



Australian Government

MSARVS202A Repair/service LP gas systems in a recreational vehicle

Revision Number: 1

MSARVS202A Repair/service LP gas systems in a recreational vehicle

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to repair LP gas systems in a recreational vehicle. It applies to those working in a servicing agency or in the service section of a manufacturing enterprise.
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Application of the Unit

Application of the unit	This unit of competency applies to those who are responsible for recreational vehicle servicing. It applies only where relevant state/territory licensing requirements permit the repair and service of LP gas systems in a recreational vehicle. Licensing requirements by state/territory and national authorities may vary. The unit requires the determination of requirements and the repair or service of LP gas systems with an operating pressure not exceeding 2.75 kPa in a recreational vehicle.
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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. Identify repair requirements	1.1. Identify or verify service or repair needs to LP gas system 1.2. Access and interpret working drawings, plans and job specifications according to model and type of recreational vehicle 1.3. Select tools and equipment to meet the job requirements and check them to ensure they are working safely 1.4. Identify any safety hazards associated with the job and use appropriate personal protective equipment
2. Assess the system	2.1. Identify and adhere to quality assurance requirements for repair or service 2.2. Assess storage capacity and regulator size to ensure they are adequate for the load and do not exceed regulatory requirements and standards 2.3. Ensure that piping and ventilation used comply with regulatory requirements and standards 2.4. Evaluate the system's piping size to ensure it is appropriate for the dimensions and loads 2.5. Check to ensure that size used for main run and branches provides minimum inlet pressure to each appliance in accordance with regulatory requirements and standards 2.6. Check the set-out of the piping system to ensure correct position for appliances and cylinders and compliance with regulatory requirements and standards
3. Plan and prepare the job	3.1. Plan all necessary and appropriate tasks in conjunction with others involved in or affected by the work 3.2. Inform appropriate authorities of planned work and obtain and submit work notices, where required 3.3. Estimate and order any required materials, equipment and appliances for the job and organise delivery 3.4. Check materials, equipment and appliances delivered against the order form or delivery docket to ensure they correspond and are in an acceptable condition 3.5. Identify and select appropriate tools and equipment for the repair/service

ELEMENT	PERFORMANCE CRITERIA
	3.6. Use appropriate personal protective equipment and read and interpret any safety information relevant to the job
4. Service/repair system	4.1. Service system, repair fault or install appliance in accordance with job requirements, standards and manufacturer specifications 4.2. Repair piping system in accordance with job requirements and standards 4.3. Position appliances to ensure adequate air supply and ventilation in accordance with job requirements and standards 4.4. Locate and check consumer instruction plates, labels and compliance plates to ensure they comply with regulatory requirements and standards
5. Test the system	5.1. Adjust regulator to provide flow pressure in accordance with standards and enterprise requirements 5.2. Select test equipment which is appropriate for the work 5.3. Test the system, including ventilation, in accordance with standards and enterprise requirements 5.4. Adjust the system to provide the required flow pressure in accordance with standards and enterprise requirements 5.5. Record test data in the format required by relevant regulatory and enterprise requirements
6. Complete the job	6.1. Assess work against the requirements of the job 6.2. Assess quality of the total job in accordance with enterprise standards and requirements 6.3. Complete all required paperwork for both customer and enterprise records 6.4. Complete required clean-up procedures

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Required skills include:

- reading and interpreting instructions and specifications
- using portable and fixed power tools and equipment correctly and safely
- planning and organisation of work
- maintaining and cleaning work area
- communicating effectively with others
- recording data and monitoring records

Required knowledge

Required knowledge includes:

- components and products sourced or manufactured by the enterprise
- general duty of care requirements
- properties of gas, gas and electrical safety, combustion principles, pressure and flow rates, and types of systems
- relevant legislative and regulatory requirements related to the installation and testing of gas systems
- the International System of Units (SI) and calculation of storage capacity
- installation procedures and processes
- typical problems and faults associated with LP gas systems in recreational vehicles
- sources of information, including the appropriate standards
- the materials requirements determination process
- procedures for installing and commissioning gas systems in recreational vehicles
- occupational health and safety (OHS) requirements, including staff responsibilities when working with gas, emergency procedures in case of an LP gas leak, LP gas material safety data sheets (MSDS), safety when working with fumes, and the selection and use of personal protective equipment
- signage for hazardous chemicals and materials
- working drawings of components manufactured by the enterprise

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.

Critical aspects of assessment

Evidence of the following is critical:

- accurately assessing job requirements and problems related to repair of the LP gas system of a recreational vehicle and selecting appropriate solutions
- completing work to meet customer requirements of agreed job, timelines and cost
- applying customer service skills
- complying with all regulatory, quality assurance, OHS and enterprise requirements.

Context of assessment and resource implications

Assessment must ensure:

- demonstration of the repair or replacement of a gas container, piping and a minimum of two (2) appliances for a recreational vehicle
- demonstration of skills within a suitable workshop with appropriate tools, equipment and materials, and access to appropriate standards
- project or work activities that allow the candidate to use the full range of skills and knowledge to respond to a range of typical situations and problems.

Guidance information for assessment

Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

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.

Recreational vehicles

Recreational vehicles may include:

- caravan
- pop-top caravan
- camper trailer
- tent trailer
- 5th wheeler
- slide-on camper
- campervan

Customers

Customers may include:

- tourists
- recreational vehicle owners
- park owners/managers
- recreational vehicle retailers
- recreational vehicle service contractors
- insurance companies

LP gas system

The LP gas system may include:

- cylinder (one or two)
- regulator
- piping
- appliances and fixings
- air supply
- ventilation

Quality assurance requirements

Quality assurance requirements may include:

- International Standards Organisation (ISO)
- internal enterprise quality assurance policy and risk management strategy
- Environment Protection Authority (EPA)
- AS 5601:2004 Gas installations
- AS/NZ 1596:2008 The storage and handling of LP gas

RANGE STATEMENT	
	<ul style="list-style-type: none"> • site safety plans • enterprise operations and procedures • relevant industry codes of practice, such as those issued by the Recreational Vehicle Manufacturer's Association of Australia (RVMAA)
Regulatory authorities	<p>Regulatory authorities may include:</p> <ul style="list-style-type: none"> • statutory plumbing authority • statutory gas authority • state/territory or local statutory authority
Tools and equipment	<p>Tools and equipment may include:</p> <ul style="list-style-type: none"> • hacksaws • power cutting/grinding tools • measuring equipment • wrenches and spanners • files • flaring tools • silver brazing equipment • testing equipment • lifting/load shifting equipment, including trolleys, rollers, forklifts, blocks, hoists and jacks
Materials	<p>Materials must comply with job specifications and appropriate standards for installation of LP gas systems and may include:</p> <ul style="list-style-type: none"> • gas operated appliances • gas regulators • gas cylinders • copper tubing • stainless steel • non-metallic hose assemblies • fitting/fixing materials
Occupational health and safety (OHS) requirements	<p>OHS requirements are to be in accordance with state/territory legislation and regulations and may include:</p> <ul style="list-style-type: none"> • safe workshop environment/worksite work practices • safe use of tools and equipment • safe handling of materials

RANGE STATEMENT	
	<ul style="list-style-type: none"> • hazard control and hazardous materials and substances • use of personal protective equipment
Personal protective equipment	<p>Personal protective equipment may include:</p> <ul style="list-style-type: none"> • overalls • boots • hard hat/cap • safety glasses/goggles • gloves • ear plugs/muffs • face masks/respirators
Clean-up procedures	<p>Clean-up procedures may include:</p> <ul style="list-style-type: none"> • cleaning working surfaces and areas • cleaning and storing all tools and equipment • disposing of waste materials correctly
Sources of information	<p>Sources of information may include:</p> <ul style="list-style-type: none"> • job instructions, signage, plans, specifications, drawings, MSDS and diagrams • safe work procedures relating to the installation of LP gas systems for a recreational vehicle • regulatory/legislative requirements, pertaining to plumbing and gas fitting regulations, building codes, and OHS and environmental requirements • enterprise specifications and instructions • recognised formulae or tables accepted by the regulatory authority • instructions issued by authorised enterprise personnel • relevant standards, such as: <ul style="list-style-type: none"> • AS 5601:2004 Gas installations • AS/NZ 1596:2008 The storage and handling of LP gas

Unit Sector(s)

Unit sector	
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Competency field

Competency field	
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Co-requisite units

Co-requisite units		