

Field Engineering and Technology

Review of *Motor Industry* unit standards

Subfield	Domain	ID
Motor Industry	Automotive Workshop Engineering	3381, 10102, 21685, 24372-24375
	Collision Repair	5760, 23976
	Engines	929, 940, 943, 980, 2313, 2334, 2350, 3392, 3393, 11725, 15435-15438, 15441, 15444, 15446, 15447, 21691, 24271, 24272, 24275, 24277, 24278-24284, 24286, 24287, 24300, 24302, 24306
	Motor Industry - Introductory Skills	21668
	Panelbeating	5770

MITO New Zealand Incorporated (trading as MITO) has completed the review of the unit standards listed above. The unit standard listed in **bold** above has been reclassified.

Date new versions published

April 2021

Planned review date

December 2025

Summary

MITO reviewed motor industry unit standards to ensure they are fit-for-purpose for the industry sectors.

MITO was supported by the motor industry's working groups including subject matter experts and MITO representatives. The standards were circulated to the working groups' networks, and a consultation period was held. Feedback received was actioned where appropriate.

Main changes

- Purpose statements, guidance information, references, outcomes, performance criteria, and range statements were amended to ensure they are accurate and fit for purpose, reflect the standard content and to ensure clarity for users.
- Titles of several unit standards were amended to enhance readability and better reflect the purpose.
- Unit standards with little or no use over the past five years were set to expire without replacement as they no longer reflect the learning and assessment needs of industry.
- Unit 5770 was reclassified.
- Unit 21691 was increased from Level 1 to Level 2 to better align with the level descriptors.

Category D unit standards will expire at the end of December 2022

The last date for assessment of superseded versions of Category B unit standards is December 2022

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 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

Engineering and Technology > Motor Industry > Automotive Workshop Engineering

ID	Title	Level	Credit	Review Category
3381	Inspect and repair damaged motorcycles	4	6	B
10102	Investigate and supervise the rectification of an automotive mechanical and/or bodywork problem Investigate an automotive mechanical or bodywork problem and supervise its rectification	5	4	B
21685	Use an oxy-acetylene welding plant in the motor industry Use the oxyacetylene welding process in the automotive industry	2	3	B
24372	Manual metal arc weld automotive components	3	4	B
24373	Demonstrate knowledge of the manual metal arc welding process in the motor industry Demonstrate knowledge of the manual metal arc welding process in the automotive industry	3	2	B
24374	Demonstrate knowledge of hard facing automotive components	4	3	B
24375	Hard face automotive components using an electric or oxy-acetylene welding process Hard face automotive components using an electric or oxyacetylene welding process	4	2	B

Engineering and Technology > Motor Industry > Collision Repair

ID	Title	Level	Credit	Review Category
5760	Remove and replace a damaged motor vehicle door skin	3	3	B
23976	Demonstrate knowledge of a hydraulic jack and attachments in the motor industry Demonstrate knowledge of a hydraulic jack and attachments in the automotive industry	3	1	B

Engineering and Technology > Motor Industry > Engines

ID	Title	Level	Credit	Review Category
929	Test and rectify starting aid system faults on a diesel engine Test and rectify diesel engine glow plug starting aid system faults	3	2	B
940	Inspect and rectify governor faults on a small engine	2	2	B
943	Remove and install an engine assembly from and to a light vehicle	3	2	B
980	Service engine driven stationary and mobile generators and power units, and rectify control system faults	4	3	B

ID	Title	Level	Credit	Review Category
2313	Rectify fuel injection pump drive faults on diesel engines	4	2	B
2334	Remove an engine assembly from, and install the assembly in, a heavy vehicle	3	2	D
2350	Repower light vehicles Install a repower unit in a light vehicle	4	3	B
3392	Repair a heavy vehicle diesel engine cylinder head Rectify heavy vehicle engine cylinder head faults	4	4	B
3393	Repair a heavy vehicle diesel engine short block Rectify heavy vehicle diesel engine short block faults	4	8	B
11725	Inspect and machine engine crankshafts Inspect and machine an engine crankshaft	4	25	B
15435	Diagnose and rectify inboard petrol engine faults on trailer boats	4	8	B
15436	Demonstrate knowledge of the construction and operation, and servicing requirements of outboard engines	2	4	B
15437	Service outboard engines Inspect and service outboard engines	3	4	B
15438	Diagnose and rectify outboard engine faults	4	4	B
15441	Overhaul an engine cooling system water pump	3	3	D
15444	Repair a motorcycle engine crankshaft assembly	4	4	B
15446	Remove and replace a light vehicle engine cam belt Remove and fit a light vehicle engine cam belt	3	3	B
15447	Install a replacement engine in a trailer boat	3	4	B
21691	Disassemble and reassemble a single cylinder or multi-cylinder four stroke engine under supervision Disassemble and reassemble a single cylinder or multi-cylinder four-stroke engine under supervision	1 2	2	B
24271	Demonstrate knowledge of diagnosing vehicle or machine cooling system faults and their causes	4	3	B
24272	Demonstrate knowledge of automotive oscilloscope patterns and conducting a test programme on a four stroke petrol engine Demonstrate knowledge of automotive oscilloscope patterns and conducting a test programme on a four-stroke petrol engine	4	1	B
24275	Disassemble, inspect, and reassemble an engine short block under general supervision	3	3	B
24277	Inspect manual starting system components and rectify component faults on a small engine	3	1	B
24278	Demonstrate knowledge of engine performance testing using a dynamometer	4	2	B
24279	Tune and test a four stroke diesel engine Tune and test a four-stroke diesel engine	4	6	B
24280	Test engine performance using a dynamometer and determine engine condition	4	1	B
24281	Demonstrate knowledge of testing and rectifying diesel engine shutdown system faults	4	2	B
24282	Diagnose and rectify diesel engine shutdown system faults	4	3	B

ID	Title	Level	Credit	Review Category
24283	Demonstrate knowledge of diesel engine braking systems and exhaust braking systems, and diagnosing and rectifying faults Demonstrate knowledge of diesel engine braking systems, exhaust braking systems, and diagnosing and rectifying faults	4	2	B
24284	Diagnose and rectify faults in diesel engine braking systems and exhaust braking systems Diagnose and rectify faults in engine braking systems and auxiliary braking systems on a heavy diesel vehicle	4	3	B
24286	Diagnose and rectify faults in a motorcycle engine cooling system	3	3	D
24287	Demonstrate knowledge of disassembling, inspecting, and reassembling an engine short block	3	2	B
24300	Check a motorcycle engine for condition and carry out engine tuning requirements	3	4	B
24302	Demonstrate knowledge of disassembling, inspecting, and reassembling an engine cylinder head	3	2	B
24306	Carry out general repairs to an engine short block	3	3	B

Engineering and Technology > Motor Industry > Motor Industry - Introductory Skills

ID	Title	Level	Credit	Review Category
21668	Demonstrate knowledge of cleaning automotive components	2	2	B

Engineering and Technology > Motor Industry > Panelbeating
Engineering and Technology > Motor Industry > **Collision Repair**

ID	Title	Level	Credit	Review Category
5770	Identify and work on damaged motor vehicles with anti-lock braking systems (ABS) Replace faulty anti-lock braking system components on damaged vehicles	4	5	B