



Australian Government

AUMGTR001 Install and replace vehicle electrical units and assemblies

Release: 1

AUMGTR001 Install and replace vehicle electrical units and assemblies

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMGTR3001 Install or replace electrical and electronic units and assemblies

Application

This unit describes the performance outcomes required to install and replace electrical units and assemblies in vehicles. It involves the fitting of aftermarket electrical equipment and the replacement of original equipment manufacturer (OEM) components that are not connected to the vehicle's controller area network (CAN) data bus.

It applies to those in an automotive manufacturing environment and involves the application of skills and knowledge at a specialist technician level.

Licensing, legislative, regulatory or certification requirements may apply to this unit in some jurisdictions. Users are advised to check with the relevant regulatory authority.

Competency Field

Manufacturing - Bus, Truck and Trailer

Unit Sector

Technical - Electrical and Electronic

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the range of conditions section
1. Prepare to install or replace units and assemblies	1.1 <i>Workplace instructions</i> are used to determine job requirements 1.2 Installation or replacement options are analysed, selected and prepared

Elements	Performance Criteria
	1.3 Tools and equipment are identified for effective installation or replacement procedures
2. Install or replace and test units and assemblies	2.1 Workplace procedures are identified and followed 2.2 Installation or replacement procedures are identified from manufacturer specifications 2.3 Electrical units and assemblies are installed or replaced using approved methods, tools and equipment and according to manufacturer specifications 2.4 Electrical units and assemblies are tested according to job requirements and manufacturer specifications
3. Complete work processes	3.1 Final inspection is made to ensure work is to workplace quality standards 3.2 Tools and equipment are cleaned, checked and stored according to workplace procedures 3.3 Faulty equipment is identified, tagged and reported 3.4 Work sheets and test result documents are completed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

Skills	Description
Reading skills to:	- follow work instructions, workplace procedures and work health and safety (WHS) requirements - interpret removal and installation processes from manufacturer specifications.
Writing skills to:	- legibly enter information into work sheets - complete faulty equipment tags.
Numeracy skills to:	- match materials and component part numbers to work instructions and bills of material - understand measurements of voltage, current and resistance relating to electrical circuits - measure materials and components to determine compliance with job specifications.
Initiative skills to:	adapt to changing work conditions or contexts.
Problem-solving skills to:	resolve removal and installation problems and material defects.

Skills	Description
Planning and organising skills to:	• prepare components, equipment and work area.

Range of Conditions

This section specifies work environments and conditions that may affect performance. Essential operating conditions that may be present (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) are included. Bold italicised wording, if used in the performance criteria, is detailed below.

<i>Workplace instructions</i> must include:	• OEM vehicle electrical unit and assembly removal and installation techniques • OEM vehicle electrical unit and assembly testing and repair processes.
<i>Tools and equipment</i> must include:	• crimping tools • electrical tape • hand tools • insulation testers • soldering iron • terminals and connectors • testing equipment: • multimeters • ohm meters • wire and cabling of various colours and sizes.
<i>Workplace procedures</i> must include:	• workplace quality guidelines for installing and replacing vehicle electrical units and assemblies • procedures for recording and reporting the installation and replacement of vehicle electrical units and assemblies • WHS requirements for installing and replacing vehicle electrical units and assemblies.

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1>

Assessment Requirements for AUMGTR001 Install and replace vehicle electrical units and assemblies

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMGTR3001 Install or replace electrical and electronic units and assemblies

Performance Evidence

Before competency can be determined, individuals must have competently installed or replaced electrical units and assemblies on a minimum of two occasions.

Individuals must demonstrate they can:

- select and use tools and equipment relating to installing and replacing vehicle electrical units and electrical assemblies
- follow workplace instructions to install and replace electrical units and electrical assemblies
- install electrical units and assemblies according to manufacturer specifications
- replace electrical units and assemblies according to workplace procedures
- follow work health and safety (WHS) requirements when installing and replacing electrical units and assemblies
- test electrical units and assemblies according to manufacturer specifications and workplace procedures
- complete workplace documents.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- workplace procedures relating to installing and replacing vehicle electrical units and assemblies
- vehicle electrical unit removal procedures and methods for opening electrical connections
- vehicle electrical unit installation procedures:
 - cable repair techniques
 - cable termination techniques
 - installation tools and equipment
- vehicle electrical unit testing procedures.

Assessment Conditions

Assessors must satisfy SNR/AQTF assessor requirements.

Competency is to be assessed in the workplace or a simulated environment that accurately reflects performance in a real workplace setting.

Where assessment of competency includes third-party evidence, individuals must provide evidence that links them to the electrical units and assemblies that they have installed or replaced, e.g. installation work sheet.

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 manufacturing workplace or simulated workplace
- workplace instructions, including fitting instructions
- workplace procedures relating to installing and replacing vehicle electrical units and assemblies
- a range of electrical units and assemblies
- vehicle that requires electrical units and assemblies to be fitted
- tools and equipment required for installing and replacing vehicle electrical units and assemblies
- work order and job specifications for installing and replacing vehicle electrical units and assemblies
- relevant work sheets and test result documentation.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1>

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=bd587669-08b3-4cd5-85f0-f9fa0c6304c1>