

Field Engineering and Technology

Review of *Motor Industry* unit standards

Subfield	Domain	ID
Motor Industry	Automotive Pneumatics	2340
	Automotive Transmission Systems	2316, 2318, 2319, 2331, 3385, 15418
	Vehicle Steering and Suspension	16112, 24432

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

Date new versions published

July 2018

Planned review date

December 2023

Summary

MITO has reviewed the unit standards listed above and developed new unit standards at the request of industry.

The unit standards were reviewed and developed to align with the New Zealand Certificate in Heavy Automotive Engineering (Level 4) with strands in Road Transport, Plant and Equipment, Agricultural Equipment, and Materials Handling [Ref: 3118].

This review has resulted in fit-for-purpose assessment content being made available to industry that reflects current legislation and industry practice.

MITO's heavy automotive industry working group endorsed the unit standard review. The working group includes subject matter experts and representatives from industry, education providers and MITO. The unit standards were circulated in the working group's greater networks and all feedback was actioned where appropriate.

Main changes

- Title, guidance information, outcome and performance criteria for unit standards 2316, 2331, and 15418 were amended to reflect current legislation and regulatory requirements, industry practice and recommendations, and to clarify their intent.
- Unit standards 2340, 2318, 2319, 3385, 16112 and 24432 were replaced with three new standards that now reflect the current competencies required of industry.
- 14 new unit standards were developed.

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

Impact on existing organisations with consent to assess

Nature of consent	Classification or ID	Level	Nature of consent	Classification or ID	Level
Subfield	Motor Industry	3	Standards	31227, 31231	4
Domain	Automotive Transmission Systems	3	Standard	31227	4
Domain	Vehicle Steering and Suspension	3	Standard	31231	4
Standard	2340	3	Standard	31233	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 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 Fuel Systems and Exhaust

ID	Title	Level	Credit	Review Category
31218	Diagnose and repair heavy vehicle or machine induction, forced induction and exhaust system faults	4	12	New
31229	Describe a heavy vehicle or machine induction system, turbochargers and induction and exhaust system diagnosis	4	5	New

Engineering and Technology > Motor Industry > Automotive Pneumatics

ID	Title	Level	Credit	Review Category
2340	Demonstrate knowledge of pneumatic system principles and operation for heavy vehicles and equipment	3	6	C
31233	Describe automotive pneumatic principles and systems	3	6	

Engineering and Technology > Motor Industry > Automotive Transmission Systems

ID	Title	Level	Credit	Review Category
2316	Demonstrate knowledge of heavy vehicle and machine driveline and drive assembly operation and terminology	3	3	B
	Describe heavy vehicle and machine driveshafts and final drives		4	
2318	Demonstrate knowledge of the construction and operation of heavy vehicle and equipment manual transmissions	3	4	C
2319	Demonstrate knowledge of heavy vehicle and equipment automatic transmission operation	3	5	C
3385	Demonstrate knowledge of heavy machine manual and power shift transmissions	3	4	C
31227	Describe heavy vehicle and machine transmissions and diagnosis	4	6	
2331	Diagnose and rectify faults in heavy vehicle or equipment clutches	4	4	B
	Diagnose and repair heavy vehicle or machine clutch faults		5	
15418	Demonstrate knowledge of the operation and servicing requirements for heavy vehicle and equipment clutches	3	4	B
	Demonstrate knowledge of heavy vehicle and machine clutches			
31216	Diagnose and repair heavy vehicle or machine driveline and final drive assembly faults	4	8	New

ID	Title	Level	Credit	Review Category
31217	Diagnose and repair heavy vehicle manual transmission faults	4	5	New
31228	Demonstrate knowledge of driveline retarders	3	3	New

Engineering and Technology > Motor Industry > Engines

ID	Title	Level	Credit	Review Category
31214	Tune a diesel engine	4	8	New
31221	Describe diesel engine tuning	3	6	New
31222	Describe petrol engine tuning	3	2	New
31223	Demonstrate knowledge of a diesel engine braking system and an exhaust brake	3	4	New
31224	Describe heavy diesel engine cylinder head removal, inspection and refitting	3	2	New

Engineering and Technology > Motor Industry > Tyres

ID	Title	Level	Credit	Review Category
31230	Demonstrate knowledge of common heavy vehicle or machine tyres and wheels	3	3	New

Engineering and Technology > Motor Industry > Vehicle Braking Systems

ID	Title	Level	Credit	Review Category
31220	Diagnose and repair heavy vehicle braking system faults	4	14	New
31232	Describe heavy vehicle braking systems	4	8	New

Engineering and Technology > Motor Industry > Vehicle Steering and Suspension

ID	Title	Level	Credit	Review Category
16112	Demonstrate knowledge of heavy vehicle and machine power steering systems	3	4	C
24432	Demonstrate knowledge of heavy vehicle suspension systems and identifying suspension failure	3	3	C
31231	Describe heavy vehicle and machine steering and suspension systems, and system diagnosis	4	4	
31219	Diagnose and repair heavy vehicle or machine steering and suspension system faults	4	8	New