



Australian Government

Department of Education, Employment and Workplace Relations

AURE219431A Install, test and repair electrical security systems/components

Release: 1

AURE219431A Install, test and repair electrical security systems/components

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the competence to carry out installation, testing and repair of aftermarket automotive electrical security systems/components.
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Application of the Unit

Application of the unit	<p>The unit includes identification and confirmation of work requirement, preparation for work, installation, testing and repair of the systems and completion of work finalisation processes, including clean-up and documentation.</p> <p>This standard can also be applied to installation of security systems in marine applications.</p> <p>Work requires individuals to demonstrate discretion, judgement and problem-solving skills in managing own work activities and contributing to a productive team environment.</p> <p>Work is carried out in accordance with award provisions.</p>
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for work	1.1. Work instructions are used to determine job requirements, including method, processes and equipment 1.2. Job specifications are read and interpreted 1.3. OHS requirements, including personal safety needs, are observed throughout the work 1.4. Equipment and tooling are identified and checked for safe and effective operation 1.5. Procedures are determined to minimise task time
2. Install electrical security system components	2.1. Information is accessed from manufacturer/component supplier specifications and correctly interpreted 2.2. Components, tooling and equipment are identified, selected and prepared in accordance with site procedures 2.3. Security system/components installation procedures are carried out in accordance with site procedures and manufacturer/component supplier specifications 2.4. Legislation, industry guidelines and enterprise policies/procedures are followed 2.5. Undue damage to equipment and surrounds is avoided
3. Repair electrical security systems/components	3.1. Information for repairing electrical systems is accessed from manufacturer/component supplier specifications and correctly interpreted 3.2. Tooling and equipment are identified, selected, and prepared in accordance with site manufacturer/component supplier instructions and site procedures 3.3. Repair work is completed in accordance with site procedures 3.4. Workplace documents are completed in accordance with site requirements
4. Test electrical security systems/components	4.1. Information is accessed from manufacturer/component supplier specifications and correctly interpreted 4.2. All tests are carried out in accordance with manufacturer/component supplier specifications and tolerances 4.3. Testing is completed without causing damage to component or system
5. Clean up work area	5.1. Material that can be reused is collected and stored

ELEMENT	PERFORMANCE CRITERIA
and maintain equipment	5.2. Waste and scrap is removed following workplace procedures 5.3. Equipment and work area are cleaned and inspected for serviceable condition in accordance with workplace procedures 5.4. Unserviceable equipment is tagged and faults identified in accordance with workplace requirements 5.5. Operator maintenance is completed in accordance with manufacturer/component supplier specifications and site procedures 5.6. Tooling and equipment is maintained in accordance with workplace procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- collect, organise and understand information related to work orders, plans and safety procedures for installation, testing and repairing electrical security systems/components
- communicate ideas and information to enable confirmation of work requirements and specifications, coordination of work with site supervisor, other workers and customers, and the reporting of work outcomes and problems
- plain English literacy and communication skills in relation to dealing with others involved in the work
- technical literacy and communication skills sufficient to interpret and apply common industry terminology, and interpret technical information and specifications related to security system/component repairs
- questioning and active listening skills, for example when obtaining information of security systems/component procedures
- plan and organise activities, including preparation and layout of worksite and obtaining of equipment and material to avoid backtracking or workflow interruptions
- work with others and in a team by recognising dependencies and using cooperative approaches to optimise workflow and productivity
- use mathematical ideas and techniques to correctly calculate times, assess tolerances, apply accurate measurements, calculate material requirements and establish quality checks

REQUIRED SKILLS AND KNOWLEDGE

- use pre-checking and inspection techniques to anticipate planning and scheduling problems, avoid wastage of time and material
- manipulative and dexterity skills to perform low voltage wiring/lighting system installation, testing and repair functions
- problem-solving skills for a limited range of procedural issues
- use workplace technology related to the installation and repair of automotive security systems/components, including the use of specialist tooling, measuring equipment, computerised technology and communication devices and the reporting/ documenting of results

Required knowledge

A working knowledge of:

- OHS regulations/requirements, equipment, material and personal safety requirements
- electrical principles and their application to security systems
- range and functions of security system componentry
- precautions to avoid side effects that could occur to ancillary systems due to installation, testing and repair operations
- installation procedures for security system components
- site repair procedures for security system components
- types of testing and fault finding procedures
- site reporting procedures
- enterprise quality procedures
- work organisation and planning processes

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

Critical aspects for assessment and evidence required to demonstrate competency in this unit

It is essential that competence in this unit signifies ability to transfer competence to changing circumstances and to respond to unusual circumstances in the critical aspects of:

- observing safety procedures and requirements
- communicating effectively with others involved in or affected by the work
- selecting methods and techniques appropriate to the circumstances
- completing preparatory activity in a systematic manner
- carrying out installation and repair on a minimum of two systems and/or vehicles
- testing repaired components
- testing low voltage circuitry to determine short, open or earthing faults
- applying quality standards to work
- completing essential work related housekeeping functions.

Context of, and specific resources for assessment

Application of competence is to be assessed in the workplace or simulated worksite.

Assessment is to occur using standard and authorised work practices, safety requirements and environmental constraints.

Assessment is to comply with regulatory requirements, including Australian Standards.

The following resources should be made available:

- workplace location or simulated workplace
- material relevant to the installation and repair of automotive security systems/components
- equipment, hand and power tooling appropriate to the installation and repair of automotive security systems/components
- activities covering mandatory task requirements
- specifications and work instructions.

EVIDENCE GUIDE	
Method of assessment	<ul style="list-style-type: none"> • Assessment must satisfy the endorsed Assessment Guidelines of AUR05 Automotive Industry Retail, Service and Repair Training Package • Assessment methods must confirm consistency and accuracy of performance together with application of underpinning knowledge • Assessment must be by direct observation of tasks, with questioning on underpinning knowledge and it must also reinforce the integration of key competencies • Assessment may be applied under project related conditions and require evidence of process • Assessment must confirm a reasonable inference that competence is able to be satisfied under the particular circumstance, and is able to be transferred to other circumstances • It is preferable that assessment reflects a process rather than an event and occurs over a period of time to cover varying quality circumstances. Evidence of performance may be provided by customers, team leaders/members or other persons subject to agreed authentication arrangements • Competence in this unit may be assessed in conjunction with other functional units which together form part of the holistic work role
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
Aftermarket electrical security systems	Aftermarket electrical security systems may include:

RANGE STATEMENT

- electrical security systems fitted to automotive or marine applications, automotive central locking systems and automotive engine immobilisers

RANGE STATEMENT	
Methods	<p>Methods are to include:</p> <ul style="list-style-type: none"> reading/interpreting wiring diagrams, soldering, crimping and installing components and wiring
Faults	<p>Faults may include:</p> <ul style="list-style-type: none"> inoperative systems, open and short circuits, ground circuits
Critical precautions	<p>Critical precautions include:</p> <ul style="list-style-type: none"> manufacturer/component supplier procedures must be applied as poor working practices are likely to damage electronic system ECUs and/or other components installation methods and after-market security systems/components selected must be approved and within manufacturer/component supplier specifications to avoid damage and possible liability
OHS requirements	<p>OHS requirements are to be in accordance with legislation/regulations/codes of practice and enterprise safety policies and procedures, and may include:</p> <ul style="list-style-type: none"> protective clothing and equipment, use of tooling and equipment, workplace environment and safety, handling of material, use of fire fighting equipment, enterprise first aid, hazard control and hazardous materials and substances
Personal protective equipment	<p>Personal protective equipment is to include that prescribed under legislation/regulations/codes of practice and workplace policies and practices</p>
Safe operating procedures	<p>Safe operating procedures are to include, but are not limited to:</p> <ul style="list-style-type: none"> the conduct of operational risk assessment and treatments associated with vehicular movement, toxic substances, electrical safety, machinery movement and operation, manual and mechanical lifting and shifting, working in proximity to others and site visitors
Emergency procedures	<p>Emergency procedures related to this unit are to</p>

RANGE STATEMENT	
	include but may not be limited to: <ul style="list-style-type: none"> • emergency shutdown and stopping of equipment, extinguishing fires, enterprise first aid requirements and site evacuation
Environmental requirements	Environmental requirements are to include but are not limited to waste management, noise, dust and clean-up management
Quality requirements	Quality requirements are to include, but are not limited to: <ul style="list-style-type: none"> • regulations, including Australian Standards, enterprise quality policy and standards and enterprise operations and procedures
Statutory/regulatory authorities	Statutory/regulatory authorities may include: <ul style="list-style-type: none"> • federal, state/territory and local authorities administering acts, regulations and codes of practice
Tooling and equipment	Tooling and equipment may include: <ul style="list-style-type: none"> • hand tooling, power tooling, specialist tooling for removal, adjustment and testing equipment, including multimeters and test lamp and soldering equipment
Materials	Materials may include: <ul style="list-style-type: none"> • spare parts, soldering consumables and fluids, and cleaning material
Communications	Communications are to include, but are not limited to: <ul style="list-style-type: none"> • verbal and visual instructions and fault reporting and may include site specific instructions, written instructions, plans or instructions related to job/task, telephones and pagers
Information/documents	Sources of information/documents may include: <ul style="list-style-type: none"> • verbal or written and graphical instructions, signage, work schedules/plans/specifications, work bulletins, memos, material safety data sheets, diagrams or sketches • safe work procedures related to the installation and repair of automotive security

RANGE STATEMENT

	<p>systems/components</p> <ul style="list-style-type: none"> • regulatory/legislative requirements pertaining to the automotive industry, including Australian Design Rules • engineer's design specifications and instructions • organisation work specifications and requirements • instructions issued by authorised enterprise or external persons • Australian Standards
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Unit Sector(s)

Unit sector	Electrical
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Co-requisite units

Co-requisite units	

Competency field

Competency field	
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