Title	**Demonstrate knowledge of an automotive air conditioning system**		
Level	**3**	**Credits**	**4**

Purpose	This unit standard is for people who wish to enter or are employed in the motor industry. People credited with this unit standard are able to demonstrate knowledge of refrigeration principles and an automotive air conditioning system.

Classification	Motor Industry > Automotive Heating, Ventilation, and Air Conditioning

Available grade	Achieved

Guidance Information

1 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 and legislative requirements. This includes the knowledge and use of suitable tools and equipment.

2 Legislation, regulations and/or industry standards relevant to this unit standard include but are not limited to the current version of the Health and Safety at Work Act 2015; Hazardous Substances and New Organisms Act 1996; Ozone Layer Protection Act 1996; Resource Management Act 1991; Ozone Layer Protection Regulations 1996; IRHACE 2007; Australia and New Zealand Refrigerant Handling Code of Practice 2007, Parts 1 and 2 and any subsequent amendments or replacements.

3 Should the air conditioning system require recovering, evacuating and/or recharging of refrigerant, this work must be completed by the holder of an Approved Filler Test Certificate.

4 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 may include – technical information for a vehicle, machine, or product detailing operation; installation and servicing procedures; manufacturer instructions; technical terms and descriptions; and detailed illustrations.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of refrigeration principles.

Performance criteria

1.1 Heat transfer from one body to another is identified.

Range direction of heat flow, conduction, convection, radiation.

1.2 The change of state of refrigerant in an air conditioning system is described.

Range liquid to vapour, vapour to liquid.

Outcome 2

Demonstrate knowledge of an automotive air conditioning system.

Performance criteria

2.1 Refrigerants used in automotive air conditioning systems are identified.

2.2 Components of an air conditioning system are identified.

Range compressor, condenser, evaporator, expansion device, filter-dryer, system lubricant.

2.3 Operation of an air conditioning system is described.

Range compression, condensing, expansion, and evaporation.

2.4 Recovery and disposal of refrigerants is described in accordance with legislative requirements.

Replacement information	This unit standard replaced unit standard 15373.

Planned review date	31 December 2022

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 October 2017	N/A

Consent and Moderation Requirements (CMR) reference	0014

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.