



Australian Government

AURETR005 Install automotive security systems and components

Release: 1

AURETR005 Install automotive security systems and components

Modification History

Release	Comment
Release 1	New unit of competency.

Application

This unit describes the performance outcomes required to install and test automotive security systems and components in vehicles or machinery. It involves preparing for the task, installing and testing system and component operation, and completing workplace processes and documentation. The security systems and components will not require programming following installation as they do not communicate with the vehicle or machinery controller area network databus (CAN-bus or LIN-bus) topography.

It applies to those working in the automotive service and repair industry. The electrical security systems and components include those being installed in agricultural machinery, heavy commercial vehicles, light vehicles, 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	Performance Criteria
Elements describe the essential outcomes.	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 security system and	1.1 Job requirements are determined according to workplace

Elements	Performance Criteria
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components	instructions 1.2 Manufacturer specifications and installation fitting instructions are accessed and interpreted 1.3 Installation options are analysed 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 and equipment are selected and checked for serviceability
2. Install and test security system and components	2.1 Security system and components are checked for correct application and damage 2.2 Security system is installed according to manufacturer specifications, workplace procedures and safety requirements, and without causing damage to components or systems 2.3 Installed system and components are tested for correct operation according to workplace procedures and manufacturer specifications 2.4 Post-installation testing of other electrical 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, vessel 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
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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 wiring diagrams in electrical security system and component fitting 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 materials 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 and subtraction, 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 tools relating to the installation of electrical security systems and components, such as multimeters.

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>Safety requirements</i> 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 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.
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Unit Mapping Information

Equivalent to AURETR2005 Install, test and repair electrical security 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>

Assessment Requirements for AURETR005 Install automotive security systems and components

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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:

- install two of the following security systems and components on non controller area network databus (CAN-bus) systems in different vehicles, vessels or machinery, including:
 - security alarm systems
 - single point immobilisation (engine start inhibit)
 - tilt, impact and vibration shock alarm activation sensors
 - audible and visual alert alarm equipment
 - theft alert vehicle and equipment tracking systems.

Knowledge Evidence

Individuals must be able to demonstrate knowledge of:

- work health and safety (WHS) and occupational health and safety (OHS) requirements relating to installing automotive security systems and components, including procedures for:
 - using specialised tools and equipment
 - selecting and using 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
- types and basic operation of automotive security systems, including:
 - complete vehicle or equipment security alarm systems
 - single point immobilisation (engine start inhibit)

- dual point immobilisation (engine start inhibit and fuel shut-off)
- tilt, impact and vibration shock alarm activation sensors
- audible and visual alert alarm equipment
- theft alert vehicle and equipment tracking systems
- procedures for installing automotive security systems and components, including:
 - techniques for reading and interpreting technical information, wiring diagrams and graphic symbols
 - methods of determining wiring and connection type and size for system
 - methods of determining placement of components on vehicle or machinery
 - methods of connecting system and components to existing electrical system without causing damage or problems, including:
 - selecting and soldering wires
 - selecting and crimping terminals
 - removing and replacing connectors
 - removing and replacing existing electrical components
- post-installation testing procedures of automotive security system and components, including procedures for:
 - checking full operation of installed system
 - checking operation of existing 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 automotive security systems and components that they have installed in vehicles, vessels or machinery, e.g. work 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
- wiring specifications relevant to vehicle, vessel or machinery systems and components being installed
- two different vehicles, vessels or machinery requiring the installation of security systems and components
- tools, equipment and materials appropriate for installing automotive security systems and components.

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