



Australian Government

MEM27026 Service and repair mobile plant air conditioning systems

Release: 1

MEM27026 Service and repair mobile plant air conditioning systems

Modification History

Release 1: New unit

Application

This unit of competency defines the skills and knowledge required to service and repair in cabin air conditioning systems installed in mobile plant and rail vehicles.

It covers systems supplying heating, ventilation, air conditioning (HVAC) and cooling systems to operator compartments and includes servicing, fault finding, repairing and replacing of control and operating components, refrigerant check, replacement and recovery, and recommissioning of the air conditioning system.

This unit forms part of the requirements to obtain an Australian Refrigeration Council (ARC) Refrigerant handling licence – qualified persons (Automotive air conditioning licence.)

In some jurisdictions, an occupational licence for refrigeration/air conditioning or electrical restricted licence may be required.

Band: A

Unit Weight: 4

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12023	Perform engineering measurements
MEM13015	Work safely and effectively in manufacturing and engineering
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18055	Dismantle, replace and assemble engineering components

Competency Field

Fixed and Mobile Plant

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 | <ul style="list-style-type: none">1.1 Follow standard operating procedures (SOPs)1.2 Comply with work health and safety (WHS) requirements at all times1.3 Use appropriate personal protective equipment (PPE) in accordance with SOPs1.4 Identify job requirements from specifications, drawings, job sheets or work instructions1.5 Plan job to conform to Australian Refrigeration Council (ARC) code of practice requirements |
| 2 Service mobile plant air conditioning system | <ul style="list-style-type: none">2.1 Check that mobile plant is parked and engine/power source are safe for air conditioning system access and work2.2 Conduct visual check of mobile plant air conditioning system2.3 Identify control modules, fieldbus wiring, sensors and control module locations for air conditioning system2.4 Test air conditioning system according to manufacturer specifications2.5 Service system and components to manufacturer specifications and workplace requirements2.6 Identify performance faults, leaks and blockages2.7 Comply with regulations regarding any required topping up of refrigerant2.8 Document test results according to workplace procedures |
| 3 Fault find mobile plant air conditioning system | <ul style="list-style-type: none">3.1 Interpret system/circuit diagrams and data sheets3.2 Identify and inspect system and circuit components3.3 Select diagnostic procedures and test equipment appropriate to the system and operational history of the vehicle |

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

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| | | 3.4 | Check for leaks and blockages |
| | | 3.5 | Conduct diagnostic tests on system and components performance |
| | | 3.6 | Inspect and assess system/circuit parts against operational specifications |
| | | 3.7 | Evaluate faulty conditions, analyse root cause and plan corrective action |
| | | 3.8 | Repair or replace faulty components |
| | | 3.9 | Recharge refrigerant according to procedures and regulations |
| 4 | Recommission mobile plant air conditioning system | 4.1 | Reassemble air conditioning system |
| | | 4.2 | Conduct post-repair/post-servicing system checks for correct operation |
| | | 4.3 | Document service and repair actions according to workplace procedures |

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.

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|--|---|---|
| Mobile plant air conditioning systems include one (1) or more of the following: | • | in cabin units |
| | • | above, behind or below cabin units |
| | • | single units that feed two driver cabins (e.g. some locomotive systems) |
| | | |

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Mobile plant air conditioning system components include one (1) or more of the following:

- fieldbus system control unit, modules and sensors relevant to the air conditioning system
- integrated or separate measurement/testing/data logging equipment
- pumps
- motors
- compressors
- condensers
- filters
- pipes and hoses
- switches
- valves
- coils and radiators
- receivers
- ancillary equipment

Unit Mapping Information

No equivalent unit.

Links

Companion Volume implementation guides are found in VETNet -

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