

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

Subfield	Domain	Id
Motor Industry	Automotive Workshop Engineering	914
	Chassis and Frame Repair	9075, 9076
	Panelbeating	5738, 5741, 5743-5745, 5749, 5751-5753, 5755, 5756, 5758-5760, 5762, 5764-5766, 5768, 5771-5776, 5778, 5780, 5782, 15657, 15944
	Vehicle Bodywork	5746
	Vehicle Spraypainting	5706-5709, 5712-5716, 5719-5724, 5727, 5729-5731, 5733, 5734, 5747
	Vehicle Steering and Suspension	883, 896

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

Date new versions published

November 2007

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 have increased from 3 to 4 in standard 5743, from 3 to 4 in standard 5744, from 7 to 8 in 5762, and from 6 to 10 in standard 5782, and decreased from 5 to 3 in standard 5760, and from 10 to 6 in standard 5775 to reflect more accurately the learning requirements.
- The level has increased from 3 to 4 in 5758, from 3 to 4 in standard 5776, and from 4 to 5 in standard 5782.
- Standards 5706, 5708, 5709, 5712, 5713, 5714, 5715, 5716, 5719, 5721, 5724, 5730, 5731, 5733, 5734, 5741, 5745, 5746, 5747, 5755, 5759, 5764, 5765, 5768, 5774, and 5780 have been replaced by new standards that separate theory knowledge from practical outcomes.
- Standards 896 and 15657 have collectively been replaced by two new standards, 24025 and 24564, both of which have been classified in the Vehicle Steering and Suspension domain.
- Standards 914 and 5771 have been replaced by one standard 23992, which has been registered in the Automotive Workshop Engineering domain.

- Standards 5707 and 5756 have been replaced by 24003 and 23982 respectively, as there have been significant changes to the content.
- The standards in the Chassis and Frame Repair and Panelbeating domains have been reclassified to the new Collision Repair domain.
- The standards in the Vehicle Spraypainting domain have been reclassified to the Automotive Refinishing domain.
- The replacement standards for 5755, 5764 and 5768 have been registered in the Vehicle Bodywork domain, along with one of the three replacements for 5759.
- Standard 5743 has been reclassified to the Automotive Workshop Engineering domain, and standard 5775 to the Vehicle Bodywork domain to more accurately reflect the content and usage of the standards.
- Changes have been 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 5722, 5749, 5752, 5753, 5778, 9075 and 15944 have been designated as category D and will not be replaced as they no longer meet industry needs.
- Two new standards, 24000 and 24026, have been 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	2	Standards	24006, 24007	4
		3	Standards	5758, 5776, 23982, 24006, 24007	4
		4	Standard	5782	5
Domain	Panelbeating	2	Domain	Collision Repair	2
Domain	Vehicle Spraypainting	2	Domain	Automotive Refinishing	2
Standard	896	4	Standards	24006, 24007	4
Standard	914	3	Standards	24025, 24564	3
Standard	5768	3	Standard	23992	3
Standard	5712	3	Standards	23990, 23991	3
Standard	5713	3	Standards	24008, 24009	3
Standard	5724	4	Standards	24010, 24011	3
Standard			Standards	24016, 24017	4

Impact on Accreditation and Moderation Action Plan (AMAP)

AMAP 0014 has been updated to reflect the changes made to the standards.

Impact on existing qualifications

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

Affected	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
Not materially affected	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 (Advanced Technical) (Level 5) with strands in Automotive Electrical and Mechanical, and Collision Repair [Ref: 1143]	5731
National Certificate in Motor Industry (Automotive Dismantling and Recycling) [Ref: 0170]	5738, 5743
National Certificate in Motor Industry (Automotive Electrical Engineering) [Ref: 0137]	914
National Certificate in Motor Industry (Automotive Engineering) [Ref: 0019]	896
National Certificate in Motor Industry (Automotive Heavy Engineering) with strands in Agricultural Equipment, Plant and Equipment, and Road Transport [Ref: 0003]	914
National Certificate in Motor Industry (Automotive Machining) [Ref: 0371]	914
National Certificate in Motor Industry (Automotive Refinishing) [Ref: 0178]	5706-5709, 5712-5714, 5716, 5719, 5720, 5721, 5723, 5724, 5727, 5730, 5733, 5746, 5747
National Certificate in Motor Industry (Automotive Steering, Suspension, and Alignment) with an optional strand in Heavy Commercial Vehicles [Ref: 0246]	896, 5738, 5743, 5745, 5771, 5772, 9075, 9076
National Certificate in Motor Industry (Coachbuilding) with strands in Passenger Service Vehicles, Commercial Vehicles, and Motor Homes and Caravans [Ref: 0413]	5738, 5741, 5743, 5745, 5746, 5752, 5756, 5762, 5764, 5768, 5771, 5772, 5776
National Certificate in Motor Industry (Exhaust Servicing) [Ref: 0372]	914
National Certificate in Motor Industry (Motorcycle Engineering) [Ref: 0015]	914
National Certificate in Motor Industry (Panelbeating) [Ref: 0179]	5738, 5741, 5743, 5744, 5746, 5753, 5755, 5758-5760, 5766, 5768, 5771, 5772, 5773, 5774, 15657
National Certificate in Motor Industry (Trailer Boat Systems Engineering) (Level 3) [Ref: 0698]	914, 5764
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]	896

The following qualifications are also affected by the outcome of this review. The standard setting bodies (SSBs) have been advised that they require revision.

Qualification title	Classification or standard in the qualification	SSB Name
National Certificate in Boatbuilding (Level 4) with strands in Marine Cabinetmaking, Composite Sparmaking, Alloy Boatbuilding, Marine Rigging, Marine Painting, Composite Boatbuilding, Steel Boatbuilding, Wooden Boatbuilding, Marine Systems Engineering, Metal Sparmaking, Composite Production Trailer Boats, and Alloy Production Trailer Boats [Ref: 877]	5712	Boating Industry Training Organisation
National Certificate in Automotive Reglazing (Level 3) [Ref: 1249]	Panelbeating	Joinery Industry Training Organisation

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

Id	Domain	Title	Level	Credit	Review Category
896	Vehicle Steering and Suspension	Diagnose and rectify suspension and manual steering faults on cars or light commercial vehicles	4	4	C
15657	Panelbeating	Remove and replace damaged suspension parts	3	3	C
24025	Vehicle Steering and Suspension	Diagnose suspension and manual steering faults on light vehicles	3	2	
24564	Vehicle Steering and Suspension	Remove and replace steering and suspension components on motor vehicles or machines	3	3	

Domain Chassis and Frame Repair

Domain Collision Repair

Id	Title	Level	Credit	Review Category
9075	Identify and repair a damaged beam and live axle on cars and commercial vehicles	4	7	D
9076	Repair chassis damage on a light and a heavy commercial vehicle Repair vehicle chassis damage	4	10	B

Domain Panelbeating					
Id	Domain	Title	Level	Credit	Review Category
5738	Panelbeating Collision Repair	Cut metals to predetermined specifications on and off a vehicle	2	2	B
5741	Panelbeating	Use and maintain a hydraulic body jack and attachments in the motor industry	3	2	C
23976	Collision Repair	Demonstrate knowledge of a hydraulic jack and attachments in the motor industry	3	1	
23977	Collision Repair	Use and maintain a hydraulic jack and attachments in the motor industry	3	2	
5743	Panelbeating Automotive Workshop Engineering	Identify the characteristics, uses, and the effect of heat on metals in the motor industry Demonstrate knowledge of metals used on vehicles, and identify the effect of applying heat to metals	3	3 4	B
5744	Panelbeating Collision Repair	Identify crush zones and the effect of impact on a vehicle Demonstrate knowledge of vehicle body construction, and the effect of impact on vehicles	3	3 4	B
5745	Panelbeating	Use vehicle unibody, chassis alignment equipment, and measuring systems	3	7	C
23978	Collision Repair	Demonstrate knowledge of chassis alignment system equipment, measuring systems, and structural damage on a vehicle	3	4	
23979	Collision Repair	Use vehicle unibody chassis alignment equipment and measuring systems under supervision	3	6	
5749	Panelbeating	Identify and handle CNG (compressed natural gas) and LPG (liquefied petroleum gas) systems in the motor industry	3	2	D
5751	Panelbeating Collision Repair	Repair minor vehicle panel damage without paint damage	3	2	B
5752	Panelbeating	Repair and replace perforated corrosion non-structural panels on a motor vehicle	3	4	D
5753	Panelbeating	Remove and replace damaged vehicle cooling system parts	3	3	D

Id	Domain	Title	Level	Credit	Review Category
5755	Panelbeating	Remove and refit a vehicle dash panel and adjacent fittings	4	6	C
23980	Vehicle Bodywork	Demonstrate knowledge of removing and replacing vehicle dash panels and adjacent fittings	3	2	
23981	Vehicle Bodywork	Remove and replace vehicle dash panels and adjacent fittings	4	4	
5756	Panelbeating	Book in work, interpret a job sheet, and inspect and identify vehicle damage	3	3	C
23982	Collision Repair	Inspect and identify vehicle damage	4	4	
5758	Panelbeating	Repair a severely damaged motor vehicle steel panel	3	6	B
	Collision Repair		4		
5759	Panelbeating	Remove, replace and repair damaged motor vehicle bumpers	3	6	C
23983	Vehicle Bodywork	Demonstrate knowledge of motor vehicle bumpers	3	2	
23984	Collision Repair	Remove, repair, and replace damaged motor vehicle plastic bumpers	3	4	
23985	Collision Repair	Remove, repair, and replace damaged motor vehicle metal bumpers	3	4	
5760	Panelbeating	Replace a damaged motor vehicle door skin	3	5	B
	Collision Repair	Remove and replace a damaged motor vehicle door skin		3	
5762	Panelbeating	Replace a motor vehicle panel attached by adhesives	4	7	B
	Collision Repair	Remove and replace a damaged motor vehicle panel attached by adhesives		8	
5764	Panelbeating	Repair a damaged glass fibre reinforced plastic panel (GRP) using a repair kit in the motor industry	3	4	C
23986	Vehicle Bodywork	Demonstrate knowledge of glass reinforced plastic (GRP) and working with GRP repair kits for motor vehicles	3	2	
23987	Vehicle Bodywork	Use a glass reinforced plastic (GRP) repair kit to repair a damaged motor vehicle panel	3	2	

Id	Domain	Title	Level	Credit	Review Category
5765 23988 23989	Panelbeating Collision Repair Collision Repair	Identify, use, and maintain a resistance spot welding plant in the motor industry Demonstrate knowledge of the resistance spot welding process used for vehicle repairs Use and maintain a resistance spot welding plant in the motor industry	3 3 3	2 2 2	C
5766	Panelbeating Collision Repair	Demonstrate knowledge of working on motor vehicle safety systems Demonstrate knowledge of motor vehicle safety systems and working on damaged systems	3	4	B
5768 23990 23991	Panelbeating Vehicle Bodywork Vehicle Bodywork	Remove and replace a motor vehicle fuel tank Demonstrate knowledge of motor vehicle fuel tanks, and repairing and replacing fuel tanks Remove and replace a motor vehicle fuel tank	3 3 3	2 2 2	C
5771 914 23992	Panelbeating Automotive Workshop Engineering Automotive Workshop Engineering	Use and maintain a metal-arc gas shield (MIG) welding plant in the motor industry Metal-arc gas shield (MIG) weld automotive components Use and maintain a gas metal arc welding (GMAW) plant in the motor and related industries	4 3 3	5 4 5	C C
5772	Panelbeating Collision Repair	Identify motor vehicle suspension, steering, and brake systems, and the effects of collision Demonstrate knowledge of motor vehicle suspension, steering, and brake systems, and the effects of collision	4	6	B
5773	Panelbeating Collision Repair	Align and repair structural damage on a motor vehicle Identify and align structural damage on a motor vehicle	4	15	B

Id	Domain	Title	Level	Credit	Review Category
5774	Panelbeating	Carry out a full and sectional panel replacement on motor vehicle panels	4	15	C
23993	Collision Repair	Demonstrate knowledge of full and sectional panel replacement on motor vehicles	4	2	
23995	Collision Repair	Carry out a full and sectional panel replacement on motor vehicle panels	4	20	
5775	Panelbeating Vehicle Bodywork	Identify and work on motor vehicle supplementary restraint systems Remove and replace motor vehicle supplementary restraint systems	4	10 6	B
5776	Panelbeating Collision Repair	Repair perforated metal corrosion on a motor vehicle structural steel panel Complete repairs of perforated metal corrosion on a motor vehicle structural steel panel	3 4	6	B
5778	Panelbeating	Fill a repair with solder in the motor industry	3	5	D
5780	Panelbeating	Repair and replace a damaged motor vehicle aluminium panel	4	6	C
23996	Collision Repair	Demonstrate knowledge of repairing and replacing damaged non-structural motor vehicle aluminium panels	4	2	
23997	Collision Repair	Repair and replace a damaged non-structural aluminium panel on a motor vehicle	4	6	
5782	Panelbeating Collision Repair	Align, repair, and replace aluminium structural damage on a motor vehicle Identify and align aluminium structural damage on a motor vehicle	4 5	6 10	B
15944	Panelbeating	Remove and replace a car and/or light commercial engine	4	8	D

Domain Vehicle Bodywork

Id	Title	Level	Credit	Review Category
5746	Identify and prevent corrosion in the motor industry	3	3	C
23998	Demonstrate knowledge of vehicle body corrosion and anti-corrosion procedures in the motor and related industries	3	4	
23999	Reinstate vehicle body corrosion protection in the motor industry	3	4	
24000	Demonstrate knowledge of motor vehicle restraint systems	3	5	New

Domain Vehicle Spraypainting
Domain Automotive Refinishing

Id	Title	Level	Credit	Review Category
5706	Mask a repair for two pack painting in the automotive refinishing industry	3	3	C
24001	Demonstrate knowledge of masking materials and masking techniques for two pack painting	3	2	
24002	Mask a repair for two pack painting in the automotive refinishing industry	3	3	
5707	Identify and prepare metals for top coats of paint in the motor and related industries	3	4	C
24003	Identify and prepare vehicle body metal for top coats of paint	3	3	
5708	Identify and use primers, fillers, and sealers and prepare for top coats in the motor industry	3	15	C
24004	Demonstrate knowledge of primers, fillers, and sealers in the automotive refinishing industry	3	3	
24005	Use primers, fillers, and sealers, and prepare paint for top coats in the automotive refinishing industry	3	12	
5709	Identify and use a mixing bank and scales in the automotive refinishing industry	2	2	C
5730	Match colours to vehicles in the motor industry	4	15	
24006	Demonstrate knowledge of paint scales and mixing machines, and colour matching in the automotive refinishing industry	4	4	
24007	Prepare, mix and match colours to vehicles in the automotive refinishing industry	4	20	
5712	Use and maintain spray guns and rectify spray gun defects in the motor body or related industries	3	5	C
5715	Identify and apply top coats of paint in the motor and related industries	3	5	
24008	Demonstrate knowledge of automotive spray guns, spraying and spray gun defects, and spray gun maintenance	3	2	
24009	Use a spray gun to apply top coats to vehicle panels, maintain a spray gun and equipment, and rectify spray gun defects	3	3	

Id	Title	Level	Credit	Review Category
5713	Use and maintain shop equipment in the automotive refinishing industry	3	6	C
5714	Use and maintain paint drying equipment in the motor industry	3	4	C
24010	Demonstrate knowledge of workshop and paint drying equipment in the automotive refinishing industry	3	3	
24011	Use and maintain workshop and paint drying equipment in the automotive refinishing industry	3	8	
5716	Identify and repair paint defects in the automotive refinishing industry	4	6	C
24012	Demonstrate knowledge of paint defects in the automotive refinishing industry	4	2	
24013	Identify and repair paint defects in the automotive refinishing industry	4	4	
5719	Identify and paint plastics in the motor and related industries	4	4	C
24014	Demonstrate knowledge of plastic automotive parts and painting automotive plastics	4	2	
24015	Prepare and paint plastic automotive parts	4	4	
5720	Paint a vehicle in solid colour two pack enamel in the automotive refinishing and related industries Paint vehicle panels in solid colour two pack enamel in the automotive refinishing industry	4	8	B
5721	Touch up the paintwork on a vehicle using two pack solid colours	4	5	C
5724	Touch up a vehicle using two pack clear over base finishes	4	8	C
24016	Demonstrate knowledge of touching up two pack solid and Clear-Over-Base (COB) finishes on a vehicle	4	3	
24017	Touch up the paintwork on a vehicle using two pack solid and Clear-Over-Base (COB) colours	4	15	
5722	Book in work, interpret a job sheet, and inspect and identify vehicle paint damage	3	3	D
5723	Paint a vehicle in basecoat and two pack clearcoat Paint vehicle panels in basecoat and two pack clearcoat	4	8	B
5727	Identify and apply an anti-chip coating and/or texture finish on a vehicle Check preparation and apply an anti-chip coating and/or texture finish to a vehicle	3	2	B
5729	Paint a vehicle in three layer pearl and two pack clearcoat Paint vehicle panels in three layer pearl and two pack clearcoat	4	8	B

Id	Title	Level	Credit	Review Category
5731	Touch up the paintwork on a vehicle using three layer pearl finishes	4	7	C
24018	Demonstrate knowledge of touching up pearl finishes	4	2	
24019	Touch up the paintwork on a vehicle using three layer pearl finishes	4	7	
5733	Identify and apply adhesive stripes and graphics to a painted surface in the motor industry	3	3	C
24020	Demonstrate knowledge of adhesive stripes and graphics in the motor industry	3	1	
24021	Prepare and apply adhesive stripes and graphics to a vehicle or machine	3	3	
5734	Identify and use water borne paint systems in the automotive refinishing industry	4	6	C
23994	Demonstrate knowledge of waterborne paint systems in the automotive refinishing industry	4	2	
24022	Use waterborne paint systems in the automotive refinishing industry	4	4	
5747	Remove paint from vehicle panels	3	5	C
24023	Demonstrate knowledge of methods of and precautions when removing paint from vehicle body panel surfaces	3	2	
24024	Remove paint from vehicle panels	3	3	

Domain Vehicle Steering and Suspension

Id	Title	Level	Credit	Review Category
883	Check and adjust vehicle front and rear wheel alignment	3	4	B
24026	Demonstrate knowledge of motor vehicle wheel alignment	3	3	New