WELLINGTON, NEW ZEALAND

PURSUANT to Section 152 of the Land Transport Act 1998

I, MARK GOSCHE, Minister of Transport,

HEREBY make the following ordinary rule:

Land Transport Rule: Tyres and Wheels 2001

SIGNED AT Wellington

This 12th day of December 2001

Mark Gosche
Minister of Transport

Land Transport Rule
Tyres and Wheels 2001
Rule 32013

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LAND transport safety AUTHORITY

Land Transport Rule

Tyres and Wheels 2001

Rule 32013

Contents

Objective of the rule

Land Transport Rule: Tyres and Wheels 2001 is one of a series of rules that sets safety requirements and standards for systems and components in vehicles operating in New Zealand. This rule applies to tyres and wheels and their assembly with hubs and axles, on all motor vehicles and also on pedal cycles.

The rule specifies requirements with which a vehicle must comply for certification purposes and that apply throughout the vehicle's on-road life. Tyres manufactured before the rule comes into force can continue to be used if they comply with the general safety requirements and vehicle standards applicable to those tyres at the time of their manufacture. Tyres manufactured after the rule comes into force must comply with any new approved vehicle standards applicable from the dates specified in the rule.

General safety requirements are specified both for tyres and the assembly of tyres, wheels, hubs, and axles. Requirements for tyre pressure control systems have been included to ensure the safety of this relatively new, and increasingly used, technology. Particular reference is made to temporary-use spare tyres. Operational safety requirements are specified for tyres, including spare tyres. These general and operational safety requirements consolidate, with some amendments, the relevant provisions of the *Traffic Regulations 1976.*

Approved vehicle standards are specified for tyres only, with separate lists of vehicle standards for new tyres, retreads, temporary-use spare tyres and tyre repairs. The approved vehicle standards apply only to specified classes of vehicle when fitted with tyres manufactured on or after the dates set out in the rule. Exceptions are permitted according to the age, use or type of vehicle.

The approved vehicle standards are 'incorporated by reference' in accordance with *section 165* of the *Land*

Transport Act 1998, so that, effectively, they are part of the rule. A choice of standards provides flexibility within agreed safety parameters.

This rule applies throughout the on-road life of a vehicle by specifying requirements for: certification as a prerequisite to first registration in New Zealand; repair; modification; in-service inspection and other aspects of continuing compliance. The rule is an essential element of the safety framework governing vehicles in New Zealand. It links with, and provides a means of assessment for, *Land Transport Rule: Vehicle Standards Compliance 1998*, which sets procedures for vehicle certification for registration, in-service fitness and other purposes.

The rule states who is responsible for ensuring compliance with its requirements: operators, repairers, modifiers, certifiers, manufacturers and retailers. This links the rule to provisions of the *Land Transport (Offences and Penalties) Regulations 1999* (see in particular, *regulation 3* in conjunction with *Schedule 1*).

Extent of consultation

There have been four rounds of consultation on *Land Transport Rule: Tyres and Wheels 2001.* The consultation process began formally in July 1998 with the circulation of the red draft of the rule to groups and individuals who had registered their interest in the rule. Twenty-six submissions were received and were taken into account in preparing the yellow draft.

The yellow draft was released in March 1999 for public comment and its availability was publicised in metropolitan newspapers and selected regional newspapers, the *New Zealand Gazette*, *Te Maori News* and industry publications. The draft rule was also made available on the LTSA's website and was sent to transport authorities and to libraries overseas. Copies were also

sent to those who had registered an interest in the rule and to those who had commented on the earlier draft. Eight hundred copies of the yellow draft were sent out and forty-five submissions were received.

The issues identified in the submissions on the yellow draft were addressed in redrafting the rule. At that time, there was also a particular concern about the safety of temporary-use spare tyres (space-saver tyres). A petition to Parliament, in 1999, had recommended that their use be banned. The Transport and Industrial Relations Select Committee examined the petition and, although it did not agree that space-saver tyres should be banned, it recommended in October 2000 that systems be put in place to ensure that they were used correctly. The ensuing green draft of the rule, which was released on 25 October 2000 and was circulated widely, incorporated the Committee's recommendations. The green draft was available on the LTSA's website and it was publicised in media releases to draw attention to the space-saver tyre issue. The closing date for submissions was 8 December 2000, but this was extended to January 2001. Fifty-six submissions were received and the rule was again redrafted to take into account the issues raised.

A final round of consultation on the rule was undertaken during July and August 2001 by way of the *Vehicle Safety Proposals Consultation Paper*, which the LTSA released on 28 June 2001 for public comment. A redrafted rule was sent out in August 2001 to those groups and individuals who had made submissions on the previous draft. Those others who had registered an interest in the rule were sent a letter informing them the draft was available. The deadline for submissions was 21 September 2001. The draft rule was also accessible on the LTSA's website and copies could be obtained through the LTSA Helpdesk. Seventeen submissions were received.

Issues identified in submissions were taken into account in redrafting this rule before it was submitted to Cabinet, and to the Minister of Transport for signature.

Part 1 Rule requirements

Section 1 Application

1.1 Title

This rule is *Land Transport Rule: Tyres and Wheels 2001*.

1.2 Scope of the rule

1.2(1) This rule applies to tyres and wheels, and their assembly with hubs and axles, on:

(a) all motor vehicles, including motor vehicles of the classes in *Table A* in *Part 2*; and

(b) vehicles of Class AA in *Table A*.

1.2(2) This rule specifies requirements:

(a) with which a vehicle, including a vehicle fitted with self-laying tracks, must comply so as to be operated on a road; and

(b) that are, for the purpose of *Land Transport Rule: Vehicle Standards Compliance 1998*, the applicable requirements for tyres and wheels, and their assembly with hubs and axles.

1.3 Date when rule comes into force

This rule comes into force on 1 April 2002, except for those provisions with different dates specified in the rule.

1.4 Application of rule provisions

1.4(1) If there is a conflict between a provision of this rule and the corresponding provision of a document incorporated by reference in the rule, the provision of the rule applies.

1.4(2) If there is a conflict between a provision of this rule and a provision of *Land Transport Rule: Vehicle Standards Compliance 1998*, the provision of *Land Transport Rule: Vehicle Standards Compliance 1998* applies.

Section 2 Vehicle standards and other safety requirements

2.1 Application of requirements

2.1(1) The tyres, wheels, hubs, and axles of all vehicles to which this rule applies must comply with *2.2* and *2.3*, unless *2.1(2)* applies.

2.1(2) A temporary-use spare tyre must comply with *2.2* and *2.3*, except for the requirements in *2.2(1)*, *2.2(2)*, *2.3(1)* and *2.3(3)*.

2.1(3) A tyre must comply with the tyre inflation requirements in *2.4* and, if a temporary-use spare tyre, with requirements specified in accordance with *2.6(4)*.

2.1(4) A tyre must comply, as appropriate, with *2.7*, and with:

(a) *Table 2.1* for new tyres;

(b) *Table 2.2* for retreads.

Table 2.1 Requirements for new tyres

Class	Tyres manufactured before 1 January 1992	Tyres manufactured on or after 1 January 1992 and before 1 October 2002	Tyres manufactured on or after 1 October 2002 and before 1 October 2004	Tyres manufactured on or after 1 October 2004
AA, AB, LA, LB1, LB2	General safety requirements[1]	General safety requirements	General safety requirements	General safety requirements
LC, LD, LE1, TA[2], TB[2]	General safety requirements	General safety requirements	General safety requirements and approved vehicle standard	General safety requirements and approved vehicle standard
MA, MB, MC, MD1, MD2, NA[3]	General safety requirements	General safety requirements and approved vehicle standard	General safety requirements and approved vehicle standard	General safety requirements and approved vehicle standard
MD3, MD4, ME, NB[3], NC[3], TC[2], TD[2]	General safety requirements	General safety requirements	General safety requirements	General safety requirements and approved vehicle standard
Motor vehicles not in *Table A*[4]	General safety requirements	General safety requirements	General safety requirements	General safety requirements

Notes:
[1] For general safety requirements for tyres, see *2.3*.
[2] For a vehicle of Class TA, TB, TC or TD, see *2.7(2)*.
[3] For a vehicle of Class NA, NB or NC that is a groundspreader or a dedicated groundsprayer, see *2.7(2)*.
[4] If a vehicle is an all-terrain vehicle, it is not required to meet an approved vehicle standard. For an all-terrain vehicle, see *2.7(2)*.

Table 2.2 Requirements for retreads

Class	Tyres retreaded before 1 January 1995	Tyres retreaded on or after 1 January 1995 and before 1 October 2002	Tyres retreaded on or after 1 October 2002 and before 1 October 2004	Tyres retreaded on or after 1 October 2004
AA, AB, LA, LB1, LB2, LC, LD, LE1, LE2	General safety requirements[1]	General safety requirements	General safety requirements	General safety requirements
TA[2], TB[2]	General safety requirements	General safety requirements	General safety requirements and approved vehicle standard	General safety requirements and approved vehicle standard
MA, MB, MC, MD1, MD2, NA[3]	General safety requirements	General safety requirements and approved vehicle standard	General safety requirements and approved vehicle standard	General safety requirements and approved vehicle standard
MD3, MD4, ME, NB[3], NC[3], TC[2], TD[2]	General safety requirements	General safety requirements	General safety requirements	General safety requirements and approved vehicle standard
Motor vehicles not in *Table A*[4]	General safety requirements	General safety requirements	General safety requirements	General safety requirements

Notes:

[1] For general safety requirements for tyres, see *2.3*.

[2] For a vehicle of Class TA, TB, TC or TD, see *2.7(2)*.

[3] For a vehicle of Class NA, NB or NC that is a groundspreader or a dedicated groundsprayer, see *2.7(2)*.

[4] If a vehicle is an all-terrain vehicle, it is not required to meet an approved vehicle standard. For an all-terrain vehicle, see *2.7(2)*.

2.2 General safety requirements for assembly of tyre, wheel, hub, and axle

2.2(1) The complete assembly of tyre, wheel, hub, and axle must be sufficiently strong for the type of vehicle on which it is fitted, and must have a suitable and correctly adjusted geometry and a load-carrying capacity appropriate to all reasonable conditions of service and operational use.

2.2(2) The components of the complete assembly of tyre, wheel, hub, and axle must be in good condition and must be compatible with the type, design and performance requirements of the vehicle of which they are a part.

2.2(3) The speed category of a tyre fitted to a motor vehicle must be compatible with the maximum legal speed limit for the vehicle.

2.2(4) The complete assembly of tyre, wheel, hub, and axle on a towed vehicle must be compatible with the loading of that vehicle and the maximum legal speed limit for the towing vehicle.

2.2(5) The complete assembly of tyre, wheel, hub, and axle must be compatible with the vehicle on which it is fitted, and:

(a) the wheel must be securely attached to the hub; and

(b) adequate clearance must be allowed for the brake, hub, suspension and steering mechanism, and body parts; and

(c) the wheel must be compatible with the tyre for rim profile, flange height and valve fitment; and

(d) a wheel spacer forming part of the assembly, whether original equipment or installed after

manufacture, is a modification to which *3.1* applies, unless approved for the purpose by the vehicle, wheel or axle manufacturer.

2.2(6) In assessing whether *2.2(1)* to *2.2(5)* are complied with, a person specified in *section 4* may take into account evidence that the complete assembly of tyre, wheel, hub, and axle is within the vehicle manufacturer's operating limits.

2.3 General safety requirements for tyres

2.3(1) Tyres on the same axle must be of the same size designation and construction, and of the same tread pattern type, unless *2.3(2)* or *2.6(2)* applies.

2.3(2) Individual tyres of multiple tyre sets on groundspreaders or dedicated groundsprayers may be of different sizes or construction in the same set, but each multiple tyre set must be the same as other multiple tyre sets on the same axle.

2.3(3) All tyres on a vehicle of Class MA, MB, MD1 or NA entering or re-entering service in New Zealand on or after 1 October 2002 must be of the same construction, unless the vehicle is incapable of exceeding 30 km/h, or is 30 years old or more.

2.3(4) A tyre must be of good quality and construction, fit for its purpose and maintained in a safe condition.

2.3(5) A tyre must not have worn, damaged or visible cords apparent by external examination.

2.3(6) If fitted, asymmetric tyres must be fitted in axle sets in accordance with the manufacturer's instructions.

2.3(7) If fitted, a unidirectional tyre must be fitted to a wheel position corresponding to its direction of rotation.

Tyre load ratings

2.3(8) A tyre, other than a retread on a light motor vehicle, must be rated to specify the maximum load it is allowed to carry, and the corresponding cold inflation pressure, at the speed indicated by its speed category symbol. This information must either be:

(a) marked on the tyre; or

(b) available from the tyre manufacturer or from a reference guide of tyre ratings, except if the Director has determined that a particular source of tyre ratings is not accurate.

2.3(9) The speed category, at which the tyre load rating is established, must be equal to, or greater than:

(a) the maximum legal speed for the motor vehicle to which the tyre is fitted; or

(b) the vehicle's maximum speed.

2.3(10) The sum of the load ratings of the tyres fitted to an axle of a motor vehicle must be equal to, or greater than, the maximum load that is specified on the certificate of loading for that vehicle, taking into account the speed at which the vehicle is being used.

2.3(11) For the avoidance of doubt, *2.3(10)* does not apply to a motor vehicle with a central tyre inflation system when operating unloaded.

2.3(12) The laden weight on any axle of a motor vehicle must not exceed the sum of loads that are allowed for the tyres fitted to the axle, taking into account the speed at which the vehicle is being used and the pressure to which the tyres are inflated.

Tread pattern and tread depth

2.3(13) Except as otherwise provided in this clause, a tyre on a motor vehicle must have a tread pattern, excluding any tie-bar or tread-depth indicator strip, of not less than 1.5 mm in depth across at least three-quarters of the width of the tread and around the entire circumference of the tyre.

2.3(14) A tyre on a vehicle of Class AA or Class AB, or on a motor vehicle that is incapable of exceeding 30 km/h, does not have any tread-pattern or tread-depth requirements.

2.3(15) A tyre on a motor vehicle of Class LA, LB1 or LB2 does not have any tread-depth requirements, but must have a clearly visible tread pattern across at least three-quarters of the width of the tread and around the entire circumference of the tyre.

2.3(16) A tyre on a motor vehicle of Class TA or Class TB must comply with the tread-pattern and tread-depth requirements in *2.3(13)* on or after 1 April 2003.

2.3(17) A motor vehicle of Class NA, NB, NC, TC or TD that is fitted with twin tyres has the following tread-pattern and tread-depth requirements:

(a) before 1 April 2003, only one tyre in a twin tyre set must comply with the tread-pattern requirements in *2.3(13)*;

(b) on or after 1 April 2003, both tyres in a twin tyre set must comply with the tread-pattern requirements in *2.3(13)*.

2.3(18) A motor vehicle that could cause damage to roads, bridges or culverts, including a vehicle fitted with self-laying tracks, a vehicle fitted with a metal tyre or other non-pneumatic tyre, or with a tyre with studs, cleats, lugs or other gripping devices, may not be operated on a road unless:

(a) the tyre is fitted with temporary gripping devices (such as chains) used in appropriate conditions; or

(b) a road-controlling authority having responsibility for a particular road has given permission for the vehicle to be operated on that road.

2.4 Tyre inflation requirements

2.4(1) Except if *2.4(3)* applies, a tyre fitted to a vehicle must be maintained at a safe inflation pressure that:

(a) takes into account the recommendation of the manufacturer of the tyre or vehicle, the speed at which the vehicle is being used, and any loading; and

(b) if fitted to a heavy motor vehicle, is not greater than the maximum cold inflation pressure for heavy motor vehicle tyres in *2.4(2)*.

2.4(2) The maximum cold inflation pressure for a heavy motor vehicle tyre is:

(a) for a cross-ply tyre, 700 kPa;

(b) for a radial-ply tyre, 825 kPa.

2.4(3) A road-controlling authority may, with any conditions that it may specify, allow a heavy motor vehicle to operate on roads under its control with tyres that have an inflation pressure higher than the limit in *2.4(2)*.

2.5 Tyre pressure control systems

2.5(1) The provisions in *2.5(2)* to *2.5(7)* come into force on 1 October 2002.

2.5(2) A motor vehicle with a tyre pressure control system that draws air from the vehicle's compressed air system must have a warning system to alert the driver to a loss of air pressure in the auxiliary system.

2.5(3) A motor vehicle that is equipped with warning systems relating to tyre inflation or deflation may be operated only if the warning systems are in working order.

Tyre pressure monitoring and maintenance

2.5(4) A tyre pressure control system that is designed only for tyre pressure monitoring or maintenance purposes, or both, must not have a central control device for lowering the tyre air pressure.

Central tyre inflation systems

2.5(5) A central tyre inflation system must be capable of reaching:

(a) a minimum level of 75% of the tyre manufacturer's or vehicle manufacturer's recommended cold highway inflation pressure for the actual speed and load within 15 minutes of the initiation of inflation; and

(b) 100% of the tyre manufacturer's or vehicle manufacturer's recommended cold highway inflation pressure for the actual speed and load within 25 minutes of the initiation of inflation.

2.5(6) A motor vehicle that is operating with a central tyre inflation system must have visual and audible alarms that alert the driver when tyre pressures fall by more than 20 kPa below any operating pressure selected by the driver.

2.5(7) A motor vehicle that is operated exclusively by the New Zealand Defence Force and has a central tyre inflation system does not have to be equipped with audible alarms.

2.6 Spare tyres

2.6(1) If a vehicle carries a spare tyre, that tyre must be securely attached on or in the vehicle.

2.6(2) A spare tyre that does not comply with *2.3(1)*, *2.3(3)* or *2.3(7)*, or a tyre that has not been repaired in accordance with *3.2*, may be fitted to a motor vehicle to replace a disabled tyre, and the vehicle may be operated using the spare tyre only in an emergency, and if:

(a) the speed of the vehicle is substantially reduced in dry road conditions and to a greater extent in wet road conditions; and

(b) that tyre is replaced as soon as practicable with a tyre that complies with *2.3* and, as applicable, one of the vehicle standards specified in this rule.

Temporary-use spare tyres

2.6(3) A temporary-use spare tyre must have a label, approved by the Director, permanently attached to the outside of the wheel, with safety instructions related to the use of the tyre.

2.6(4) The safety instructions for the label in *2.6(3)* must:

(a) be printed clearly in English; and

(b) identify the tyre as being one for temporary use only; and

(c) specify that a vehicle must not be operated with a temporary-use spare tyre:

(i) at more than 80 km/h; or

(ii) at more than the maximum speed specified by the tyre manufacturer, if that maximum speed is less than 80 km/h; and

(d) contain information on the recommended inflation pressure of the tyre when in use.

2.6(5) A temporary-use spare tyre must comply with *2.6(3)* and *2.6(4)* on or after 1 October 2002 if it is intended for use on a motor vehicle first registered in New Zealand on or after that date. All other temporary-use spare tyres must comply with *2.6(3)* and *2.6(4)* on or after 1 October 2003.

2.6(6) A temporary-use spare tyre may be fitted to a vehicle only in an emergency, provided it is the only temporary-use spare tyre fitted to that vehicle.

2.6(7) A temporary-use spare tyre fitted to a vehicle must be replaced as soon as practicable with a tyre that complies with *2.3* and, as applicable, with one of the vehicle standards specified in this rule.

2.6(8) A vehicle fitted with a temporary-use spare tyre may not be operated at a speed of more than 80 km/h, or at more than the maximum speed specified by the tyre manufacturer, if that speed is less than 80 km/h.

2.6(9) A vehicle fitted with a temporary-use spare tyre must be operated in accordance with the safety instructions in *2.6(4)* for inflation pressure.

2.7 Approved vehicle standards for tyres

2.7(1) Except as provided in *2.7(2)* or *2.7(3)*, a tyre must comply with one of the applicable approved vehicle standards in *2.7(4)* or *2.7(5)*, from the dates specified in *Table 2.1* or *Table 2.2.*

2.7(2) A tyre on the following motor vehicles does not have to comply with an approved vehicle standard for tyres:

(a) a vehicle of Class NA, NB or NC that is a groundspreader or a dedicated groundsprayer;

(b) a vehicle of Class TA, TB, TC or TD that is towed at a speed not exceeding 30 km/h;

(c) an all-terrain vehicle;

(d) a vehicle that is 30 years old or more;

(e) a motor sport vehicle that is being used on a road during the course of an official motor sport event.

2.7(3) A temporary-use spare tyre manufactured on or after 1 October 2002 must comply with one of the approved vehicle standards in *2.7(6)*.

Standards for new tyres

2.7(4) The approved vehicle standards for new tyres are:

(a) *UN/ECE Regulation No. 30, Uniform provisions concerning the approval of pneumatic tyres for motor vehicles and their trailers (E/ECE324-E/ECE/TRANS/505/Rev.1/Add.29)*;

(b) *UN/ECE Regulation No. 54, Uniform provisions concerning the approval of pneumatic tyres for commercial vehicles and their trailers (E/ECE324-E/ECE/TRANS/505/Rev.1/Add.53)*;

(c) *UN/ECE Regulation No. 75, Uniform provisions concerning the approval of pneumatic tyres for motor cycles and mopeds (E/ECE324-E/ECE/TRANS/505/Rev.1/Add.74)*;

(d) *Council Directive 92/23/EEC of 31 March 1992 relating to tyres for motor vehicles and their trailers and to their fitting*;

(e) *Federal Motor Vehicle Safety Standard No. 109, New Pneumatic Tires – Passenger Cars*;

(f) *Federal Motor Vehicle Safety Standard No. 119, New Pneumatic Tires for Vehicles Other Than Passenger Cars*;

(g) *The Standards of the Japan Automobile Tire Manufacturers' Association, Inc.*;

(h) *Japanese Industrial Standard D 4203, Tires for motorcycles and scooters*;

(i) *Japanese Industrial Standard D 4230, Tires for Automobiles*;

(j) *Australian Design Rule 23, Passenger Car Tyres*;

(k) *Australian/New Zealand Standard AS/NZS 2230, New pneumatic tyres for light trucks and trucks/buses*;

(l) *New Zealand Standard 5453, Specification for New Tyres for Passenger Vehicles*.

Standards for retreads

2.7(5) The approved vehicle standards for retreads are:

(a) *UN/ECE Regulation No. 108, Uniform provisions concerning the approval for the production of retreaded pneumatic tyres for motor vehicles and their trailers (E/ECE324-E/ECE/TRANS/505/Rev.2/Add.107)*;

(b) *UN/ECE Regulation No. 109, Uniform provisions concerning the approval for the production of retreaded pneumatic tyres for commercial vehicles and their trailers (E/ECE324-E/ECE/TRANS/505/Rev.2/Add.108)*;

(c) *Federal Motor Vehicle Safety Standard No. 117, Retreaded Pneumatic Tires*;

(d) *British Standard AU 144, Specification for retreaded car and commercial vehicle tyres*;

(e) *Australian Standard 1973, Pneumatic tyres – Passenger car, light truck, and truck/bus – Retreading and repair processes*;

(f) *New Zealand Standard 5423, Specification for Repairing and Retreading Car, Truck and Bus Tyres*.

Standards for temporary-use spare tyres

2.7(6) The approved vehicle standards for temporary-use spare tyres are:

(a) *UN/ECE Regulation No. 64, Uniform provisions concerning the approval of vehicles equipped with temporary-use spare wheels/tyres (E/ECE324-E/ECE/TRANS/505/Rev.1/Add.63)*;

(b) *Federal Motor Vehicle Safety Standard No.129, New Non-Pneumatic Tires for Passenger Cars*;

(c) *The Standards of the Japan Automobile Tire Manufacturers' Association, Inc.*;

(d) *Japanese Industrial Standard D 4230, Tires for Automobiles*;

(e) *Australian Design Rule 71, Temporary-use Spare Tyres*;

(f) *Federal Motor Vehicle Safety Standard No. 109, New Pneumatic Tires – Passenger Cars*.

Approved vehicle standards include amendments to standards

2.7(7) An approved vehicle standard in *2.7(4)* to *2.7(6)* includes all amendments, some of which may apply to classes of vehicle additional to those covered by the original standard.

Version of vehicle standards

2.7(8) A tyre must comply with the version of an approved vehicle standard to that standard that is applicable in the relevant standard-setting jurisdiction to the year of manufacture of the tyre, or as specified in the standard.

2.7(9) A tyre may comply with a more recent version of an approved vehicle standard than that in *2.7(8)* only if the safe performance of the vehicle is not adversely affected.

Compliance with vehicle standards

2.7(10) A tyre complies with an approved vehicle standard if:

(a) when manufactured it complied with that standard; and

(b) it is currently within safe tolerance of its state when manufactured.

Section 3 Modification and repair

3.1 Modification

3.1(1) A modification to a vehicle affecting its wheels, hubs or axles or any of their components:

(a) must not prevent the vehicle from complying with this rule; and

(b) must, if the vehicle is a motor vehicle, be certified as specified in *Land Transport Rule: Vehicle Standards Compliance 1998.*

3.1(2) Retrofitting of a tyre pressure control system to a motor vehicle must be accompanied by documentary evidence indicating that the equipment has been installed in accordance with the equipment manufacturer's instructions, unless the tyre pressure control system is independent of the vehicle's compressed air system and is designed only for tyre pressure monitoring or maintenance purposes, or both.

3.1(3) The fitting of wheel spacers to a vehicle is a modification that requires certification, unless the vehicle, wheel or axle manufacturer approves their use for a particular vehicle.

3.1(4) A blank tyre case manufactured for hand-grooving may be hand grooved as a second stage of manufacture, provided that the completed tyre complies with *2.3.* This hand-grooving does not require certification.

3.1(5) The fitting of a tube of an appropriate size into a tubeless tyre, for whatever purpose, complies with this rule and does not require certification as a modification to the tyre, if:

(a) this practice is allowed by the tyre manufacturer; and

(b) after the tube has been fitted, the tyre complies with *section 2*.

3.2 Repair

3.2(1) A repair to a tyre, wheel, hub or axle, or a repair to a vehicle affecting a tyre, wheel, hub or axle, must comply with *Land Transport Rule: Vehicle Repair 1998.*

3.2(2) On or after 1 April 2003, a repair to a tyre must comply with one or more of the approved vehicle standards in *3.2(3)*, unless the tyre is intended for fitting on:

(a) a vehicle of Class AA, AB, LA, LB1, LB2, LC, LD, LE1 or LE2;

(b) a motor vehicle that is 30 years old or more;

(c) a motor vehicle that is not included in *Table A.*

3.2(3) The approved vehicle standards for repairs to tyres are:

(a) *British Standard AU 159, Specification for repairs to tyres for motor vehicles used on the public highway*;

(b) *Australian Standard 1973, Pneumatic tyres – Passenger car, light truck, and truck/bus – Retreading and repair processes*;

(c) *New Zealand Standard 5423, Specification for Repairing and Retreading Car, Truck and Bus Tyres*.

3.2(4) The regrooving of a tyre is a repair to the tyre and may be undertaken only if:

(a) the regrooving complies with *3.2(1)*; and

(b) the tyre is identified as being specifically designed and constructed for the process of regrooving after manufacture.

3.2(5) A repair to an alloy wheel must:

(a) be compatible with the material specification of the item to be repaired; and

(b) restore the damaged or worn wheel so that it is within safe tolerance of its original state when manufactured, as able to be demonstrated by a physical test.

Section 4 Responsibilities

4.1 Responsibilities of operators

4.1(1) A person who operates a vehicle must ensure that the vehicle complies with this rule.

4.1(2) A person who operates a vehicle must comply with:

(a) the operational safety requirements for spare tyres in *2.6(2)* and *2.6(6)* to *2.6(9)*; and

(b) the tyre inflation requirements in *2.4*.

4.2 Responsibilities of repairers

A person who repairs a tyre, wheel, hub or axle must ensure that the repair:

(a) does not prevent the vehicle from complying with this rule; and

(b) complies with *Land Transport Rule: Vehicle Repair 1998*.

4.3 Responsibilities of modifiers

A person who modifies a tyre, wheel, hub, axle or vehicle so as to affect the performance of a tyre, wheel, hub or axle, must:

(a) ensure that the modification does not prevent the vehicle from complying with this rule; and

(b) notify the operator if the vehicle must be inspected and, if necessary, certified, because there is reason to believe it is:

(i) a light motor vehicle that has been modified so as to become a low volume vehicle; or

(ii) a heavy motor vehicle that has been modified so as to adversely affect its safety performance or compliance with this rule.

4.4 Responsibilities of certifiers

4.4(1) A certifier must not certify a motor vehicle under *Land Transport Rule: Vehicle Standards Compliance 1998* if they have reason to believe that the vehicle does not comply with this rule.

4.4(2) A certifier may not certify a vehicle for in-service fitness if a temporary-use spare tyre is fitted to the vehicle as one of the tyres in operational use.

4.5 Responsibilities of manufacturers and retailers

4.5(1) A person may manufacture, stock or offer for sale a wheel, hub or axle, or a component of a wheel, hub or axle, intended for fitting to a vehicle to be operated on a New Zealand road, only if the wheel, hub, axle or component:

(a) complies with this rule; and

(b) does not prevent a repair to a vehicle, its structure, systems, components and equipment from complying with *3.2*.

4.5(2) A person may manufacture, stock or offer for sale a tyre intended for use on a New Zealand road only if the tyre complies with this rule.

4.6 Functions and powers of the Director

4.6(1) The Director may inspect a tyre for compliance with this rule, whether or not it is fitted to a vehicle.

4.6(2) The Director may determine whether or not a particular source of tyre ratings is accurate, in accordance with *2.3(8)*.

4.6(3) The Director may approve a label to be affixed to a temporary-use spare tyre, for the purposes of *2.6(3)*.

Part 2 Definitions

All-terrain vehicle means a special purpose vehicle, with or without motorcycle controls and equipment, that:

(a) is principally designed for off-road use; and

(b) has three or more wheels; and

(c) has an engine capacity exceeding 50 ml; and

(d) has a gross weight of less than 1000 kg.

Approved vehicle standard means a vehicle standard in *2.7(4)*, *2.7(5)*, *2.7(6)* or *3.2(3)*.

Central tyre inflation system means a type of tyre pressure control system that adjusts tyre pressure for the purpose of inflating and deflating tyres to improve tyre adhesion and reduce road surface damage and which is under the central control of the driver or an automated system, or a combination of both the driver and an automated system. (Commonly known as 'CTI'.)

Certifier means a person appointed by the Director in accordance with *Land Transport Rule: Vehicle Standards Compliance 1998*.

Certify in relation to a motor vehicle, means to verify that the vehicle complies with applicable requirements.

Class in relation to vehicles, means a category of vehicle of one of the Groups A, L, M, N and T, as specified in *Table A: Vehicle classes.*

Construction in relation to a tyre, means:

(a) for a pneumatic tyre, the type of tyre carcass (including ply orientation and ply rating or load index); or

(b) for any other tyre, characteristics relating to size, shape and material.

Cross-ply means a pneumatic tyre structure in which the ply cords in the tyre carcass extend to the beads and are laid at alternate angles, which are substantially less than 90 degrees, to the centre-line of the tread. This tyre structure is also referred to as 'bias ply' or 'diagonal ply'.

Dedicated groundsprayer means a self-propelled or trailing machine whose sole function is the application of chemicals or liquid fertiliser to crops or to the ground.

Director means the Director of Land Transport Safety appointed under *section 186* of the *Land Transport Act 1998*.

EEC, EC are abbreviations for directives of the European Economic Community and, later, the European Communities.

Federal Motor Vehicle Safety Standard is a vehicle standard of the United States of America.

Gross vehicle mass means either:

(a) the maximum permitted mass of the vehicle, which includes the mass of the accessories, the crew, the passengers and load, and is, unless *(b)* applies, the gross vehicle mass specified (subsequent to the latest modification, if any) by the manufacturer of the vehicle; or

(b) if a person approved for the purpose by the Director determines that the gross vehicle mass of a vehicle should differ from that specified by the manufacturer, taking into account evidence on the capability of the systems and components of the vehicle, or the effects of any modification, that mass determined by that person.

Groundspreader means a vehicle designed specifically for the carriage of powder or particulate artificial fertilisers on the road, and for the distribution of those fertilisers directly from the vehicle onto the land by means of a mechanical or pneumatic distributor that forms part of the vehicle.

Heavy motor vehicle means a motor vehicle that is either:

(a) of Class MD3, MD4, ME, NB, NC, TC or TD; or

(b) a vehicle (not of a class in *Table A: Vehicle classes*) with a gross vehicle mass that exceeds 3500 kg.

Hub means the part of a vehicle that is attached to the axle and rotates on, or with, the axle, and to which the wheel is attached; and includes any bearings.

kPa is an abbreviation for kilopascal.

Light motor vehicle means a motor vehicle of any class except one defined as a 'heavy motor vehicle'.

Low volume vehicle means a motor vehicle, of a class in *Table A: Vehicle classes*, other than Class MD3, MD4, ME, NB, NC, TC and TD, that is:

(a) manufactured, assembled or scratch-built in quantities of 200 or less at any one location in any one year, by a manufacturer whose total

production of motor vehicles does not exceed 200 units over the same period, and where the construction of the vehicle directly or indirectly affects compliance of the vehicle with any of the vehicle standards prescribed by New Zealand law; or

(b) modified uniquely, or in quantities of 200 or less at any one location in any one year, in such a way as to affect the compliance of the vehicle, its structure, systems, components or equipment, with a legal requirement relating to safety performance applicable at the time of the modification.

Manufacturer's operating limits means:

(a) in relation to a motor vehicle, the allowance provided by the vehicle manufacturer in terms of performance capability and dimensions, relative to deterioration, malfunction or damage beyond which the safe performance of the vehicle, as defined by the vehicle manufacturer, is compromised; and

(b) in relation to a system, component or item of equipment, incorporated in or attached to a vehicle, the allowance provided by the system, component or equipment manufacturer in terms of performance capability and dimensions, relative to the deterioration, malfunction or damage, beyond which the safe performance of the system, component or item of equipment (and consequently the vehicle) is compromised.

Modify in relation to a motor vehicle, means to change the vehicle from its original state by altering, substituting, adding or removing any structure, system, component or equipment; but does not include repair.

Motor vehicle means a vehicle drawn or propelled by mechanical power; and includes a trailer; but does not include:

(a) a vehicle running on rails;

(b) an invalid carriage;

(c) a trailer (other than a trailer designed solely for the carriage of goods) that is designed and used exclusively as part of the armament of the New Zealand Defence Force;

(d) a trailer running on one wheel and designed exclusively as a speed-measuring device or for testing the wear of vehicle tyres;

(e) a vehicle designed for amusement purposes and used exclusively within a place of recreation, amusement or entertainment to which the public does not have access with motor vehicles;

(f) a pedestrian-controlled machine.

Operate in relation to a vehicle, means to drive or use the vehicle on a road, or to cause or permit the vehicle to be on a road or to be driven on a road, whether or not the person is present with the vehicle.

Original equipment means equipment fitted by the motor vehicle manufacturer when the vehicle is manufactured.

Pneumatic tyre means a tyre that, when in use, is inflated by air or gas introduced from time to time under pressure so as to enclose under normal inflation a cushion of air or gas forming altogether at least half of the total area of an average cross-section of a tyre so inflated.

Radial-ply means a pneumatic tyre structure in which the ply cords, which extend from bead to bead, are laid at

approximately 90 degrees to the centre-line of the tread, the carcass being stabilised by an essentially inextensible circumferential belt.

Repair means to restore a damaged or worn vehicle, its structure, systems, components or equipment; and includes the replacement of damaged or worn structures, systems, components or equipment with equivalent undamaged or new structures, systems, components or equipment.

Rim means that part of the wheel on which the tyre is mounted and supported.

Road-controlling authority means the authority, body or person having control of the road; and includes a person acting under and within the terms of a delegation or authorisation given by the controlling authority.

Safe tolerance means the tolerance within which the safe performance of the vehicle, its structure, systems, components or equipment is not compromised, having regard to any manufacturer's operating limits.

Scratch-built vehicle means a motor vehicle that is either:

(a) assembled from previously unrelated components and construction materials that have not been predominantly sourced from donors of a single make or model and that, in its completed form, never previously existed as a mass-produced vehicle, although the external appearance may resemble or replicate an existing vehicle; or

(b) a modified production vehicle that contains less than the following components from a mass-produced vehicle of a single make and model:

(i) 40% of the chassis rails and 50% of the crossmembers, or alternatively 40% of a spaceframe, or 40% of the floorpan of a unitary constructed body, whichever is appropriate; or

(ii) for light vehicles, 40% of the bodywork (based on surface area of body panels but not including the floorpan, internal bracing, subpanels, bulkheads or firewall).

Speed category means a code allocated to a tyre by a tyre manufacturer that indicates the maximum vehicle speed for which the use of the tyre is rated.

Temporary-use spare tyre means a combination tyre and wheel designed and constructed solely for temporary use under restricted driving conditions, and not intended for use under normal driving conditions. (Commonly known as a 'space-saver tyre'.)

Tube means an inflatable elastic liner, in the form of a hollow ring fitted with an inflation valve assembly, designed for insertion into certain tyre assemblies to provide a cushion of air or gas, that, when inflated, supports the wheel. (Also known as an 'inner tube'.)

Tyre carcass means that structural part of a pneumatic tyre other than the tread and outermost rubber of the sidewalls that, when inflated, contains the gas that supports the load.

Tyre load rating means the maximum load a tyre can carry at the corresponding cold inflation pressure prescribed by the tyre manufacturer and the speed indicated by its speed category symbol.

Tyre pressure control system means a system designed to maintain, monitor or vary tyre pressure while the vehicle is in operation.

UN/ECE is an abbreviation for a regulation of the United Nations Economic Commission for Europe.

Vehicle means a contrivance equipped with wheels, tracks or revolving runners upon which it moves or is moved; and includes a hovercraft, a skateboard, in-line skates and roller-skates; but does not include:

(a) a perambulator or pushchair;

(b) a shopping or sporting trundler not propelled by mechanical power;

(c) a wheelbarrow or hand-trolley;

(d) a child's toy, including a tricycle and a bicycle, provided, in either case, no road wheel (including any tyre) has a diameter exceeding 355 mm;

(e) a pedestrian-controlled lawnmower;

(f) a pedestrian-controlled agricultural machine not propelled by mechanical power;

(g) an article of furniture;

(h) an invalid wheelchair not propelled by mechanical power;

(i) any other contrivance specified by any other rule not to be a vehicle for the purposes of this definition.

Vehicle standard means a technical specification with which a vehicle, its structure, systems, components or equipment must comply, and which is adopted by:

(a) the New Zealand Standards Council; or

(b) any international, national or regional organisation with functions similar to the New Zealand Standards Council.

Wheel means a rotating load-carrying member between the tyre and the hub, which usually consists of two major parts, the rim and the wheel disc, and which may be manufactured as one part, or permanently attached to each other, or detachable from each other.

Wheel centre-disc means that part of the wheel that is the supporting member between the hub and the rim.

Wheel spacer means an additional component used for the purpose of positioning the wheel centre-disc relative to the hub, or in multiple wheel sets, for the purpose of positioning the wheel centre-disc relative to another wheel.

Table A Vehicle classes

Class	Description
AA (Pedal cycle)	A vehicle designed to be propelled through a mechanism solely by human power.
AB (Power-assisted pedal cycle)	A pedal cycle to which is attached one or more auxiliary propulsion motors having a combined maximum power output not exceeding 200 watts.
LA (Moped with two wheels)	A motor vehicle (other than a power-assisted pedal cycle) that: (a) has two wheels; and (b) either: (i) has an engine cylinder capacity not exceeding 50 ml and a maximum speed not exceeding 50 km/h; or (ii) has a power source other than a piston engine and a maximum speed not exceeding 50 km/h.
LB (Moped with three wheels)	A motor vehicle (other than a power-assisted pedal cycle) that: (a) has three wheels; and (b) either: (i) has an engine cylinder capacity not exceeding 50 ml and a maximum speed not exceeding 50 km/h; or (ii) has a power source other than a piston engine and a maximum speed not exceeding 50 km/h.
LB 1	A Class LB motor vehicle that has one wheel at the front and two wheels at the rear.
LB 2	A Class LB motor vehicle that has two wheels at the front and one wheel at the rear.
LC (Motor cycle)	A motor vehicle that: (a) has two wheels; and (b) either: (i) has an engine cylinder capacity exceeding 50 ml; or (ii) has a maximum speed exceeding 50 km/h.

Table A Vehicle classes (continued)

Class	Description
LD (Motor cycle and side-car)	A motor vehicle that: (a) has three wheels asymmetrically arranged in relation to the longitudinal median axis; and (b) either: (i) has an engine cylinder capacity exceeding 50 ml; or (ii) has a maximum speed exceeding 50 km/h.
Side-car	A car, box, or other receptacle attached to the side of a motor cycle and supported by a wheel.
LE (Motor tri-cycle)	A motor vehicle that: (a) has three wheels symmetrically arranged in relation to the longitudinal median axis; and (b) has a gross vehicle mass not exceeding one tonne; and (c) either: (i) has an engine cylinder capacity exceeding 50 ml; or (ii) has a maximum speed exceeding 50 km/h.
LE 1	A Class LE motor vehicle that has one wheel at the front and two wheels at the rear.
LE 2	A Class LE motor vehicle that has two wheels at the front and one wheel at the rear.
Passenger vehicle	A motor vehicle that: (a) is constructed primarily for the carriage of passengers; and (b) either: (i) has at least four wheels; or (ii) has three wheels and a gross vehicle mass exceeding one tonne.
MA (Passenger car)	A passenger vehicle (other than a Class MB or Class MC vehicle) that has not more than nine seating positions (including the driver's seating position).

Table A Vehicle classes (continued)

Class	Description
MB (Forward control passenger vehicle)	A passenger vehicle (other than a Class MC vehicle): (a) that has not more than nine seating positions (including the driver's seating position); and (b) in which the centre of the steering wheel is in the forward quarter of the vehicle's total length.
MC (Off-road passenger vehicle)	A passenger vehicle, designed with special features for off-road operation, that has not more than nine seating positions (including the driver's seating position), and that: (a) has four-wheel drive; and (b) has at least four of the following characteristics when the vehicle is unladen on a level surface and the front wheels are parallel to the vehicle's longitudinal centre-line and the tyres are inflated to the vehicle manufacturer's recommended pressure: (i) an approach angle of not less than 28 degrees; (ii) a breakover angle of not less than 14 degrees; (iii) a departure angle of not less than 20 degrees; (iv) a running clearance of not less than 200 mm; (v) a front axle clearance, rear axle clearance, or suspension clearance of not less than 175 mm.
Omnibus	A passenger vehicle that has more than nine seating positions (including the driver's seating position). An omnibus comprising two or more non-separable but articulated units shall be considered as a single vehicle.
MD (Light omnibus)	An omnibus that has a gross vehicle mass not exceeding 5 tonnes.
MD 1	An omnibus that has a gross vehicle mass not exceeding 3.5 tonnes and not more than 12 seats.
MD 2	An omnibus that has a gross vehicle mass not exceeding 3.5 tonnes and more than 12 seats.
MD 3	An omnibus that has a gross vehicle mass exceeding 3.5 tonnes but not exceeding 4.5 tonnes.
MD 4	An omnibus that has a gross vehicle mass exceeding 4.5 tonnes but not exceeding 5 tonnes.

Table A Vehicle classes (continued)

Class	Description
ME (Heavy omnibus)	An omnibus that has a gross vehicle mass exceeding 5 tonnes.
Goods vehicle	A motor vehicle that: (a) is constructed primarily for the carriage of goods; and (b) either: (i) has at least four wheels; or (ii) has three wheels and a gross vehicle mass exceeding one tonne. For the purpose of this description: (a) a vehicle that is constructed for both the carriage of goods and passengers shall be considered primarily for the carriage of goods if the number of seating positions multiplied by 68 kg is less than 50% of the difference between the gross vehicle mass and the unladen mass; (b) the equipment and installations carried on special purpose vehicles not designed for the carriage of passengers shall be considered to be goods; (c) a goods vehicle that has two or more non-separable but articulated units shall be considered to be a single vehicle.
NA (Light goods vehicle)	A goods vehicle that has a gross vehicle mass not exceeding 3.5 tonnes.
NB (Medium goods vehicle)	A goods vehicle that has a gross vehicle mass exceeding 3.5 tonnes but not exceeding 12 tonnes.
NC (Heavy goods vehicle)	A goods vehicle that has a gross vehicle mass exceeding 12 tonnes.

Table A Vehicle classes (continued)

Class	Description
Trailer	A vehicle without motive power that is constructed for the purpose of being drawn behind a motor vehicle.
TA (Very light trailer)	A single-axled trailer that has a gross vehicle mass not exceeding 0.75 tonnes.
TB (Light trailer)	A trailer (other than a Class TA trailer) that has a gross vehicle mass not exceeding 3.5 tonnes.
TC (Medium trailer)	A trailer that has a gross vehicle mass exceeding 3.5 tonnes but not exceeding 10 tonnes.
TD (Heavy trailer)	A trailer that has a gross vehicle mass exceeding 10 tonnes.