



Australian Government

MEM18098 Prepare to perform work associated with fuel system installation and servicing

Release: 1

MEM18098 Prepare to perform work associated with fuel system installation and servicing

Modification History

Release 1. Supersedes and is equivalent to MEM18098A Prepare to perform work associated with fuel system installation and servicing

Application

This unit of competency defines the skills and knowledge required to prepare for work associated with fuel system installation and servicing.

It applies to personnel who install or service fuel systems and equipment. They will typically undertake this in a service station forecourt which may be operational or be shut down for refurbishment or under construction.

Where the selection and use of engineering measurement is required unit MEM12023 Perform engineering measurements should also be selected.

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

Band: A

Unit weight: 2

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information

Competency Field

Maintenance and diagnostics

Elements and Performance Criteria

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
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1	Determine job requirements	1.1	Follow standard operating procedures (SOPs)
		1.2	Comply with work health and safety (WHS) requirements at all times
		1.3	Use appropriate personal protective equipment (PPE) in accordance with SOPs
		1.4	Identify job requirements from specifications, drawings, job sheets or work instructions
2	Plan and prepare for installation or servicing task	2.1	Clarify job requirements and variations to work plan and take appropriate action
		2.2	Obtain required work permits
		2.3	Identify and comply with emergency and safety procedures for worksite
3	Confirm location and nature of key fuel system components	3.1	Identify and locate above and below ground storage components
		3.2	Identify and locate fuel conveying, pumps and dispensing systems
		3.3	Confirm location of fuel system components with site plan
		3.4	Identify and report any hazards and/or inconsistencies with site plan, equipment drawings and regulatory requirements
4	Assess and manage risks associated with the work	4.1	Identify fuels and other hazardous materials and other hazards on site
		4.2	Identify and confirm shut-off procedures, details of evacuation plan and location of emergency equipment
		4.3	Assess hazards and determine risks and apply appropriate control measures to control risks

Elements describe the essential outcomes.

Performance criteria describe the performance needed to demonstrate achievement of the element.

- 4.4 Select appropriate tools and equipment to be used on the job
- 4.5 Identify nature and location of required isolations
- 4.6 Determine the type of, and appropriate locations for, barriers to prevent unauthorised access to the work location and put them in place before job commencement

Foundation Skills

This section describes those required skills (reading, writing, oral communication and numeracy) that are essential to workplace performance in this unit of competency.

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

This field allows for different 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.

Work permits include one (1) or more of the following:

- permits issued by client
- permits using the Australian Institute of Petroleum (AIP) form
- other work documents required for the job
- hot work
- cold work
- confined space
- excavation
- working at heights

Emergency and safety procedures for worksite include one (1) or more of the following:

- specific procedures for that site
- location of emergency shut-off and procedures for re-setting emergency shut-off
- dealing with spills or other losses in containment
- fire response
- other incident response procedures for that site
- other site-specific hazards and procedures

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| Storage components include one (1) or more of the following: | <ul style="list-style-type: none">• single wall tanks• jacketed steel tanks• double-walled tanks (dry and liquid filled interstitial space)• fibre composite (FRP) tanks• high density polyethylene (HDPE) tanks |
| Fuel conveying systems include one (1) or more of the following: | <ul style="list-style-type: none">• steel pipes• HDPE pipes• vapour recovery systems and pipes• pipe joining |
| Pumps and pump systems include one (1) or more of the following: | <ul style="list-style-type: none">• centrifugal pumps• positive displacement pumps• pressure and suction systems• pumping problems• multiproduct pumps |
| Dispensing systems include one (1) or more of the following: | <ul style="list-style-type: none">• fuel metering• hoses and nozzles• stage two vapour recovery• flow control valves• discharge control• multiproduct dispensers |
| Corrosion protection systems and components include one (1) or more of the following: | <ul style="list-style-type: none">• cathodic protection, including:<ul style="list-style-type: none">• impressed current• sacrificial anode• wrapping• coating |
| Fuels include one (1) or more of the following: | <ul style="list-style-type: none">• petrol• ethanol blend fuels (of various concentrations)• diesel and biodiesel• liquefied petroleum gas (LPG) |

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Hazardous materials include one (1) or more of the following:

- ‘solid’ pool chlorine (calcium hypochlorite)
- ‘liquid’ pool chlorine (sodium hypochlorite solutions)
- lubricants
- cleaning agents
- gas bottles
- workshop materials

Appropriate tools include:

- tools that are:
 - intrinsically safe
 - ergonomically appropriate to the job
 - safe and in good condition

Required isolations include one (1) or more of the following:

- lock out/tag out
- double block and bleed
- use of blanks, blinds and goggles
- removal of spool piece
- removal of mechanical drives

Barriers include one (1) or more of the following:

- temporary fencing
- bollards
- witches hats
- tapes
- signage

Problems include one (1) or more of the following:

- variations to the work schedule
- variations to the work scope
- issues with the public or site personnel
- failure of equipment
- inappropriate/incomplete permit or work instructions

Unit Mapping Information

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Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b7050d37-5fd0-4740-8f7d-3b7a49c10bb2>

Assessment Requirements for MEM18098 Prepare to perform work associated with fuel system installation and servicing

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy the requirements of the elements and performance criteria on at least two (2) occasions and include:

- following work instructions, standard operating procedures (SOPs) and safe work practices
- obtaining relevant work permits and other work documents required for the job
- identifying and complying with emergency and safety procedures relevant to the site
- identifying types of fuel and their associated hazards
- identifying fuel delivery systems and their associated hazards, including pressure, suction, flammability, explosive potential, toxicity and static electricity
- determining appropriate control measures using hierarchy of control and identifying support and assistance requirements and establishing plan for the performance of work
- applying any state/territory licensing, work health and safety (WHS) and environmental legislation, standards and industry codes of practice
- relating to people from a range of social, cultural and ethnic backgrounds and of varying physical and mental abilities.

Knowledge Evidence

Evidence required to demonstrate the required knowledge for this unit must be relevant to and satisfy the requirements of the elements and performance criteria and include knowledge of:

- safe work practices and procedures and use of personal protective equipment (PPE)
- types of fuels and their associated hazards
- fuel delivery systems and associated hazards, including pressure, suction, flammability, explosive potential, toxicity and static electricity
- dangerous goods classification and labelling
- storage and handling of dangerous goods
- suction/pressure systems
- first stage vapour recovery systems
- second stage vapour recovery systems
- pumps and pumping principles and problems
- fuel dispensing and metering systems
- interpretation of permits, site maps and hazard maps

- regulatory requirements, including licensing, WHS and environmental regulations.

Assessment Conditions

- Assessors must:
 - have vocational competency in preparing to perform work associated with fuel system installation and servicing at least to the level being assessed with relevant industry knowledge and experience
 - satisfy the assessor requirements in the *Standards for Registered Training Organisations 2015* or its replacement and comply with the *National Vocational Education and Training Regulator Act 2011*, its replacement or equivalent legislation covering VET regulation in a non-referring state/territory as the case requires
- Where possible assessment must occur in operational workplace situations. Where this is not possible or where personal safety or environmental damage are limiting factors, assessment must occur in a sufficiently rigorous simulated environment that reflects realistic operational workplace conditions. This must cover all aspects of workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills
- Conditions for assessment must include access to all tools, equipment, materials and documentation required, including relevant workplace procedures, product and manufacturing specifications
- Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

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