



Australian Government

Department of Education, Employment and Workplace Relations

MEM20013A Service automotive transponder systems

Release: 2

MEM20013A Service automotive transponder systems

Modification History

Single band identifier removed to clarify dual status

Unit Descriptor

Unit descriptor	This unit covers identifying, analysing, encoding and re-encoding (programming) automotive transponder security systems.
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Application of the Unit

Application of the unit	The unit may be applied to work on commercial and private use vehicles. It applies to electronic locking systems, including programming transponder keys. It requires an ability to safely remove and replace components with special regard to associated equipment, such as supplemental restraint systems (SRS), electronic immobilisers, steering locking and anti-theft devices. Appropriate factors that ensure conformance to specifications, operational performance, quality and safety must be applied. These include locksmithing principles, ethics, techniques, procedures and safe workshop practices. Band: This unit has dual status and is to be regarded as both a Specialisation band A unit and Specialisation band B unit for progression to C5 (AQF level V). Unit Weight: 2
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		
Path 1	MEM20001A	Produce keys

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. Identify service and repair requirements	1.1. Ownership is established and verified in accordance with organisational and industry procedures. 1.2. System and component specifications and other relevant information is obtained from appropriate sources and in accordance with organisational and customer requirements. 1.3. Nature of damage is established in accordance with organisational procedures, established inspection / diagnostic techniques and original specifications. 1.4. Service requirements and other information relevant to task are established in accordance with customer needs, organisational and manufacturer specifications and legislation, codes, regulations and standards.
2. Service automotive transponder system	2.1. Risks and hazards are identified and area is made secure. 2.2. Specific isolation and/or safety measures are applied with special regard to associated equipment. 2.3. OHS policies procedures and practices are applied according to organisational and legislative requirements. 2.4. Tools, equipment, materials and consumables are selected, checked for serviceability and used in accordance with manufacturers' specifications and organisational procedures.
3. Program transponder keys	3.1. Personal limitations in programming are identified and assistance is sought from appropriate sources in accordance with organisational procedures. 3.2. Programming requirements are established in accordance with organisational and supplier requirements. 3.3. Keys are programmed to correct specification. 3.4. System function is tested to ensure correct operation.
4. Finalise servicing process	4.1. Documentation is completed and processed in accordance with legislative, assignment and organisational requirements. 4.2. Work area, tools and equipment are cleaned and stored in accordance with OHS and organisational requirements. 4.3. Vehicle is cleaned and returned to serviceable condition according to customer and organisational

ELEMENT	PERFORMANCE CRITERIA
	requirements.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Look for evidence that confirms skills in:

- interpreting specifications, charts, manuals, diagrams and related information specific to service of automotive transponder systems
- encoding and re-encoding transponder systems
- confirming and clarifying information
- identifying automotive locking components and associated equipment
- checking functioning of locking systems
- tracing faults
- selecting and using appropriate tools and equipment, materials and consumables
- applying safe work practices
- identifying/acting on actual and potential hazards
- identifying alternative servicing and repair options
- disassembling and assembling components
- documenting information
- housekeeping

Required knowledge

Look for evidence that confirms knowledge of:

- system and component specifications
- sources of specifications and other relevant information for automotive transponder systems
- principles of system and component function
- types of transponders
- technical terminology
- common design problems
- faults arising from vandalism, misuse, wear etc.
- checks and tests to confirm service requirements
- organisational procedures for establishing service requirements
- procedures to establish and verify vehicle ownership

REQUIRED SKILLS AND KNOWLEDGE

- reasons for verifying ownership
- operating principles, release positions and isolation techniques for air bags
- operation and function of transponder and engine immobiliser systems
- personal liability for safety and duty of care
- applicable legislation, codes, regulations and standards
- OHS policies, procedures and practices
- personal protective clothing, equipment
- safe working practices
- environmental, physical and behavioural hazards in relation to vehicle and surrounds
- factors impacting on feasibility of repair or replacement
- dismantling procedures for a range of automotive locks
- documentation and recording procedures
- procedures for replacing worn and damaged parts, removing foreign objects and lubricating, packing and sealing components
- organisational requirements for cleaning and storage
- key blanks to suit model and mechanical/electronic part of lock
- different types of transponder technologies
- programming and operating procedures for encoder/ diagnostic machine
- reasons for care and precision

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

A person who demonstrates competency in this unit must be able to identify, analyse, encode and re-encode automotive transponder security systems. Competency in this unit cannot be claimed until all prerequisites have been satisfied.

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

Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and to be capable of applying the competency in new and different situations and contexts.

Context of and specific resources for assessment

This unit may be assessed on the job, off the job or a combination of both on and off the job. Where assessment occurs off the job, that is the candidate is not in productive work, then an appropriate simulation must be used where the range of conditions reflects realistic workplace situations. The competencies covered by this unit would be demonstrated by an individual working alone or as part of a team. The assessment environment should not disadvantage the candidate.

This unit could be assessed in conjunction with any other units addressing the safety, quality, communication, materials handling, recording and reporting associated with servicing of automotive transponder systems, or other units requiring the exercise of the skills and knowledge covered by this unit.

Method of assessment

Assessors should gather a range of evidence that is valid, sufficient, current and authentic. Assessors must be satisfied that the candidate can competently and consistently perform all elements of the unit as specified by the criteria, including required knowledge, and to be capable of applying the competency in new and different situations and contexts. Evidence can be gathered through a variety of ways including direct observation, supervisor's reports, project work, samples and questioning. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. The candidate will

EVIDENCE GUIDE	
	have access to all tools, equipment, materials and documentation required. The candidate will be permitted to refer to any relevant workplace procedures, product and manufacturing specifications, codes, standards, manuals and reference materials.
Guidance information for assessment	

Range Statement

RANGE STATEMENT	
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.	
Appropriate sources of information	Catalogues, manufacturer manuals, drawings, detailed/technical sketches and associated data sheets. Computer software
Organisational requirements	Quality assurance standards and procedures, service standards, safety and OHS practices and obligations, resource storage and use, organisational processes and procedures, documentation processes, product and process training
Customer requirements	Function and capabilities, access issues, service and maintenance requirements, product operation and warranty information, costings
Service requirements	Identifying, analysing, encoding and re-encoding automotive transponder security systems
Other information	Schedules, timeframes, access and site information, products, installation and upgrade requirements, specific client requests, materials, costings, warranties and service information, legislation, codes and regulatory requirements,

RANGE STATEMENT	
	OHS requirements
Legislation, codes, regulations and standards	Industry licensing, industry codes of practice, privacy laws, Australian standards, quality assurance, organisational standards and practices, awards and enterprise agreements, competition, trade and consumer protection laws
Risks and hazards	Supplemental restraint systems (SRS) systems (air bags) are disabled to prevent accidental triggering. Unique dangers arising from working on the roadside. Non-compliance with manufacturer recommendations, materials handling, chemical, environmental and physical hazards
Associated equipment	SRS, electronic immobilisers, steering locking and anti-theft devices
OHS policies, procedures and practices	- Assessment of actual and potential risk, identification of hazards, safety practices and regulations, safe use of tools and equipment, individual responsibilities and obligations, safety training and procedures, emergency and first aid procedures, working in confined spaces, industry standards and codes of practice - Use of personal protective equipment such as safety glasses, earmuffs/plugs, safety vests, hard hats, gloves, knee pads, safety boots, warning signs and tapes, fire extinguisher, first aid kit
Tools and equipment	Hand tools, specialist diagnostic and encoding equipment
Documentation	Historical records, procedures and measurements for opening specific vehicles, job sheets, invoices, warranties

Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Locksmithing
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