



Australian Government

Assessment Requirements for AURETR010 Repair wiring harnesses and looms

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 standard defined in the unit's elements, performance criteria, range of conditions and foundation skills:

- repair an existing basic wiring harness or loom assembly of the wiring systems of two different vehicles, vessels or machinery
- fabricate a new basic wiring harness or loom assembly for the wiring system of one vehicle, vessel or machinery.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to repairing wiring harnesses and looms, including procedures for:
 - using safety data sheets (SDS)
 - selecting and using personal protective equipment (PPE)
 - identifying firefighting equipment
 - safely handling hazardous materials and toxic substances
 - following soldering equipment safe operating procedures
- environmental requirements, including procedures for trapping, storing and disposing of hazardous materials and toxic substances released during repair processes
- location and content of workplace procedures and manufacturer specifications relating to wiring harnesses and looms
- types of wiring systems found in vehicles, including:
 - basic single wiring, including:
 - tailer harness
 - driving lights harness

- accessory wiring harness
- complex multi-wiring with varying wire gauges
- controller area network databus (CAN-bus) wiring, including:
 - twisted pair
 - shielded wiring
- testing procedures, including:
 - accessing electrical terminals and using test probes without damaging connectors, fuse holders or wiring
 - testing wiring harnesses and looms, including resistance and voltage drop and circuit performance checks
 - visual and functional assessments, including:
 - component damage and wear
 - component corrosion
 - water and moisture ingress
 - damaged insulation
 - frayed wires
 - burnt wiring
 - terminal and connector damage
- removal procedures for wiring harnesses and looms, including:
 - accessing wiring and removing panels and covers
 - removing and replacing components
 - disconnecting terminals from connectors
- repair procedures of wiring harnesses and looms, including:
 - determining cable and terminal types and sizes according to circuit current draw
 - wire soldering procedures
 - terminal crimping
 - replacing male and female terminals within a connector housing
 - protecting and routing harness and loom
- post-repair testing procedures of wiring harnesses and looms, including procedures for checking full operation of associated electrical systems.

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 vehicle, vessel or machinery wiring harnesses and looms that they have 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 machinery wiring specifications
- three different vehicles, vessels or machinery requiring repairs to their wiring harnesses and looms
- tools, equipment and materials appropriate for repairing wiring harnesses and looms, including:
 - multimeter
 - continuity tester
 - crimping tools
 - soldering equipment
 - heat gun
 - terminals and connectors
 - wire and cabling.

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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