Australian Government

AURETR027 Install ancillary electronic systems and components

Release: 1

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Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to install and test ancillary electronic systems and components in vehicles or machinery. It involves preparing for the task, installing and testing the operation of the systems and components, and completing workplace processes and documentation. These electronic systems and components may require programming following installation to enable them to communicate with the vehicle or machinery controller area network data bus (CAN-bus or LIN-bus) topography.

It applies to those working in the automotive service and repair industry. Ancillary electronic systems and components include those being installed in agricultural machinery, heavy commercial vehicles, light vehicles, marine vessels, mobile plant machinery, motorcycles or outdoor power equipment.

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

Competency Field

Electrical

Unit Sector

Technical - Electrical and Electronic

Elements and Performance Criteria

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
1. Prepare to install ancillary electronic	1.1 Job requirements are determined according to workplace

Elements Elements describe the essential outcomes.	**Performance Criteria** Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold and italicised text is used, further information is detailed in the range of conditions section.
system and components	instructions 1.2 Manufacturer specifications and installation fitting instructions are sourced and interpreted 1.3 Installation options are considered and those most appropriate to the circumstances are selected 1.4 Hazards associated with the work are identified and risks are managed 1.5 Tools, equipment and materials are selected and checked for serviceability
2. Install and test ancillary electronic system and components	2.1 Electronic system and components are checked for correct application and damage 2.2 Electronic equipment is installed according to manufacturer specifications, workplace procedures and ***safety requirements***, and without causing damage to components or systems 2.3 Programming code is sought and interpreted, as required, to enable installed equipment to communicate with vehicle or machinery controller area network 2.4 Installed system and components are tested for correct operation according to workplace procedures and manufacturer specifications 2.5 Post-installation testing of other electrical and electronic systems is carried out according to workplace procedures to confirm correct operation, and any problems detected as having been introduced during the installation process are rectified
3. Complete work processes	3.1 Final inspection is made to ensure work is to workplace expectations and vehicle or machinery is presented ready for use 3.2 Work area is cleaned, waste and non-recyclable materials are disposed of, and recyclable material is collected 3.3 Tools and equipment are checked and stored and any faulty electrical equipment is identified, tagged and isolated according to workplace procedures 3.4 Workplace documentation is processed according to workplace procedures

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance and are not explicit in the performance criteria.

Skills	Description
Learning skills to:	• locate appropriate sources of information efficiently.
Reading skills to:	• interpret information from manufacturer and workshop literature when seeking specifications and procedures • interpret text, symbols and diagrams in ancillary electronic system and component fitment information in manufacturer specifications, and workplace procedures.
Writing skills to:	• legibly and accurately fill out workplace documentation when reporting work performed and recording parts and material used.
Oral communication skills to:	• clarify instructions • report findings and make installation recommendations.
Numeracy skills to:	• match material and component part numbers to work instructions and vehicle and machinery component part lists • measure voltage, current and resistance, and use basic mathematical operations, including addition, subtraction, multiplication and division, to calculate deviations from manufacturer specifications.
Planning and organising skills to:	• plan own work requirements and prioritise actions to achieve required outcomes and ensure tasks are completed within workplace timeframes.
Technology skills to:	• use workplace technology and specialist tools relating to the installation of ancillary electronic systems and components.

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.

Safety requirements must include:	• work health and safety (WHS) and occupational health and safety (OHS) requirements, including procedures for:
	  • using specialised tools and equipment
	  • selecting and using appropriate personal protective equipment (PPE)
	  • identifying hazards and controlling risks associated with:
	  • working on high voltage ignition systems

	• wearing jewellery while working around high current wiring systems.

Unit Mapping Information

Equivalent to AURETR3027 Install ancillary electronic control unit systems and components

Links

Companion Volume implementation guides are found in VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b4278d82-d487-4070-a8c4-78045ec695b1