

Field Engineering and Technology**Review of *Motor Industry* unit standards**

Subfield	Domain	ID
Motor Industry	Automotive Electrical and Electronics	233, 234, 235, 3877, 21675, 21676, 24092, 24106, 24116, 29371
	Automotive Fuel Systems and Exhaust	24179
	Automotive Heating, Ventilation, and Air Conditioning	15373
	Automotive Transmission Systems	239, 918, 24307, 24325, 24330, 29373
	Automotive Workshop Engineering	21682, 21683
	Tyres	24457
	Vehicle Bodywork	22800, 24000
	Vehicle Braking Systems	21689, 21720, 23817
	Vehicle Steering and Suspension	21721, 24440

MITO New Zealand Incorporated (MITO) has completed the review of the unit standards listed above.

Date new versions published

October 2017

Planned review date

December 2022

Summary

As a result of the Targeted Review of Qualifications process, it became necessary for MITO to review a number of motor industry unit standards to better reflect the requirements of the outcomes listed in new qualifications.

The review of these unit standards has resulted in updated outcomes and performance criteria that reflect current industry practice and the Graduate Profile Outcomes listed in the new qualifications.

MITO's automotive industry working group has endorsed the changes made, and the development of new unit standards. Representation in the working group included subject matter experts, industry representatives, provider representatives and MITO representatives. The new unit standards were circulated in the working group's greater networks and all feedback was actioned where appropriate.

Main changes

- 28 unit standards were reviewed and replaced with 18 new unit standards.

Category C unit standards will expire at the end of December 2020.

Impact on existing organisations with consent to assess

Current consent for			Consent extended to		
Nature of consent	Classification or ID	Level	Nature of consent	Classification or ID	Level
Domain	Automotive Electrical and Electronics	2-6	Standard	30572	2
	Automotive Electrical and Electronics	2	Standards	30556, 30563, 30574, 30558	3
	Automotive Transmission Systems	2	Standard	30560	3
	Automotive Workshop Engineering	2	Standard	30570	3
	Vehicle Bodywork	3	Standard	30573	3
	Vehicle Braking Systems	2	Standard	30568	3
	Vehicle Steering and Suspension	2	Standard	30566	3
Standards	233	2	Standards	30556	3
	234	2		30563	3
	235	2		30574	3
	239	2		30560	3
	918	3		30561	3
	15373	3		30565	3
	21676	2		30558	3
	21682	2		30570	3
	21683	3		30570	3
	21689	2		30568	3
	21720	2		30568	3
	21721	2		30566	3
	22800	4		30573	3
	23817	3		30568	3
	24092	3		30564	3
	24106	3		30558	3
	24179	3		30559	3
	24307	3		30561	3
	24325	3		30561	3
	24457	3		30567	3
29371	3	30571	3		

Detailed list of unit standards – 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 the same 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

Engineering and Technology > Motor Industry

ID	Domain	Title	Level	Credit	Review Category
3877	Automotive Electrical and Electronics	Demonstrate knowledge of protecting vehicle electronics in the motor industry	2	2	C
21675	Automotive Electrical and Electronics	Demonstrate knowledge of automotive batteries	2	2	C
30572	Motor Industry - Introductory Skills	Demonstrate knowledge of vehicle or machine batteries	2	3	
22800	Vehicle Bodywork	Describe safe working practices and precautions on vehicles equipped with air bags and seatbelt pretensioners	4	2	C
24000	Vehicle Bodywork	Demonstrate knowledge of motor vehicle restraint systems	3	5	C
30573	Automotive Electrical and Electronics	Demonstrate knowledge of a supplemental restraint system	3	2	

Engineering and Technology > Motor Industry > Automotive Electrical and Electronics

ID	Title	Level	Credit	Review Category
233	Service a lead-acid automotive battery	2	2	C
30556	Service an automotive battery	3	3	
234	Demonstrate knowledge of automotive starting and charging systems and their operation	2	4	C
30563	Demonstrate knowledge of automotive charging and starting systems	3	4	
235	Demonstrate knowledge of automotive ignition systems and their operation	2	4	C
24116	Demonstrate knowledge of contact breaker and capacitor discharge ignition systems used on motorcycles and small engines	3	2	C
30574	Demonstrate knowledge of ignition systems	3	3	
21676	Select test equipment and test an automotive electrical circuit	2	4	C
24106	Carry out automotive wiring repairs and replace a wiring circuit	3	2	C
30558	Test and repair automotive electrical circuits	3	5	

ID	Title	Level	Credit	Review Category
24092	Demonstrate knowledge of automotive lighting systems, and headlamp adjustment	3	2	C
30564	Demonstrate knowledge of automotive lighting	3	2	
29371	Demonstrate knowledge of automotive electrical principles and circuit testing	3	8	C
30571	Demonstrate knowledge of the principles and testing of automotive electrical circuits	3	6	
30569	Demonstrate knowledge of hybrid electric and battery electric vehicles or machines	3	3	New

Engineering and Technology > Motor Industry > Automotive Fuel Systems and Exhaust

ID	Title	Level	Credit	Review Category
24179	Demonstrate knowledge of a forced air intake system on an engine	3	4	C
30559	Demonstrate knowledge of induction and exhaust systems	3	4	

Engineering and Technology > Motor Industry > Automotive Heating, Ventilation, and Air Conditioning

ID	Title	Level	Credit	Review Category
15373	Demonstrate knowledge of automotive air conditioning	3	4	C
30565	Demonstrate knowledge of an automotive air conditioning system	3	4	

Engineering and Technology > Motor Industry > Automotive Transmission Systems

ID	Title	Level	Credit	Review Category
239	Demonstrate knowledge of automotive manual transmissions	2	3	C
30560	Demonstrate knowledge of clutches and manual transmissions	3	3	
918	Demonstrate knowledge of light vehicle final drive assembly operation	3	4	C
24307	Demonstrate knowledge of vehicle driveline components	3	2	C
24325	Demonstrate knowledge of four-wheel drive (4WD) and all-wheel drive (AWD) systems used on light vehicles	3	3	C
30561	Demonstrate knowledge of drivelines and final drives	3	4	
24330	Demonstrate knowledge of automotive continuously variable transmission (CVT) operation and repair procedures	3	4	C
29373	Demonstrate knowledge of automotive automatic transmissions	3	2	C
30562	Demonstrate knowledge of automatic transmissions	3	4	

Engineering and Technology > Motor Industry > Automotive Workshop Engineering

ID	Title	Level	Credit	Review Category
21682	Demonstrate knowledge of an oxy-acetylene welding plant in the motor industry	2	2	C
21683	Demonstrate knowledge of MIG welding in the motor industry	3	2	C
30570	Demonstrate knowledge of welding in the motor industry	3	3	

Engineering and Technology > Motor Industry > Tyres

ID	Title	Level	Credit	Review Category
24457	Demonstrate knowledge of light vehicle tyres and wheels	3	4	C
30567	Demonstrate knowledge of automotive tyres and wheels	3	3	

Engineering and Technology > Motor Industry > Vehicle Braking Systems

ID	Title	Level	Credit	Review Category
21689	Demonstrate knowledge of hydraulic brake fluid, fluid replacement, and brake bleeding procedures	2	2	C
21720	Demonstrate knowledge of motorcycle, car, light and heavy commercial vehicle braking systems	2	3	C
23817	Demonstrate knowledge of braking principles and system component operation for light vehicle	3	5	C
30568	Demonstrate knowledge of brake systems	3	4	

Engineering and Technology > Motor Industry > Vehicle Steering and Suspension

ID	Title	Level	Credit	Review Category
21721	Demonstrate knowledge of vehicle steering and suspension systems	2	2	C
24440	Demonstrate knowledge of electric power steering (EPS) systems	3	1	C
30566	Demonstrate knowledge of steering and suspension systems	3	2	