



Australian Government

Assessment Requirements for AURETR018 Overhaul starting system motors

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 the starting system motors of three different vehicles, vessels or machinery, which must include:
 - one direct drive starter motor
 - one of the following solenoid pre-engaged types of starter motors:
 - direct drive
 - reduction drive
 - one stop-start starter 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 overhauling starting system motor, 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 components
- types, characteristics and operating principles of vehicle, vessel or machinery starting system motors, including starter motors that are direct drive and solenoid pre-engaged types

- starting system overhaul procedures, including:
 - methods for cleaning and preparing starting system motors for overhaul
 - starting system motor dismantling procedures
 - starting system motor inspection, measuring and evaluation procedures, including methods for measuring and calculating tolerances and clearances
 - starting system motor repair and adjustment procedures, including:
 - brushes to commutator alignment
 - motor drive shaft to planetary gear assembly
 - solenoid shift lever to clutch drive assembly
 - procedures for tolerance measuring and calculating 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 starting system motors in vehicles, vessels or machinery, including:
 - accessing and interpreting diagnostic trouble codes (DTCs)
 - DTC clearing procedures
 - checking for electrical connector mating
 - checking for voltage drop and starting system motor correct current draw.

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 starting system motors 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 starting system motor specifications
- three different vehicles, vessels or machinery with the starting system components specified in the performance evidence and requiring overhaul
- tools, equipment and materials appropriate for overhauling and adjusting a range of starting system motors.

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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