

Title	Demonstrate knowledge of preparing to test, and testing for faults in an automotive air conditioning system		
Level	4	Credits	4

Purpose	<p>This theory-based unit standard is for people in the automotive repair industry.</p> <p>People credited with this unit standard are able to demonstrate knowledge of preparing to test an automotive air conditioning system for operation, and testing for faults in an automotive air conditioning system.</p>
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Classification	Motor Industry > Automotive Heating, Ventilation, and Air Conditioning
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Available grade	Achieved
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Guidance Information

- 1 It is recommended that people hold credit for Unit 30565, *Demonstrate knowledge of an automotive air conditioning system* before being assessed against this unit standard.
- 2 Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable service information, and company requirements and legislative requirements. This includes the knowledge and use of suitable tools and equipment.
- 3 Performance of the outcomes of this unit standard must comply with the following:
Health and Safety at Work Act 2015;
Ozone Layer Protection Act 1996;
Australia and New Zealand Refrigerant handling code of practice 2007
<https://www.irhace.org.nz/publications-2/code-of-practice/>.
- 4 Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- 5 **Definitions**
Company requirements refer to instructions to staff on policy and procedures that are available in the workplace. These requirements may include – company policies and procedures, work instructions, product quality specifications and legislative requirements.

Service information refers to technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

Suitable tools and equipment means industry approved tools and equipment that are recognised within the industry as being the most suited to complete the task in a professional and competent manner with due regard to safe working practices.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of preparing to test an automotive air conditioning system for operation.

Performance criteria

1.1 Suitable tools and equipment to enable tests to be performed are described.

Range may include but is not limited to – manifold and gauge set, vacuum pump, thermometer, hose crimping tools, refrigerant, evacuation pump and bottle, O-rings, oil, nitrogen test equipment, electronic leak detector, ultra-violet (UV) light, electronic diagnostic tools.

1.2 Instructions and specifications for testing the system and reasons for using them are described.

1.3 The importance of carrying out a visual inspection of air conditioning components prior to testing is described.

Range includes but is not limited to – damage, leaks, corrosion, hose and joint condition.

Outcome 2

Demonstrate knowledge of testing for faults in an automotive air conditioning system.

Performance criteria

2.1 Precautions to be observed when testing for faults are described.

Range cleanliness; ventilation; eye protection, gloves, protective clothing; working with a pressurised system; running the engine; awareness of moving parts; heating components; using air conditioning equipment; recovery and storage of refrigerant.

2.2 Test procedures are described.

Range includes but is not limited to – evaporator blower, control doors, heater control valve, fan clutch, condenser/radiator fan, hoses, tubing, connections, compressor, compressor clutch and pulleys, condenser, expansion device, evaporator pressure regulator, accumulator, drive belts, O-rings, gaskets, spring locks, cabin filters, service ports, fan clutch, fan blades, electrical components; using test gauges, refrigerant level charge.

2.3 Procedures for testing the efficiency of the system are described.

Range includes but is not limited to – high and low side gauge readings, temperature controls, measuring and comparing evaporator air inlet and outlet temperatures and humidity levels.

2.4 Procedures for testing the driver controls are described.

Range includes but is not limited to – switches, flaps, doors, vents.

Planned review date	31 December 2025
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 January 2008	31 December 2022
Review	2	29 April 2021	N/A

Consent and Moderation Requirements (CMR) reference	0014
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.