Australian Government

MEM18088 Maintain and repair commercial air conditioning systems and components

Release: 1

MEM18088 Maintain and repair commercial air conditioning systems and components

Modification History

Release 1. Supersedes and is equivalent to MEM18088B Maintain and repair commercial air conditioning systems and components

Application

This unit of competency defines the skills and knowledge required to maintain and repair commercial air conditioning systems and components.

It applies to commercial air conditioning systems and components, including heating systems, direct expansion refrigeration systems, and/or simple air distribution systems; typically used for comfort air conditioning and also applies to retrofitting existing commercial air conditioning systems with alternative refrigerants and reconditioning components.

A Refrigerant Handling Licence must be held by any person who carries out work in relation to refrigeration and air conditioning equipment.

Band: **A**

Unit Weight: **4**

Pre-requisite Unit

MEM09002	Interpret technical drawing
MEM11011	Undertake manual handling
MEM12002	Perform electrical/electronic measurement
MEM12023	Perform engineering measurements
MEM12024	Perform computations
MEM13015	Work safely and effectively in manufacturing and engineering
MEM14006	Plan work activities
MEM16006	Organise and communicate information
MEM18001	Use hand tools
MEM18002	Use power tools/hand held operations
MEM18055	Dismantle, replace and assemble engineering components

MEM18086 Test, recover, evacuate and charge refrigeration systems

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.	
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	**Undertake preventive maintenance checks/ adjustments**	2.1	Check the temperature, quality, properties and flow of air delivered by the air conditioning system for conformance to specification
		2.2	Check the noise/vibration levels of the air conditioning system components for conformance to specification
		2.3	Perform preventative maintenance tasks according to manufacturers' specifications using refrigeration and air conditioning principles and techniques
3	**Undertake fault-finding**	3.1	Identify system components
		3.2	Interpret the characteristics and operation of each component
		3.3	Inspect and test the operational function of each component and assess correct operation against specification

Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
4 **Repair/replace faulty components**	4.1 Localise faulty components and confirm malfunction
	4.2 Remove the refrigerant from the system safely and contain in accordance with procedures and regulatory requirements, where appropriate
	4.3 Dismantle faulty components and repair to manufacturers' specifications, as required
	4.4 Select replacement parts from manufacturers' catalogues
5 **Return to service commercial air conditioning systems and components**	5.1 Reassemble components and test for correct operation and assess against specification
	5.2 Charge the system with correct refrigerant safely and in accordance with procedures and regulatory requirements
	5.3 Verify correct operation of the equipment
	5.4 Complete maintenance records/service reports according to SOPs and legislative requirements

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.

Test equipment includes one (1) or more of the	• service manifolds • measuring instruments/equipment for checking:

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.

following:	• air temperatures • air flows • air quality • air properties • noise and vibration levels • multimeter • ampmeter • insulation resistance tester
Preventative maintenance tasks include one (1) or more of the following:	• check/adjust fan belts • check/clean filters • check/clean heat exchangers (evaporator and condenser) • overhaul of major system components • cleaning of major system components • testing operation of all safety devices

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