- procedures for testing AC electric motor drive systems, including:
 - accessing electrical terminals and using test probes without damaging connectors, fuse holders or wiring
 - procedures for using and operating electrical test equipment, including:
 - digital multimeters
 - test lights and probes
 - oscilloscopes
- service and repair procedures for AC electric motor drive systems, including:
 - component removal and replacement procedures
 - component and associated system adjustment procedures
- post-repair testing procedures for AC electric motor drive systems, including:
 - confirming that system is operating to manufacturer specifications
 - confirming that no other problems are present as a result of the repair.

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 AC electric motor drive systems that they have inspected, serviced and repaired, 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 AC electric drive motor specifications
- PPE, including clothing, and eye and hand protection
- three different vehicles, vessels or machinery with the AC electric motor drive systems specified in the performance evidence requiring repair
- tools, equipment and materials appropriate for inspecting, servicing and repairing AC electric motor drive systems, including multimeter.

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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