



Australian Government

AUMGTR002 Manufacture and modify vehicle wiring harnesses

Release: 1

AUMGTR002 Manufacture and modify vehicle wiring harnesses

Modification History

Release	Comment
Release 1	Unit updated to reflect the new standards for Training Packages Replaces AUMGTR3002 Manufacture or modify wiring harnesses

Application

This unit describes the performance outcomes required to manufacture or modify wiring harnesses. It includes modifying the existing wiring harness to customer requirements, making a new wiring harness, and testing the finished product.

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

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Competency Field

Manufacturing - Bus, Truck and Trailer

Unit Sector

Technical - Electrical

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 for work	1.1 <i>Workplace instructions</i> are reviewed and wiring harness is inspected to determine job requirements 1.2 Wiring harness manufacture or modification options are analysed, selected and prepared 1.3 <i>Tools and equipment</i> are identified for the effective manufacture or modification of wiring harness 1.4 <i>Materials</i> for the manufacture or modification are identified

Elements	Performance Criteria
	and sourced
2. Manufacture, modify and test	2.1 Manufacturer wiring diagrams and specifications are identified and interpreted 2.2 Wiring harness is manufactured or modified to job specifications using appropriate tools, techniques and materials 2.3 Harness is tested prior to placing in service and results are recorded
3. Complete work processes	3.1 Final inspection is made to ensure work is to workplace quality standard 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:	- interpret work instructions - identify work health and safety (WHS) requirements and workplace procedures - interpret wiring harness manufacturing techniques and specifications.
Writing skills to:	- legibly enter information into work sheets - complete faulty equipment tags.
Oral communication skills to:	refer tool, equipment and machinery faults to appropriate personnel.
Numeracy skills to:	- match materials and component part numbers to work instructions and bills of material - understand wiring dimension and wire gauge relating to electrical circuits - measure materials and components according to job specifications.
Problem-solving skills to:	confirm manufacturing and modification techniques to meet the required job specifications.

Planning and organising skills to:	• identify and prepare components, equipment and work area • follow work instructions and specifications • operate tools and equipment.
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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:	• job specifications • manufacturer and repair work instructions.
<i>Tools and equipment</i> must include:	• crimping tools and cable terminations • hand tools • multimeters • soldering equipment • test lamps.
<i>Materials</i> must include:	• connectors • electrical wiring of various types and sizes • flexible conduit and electrical tape • terminals.
<i>Workplace procedures</i> must include:	• procedures for recording and reporting wiring harness manufacture and modification • use of tools and equipment for manufacturing and modifying wiring harnesses • WHS requirements for manufacturing and modifying wiring harnesses • workplace quality standards relevant to manufacturing and modifying wiring harnesses.

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 AUMGTR002 Manufacture and modify vehicle wiring harnesses

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Performance Evidence

Before competency can be determined, individuals must have competently manufactured and modified wiring harnesses on a minimum of two occasions.

Individuals must demonstrate they can:

- select and use tools and equipment for manufacturing and modifying wiring harnesses
- comply with work health and safety (WHS) requirements relevant to manufacturing and modifying wiring harnesses
- manufacture wiring harnesses
- modify and repair wiring harnesses
- test wiring harnesses and identify faults
- terminate electrical connectors and terminals
- complete wiring harness manufacture and modification work sheets.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- WHS requirements relevant to manufacturing and modifying wiring harnesses
- manufacturing and modification procedures of wiring harnesses, including:
 - repair techniques
 - termination techniques
 - connector and terminal removal and replacement techniques
- testing procedures of wiring harnesses, including:
 - terminal retention checks
 - use of relevant testing tools and equipment.

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 wiring harnesses that they have manufactured and modified, e.g. wiring harness manufacture 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 workplace or simulated workplace
- wiring harness manufacturing, modification and repair work instructions
- wiring harness specifications
- a range of wiring harnesses required for the production process
- tools and equipment required for the manufacture and modification of wiring harnesses
- wiring harness work sheets and test result documentation.

Links

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