

**FIELD                    ENGINEERING AND TECHNOLOGY****Review of *Motor Industry* unit standards**

<b>Subfield</b>	<b>Domain</b>	<b>Id</b>
Motor Industry	Automotive Air Conditioning	881, 902, 906, 981, 3397, 15373
	Automotive Radiator Repair	6999-7015
	Tyres	916, 5440, 9074, 11739, 11741, 11742

The NZ Motor Industry Training Organisation (Inc) (MITO) has completed the review of the unit standards listed above.

**Date new versions published**

**January 2008**

**Planned review date**

**December 2012**

**Summary of review and consultation process**

This review is part of a major review of the Motor Industry and Outdoor Fabric Product qualifications (QReview) being conducted by MITO. The QReview Steering Group endorsed these standards after major consultation was carried out covering a wide range of stakeholders through focus group meetings and followed by industry wide consultation. These standards will form part of the new qualifications for Vehicle Servicing, Automotive Electrical and Mechanical, Automotive Heavy Engineering, Automotive Specialist Engineering, and Automotive Body.

**Main changes resulting from the review**

- Credits decreased from 10 to 7 for standard 7002, from 7 to 4 for standard 7009, and from 17 to 10 for standard 11739, to more accurately reflect the learning requirements.
- The level decreased from 4 to 3 for standards 981, 3397, 7009, and 7015.
- Standard 5440 was replaced by new standards 24459 and 24460 that separate theory knowledge from practical outcomes.
- Standards 916 and 9074 were collectively replaced by standards 24457 and 24458 for a more logical split of theory knowledge and practical outcomes.
- Standards 11741 and 11742 have collectively been replaced by standards 24461 and 24462 to separate theory knowledge from practical outcomes and to remove the duplication of skills between the existing standards.
- Standard 881 was split and replaced by two new standards 24443 and 24444 to separate testing and diagnosis from servicing and repairing.
- Standards 7003, 7005, and 7011 were collectively replaced by standards 24453-24456 to remove existing overlaps and for a more logical separation of skills.
- The Automotive Air Conditioning domain was designated lapsing and the standards were reclassified to the new Automotive Heating, Ventilation, and Air Conditioning domain.
- Changes were made throughout the standards to titles, special notes, elements, performance criteria, and range statements to update terminology, and reflect changes in technology and legislative requirements.
- Standards 7000, 7001, 7008, 7010, 7012, 7013, and 7014 were designated category D and will not be replaced as they no longer meet industry needs.

- Nine new standards, 24445-24452, and 24463, were developed to reflect new technology and fill gaps in the existing framework of standards.

**Unit standards categorised as category C or D expire at the end of December 2011.**

### Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or Id	Level	Nature of accreditation	Classification or Id	Level
Subfield	Motor Industry	3	Standards	24461, 24462	4
Domain	Automotive Air Conditioning	Any	Domain	Automotive Heating, Ventilation, and Air Conditioning	Same
Domain	Tyres	3	Standards	24461, 24462	4
Standard	881	4	Standards	24443, 24444	4
Standard	916	3	Standards	24457, 24458	3
Standard	9074	3			

### Impact on Accreditation and Moderation Action Plan (AMAP)

None.

### Impact on existing qualifications

Qualifications that contain the reviewed standards or classifications are tabled below.

<b>Affected</b>	The qualification lists a reviewed classification (domain or subfield) in an elective set The qualification lists a standard that has changes to level or credits The qualification lists a C or D category standard
<b>Not materially affected</b>	The qualification lists a standard that has a new title The qualification lists a standard that has a new classification

The following MITO qualifications are impacted by the outcome of this review, with the items that generated the affected status in **bold**. These qualifications will be updated as part of the current QReview.

Qualification title	Classification or standard in the qualification
National Certificate in Motor Industry (Automotive Air Conditioning) [Ref: 0002]	<b>881</b> , 902, 906, <b>981</b> , <b>3397</b> , 15373
National Certificate in Motor Industry (Automotive Electrical Engineering) [Ref: 0137]	<b>881</b> , 902, 906, <b>981</b> , 15373
National Certificate in Motor Industry (Automotive Engineering) [Ref: 0019]	<b>881</b> , 15373
National Certificate in Motor Industry (Automotive Heavy Engineering) with strands in Agricultural Equipment, Plant and Equipment, and Road Transport [Ref: 0003]	<b>881</b> , 902, 906, <b>5440</b> , 15373
National Certificate in Motor Industry (Automotive Radiator Repair) [Ref: 0188]	902, 6999, <b>7000-7003</b> , 7004, <b>7005</b> , 7006, 7007, <b>7008-7015</b>
National Certificate in Motor Industry (Automotive Steering, Suspension, and Alignment) with an optional strand in Heavy Commercial Vehicles [Ref: 0246]	<b>916</b> , <b>9074</b>
National Certificate in Motor Industry (Service Station Sales) [Ref: 0026]	<b>916</b>

Qualification title	Classification or standard in the qualification
National Certificate in Motor Industry (Tyre Servicing) with optional strands in Light and Heavy Commercial Vehicle Tyres, Agricultural Equipment Tyres, Off-The-Road Equipment Tyres, Industrial Tyres, and Steering and Suspension [Ref: 0373]	<b>916, 5440, 9074, 11739, 11741, 11742</b>

### Review Categories and changes to classification, title, level and credits

All changes are in **bold**.

#### Key to review category

- A** Dates changed, but no other changes are made - the new version of the standard carries the same Id and a new version number
- B** Changes made, but the overall outcome remains the same - the new version of the standard carries the same Id and a new version number
- C** Major changes that necessitate the registration of a replacement standard with a new Id
- D** Standard will expire and not be replaced

Subfield Motor Industry

Domain Automotive Air Conditioning

**Domain Automotive Heating, Ventilation, and Air Conditioning**

Id	Title	Level	Credit	Review Category
881	Test, service, and repair an automotive air conditioning system	4	4	C
<b>24443</b>	<b>Prepare to test, test and diagnose faults in an automotive air conditioning system</b>	<b>4</b>	<b>5</b>	
<b>24444</b>	<b>Service and rectify faults in an automotive air conditioning system</b>	<b>4</b>	<b>7</b>	
902	Test a vehicle heating and ventilation system	3	3	B
906	Diagnose and rectify automotive climate control system faults <b>Test for and rectify vehicle climate control system faults</b>	4	4	B
981	Install an automotive air conditioning system	4 <b>3</b>	3	B
3397	Convert an automotive air conditioning system from R-12 to R-134a	4 <b>3</b>	2	B
15373	Demonstrate knowledge of automotive air conditioning	3	4	B
<b>24445</b>	<b>Remove and replace automotive air conditioning components</b>	<b>3</b>	<b>2</b>	<b>New</b>
<b>24446</b>	<b>Demonstrate knowledge of preparing to test, and testing for faults in an automotive air conditioning system</b>	<b>4</b>	<b>4</b>	<b>New</b>
<b>24447</b>	<b>Recover refrigerant from, and evacuate and charge an automotive air conditioning system</b>	<b>3</b>	<b>2</b>	<b>New</b>
<b>24448</b>	<b>Demonstrate knowledge of servicing automotive air conditioning systems</b>	<b>3</b>	<b>2</b>	<b>New</b>
<b>24449</b>	<b>Prepare to test, and test an automotive air conditioning system for leaks</b>	<b>3</b>	<b>2</b>	<b>New</b>

Id	Title	Level	Credit	Review Category
24450	<b>Demonstrate knowledge of vehicle climate control systems, and locating and rectifying faults</b>	4	4	New
24451	<b>Inspect and service automotive air conditioning equipment</b>	3	2	New
24452	<b>Service an automotive air conditioning compressor</b>	4	3	New

## Domain Automotive Radiator Repair

Id	Title	Level	Credit	Review Category
6999	Repair a damaged metal fuel tank in the radiator repair industry <b>Repair a damaged metal vehicle or machine fuel tank</b>	4	4	B
7000	Select, use, and maintain hand tools and equipment in the radiator repair industry	2	2	D
7001	Select, use, and maintain plant and equipment in the radiator repair industry	3	3	D
7002	Recore a brass tanked vehicle radiator in the radiator repair industry <b>Recore a brass tank vehicle or machine radiator</b>	3	10 7	B
7003	Clean and repair a radiator in the radiator repair industry	4	12	C
7005	Clean and repair an aluminium cored radiator in the radiator repair industry	4	8	C
7011	Recore and repair a plastic tanked radiator in the radiator repair industry	3	6	C
<b>24453 and 24454 and 24455 and 24456</b>	<b>Inspect, test and rectify faults in a vehicle or machine radiator</b>	<b>3</b>	<b>6</b>	
	<b>Recore a plastic tank vehicle or machine radiator</b>	<b>3</b>	<b>4</b>	
	<b>Prepare to clean out, and clean out a plastic tank vehicle or machine radiator assembly</b>	<b>3</b>	<b>4</b>	
	<b>Prepare to clean out, and clean out a brass tank vehicle or machine radiator assembly</b>	<b>3</b>	<b>6</b>	
7004	Repair an oil cooler in the radiator repair industry <b>Test and rectify faults in an oil cooler in the radiator repair industry</b>	4	5	B
7006	Modify a radiator in the radiator repair industry <b>Plan and prepare to modify, and modify a vehicle or machine radiator</b>	4	10	B
7007	Custom build a radiator in the radiator repair industry <b>Plan and prepare to custom build, and custom build a vehicle or machine radiator</b>	4	10	B
7008	Demonstrate product knowledge in the radiator repair industry	3	6	D

Id	Title	Level	Credit	Review Category
7009	Remove and repair a heater assembly in the radiator repair industry <b>Test for, and rectify faults and refit a vehicle or machine heater assembly</b>	4 3	7 4	B
7010	Use solder to repair radiators in the radiator repair industry	2	3	D
7012	Demonstrate knowledge of, and identify and diagnose vehicle cooling system faults	3	12	D
7013	Remove and replace cooling system components in the radiator repair industry	4	8	D
7014	Analyse cooling system corrosion prevention and vehicle and machine cooling system requirements	3	8	D
7015	Recore and repair bolt-on type industrial and heavy commercial and machine cooling equipment <b>Test, recore and rectify faults in bolt-on industrial and heavy vehicle and machine cooling equipment</b>	4 3	8	B

## Domain Tyres

Id	Title	Level	Credit	Review Category
916 and 9074	Repair punctures and fit tyres to wheels	3	3	C
24457 and 24458	Demonstrate knowledge of, and rectify faults in, motor vehicle tyres and wheels <b>Demonstrate knowledge of light vehicle tyres and wheels</b> <b>Prepare to repair, and repair punctures in tubes and tubeless tyres on light vehicles</b>	3 3 3	4 4 5	C
5440	Identify tyre applications for tractors and agricultural machinery, and remove and replace tyres	3	4	C
24459 and 24460	<b>Demonstrate knowledge of tractor and agricultural machinery tyres and wheels</b> <b>Remove and refit wheels from tractors and agricultural machinery</b>	3 3	4 2	
11739	Repair and replace light and heavy commercial vehicle tyres <b>Repair and replace heavy vehicle tyres</b>	3	17 10	B
11741 and 11742	Check, demount, and mount a heavy off-the-road equipment tyre	4	10	C
24461 and 24462	Remove and replace wheels and tyres from industrial machines and equipment <b>Demonstrate knowledge of heavy machine and equipment tyres and wheels</b> <b>Check, remove, and refit wheels and tyres from heavy machines or equipment</b>	3 4 4	10 4 10	C
24463	<b>Demonstrate knowledge of heavy vehicle tyres and wheels</b>	3	4	New